

Appendix A
Adoption and Approval Letters



FEMA

March 4, 2024

Director James Stallings
Georgia Emergency Management and Homeland Security Agency
P.O. Box 18055
Atlanta, Georgia 30316-0055

Attention: Mr. Stephen Clark, State Hazard Mitigation Officer

Reference: Approval of the Georgia Enhanced State Hazard Mitigation Plan Update

Dear Director Stallings:

The U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA) Region IV Mitigation Division, Risk Analysis Branch has approved the updated Georgia Enhanced State Hazard Mitigation Plan effective March 4, 2024, through March 3, 2029. This plan is approved in accordance with applicable mitigation planning regulations and policy requirements¹.

In addition, this plan met the requirements to address wildfire risks and mitigation measures.

In addition, this plan met the requirements to address all dam risks.

An approved mitigation plan is a condition of receiving certain FEMA non-emergency assistance and mitigation grants from the following programs:

- Public Assistance Categories C-G (PA C-G)
- Fire Management Assistance Grants (FMAG)
- Hazard Mitigation Grant Program (HMGP)
- Hazard Mitigation Grant Program – Post Fire (HMGP – Post Fire)
- Flood Mitigation Assistance (FMA)
- Building Resilient Infrastructure and Communities (BRIC)
- Rehabilitation of High Hazard Potential Dams Program (HHPD)

Approval of a mitigation plan does not guarantee funding under any FEMA program. Please refer to the individual FEMA non-emergency assistance and mitigation grant program policy and/or annual Notice of Funding Opportunity for specific application and eligibility requirements for the FEMA programs listed above.

State mitigation plans must be updated and resubmitted to the FEMA Region 4 Mitigation Division, Risk Analysis Branch for approval. If the plan is not updated by the date indicated on this FEMA approval letter, the plan is considered lapsed, and FEMA will not obligate funds until the mitigation plan is approved.

¹ Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended; the National Flood Insurance Act of 1968, as amended; Title 44 Code of Federal Regulations (CFR) Part 201; and the “Water Infrastructure Improvements for the Nation Act,” or the “WIIN Act,” on December 16, 2016, which amends the National Dam Safety Program Act (Pub. L. 92-367).

If at any time over the plan approval period, FEMA determines that the state is not complying with all applicable federal statutes and regulations in effect during the periods for which it receives funding or is unable to fulfill mitigation commitments, FEMA may take action to correct the noncompliance (44 CFR §§ 201.3[b][5] and 201.4[c][7]).

FEMA recognizes the state for the additional effort and commitment to mitigation. Under Section 322 (42 U.S.C. 5165(e)), additional HMGP funds of up to 20% of the total estimated eligible disaster assistance may be provided to states with enhanced hazard mitigation plans. The “Enhanced” designation is recognition for states that are leaders in implementing a comprehensive statewide hazard mitigation program that results in safer, more sustainable communities.

The state is responsible for communicating with local and tribal officials, as applicable, who are interested in applying for FEMA assistance through the state. FEMA encourages states to communicate with the appropriate officials regarding mitigation plan status and eligibility requirements. At a minimum of every 6 months, FEMA will provide to the state written information on mitigation plans, including, but not limited to:

- Local and tribal, as applicable, mitigation plan expiration dates.
- Consequences of not having an approved local or tribal, as applicable, mitigation plan with respect to eligibility for FEMA mitigation grant programs.
- Availability of mitigation planning training and technical assistance.
- Upcoming funding opportunities.

The state is responsible for reviewing and submitting approvable state and local mitigation plans to FEMA. If the state is not submitting approvable mitigation plans, FEMA will provide feedback as well as technical assistance or training to the state and local governments, as needed.

In addition, FEMA will provide a reminder at least 12 months before the plan expiration date of the consequences of not having an approved mitigation plan, which is required to apply for and receive funding for FEMA non-emergency assistance and mitigation grant programs. To continue to apply for and receive funding from the programs listed on page 1, the state must submit a draft of the next plan update before the end of the approval period and allow sufficient time for the review and approval process. This includes any revisions, if needed, and formal adoption by the state following the determination by FEMA that the plan has achieved a status of “Approvable Pending Adoption.”

We look forward to working with you to discuss the status of the state mitigation program each year over the approval period. If we can be of assistance, please contact me or Jacky Bell, Mitigation Division Director, at (770) 220-5439.

Sincerely,

ROBERT P ASHE
for Robert D. Samaan
Regional Administrator
FEMA Region 4

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ROBERT P ASHE
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Attachment:
State Mitigation Plan Review Tool

GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

BRIAN P. KEMP
GOVERNOR



JAMES C. STALLINGS
DIRECTOR

February 26, 2024

Mr. Robert Samaan
Regional Administrator
Federal Emergency Management Agency Region IV
3005 Chamblee-Tucker Road
Atlanta, Georgia 30341

Dear Mr. Samaan:

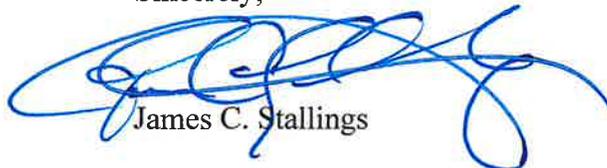
On behalf of Governor Brian Kemp, I am pleased to submit for your approval the Georgia Enhanced State Hazard Mitigation Plan Update, herein referred to as the Georgia Hazard Mitigation Strategy (GHMS). This has been prepared in response to the Standard and Enhanced State Hazard Mitigation Plan update requirements in accordance with the Disaster Mitigation Act of 2000 and 44 CFR §201.4 and §201.5. This letter represents my formal adoption of this plan on behalf of Governor Kemp and the State of Georgia as the blueprint for our future actions to reduce the devastating impacts of natural and manmade disasters on our businesses, property owners and citizens. All State agencies shall support the implementation of the plan as the plan continues to evolve, reflecting lessons learned from actual experiences in disasters and ongoing state planning efforts.

The GHMS provides a comprehensive framework for statewide disaster mitigation. The GHMS identifies the risks and vulnerabilities of the state to multiple hazards and identifies goals and actions to address those risks and vulnerabilities. The actions included in the plan update reflect the most current major natural hazards that Georgia faces, including riverine and coastal flooding, high winds from tornadoes and hurricanes, and wildfires, along with several others. Recommended actions in the plan range from working with local governments and communities to improve their capabilities for planning and identification of meaningful and valuable hazard mitigation projects, to seeking ways to incorporate better hazard mitigation practices within our own agencies as we carry out the work of State government.

In addition, I certify that the State will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c). The State will amend the plan whenever necessary to reflect changes in state or Federal laws and statutes as required in 44 CFR 13.11(d).

If you or any of your staff have any comments, please contact GEMA/Homeland Security Hazard Mitigation Manager Stephen Clark at (404) 635-4573. Again, thank you for your continued cooperation and support as Georgia advances its mitigation planning efforts.

Sincerely,



James C. Stallings

Appendix B
Planning Process Documentation

Appendix B-I
State Hazard Mitigation Planning
Team Members and Meeting
Documentation

State Hazard Mitigation Planning Team

Federal Emergency Management Agency
Georgia Building Authority
Georgia Department of Administrative Services
Georgia Department of Agriculture
Georgia Department of Audits
Georgia Department of Banking and Finance
Georgia Department of Community Affairs
Georgia Department of Defense
Georgia Department of Driver Services
Georgia Department of Economic Development
Georgia Department of Education
Georgia Department of Human Resources
Georgia Department of Natural Resources
Georgia Department of Natural Resources - Coastal Resources Division
Georgia Department of Natural Resources - Floodplain Mgt Unit
Georgia Department of Public Health
Georgia Department of Revenue
Georgia Department of Transportation
Georgia Environmental Finance Authority
Georgia Municipal Association
Georgia Ports Authority
Georgia Rural Water Authority
Georgia Safe Dams
Georgia Soil and Water Conservation Commission
Georgia State Patrol
Georgia Emergency Management and Homeland Security Agency
Georgia Courts
Georgia Office of State Administrative Hearings
Georgia World Congress Center
Georgia Forestry Commission
Jekyll Island Authority
Georgia Office of Planning and Budget
Subsequent Injury Trust Fund
Technical College System of Ga
UGA Marine Extension and Ga Sea Grant
US Army Corps of Engineers
US Department of Agriculture
The Nature Conservancy

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

June 23, 2022

Present

In Person

Alan Sloan, GEMA/HS HazMit
Alicia Schoening, GEMA/HS HazMit
Lisa Beck, TCGS
Jack Krolikowski, GEMA/HS HazMit
Haydn Blaize, DNR Floodplain Mgt
Brian Shoun, DNR Floodplain Mgt
Leah Hoffacker, DPH
Ken Parker, GFC
Lawton Brantley, ITOS
Angie Wheeler, ITOS
LaTashae Walker, GEMA/HS PA
David Griffin, DNR Safe Dams
Lucy Herring, GEMA/HS HazMit
Lindsey Nixon, GEMA/HS HazMit
Stephen Clark, GEMA/HS HazMit

Virtual:

Rebecca Lamar, GEMA/HS HazMit
Ahmed Bakr, DNR
Corey Kemp, GEMA/HS HazMit
Matt Needham, GDOT Emergency Operations
Kisha Morris, GEMA/HS HazMit
Tomi King, GEMA/HS HazMit
Melissa Alcantara, GEMA/HS HazMit
Joseph Barnum, GEMA/HS Community Recovery
Karen Hampton, GA Dept of Economic Development
Terrell Jacobs, Ga. Municipal Association
Stella Kim, GEMA/HS Community Recovery
Jennifer Welte, DNR Watershed Protection Branch
Lillian Huffman, FEMA RIV Planning
Beatrice Soler, GEMA/HS IA
Jerry Smith, GDOT Emergency Operations
Lauren Turner, GEMA/HS HazMit
Charlissa Bell, DPH Planning and Preparedness
Kimberly Angel, GEMA/HS HazMit
Monique McBride, GEMA/HS HazMit

Welcome and Introductions

Alan Sloan welcomed everyone to the combined 2022 Annual Update meeting for the 2019 SHMS and kickoff meeting for the 2024 SHMS major update. Alan briefly explained the purpose and background of the combined meetings. We greatly appreciated everyone's time and participation. The meeting was held in person at GEMA/HS Headquarters, with a virtual option on WebEx so that everyone could see the presentation. Roll call was taken.

Review and Approval of the June 16, 2021 meeting minutes

Alan began the meeting by asking if anyone had any comments or recommended changes to the minutes of our 6/16/2021 Annual Update meeting. With no changes, the minutes were accepted as presented.

Agency Updates – Report Out

a. GEMA/HS

Stephen noted the recent Enhanced Validation meeting with successful rating. He noted the importance of the Enhanced status and the additional funding this allows. He discussed the current HMGP 4501 application period from the Covid declaration. He noted the importance of the planning process informing the project applications. He noted the following ongoing Hazard Mitigation grant activity

1. Staff was currently managing 224 active grants for approximately \$32 million.
2. 207 HMGP applications pending FEMA approval totaling approximately \$90 million.
3. Approximately \$132 million in projects pending FEMA approval through BRIC 2021. He noted projects not approved through BRIC may be able to applied for through HMGP 4501.
4. Approximately \$30.9 Million pending FEMA approval through FMA 2021.

Stephen described recent staff updates with GEMA/HS

1. Stephen welcomed the newest Risk Reduction Specialist, Lauren Turner.
2. Stephen noted the ongoing hiring process for the planning position for the Southeast GA area.

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b. Other Agency Updates

Stephen noted a staff member has participated with an external stakeholders group with FEMA and introduced Jack Krolikowski to describe the Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM) Act, which sets a state level revolving loan fund for mitigation. Jack noted the importance of interagency cooperation and participation in various programs to provide varied input and expertise.

State of Georgia Enhanced Mitigation Strategy Updates

a. Local Plan Update Priority Table

Alan described updates to the priority table for local plan updates. He described the addition of new counties, heighted in red underline below, based on recent local plan approvals. He noted this relates to 40 county plans that have been approved since the last meeting and noted the significance of this achievement, given the Covid delays over the past 2 years.

Georgia Emergency Management Agency/Homeland Security

County	Plan Expiration	Priority	County	Plan Expiration	Priority
Bacon	3/25/2024	3	Bolton	1/19/2025	8
Baldwin	8/7/2023	5	Chatham	1/19/2025	8
Bartow	4/14/2024	3	Cherokee	1/21/2025	8
Belt	8/13/2024	3	Clay	1/21/2025	8
Bolton	4/24/2024	3	Clayton	1/21/2025	8
Bowling Green	3/4/2024	3	Conley	1/21/2025	8
Buckhead	5/1/2024	5	DeKalb	1/21/2025	8
Buckley	5/29/2024	3	Douglas	1/21/2025	8
Camden	8/27/2023	5	Duval	1/21/2025	8
Candler	5/29/24	3	Evans	1/21/2025	8
Carroll	8/18/2024	3	Fayette	1/21/2025	8
Catoosa	1/18/2024	6	Floyd	1/21/2025	8
Chamblee	8/18/2024	3	Franklin	1/21/2025	8
Cherokee	1/21/2025	8	Gwinnett	1/21/2025	8
Chickasaw	1/21/2025	8	Haralson	1/21/2025	8
Chickly	1/21/2025	8	Hawkins	1/21/2025	8
Clay	1/21/2025	8	Henry	1/21/2025	8
Clayton	1/21/2025	8	Irwin	1/21/2025	8
Conley	1/21/2025	8	Jackson	1/21/2025	8
Constitution	1/21/2025	8	Jasper	1/21/2025	8
Cordele	1/21/2025	8	Jeff Davis	1/21/2025	8
Covington	1/21/2025	8	Jones	1/21/2025	8
Crawford	1/21/2025	8	Madison	1/21/2025	8
Cumming	1/21/2025	8	Marion	1/21/2025	8
Dacula	1/21/2025	8	McClain	1/21/2025	8
Dalton	1/21/2025	8	Meritt	1/21/2025	8
Dawson	1/21/2025	8	Newton	1/21/2025	8
Decatur	1/21/2025	8	Oak Grove	1/21/2025	8
DeKalb	1/21/2025	8	Oconee	1/21/2025	8
Douglas	1/21/2025	8	Oglethorpe	1/21/2025	8
Duval	1/21/2025	8	Polk	1/21/2025	8
Evans	1/21/2025	8	Rockdale	1/21/2025	8
Fayette	1/21/2025	8	Spalding	1/21/2025	8
Floyd	1/21/2025	8	Stewart	1/21/2025	8
Franklin	1/21/2025	8	Suwanee	1/21/2025	8
Gwinnett	1/21/2025	8	Talbot	1/21/2025	8
Haralson	1/21/2025	8	Taliaferro	1/21/2025	8
Hawkins	1/21/2025	8	Telford	1/21/2025	8
Henry	1/21/2025	8	Union	1/21/2025	8
Irwin	1/21/2025	8	Walker	1/21/2025	8
Jackson	1/21/2025	8	Walton	1/21/2025	8
Jasper	1/21/2025	8	Wilkes	1/21/2025	8
Jeff Davis	1/21/2025	8	Worth	1/21/2025	8
Jones	1/21/2025	8			
Madison	1/21/2025	8			
Marion	1/21/2025	8			
McClain	1/21/2025	8			
Meritt	1/21/2025	8			
Newton	1/21/2025	8			
Oak Grove	1/21/2025	8			
Oconee	1/21/2025	8			
Oglethorpe	1/21/2025	8			
Polk	1/21/2025	8			
Rockdale	1/21/2025	8			
Spalding	1/21/2025	8			
Stewart	1/21/2025	8			
Suwanee	1/21/2025	8			
Talbot	1/21/2025	8			
Taliaferro	1/21/2025	8			
Telford	1/21/2025	8			
Union	1/21/2025	8			
Walker	1/21/2025	8			
Walton	1/21/2025	8			
Wilkes	1/21/2025	8			
Worth	1/21/2025	8			

4.4.2 PRIORITIZATION OF PROJECT FUNDING

To maximize the amount of federal and state funding available, GEMAHHS employs an application prioritization system. In the event that submitted pre-applications exceed the available funds for the disaster alleviation, GEMAHHS reviews, scores, and ranks submitted pre-applications and applications using criteria on GEMAHHS's Hazard Mitigation Assistance Score Sheet. The criteria include natural hazard exposure, history of damages, type of mitigation, potential impact on the community, impact on the environment, community commitment to mitigation, and the benefits of mitigation. Generally, pre-applications and applications for acquisition and remedial projects receive the highest ranking. See Appendix H for a copy of the GEMAHHS Hazard Mitigation Assistance Score Sheet.

When a hazard mitigation assistance application cycle is opened, GEMAHHS uses a two-tiered review process. Initially, recommendations are directed to subject pre-applications that allow GEMAHHS staff to determine whether a proposed mitigation project meets FEMA funding criteria. Completed pre-applications received by the priority stated deadline are scored using criteria on GEMAHHS's Hazard Mitigation Assistance Score Sheet. In addition to the above criteria, for post-disaster grants (PDRG), pre-applications are prioritized under two categories: within the declared area and outside of the declared area. Projects that mitigate the impacts of the specific declaration event such as a flood or a tornado in the declared area have the highest priority for the State of Georgia.

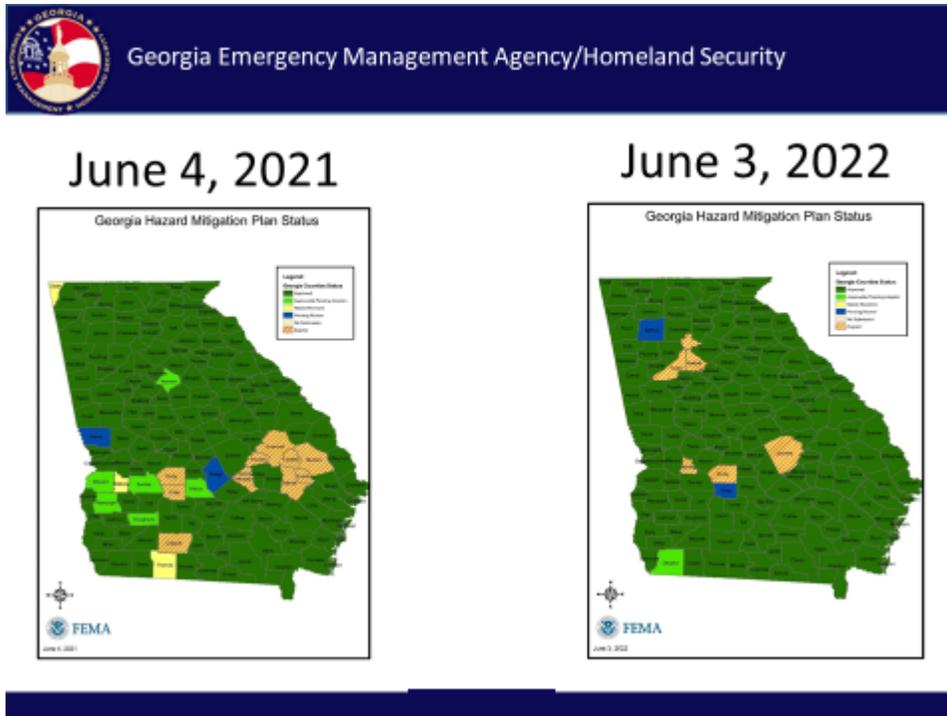
Applicants whose pre-applications receive the highest score and meet minimum project criteria will be invited to complete and submit a full grant application. Risk Reduction Specialists and Hazard Mitigation Planning Specialists will assist in completing the applications and will conduct an initial review in accordance with the GEMAHHS Hazard Mitigation Assistance Score Sheet. The State Hazard Mitigation Decision Manager will review the results of the staff scoring and the prioritization of applications. The recommendations are presented to the GEMAHHS Agency Director for final administration.

Alan highlighted the importance of, both the Planning and Risk Reduction specialists and their capabilities and work they do, to the success of the agency. He noted, given the delays largely affected the beginning of the local planning process, which is usually 1-2 year process, we may start to see the results of those delays with fewer plans being approved in the near future.

Local Plan Update Status

a. Plan Status Map

Alan displayed the FEMA Local Hazard Mitigation Plan Status maps from June 4, 2021 and June 3, 2022, highlighting the State's success in reducing the number of expired plans.



b. Local Plan Review Guidance Update

Alan described the recent release of the updated local plan review guidance by FEMA, which will be effective April 19, 2023. Alan noted this is an effort by FEMA to give states time to implement the necessary changes in before use of the new guidance becomes required. Alan described two major changes with the new guidance, including future conditions (climate change, development and population changes) and their impacts on the hazards, as well as equity. He stated there are other smaller revisions, as well, but noted these two are the major differences. Staff is working toward developing practical guidance to distribute to local planning committees around September. He also noted the High Hazard Potential Dams elements, developed a couple of years ago, have been incorporated as optional elements, which are required if a community wishes to participate in the HHPD grant program.

c. Ongoing Applications

Alan noted we have 9 pending applications through BRIC 2020 and 42 applications in various stage of development approval through HMGP 4501, the current Covid disaster declaration.

State of Georgia Enhanced Hazard Mitigation Strategy 5-year Update Kickoff

a. Effective Timeframe

Alan noted the effective timeframe for the current State Hazard Mitigation Strategy was approved March 2019 and is required to be updated every 5 years. He noted staff is beginning this process.

b. New State Plan Review Guidance

Alan noted FEMA has released new State Plan review guidance and staff is in the process of understanding the new requirements. Alan described changes to the review requirements, including future conditions and equity, noting the staff is working to determine to meet these new elements at the State level. He also described how, being an enhanced state includes being reviewed by FEMA regarding the management of our program. Staff is working with FEMA to understand the new program management requirements, as well as the new requirements for the plan document itself.

c. Addition of Non-natural Hazards

Alan noted, due to the Agency's 2020 Emergency Management Accreditation Program (EMAP) re-certification, staff was required to add non-natural hazards to the State Hazard Mitigation Strategy. Alan described the process of pulling information from the 2018 Hazard Identification and Risk Assessment document, as well as obtaining information from as many sources regarding ongoing mitigation efforts to integrate the information into the State Plan. He then noted, with the current State plan, the method used was to amend the plan with information from other sources, but the intention with the 2024 plan is to more fully integrate non-natural hazards as part of the planning process.

Alan further noted the need for assistance in identifying and obtaining resources to identify climate change and it's impacts. Jack Krolikowski further summarized the purpose of identifying hazards, risk and vulnerability and mitigating those items as a whole.

Charlissa Bell noted they have vulnerable population specialists on staff that work with those type of citizens and clients and would like to be part of the discussion when the time comes in the update of the plan.

Terrell Jacobs noted GMA has an equity inclusion division with resources dedicated to disasters.

d. Updated timeline

Alan described updates to State Plan Update timeline, reflecting the recent declarations and team meetings, as well as the current projection of activities related to the 2024 update. He noted the data cutoff point, the proposed upcoming workshops, the anticipated submittal date to FEMA and, while most dates are flexible, the plan must be done and approved by FEMA by March 17, 2024.



Hazard Mitigation Assistance Project Activities

Alicia Schoening described the team of 5 Risk Reduction Specialists and their role within Hazard Mitigation

a. Hazard Mitigation Grant Program

Alicia described activities in HMGP 4579 and 4600. HMGP 4579 included 5 initiative projects and 4 stand alone projects, including 1 statewide generator project with 30+ generator sites. HMGP 4600 included 1 initiative project and 2 stand alone, including one statewide generator project with 30+ sites. We are still developing 4501, reaching out for and accepting applications. Alicia noted we accept applications year round, regardless of whether there is an active application period and eligible applicants are encouraged to submit at any time.

Alicia noted the change in Federal cost share for HMGP 4579, 4600 and 4501 from 75% federal share to 90% federal share. She noted this was only for these three disasters and encouraged those interested to apply soon to take advantage.

Jack described the difference between 4579, 4600 and 4501, being based on the Tropical Storm Zeta, Newnan tornado disaster and Covid, respectively.

b. Building Resilient Infrastructure in Communities (BRIC) and Flood Mitigation Assistance (FMA) Grant Programs

Alicia noted the completion of the completion of the BRIC and FMA 2020 and 2021 application cycles and that the 2022 cycles would open soon. She noted the Risk Reduction Specialists are reaching out to counties and attending EMAG area meetings to be sure counties are aware of the programs and encourage them to apply.

FEMA Activities

a. State of Georgia Enhanced Plan Validation with FEMA Region IV

Jack described the Validation meeting with FEMA the day before. Jack noted the validation meeting resulted in continued enhanced status for the State of Georgia due to continued successful management of the Hazard Mitigation Program.

b. State of Georgia / FEMA Region IV Mitigation Program Consultation

Jack described the consultation meeting with FEMA the day before. Jack noted the importance of meeting together with FEMA and other state and federal partners involved in mitigation, outside of the official mitigation grant programs and the need and desire to continue to do so.

c. Upcoming meetings and workshops

Alan re-iterated the planned workshops for the Winter/Spring timeframe, also noting there are no other planned meetings or workshops at this time.

Next Meeting

Barring unforeseen disasters, the next meeting date will held sometime in the Spring or Summer 2023. We will notify everyone by email

Open Discussion

Alan introduced Latashae Walker, Supervisor of the GEMA/HS Public Assistance (PA) program. She described the PA program and their efforts in helping communities recover. She also discussed Section 404 mitigation through the PA program. Alan then noted the importance of PA to the Hazard Mitigation, including how the size of the HMGP program are driven by damage assessments done by PA. He also described the differences between PA 404 mitigation and 406 Hazard Mitigation, noting PA 404 mitigation is available to mitigate damaged sites during the restoration phase, where 406 Hazard Mitigation is more for undamaged or repaired sites that need still need to be mitigated to reduce the potential future impacts.

Haydn Blaize, DNR, indicated an interest in assistance with Individual Assistance in identifying damaged structures to get ahead in ensuring damaged structures are repaired according to floodplain development regulations in place. Terrell Jacobs, GMA, identified known frustrations with the Individual Assistance process for owners that didn't have insurance. He also noted GMA is working on a debris removal process to assist communities in having things in place beforehand and will be working with ACCG as well. Beatrice Soler acknowledged the identified issues and is working with FEMA to resolve the problems going forward.

Stephen thanked everyone for participating and encouraged agencies to reach out to the staff at any time. He noted the importance of working together to accomplish resilience, regardless of programmatic restraints. There being no further comments, the meeting was adjourned.

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

June 16, 2021

Present

Alan Sloan, GEMA/HS
Alicia Schoening, GEMA/HS
Ann Thompson, DOAS Risk Management
Brad Case, FEMA
Beatrice Solar, GEMA/HS
Charlisa Bell, DPH
Chris Bruegge, ESF 3
Dennis Murray, GDOT
Emily Wingo, DNR Floodplain Mgt
Jack Krolkowski, GEMA/HS
Jay Matthews, GRWA
Jeff Hodges, Ga DOE
Kathy Trembly, DCA CDBGDR
Ken Parker, GFC
Kimberly Angel, GEMA/HS
Lawton Brantley, ITOS
Lillian Huffman, FEMA
Lucy Herring, GEMA/HS
Melissa Alcantara, GEMA/HS
Monique McBride, GEMA/HS
Shelby Meyers, GEMA/HS
Stephen Clark, GEMA/HS
Tommy Lowmon, DCA
Tomi King, GEMA/HS
Noel Jensen, Jekyll Island Authority
Olivia Martin, no agency announced
Stephen Juszcyk, FEMA
Emily Fish, GDOT
Charlie Dawson, GEMA/HS
Lisa Beck, TCSG

Welcome and Introductions

Alan Sloan welcomed everyone to the combined 2021 Annual Update and DR 4600 Post Disaster Review meeting for the 2019 SHMS. Alan briefly explained the purpose and background of the combined meetings. We greatly appreciated everyone's time and participation. Due to Covid concerns, the meeting was virtual and run on WebEx so that everyone could see the presentation. Roll call was taken.

Review and Approval of the August 26, 2020 and March 10, 2021 meeting minutes

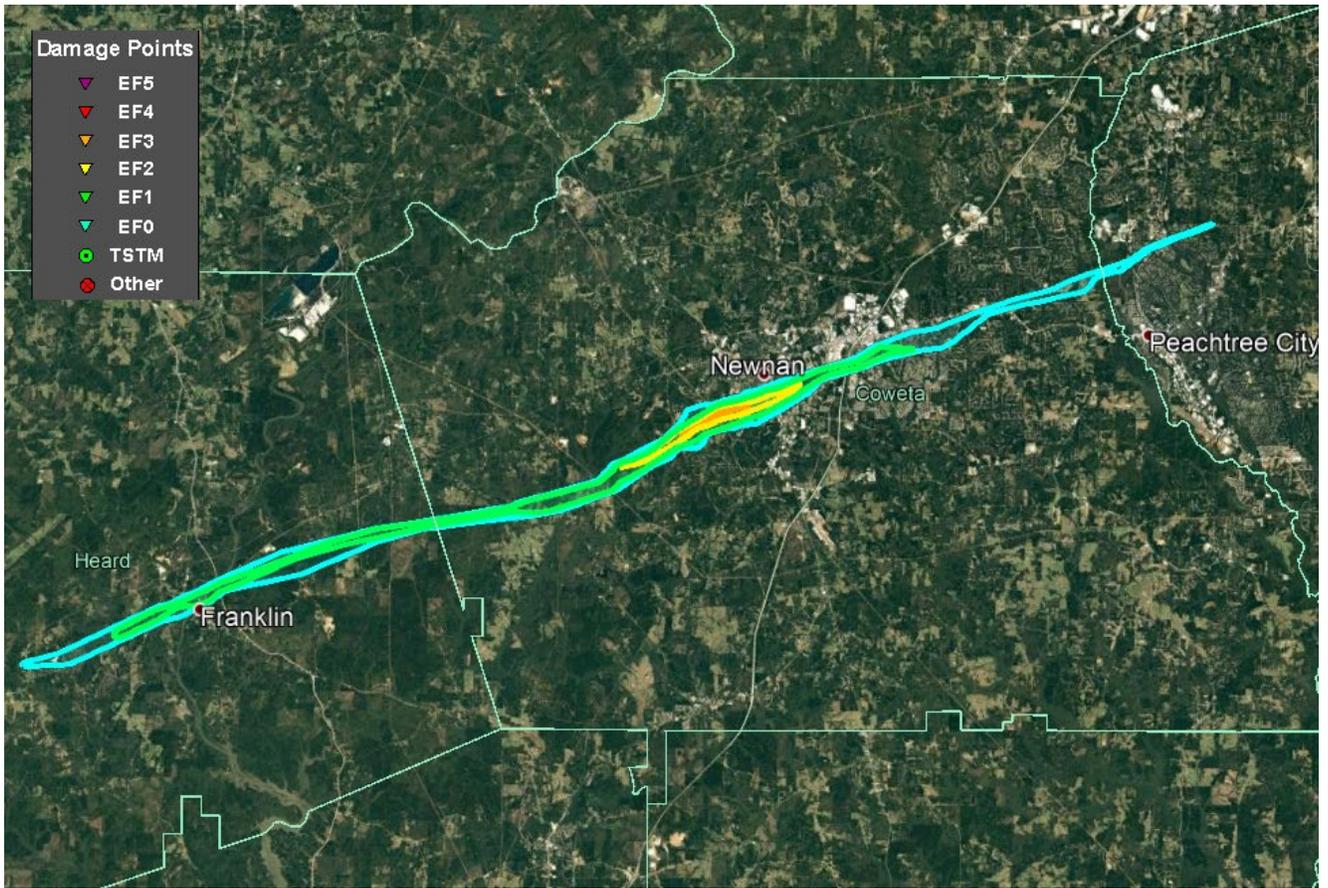
Alan began the meeting by asking if anyone had any comments or recommended changes to the minutes of our 8/26/2020 Annual Update meeting or our 3/10/2021 Post Disaster meeting. Alan noted 2 typos on page 2 referring to Hurricane Michael and DR 4400, instead of Tropical Storm Zeta and DR 4579, as well as a typo on page 9. With no other changes, the minutes were approved

DR 4600 Post Disaster Review Meeting

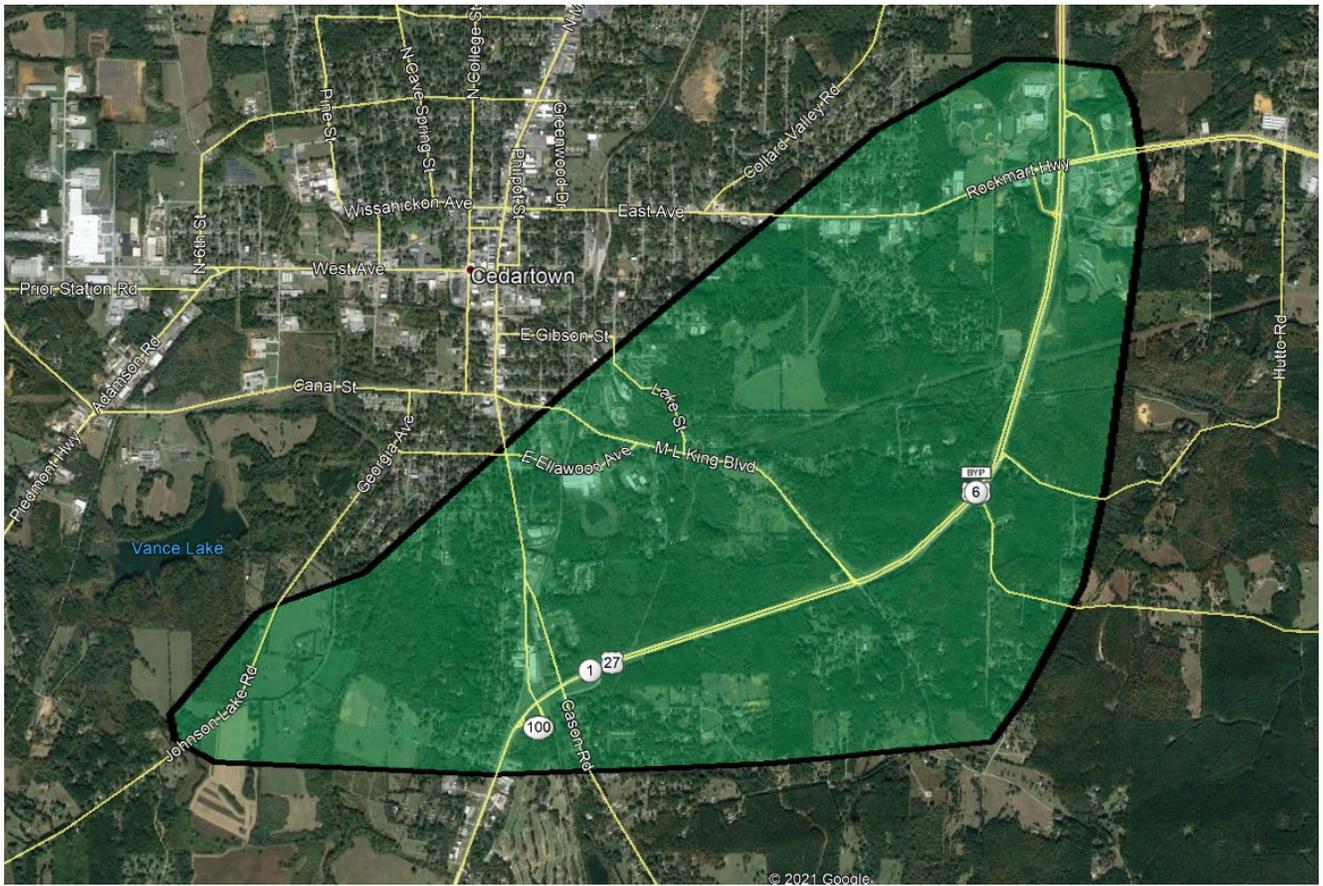
a. Review Tropical Storm Zeta Event

Jack Krolikowski gave a summary of the tornado outbreak from March 2021. Jack started out acknowledging the efforts of the staff in the agency's mitigation efforts, as well as asked if participants know of anyone else that would be interested in participating in future endeavors.

Jack began with a description of the various tornadoes that occurred, including one through Newnan, one near Cartersville, and one in southern Bartow County, as well as a downburst event in Polk County. Jack then showed a summary of all storm reports from the event.

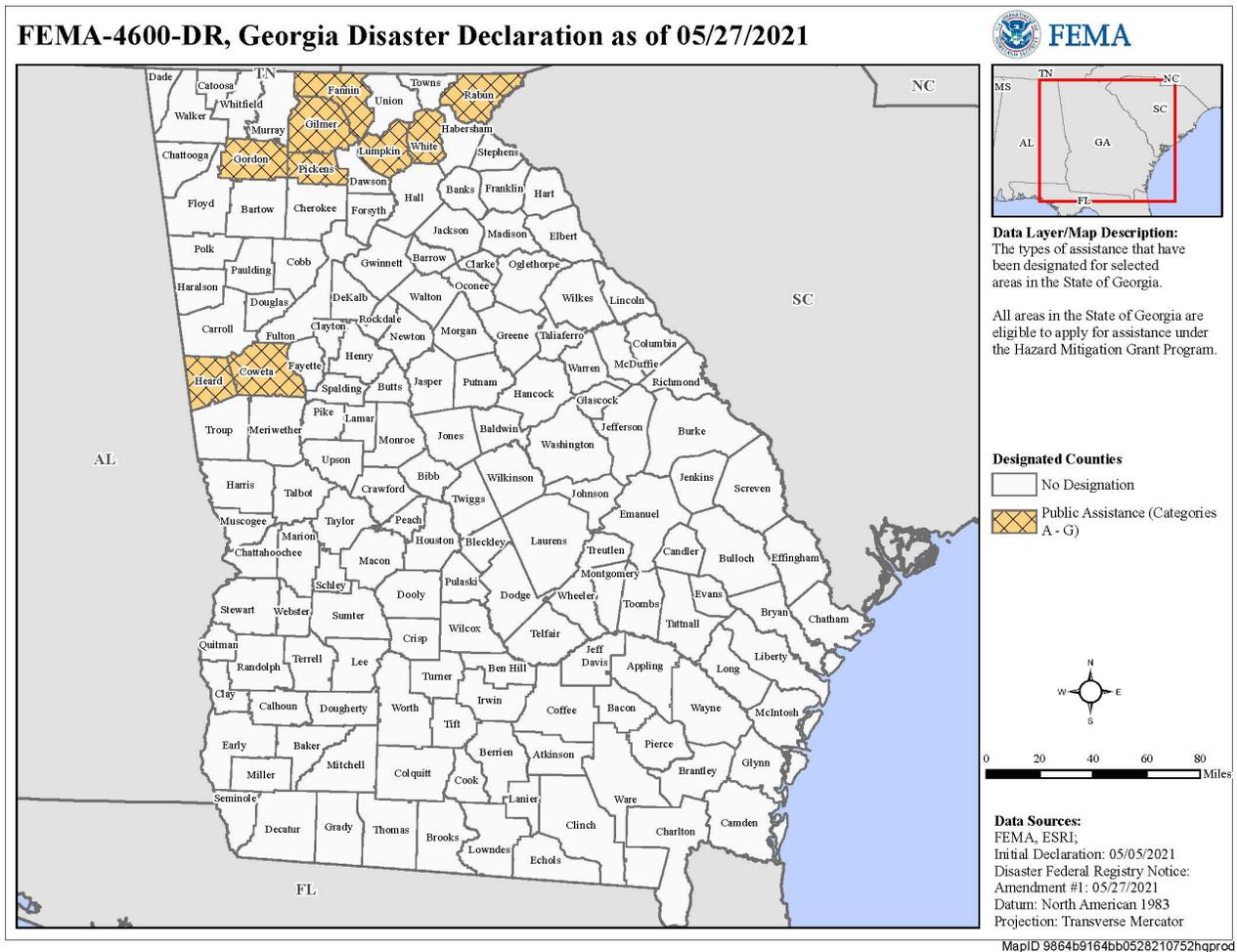






b. Presidential Declaration

Jack noted 9 counties received a federal disaster declaration, highlighting the recent addition of Gordon County. Below is a map showing the counties included in the DR4600 Disaster declaration:



c. HMGP Application Timeline and Priorities

Jack described mitigation through the Hazard Mitigation Grant Program (HMGP) from Section 404 and of the Stafford Act. Jack noted the objective of the HMGP program is to reduce or eliminate risks to lives and property, by providing funds to implement projects identified in State or local hazard mitigation plans. Jack highlighted the length of time involved in HMGP grants, noting that, while the declaration is often immediate,

the process of applying for and receiving grant funds and completing the project is lengthy. Jack then described the differences between mitigation through HMGP and PA, with the major difference being that PA mitigation is focused on mitigation of facilities damaged through the event, while HMGP is focused on facilities not damaged by the event, but related to the disaster. PA mitigation focuses on mitigation activities during the repair of damaged facilities, while HMGP is more long term and focuses on facilities that are operational, but have identified problems related to the event.

Alan provided the following information on the HMGP through this disaster:

- Georgia receives 20% of the total estimated Stafford Act Disaster Assistance
 - State of Georgia Enhanced Mitigation Plan provides for 20% HMGP funding
- Cost Share is 75% federal/25% non-federal
 - State will provide 10% of eligible costs
- Will use up to 7% of allocation for planning, up to 5% for initiative, and remainder for projects.
- Program estimates were pending at the time of the meeting. Jack encouraged anyone interested to contact GEMA staff to discuss eligibility of potential projects.
- Eligible Project Types
 - Voluntary property acquisition and structure demolition or relocation*
 - Structure Elevation
 - Mitigation Reconstruction
 - Dry Floodproofing (Historic/Non-Residential)
 - Generators for Critical Facilities*
 - Flood Risk Reduction Projects
 - Structural and non-structural retrofitting of existing buildings and facilities
 - Community safe room construction*
 - Infrastructure Retrofit
 - Soil Stabilization
 - Wildfire Mitigation
 - Initiative Projects*
 - State and Local plan updates*

*Indicates projects prioritized for DR4600

DR 4600 funding priorities:

Counties with approved Hazard Mitigation Plans

1. Declared for PA only (9 counties)

Prioritization for Project Grants

1. Generators for essential facilities who lost power during storm event (Water and Wastewater systems and medical facilities have priority)
2. Tornado-related Mitigation Strategies
3. Flood-prone property acquisitions

Additional prioritization elements:

- Utilize 5% initiative to support warning and communication improvements and state-wide generator initiative
 - Equipment and systems for the purpose of warning residents of impending severe weather and hazard events
 - Priority given to mass alert systems
- Utilize planning funds (up to 7% of allocation) to update mitigation plans
- Utilize project funds (up to 88% of allocation) for mitigation activities that reduce or eliminate damages from high winds and flooding.

DR 4600 Application timeline:

- **March 25 and March 26, 2021**– Incident Period
- **May 5, 2021** – Severe Storms and Tornadoes Disaster Declaration
- **May 25 and 27, 2021 @ 10 AM** – Applicant Briefings
- **September 15, 2021** – Pre-Applications due to GEMA/HS
- **July 1, 2021** – GEMA/HS Notification to Applicants for Full Applications
- **December 15, 2021** – Full Applications due to GEMA/HS
- **April 4, 2021** – All Applications submitted to FEMA
- **FEMA Application Review Process (12-24 months)**

DR 4600 Planning Application timeline:

- Any county requiring a plan update in 2023 or earlier has already received an application for previous funding opportunities.
- Declared counties expiring in 2024 will receive an application from their Hazard Mitigation Planner.
- Pre-Application not required
- Application emailed to counties by July 1, 2021
- Completed application due by September 15, 2021

d. Next Steps

Jack summarized the next steps in the HMGP process:

- Determine Eligible Projects for your Community
- Work with EMA Director and Local Officials
- Consult your Risk Reduction Specialist or Planning Specialist
- Complete project-specific Pre-Application
- Submit Pre-Application by September 15, 2021

e. Damage to State Facilities/Business interruptions to State Agencies

Ken Parker asked about mitigation with solar farms being constructed in the event of an emergency. He noted problems and dangers of emergency fire response in the event of fires. Jack noted fuel reduction and defensible space are eligible activities. He also asked about eligibility through CDBG DR. Alan asked about actionable activities that were recommended. Ken noted they have recommended green strips and access throughout the farms. He also indicated education of local fire departments of dangers and firefighting methods would be beneficial. Alan noted the need to capture in the State Plan the efforts GFC has undertaken and requested a summary of activities that have occurred.

Alan showed a GPB video of the damages in Coweta County.

Agency Updates – Report Out

a. GEMA/HS

Alan described recent staff updates with GEMA/HS

- Mr. Charlie Dawson, Recovery Division Director, has announced his upcoming retirement, effective June 2021 after 25 years with GEMA/HS, after serving the agency in the Operations and Recovery Divisions.
- Ms. Valery Grooms has been promoted to Recovery Division Director.
- Alan announced the Risk Reduction section was closed to being fully staffed.
- Valery Lancaster has been promoted to Risk Reduction Specialist.
- We will soon be bring on a new administrative assistant to fill the vacant administrative assistant position.

b. Other Agency Updates

Dennis Murry, GDOT, introduced Emily Fish as the ESF 1 lead. He also announced the hiring of Jerry Smith as a liaison in Emergency Operations. Alan welcomed Dennis and Emily to the team.

Emily Wingo, DNR Floodplain Mgt, announced they are working to get Upper Oconee basin maps updated and new risk products on the GADFIRM website. She also noted

progress on the Withlacoochee basin, as well as base level engineering in Southwest Georgia to determine the Base Flood Elevation for current floodzone A.

Ken Parker, GFC, updated the group on changes to the law for prescribed burning. Landowners no longer need to get a permit for leaf and limb burn piles. He summarized the current regulations still in place for such fires. Information can be located on the GFC website.

Beatrice Solar, GEMA/HS described an upcoming multi-county disaster recovery exercise for Georgia's coastal counties.

Chris Bruegge, ESF 3, announced he was taking over for Amy Rammo-Kuhs as ESF 3 lead.

State of Georgia Enhanced Mitigation Strategy Updates

a. Risk Assessment Updates

Alan described updates to the risk assessment related to Tropical Storm Zeta and the March 2021 tornado outbreak.


Georgia Emergency Management Agency/Homeland Security

TABLE 3.11 NOTABLE AND HISTORIC TROPICAL CYCLONIC EVENTS AFFECTING GEORGIA

Year	Name (if applicable)	Area Affected	Remarks
1800		Seacoast Area	Hudson Island Hurricane; 3 deaths
1811		Coastal Georgia	26 deaths
1821		Seacoast Area	\$2.7 million in damages; 133 deaths
1830		Seacoast Area	\$4.3 million in damages; 1,000 deaths
1845		Coastal Georgia	Damage to 4,100 dwellings
1871		Coastal Georgia	12,000 in 24 hours
1875		Southwest Georgia	\$2.5 million in damages
1920		Seacoast Area	11' of rain
1940		Coastal Georgia	24' rainfall in 24 hours
1941		Seacoast Area	42 inches in 24 hours
1950	Travis	Coastal Georgia	30 inches in 24 hours
1962*	Leah	Coastal Georgia	\$20.11 - \$4 million in damages
1971	Anna	Coastal Georgia	2' surge
1992*	Andrew	Coastal Georgia	\$1.94 billion; 161 deaths in damages
1994*	Charley	Seacoast	\$1.54 billion; 10 deaths; 100,000 homes destroyed
2004*	Florence, Ivan, and Emma	Midwest Georgia	\$1.5 billion in damages; 100 deaths
2005*	Wilma	Midwest Georgia	100,000 homes destroyed
2010*	Chloe	Midwest Georgia	100,000 homes destroyed
2010*	Matthew	Coastal Georgia	\$1.54 billion; 100,000 homes destroyed; 100 deaths
2011*	Tina	Midwest Georgia	\$1.54 billion; 100,000 homes destroyed; 100 deaths
2017*	Harriet	Midwest Georgia	\$1.54 billion; 100,000 homes destroyed; 100 deaths
2022*	Ivy	Midwest Georgia	\$1.54 billion; 100,000 homes destroyed; 100 deaths

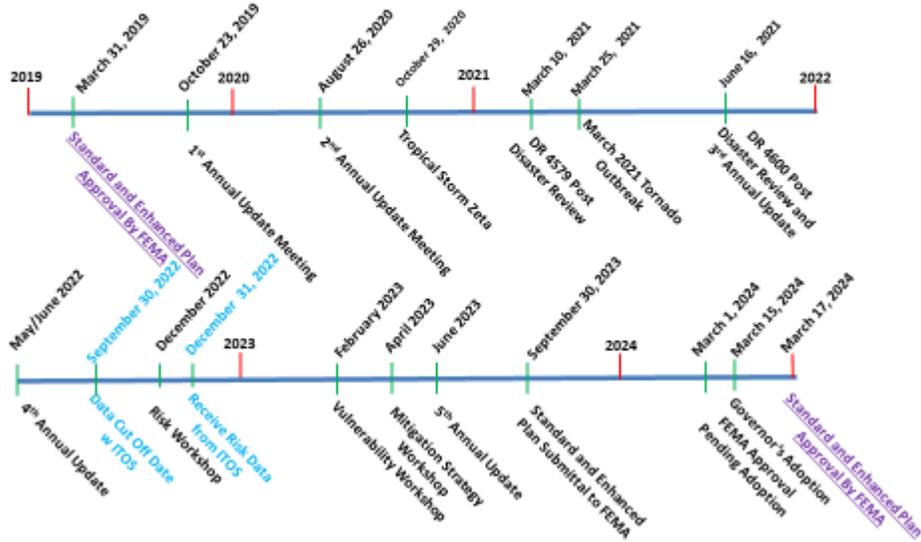
*Presidential Declared Disasters

The hazard event risk analysis takes into account the recurrence interval of the hazards. Because the historical record of tropical cyclonic events is limited and subject to seasonality, a true recurrence interval is unknown and changes yearly (as demonstrated by HWZ for example). However, using various sources for Georgia's tropical cyclone history (NOAA, GEMDA, etc.), one can estimate that over a 200-year period, around 36 tropical systems affected the state (not necessarily a direct hit). This translates to about an 18% chance of a tropical system affecting Georgia per year or approximately one storm every 5.5 years.




Alan described updates to State Plan Update timeline, reflecting the recent declarations and team meetings, as well as the current projection of activities related to the 2024 update.

2024 State Hazard Mitigation Plan Update Timeline



Alan also noted the current Mitigation Plan Status from FEMA. He noted there are some expirations, but the staff is working diligently to reduce those and prevent others. Alan noted delays in local mitigation planning related to Covid. The team is working to reduce the impacts of these delays, but noted there is a possibility of additional expirations as a result of Covid delays.



d. Local Plan Updates

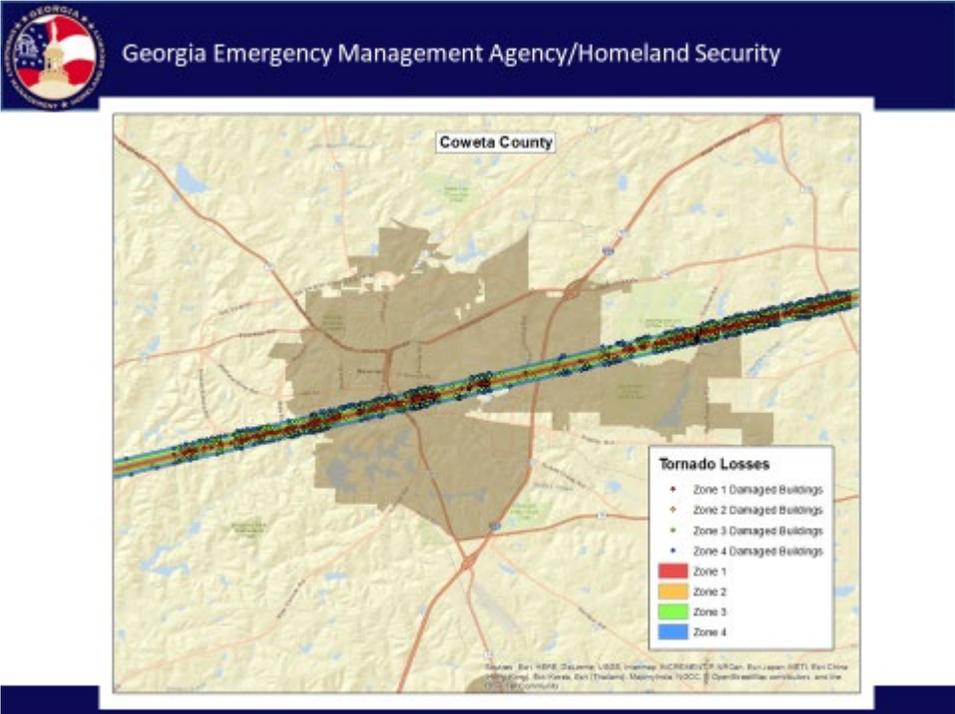
Alan gave the following summary of ongoing local planning applications:

- 22 HMGP 4400 planning applications with 20 approved and getting started
- Received approval of grant funding for 2024 State Plan Update
- Submitted nine planning applications through BRIC 2020
- Currently Developing 24 planning applications for FY21 for HMGP 4579 (Hurricane Zeta), HMGP 4600 (March 2021 tornadoes), and/or BRIC 2021.

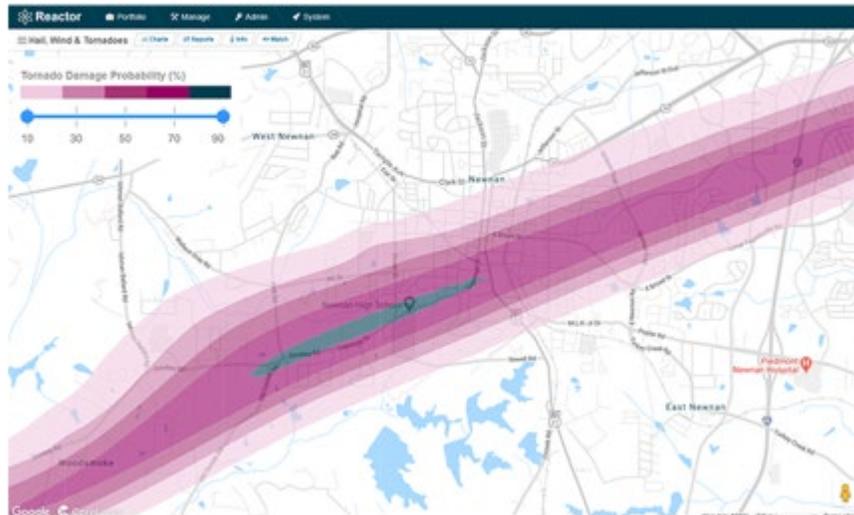
Alan then gave a summary of the status of local Hazus Level 2 Analyses:

Total Contracted	179
Percent Contracted	113%
Total Completed	158
Percent Completed	99%

He also showed the tornado projection from the Coweta County Hazus, showing projected path similar to the actual path the tornado followed.



Hazus Projected Path



Actual Path

FEMA Activities

Alan described the Consultation and Enhanced Plan Validation meetings with FEMA and various State agencies the previous day. Alan noted part of being an enhanced state is more than just the plan, but also includes successful management of the Mitigation program.

Alan noted there were no upcoming State Plan or interagency related meetings coming up. Alan highlighted current efforts on the part of the staff to improve skills and capabilities for both sections.

Alan noted the staff is holding ongoing meetings with FEMA related to the recent disasters and ongoing grant activities.

Jack also noted current activities related to the upcoming Building Resilience in Infrastructure and Communities (BRIC) 2021 grant program.

Next Meeting

The next meeting date will be determined at a later date. It will likely be held sometime in the Spring, 2022 in order to begin the major efforts for the 2024 update. We will notify everyone by email

Open Discussion

Alan presented Hazard Mitigation contact information and encouraged anyone interested in mitigation grants or planning to contact the staff.

Having no further comments or questions, the meeting was adjourned.

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

March 10, 2021

Present

Corey Kemp, GEMA/HS
Brian Shoun, DNR Floodplain Mgt
Melissa Alcantara, GEMA/HS
Olivia Martin, DNR
Kisha Morris, GEMA/HS
Lucy Herring, GEMA/HS
Alan Sloan, GEMA/HS
Haydn Blaize, DNR Floodplain Mgt
Dana Pender, Jekyll Island Authority
Emily Fish, GaDOT
Christopher Costley, DNR Floodplain Mgt
Penelope Marshal, Amicalola EMC
Ann Thompson, DOAS Risk Mgt
Carmelo Nieves, USDA
Valerie Grooms, GEMA/HS
Matt Needham, GaDOT
Scott Minarcine, DPH
Tripp Voss, Tennessee EMA
Stephen Clark, GEMA/HS
Jeff Hodges, GaDOE
Monique McBride, GEMA/HS
Carl Mickalonis, FEMA
David Johnson, Greystone Power Corp
Derek Fellows, FEMA
Nadia Faucette, Greystone Power Corp
Lawton Brantley, ITOS
Leslie Nichols, Jackson EMC
Daniel Frizzell, Blue Ridge Mountain EMC
Veronica Craw, DNR Non-Point Source
Jennifer Kline, DNR CRD
Kara Pearson, Greystone Power
Ken Parker, GFC
Alicia Schoening, GEMA/HS
Natasha Dixon, DPH
Elizabeth Smith, DCA
Jay Matthews, GRWA
Charlisa Bell, DPH
Stacy Chastain, Tri-State EMC
Terrell Jacobs, Ga Municipal Assoc.
Lillian Huffman, FEMA

Tomi King, GEMA/HS
Art Giles, DNR
Kelly Nadeau, DPH
Stephen Juszcz, FEMA
Garry McGiboney, GaDOE
Valery Lancaster, GEMA/HS
Natasha Walker, GEMA/HS
Lisa Beck, TCSGa

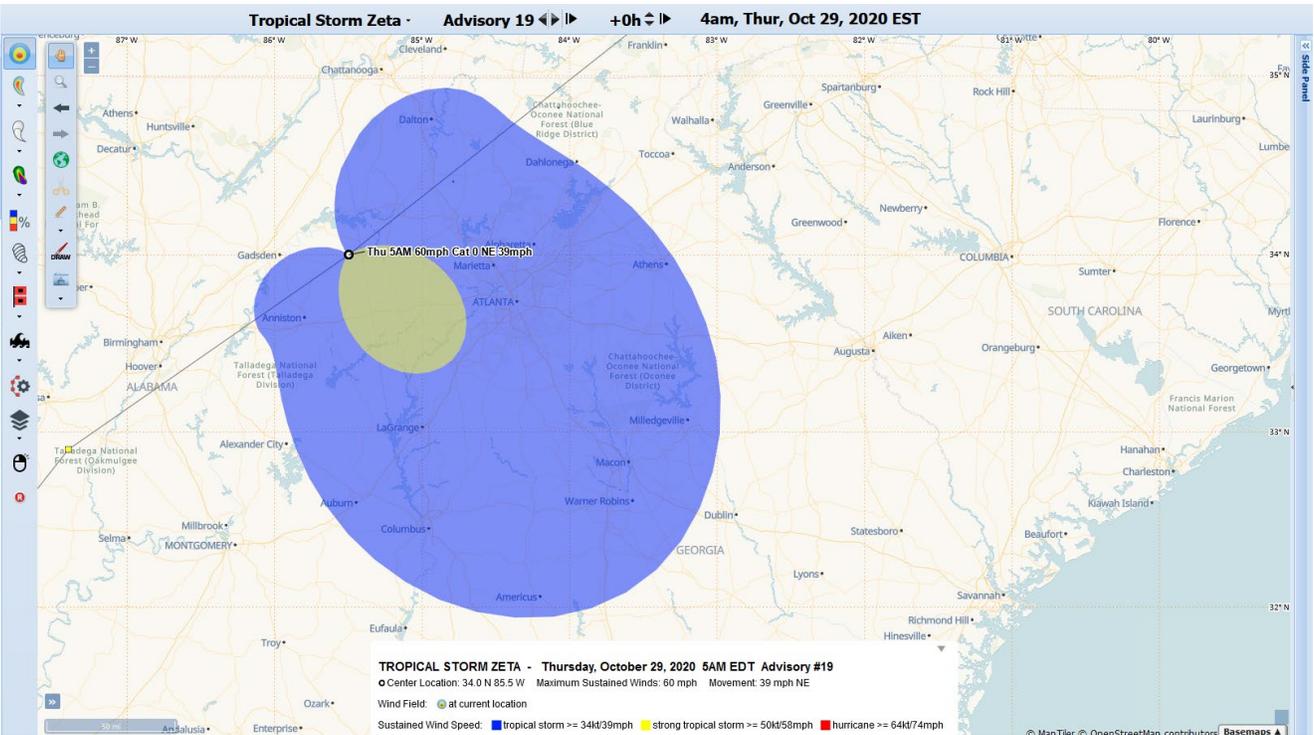
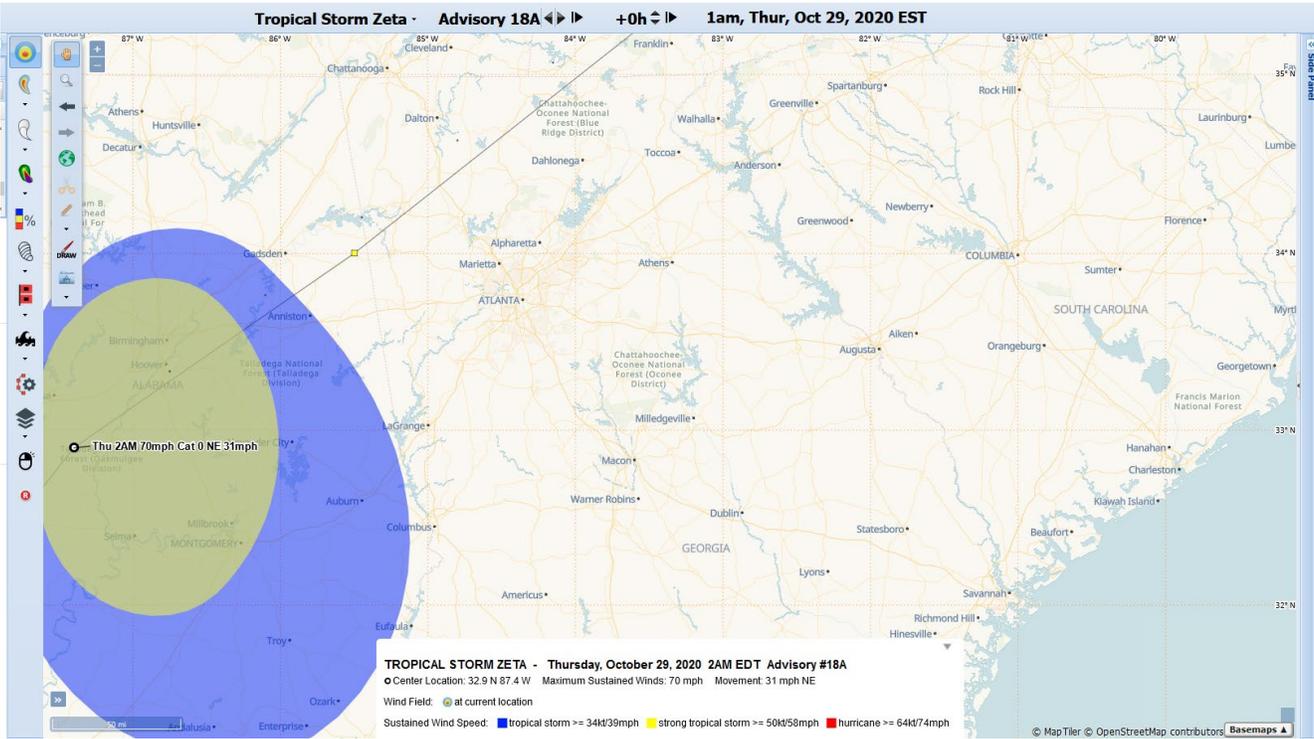
Welcome and Introductions

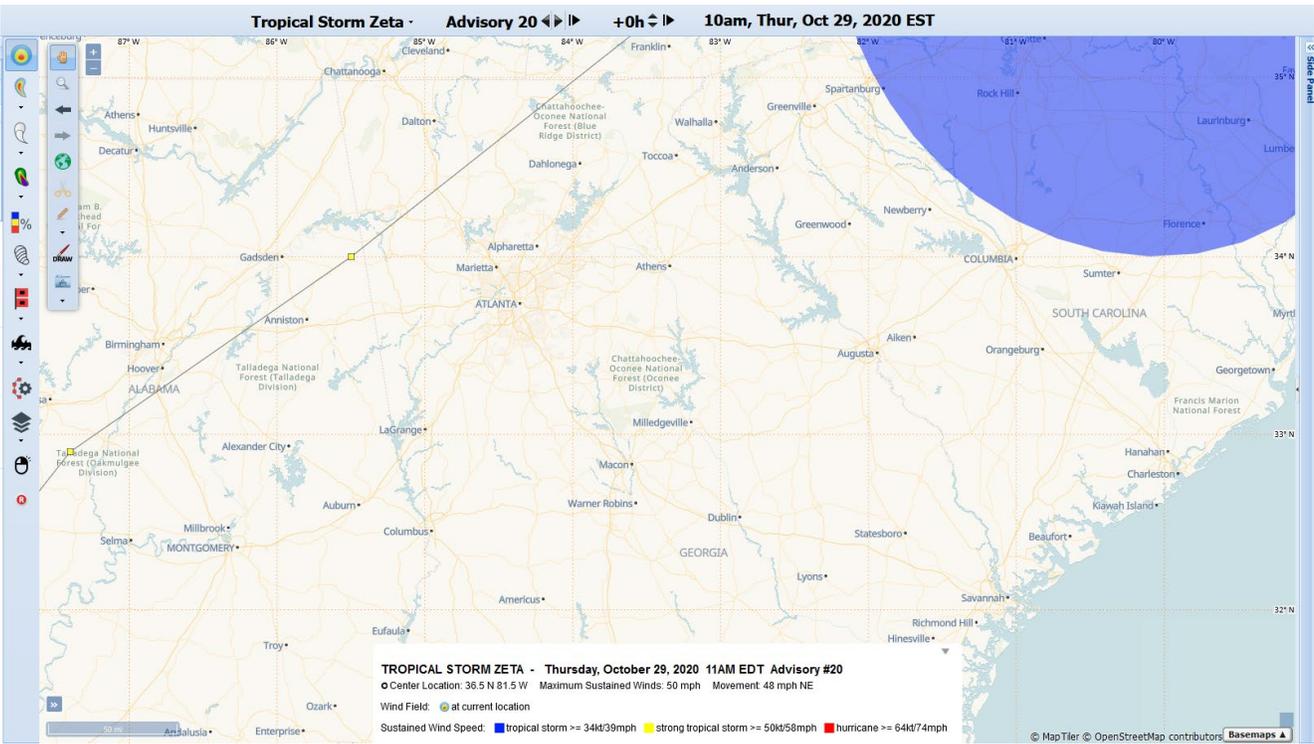
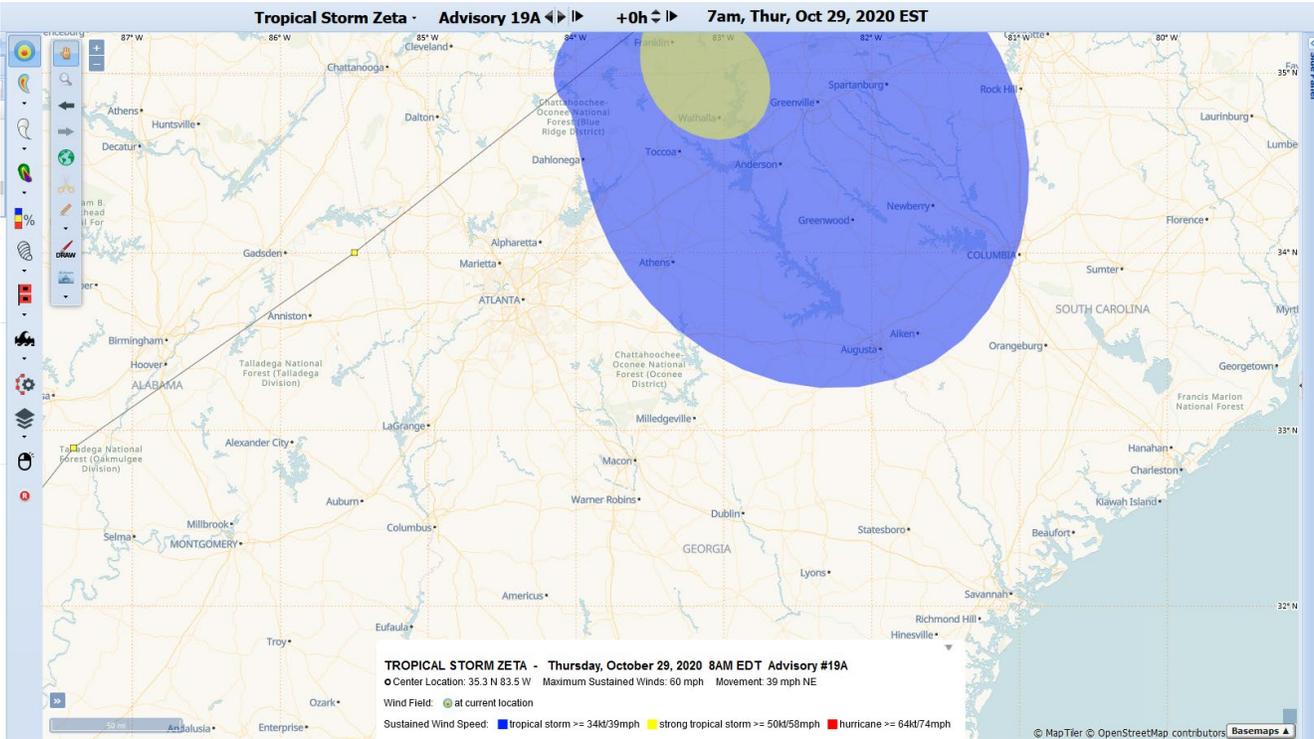
Alan Sloan welcomed everyone to the DR 4579 post disaster review meeting for the 2019 SHMS. We greatly appreciated everyone's time and participation. Due to Covid concerns, the meeting was virtual and run on WebEx so that everyone could see the presentation. Roll call was taken.

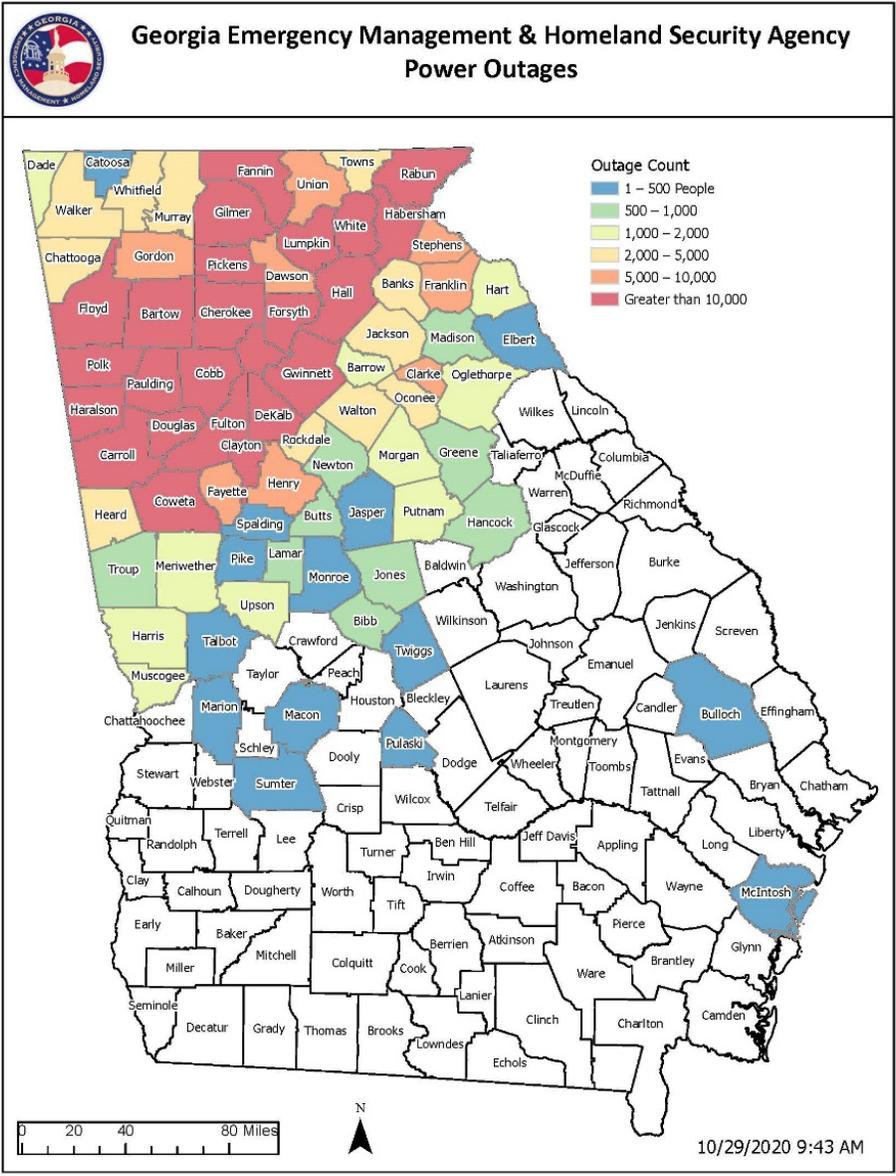
DR 4579 Post Disaster Review Meeting

a. Review Tropical Storm Zeta Event

In Fall, 2020, Hurricane Zeta formed in the northwestern Caribbean Sea rapidly intensifying as it traveled toward the Yucatan Peninsula. After crossing the Yucatan, the system entered the southern Gulf of Mexico and intensified into a Category 3 storm prior to making landfall in southern Louisiana. The storm turned Northeast, crossing Alabama and entering Georgia as a tropical storm near Cedartown and Rome. Tropical Storm winds entered West Georgia just after 1am Thursday morning. By 4am, strong Tropical Storm Force winds were impacting NW Georgia with the eye approaching the State line. By 7am, the eye of the storm had exited NE Georgia and was near Franklin, N.C.. By 10am, all Tropical Storm force winds had exited the state. Alan noted, while the system was fast moving and impacts were relatively small, compared to previous disasters, the impacts to the power infrastructure throughout North Georgia were notable, with several areas experiencing power outages lasting multiple days. Alan noted damages were primarily to power corporations throughout the area. Alan noted there were 3 fatalities, over 1 million people without power after the storm, localized flooding, and estimated \$21 million in damages to public infrastructure. Alan noted, while there were power outages in several areas, including Southwest and Southeast Georgia, the vast majority of outages were in North, including the Atlanta Metro area, as well as Central and West Georgia and, along with effects of the wind damages, were the primary factors in the disaster declaration.



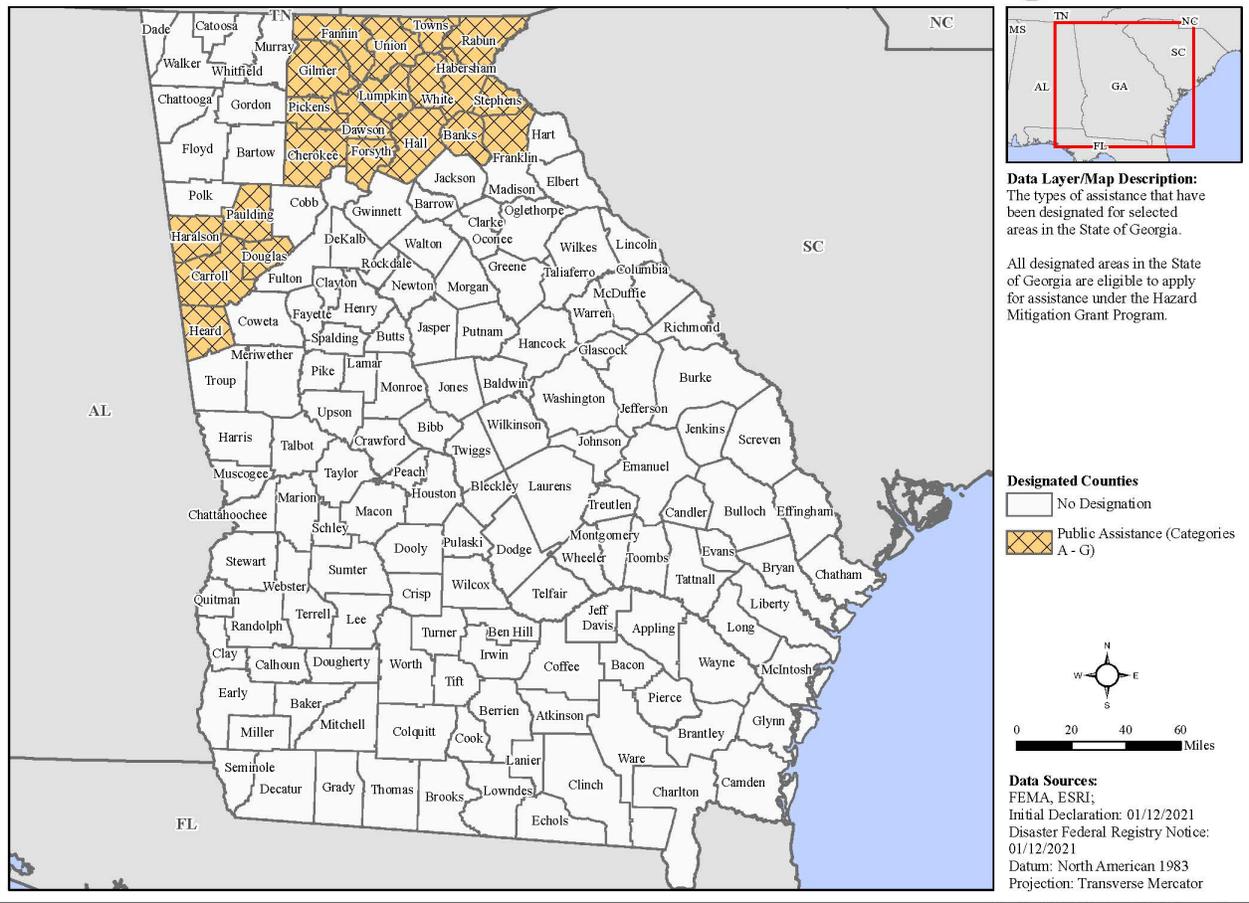




b. Presidential Declaration

Alan noted 21 counties received a federal disaster declaration. Below is a map showing the counties included in the DR4579 Disaster declaration:

FEMA-4579-DR, Georgia Disaster Declaration as of 01/12/2021



c. HMGP Application Timeline and Priorities

Alan described mitigation through the Hazard Mitigation Grant Program (HMGP) from Section 404 and of the Stafford Act, noting there is also Section 406 mitigation available through Public Assistance. Alan noted the objective of the HMGP program is to reduce the impacts of future natural hazards by providing funds to implement projects identified in State or local hazard mitigation plans. Alan also noted the planning requirement to be eligible for the HMGP program. Alan then described the differences between mitigation through HMGP and PA, with the major difference being that PA mitigation is focused on mitigation of facilities damaged through the event, while HMGP is focused on facilities not damaged by the event, but related to the disaster. PA mitigation focuses on mitigation activities during the repair of damaged facilities, while HMGP is more long term and focuses on facilities that are operational, but have identified problems related to the event.

Alan provided the following information on the HMGP through this disaster:

- Georgia receives 20% of the total estimated Stafford Act Disaster Assistance
 - State of Georgia Enhanced Mitigation Plan provides for 20% HMGP funding
- Cost Share is 75% federal/25% non-federal
 - State will provide 10% of eligible costs
- Will use up to 7% of allocation for planning, up to 5% for initiative, and remainder for projects.
- Initial 30-day estimate at \$3.1 million Federal Share
 - Initiative - \$157,000
 - Planning - \$219,000
 - Projects - \$2.8 million
- Eligible Project Types
 - Voluntary property acquisition and structure demolition or relocation*
 - Structure Elevation*
 - Mitigation Reconstruction
 - Dry Floodproofing (Historic/Non-Residential)
 - Generators for Critical Facilities*
 - Flood Risk Reduction Projects
 - Structural and non-structural retrofitting of existing buildings and facilities
 - Community safe room construction*
 - Infrastructure Retrofit
 - Soil Stabilization
 - Wildfire Mitigation
 - Initiative Projects*
 - State and Local plan updates*

*Indicates projects prioritized for DR4579

DR 4579 funding priorities:

Counties with approved Hazard Mitigation Plans

1. Declared for PA only (21 counties)

Prioritization for Project Grants

1. Generators for essential facilities who lost power during storm event (Water and Wastewater systems and medical facilities have priority)
2. Flood and wind mitigation activities to address damaged structures (Substantially damaged structures have priority)

Additional prioritization elements:

- Utilize 5% initiative to support warning and communication improvements and state-wide generator initiative
 - Equipment and systems for the purpose of warning residents of impending severe weather and hazard events
 - Priority given to mass alert systems
 - Utilize planning funds (up to 7% of allocation) to update mitigation plans

- Utilize project funds (up to 88% of allocation) for mitigation activities that reduce or eliminate damages from high winds and flooding.

DR 4579 Application timeline:

- **January 12, 2021**– Disaster Declaration (HMGP Statewide)
- **March 22 and March 25, 2021 @ 10 AM** – Applicant Briefings
- **June 1, 2021** – Pre-Applications due to GEMA/HS
- **July 1, 2021** – GEMA/HS Notification to Applicants for Full Applications
- **September 15, 2021** – Full Applications due to GEMA/HS
- **December 15, 2021** – All Applications submitted to FEMA
- FEMA Application Review Process (12-24 months)

d. Damage to State Facilities/Business interruptions to State Agencies

None noted

e. Next Steps

Alan summarized the next steps in the HMGP process:

- Determine Eligible Projects for your Agency
- Work with State/Local Officials
- Consult your Risk Reduction Specialist or Planning Specialist
- Submit Pre-Application by June 1, 2021

Next Meeting

The next meeting date will be determined at a later date. It will likely be held sometime in the Spring in order to present the newly updated 2019 plan. We will notify everyone by email.

Open Discussion

Stephen Clark noted the history of generator projects over the previous several years and the expectation that the State will receive a significant number of those type project applications from this disaster, but also noted other types of projects are available. Trip supplied the following web address: <https://www.tn.gov/tema/emergency-community/mitigation/local-and-county-mitigation-planning.html> Alan gave a live demonstration of the site. He then showed a demonstrated of a similar site Georgia is working on. The site is currently limited to GEMA staff, but the state is considering a

live version. Carl Mickalonis (FEMA) noted the site would be a good opportunity for us to show plans that are approved, as well as Approved Pending Adoption.

Guest Speaker

Alan introduced Trip Voss, Tennessee EMA, to the group and invited him to discuss the Tennessee Mitigation dashboard. Trip described this site and how it tracks the status of local plans, from the start of the update to the approval. Another tab tracks the adoption status of the each jurisdiction, pulling straight from FEMA's online database. Tripp suggested looking at what the county directors may need that they could be able to see on the site. He noted their overall goal was to make hazard mitigation as easy as possible for locals, including both planning and grants.

Tripp also noted their project dashboard where they reflect all projects throughout the state, as well as a risk assessment dashboard that includes various data on various hazards that have impacted the State of Tennessee in the past.

Comments and Questions

Having no further comments or questions, the meeting was adjourned.

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

August 26, 2020

Present

Alan Sloan, GEMA/HS
Lucy Herring, GEMA/HS
Michael Engleking, GEMA/HS
Garry McGiboney, Department of Education
Haydn Blaize, GA DNR Floodplain unit
Lizbeth Ortiz, GEMA/HS
Charlissa Bell, DPH
Chris Bruegge,
Stephen Juszczuk, FEMA
Amy Rammo-Kuhs, GaEPD
Ann Thompson, DOAS
Jack Krolikowski, GEMA/HS
Melissa Alcantara, GEMA/HS
Dennis Gailey, Jekyll Island Authority
Tommy Lowmon, DCA
Ken Parker, GFC
Brian Shoun, GA DNR Floodplain Unit
Marc Vincent, Georgia World Congress Center
Lillian Huffman, FEMA
Shelby Meyers, GEMA/HS
Jay Matthews, GRWA
Terrell Jacobs, Ga Municipal Assoc.
Jeffrey Morris,, USACE
Stephen Clark, GEMA/HS
Brian Choate, USACE
Alicia Schoening, GEMA/HS
Jake Grabowski, FEMA
Jennifer Kline, GaDNR CRD
Veronica Craw, DNR
Kisha Morris, GEMA/HS
David Griffin, GaEPD Safe Dams
Carl Mickalonis, FEMA
Joy Hinkle,
Elizabeth Smith, DCA
Kelly Nadeau, DPH
Lawton Brantley, UGA CVIIOG ITOS
Barbara Stitt-Allen, DNR
Noel Jensen, Jekyll Island Authority
Vanessa Sims, Ga Dept of Ag.

Welcome and Introductions

Alan Sloan welcomed everyone to the 2020 Annual Update meeting for the 2019 SHMS. We greatly appreciated everyone's time and participation. The meeting was run on WebEx, and was virtual only, due to ongoing concerns with Covid-19. Roll call was taken. Alan noted there had been several staff changes at GEMA/HS, highlighting the upcoming retirement of former Director Homer Bryson after 38 years with the State, 4 of which were with GEMA/HS. Alan also noted the retirement of Terry Lunn after almost 25 years with GEMA/HS and the subsequent promotion of Stephen Clark into the Hazard Mitigation Manager position. He introduced Deputy Manager Jack Krolkowski, Risk Reduction Supervisor Alicia Schoening and Risk Reduction Specialists Corey Kemp, Monique McBride and Kisha Morris. Alan finally noted a current opening in the Risk Reduction section.

Review and Approval of the June 28, 2018 and December 19, 2018 meeting minutes

Alan began the meeting by asking if anyone had any comments or recommended changes to the minutes of our 10/23/2019 Annual Update meeting. With no changes, the minutes were approved.

Agency Updates – Report Out

a. GEMA/HS Planning Program

Michael Engleking (GEMA/HS) noted the next review for the EMAP program will be in 3 years.

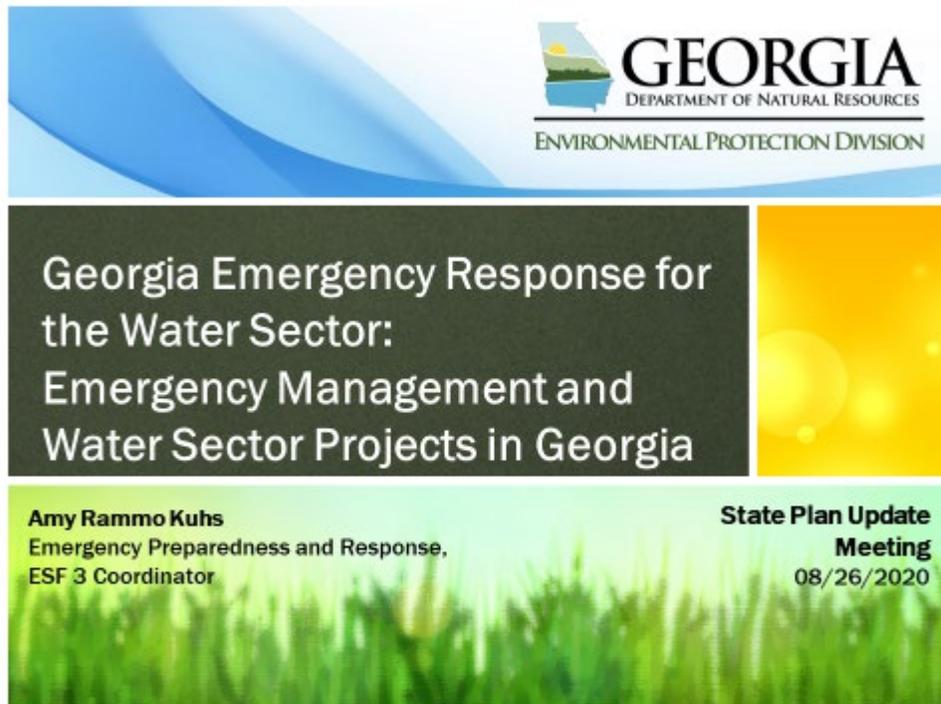
Michael describe the Hazard Identification and Risk Assessment (HIRA) document, noting it is designed as a single source document identifying all hazards throughout the State. The document is a risk assessment, vulnerability analysis and consequence analysis, the latter two of which were added because of the 2018 EMAP requirements. He described various elements of the risk assessment, vulnerability analysis and consequence analysis. 2018 HIRA was expanded to include all hazards, adding additional man-made, technical and intentional hazards. Current update will include historical data, Cyber Attacks, infectious disease and civil unrest. Also looking at hazards listed in THIRA, but not in HIRA. He noted all other plans must be consistent with the HIRA. Specific areas that will be examined are Continuity of Operations Planning (COOP), Delivery of Services, Economic Conditions, and Public Confidence. He noted the impacts to all areas from Covid-19 have been more significant than anticipated due to the State's lack of experience with this type event.

Michael then noted a recent change in the EMAP requirements to the maintenance and update descriptions. Plans will have to describe in writing how the State updates each plan.

b. Georgia EPD Emergency Response Preparedness

Amy Rammo-Kuhs provided an update on EPD Emergency Response Preparedness

She provided information on what she does with EPD and the programs she is involved in, including regulation and enforcement.





WHAT WE DO



- **Rule Implementation**
- **Water Quality Monitoring**
- **Compliance Determination**
- **Enforcement**
- **Coordinate training to water and wastewater professionals on issues concerning preparing for, responding to, and recovering from natural or man-made disasters that threaten water and wastewater facilities**
- **Coordinate the response for emergency events that impact any ESF3 Critical Infrastructure**



WHAT DO WE ENFORCE?

Wastewater Compliance

- Georgia Water Quality Control Act, OCGA 12-5-20 et seq.
- Rules for Water Quality Control, Chapter 391-3-6
- NPDES and LAS Permits

Drinking Water Compliance

- Georgia Safe Drinking Water Act of 1977, OCGA 12-5-170 et seq.
- Rules for Safe Drinking Water, Chapter 391-3-5
- Drinking Water Plant Permits

Safe Dams Program

- Georgia Safe Dams Act of 1978, OCGA 12-5-370 et seq.
- Rules for Dam Safety, Chapter 391-3-8
- Category I Dam Permits

Amy then provided information on disaster support (ESF) functions she is involved in.



EMERGENCY SUPPORT FUNCTION 3 (ESF3)

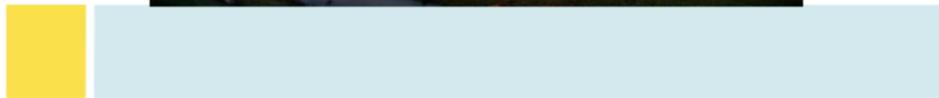
Emergency Support Function (ESF) for Public Works and Engineering and includes:

- **Drinking Water**
- **Wastewater**
- **Dams**
- **Roads and Bridges (DOT)**
- **Debris Removal (DOT)**



Responding to disasters allows for the opportunity to:

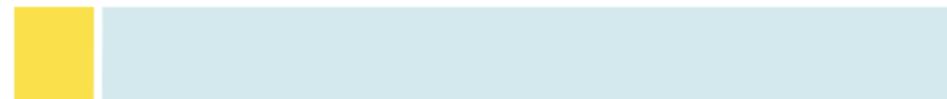
- **Conduct a lesson learned evaluation to help us identify areas of improvement**
- **Evaluate Resource availability and shortfalls**
- **Test our Emergency Response Plans and Coordination**
- **Funding for Resiliency and Hazard Mitigation**





EXAMPLE OF RESPONSE: HURRICANE MICHAEL COUNTIES UNDER STATE OF EMERGENCY

- **1752 Drinking Water Systems (Public and Private, Community and NTNC)**
- **408 Wastewater Systems (Includes Municipal and Industrial NPDES, WPCP)**
- **176 Total Boil Water Advisories Issued**
- **60 Generators deployed and managed (Utilities/Mutual Aid, GRWA, EMAC)**



She talked about emergency response planning and the vulnerabilities that must be addressed. One vulnerability is power outages and the identified need for generators and power redundancy.

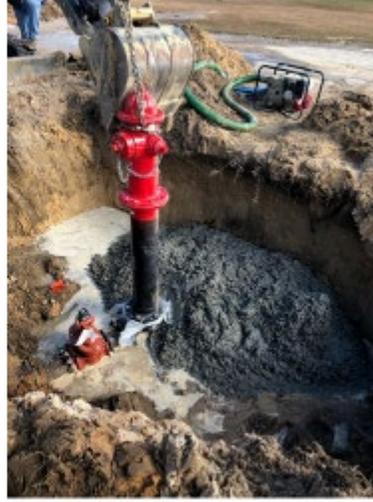


She then noted another vulnerability that must be included is man-power. She described how the operators must have the technical certifications and capabilities to connect generators safely and efficiently.





OTHER EMERGENCIES



She then noted the need to also be able to maintain daily activities and plans, including being ready to respond to everyday events that can impact water pressure and availability, including things such as accidents, main breaks, etc. As an example, she noted that if a vehicle accident occurs near a fire hydrant and a vehicle strikes the hydrant, it could cause that hydrant to suddenly open. Part of the planning that needs to occur is to have cutoff valves throughout the system that can be accessed and closed quickly, minimizing the systemwide impact on the available water pressure.

Floods & Droughts



She noted the need to identify ways to mitigate and deal with floods and droughts, such as acquisition of pumps and dewatering equipment, as well as methods to conserve and obtain water in the event of drought.

Other Impacts of Water Events



She noted the planning that must occur to prepare and respond to other impacts from flooding, such as washouts impacting underground water and sewer lines.



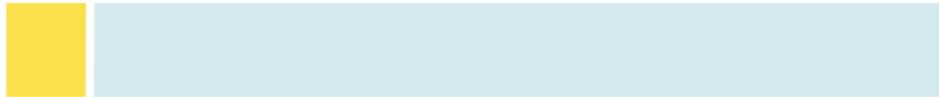
Amy then noted the need to protect the water treatment chemicals, including security and safety of the storage sites, as well as being aware of their existence so appropriate agencies can respond properly in the event of an event that could compromise the area, potentially causing a release of hazardous materials.

Finally, she described the America’s Water Infrastructure Act of 2018. The act requires an “all hazards” approach to protecting public water infrastructure, including natural and non-natural or human caused events.



AMERICA'S WATER INFRASTRUCTURE ACT OF 2018

- **New Risk Assessment and Emergency Response Plan Requirements: Section 2013**
- **All Community Water Systems (CWSs) Serving More Than 3,300 Persons MUST Conduct a New Risk & Resiliency Assessment (RRA) and Emergency Response Plan (ERP) by July 2021: “American Water Infrastructure Act” (Public Law 115-270).**
- **On October 23, 2018, America's Water Infrastructure Act (AWIA) was signed into law. The law requires community water systems serving more than 3,300 persons to develop or update risk assessments and emergency response plans (ERPs).**



The act also states water systems must prompt notice of any hazardous substance that impacts the source water and must have access to chemical inventory data.

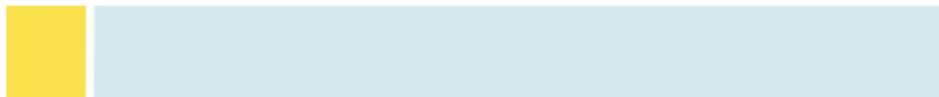


America's Water Infrastructure Act, Section 2018

Amendments to the Emergency Planning and Community Right-to-Know Act

On October 23, 2018, America's Water Infrastructure Act (AWIA) was signed into law, amending numerous provisions of the Safe Drinking Water Act. AWIA also amended the Emergency Planning and Community Right-to-Know Act (EPCRA). The revisions to EPCRA require that [community water systems](#):

- (1) receive prompt notification of any release of a hazardous substance that potentially affects their source water, and
- (2) have access to hazardous chemical inventory data. These requirements went into effect immediately upon signing the law.



Amy noted the Federal Environmental Protection Agency is the regulatory agency that enforces the AWIA. Georgia EPD serves as technical assistance for communities in planning and meeting the requirements. She described ongoing planning work EPD has worked with local systems on and funding opportunities EPD had recently taken advantage of.



WATER PROJECTS AND OPPORTUNITIES FOR FUNDING

- EPD worked with GEFA on Funding for AWIA
 - Public Water Systems serving population of 3,300-49,999
 - GEFA funded and awarded project for small systems
 - Risk and Resiliency Assessments and Emergency Response Plans are on going
 - Small System deadline June 2021
 - Systems >100,000 deadline March 2020
 - Systems serving 50,000-99,000 December 2020



DEPT OF ENERGY, GEFA, GRWA GENERATORS FOR ESF-3 WATER SECTOR

Funding allowed for purchase of 9 generators and 2 parallel boxes





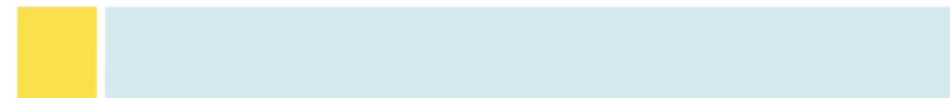
DEPT OF ENERGY, GEFA, GRWA GENERATORS FOR ESF-3 WATER SECTOR

Fueling: Propane Fueled Generators. Ensuring Fuel Supply Availability



Hazard Mitigation Grants (GEMA/HS) from major declared disasters for mitigation items such as generators

- Hazard Mitigation Grant application submitted by the GRWA to (GEMA/HS). Application has been approved and is pending funds from FEMA.
- \$1,550,000 Total Budget Cost
- 31 Mobile/Towable Generators
- 7 Bypass Generator Pumps
- 1 Paralleling Box

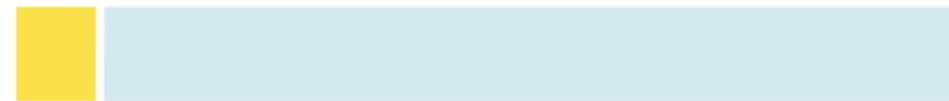


Amy then described the EPA Disaster Relief Act Funding, making funding available for States impacted by 2018 disasters, including hurricanes and wildfires. Georgia, being impacted by Hurricane Michael, was able to take advantage of this funding opportunity.



EPA DISASTER RELIEF ACT FUNDING (ASADRA)

- Additional Supplemental Appropriations for Disaster Relief Act of 2019 (June 20th, 2019)
- Made additional funding available for states impacted by Hurricane Florence, Hurricane Michael, Typhoon Yutu and 2018 wildfires.
- Clean Water Act-Disaster Relief Funding for Section 106 monies for Set Aside Work plan
 - EPD submitted the Workplan and Scope of Work for Section 106 to EPA (Set-aside for GA \$557,178)
 - Workplan Approved by the EPA in April 2020
 - Plan includes wastewater collection systems and resiliency and recovery training workshops for counties declared under hurricane Michael as well as equipment for wastewater for mitigation and recovery such as By-pass pumps, collection system leak detection equipment, and valve meters.



EPA also has a revolving fund for disaster relief funding available to all counties or municipalities impacted by disasters.



EPA DISASTER RELIEF ACT FUNDING (ASADRA)

- Additional Supplemental Appropriations for Disaster Relief Act of 2019 (June 20th, 2019)
- Drinking Water State Revolving Fund (DWSRF) Disaster Relief Funding: EPA awarded GA around \$33 million under SRF.
- GEFA announced call for projects under this funding
- EPD working with GEFA and EPA on set-aside work plan. Plan was submitted by EPD to GEFA and pending approval from EPA (Set-aside \$672,000)
 - Plan includes Drinking Water Small Systems technical Assistance, mitigation, resiliency and recovery training workshops for counties declared under hurricane Michael as well as RRA and ERPs for select small systems (Pending EPA Approval)



State of Georgia Enhanced Hazard Mitigation Plan Update

a. Review of Updated Local Plan Update Priority Table

Alan described the Local Hazard Mitigation Plan Update Priority Table, Table 4.6, noting the local plans (highlighted in red) that had been approved since the last update meeting in October, 2019.

County	Plan Expiration	Priority
Richmond	10/10/2022	15
Wayne	10/11/2022	15
Catoosa	10/17/2022	15
Putnam	11/21/2022	15
Fannin	12/17/2022	15
Gordon	12/20/2022	15
Whitfield	1/7/2023	16
Chattahoochee	03/23/2023	16
Seminole	04/08/2023	16
Haralson	6/5/2023	16
Banks	6/17/2023	16
Murray	7/10/2023	17
Athens-Clarke	7/24/2023	17
Baldwin	8/22/2023	17
Rabun	8/27/2023	17
Quitman	10/2/2023	17
Glynn	10/9/2023	17
Polk	10/21/2023	17
Charlton	10/21/2023	17
Columbus-Muscogee	10/28/2023	17
Effingham	10/28/2023	17
Turner	11/3/2023	17
Pierce	12/10/2023	17
Bacon	12/11/2023	17
Ware	12/12/2023	17
Brantley	12/16/2023	17
Warren	12/18/2023	17
Glascock	12/20/2023	17
Taylor	1/16/2024	18
Gilmer	1/28/2024	18
Wilkes	1/28/2024	18
Washington	2/12/2024	18
McIntosh	2/19/2024	18

County	Plan Expiration	Priority
Greene	2/26/2024	18
Terrell	3/4/2024	18
Coweta	3/7/2024	18
Dawson	3/11/2024	18
Echols	3/17/2024	18
Franklin	3/18/2024	18
Towns	3/24/2024	18
Brooks	3/25/2024	18
Henry	4/10/2024	18
Atkinson	4/14/2024	18
Irwin	4/16/2024	18
Crawford	4/24/2024	18
Coffee	5/4/2024	18
Pickens	5/11/2024	18
Madison	5/24/2024	18
Walker	5/27/2024	18
Berrien	6/8/24	18
Lanier	6/18/2024	18
Grady	7/18/2024	19
Rockdale	8/1/2024	19
Cook	8/4/2024	19
Troup	8/18/2024	19
Habersham	9/8/2024	19
Oglethorpe	10/28/2024	19
Stephens	12/10/2024	19
Ben Hill	12/11/2024	19
Bryan	12/17/2024	19
Wilkinson	1/1/2025	20
Bleckley	2/23/2025	20
Jackson	3/4/2025	20
Twiggs	3/10/2025	20
Jefferson	4/1/2025	20
Macon	4/20/2025	20



Chapter 1: Introduction to Planning Process

1.1 OVERVIEW AND PURPOSE

Each chapter contains an overview and a table that lists the sections as well as the changes that have occurred within each section since the last approval in 2014. Table 1.1 describes the updates and changes that have occurred in Chapter 1.

TABLE 1.1 SUMMARY OF CHANGES TO CHAPTER 1

Chapter 1 Section	Updates to Section
1.1 Overview and Purpose	• Date and figure updated
1.2.2008 Adoption and Federal State Compliance	• Text revised
1.3 Planning Process	• Updated to reflect current process
1.4 Coordination among Agencies	• Updated to reflect current list of agencies participating • Revised Section 1.4.2 due to no changes in participant coordination
1.5 Program Integration	• No changes

Hazard Mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and repeated damage. Mitigation efforts provide value to people and society by creating safer communities and reducing loss of life and property.

Hazard mitigation planning is the process state, local, and local governments use to identify risks and vulnerabilities associated with natural disasters and to develop long-term strategies for protecting people and property from future hazard events.

This document, referred to as the Georgia Hazard Mitigation Strategy (GHMS), is an official update to the State of Georgia Hazard Mitigation Plan as defined to and approved by the Federal Emergency Management Agency (FEMA) Region IV on March 21, 2014. The Georgia Emergency Management and Homeland Security Agency (GEMHSA) is the state agency responsible for presenting this planning document on behalf of the State of Georgia.

and Risk MAP. In addition, DHR conducted a study of potential sea level rise along the coast, which was incorporated into the risk assessment portion of the GHMS. GEMHSA Hazard Mitigation Planning staff will continue to review other state programs and initiatives for possible inclusion in the GHMS. Additional information on these programs is provided in Section 3.3.

1.5.2 FEMA Mitigation Programs

The 2019 GHMS is integrated with FEMA programs such as Hazard Mitigation Assistance (HMA), the National Flood Insurance Program (NFIP), the Community Rating System (CRS), and Risk MAP. Chapters 2 and 4 describe the mitigation actions and provide details on the State's efforts to increase NFIP and CRS participation, implementation and support of the Risk MAP program, and use of the HMA and Flood Mitigation Assistance grant programs. Additional information on these programs is found in Sections 3.3, 3.4, and 4.2.

TABLE 1.8 INTEGRATION OF STATE PROGRAMS INTO THE 2019 GHMS

State Planning Efforts	GHMS Integration
Georgia StormReady	State capability assessment, mitigation strategy
GIS Planning Aid	State capability assessment, mitigation strategy
Safe Dams	State capability assessment, mitigation strategy
Coastal Management	State capability assessment
Coastal Marshland Protection	State capability assessment
Erosion and Sedimentation Control	State capability assessment
River Corridor Protection	State capability assessment
Shore Protection	State capability assessment
Emergency Waterbed Protection	State capability assessment
EMAP Accreditation	State capability assessment
Southern Wildlife Risk Assessment	Data added into within risk assessment and hazard maps, State capability assessment
Community Wildlife Protection Plans	State capability assessment, mitigation strategy
River Jetties	State capability assessment, mitigation strategy
Risk MAP	State capability assessment
CRS Sea Level Rise Study	Risk Assessment



TABLE 1.9 INTEGRATION OF FEMA MITIGATION PROGRAMS INTO THE 2019 GHMS

FEMA Program	GHMS Integration
HMA	Funding sources for Mitigation Grants
MAP	State risk assessment, mitigation strategy, state capability assessment
CRS	State risk assessment, mitigation strategy, state capability assessment
IFMA	Funding source for Mitigation Grants
Risk MAP	State risk assessment, mitigation strategy, state capability assessment





Chapter 2: Risk Assessment

2.1 OVERVIEW

The Hazard, Risk, and Vulnerability Assessment of the Georgia Hazard Mitigation Strategy provides a scientific sound foundation for the goals, objectives, tasks, and action steps proposed in the plan. This chapter consists of the following sections: Overview, Definition of Terms, Methodology, Overview of Natural Hazard, Hazard-Specific Assessments, Social Vulnerability Assessment, Consequence Assessment, and Loss Potential.

The Definition of Terms section defines the terms HAZARD, risk, risk assessment, vulnerability, and mitigation utilized in this plan.

The Methodology section defines the processes used in developing the risk assessment, including data methodology and analysis that led to the presented conclusions.

The Overview of Natural Hazard's section discusses the overall hazard event and loss history for the State of Georgia, without regard to specific hazard types. This section includes analysis of losses associated with all hazard events and claims associated with Presidential Disaster Declarations (PDDs).

The Hazard-Specific Assessments section identifies the 13 specific hazards affecting Georgia by reviewing each hazard's event, loss, and PDD history. Also, this section includes hazard-specific assessment procedures (RMs).

The Social Vulnerability Assessment section addresses both social and environmental vulnerability to hazard events at a state level. This section also includes an analysis of vulnerable state buildings and critical facilities.

The Consequence Assessment section attempts to address the overall hazard vulnerability of specific areas by combining the social vulnerability and composite hazard scores in order to highlight areas of concern.

The Loss Potential, which relates to Loss Potential, presents the state assets and locally defined critical facilities in conjunction with the composite hazard scores in order to determine the areas with the highest potential for loss.

The summary of changes to the updated mitigation strategy from the 2014 plan is included in Table 2.1.

Chapter 2 of the Georgia Hazard Mitigation Plan was updated and released by the Carl Vinson Institute of Government's Technology Outreach Service at the University of Georgia. The risk assessment is based on the best available risk and vulnerability statistics and data available as of September 30, 2017.

2.2 DEFINITION OF TERMS

Risk, for the purpose of hazard mitigation planning, is the potential for damage, loss, or other impacts created by the interaction of natural hazards with community assets. Hazards are natural occurrences, such as tornadoes and earthquakes. The exposure of people, property, and other community assets to natural

2.5.12 Dam Failure

ASSOCIATED HAZARDS:

Flooding, technological (man-made) hazards

Table with 2 columns: Priority, Risk. Priority is Medium, Risk is 11.

HAZARD DESCRIPTION

A dam is a constructed barrier across flowing water that obstructs, stores, or slows the velocity of the water, creating a reservoir, lake, or impoundment. The structure is created to retain water for a variety of purposes such as generating power, providing water for irrigation or water supply, or controlling flooding.

The threat of dam failures is triggered by weaknesses of design, construction, and maintenance. The integrity of dam dams, often affected by weathering, mechanical changes, and the influence of chemical agents, is deteriorating. Not only do dam failure risk increase (with aging infrastructure) but the population vulnerable to this hazard is also increasing due to downstream development. Dam structures outside of the known 100 year floodplain could be affected by dam failures because of the water's often sudden release and velocity.

Dam failures are generally grouped into three classifications: hydraulic, seepage, and structural. The three types of failure sometimes compound upon one another to create complex and interrelated hazard events.

Hydraulic failures are a result of the uncontrolled flow of water over and around the dam structure as well as the erosive action on the dam and its foundation. The uncontrolled flow causing the failure is often classified as overtopping, toe erosion, or gullying. Embankment dams are particularly susceptible to hydraulic failure because softer materials erode more easily than other materials, such as concrete and steel. This type of failure constitutes approximately 40% of all dam failures.

While all dams include some seepage, the velocity and amount of water are controlled to prevent failure. Seepage occurs through the structure and its foundation and erodes the structure from within. Seepage accounts for approximately 4% of all dam failures.

Structural failures involve the rupture of the dam or the foundation by water movement, overtopping, or subsidence. Large masonry dams and dams constructed with weak materials, such as fill, are especially susceptible to structural failure. This type of failure accounts for approximately 20% of all dam failures.

In Georgia, all of the major rivers are dammed at least once before leaving the state's boundaries. Also, numerous smaller dams, including agricultural dams, exist throughout the state. Therefore, the possibility of dam failure hazards exists throughout the state. The spatial extent of a dam failure event depends on the amount of water within the dammed reservoir and the downstream topography. Because of the high velocity of the water, flooding can strike beyond known floodplains.

Dam failures often have a rapid rate of onset, leaving little time for evacuation. The fast edges of the failure may go unnoticed upon visual inspection of the dam structure. However, continual seepage and implosion of dams often provides knowledge on the possibility of failure with certain precipitation amounts. The duration of the flooding event caused by the failure also depends on the amount of water and



In 1977, the Kelly Barnes Dam in Toccoa failed. The original structure consisted of a rock with-dam built in 1899 in order to create a small reservoir for a hydroelectric plant. The Toccoa Falls Bible Institute built another dam over the original rock with dam in 1952 to develop a more stable electric power source. The dam structure was raised several times, reaching 42 feet above the rock foundation by 1967, when power production was halted and the reservoir use solely utilized for recreation. At around 1:30 am on Sunday, November 6, 1977, the Kelly Barnes Dam failed. This collapse resulted in a flash flood that swept downstream causing 28 fatalities and \$2.3 million in property damage. The cause of the failure is understood but probably occurred from a local slide on the steep downstream slope next to the associated rock piling (a form of seepage) and a breakout breach in the crest followed by progressive erosion, saturation of the downstream embankment, and the subsequent total collapse of the structure.

TABLE 2.2.0 DAM FAILURE NOTABLE EVENTS

Table with 3 columns: Date, Name, Description. Entry: 11/06/1977, Kelly Barnes Dam, DSRM, Dam Collapse, Flooding.

*Reservoir declared dead.

From 1962 to 2017, (SHRDLUENCI) reports a total of 3 events, including the Kelly Barnes event described above. This equates to a statistical 3% chance the State could experience a dam failure event any given year.

Other dam failures have occurred in Georgia, some related to the spring of 1999 flooding and the July 1994 flooding associated with Tropical Storm Alberto. However, these dam failures were not documented as significantly contributing to already flooded conditions.

To complete a risk assessment for dam failures in the State of Georgia, the location of all the potential reservoirs of the hazard (the dams) must be located and evaluated using some categorization of failure potential (risk). In an attempt to meet this criterion, the Georgia State Dam List of 1979 established Georgia's State Dam Program. The Environmental Protection Division (EPD) within the Georgia Department of Natural Resources (DNR) is responsible for administering the program. The purpose of the program is to provide for the inspection and permitting of state dams in order to protect the health, safety, and welfare of all citizens of the state by reducing the risk of failure of such dams. The program is responsible for inventorying and classifying dams and regulating and permitting high hazard dams.

For this plan update, Georgia EPD provided state dam data for Category 1 and Category 8 dams. The definitions of these dams are defined from the ICDP definitions.

Category 1 includes dams for which improper operation or dam failure would result in probable loss of human life. Situations constituting "probable loss of life" involve frequently congested thoroughfares or facilities, including, but not limited to, residences, commercial and manufacturing facilities, schools, and churches. As of 2010, there are approximately 900 Category 1 dams in the State of Georgia. All are listed in the Appendix D.12.

Category 8 is the classification in which improper operation or dam failure is not expected to result in probable loss of human life. (Georgia Department of Natural Resources, Environmental Protection,

Division Rules Chapter 201-5-6. As of 2010, there are approximately 1,000 Category 8 dams in the State of Georgia.

The map in Figure 2-58 shows the location of all Category 1 and Category 8 dams in the state. Figure 2-57 depicts the total number of Category 1 dams by county. This data indicates that the most populous area of the state, the Atlanta Metro region, also has the greatest amount of risk due to dam failure as this area has the highest number of Category 1 dams.

FIGURE 2.58 CLASSIFICATION OF DAMS BY COUNTY

FIGURE 2.57 CATEGORY 1 DAMS PER COUNTY IN GEORGIA

Dam Classification by County



Category 1 Dams Per County



The dams presented in Figures 2-56 and 2-58 are considered watershed dams in that they meet Georgia's definition of a dam (any structure 20 feet or more in height or one impounding a 10-acre area of water at the top of the dam) that was built with 100% federal money on private land through the coordination of the USDC National Resources Conservation Service (NRCS) and local Soil and Water Conservation districts. This data, provided by NRCS and representing a small portion of dams that exist within the State of Georgia, allow the analysis to determine the counties with the most impact potential. Based on the more extensive of data, the dam impact potential map, Figure 2-58, illustrates the NRCS-classified watershed dam locations within Georgia coupled with a summary of total dams per county. The highest concentration of watershed dams within Georgia equates to the Cherokee and Carroll Counties, and most other watershed dams are in the northern portion of the state. The dam failure risk map, Figure 2-58, utilizes a NRCS-risk analysis that includes an indicator of failure potential, position of risk structures at risk, and river miles and secondary roads at risk to calculate an overall risk index for each of the 157 watershed dams shown in Figure 2-58. All of the dam risk values within each county were combined to calculate each county's overall dam failure



State that have increased risk of failure, evaluate the increased risk to determine impact, severity, etc. as well as the potential strategies should future occur.



Chapter 3: State Mitigation Strategy

3.1 OVERVIEW

The summary of changes to Chapter 3 of Georgia's Hazard Mitigation Strategy (GHMS) since the 2014 approval is presented in Table 3.1.

Table 3.1 Summary of Changes to Chapter 3.

Chapter 3 Section	Updates to Section
3.1 Overview	<ul style="list-style-type: none"> Updated title of changes Updated text Updated and added
3.2 Georgia Mitigation Strategy	<ul style="list-style-type: none"> Action items regarding additional state details and contribution to mitigation for each action item
3.3 State Capability Assessment	<ul style="list-style-type: none"> Updated and added
3.4 Local Capability Assessment	<ul style="list-style-type: none"> Updated and added
3.5 State and Local Funding Sources	<ul style="list-style-type: none"> Updated and added

Chapter 3 of the plan was reviewed and updated by OEMA's Hazard Mitigation Planners. The planning staff reviewed each section based on accomplishments, current activities, and the integration of current local multi-jurisdictional hazard mitigation plans and state agency inputs.

This chapter provides the State of Georgia's strategy toward resilience. Based on the findings of the risk assessment and a state-level capability assessment, the goals and actions that follow are intended to guide state agencies, counties, cities, towns, and nongovernmental organizations toward resilience in regard to the many hazards that plague the state. This section is separated into the following components:

- Goals and Actions
- State Capability Assessment
- Local Capability Assessment
- State and Local Funding Sources

This chapter discusses the concept of and approaches to mitigation in order to clarify the state's mitigation strategy. Mitigation is a combination of sustained measures and actions that attempt to reduce or eliminate the long-term risk to people and property from hazards. The main methods of mitigation are (1) reducing the hazard event, (2) reducing human vulnerability, and (3) reducing losses.



2015 MITIGATION ACTIONS												
2014 Item #	Mitigation Action	Timeline	Status	Priority	State Goal	Hazard	Lead Agency	Support Agency	Resources	Previous Item #	Contribution to Mitigation	HMA Category
101	Develop and update State Hazard Mitigation Plan	2015-2016	Y	Y	Y	Coastal Zone Flood	DEPR State	DEPR State	DEPR State	100	DEPR State	Coastal Zone Flood
102	Develop and update State Hazard Mitigation Plan	2015-2016	Y	Y	Y	Coastal Zone Flood	DEPR State	DEPR State	DEPR State	100	DEPR State	Coastal Zone Flood
103	Develop and update State Hazard Mitigation Plan	2015-2016	Y	Y	Y	Coastal Zone Flood	DEPR State	DEPR State	DEPR State	100	DEPR State	Coastal Zone Flood
104	Develop and update State Hazard Mitigation Plan	2015-2016	Y	Y	Y	Coastal Zone Flood	DEPR State	DEPR State	DEPR State	100	DEPR State	Coastal Zone Flood

 Georgia Emergency Management Agency/Homeland Security

Table 3.3 Mitigation-Related State and Federal Programs

State Agencies			
Department	Program	Description	Affected Populations / Flood Loss / SRL
Georgia Department of Natural Resources	The Georgia Community Greenways Program	The Georgia Community Greenways Program establishes a framework in which developed and rapidly developing counties and their municipalities can preserve community greenways. This bill provides the adoption of policies and rules that enable the preservation of at least 20% of county or municipal land as preserved and open greenways usable for informal recreation and natural resource protection.	X
	The Georgia Land Conservation Act	The Georgia Land Conservation Act, relative to encourage the long-term conservation and protection of the state's natural resources. The legislation establishes the Georgia Land Conservation Trust Fund and the Georgia Land Conservation Revolving Loan Fund that provide up to \$100 million in state, federal and private funding to local governments and the Georgia DNR for the purchase of conservation lands. The responsibilities of the Georgia DNR under the legislation include establishing a state land geographic information system database for conservation activities and providing technical support to local governments.	
	The Great Basin Management Planning Program	The Environmental Protection Division (EPD) of Georgia DNR implements a best basin management planning approach for the 14 major river basins in Georgia. A written plan is required and applied in a five-year cycle to comply with National Pollutant Discharge Elimination Act (NPDES) permitting.	
	The Coastal Resources Division (CRD)	The Coastal Resources Division (CRD) implements provisions of the Coastal Marshlands Protection Act of 1976, the Shore Protection Act, the Revocable Leasehold Program, the Coastal Zone Management Act and others. These existing	

State Agencies			
Department	Program	Description	Affected Populations / Flood Loss / SRL
Georgia Department of Community Affairs		activities provide protection for critical coastal wetlands, water bottoms, beaches, sand dunes, and submerged lands. Members of the CRD staff are also available to assist coastal regions and damage assessments. Also available for disaster assistance programs is the Coastal Incentive Grants Program.	
		2015 Georgia Statewide program management efforts being throughout the State. This program has the ability to fund through the High Hazard Mitigation Grant Program, mitigation projects related to reducing the impact of future storms.	
	Federal Community Development Block Grant Program	Georgia's Department of Community Affairs (DCA) has the ability to fund certain hazard mitigation projects (with appropriate federal awards and collaboration) using the Federal Community Development Block Grant Program. DCA administers portions of these grants to repair public facilities, to repair public and private housing, to provide relocation assistance for displaced households, to provide for public infrastructure improvements, and to assist in business loans to support threatened jobs.	X
	Immediate Threat and Danger (ITD) Program	The DCA administers the Immediate Threat and Danger (ITD) program available through the Community Development Block Grant Program of Housing and Urban Development (HUD). These grants usually limited to \$20,000, are available to qualifying local governments with a 10% provision of funding for activities designed to meet community development needs.	
	CRD Planning Act	With the passing of the 1988 Georgia Planning Act, DCA created the State Comprehensive and Coordinated Planning Program to encourage effective growth management by local governments throughout the state. This program includes the development and adoption of minimum standards for local and regional	



Georgia Emergency Management Agency/Homeland Security

3.4 LOCAL CAPABILITY ASSESSMENT

The local capability assessment includes a discussion of local policies governing building codes, zoning, and floodplain management that relate to hazard mitigation. This is followed by a discussion about the history and purpose of local mitigation planning, which increases local capacity. Chapter 4 provides additional details on the current progress in regard to local planning as well as the roles of each Georgia county.

3.4.1 Local Mitigation Policies: Building Codes, Zoning, Floodplain Development Regulations, and Mitigation Planning

Several policies instituted by the Georgia General Assembly relate to the construction standards of building codes enforced at the local level. The state provides guidance to the communities by offering model ordinances and available grant opportunities to communities interested in adopting hazard mitigation actions. These policies include Georgia's state minimum standard codes for construction (the Uniform Codes Act) and the Uniform Standards Code for Manufactured Homes and Installation of Manufactured and Mobile Homes Act. The State encourages local communities to formally adopt the latest Georgia state minimum codes to be uniformly applied and consistently enforced in the community. The Georgia Department of Community Affairs (DCA) updates these model codes whenever new international codes are released in order to stay current with local practices.

Georgia's state minimum standard codes for construction are designed to help protect the life and property of citizens from faulty design and construction, small, unmet, and unmet standards, and unmet standards, and the financial hardship resulting from rebuilding after a hazard event. In other words, these codes require a minimum standard of construction that minimally mitigates certain hazards (e.g., high winds, severe thunderstorms, etc.). The Uniform Codes Act describes the "state minimum standard codes," with each code typically consisting of a base code and a set of state amendments. Georgia has enacted that nine of the 13 codes are mandatory (applicable to all construction regardless of local enforcement) and the use of permissive (only applicable if the local government chooses to adopt and enforce them). The codes are as follows:

Mandatory Codes:

- International Building Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- International Residential Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- International Fire Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- International Plumbing Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- International Mechanical Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- International Fuel Gas Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)
- National Electrical Code, 2017 Edition (in Georgia Amendments)
- International Energy Conservation Code, 2009 Edition, with Georgia Amendments and Amendments [0216-0019](#) [0217-0020](#)
- International Swimming Pool and Spa Code, 2012 Edition, with Georgia Amendments [0216-0019](#) [0217-0020](#)

Permissive Codes:

- Disaster Resident Building Code (BCO Appendix [0216](#))

Theoretically, the primary purpose of zoning is to segregate incompatible land uses. Practically, zoning consists of locally produced laws and ordinances that regulate development by dividing a community into zones that are regulated by development criteria. For example, zoning can regulate which activities are acceptable in a certain zone such as open space, residential, agricultural, commercial, or industrial. Zoning has the potential to inhibit inappropriate development in hazard-prone areas as well as designating certain areas for conservation, open space, and public use. Zoning laws vary unevenly by jurisdiction and, in the State of Georgia, have no standard basis for the construction codes. Enforcement of zoning ordinances varies, at times and depending on the particular situation, by highly patchy. One that, a few notable analysis of the effectiveness of zoning ordinances is impractical. Nevertheless, zoning ordinances have the potential to help protect the community from development in hazard-prone areas.

DCA monitors the communities in Georgia that protect zoning ordinances. Figure 3.4 shows which Georgia communities have zoning ordinances. As the map denotes, 117 of Georgia's 158 counties have local zoning ordinances.

A third type of code that is prevalent throughout the state is floodplain development regulations. As of February 2018, 881 of Georgia's 158 cities and counties participate in the National Flood Insurance Program (NFIP). As a prerequisite for participation in NFIP, the community must adopt and enforce a floodplain development ordinance that meets certain minimum standards, such as minimum building floor elevations for buildings built in floodplains. These regulations, while they do differ developed in the floodplains, are designed to ensure that the development causes no or minimal negative flood impact on any other properties. In addition, any buildings must be constructed so that floodwaters have a 100-year (1% chance per year) flood will flow freely and will not enter and cause damage to the enclosed building or any other spaces of a structure. While the ordinances do not directly address Repetitive Loss or Severe Repetitive Loss properties, they do address substantially damaged structures, which are those where cumulative damage have exceeded 50% of the pre-damage market value of the structure, required the owner to be built in a hazard-prone area. This reduces the possibility of a structure meeting one of the Severe Repetitive Loss or Severe Repetitive Loss definitions - where two or more claims exceed the market value of the structure. While the link between NFIP regulations and Repetitive Loss and Severe Repetitive Loss properties is indirect, a complete understanding of the effect of these regulations on RL and SRL properties would require additional analysis.

As stated above, all communities participating in the NFIP must adopt minimum floodplain development regulations. Therefore, at least 88% of the State's cities and counties have floodplain development regulations. It is possible, though not very likely, that some communities, in addition to GEMAHS, have adopted floodplain regulations, but, for some reason or another, do not participate in the NFIP. Many communities have adopted higher regulatory standards, including many of the communities in the Metro North Georgia Planning District, further limiting development within the Special Flood Hazard Areas. The long-term, the majority of Georgia appears to be fairly well protected from improper development within the floodplain areas.

Another area local communities have varying capabilities in is regulation and management of down-slope soil erosion. Every community has the authority to regulate erosion within their jurisdiction. However, many communities lack the capacity, due to various limitations including funding, staffing, etc., to manage such programs. Generally, the larger cities and counties surrounding Metropolitan Atlanta are more capable of managing these types of programs and have technical regulatory capabilities, including staff and resources. DeKalb, Cobb and Gwinnett Counties have previously had staff that had prior experience with storm and erosion management programs. Therefore, they were able to establish an erosion prevention and best management program. For example, Cobb County has introduced a stormwater purchase program, where the county is able to purchase stormwater capacity through privately owned dams for paying the owner.



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In closing the good level of the affected risks, Henry County has recently enacted local regulations allowing its Special Purpose Tax Districts to help pay for projects within an area by having properties specifically located within the affected area and benefiting from the project. In addition, after being community meeting a construction permit for a structure potentially before a Category 3 storm, the community must provide information on the development, as well as a firm local level. Georgia State Code requires that State to determine if the development would change the area's classification. Gwinnett County has also taken a proactive approach to storm safety issues and has been able to address issues with several dams, including one they own. The County has also been working with neighboring towns in its jurisdiction, maintenance and safety of dams within the county. Finally, as identified in Chapter 2, Table 2.6, 28% of Georgia counties identify down-slope erosion as a hazard to their community. As of 2018, all counties have drafted some sort of management activities to limit local erosion strategies. While the above review of local level analysis with a couple of specific examples, further analysis will be necessary to fully assess each community's regulations, policies and programs. GEMAHS will continue to conduct such as potential improvement in terms of local erosion regulations. Many local communities don't have GIS systems, while many of the more active communities that have GIS, still need to focus much attention on dams within their borders. Having the type information would help communities better understand their risk and better prioritize efforts to reduce any risks, have data follow.

Between January 2002 and June 2013, all 158 of Georgia's counties, along with the participating municipalities, completed local multi-jurisdictional hazard mitigation plans. As of March 2023, all 158 counties had completed the first update to their local hazard mitigation plans and 91 counties had completed their second update. The quality and effectiveness of the plans has improved over time and continues to do so. For a more detailed description of the local planning process, including historical context, and future activities as well as GEMAHS's assistance and coordination of the local process, see Chapter 4.

3.4.2 Community Rating System (CRS)

The CRS is a voluntary program through which NFIP communities are awarded for beneficial floodplain management that exceeds minimum NFIP requirements, including higher regulatory standards. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of CRS: reducing flood losses, facilitating accurate insurance ratings, and promoting the assessment of flood insurance. The CRS classifies communities based on a point system, with the first class (Class 1) earning the highest premium reduction and the last class (Class 10) receiving no reduction. CRS recognizes 32 eligible flood mitigation activities that fall under four broad categories: public information, mapping and regulations, flood damage reduction, and flood preparedness. Table 3.10 provides further information about the CRS classes and associated flood insurance reductions.

Table 3.11 lists all CRS communities in Georgia as of October 4, 2017. The table also provides the CRS class for each community for previous selected years. If no class is provided, that community had not yet joined the CRS program. The number of CRS communities in Georgia has steadily increased, with many improving on their CRS class.

Participating in the CRS program benefits communities by providing enhanced public safety, reducing damage to public and private property, avoiding economic losses and disruption, and protecting the local environment. The program also allows the evaluation of local programs in comparison to a nationally recognized benchmark.





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3.4 STATE AND LOCAL FUNDING SOURCES

The State of Georgia currently uses several funding sources to implement hazard mitigation activities. Primarily, these funds stem from federal, state, and local sources. The State of Georgia is interested in continuing to pursue these federal, state, and local funding sources throughout the future implementation of the mitigation strategy as well as in pursuing additional private sources.

Table 3.12 Current Funding Sources

Program	Source	Description	Estimated Annual Funding	How It Is Used
Hazard Mitigation Grant Program (HMGP)	FEMA	The funds provided to states, territories, Indian Tribal governments, local governments, and eligible private non-profits (P/NPs) following a Presidential major disaster declaration.	Only available after disaster declaration and varies depending on size and scope of disaster.	State and local planning, state and local projects.
Continuity Development Block Grant (CDBG)	HUD, DC	Provides communities with resources to address a wide range of urban community development needs.	Approximately \$40 million nationwide.	Housing, economic development, disaster recovery.
Assistance to Firefighters Grant	FEMA	Meets the training and emergency response needs of fire departments and non-firefighting emergency medical service organizations.	Prescribed by Congress, \$20 million in FY2017 nationwide.	Funding Community Firefighting Planning (CFPP) for CA.
Pre-Disaster Mitigation (PDM)	FEMA	Annual, nationally competitive grant program for hazard mitigation.	Prescribed by Congress each year, \$100 million in FY2017 nationwide.	State and local planning, state and local mitigation projects.
Flood Mitigation Assistance (FMA)	FEMA	Provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program (NFIP).	Prescribed by Congress, \$100 million allocated in FY2017 nationwide.	Flood mitigation projects, flood mitigation planning.

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National Earthquake Hazards Program (NEHP)	FEMA	Provides assistance to state and local governments to improve their programs, assess their risks, and reduce the impacts on their local property that may be a result of earthquakes.	Allocated nationwide with 10% of appropriated funds allocated to each state and the remaining 20% divided between the number of states.	Management of state and local programs.
National Response and Operational Center (NROC) Administration	FEMA	Provides assistance in the repair and upgrade of existing National Response Centers.	Over \$17 million in FY2017 and \$11 million in FY2018.	Repair and upgrade of existing centers.
Emergency Response Infrastructure Program	FEMA	Provides funding to repair and upgrade existing infrastructure damaged during a disaster.	\$1.7 million in FY2017 and \$2.0 million in FY2018.	Repair and upgrade of existing infrastructure.
State County Emergency Response Program	State County	Provides funding to state and local governments for emergency response activities.	\$1 million per county for FY2017 and \$1.1 million for FY2018.	Emergency response activities in the event of a disaster.

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Table 3.13 Potential Funding Sources

Program	Source	Description	Estimated Annual Funding	Potential Uses
Pre-Disaster Mitigation (PDM)	FEMA	Annual, nationally competitive grant program for hazard mitigation.	\$100 million in FY2017 and \$110 million in FY2018 nationwide.	State and local planning, state and local mitigation projects.
Assistance to Firefighters Grant	FEMA	Meets the training and emergency response needs of fire departments and non-firefighting emergency medical service organizations.	Prescribed by Congress, \$20 million in FY2017 nationwide.	Flood mitigation projects, flood mitigation planning.
Continuity Development Block Grant (CDBG)	HUD, DC	Provides communities with resources to address a wide range of urban community development needs.	Approximately \$40 million in FY2017 in Georgia.	Housing, economic development, disaster recovery.
Flood Mitigation Assistance (FMA)	FEMA	Provides funds on an annual basis so that measures can be taken to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program (NFIP).	Prescribed by Congress, \$100 million allocated in FY2017 nationwide.	Flood mitigation projects, flood mitigation planning.
Hazard Mitigation Grant Program (HMGP)	FEMA	The funds provided to states, territories, Indian Tribal governments, local governments, and eligible private non-profits (P/NPs) following a Presidential major disaster declaration.	Only available after disaster declaration and varies depending on size and scope of disaster.	State and local planning, state and local projects.
High Hazard Potential Areas (HHPA)	FEMA, State, Local	Provides funds to states, territories, Indian Tribal governments, local governments, and eligible private non-profits (P/NPs) following a Presidential major disaster declaration.	\$1.7 million available in the State of Georgia during the program's first two-year period.	Flood and seismic retrofits.

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National Earthquake Hazards Program (NEHP)	FEMA	Provides assistance to state and local governments to improve their programs, assess their risks, and reduce the impacts on their local property that may be a result of earthquakes.	Allocated nationwide with 10% of appropriated funds allocated to each state and the remaining 20% divided between the number of states.	Management of state and local programs.
National Response and Operational Center (NROC) Administration	FEMA	Provides assistance in the repair and upgrade of existing National Response Centers.	Over \$17 million in FY2017 and \$11 million in FY2018.	Repair and upgrade of existing centers.
Emergency Response Infrastructure Program	FEMA	Provides funding to repair and upgrade existing infrastructure damaged during a disaster.	\$1.7 million in FY2017 and \$2.0 million in FY2018.	Repair and upgrade of existing infrastructure.
State County Emergency Response Program	State County	Provides funding to state and local governments for emergency response activities.	\$1 million per county for FY2017 and \$1.1 million for FY2018.	Flood mitigation projects, flood mitigation planning.
Seismic Response Program	State, Local	Provides funding to states, territories, Indian Tribal governments, local governments, and eligible private non-profits (P/NPs) following a Presidential major disaster declaration.	Only available after disaster declaration and varies depending on size and scope of disaster.	State and local planning, state and local projects.

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Chapter 4: Coordination of Local Mitigation Assistance

As discussed in Chapter 2, the local mitigation planning requirements are an attempt to accumulate greater knowledge of local hazard exposure, available critical facilities (especially those with high hazard exposure), and potential mitigation actions, programs, and projects. The following three sections in this chapter detail the approval and update process of local mitigation planning. This is followed by a discussion in Section 4.4 about the State's prioritization of local assistance.

Each section in this chapter was reviewed and updated by GEMAHG Hazard Mitigation staff. Each section was revised as necessary to reflect previous, current, and future planned activities to avoid Georgia's 100 counties, Best municipalities, University Systems campuses, and authorities in the completion and updating of their local hazard mitigation plans and projects. Table 4-1 lists the changes to Chapter 4 that have occurred since the 2014 approval.

Table 4-1: Summary of Changes to Chapter 4

Table with 2 columns: Chapter 4 Section and Updates to Section. Rows include 4.1 Local Technical Assistance, 4.2 Local Funding, 4.3 Local Plan Integration, and 4.4 Prioritizing Local Assistance.

4.1 LOCAL TECHNICAL ASSISTANCE

The GEMAHG Hazard Mitigation staff proactively works to meet the requirements of the Disaster Mitigation Act of 2002 for local hazard mitigation planning activities. The following sections describe the staff process for assisting local plan development and grant management.

Two tables with columns: County, Plan Expiration, Priority. The first table lists counties like Cherokee, DeKalb, and Johnson with their plan expiration dates and priority levels.

4.2 PRIORITIZATION OF PROJECT FUNDING

To maximize the amount of federal and state funding available, GEMAHG employs an application prioritization system. In the event that submitted pre-applications exceed the available funds for the disaster allocation, GEMAHG reviews, scores, and ranks submitted pre-applications and applications using criteria on GEMAHG's Hazard Mitigation Assistance Score Sheet. The criteria include natural hazard exposure, history of damages, type of mitigation, potential impact on the environment, community vulnerability to mitigation, and the benefits of mitigation. Generally, pre-applications and applications for acquisition and demolition projects receive the highest ranking. See Appendix H for a copy of the GEMAHG Hazard Mitigation Assistance Score Sheet.

When a hazard mitigation assistance application cycle is opened, GEMAHG uses a two-tiered review process. Initially, reviewers are directed to submit pre-applications that allow GEMAHG staff to determine whether a proposed mitigation project meets FEMA funding criteria. Completed pre-applications received by the posting stated deadline are entered using criteria on GEMAHG's Hazard Mitigation Assistance Score Sheet. In addition to the above criteria, for post-disaster grants (PDRG), pre-applications are prioritized under two categories: within the declared area and outside of the declared area. Projects that mitigate the impacts of the specific disaster event such as a flood or a tornado in the declared areas have the highest priority for the State of Georgia.

Applicants whose pre-applications receive the highest score and meet minimum project criteria will be invited to complete and submit a full grant application. Risk Reduction Specialists and Hazard Mitigation Planning Specialists will assist in completing the applications and will conduct an initial review in accordance with the GEMAHG Hazard Mitigation Assistance Score Sheet. The State Hazard Mitigation Division



Georgia has successfully worked with each applicant on obtaining the required environmental documentation to comply with the NEPA process.

The Department of Natural Resources's Georgia State Dam Safety program manages the State dam safety program, including all activities regarding permitting, inventory and identification of dams throughout the State. Recently, FEMA's Dam Safety program has developed the High Hazard Potential Dam program (HHPD) to help States and local communities identify and improve dams, which have been identified as having a significant risk of failure, with the potential for major losses in the event of such failure. Currently, the State uses its inspection program to identify deficiencies with existing dams and have prioritized options projects for category 1 dams - those identified as having the potential for loss life in the event of failure - based on the potential for failure identified by that event record inspection, including identified structural, stability, seepage capacity, etc. and recent development activity. Initially, the HHPD program is a two program and the State is in the process of developing a more thorough and robust system for prioritizing HHPD projects.

4.4.3 REPETITIVE LOSS PROPERTIES

Repetitive loss properties (RLPs) generally consist of older, less-safe properties that were "grandfathered" into the National Flood Insurance Program (NFIP) during its creation. The RLPs have been required multiple times to pre-flood conditions with substantial flood insurance state payments. According to FEMA, a relatively small number of RLPs account for a relatively large share of total flood claims. Therefore, identifying and mitigating RLPs and severe repetitive loss properties (SRLPs) leads to a reduction in actual flood insurance claims, which will ultimately help pressure to raise flood insurance rates and will stabilize NFIP.

RLP was defined in the Housing/Business/Manufacturing Flood Insurance Reform Act of 2004 and an interim rule was published on October 21, 2007 which implemented the RLP grant program. In the FY12 grant funding opportunity announcement for the Flood program, FEMA introduced an increased federal share grant funding to RLPs for other repetitive loss properties, subsequently called as FEMA RL properties.

According to FEMA, data anomalies exist in the NFIP data that was used to create the RLP and FEMA RL data sets. In preparation for the FY17 FEMA grant cycle, every repetitive loss property was analyzed to determine whether the property met the definition of RLP or FEMA RL by looking at the flood claims paid on the property and the market value of the structure obtained from the tax assessor records for each Georgia County. Further analysis was conducted to determine properties that were best candidates for grant funding for the FEMA program. Best candidates are those that have a current flood policy, are in the Special Flood Hazard Area, and the benefit/replacement can be met by utilizing the standard benefits for acquisition.

Table 4.7 lists have been updated that lists the total losses and total RLPs, the GEMAHG analysis to determine the total number of RLPs, and the total number of mitigated RLPs and total mitigated SRLPs. Table 4.7 also includes additional information and summary of FEMA RL properties and total RLP, and FEMA RL candidates for the FEMA program. The FEMA SRL indicator code in the repetitive loss data set was added to capture better information on mitigated RLPs so the updated figures include many more situations than was previously reported.

The repetitive loss information was obtained from DataFusion, and the mitigated property information was obtained from GEMAHG's mitigated properties database. To be considered an RLP by FEMA, the property must have two or more losses of at least \$1,000 per loss paid within a 10-year period. To be considered an SRLP by FEMA, the property must have four or more losses of at least \$5,000 per loss paid or have two or





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Chapter 6: Enhanced Plan

6.1 INTEGRATION WITH OTHER PLANNING INITIATIVES

44 CFR 201.56(b)(1) states that a state's Enhanced Plan must demonstrate that the plan is integrated, to the extent practicable, with other state and/or regional planning initiatives, transportation, growth management, economic development, capital improvement, land development, and/or emergency management plans, and FEMA mitigation programs and initiatives that provide guidance to state and regional agencies. In the following sections, we will demonstrate how Georgia has conformed to meet this requirement.

Table 6.1 Changes to Chapter 6

Chapter 6 Section	Updates to Section
6.1 Integration with Other Planning Initiatives	<ul style="list-style-type: none"> Updated the other state and/or regional planning initiatives the State Plan is integrated with and the description of how the State Plan is and will be integrated into those initiatives. Updated as follows:
6.2 Program Implementation Capacity	<ul style="list-style-type: none"> Updated the description and tables showing the State's capacity to successfully program implementation. Updated as follows:
6.3 Program Management Capacity	<ul style="list-style-type: none"> Updated the description and tables showing the State's capacity to manage the Hazard Mitigation Program. Updated as follows:
6.4 Assessment of Mitigation Actions	<ul style="list-style-type: none"> Updated the description of the State's methods for assessment of completed mitigation actions. Revised attached tool templates updated to new events.
6.5 Effective Use of Available Mitigation Funding	<ul style="list-style-type: none"> Updated the description and tables of the State's effective use of available mitigation funding. Updated as follows:
6.6 Commitment to a Comprehensive Mitigation Program	<ul style="list-style-type: none"> Updated the description of the State's commitment to a comprehensive mitigation program. Updated as follows:

Table 6.2 GEMM Initiatives and Other State Initiatives

Agency	Initiative	Public Sector	Description of GEMM Initiative and Initiative	Contribution to Hazard Mitigation Goals
GRC	Community Mitigation Planning Process (CMPP)	Land Use Development, Natural and Cultural Resources	<ul style="list-style-type: none"> CMPPs to be updated during local hazard mitigation plan (LHMP) updates. CMPPs to include information to meet FEMA hazard profile requirements. CMPPs to integrate with LHMPs. 	Contributes to the preservation of life and prevention of damage and losses by identifying hazard prone areas and proposing actions to reduce the potential for losses.
DOA	Disaster Resilient Building Codes (DRBC)	Land Use Development, Economic Development, Housing	The State Mitigation Office and Resilient Coordinator worked on the DRBC Task Force to establish and implement the DRBC. DRBC is the SEC and SEC (GA developed and conducted a comprehensive investigation for code enforcement efforts on the importance, implementation and enforcement of DRBC approaches.	Contributes to the preservation of life and prevention of damage and losses by ensuring structures in the relevant areas to be built to a higher standard better able to withstand the potential hazards of the storm.
GEHANS	HAZUS-BH	Emergency Management, Land Use Development, Infrastructure	In 2014 GEHANS contracted with PHS to develop translators for all Computer Aided Mass Assessment (CMAA) systems in use throughout the State in order to develop a risk to obtain local assessor's data as part of a risk analysis for each local mitigation plan update. GEHANS-OW contracts with PHS for update and use of these translators for every county as they update their local mitigation plans.	Contributes to the preservation of life and prevention of damage and losses by assessing the vulnerability of local communities to hurricanes, flooding and tornadoes.
GEHANS	GAR	Emergency Management, Land Use Development, Infrastructure	GAR supports the identification and implementation of mitigation actions through mapping and reporting of Critical Facilities, Mitigated Properties, and Critical Properties. Ongoing operations to include Hazard products into GAR to give near of access.	Contributes to the preservation of life and prevention of damage and losses by providing a tool for assessing the vulnerability of a community to various hazards, including flooding, winds, earthquakes, tornadoes and wildfires.



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Agency	Initiative	Public Sector	Description of GEMM Initiative and Initiative	Contribution to Hazard Mitigation Goals
GEHANS	Disaster Recovery Program Workshops	Emergency Management	GEHANS mitigation staff provided training to local government officials on risk programs.	Contributes to the preservation of life and prevention of damage and losses by helping communities identify areas of potential mitigation projects, which would reduce future damage and losses.
DNR	Risk MAP	Land Use Development, Natural and Cultural Resources	GEHANS mitigation staff provided data to support disaster risk and presented mitigation information at the Recovery Discovery & Resilience Showcases.	Contributes to the preservation of life and prevention of damage and losses by identifying hazard prone areas and proposing actions to reduce the potential for losses.
EMG	High Hazard Flood Dam Threats	Land Use Development, Economic Development, Housing	EMG conducted a review of the State's High Hazard Flood Dam Threats and identified mitigation projects.	Contributes to the preservation of life and prevention of damage and losses by identifying hazard prone areas and proposing actions to reduce the potential for losses.
Board of Regents (BOR)	Mitigation Plans	Education, Land Use Development	BOR encourages each campus to have a hazard mitigation plan and that they work with the counties in the vicinity of their local hazard mitigation plans.	Contributes to the preservation of life and prevention of damage and losses by identifying hazard prone areas and proposing actions to reduce the potential for losses.
EMAG	Mitigation planning workshops	Emergency Management	Mitigation Planning workshops provided during annual EMAG conference.	Contributes to the preservation of life and prevention of damage and losses by increasing awareness of mitigation programs throughout the State.





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and 7 water authorities in the Metro Atlanta area. Per this legislation, the District developed three water management plans and five master ordinances, including the Model Floodplain Management Flood Damage Prevention Ordinance. Each year the District surveys the jurisdictions to report activities and achievements.

The purpose of the Flood Damage Prevention Ordinance is to protect, maintain, and enhance the public health, safety, investment, and general welfare and to minimize public and private losses due to flood conditions or flood hazard areas. Furthermore, the intent of the ordinance is to protect the beneficial uses of floodplain areas for water quality protection, stream bank and stream corridor protection, and wetlands preservation as well as ecological and environmental protection. The model ordinance mandates that local governments adhere to a 3-foot freeboard requirement that will significantly reduce future flood damages and flood insurance premiums on new and substantially improved structures.

All but two of the jurisdictions surveyed in 2014 have adopted the Model Floodplain Management/Flood Damage Prevention Ordinance or equivalent regulations. This ordinance is intended to minimize future flooding impacts and integrate floodplain management with stormwater management during the land-development process by providing the No-Arbitrary impact approach. Eighty-seven of these jurisdictions have incorporated the new floodplain management provisions into their local development review process.

As part of the adoption of the model floodplain ordinance, local jurisdictions are required to delineate the future-conditions hydrologic 100-year floodplain within their jurisdictions. The ordinance also requires the local government to require floodplains on all streams with a drainage area of 100 acres or greater. Future-conditions flood studies are based on the best estimates of future land use conditions within a watershed. Local governments are responsible, at a minimum, for delineating future-conditions floodplains for all streams with a drainage area of 100 acres or greater. Fifty-seven communities have responded by providing completed mapping of future-conditions floodplains within their jurisdictions, while another ten have partially completed mapping in their city or county. Three jurisdictions currently have an RFP or contract in place for the mapping of future-conditions floodplains, and/or they have completed some preliminary technical work.

3.1.1 Integration with Federal Programs and Planning Initiatives
The review of the plan includes federal programs that FEMA and the State of Georgia allow, including regulations that provide local communities with guidance for state and regional agencies. The State integrates various FEMA programs to accomplish its mitigation goals. Table 3.3 summarizes the federal programs in planning initiatives and how FEMA is integrated into them.

Table 3.3 FEMA Integration with Federal Programs and Initiatives

FEDERAL PROGRAM	INTEGRATION INTO INITIATIVE
IFIP	Potential applicants must be good standing in IFIP to be eligible for any mitigation project funding.
CRP	Provision of mitigation funds for CRP communities. 50 communities have incorporated CRP provisions and practices into their local mitigation strategies.
EMF/SEA	Mitigation information incorporated into discovery and response workshops.
FMA	Projects must be identified in local mitigation plans. More than \$111 million for planning and projects designed to reduce or eliminate flood hazard-caused damages throughout the State.

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FEDERAL PROGRAM OR INITIATIVE	INTEGRATION INTO INITIATIVE
EMF/SEA	Projects must be identified in local mitigation plans. More than \$141 million for planning and projects designed to reduce or eliminate flood hazard-caused damages throughout the State.
FMA	Projects must be identified in local mitigation plans. More than \$111 million for planning and projects designed to reduce or eliminate flood hazard-caused damages throughout the State.
EMF/SEA	Projects must be identified in EMF/SEA studies linked to improve warning and communication and provide uninterrupted power for critical facilities throughout the State between 2013 and 2018.
HACUS-EM	Workshops developed to increase greater available local power and land data from FEMA, FEMA's use in Georgia. Local best state-developer/50 communities which will be utilized in local plan updates. Projects developed to incorporate HACUS level two data into local plan updates for all of Georgia's 150 counties.
EMF/SEA	Integration of EMF/SEA elements including hazard vulnerability and risk assessments, state and local mitigation plans, grant administration and public education and outreach.
EMF/SEA	Integration information provided to potential applicants at CRP and applicant briefing workshops. State staff supports Section 404 mitigation and state-mitigation assistance provided to implement Section 404 mitigation projects.
EMF/SEA	State staff team activities support CRP and integration of mitigation into recovery actions.
EMF/SEA	State staff assistance provided to local agencies to implement EWP projects for the restoration of riparian wetlands.
EMF/SEA	Support of Georgia Storm Ready Program and prioritization of warning grants for storm ready communities.
EMF/SEA	Overall assessment of programs to Georgia including nature hazards, technological hazards, terrorism, etc. Natural hazard information is based on information developed in the State Hazard Mitigation Strategy.
EMF/SEA	Support EWP in integration of and identification of benefits from potential future of disaster plans.
EMF/SEA	Support EWP in integration of and identification of benefits from potential future of disaster plans.
EMF/SEA	Support EWP in integration of and identification of benefits from potential future of disaster plans.
EMF/SEA	The Hazardous Materials Emergency Preparedness Program

National Flood Insurance Program (NFIP)

- The NFIP was established with the passage of the National Flood Insurance Act of 1968 to:
 - Provide flood insurance through a cooperative public-private program with equitable sharing of risks between the public and private sectors as an alternative to disaster relief.
 - Distribute responsibility for floodplain management to all levels of government and the private sector.
 - Set a national standard for regulating development in the floodplain.

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The FM Stations are currently in development by USGS at Yellow River near Zebulon, and Yellow River at GA 104, near Lenoir. Two FM Stations are nearing completion by USACE at Chatsworth at Holm and Douthett River near Camden.

The FEMA assist federal, state, and local officials as well as property owners by enabling them to take action long before a flood actually occurs, which saves lives and reduces property damage. This online tool helps identify where the potential threat of floodwaters is greatest, resulting in better, state, and local officials to better plan for flood response and recovery recovery and to assess evacuation routes at various flood levels before the rain falls.

Risk funds were awarded to assist Augusta-Richmond County with the identification of flood risks for the Hyde Park area. That project resulted in a new FEMA FEMA.

Emergency Watershed Protection (EWP)

Funding has been committed for each Presidential Declared Disaster to provide or assist with the non-federal match for locally sponsored projects under this program. Since 1994 almost \$20 million has been approved on Emergency Watershed Protection (EWP) measures, and the State has provided \$5.7 million in match for this program. Since the last year update, all work has been completed on EWP/EWP projects for CRP, CRP, and the EWP continues to provide the EWP at EWP applied workshops and Disaster Recovery Program workshops. 40 work has been completed on 40 CRP/EWP.

National Weather Service (NWS)

EMF/SEA has continued its partnership with NWS on the StormReady program. This 2002 program recognizes counties that have reached a high level of severe weather preparedness. StormReady counties have increased by 18 since the completion of the 2011 EMF/SEA, presently reaching 86 total counties. Alachua and county is designated StormReady county. In addition, EMF/SEA supports the Atlanta Integrated Warning Team. This team is made up of staff from the National Weather Service, emergency management, the media, the private sector and several agencies in order to help to improve the warning system and reduce non-structural fatalities and injuries.

Threat and Hazard Identification and Risk Assessment

EMF/SEA prepares a Threat and Hazard Identification and Risk Assessment (THIRA), which identifies the top five natural and human-caused hazards to impact the state. The THIRA assesses an individual and four future-caused hazards. The assessment is based on the potential physical impact of an event on the population, economy, infrastructure and development, as well as the impact on State operations for emergency, recovery and mitigation, as well as continued day-to-day responsibilities. Information on natural hazards is based on hazard profile information provided by the State Hazard Mitigation Strategy.

Georgia Safe Dams Program

On November 6, 1971, the Kelly Barnes Dam, located in Stephens County, Georgia failed causing catastrophic damage to the downstream area and the College at Thomas Falls. Barnes Lake, a 40 acre reservoir was created by the dam. The dam failed after a period of heavy rainfall. The existing floodwalls have failed 10 people, many injuries and employees on the site, and caused \$2.6 million in damages. The dam was the subject for Georgia to pass legislation creating a Safe

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dam safety program in 1976. Further, this project was also the basis for several other states to create a dam safety program and for the federal government to take action including creating the national dam safety program.

The Georgia Safe Dams Act (SAD) was passed in 1976 and became effective on July 3, 1978. Pursuant to 10 C.F.R. Secs. 10-2-1074 et seq., the Safe Dams Program is responsible for developing and maintaining an inventory of dams, identifying those, and ensuring compliance of all regulated dams. To be considered a dam under the Act, a structure must either be at least 25 feet tall vertical height with a normal storage of at least 10 acre-feet or more at least 100 acre-feet volume, with a dam at least 6 feet tall at maximum storage. Category 1 structures are those where it has been determined should the dam ever fail, there is a probability loss of life from that failure. Consequently, Category 1 are those dams where no ongoing studies has been identified to be in the dam failure zone, if the structure also meets the criteria for a Category 1 dam, it is regulated under the Act and a permit is required from EPC. Dams owned or operated by the Federal Government are specifically exempt from the Act. Likewise, dams associated with aggregate surface mining are also exempted. It should be pointed out that while most states and federal agencies, Georgia only uses High Hazard Category (State Low Hazard Category) and does not have a Significant Hazard classification.

In Georgia, dams are owned by state or local governments, public utilities, and private utilities. To help secure a dam may be owned by multiple entities, such as a private individual and a local government. In Georgia, as with most of the national level, around 90 to 70% of the dams are considered privately owned. One in larger part by the issue of multiple owners, it is difficult to provide an exact percent breakdown of ownership categories. Around 20% of the currently regulated dams in Georgia are considered state owned. A majority of these dams are classified as flood control dams. These flood control dams were designed and built by the U.S. Department of Agriculture, National Resources Conservation Service (NRCS) formerly known as the Soil Conservation Service to mitigate downstream flooding. These flood control dams were built on private land and were considered the operation and maintenance of the dam was turned over to state and/or local government entities as a result of the agreement.

There are currently around 1,100 structures in Georgia that meet the definition of a dam. Of that total inventory, around 300 of those dams are classified as Category 1 and are thus regulated. Due to ongoing development combined with non-compliance by the Program, the number of Category 1 dams continues to rise.

The total number of unregulated dams in Georgia is 201. However, at least 9 of these structures have had their assessments signed or revised and the ownership has agreed to private entities such as a private individual or a homeowners association. Of the 200 unregulated unregulated dams, 178 are classified as Category 1. Efforts continue with inventory and classification of all structures including those unregulated dams. There are approximately 40 additional unregulated dams that are being studied by the State that will become Category 1.

2016, the Georgia EPC Recommended Protection Decision and the Policy for Dam Safety in 2016

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Georgia Emergency Management Agency/Homeland Security

standards areas. These changes clarified existing language in the Rules and helped clarify that the responsibility for the state lies with the state owner and not the Division. Specifically, the rule modifications require the owner to perform quarterly inspections of the dam and to retain an engineer once every two years for an inspection. The modifications also clarify the requirement for all Category 1 dams owners to have an Emergency Action Plan (EAP). Prior to the rule change in 2018, there were approximately 10 percent of the Category 1 dams with an EAP. As a result of the rule change and efforts by the program, the percent of dams with a recent EAP is now around 75%. A portion of those 25% out of compliance are dams that have recently been classified and that they have not met their deadline for submission of an EAP. The Program was successful in increasing the percent of high hazard dams with an EAP that FEMA published an office wrapping the efforts and success.

A consequence of these EAPs being developed is that local governments became aware and more involved with these dams since the local Emergency Manager is involved to sign off on the submission page for the EAP.

National Dam Safety and High Hazard Potential Dam (HHPD) Programs

The Georgia Safe Dams program regulates dams meeting a certain size, capacity and threat to downstream population. The program studies impoundment crosses for dam failures and, when it determines failure of a dam would potentially cause loss of life if it fails, that dam is classified as a high hazard dam and subject to federal regulations. The program also maintains the HHPD program for the State of Georgia. This program provides funds for the rehabilitation and strengthening of high hazard and non-structural dams that have been determined to have a substantial risk of failure, leading to more damages and loss of life. The HHPD program has a mitigation planning requirement for both state and local plans. Through the State is seeking to incorporate this program into the 2020, as well as developing a methodology for incorporating local planning requirements into local mitigation plans and applications.



Georgia Emergency Management Agency/Homeland Security

The State's criteria for determining cost-effectiveness for Hazard Mitigation Assistance grants has been reviewed. The State continues to use the most recent FEMA BCA tools in determining cost-effectiveness for mitigation projects, and the process is updated to incorporate these tools.

6.2.3 SYSTEM TO RANK PROJECTS

6.2.3.1 Hazard Mitigation Assistance Program

GEMA's Hazard Mitigation Division manages all HMA grants for the State, including HRAP, FEMA and FEMA-GEMA staff review all proposed mitigation pre-applications and applications to ensure that the proposed projects are eligible and meet minimum criteria as outlined above. GEMA's review, rank, and score proposed projects. The state review criteria include a scoring sheet to determine potential for funding and overall priority within the application process. There are three basic types of projects: Regular Program Projects, Initiative Projects and Planning Projects. Except for planning projects, each has its own score sheet. The main criterion utilized in ranking the Regular Program project submissions are natural hazard, history of damages, type of mitigation, potential impact on community, estimated environmental impact, community commitment to mitigation, and benefits. The ranking categories in the Initiative Project score sheet include history of damage/hazard in county, potential benefit to community, cost-effectiveness, and identifiable factors.

Each category on the five score sheets is given a maximum range of points. Point numbers were developed over several years by the Hazard Mitigation staff and are based primarily upon HRAP guidelines. Maximum point possibilities per category range from 5 to 25 points and are listed below. The maximum amount of points any one project can accumulate is 100. The Regular Program score sheet has a possible 10 times points that can be used in a bid/contract situation.

Categories included in the Regular Program score sheet are described here:

Natural Hazard Score: The natural hazard score is dependent upon the type of disaster, its location in regard to the river, and whether a levee is involved. A maximum of 25 points is possible in this section, depending upon the following criteria: the total amount of damage, the amount of flooding, proximity to the coast line, and the historic record of locations or areas. In a post-disaster environment, potential are established by the disaster type(s). In the event of multiple disasters, scoring will be calculated for each event and combined to give an overall score. In some situations with multiple disasters, the score could exceed 25.

History of Damage in Project Area: Historical records of events in a county/project area and the likelihood of the event happening again will determine the total amount of points awarded in this category. Five points are given for every event documented, up to a maximum of five events. The highest amount available in this category is 25 points.

Type of Mitigation: In this category, the reviewer must determine if the mitigation action is non-structural or structural. Examples of non-structural projects are flood proofing, sandbagging, elevation, acquisition, and the implementation of shore building codes. Structural projects would include flood walls and shore water clearance improvements. The most effective type of mitigative action can garner 5 points.

Potential Impact on Community: Projects are prioritized by their ability to eliminate or reduce the effects of a disaster event on the community. The failure to implement a project can have either a severe, moderate, or no potential impact on a community. Depending upon the amount of potential future impact avoidance, a project can accumulate up to 15 points.

The state has established additional priorities for Initiative projects for the HRAP allocations during the update cycle. Priority has been given to more start-up items. Once the category is funded, the State allows the Initiative projects score sheet to select projects if the funding requests exceed the available funds.

Based on state priorities, non-structural projects such as acquisition, demolition, and relocation generally receive the highest ranking and the greatest consideration for funding. Planning projects are given priority over structural and non-structural projects because a FEMA requirement based mitigation plan is required for a community to be eligible for a federal grant. Therefore, planning projects always receive a higher ranking than a structural or non-structural application. Counties involved in a Presidential Disaster also are given priority over non-disaster counties.

A copy of the HMA score sheet is located in Appendix H. This score sheet is used to rank all HMA project grants that meet BC and other project eligibility criteria and is used when project applications exceed available funding.

For the FEMA program, additional criteria include that the proposed project must address eligibility to an HFD-owned property, with repetitive loss and severe repetitive loss properties receiving priority.

6.2.3.2 High Hazard Potential Dam Projects

Georgia, like the Georgia Safe Dams program manages all HHPD projects. The HHPD program is one in the State of Georgia. The State has used a combination of results of recent inspections, other post-failure and damage reports from recent flooding events and storm damage observations to prioritize dams to target for rehabilitative work. Now, the State has identified the need to further evaluate all potential HHPD dams and develop a more thorough, robust methodology for prioritizing future HHPD projects.

6.3 PROGRAM MANAGEMENT CAPABILITY

44 CFR 201.5(b)(2) (A)-(C) states that the Enhanced Plan must document that the state has the capability to effectively manage the HRAP as well as other mitigation grant programs and provide a record of the following:

- Meeting HRAP and other mitigation grant application timeliness and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation;
- Preparing and submitting accurate environmental reviews and benefit-cost analyses;
- Submitting complete and accurate quarterly progress and financial reports on time; and
- Completing HRAP and other mitigation grant projects within established performance periods, including financial reconciliation.

This section of the plan demonstrates the Georgia's abilities to effectively manage the HRAP and other mitigation grant programs.

GEMA's Hazard Mitigation Division has primary responsibility for program management. The Division consists of a Planning Section and a Risk Reduction Section, with staff dedicated to providing technical assistance to state agencies and local governments on the development and implementation of mitigation plans and projects. Each section is supervised by a Program Supervisor who reports to the Hazard Mitigation Manager. The respective program supervisors review all activities of their program staff for compliance. The number of program staff can vary

c. Revised Timeline

Alan noted the updated timeline for the State Plan Update. He noted the changes to the timeline reflecting the 2nd Annual Update meeting, noting that was the only

update. He then noted, going forward, the timeline will be updated as needed to reflect future annual update meetings and any necessary post disaster meetings.

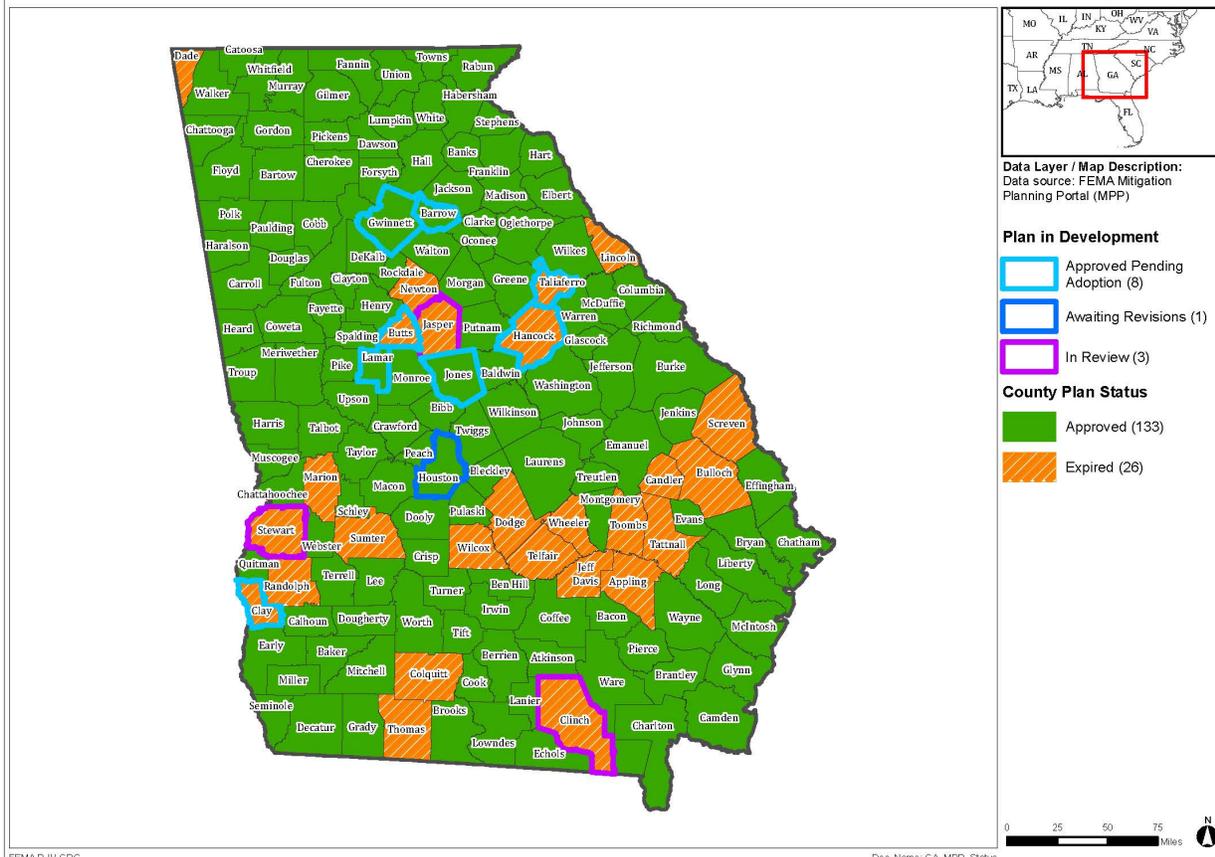


Local Plan Update Status

a. Plan Status Map

Alan showed the current status of local mitigation plans according to FEMA. The FEMA map is shown below. He noted state will work communities during their local plan updates to encourage them to meet the local HHPD planning requirements if they are interested in participating in the program.

Georgia Hazard Mitigation Plan Status
As of 8/6/2020



b. HMGP 4400 applications

Alan noted ongoing work on HMGP 4400 local planning applications, as well as the pending application for the 2024 State Plan update.

He also noted the current status of local Hazus Level 2 Analyses. He noted the State is currently at the point where we are beginning to run updated reports for some of the initial counties. He also noted the reports are based partly on local tax assessor data. Rarely, there is a case where the data is not sufficient for a Hazus analysis. In those instances, no report is completed. He noted the planning staff's efforts to encourage communities to improve on their tax assessor records. He also noted initial efforts to encourage communities to establish building footprints in the tax assessor records, which would help improve the flood portion of the analysis.



Hazus Level 2 Analysis

Total Contracted	179
Percent Contracted	113%
Total Completed	135
Percent Completed	85%

FEMA Activities

a. State of Georgia Plan Consultation and Enhanced Plan Validation with FEMA Region IV

Alan described the State Plan Consultation meetings with FEMA and noted the meeting was not held in 2020 due to Covid restrictions. However, the Enhanced Plan Validation meeting was held virtually with FEMA Region IV in July, 2020. He noted the State's enhanced status is based, not just on what is in the plan, but how well FEMA determines we manage the program.

b. Upcoming Meeting and Workshops

Alan noted there were upcoming meetings or workshops due to Covid restrictions.

c. Ongoing updates to State and Local Plan Review Guides

Alan noted FEMA is in the process of updating the State and Local Plan Review Guides, noting these should be in place by the time the State begins the major update of the State Plan. He also noted local plans will have to meet the new local review guidance once it becomes official. There will be a year where communities will have the option of using the current guidance. After that year, all local plans will have to meet the new requirements.

d. HMA Activities with HMGP 4400 and BRIC 2020.

Stephen Clark described activities completing project applications for HMGP 4400, including many generators. He noted the upcoming BRIC 2020, which replaces the PDM program.

Alan noted BRIC is replacing PDM starting this year. Further information was posted in the meeting's chat feature.

Next Meeting

The next meeting date will be determined at a later date. It will be held during the second quarter of 2021. We will notify everyone by email.

Comments and Questions

Amy Kuhs asked for clarification on the BRIC program. Alan clarified the BRIC is a replacement for the existing Pre-Disaster Mitigation (PDM) Grant program. He noted, we will still be working and discussing the PDM program for a few years as we close out existing projects, but going forward, any new projects will be either Flood Mitigation Assistance (FMA), HMGP or BRIC.

Alan also noted there was no post-disaster meeting for the Covid disaster; with the reason being the Covid declaration does not include HMGP funds. He also noted the State is still responding to the Covid disaster.

Jennifer Kline noted requested to be included in the guidance and development of the State's BRIC program.

Having no further comments or questions, the meeting was adjourned.

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

October 23, 2019

Present

Alan Sloan, GEMA/HS
Shelby Meyers, GEMA/HS
Haydn Blaize, GA DNR Floodplain unit
Olivia Martin, GA DNR Floodplain unit
Tomi King, GEMA/HS
Lillian Huffman, FEMA
Tommy Lowmon, GA DCA
Ken Parker, GFC
Terry Lunn, GEMA/HS
Melissa Alcantara, GEMA/HS
Celicia Davis, GEMA/HS
Brian Shoun, GA DNR Floodplain unit
Lisa Anne Beck, TCSG
Stephen Clark, GEMA/HS
 Via conference Call-in:
Terrell Jacobs, GMA
Elizabeth Smith, GA DCA
Garry McGibony, GA DOE
Jeff Hodges, GA DOE
Kelsey Mattola, GEMA/HS
Kelsey Goodman, GEMA/HS
Noel Jensen, Jekyll Island Authority
Stephen Juszczuk, FEMA
Angie Wheeler, ITOS

Welcome and Introductions

Alan Sloan welcomed everyone to the 2019 Annual Update meeting for the 2019 SHMS. We greatly appreciated everyone's time and participation. The meeting was run on WebEx, so those who could not make the meeting can participate and see the screens we are looking at. Roll call was taken.

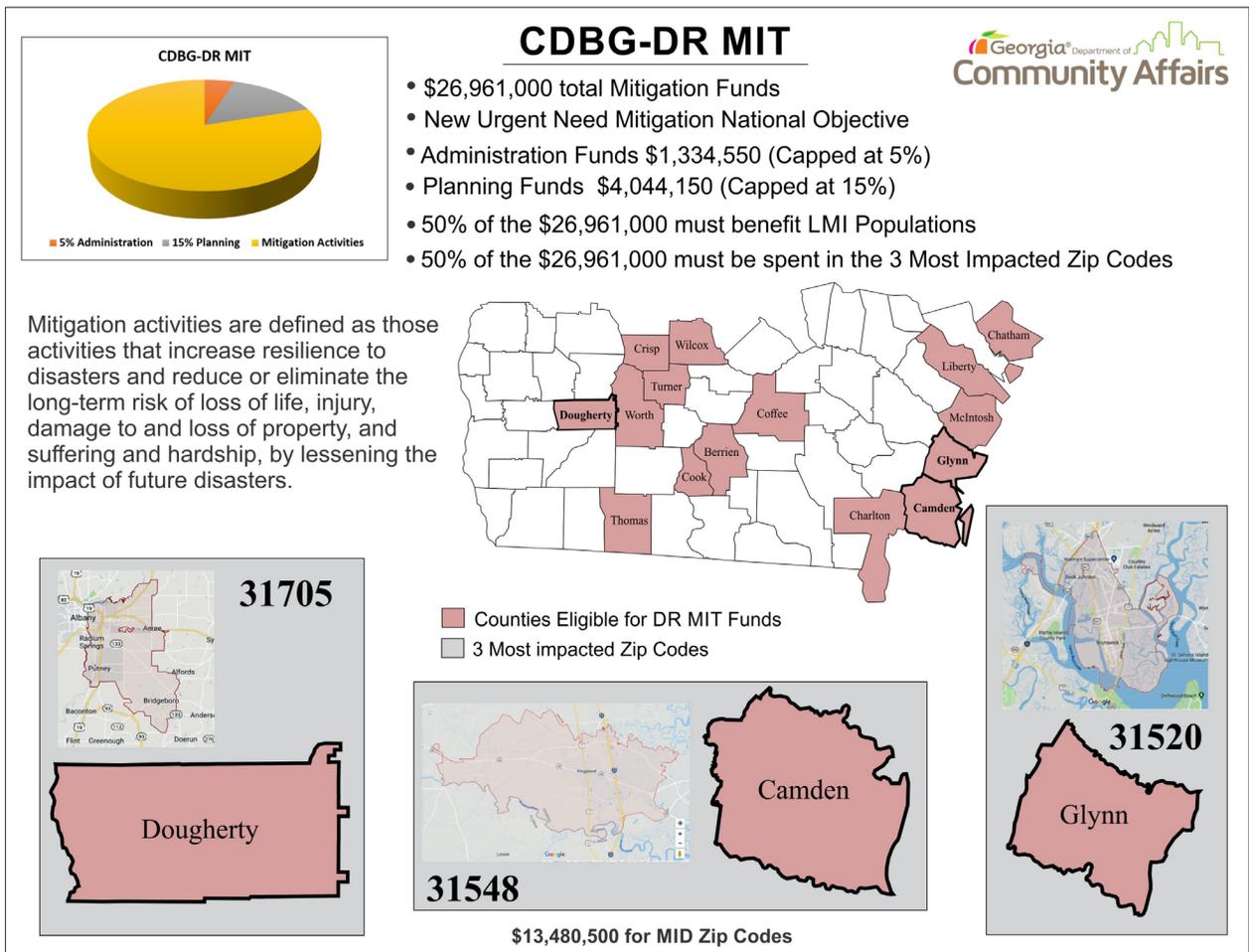
Review and Approval of the June 28, 2018 and December 19, 2018 meeting minutes

Alan began the meeting by asking if anyone had any comments or recommended changes to the minutes of our 6/28/2018 Annual Update meeting or our December 19, 2018 Post Disaster meeting. With no changes the minutes were approved.

Agency Updates – Report Out

a. DCA CDBG DR Grant Program

Tommy Lowmon (DCA) presented information on DCA’s CDBG DR grant program. This program is from HUD. It provides funding to increase resilience to disasters in communities declared for IA with DRs 4294, 4297 and 4338. He noted the program’s priority that 50% of the funding must be spent in the most heavily impacted zip codes – those being 31548, 31520 and 31705. He also noted the priority for funding to be spent in low-moderate income areas. It was emphasized the funding is only for projects that impact the target areas.





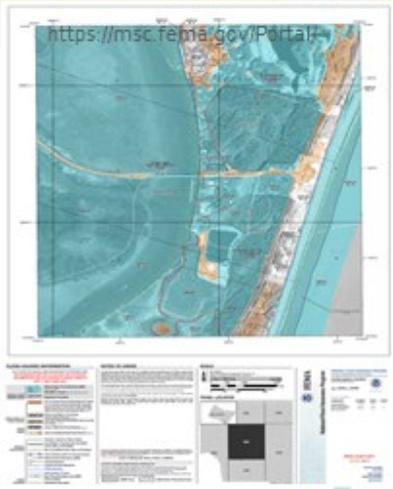
b. RiskMap Activities for 2019/2020

Haydn Blaize (GA DNR Floodplain Unit) gave an update on the ongoing RiskMap Floodplain map update project. He gave a description of the program, as well an update of activities that have occurred and are planned for the near future. He also alluded to the support of GEMHSA in increasing enrolment in the National Flood Insurance Program from 561 to 571 over the past year or so, in addition to the procurement of topographic data through collaboration with DCA , USGS and NOAA, with LiDAR data for the entire State projected for completion in 2022.

Role of State

- The State of Georgia entered into a **Cooperating Technical Partner (CTP)** agreement with the Federal Emergency Management Agency's (FEMA's) Region IV in August 1999.
- State of Georgia assumes responsibility for the development and updating of the flood hazard maps known as Flood Insurance Rate Maps, or FIRMs on a countywide-basis for all 159 counties in the State







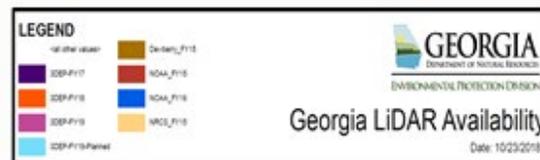
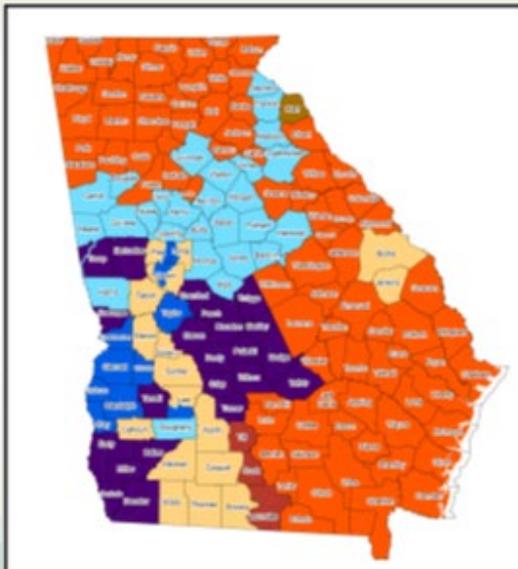
Role of State Cont'd

The Floodplain Unit also receives FEMA funding to provide community outreach and assistance through a structured **Community Assistance Program State Support Services Element (CAP SSSE)**

- 571 (up from 561 in 2018) NFIP Participating Communities
- 80 communities with mapped Special Flood Hazard Areas not participating in NFIP
- 53 Participating in Community Rating System (CRS)



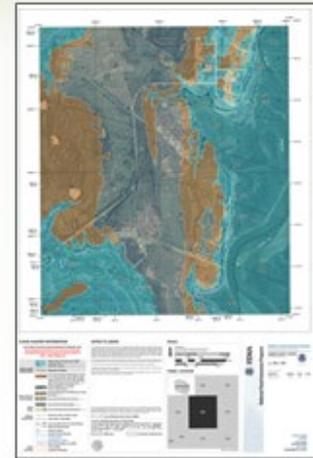
LiDAR Collection in Georgia



Regulatory Products



- DIGITAL FLOOD **INSURANCE RATE** MAP (DFIRM)
 - Delineates the Special Flood Hazard Area (area inundated by the 1% annual chance flood often referred to as the 100-year flood)
 - Flood Risk Zones
 - Base Flood Elevations for Detailed Studies – water surface elevation during passage of the 1% annual chance flood



Non Regulatory Flood Risk Products

	Changes Since Last FIRM	Depth & Probability Grids	HAZUS Loss Estimates	Areas of Mitigation Interest (AOMI)
Standard Products	<ul style="list-style-type: none"> • Horizontal Changes in Flood Hazard Areas 	<ul style="list-style-type: none"> • Standard • 10%, 4%, 2%, 1%, and 0.2% annual chance flood frequencies • Percent Annual Chance Grid • Percent Chance over 30 yrs • Water surface elevation grids (multi-frequency) 	<ul style="list-style-type: none"> • Level 1 Analysis • Average Annualized Loss Estimates 	<ul style="list-style-type: none"> • Levees, dams, other flood control structures • Stream flow constrictions • Past Claims Hotspots • Key Emergency Routes overtopped • At Risk Critical Facilities • Areas of significant erosion • Significant Land Use Changes
Enhanced Products	<ul style="list-style-type: none"> • Affected structures and/or population 	<ul style="list-style-type: none"> • 20% Annual Chance Flood Frequency • Freeboard Grid • Velocity Grids 	<ul style="list-style-type: none"> • Level 2 Analysis <p><small>More accurate loss estimates are produced by including detailed information on local hazard conditions and/or by replacing the national default inventories with more accurate local inventories of buildings, essential facilities and other infrastructure.</small></p>	<ul style="list-style-type: none"> • Ranking infrastructure, critical facilities, homes, or parcels based on frequency and/or depth of flooding • Identification of mitigation strategies & potential actions • Identification of properties at risk to dam inundation • Ranking repetitive loss properties based on frequency of flooding • Identification of technical & funding resources

Flood Risk Made Available via Website



Flood Risk Snapshot

2042 Desmond Dr, Decatur, Georgia, 30033



GEORGIA FLOOD MAP PROGRAM

Property Flood Risk:
High Risk Zone AE

Flood Depths:**

11.4 ft	1% Annual Exceedance Probability Flood Depth
8.6 ft	1% Annual Exceedance Probability Flood Depth
6.1 ft	1% Annual Exceedance Probability Flood Depth

Location Information

Parcel:	1308C0066J
Watershed:	Upper Chattahoochee
County:	DEKALB
Community ID:	1308C
Map Status:	PRELIMINARY

Nature Doesn't Read Flood Maps

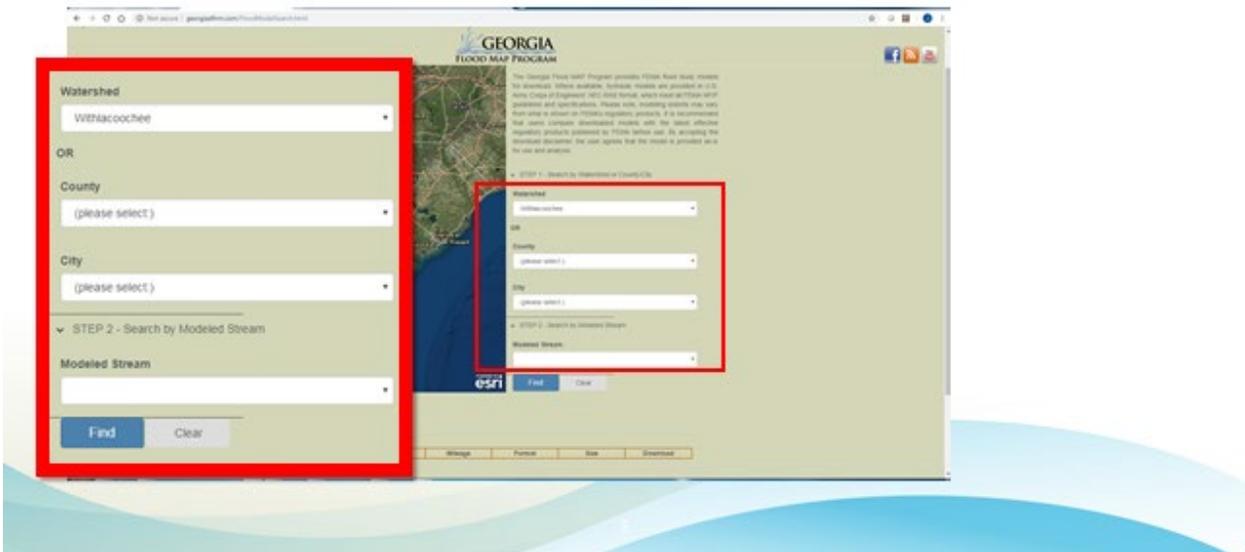
Many people don't understand just how risky the floodplain can be. There is a greater than 26% chance that a non-qualified home in the flood will be flooded during a 30-year mortgage period.

The chance that a major fire will occur during the same period is less than 10%.

FOR MORE INFORMATION VISIT PLEASE VISIT: www.floodsmart.gov



Model Search



Best Practices: Outreach & Community Experience

- Community Guide Book
- Greenspace and Flood Protection Guidebook
- Flood Response Toolkit
- Georgia Quick Guide
- Flood Website
- Information Videos
- Individual Property Notification
- Enhanced Open Houses
- Commissioner Briefings
- Media Packets
- Newsletters

GEORGIA FLOOD M.A.P.
Mapping Assessment & Planning

CONTACT MANAGEMENT SYSTEM
Development of multi-tier, accessible, environmental, disaster-risk products

Do you know your FLOOD RISK?
Attend the Upcoming Flood Risk Open House

YOUR COMMUNITY'S FLOOD MAPS ARE CHANGING
Your property's flood risk may also be changing. If you have any questions about your property's flood risk or flood insurance options, please join your community at the Flood Risk Open House.

Flood Risk Open House
February 22, 2017
Drop by anytime between 9:00 a.m. & 2:00 p.m.
Cobb County Water Systems Training Lab
1616 South Cobb Drive
Marietta, GA 30066

PUBLIC JOHN Q & JANE A
12345 FLOODPLAIN ROAD
FLOOVILLE, GA 00000

THE INDEX
Georgia Department of Natural Resources
Floodplain Management Office News

LOWER COST FLOOD INSURANCE AS THE OPEN HOUSE PROPERTIES RE-MAPPED SINCE OCTOBER
In response to recent reform legislation, FEMA introduced April 1, 2015, the Newly Mapped procedure setting criteria for buildings newly identified to be in high risk flood hazard areas which is more flood risk insurance effective. Buildings newly identified to be in a high risk area between October 1, 2014 and March 31, 2015 are eligible for the Newly Mapped procedure using this rating option as of April 1, 2015. If a newly mapped property already has a policy issued using a FIRM (Specialized Information Surface April 1, 2015), it will be renewed using the newly Mapped procedure. There are no options on this rating option.

• For buildings insured in Zones B, C, X, or V before a rate map becomes effective and are being newly identified to be in a high risk area as of 4/1/15, they will be eligible for Preferred Risk Policy rate the first six months following the new map's effective date.

• The rates are slightly higher than standard FIRM rates in higher Federal Policy Fee and Reserve Fund Assistance.

• After the first year, the rates will begin approximating to the standard FIRM rates.

Best Practices Guidebooks

Greenspace and Flood Protection Guidebook

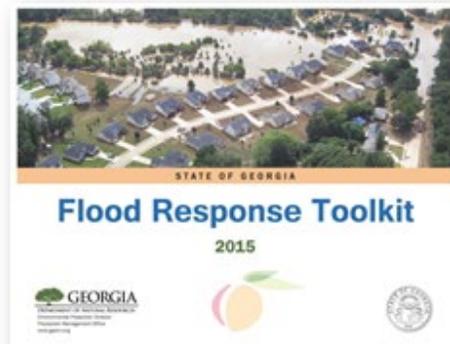
- Planning for Acquisitions
- Leveraging Partnerships
- Land Use & Development Codes
- Maximizing CRS Benefits
- Combining Funding Resources
- Compatible Recreational Uses
- Permit Requirements for Floodplain Uses
- Integrating Stormwater Management
- Resources



Flood Response Toolkit

Before the Flood

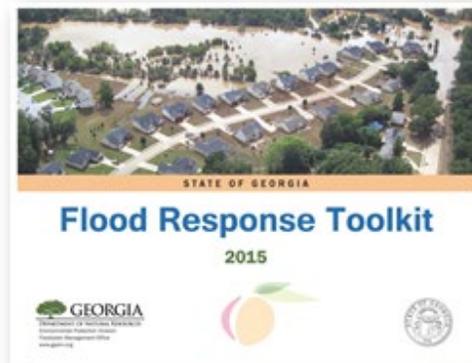
- Flood Mapping and Defining Areas at Risk
- Planning & Preparedness
- Public Awareness & Outreach
- Flood Forecasting
- Flood Warnings
- Hurricanes and Tropical Storms
- Dam Safety
- Community Rating System



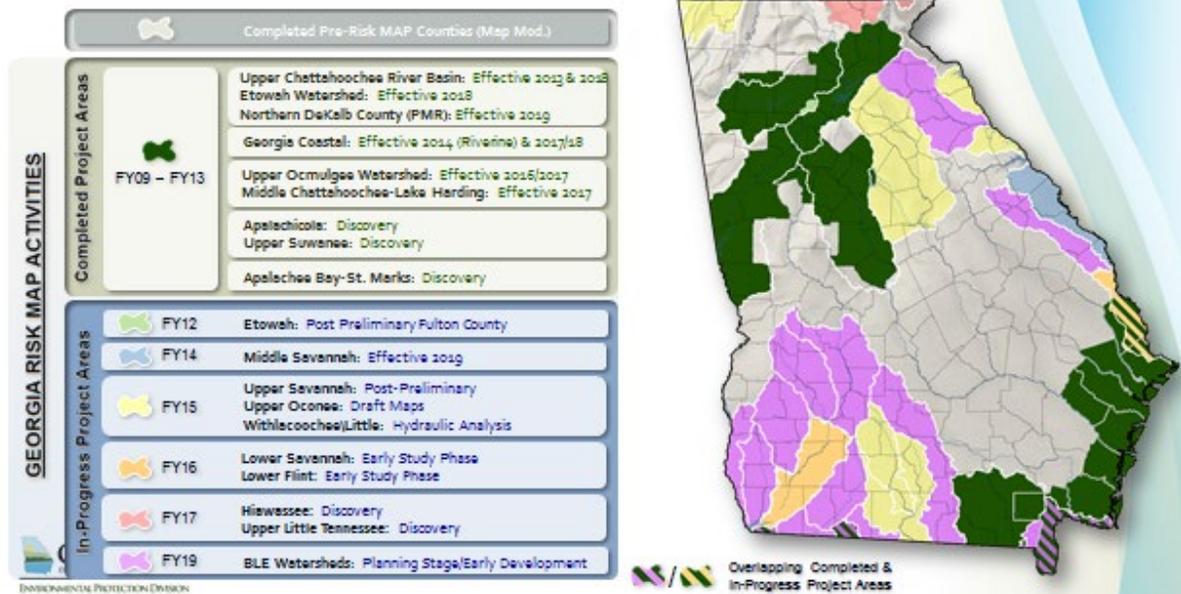
Flood Response Toolkit

After the Flood

- Safety Considerations
- Meeting NFIP Requirements After a Flood
- Performing a Building Condition Survey
- Assessing Damages to Building in the Floodplain
- Restoring Flood Damaged Property
- Cleaning Up After the Flood
- Flood Insurance & Claims
- Applying for Assistance
- Communicating With Your Residents



Georgia Flood MAP Program Projects



Challenges

Encourage participation and acceptance amongst community officials in the development of new Flood Insurance Rate Maps and Flood Risk Products. – **THESE ARE COMMUNITY MAPS**

Incentivize the **80** communities with mapped Special Flood Hazard areas that are not currently participating in the National Flood Insurance Program

Promote participation in the Community Rating System (CRS) program. **Currently at 53 (9%). Cost vs benefit realities**

Time period from Project Inception to Effective Products – **Up to 5 Years**

Make the Flood Risk Products more accessible to the public. **Improving flood risk snapshot and other products on georgiadfirm.com**



State of Georgia Enhanced Hazard Mitigation Plan Update

a. Review of Updated Local Plan Update Priority Table

Alan described the Local Hazard Mitigation Plan Update Priority Table, Table 4.6, noting the local plans (highlighted in red) that had been approved since the submittal of the 2019 SHMS in October, 2018.

Alan described the Emergency Management Accreditation Program (EMAP). He noted GEMA/HS is currently seeking its 3rd accreditation through the program. He described the revisions that have been necessary to the SHMS, including expanding the scope of the plan to cover the non-natural hazards identified in the State's Hazard Identification and Risk Assessment (HIRA), as well as adding information about the Threat Hazard Identification and Risk Assessment (THIRA) and the Hazardous Materials Emergency Preparedness program (HMEP). He showed the following updates to the SHMS, noting the revisions were still under review by the EMAP program.

c. Review of Other Mitigation Strategy Additions

Alan described the addition of two other mitigation actions to the mitigation strategy. The first is to support the purchase of a cache of generators by the Georgia Rural Water Authority. The second is to support the efforts of the National Weather Service in expanding their weather radar coverage throughout the State of Georgia.

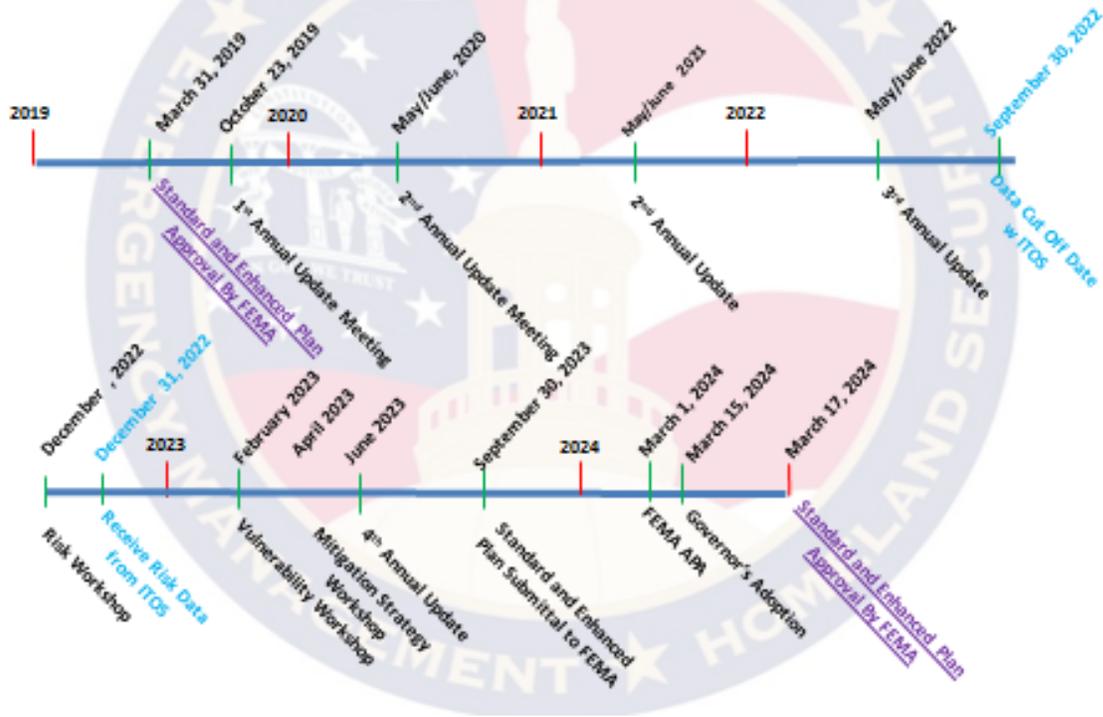
d. High Hazard Potential Dam grants

Alan described the High Hazard Potential Dam (HHPD) program from FEMA's Dam Safety division. He noted the program is to identify and address dams that are at potential risk of failure causing catastrophic losses. GA Safe Dams is managing the program for the State of Georgia. He noted there is a tie in to State and Local mitigation plans and that there are new elements that both of these plans must address in order for a project to be eligible. FEMA is currently working to develop guidance on meeting the new requirements. Once those are available, further updates will be needed to the SHMS. Terry Lunn further clarified the funding is to bring currently out of compliance dams into compliance with current regulations.

e. Revised Timeline

Alan noted the updated timeline for the State Plan Update. He noted the changes to the timeline reflecting the 1st Annual Update meeting. He then noted, going forward, the timeline will be updated as needed to reflect future annual update meetings and any necessary post disaster meetings.

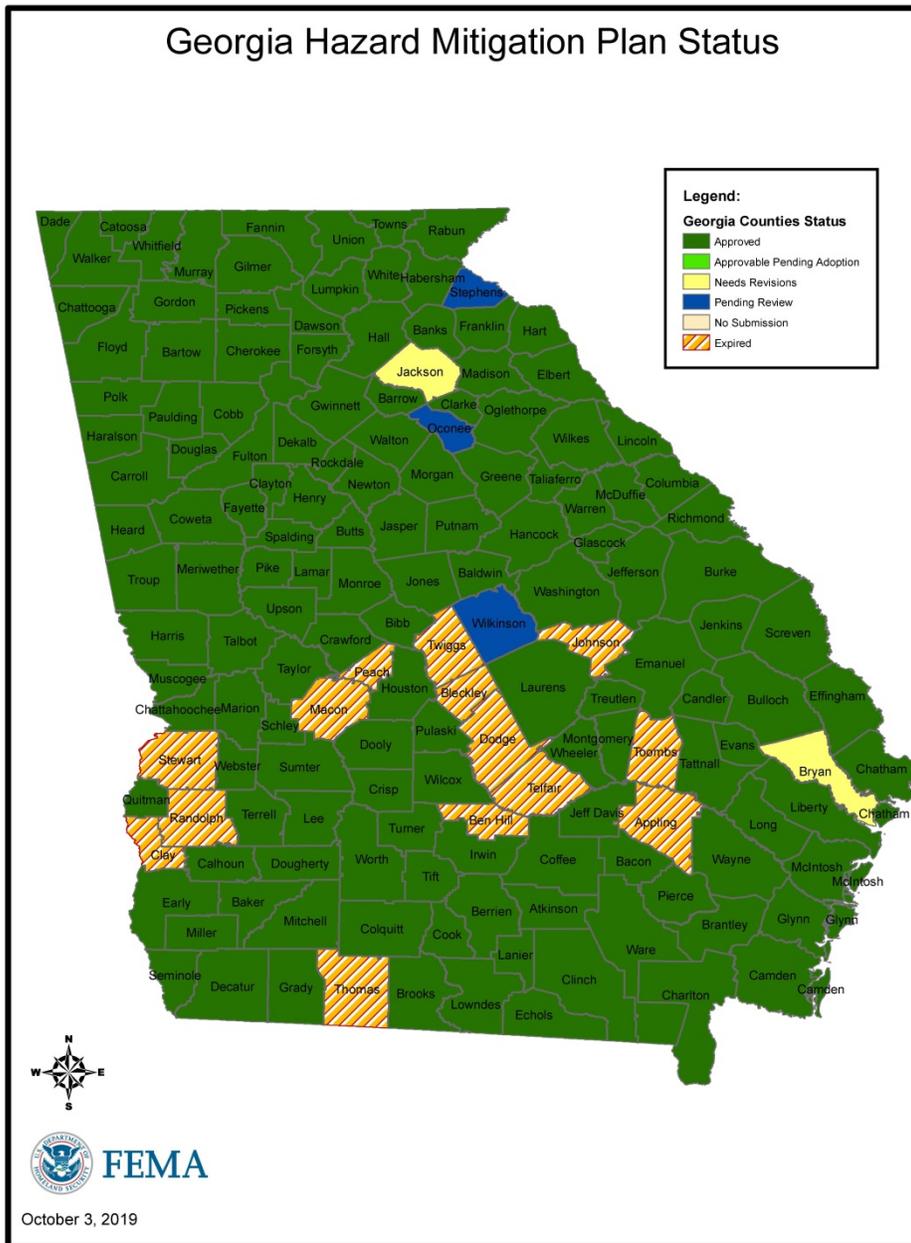
2024 State Hazard Mitigation Plan Update Timeline



Local Plan Update Status

a. Plan Status Map

Alan showed the current status of local mitigation plans according to FEMA. The FEMA map is shown below:



b. HMGP 4400 applications

Alan noted staff is working with 7 counties, which were declared with DR 4400, to develop plan update applications to be submitted through HMGP 4400. He noted the low number was due to the fact the State doubled up application cycles, due to

some other factors, with HMGP 4284 and again with HMGP 4338. By only working with 7 counties this year, it would reset our update schedule to where it should be.

FEMA Activities

a. State of Georgia Plan Consultation with FEMA Region IV

Alan described the State Plan Consultation meetings with FEMA and noted the meeting from August 29, 2019 was a success.

b. Upcoming Meeting and Workshops

Alan noted the State has developed a training course for local Hazard Mitigation planning and the next class is November 4th and 5th at GPSTC, also noting there are openings if anyone is interested. He also noted the upcoming Stakeholders Workshop at EMI this coming March.

c. HMA Activities with PDM 2015 and 2016

Terry Lunn noted the recent Notification of Funding Opportunity for FMA and PDMC 2019. The State is beginning its outreach activity for this funding cycle, targeting communities with large numbers of Severe Repetitive Loss properties. The application period is open from September 30, 2019 to January 31, 2020, however applications need to be submitted in egrants by December 2019.

Terry also discussed the ongoing application process for Hurricane Michael DR 4400. We've received applications from 164 applicants, the majority of which have been generators for critical facilities. In addition, we have received applications for dam rehabilitation, drainage improvements, structure elevations, property acquisitions, safe rooms, structure relocations, wind retrofits and transfer switches.

Stephen Juszcyk (FEMA) noted there are 5 projects left to be approved through HMGP 4338. He also noted HMGP 4215 is in closeout.

Next Meeting

The next meeting date will be determined at a later date. It will be held during the second quarter of 2019. We will notify everyone by email.

Comments and Questions

Having no further comments or questions, the meeting was adjourned.

Georgia State Hazard Mitigation Planning Team Meeting - Minutes

December 19, 2018

Present

Ann Thompson, DOAS
Bruce Holmes, BOR
Mike Coverson, BOR
Wade Damron, DOAS Risk Management
Lillian Huffman, FEMA
Terry Lunn, GEMA/HS
Emily Wingo, DNR Floodplain Mgt
Jeff Hodges, DOE
Kelly Nadeau, DPH
Judd Smith, DNR
Stephen Clark, GEMA/HS
Brian Shoun, DNR Floodplain Mgt
DeAngelo Bryant, GEMA/HS
Breanna Rogers, GEMA/HS
Alan Sloan, GEMA/HS
 Via Conference Call-In:
Austin Spears for Charlissa Bell, DPH
Dee Langley, Consultant
Gus Elliot, OPB
Jessica Gibson, FEMA
Shelby Meyers, GEMA/HS
Stephanie Hines, Admin Office of Courts
Lawton Brantley, ITOS
Ange Wheeler, ITOS
LA beck, TCSG
Noel Jensen, Jekyll Island Authority

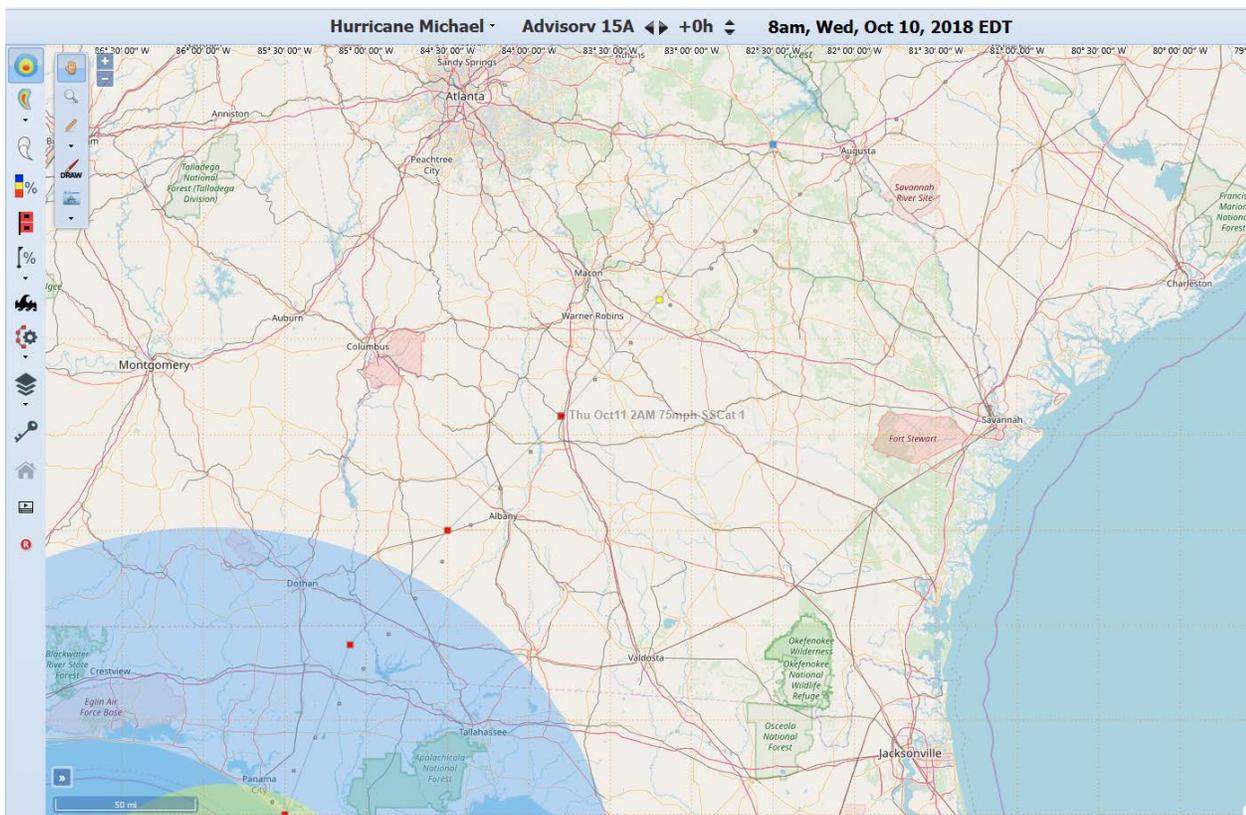
Welcome and Introductions

Alan Sloan welcomed everyone to the DR 4400 post disaster review meeting for the 2014 SHMS. We greatly appreciated everyone's time and participation. The meeting was run on WebEx, so those who could not make the meeting can participate and see the screens we are looking at. Roll call was taken.

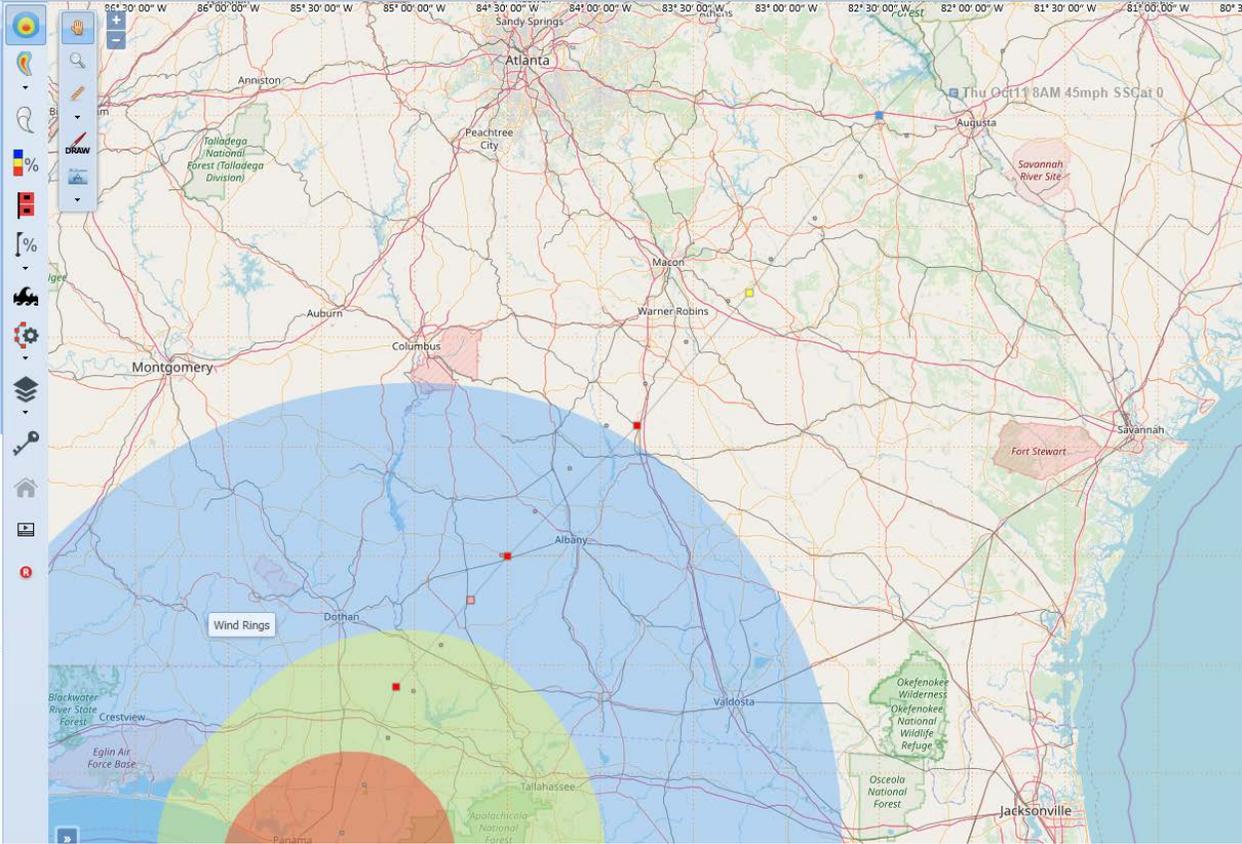
DR 4400 Post Disaster Review Meeting

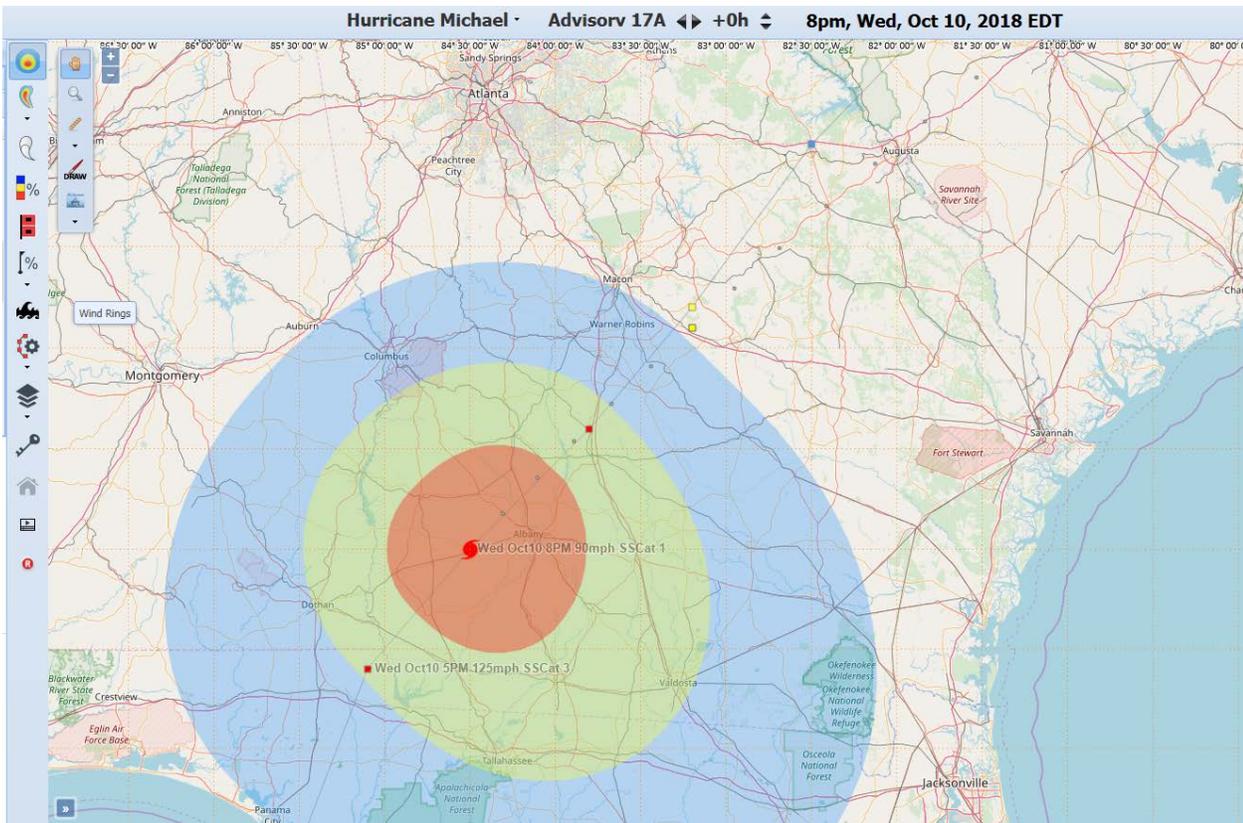
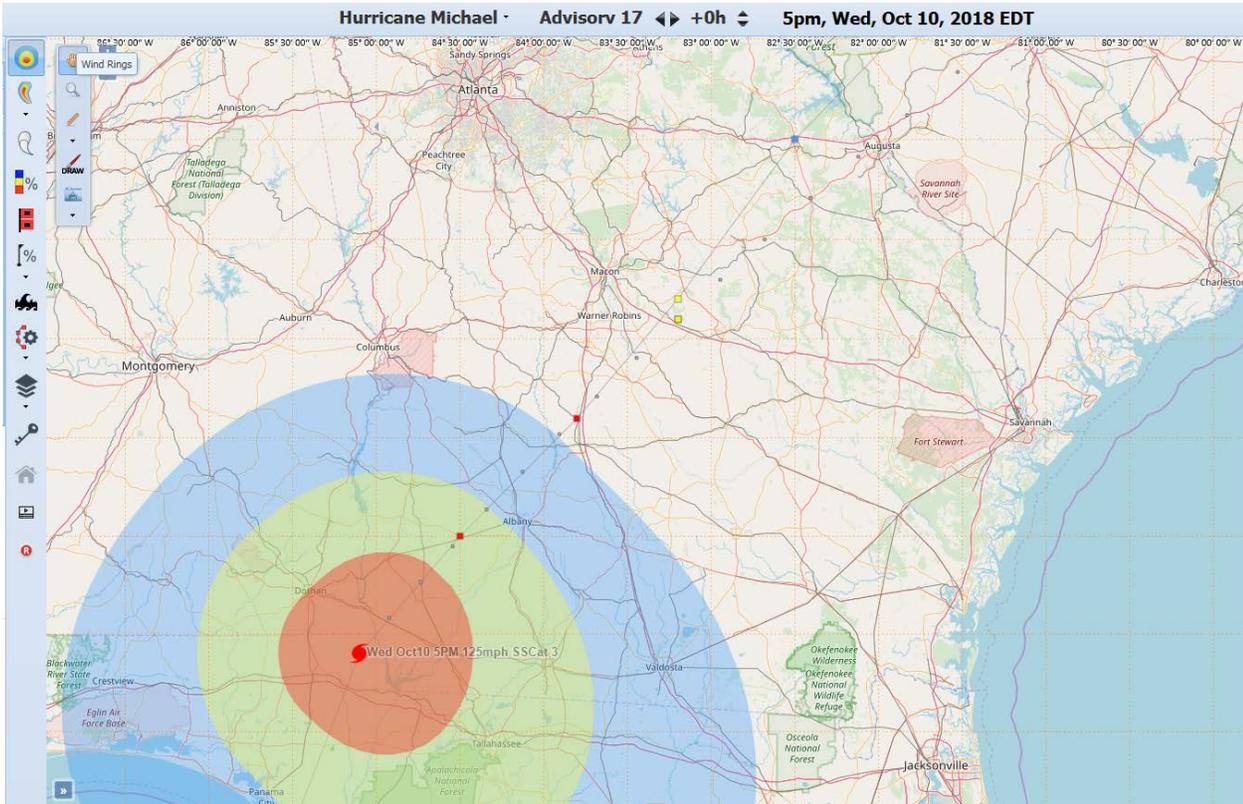
- a. Review Hurricane Michael Event

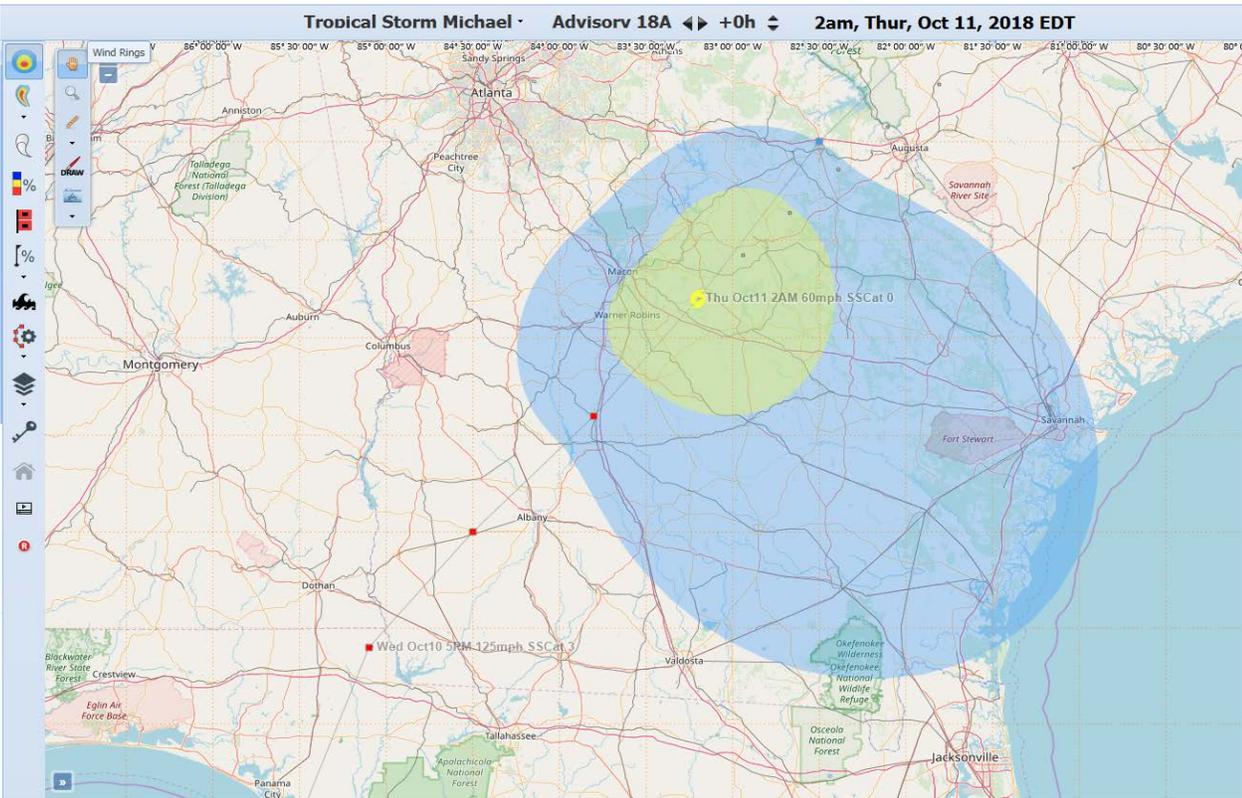
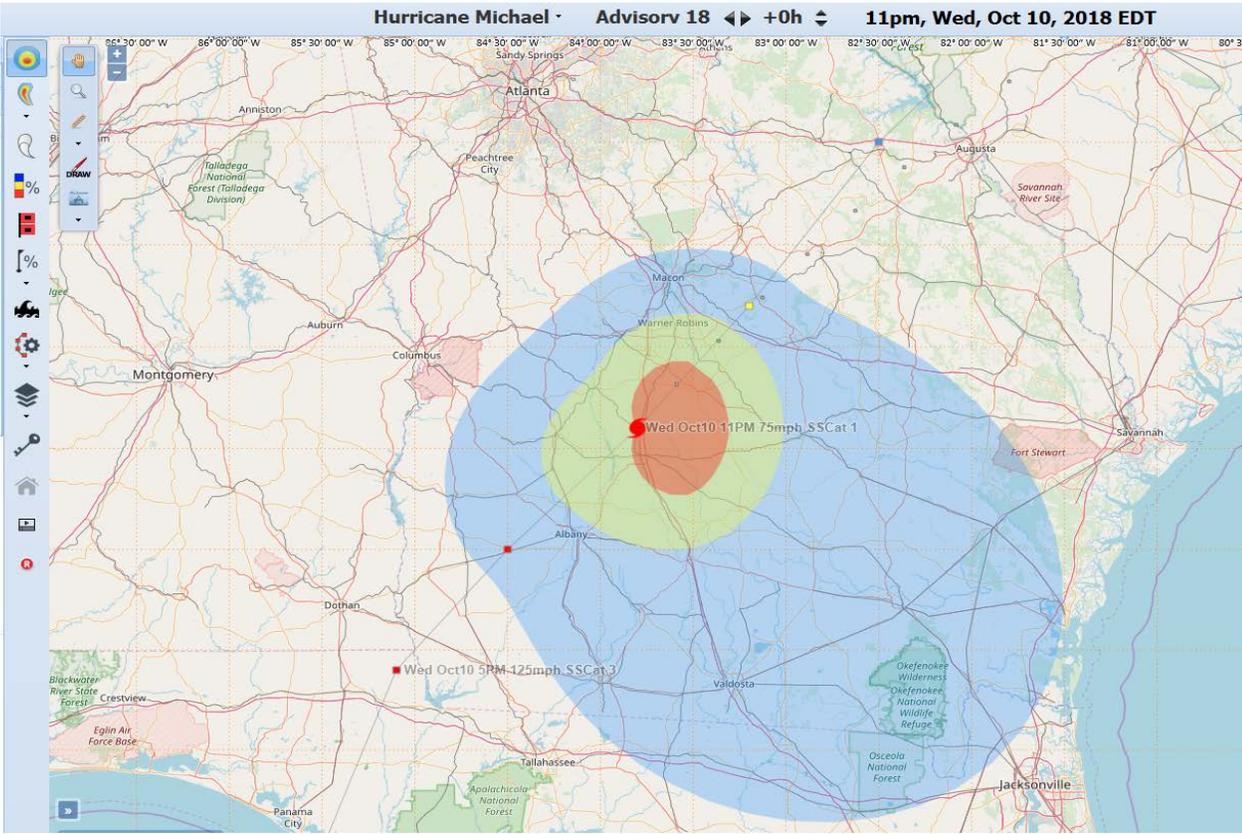
In Fall, 2018, Hurricane Michael formed in the southern Gulf of Mexico, rapidly intensifying as it traveled north through the Gulf, making landfall along the Florida Panhandle. Tropical Storm winds entered SW Georgia by 10am Wednesday morning. By 2pm, strong Tropical Storm Force winds were impacting SW Georgia. By 5pm, the eye of the storm was near Donalsonville with major Hurricane Force winds. Alan noted this was the first time an event this strong impacted Georgia in recent recorded history. The eye of the storm exited near Augusta by 11am Thursday morning. Alan noted damages included \$2.2 – \$2.8, >450 thousand without power, 3 fatalities and estimated \$350 million in uninsured losses.

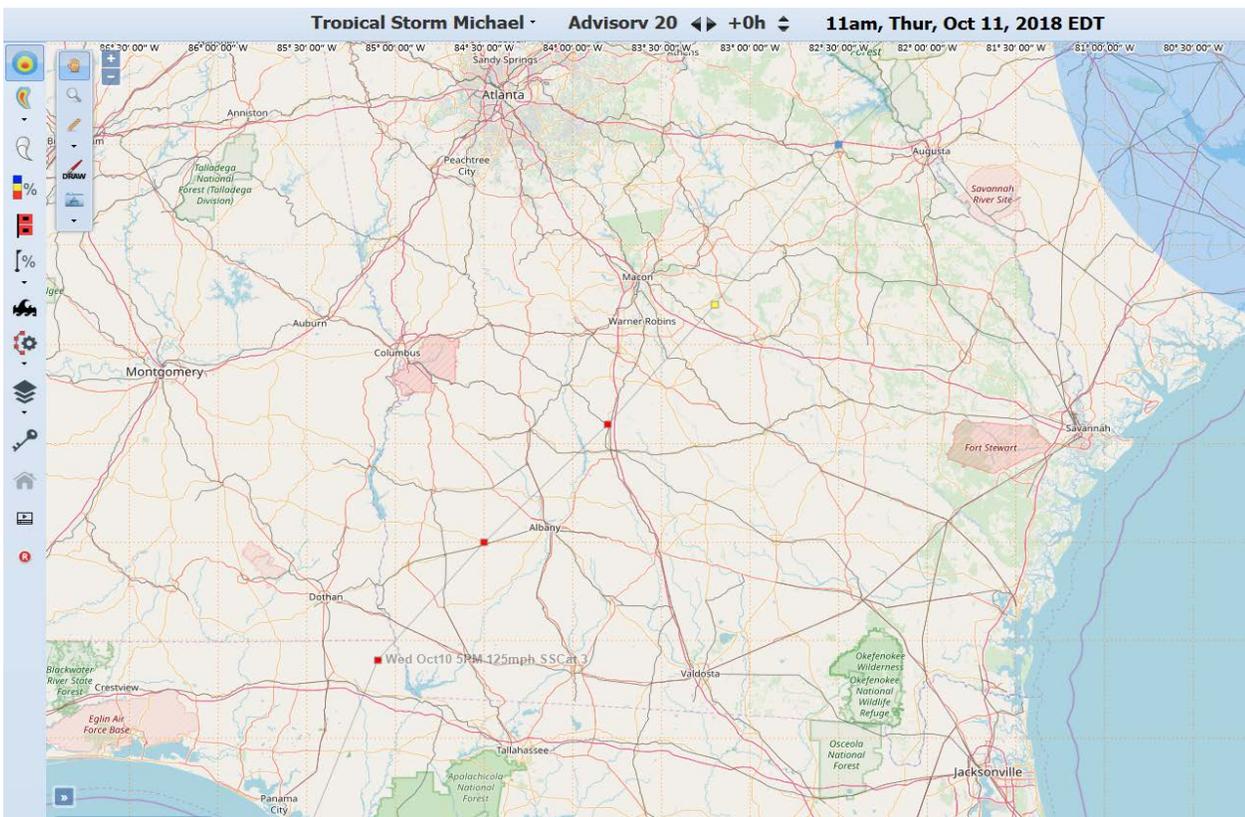
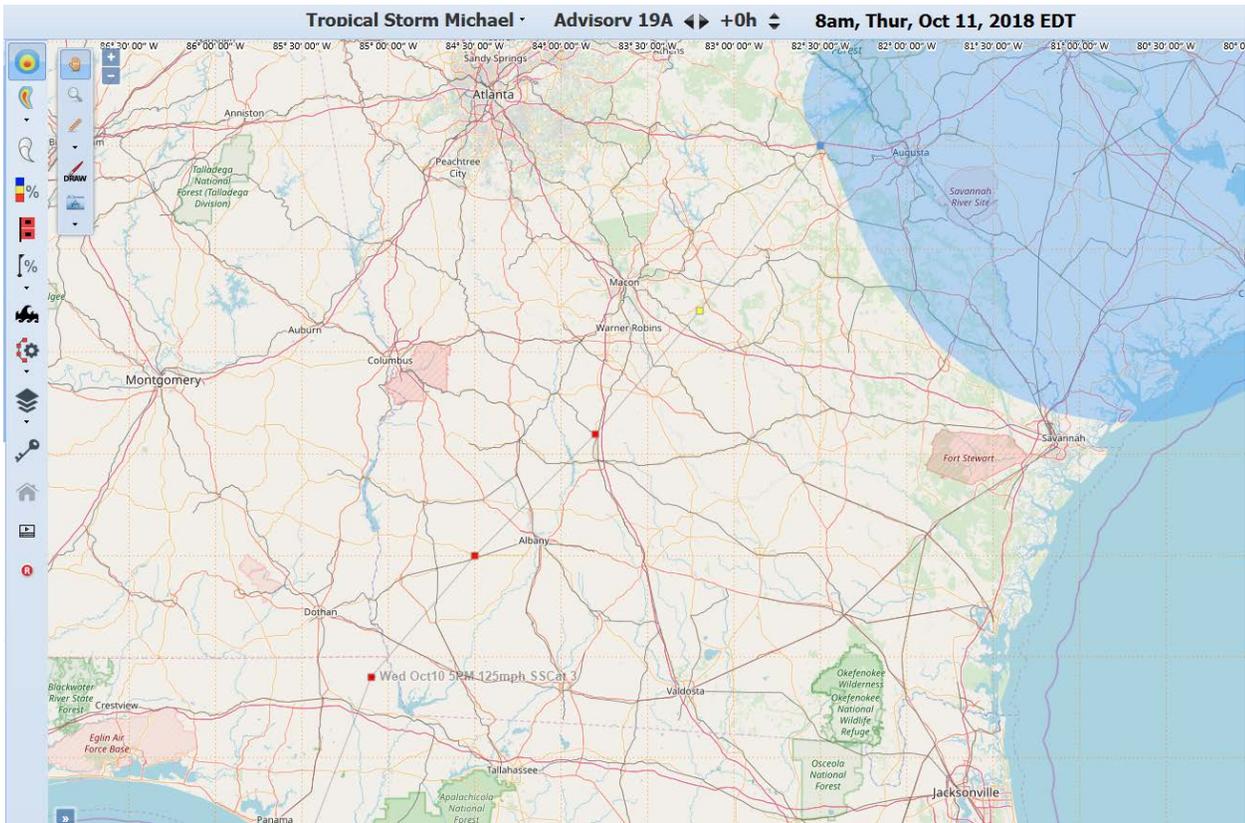


Hurricane Michael - Advisory 16A ◀▶ +0h ⚙ 2pm, Wed, Oct 10, 2018 EDT





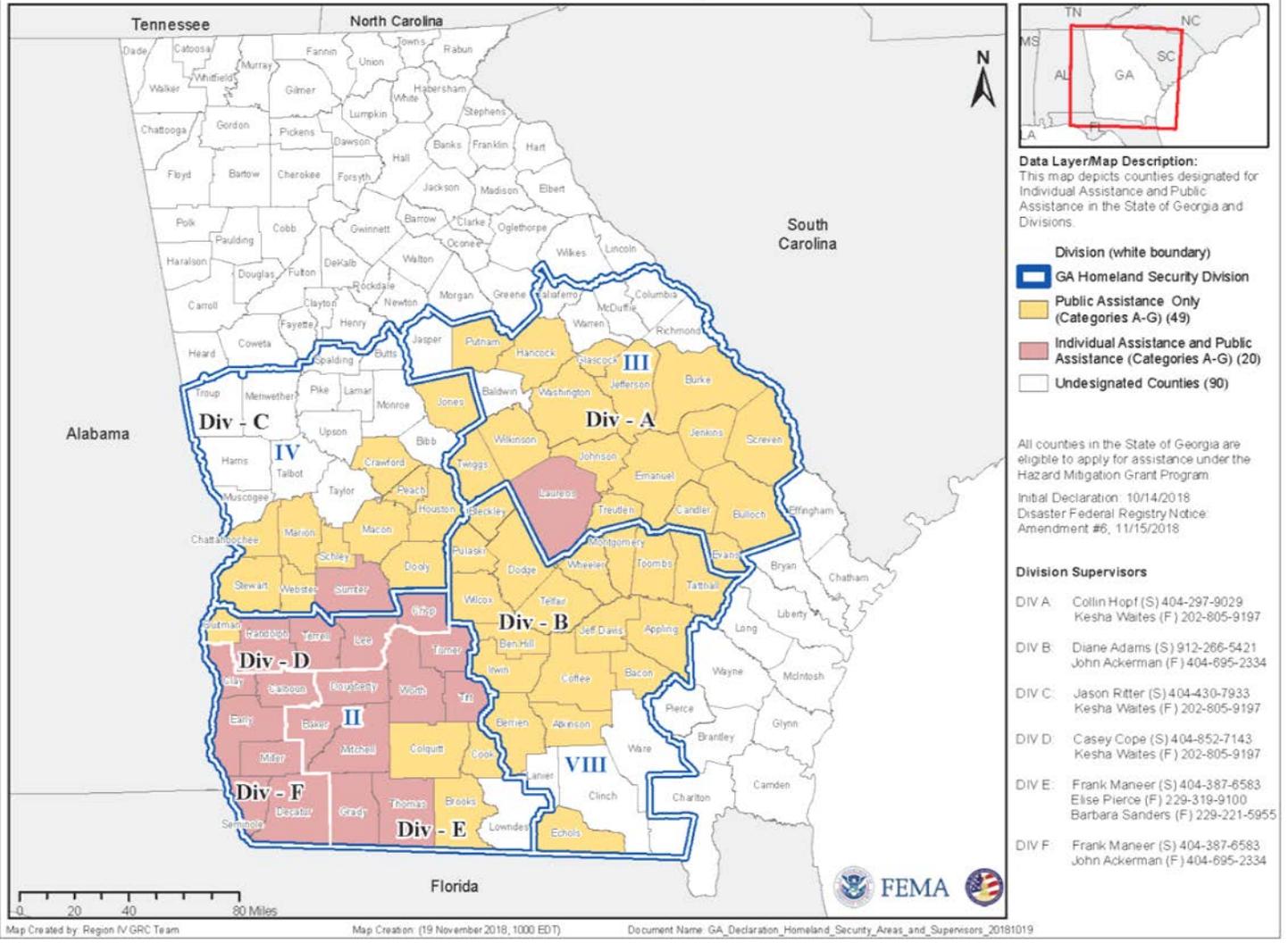




b. Presidential Declaration

Alan noted 69 counties received a federal disaster declaration and noted the Individual Assistance and Public Assistance declarations. Below is a map showing the counties included in the DR4400 Disaster declaration:

Hurricane Michael - FEMA-4400-DR-GA - Designated Counties & Divisions - 11/19/2018



c. Damage to State Facilities

Bruce Holmes with the Board of Regents noted minor damages to facilities in impacted areas, including shingle damages, awnings torn off, etc. No major damages were

sustained. Their biggest issue was power outages in some locations up to 5 days. He noted parts of Albany State never lost power, while other parts were out for days. He noted three power companies serve different parts of the campus.

Jeff Hodges with the Department of Education noted some major damages to public schools, particularly in Seminole, Mitchell and Dougherty County. They are working with the REMS Center to provide Emergency preparedness, mitigation and response training. They are also working with a school crisis center to provide training. Terry noted PA could assist with some mitigation activities on damaged buildings, but the communities have to request it. Terry noted any facilities that were more than 50% damaged may be demolished and rebuilt.

Kelly Nadeau with the Department of Public Health noted power losses to health facilities, including those storing vaccines, dialysis centers, nursing homes, health departments, wastewater facilities and home based health equipment needing power. She also noted access problems to local hospitals. Judd Smith noted part of their operations is to provide assistance clearing emergency paths to hospitals other emergency facilities.

Terry noted Hazard Mitigation contact information will be emailed out after the meeting. Jeff Hodges inquired about generators at shelters. Terry noted, currently the priority is for emergency facilities and essential utilities.

d. Business Interruptions to State Agencies

See above for notes regarding power outages to the colleges, schools and public health facilities.

e. HMGP Application Timeline and Priorities

Terry Lunn gave a presentation on the Hazard Mitigation grant program, noting it is available statewide. Terry noted 5 workshops were held in the declared area, covering each impacted GEMA areas. Terry noted, to date, FEMA had not provided a 30-day estimate of the amount available for HMGP, however, based on PA numbers to date, staff is initially estimating a \$50 million Federal Share to be available, noting it could increase or decrease. Terry stated the Army Corps of Engineers is handling debris removal in 13 impacted counties. Terry noted Georgia Enhanced Plan status and the additional funds that makes available for hazard mitigation activities. Declared counties will be prioritized with those receiving PA and IA designations being top priority, then those receiving only PA designation, being the next priority. Third priority is the rest of the State. The following timeline was described:

October 14, 2018 – Disaster Declaration (HMGP Statewide)
December 4, 2018 – Applicant Briefings (At least in each area)
March 1, 2019 – Pre-Application due to GEMA/HS
March 29, 2019 – GEMA/HS Notification to Applicant for Full Application
May 31, 2018 – Full Application due to GEMA/HS
October 11, 2018 – All Applications submitted to FEMA
FEMA Application Review Process (up to 12 months)

Information on the HMGP program is below:



HAZARD MITIGATION GRANT PROGRAM

Building Resilient Communities

Georgia Emergency Management Agency / Homeland Security

Hazard Mitigation

Atlanta, GA 30318

Overview:

Mitigation is the cornerstone of emergency management. Hazard Mitigation is sustained action to reduce or eliminate risks to life and property from natural or man-made hazard events. Through mitigation actions such as sound land-use planning; adoption and enforcement of building codes; removing structures from hazardous areas; and retrofitting of existing buildings and facilities; and storm water management projects; we can protect facilities to assure functionality following an event, reduce exposure to liabilities and minimize disruptions to the community.

Introduction:

Section 404 of the Robert T. Stafford Disaster and Emergency Assistance Act of 1988 established the Hazard Mitigation Grant Program (HMGP). The purpose of the program is to provide funds to State agencies and local governments in the aftermath of a disaster for projects that reduce or eliminate the long-term risk to human life and property from the effects of natural hazards. For this disaster, the Federal Emergency Management Agency (FEMA) will contribute 20% of the amount it will spend for disaster assistance programs to fund the HMGP. Federal law requires States and local jurisdictions to have a mitigation plan prior to receipt of HMGP project funds. The plan identifies hazards, assesses community needs, and describes a community-wide strategy for reducing risks associated with natural disasters.

Project Funding:

The federal share of HMGP funding cannot exceed 75% of the total eligible project cost. The non-federal share may be met with cash, contributions, certain other grants such as Community Development Block Grants, or with in-kind services. Grants will be made available to eligible applicants on a competitive basis with priority given to the federally declared counties. The state may contribute a percentage of the non-federal cost share based on severity of damage for the counties included in the presidential disaster declaration for Public Assistance.

HMGP Application Process:

The HMGP is administered by the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). GEMA/HS Hazard Mitigation staff offer technical assistance to local governments for project identification and application preparation. GEMA/HS also is responsible for the review, prioritization and funding recommendation of eligible projects to FEMA. FEMA is responsible for making all final funding decisions on projects submitted by the state.

Following a presidential disaster declaration, GEMA/HS announces the HMGP grant application information, usually within 30-60 days of the disaster declaration date. Pre-applications are required based on project type. Upon favorable review of pre-applications, applicants will be invited to submit full applications. Completed applications are required within six to eight months of the declaration date. Applications are evaluated and projects are recommended to FEMA for approval and funding based on prioritization and available funds. All applications must be submitted to FEMA within twelve (12) months of the disaster declaration date.

TYPES OF HMGP PROJECTS THAT COULD BE ELIGIBLE:

- Initiative Projects such as the development or improvement of warning systems with mitigation as an essential component;
- Construction of safe rooms (tornado and severe wind shelters) for public and private structures that meet the FEMA construction criteria in FEMA 320, "Taking Shelter from the Storm" and FEMA 361, "Design and Construction Guidance for Community Shelters";
- Retrofits such as elevations, structure relocation, structural reinforcement (wind and seismic), strapping of utilities, installation of storm shutters, tie downs, etc.;
- Acquisition of property and/or relocation of homes, businesses and public facilities from hazard prone areas;
- Wildfire mitigation such as creating defensible space, application of ignition-resistant construction hazardous fuel reduction; and reforestation
- Soil stabilization projects that provide protection from erosion and landslides;
- Generators that protect a critical facility and meets all other HMGP eligibility criteria. Critical facilities may include Emergency Operation Centers, police and fire stations, hospitals, and water and sewer treatment facilities;
- Structural hazard control or protection measures such as floodwalls, detention basins and other storm drainage upgrades; and
- Development of a Local Hazard Mitigation Plan.

Generally, a project should:

- Substantially reduce the risk of future damage, hardship, loss or suffering from a major disaster;
- Conform with federal floodplain, wetland and environmental regulations;
- Solve a problem independently, or part of a problem when there is assurance that the whole project will be completed;
- Be **cost-effective** in that it addresses a problem that is repetitive or that poses a significant risk if left unsolved;
- Contribute substantially to the problem's long-term solution;
- Have manageable future maintenance requirements;
- Be determined to be the most practical, effective and environmentally sound alternative among the possible options;
- Conform to the goals and objectives of Local and State Hazard Mitigation Plans; and
- Have the documented support of the local community.

Some of the reasons that projects / applications are determined to be ineligible:

- Project is for operation and maintenance versus disaster-related mitigation;
- Project is the responsibility of another federal agency, such as the U.S. Army Corps of Engineers or the Natural Resources Conservation Service;
- Project is the result of deferred maintenance rather than related to a natural hazard;
- Project has an inadequate benefit/cost ratio (not cost-effective);
- No federally approved local Hazard Mitigation Plan; and
- Non-participation in the National Flood Insurance Program.

For further information, write us at the address below or call the State Hazard Mitigation Program Office at (404) 635-7522.

Georgia Emergency Management and Homeland Security Agency
Hazard Mitigation
Post Office Box 18055
Atlanta, Georgia 30316-0055
Hazard Mitigation Grant Program – Fact Sheet
FEMA-4400-DR-GA

State Plan Update

Alan Sloan gave an update on the progress of the State Plan major update, noting it was submitted October 5th. He noted FEMA had required some revisions, which were being submitted back to FEMA the day of the meeting.

Alan then noted Brandy Mai with GEMA/HS External Affairs was interested in discussing communication issues experienced during the disaster. In her absence, he provided her phone number in the event any of the attendees were interested in having that discussion with her.

Next Meeting

The next meeting date will be determined at a later date. It will likely be held sometime in the Spring in order to present the newly updated 2019 plan. We will notify everyone by email.

Comments and Questions

Having no further comments or questions, the meeting was adjourned.

Appendix B-II
Workshop Documentation

Alan Sloan

Subject: State Hazard Mitigation Strategy Update - Hazard Identification Workshop
Location: Media Room

Start: Thu 1/26/2023 8:30 AM
End: Thu 1/26/2023 12:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Alan Sloan

Required Attendees: Alan Sloan; Alicia Shoening; acoyne@gacities.com; ahart@gaports.com; ahenderson@gacities.com; awheeler@itos.uga.edu; ann.thompson@doas.ga.gov; anna.truszczynski@dnr.ga.gov; barbara.stitt@dnr.ga.gov; Beatrice Soler; brian.shoun@dnr.ga.gov; carl.mickalonis@fema.dhs.gov; schwinne@audits.ga.gov; charles.lawrence@doas.ga.gov; Charlisa Bell; Charlissa Ussery; chris.bruegge@dnr.ga.gov; christopher.luncheon@dor.ga.gov; Corey Kemp; cran.upshaw@ga.usda.gov; Cynthia Clanton; darlene.booker@fema.dhs.gov; david.griffin@dnr.ga.gov; dgailey@jekyllisland.com; demurray@dot.ga.gov; dominic.bruno@gba.ga.gov; edwardine.marrone@fema.dhs.gov; elizabeth.smith@dca.ga.gov; efish@dot.ga.gov; valerie.rhoads@fema.dhs.gov; Gary Kelley; gamercier@gsp.net; gus.elliott@opb.georgia.gov; haydn.blaize@dnr.ga.gov; jerry.campbell@dnr.ga.gov; Jack Krolkowski; james.grabowsky@fema.dhs.gov; jay@grwa.org; jhodges@doe.k12.ga.us; jeffrey.s.morris@usace.army.mil; jennifer.kline@dnr.ga.gov; jesmith@dot.ga.gov; jessica.mimbs@gaswcc.ga.gov; jgambill@uga.edu; john.g.lowe@mail.mil; joretta.simmons@fema.dhs.gov; Joseph Barnum; lt.judd.smith@dnr.ga.gov; khampton@georgia.org; kbennett@gacities.com; Kelly Nadeau; Kelly Towe; kparker@gfc.state.ga.us; kerry.gatewood@fema.dhs.gov; Kimberly Angel; Kisha Morris; kristen.hurns@fema.dhs.gov; Kristofor Anderson; Iscott@gsp.net; LaTashae Walker; Lauren Turner; lbrantley@itos.uga.edu; leah.hoffacker@dph.ga.gov; lillian.huffman@fema.dhs.gov; lbeck@tcsg.edu; lboggs@osah.ga.gov; Lucy Herring; Marc Vincent; mwiles@gfc.state.ga.us; marlene.dawkins@fema.dhs.gov; martin.erbele@fema.dhs.gov; Matt Needham; Melissa Alcantara; Monique McBride; njensen@jekyllisland.com; Rebecca Lamar; robin.berzins@fema.dhs.gov; sabrina.simms@fema.dhs.gov; sean.early@dnr.ga.gov; Stella Kim; stephen.adams@dnr.ga.gov; Stephen Clark; stephen.juszczyk@fema.dhs.gov; steve.pleger@dbf.ga.gov; Tara Teuta; tjacobs@gacities.com; Tomi King; tommy.lowmon@dca.ga.gov; Valarie Grooms; Valery Lancaster; venessa.sims-green@agr.georgia.gov; veronica.craw@dnr.ga.gov; wade.damron@doas.ga.gov; wwiley@gsp.net; dprosser@dds.ga.gov; seminarcine@dhr.ga.us; lsmith@gsp.net; adixon@sitf.ga.gov; Elaine Browning; Barry Dorsey; Kelly, Tymeria; barty.simonton1@dnr.ga.gov

Optional Attendees:Wingo, Emily; Sims, Venessa; Barton, Clete; Bakr, Ahmed; Michael Engleking; Shelby Bergmann; Warren Shepard; Avery Roney; Jamie McCurry; Speers, Austin; Welte, Jennifer; Olivia Hancock; Jennings, Nathan; Earley, Sean

Good afternoon, State Planning partners!

We are busy getting ready for our time together tomorrow and look forward to seeing each of you that is able to join us! With that, I've attached an agenda for your preview, as well as directions to our facility for anyone that needs it. Also, you will need an access code to access the facility. The code is 2623# (don't forget the "#" at the end). This code will only be available tomorrow. Also, please note, FEMA is currently using our

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If you have any questions, or have any problems accessing the facility, please don't hesitate to call me at 404-693-5507.

Alan

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The first workshop will be January 26th, beginning at 8:30am, in the State Operations Center, located on the 1st floor of Building 2 at GEMA Headquarters. We would like to ask that you please plan on attending this workshop as we would like to hear from you about the hazards that impact your agency. If you are unable to attend, we ask that you please send someone to attend in your place to represent you and your organization. The information gathered at the workshops will help in the development of mitigation actions to reduce losses, and provide effective action steps to protect your assets, most notably your organizations' employees.

I want to thank you in advance for your support and participation in these workshops which will help make our state more resilient to disasters, and able to protect its employees, facilities, and other assets, in times of disaster.

We will put together an agenda and send it, along with a map to the facility, in the next couple of weeks. However, we ask that you please mark your calendars and plan to attend. Please also let us know how many from your organization will be attending, so we can prepare accordingly. Please let me know if you have any questions or require any assistance. You can reach us at 1 (800) TRY-GEMA or you may contact me directly at (404) 693-5507. We look forward to hearing from you in this important process.

Sincerely!



R. Alan Sloan, MPA
Hazard Mitigation Planning Supervisor
GEMA/HS
210 South 7th Street, Room 210
Cordele, GA 31015
Office: 229-276-2773
Cell: 404-693-5507
Fax: 229-239-0861



State Hazard Mitigation Planning Team Workshop 1

Name	Agency
Barty Simonton	DNR
Tymeria Kelly	DNR
Carl Mickalonis	FEMA
Darlene Booker	FEMA
Edwarding Marrone	FEMA
Ernest Hunter	FEMA
Jake Grabowsky	FEMA
Jorretta Simmons	FEMA
Kerry Gatewood	FEMA
Kristen Hurns	FEMA
Lillian Huffman	FEMA
Marlene Dawkins	FEMA
Martin Erbele	FEMA
Robin Berzins	FEMA
Sabrina Simms	FEMA
Valerie Rhoads	FEMA
Dominic Bruno	Ga. Building Authority
Ann Thompson	Ga. Dept of Administrative Services
Charles Lawrence	Ga. Dept of Administrative Services
Wade Damron	Ga. Dept of Administrative Services
Gary Kelley	Ga. Dept of Agriculture
Venessa Sims-Green	Ga. Dept of Agriculture
Carol Schwinne	Ga. Dept of Audits
Steve Pleger	Ga. Dept of Banking and Finance
Elizabeth Smith	Ga. Dept of Community Affairs
Tommy Lowmon	Ga. Dept of Community Affairs
John Lowe	Ga. Dept of Defense
	Ga. Dept of Driver Services
Karen Hampton	Ga. Dept of Economic Development
Jeffrey Hodges	Ga. Dept of Education
	Ga. Dept of Human Resources
Anna Truszczynski	Ga. Dept of Natural Resources
Barbara Stitt	Ga. Dept of Natural Resources
Chris Bruegge	Ga. Dept of Natural Resources
J. R. Campbell	Ga. Dept of Natural Resources
Judd Smith	Ga. Dept of Natural Resources
Sean Early	Ga. Dept of Natural Resources
Stephen Adams	Ga. Dept of Natural Resources
Veronica Crow	Ga. Dept of Natural Resources
Jennifer Kline	Ga. Dept of Natural Resources CRD
Brian Shoun	Ga. Dept of Natural Resources Floodplain Mgt Unit
Haydn Blaize	Ga. Dept of Natural Resources Floodplain Mgt Unit
Charlisa Bell	Ga. Dept of Public Health
Charlisa Ussery	Ga. Dept of Public Health

Kelly Nadeau	Ga. Dept of Public Health
Leah Hoffacker	Ga. Dept of Public Health
Christopher Luncheon	Ga. Dept of Revenue
Dennis Murray	Ga. Dept of Transportation
Emily Fisch	Ga. Dept of Transportation
Jerry Smith	Ga. Dept of Transportation
Matt Needham	Ga. Dept of Transportation
Kristofor Anderson	Ga. Environmental Finance Authority
Amanda Coyne	Ga. Municipal Association
Amy Henderson	Ga. Municipal Association
Kelli Bennett	Ga. Municipal Association
Terrell Jacobs	Ga. Municipal Association
Barry Dorsey	Ga. Ports Authority
Jay Matthews	Ga. Rural Water Authority
David Griffin	Ga. Safe Dams
Jessica Mimbs	Ga. Soil and Water Conservation Commission
Greg Mercier	Ga. State Patrol
Lance Scott	Ga. State Patrol
Wayne Wiley	Ga. State Patrol
	Ga. State Patrol
Alicia Schoening	GEMA/HS
Beatrice Soler	GEMA/HS
Corey Kemp	GEMA/HS
Elaine Browning	GEMA/HS
Jack Krolikowski	GEMA/HS
Joseph Barnum	GEMA/HS
Kimberly Angel	GEMA/HS
Kisha Morris	GEMA/HS
LaTashae Walker	GEMA/HS
Lauren Turner	GEMA/HS
Lucy Herring	GEMA/HS
Melissa Alcantara	GEMA/HS
Monique McBride	GEMA/HS
Rebecca Lamar	GEMA/HS
Stella Kim	GEMA/HS
Stephen Clark	GEMA/HS
Tara Teuta	GEMA/HS
Tomi King	GEMA/HS
Valarie Grooms	GEMA/HS
Valery Lancaster	GEMA/HS
Cynthia Clanton	Georgia Courts
Lisa Boggs	Georgia Office of State Administrative Hearings
Marc Vincent	Georgia World Congress Center
Kelly Towe	GFC
Ken Parker	GFC
Mark Wiles	GFC
Angela Wheeler	ITOS

Lawton Brantley	ITOS
Dennis Gailey	Jekyll Island Authority
Noel Jensen	Jekyll Island Authority
Gus Elliot	Office of Planning and Budget
	Subsequent Injury Trust Fund
Lisa Beck	Technical College System of Ga
Jill Gambill	UGA Marine Extension and Ga Sea Grant
Jeffrey Morris	USACE
Cran Upshaw	USDA

From: [Alan Sloan](#)
To: [Alicia Shoening](#); [acoynne@gacities.com](#); [ahart@gaports.com](#); [ahenderson@gacities.com](#); [awheeler@itos.uga.edu](#); [ann.thompson@doas.ga.gov](#); [anna.truszczyński@dnr.ga.gov](#); [barbara.stitt@dnr.ga.gov](#); [Beatrice Soler](#); [brian.shoun@dnr.ga.gov](#); [carl.mickalonis@fema.dhs.gov](#); [schwinne@audits.ga.gov](#); [charles.lawrence@doas.ga.gov](#); [Charlisa Bell](#); [Charlissa Ussery](#); [chris.bruegge@dnr.ga.gov](#); [christopher.luncheon@dor.ga.gov](#); [Corey Kemp](#); [cran.upshaw@ga.usda.gov](#); [Cynthia Clanton](#); [darlene.booker@fema.dhs.gov](#); [david.griffin@dnr.ga.gov](#); [dgailey@jekyllisland.com](#); [demurray@dot.ga.gov](#); [dominic.bruno@gba.ga.gov](#); [edwardine.marrone@fema.dhs.gov](#); [elizabeth.smith@dca.ga.gov](#); [efish@dot.ga.gov](#); [valerie.rhoads@fema.dhs.gov](#); [Gary Kelley](#); [gamercier@gsp.net](#); [gus.elliott@opb.georgia.gov](#); [haydn.blaize@dnr.ga.gov](#); [jerry.campbell@dnr.ga.gov](#); [Jack Krolikowski](#); [james.grabowsky@fema.dhs.gov](#); [jay@grwa.org](#); [jhodges@doe.k12.ga.us](#); [jeffrey.s.morris@usace.army.mil](#); [jennifer.kline@dnr.ga.gov](#); [jesmith@dot.ga.gov](#); [jessica.mimbs@gaswcc.ga.gov](#); [jgambill@uga.edu](#); [john.g.lowe@mail.mil](#); [joretta.simmons@fema.dhs.gov](#); [Joseph Barnum](#); [lt.judd.smith@dnr.ga.gov](#); [khampton@georgia.org](#); [kbennett@gacities.com](#); [Kelly Nadeau](#); [Kelly Towe](#); [kparker@gfc.state.ga.us](#); [kerry.gatewood@fema.dhs.gov](#); [Kimberly Angel](#); [Kisha Morris](#); [kristen.hurns@fema.dhs.gov](#); [Kristofer Anderson](#); [lscott@gsp.net](#); [LaTashae Walker](#); [Lauren Turner](#); [lbrantley@itos.uga.edu](#); [leah.hoffacker@dph.ga.gov](#); [lillian.huffman@fema.dhs.gov](#); [lbeck@tcsi.edu](#); [lboggs@osah.ga.gov](#); [Lucy Herring](#); [Marc Vincent](#); [mwiles@gfc.state.ga.us](#); [marlene.dawkins@fema.dhs.gov](#); [martin.erbele@fema.dhs.gov](#); [Matt Needham](#); [Melissa Alcantara](#); [Monique McBride](#); [nielsen@jekyllisland.com](#); [Rebecca Lamar](#); [robin.berzins@fema.dhs.gov](#); [sabrina.simms@fema.dhs.gov](#); [sean.early@dnr.ga.gov](#); [Stella Kim](#); [stephen.adams@dnr.ga.gov](#); [Stephen Clark](#); [stephen.juszczyk@fema.dhs.gov](#); [steve.pleger@dbf.ga.gov](#); [Tara Teuta](#); [tjacobs@gacities.com](#); [Tomi King](#); [tommy.lowmon@dca.ga.gov](#); [Valarie Grooms](#); [Valery Lancaster](#); [venessa.sims-green@agr.georgia.gov](#); [veronica.craw@dnr.ga.gov](#); [wade.damron@doas.ga.gov](#); [wwiley@gsp.net](#); [drosser@dds.ga.gov](#); [seminarcine@dhr.ga.us](#); [lsmith@gsp.net](#); [adixon@sitf.ga.gov](#); [Elaine Browning](#); [Barry Dorsey](#); [Kelly, Tymeria](#); [barty.simonton1@dnr.ga.gov](#)
Cc: [Wingo, Emily](#); [Sims, Venessa](#); [Barton, Clete](#); [Bakr, Ahmed](#); [Michael Engleking](#); [Shelby Bergmann](#); [Warren Shepard](#); [Avery Roney](#); [Jamie McCurry](#); [Speers, Austin](#); [Welte, Jennifer](#); [Olivia Hancock](#); [Jennings, Nathan](#)
Subject: State Hazard Mitigation Strategy Update - Hazard Identification Workshop
Start: Thursday, January 26, 2023 8:30:00 AM
End: Thursday, January 26, 2023 12:00:00 PM
Location: Media Room
Attachments: [image001.png](#)
[Directions to GEMA-HS Headquarters 1 23 2023.pdf](#)
[Risk Analysis Workshop Agenda.pdf](#)

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210 South 7th Street, Room 210

Cordele, GA 31015

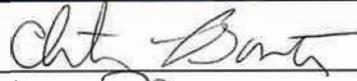
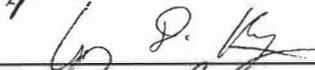
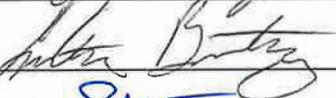
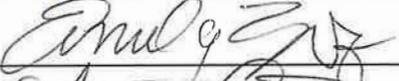
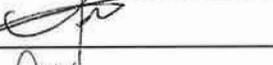
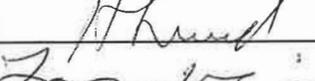
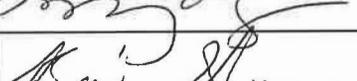
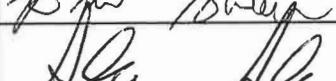
Office: 229-276-2773

Cell: 404-693-5507

Fax: 229-239-0861

Understanding Georgia's Risk to Disasters - Workshop 1/26/2023

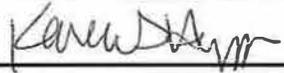
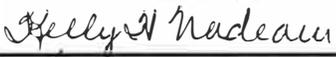
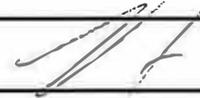
Sign in Sheet

Name	Organization	Signature	email	Phone
Clete Barton	DNR		CLETE.BARTON@DNR.GA.GOV	404-558-6888
HAYDN BLAIZE	DNR		haydn.blaize@dnr.ga.gov	470 607 2604
Nathan Jennings	DNR		nathan.jennings@dnr.ga.gov	404-771-4715
AVERY RONEY	GEMA/HS		avery.roney@gema.ga.gov	404-956-1994
Lawton ^{Brantley}	UGA		lbrantley@fos.uga.edu	706-542-5609
Wannan Shepard	Gema/HS		Wannan.Shepard@GEMA.GA.GOV	404 276-2561
Emily Wingo	DNR		emily.wingo@dnr.ga.gov	470-938-3382
Austin Speers	DPH		austin.speers@dpd.ga.gov	404 308 4070
LEAH HOFFACKER	DPH		leah.hoffacker@dpdph.ga.gov	404-390-9491
Tymeria Kelly	DNR		Tymeria.Kelly@dnr.ga.gov	678-472-8546
Ahmed Barakat	DNR		ahmed.barakat@dnr.ga.gov	407.918.8099
LUCY HERNANDEZ	GEMA			
BRIAN STOWN	GA DNR			
Alan Sloan	GEMA		alan.sloan@gema.ga.gov	

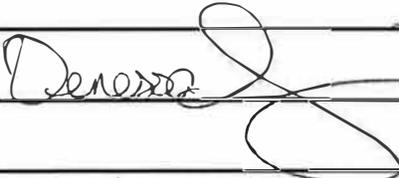
Understanding Georgia's Risk to Disasters - Workshop 1/26/2023
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Name	Organization	Signature	email	Phone
Alicia Schoening	GEMA/HS		alicia.schoening@gema.ga.gov	404-319-2883
Angela Wheeler	ITOS		awheeler@itos.uga.edu	
Ann Thompson	Administrative Services		ann.thompson@doas.ga.gov	404-734-6587
Austin Speers	DPH		austin.speers@dph.ga.gov	404 821 6143
Barbara Stitt	DNR		barbara.stitt@dnr.ga.gov	
Barry Dorsey	GEMA/HS		barry.dorsey@gema.ga.gov	912-414-4106
Barty Simonton	DNR		barty.simonton1@dnr.ga.gov	404-473-0287
Beatrice Soler	GEMA/HS		beatrice.soler@gema.ga.gov	404-834-0597
Brian Shoun	DNR		brian.shoun@dnr.ga.gov	
Charlisa Bell	DPH		charlisa.bell@dph.ga.gov	
Cynthia Clanton	Ga. Courts		cynthia.clanton@georgiacourts.gov	
David Griffin	Safe Dams		david.griffin@dnr.ga.gov	470-524-0663
Dennis Murray	GDOT		demurray@dot.ga.gov	
Elaine Browning	GEMA/HS		elaine.browning@gema.ga.gov	
Elizabeth Smith	DCA		elizabeth.smith@dca.ga.gov	
Emily Fisch	GDOT		efish@dot.ga.gov	

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Name	Organization	Signature	email	Phone
Haydn Blaize	DNR		haydn.blaize@dnr.ga.gov	
Jennifer Kline	DNR		jennifer.kline@dnr.ga.gov	
Jennifer Welte	DNR		jennifer.welte@dnr.ga.gov	
Jerry Smith	GDOT		jesmith@dot.ga.gov	
Jill Gambill	UGA Extension		igambill@uga.edu	
Jorretta Simmons	FEMA		joretta.simmons@fema.dhs.gov	
Joseph Barnum	GEMA/HS		joseph.barnum@gema.ga.gov	
Karen Hampton	Ga. Dept of Economic Development		khampton@georgia.org	404-290-7342
Kelly Nadeau	DPH		kelly.nadeau@dph.ga.gov	6786184906
Kimberly Angel	GEMA/HS		kimberly.angel@gema.ga.gov	
Kristen Hurns	FEMA		kristen.hurns@fema.dhs.gov	
Lance Scott	GSP / Air Ops		lscott@gsp.net	770 871 9569
LaTashae Walker	GEMA/HS		latashae.walker@gema.ga.gov	
Lawton Brantley	ITOS		lbrantley@itos.uga.edu	
Lisa Beck	Technical College System		lbeck@tcsg.edu	770-617-8824
Lucy Herring	GEMA/HS		lucy.herring@gema.ga.gov	

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Name	Organization	Signature	email	Phone
Marc Vincent	Ga World Congress		mvincent@gwcc.com	
Matt Needham	GDOT		mneedham@dot.ga.gov	
Melissa Alcantara	GEMA/HS		melissa.alcantara@gema.ga.gov	
Michael Engleking	GEMA/HS		michael.Engleking@gema.ga.gov	
Nathan Jennings	DNR		nathan.jennings1@dnr.ga.gov	
Noel Jensen	Jekyll Island		njensen@jekyllisland.com	
Rebecca Lamar	GEMA/HS		rebecca.lamar@gema.ga.gov	
Stella Kim	GEMA/HS		stella.kim@gema.ga.gov	
Stephen Clark	GEMA/HS		stephen.clark@gema.ga.gov	
Terrell Jacobs	GA Municipal Assoc		tjacobs@gacities.com	
Tomi King	GEMA/HS		tomi.king@gema.ga.gov	
Valarie Grooms	GEMA/HS		valarie.grooms@gema.ga.gov	
Valery Lancaster	GEMA/HS		valery.lancaster@gema.ga.gov	
Venessa Sims-Green	Dept of Agriculture		venessa.sims-green@agr.georgia.gov	
Warren Shepard	GEMA/HS		warren.shepard@gema.ga.gov	
Dennis MURRAY	GDOT		DennisMurray@dot.ga.gov	

Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: info@psequity.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

One critical part of that process is planning, where we identify the hazards that most impact the State of Georgia and develop the State's strategy for mitigating those hazards. We are in the process of updating the Georgia Hazard Mitigation Strategy. As part of that process, we are reaching out in an effort to ensure we are meeting the needs of our most vulnerable citizens and communities. In that regard, we received the name of your organization from Ashby Worley with The Nature Conservancy as one who may either work with or assist some of our more vulnerable populations, whether that be minorities, lower income, elderly, disabled, or other.

We will be hosting a workshop at GEMA/HS Headquarters and we would like to hear from you. In particular, what sector of the population do you typically assist? What are the hazards that the citizens you work with face and how are they impacted? Are there some things that need to be done to address those hazards? The details of the workshop are as follows:

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Location: GEMA/HS Headquarters Training Room (1st Floor); 935 United Avenue; Atlanta, GA.

If someone in your organization is interested in participating, please let me know who, including their email, and I will send them a calendar invitation. In the meantime, if you have any questions, please don't hesitate to give me a call.



R. Alan Sloan, MPA
Hazard Mitigation Deputy Manager
GEMA/HS
210 South 7th Street, Room 210
Cordele, GA 31015
Office: 229-276-2773
Cell: 404-693-5507
Fax: 229-239-0861



Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: tiffanyreed@gaheirsproperty.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Reed!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: josiah@onhundredmiles.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Watts!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: delenepor@gaheirsproperty.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Porter!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: rhaight@gccsda.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Haight!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: ejohn15560@aol.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Johnson!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: tclifford@waltonoptions.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Clifford!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: J.gilliom@UnityinDisasters.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Gilliom!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: dzubler@unitedwayatlanta.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Zubler!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: lanita.lloyd@uss.salvationarmy.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Lloyd!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Office: 229-276-2773
Cell: 404-693-5507
Fax: 229-239-0861



Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: John.pettay@teamrubiconusa.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Pettay!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: chaosnrgace@gmail.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Shemwell!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: morhill@gmail.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Morales!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: rebuildinghope@live.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Boyd!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: woodburnaia@yahoo.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Woodburn!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: aries.miclat@ob.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Miclat!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: georgia-state-lead@operationbbqrelief.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Neumister!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: scott.parrish@ngumc.net
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Parrish!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: Gary.LeBlanc@Mercychefs.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. LeBlanc!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: jelliott@map.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Elliott!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: cj.nutter@gmail.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Nutter!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: chillis@itdrc.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Hillis!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: alvin.kates@weinspirit.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Cates!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: mylamitchell@bellsouth.net
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Mitchell!

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: danah.craft@gafoodbankassn.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Craft!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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R. Alan Sloan, MPA
Hazard Mitigation Deputy Manager
GEMA/HS
210 South 7th Street, Room 210
Cordele, GA 31015
Office: 229-276-2773
Cell: 404-693-5507
Fax: 229-239-0861



Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: slang@gabaptist.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Lang!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: travisstone@fodac.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Stone!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: egordon@convoyofhope.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Gordon!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: linda.james@uss.salvationarmy.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. James!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: dewayne@lorigrice.com
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. Grice!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: jorie@baby2baby.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Aldrich!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: anew@bgea.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Mr. New!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: admin@angelflightsoars.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Chambers!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: kelly.sharon@redcross.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Sharon!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:36 AM
To: rikki.ansley@acfb.org
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Ms. Ansley!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

From: Alan Sloan
Sent: Tuesday, February 21, 2023 10:35 AM
To: nosborne@spelman.edu
Subject: Georgia Hazard Mitigation Strategy - Vulnerable and underserved populations workshop

Good morning, Dr. Jelks!

My name is Alan Sloan. I'm the Deputy Manager of the Hazard Mitigation Department at the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). One of the 5 critical elements of emergency management is mitigation – in other words taking long term, sustained actions while there isn't a hazard event happening to reduce your vulnerability and risk of losses to hazards that occur in your community. In that regard, we are able to help local communities and State agencies obtain Federal funding to complete projects to reduce their vulnerability to natural hazard hazards such as flooding, tornadoes and other wind events, wildfires, and others.

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Alan Sloan

Subject: Georgia State Hazard Mitigation Strategy - Vulnerable and underserved populations workshop
Location: GEMA/HS Training Room; 935 United Avenue; Atlanta, GA

Start: Mon 3/20/2023 9:00 AM
End: Mon 3/20/2023 12:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Alan Sloan

Required Attendees: Elaine Browning; Kimberly Angel; Lucy Herring; Melissa Alcantara; Tomi King; Stephen Clark; Alicia Shoening; Lillian Huffman; kelly.sharon@redcross.org; admin@angelflightsoars.org; rikki.ansley@acfb.org; jorie@baby2baby.org; anew@bgea.org; dewayne@lorigrice.com; linda.james@uss.salvationarmy.org; egordon@convoyofhope.org; travisstone@fodac.org; slang@gabaptist.org; danah.craft@gafoodbankassn.org; mylamitchell@bellsouth.net; alvin.kates@weinspirit.org; chillis@itdrc.org; cj.nutter@gmail.com; jelliott@map.org; Gary.LeBlanc@Mercychefs.com; scott.parrish@ngumc.net; georgia-state-lead@operationbbqrelief.org; aries.miclat@ob.org; woodburnaia@yahoo.com; rebuildinghope@live.com; morhill@gmail.com; chaosnrgace@gmail.com; John.pettay@teamrubiconusa.org; lanita.lloyd@uss.salvationarmy.org; dzubler@unitedwayatlanta.org; J.gilliom@UnityinDisasters.org; tclifford@waltonoptions.org; ejohn15560@aol.com; rhaight@gccsda.com; delenepporter@gaheirsproperty.org; josiah@onhundredmiles.org; tiffanyreed@gaheirsproperty.org; nosborne@spelman.edu; jen@onehundredmiles.org

Optional Attendees: Matthew Richardson; Shemwell, Kathy; Akins, Matthew

Good afternoon, everyone!

We are looking forward to seeing and meeting everyone this coming Monday! For those that have never been to our facility, we are located at 935 United Avenue S.E. in Atlanta. I've attached directions to the facility. Once you reach the facility, please use the main front entrance. We have issued a guest access PIN for this meeting. You will need this to enter the facility AND to take the elevator down to the 1st floor. Once you enter the front door, there is an elevator to the right. Once in the elevator, you will need to enter your PIN. Take the elevator to the 1st floor (you entered the building on the 2nd floor.) As you exit the elevator, turn right and the training room will be down the hall on the left.

PIN code for facility access: 3232#

If you have any questions, or need assistance, I can be reached at **404-693-5507**.

Again, we look forward to seeing each of you. We hope this will be a very productive meeting for both you and us!

Good morning!

As mentioned in my previous email, we are in the process of updating the Georgia State Hazard Mitigation Strategy. As part of that process, we are looking to identify and, as much as possible, address the mitigation related needs of our most vulnerable citizens and communities. In that regard, we received your name as one who may either work with or assist some of our more vulnerable populations, whether that be minorities, lower income, elderly, disabled, or other.

We will be hosting a workshop at GEMA/HS Headquarters and we would like to hear from you. In particular, what sector of the population do you typically assist? What are the hazards that the citizens you work with face and how are they impacted? Are there some things that need to be done to address those hazards? The details of the workshop are as follows:

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We look forward to the chance to meet you and discuss this critical part of the process. In the meantime, if you have any questions, please don't hesitate to give me a call.



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Vulnerable and Underserved Populations Stakeholders (Workshop 2)

Name	Organization
Kelly Sharon	American Red Cross
Jeanine Chambers	Angel Flight Soars, INC.
Rikki Ansley	Atlanta Community Food Bank
Jorie Aldrich	Baby2Baby
Al New	Billy Graham Evangelical Association/Samaritan's Purse
DeWayne Grice	Bulloch VOAD
Linda James	Coastal Empire Disaster Recovery Committee (CEDRC)
Eric Gordon	Convoy of Hope
Travis Stone	Friends of Disabled Adults & Children (FODAC)
Stuart lang	Georgia Baptist Disaster Relief
Danah Craft	Georgia Food Bank Association
Myla Mitchell	HOPE Animal-Assisted Crisis Response (AACR)
Alvin Kates	Inspirits - Formerly Lutheran Services of Georgia
Chris Hillis	ITDRC
C.J. Nutter	LDS Charities
Jason Elliot	MAP International
Gary LeBlanc	Mercy Chefs
Scott Parrish	North Georgia Conference, The United Methodist Church
Eric Neumeister	Operation BBQ Relief
Aries Miclat	Operation Blessing
David Woodburn	Presbyterian Disaster Assistance
Jim Boyd	Rebuilding Hope
Luis Morales	South Georgia United Methodist Church
Kathy Shemwell	Southwest Georgia COAD
John Pettay	Team Rubicon USA
Lanita Lloyd	The Salvation Army - Georgia Division Emergency Disaster Services
Don Zubler	United Way of Greater Atlanta - 2-1-1
Joe Gilliom	Unity in Disasters
Steven Clifford	Walton Options for Independent Living
Eric and Nancy Johnson	World Renew Disaster Response Services
Rhonda Haight	Adventist Community Services Disaster Response
Delene Porter	Georgia Heirs Property Law Center
Josiah Watts	One Hundred Mile
Tiffany Reed	Heirs Property Law Center
Dr. Na'Taki Osborne Jelks	Spelman College
Maurice Bailey	Save Our Legacy Ourselves (Gullah Geechee people of Sapelo Island)

Understanding Georgia's Vulnerable Populations' Vulnerability to Disasters - Workshop 3/20/2023
Sign in Sheet

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Alan Sloan

Subject: Georgia Hazard Mitigation Strategy - Hazard Vulnerability Workshop
Location: GEMA/HS Headquarters State Operations Center

Start: Thu 3/30/2023 8:30 AM
End: Thu 3/30/2023 12:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Alan Sloan

Required Attendees Alicia Shoening; acoyne@gacities.com; ahart@gaports.com; ahenderson@gacities.com; awheeler@itos.uga.edu; ann.thompson@doas.ga.gov; anna.truszczynski@dnr.ga.gov; barbara.stitt@dnr.ga.gov; Beatrice Soler; brian.shoun@dnr.ga.gov; carl.mickalonis@fema.dhs.gov; schwinne@audits.ga.gov; charles.lawrence@doas.ga.gov; Charlisa Bell; Charlissa Ussery; chris.bruegge@dnr.ga.gov; christopher.luncheon@dor.ga.gov; Corey Kemp; cran.upshaw@ga.usda.gov; Cynthia Clanton; darlene.booker@fema.dhs.gov; david.griffin@dnr.ga.gov; dgailey@jekyllisland.com; demurray@dot.ga.gov; dominic.bruno@gba.ga.gov; edwardine.marrone@fema.dhs.gov; elizabeth.smith@dca.ga.gov; efish@dot.ga.gov; valerie.rhoads@fema.dhs.gov; Gary Kelley; gamercier@gsp.net; gus.elliott@opb.georgia.gov; haydn.blaize@dnr.ga.gov; jerry.campbell@dnr.ga.gov; Jack Krolkowski; james.grabowsky@fema.dhs.gov; jay@grwa.org; jhodges@doe.k12.ga.us; jeffrey.s.morris@usace.army.mil; jennifer.kline@dnr.ga.gov; jesmith@dot.ga.gov; jessica.mimbs@gaswcc.ga.gov; jgambill@uga.edu; john.g.lowe.mil@mail.mil; joretta.simmons@fema.dhs.gov; Joseph Barnum; lt.judd.smith@dnr.ga.gov; khampton@georgia.org; kbennett@gacities.com; Kelly Nadeau; Kelly Towe; kparker@gfc.state.ga.us; kerry.gatewood@fema.dhs.gov; Kimberly Angel; Kisha Morris; kristen.hurns@fema.dhs.gov; Kristofor Anderson; Iscott@gsp.net; LaTashae Walker; Lauren Turner; lbrantley@itos.uga.edu; leah.hoffacker@dph.ga.gov; lillian.huffman@fema.dhs.gov; lbeck@tcsg.edu; lboggs@osah.ga.gov; Lucy Herring; Marc Vincent; mwiles@gfc.state.ga.us; marlene.dawkins@fema.dhs.gov; martin.erbele@fema.dhs.gov; Matt Needham; Melissa Alcantara; Monique McBride; njensen@jekyllisland.com; Rebecca Lamar; robin.berzins@fema.dhs.gov; sabrina.simms@fema.dhs.gov; sean.early@dnr.ga.gov; Stella Kim; stephen.adams@dnr.ga.gov; Stephen Clark; stephen.juszczyk@fema.dhs.gov; steve.pleger@dbf.ga.gov; Tara Teuta; tjacobs@gacities.com; Tomi King; tommy.lowmon@dca.ga.gov; Valarie Grooms; Valery Lancaster; venessa.sims-green@agr.georgia.gov; veronica.craw@dnr.ga.gov; wade.damron@doas.ga.gov; wwiley@gsp.net; dprosser@dds.ga.gov; seminarcine@dhr.ga.us; lsmith@gsp.net; adixon@sitf.ga.gov; Elaine Browning; Wingo, Emily; Sims, Venessa; Barton, Clete; Bakr, Ahmed; Michael Engleking; Shelby Bergmann; Warren Shepard; Avery Roney; Barry Dorsey; Jamie McCurry; Kelly, Tymeria; barty.simonton1@dnr.ga.gov; Speers, Austin; Welte, Jennifer; Olivia Hancock; Jennings, Nathan; Earley, Sean; Lisa Rodriguez-Presley; Christen Robinson

Categories: Meeting

Good afternoon, everyone!

First off, let me apologize for the “extra” calendar invitation last week. That was unintentional. That said, we are looking forward to seeing everyone at the workshop Thursday morning. We will be discussing our State’s

vulnerability to the hazards we identified during our January workshop and taking the next steps in the overall hazard ranking process.

I've attached directions to the facility for anyone that may need them. Also, we have created a PIN for guest access to the facility for Thursday morning. The PIN will be 2623#. You will need this to access the facility, as well as to go downstairs to the SOC. If you have any questions, or need to reach me, you can call me at 404-693-5507.

We look forward to seeing you Thursday morning!

Thanks!



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Hazard Mitigation Deputy Manager
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Good afternoon, State Hazard Mitigation Planning Team Partners!

First off, thank you for those of you who were able to attend our previous workshop where we looked at what hazards impact our State! You may recall we took the initial steps toward ranking the hazards that impact us, looking at the potential length of an event and the number of counties potentially affected. We have been compiling and analyzing the information and initial ranking scores you gave us. We hope to have the final historic data, including number of previous events and losses, soon and to be able to add that data to the ranking methodology.

The next step in the process is to look at our vulnerability to the identified hazards. In that regard, we have scheduled our next workshop where we will look at the potential impacts to those hazards. This includes things like risk of injuries and loss of life, need for evacuations, economic and environmental losses, damages to infrastructure, etc. The details of the workshop are as follows:

Date: March 30, 2023

Time: 8:30am – 12:00pm

Location: GEMA/HS Headquarters State Operations Center (1st Floor); 935 United Avenue; Atlanta, GA.

I will send out an agenda and additional details, as needed, as we get closer to the workshop date. In the meantime, we hope to see you there. If you have any questions, please don't hesitate to give me a call.

Sincerely,

Alan

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State Hazard Mitigation Planning Team Workshop 3

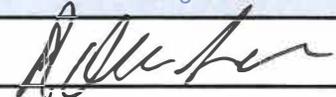
Name	Agency
Carl Mickalonis	FEMA
Darlene Booker	FEMA
Edwarding Marrone	FEMA
Jake Grabowsky	FEMA
Jorretta Simmons	FEMA
Kerry Gatewood	FEMA
Kristen Hurns	FEMA
Lillian Huffman	FEMA
Marlene Dawkins	FEMA
Martin Erbele	FEMA
Robin Berzins	FEMA
Sabrina Simms	FEMA
Valerie Rhoads	FEMA
Dominic Bruno	Ga. Building Authority
Ann Thompson	Ga. Dept of Administrative Services
Charles Lawrence	Ga. Dept of Administrative Services
Wade Damron	Ga. Dept of Administrative Services
Gary Kelley	Ga. Dept of Agriculture
Venessa Sims-Green	Ga. Dept of Agriculture
Carol Schwinne	Ga. Dept of Audits
Steve Pleger	Ga. Dept of Banking and Finance
Elizabeth Smith	Ga. Dept of Community Affairs
Tommy Lowmon	Ga. Dept of Community Affairs
John Lowe	Ga. Dept of Defense
	Ga. Dept of Driver Services
Karen Hampton	Ga. Dept of Economic Development
Jeffrey Hodges	Ga. Dept of Education
	Ga. Dept of Human Resources
Barty Simonton	Ga. Dept of Natural Resources
Tymeria Kelly	Ga. Dept of Natural Resources
Anna Truszczynski	Ga. Dept of Natural Resources
Barbara Stitt	Ga. Dept of Natural Resources
Chris Bruegge	Ga. Dept of Natural Resources
J. R. Campbell	Ga. Dept of Natural Resources
Judd Smith	Ga. Dept of Natural Resources
Sean Early	Ga. Dept of Natural Resources
Stephen Adams	Ga. Dept of Natural Resources
Veronica Crow	Ga. Dept of Natural Resources
Clete Barton	Ga. Dept of Natural Resources
Ahmed Bakr	Ga. Dept of Natural Resources
Jennifer Welte	Ga. Dept of Natural Resources
Nathan Jennings	Ga. Dept of Natural Resources
Jennifer Kline	Ga. Dept of Natural Resources CRD
Emily Wingo	Ga. Dept of Natural Resources Floodplain Mgt Unit

Brian Shoun	Ga. Dept of Natural Resources Floodplain Mgt Unit
Haydn Blaize	Ga. Dept of Natural Resources Floodplain Mgt Unit
Charlisa Bell	Ga. Dept of Public Health
Charlisa Ussery	Ga. Dept of Public Health
Kelly Nadeau	Ga. Dept of Public Health
Leah Hoffacker	Ga. Dept of Public Health
Austin Speers	Ga. Dept of Public Health
Christopher Luncheon	Ga. Dept of Revenue
Dennis Murray	Ga. Dept of Transportation
Emily Fisch	Ga. Dept of Transportation
Jerry Smith	Ga. Dept of Transportation
Matt Needham	Ga. Dept of Transportation
Kristofor Anderson	Ga. Environmental Finance Authority
Amanda Coyne	Ga. Municipal Association
Amy Henderson	Ga. Municipal Association
Kelli Bennett	Ga. Municipal Association
Terrell Jacobs	Ga. Municipal Association
Amy Hart	Ga. Ports Authority
Barry Dorsey	Ga. Ports Authority
Jamie McCurry	Ga. Ports Authority
Jay Matthews	Ga. Rural Water Authority
David Griffin	Ga. Safe Dams
Jessica Mimbs	Ga. Soil and Water Conservation Commission
Lance Scott	Ga. State Patrol
	Ga. State Patrol
Wayne Wiley	Ga. State Patrol
Alicia Schoening	GEMA/HS
Beatrice Soler	GEMA/HS
Corey Kemp	GEMA/HS
Elaine Browning	GEMA/HS
Joseph Barnum	GEMA/HS
Kimberly Angel	GEMA/HS
Kisha Morris	GEMA/HS
LaTashae Walker	GEMA/HS
Lauren Turner	GEMA/HS
Lucy Herring	GEMA/HS
Melissa Alcantara	GEMA/HS
Michael Engleking	GEMA/HS
Monique McBride	GEMA/HS
Rebecca Lamar	GEMA/HS
Shelby Bergman	GEMA/HS
Stella Kim	GEMA/HS
Stephen Clark	GEMA/HS
Tara Teuta	GEMA/HS
Tomi King	GEMA/HS
Valarie Grooms	GEMA/HS
Valery Lancaster	GEMA/HS

Warren Shepard	GEMA/HS
Avery Roney	GEMA/HS
Lisa Rodriguez-Pressley	GEMA/HS
Christen Robinson	GEMA/HS
Cynthia Clanton	Georgia Courts
Lisa Boggs	Georgia Office of State Administrative Hearings
Marc Vincent	Georgia World Congress Center
Ken Parker	GFC
Kelly Towe	GFC
Mark Wiles	GFC
Angela Wheeler	ITOS
Lawton Brantley	ITOS
Dennis Gailey	Jekyll Island Authority
Noel Jensen	Jekyll Island Authority
Olivia Hancock	Jekyll Island Authority
Gus Elliot	Office of Planning and Budget
	Subsequent Injury Trust Fund
Lisa Beck	Technical College System of Ga
Jill Gambill	UGA Marine Extension and Ga Sea Grant
Jeffrey Morris	USACE
Cran Upshaw	USDA

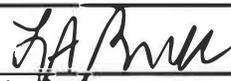
Understanding Georgia's Vulnerability to Disasters - Workshop 3/30/2023

Sign in Sheet

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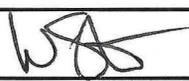
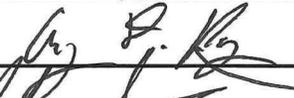
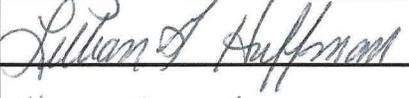
Understanding Georgia's Vulnerability to Disasters - Workshop 3/30/2023

Sign in Sheet

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Understanding Georgia's Vulnerability to Disasters - Workshop 3/30/2023

Sign in Sheet

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Alan Sloan

Subject: Georgia State Hazard Mitigation Strategy - Hazard Mitigation Workshop
Location: GEMA/HS State Operations Center

Start: Wed 4/26/2023 8:30 AM
End: Wed 4/26/2023 12:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Alan Sloan

Required Attendees: ahmed.bakr@dnr.ga.gov; Alicia Shoening; acoyne@gacities.com; ahenderson@gacities.com; awheeler@itos.uga.edu; ann.thompson@doas.ga.gov; anna.truszczynski@dnr.ga.gov; austin.speers@dph.ga.gov; Avery Roney; barbara.stitt@dnr.ga.gov; bdorsey@gaports.com; barty.simonton1@dnr.ga.gov; Beatrice Soler; brian.shoun@dnr.ga.gov; carl.mickalonis@fema.dhs.gov; schwinne@audits.ga.gov; charles.lawrence@doas.ga.gov; Charlisa Bell; Charlissa Ussery; chris.bruegge@dnr.ga.gov; Christen Robinson; christopher.luncheon@dor.ga.gov; clete.barton@dnr.ga.gov; Corey Kemp; cran.upshaw@usda.gov; cynthia.clanton@georgiacourts.gov; darlene.booker@fema.dhs.gov; david.griffin@dnr.ga.gov; dgailey@jekyllisland.com; demurray@dot.ga.gov; dominic.bruno@gba.ga.gov; edwardine.marrone@fema.dhs.gov; Elaine Browning; elizabeth.smith@dca.ga.gov; efish@dot.ga.gov; emily.wingo@dnr.ga.gov; ernest.hunter@fema.dhs.gov; gary.kelley@agr.georgia.gov; gamercier@gsp.net; gus.elliott@opb.georgia.gov; haydn.blaize@dnr.ga.gov; jerry.campbell@dnr.ga.gov; jmccurry@gaports.com; jay@grwa.org; jhodges@doe.k12.ga.us; jeffrey.s.morris@usace.army.mil; jennifer.kline@dnr.ga.gov; jennifer.welte@dnr.ga.gov; jesmith@dot.ga.gov; jessica.mimbs@gaswcc.ga.gov; jgambill@uga.edu; john.g.lowe.mil@mail.mil; joretta.simmons@fema.dhs.gov; Joseph Barnum; It.judd.smith@dnr.ga.gov; khampton@georgia.org; kbennett@gacities.com; kelly.nadeau@dph.ga.gov; kparker@gfc.state.ga.us; kerry.gatewood@fema.dhs.gov; Kimberly Angel; Kisha Morris; kristen.hurns@fema.dhs.gov; kristofor@gefa.ga.gov; lscott@gsp.net; LaTashae Walker; Lauren Turner; lbrantley@itos.uga.edu; leah.hoffacker@dph.ga.gov; lillian.huffman@fema.dhs.gov; lbeck@tcsu.edu; lboggs@osah.ga.gov; Lisa Rodriguez-Presley; Lucy Herring; Marc Vincent; mwiles@gfc.state.ga.us; marlene.dawkins@fema.dhs.gov; martin.erbele@fema.dhs.gov; Matt Needham; Melissa Alcantara; Michael Engleking; Monique McBride; nathan.jennings1@dnr.ga.gov; njensen@jekyllisland.com; ohancock@jekyllisland.com; Rebecca Lamar; sabrina.simms@fema.dhs.gov; sean.earley@dnr.ga.gov; sean.early@dnr.ga.gov; shelby.naar@gema.ga.gov; Stella Kim; stephen.adams@dnr.ga.gov; Stephen Clark; steve.pleger@dbf.ga.gov; Tara Teuta; tjacobs@gacities.com; tommy.lowmon@dca.ga.gov; tymeria.kelly@dnr.ga.gov; Valarie Grooms; valerie.rhoads@fema.dhs.gov; Valery Lancaster; venessa.sims@agr.georgia.gov; veronica.craw@dnr.ga.gov; wade.damron@doas.ga.gov; Warren Shepard; wwiley@gsp.net; dprosser@dds.ga.gov; seminarcine@dhr.ga.us; lsmith@gsp.net; adixon@sitf.ga.gov

Optional Attendees: Austin Chancy; kcutts@gefa.ga.gov; Kristofor Anderson; Leah Lord

Categories: Meeting

Good morning, all!

We are busy making final preparations for our workshop tomorrow morning! During our previous two workshops, we talked about some of the problems we face as a State. Now it's time to start talking about what we want

to do about them and we need your input as we update our mitigation strategy. We'll share the findings from our previous workshops and will update you on some other things we have done as part of this update.

Just a little bit of information, your access code for the facility tomorrow will be **2-6-2-3-#**. I've also attached directions to our facility for anybody that needs it. Of course, if you have any questions or problems, you can contact me at 404-693-5507.

Thank you for your time and assistance in this important process. We look forward to seeing you tomorrow.

Good afternoon, State Hazard Mitigation Planning Partners!

As you know, the Hazard Mitigation Division is in the process of holding a series of three workshops to update the Enhanced State Hazard Mitigation Strategy. The approval of this update by FEMA is essential in assuring the State's eligibility for federal disaster funding in the event of a natural disaster.

The first two workshops were held in January and March, where we discussed potential hazards that could impact the State of Georgia. Since that time, the Hazard Mitigation Department has been analyzing the findings from the workshops, combining those findings with historical data in order to rank the hazards in terms of their potential impacts on the State of Georgia. After identifying and ranking the hazards, the next step is to identify ways to reduce the potential impact of those hazards when they do occur. The third workshop will help us do just that. The workshop will be held on Wednesday, April 26th, beginning at 8:30am, in the State Operations Center, located on the 1st floor of Building 2 at GEMA/HS Headquarters. We would like to ask that you please plan on attending this workshop as we would like to hear from you about how best to reduce the impacts of the hazards we identified in the previous two workshops, including things your organization is currently doing.

I want to thank you in advance for your support and participation in these workshops which will help make our state more resilient to disasters, and able to protect its employees, facilities, and other assets, in times of disaster. If you are unable to attend, we ask that you please send someone to attend in your place to represent you and your organization. The information gathered at the workshops will help in the development of mitigation actions to reduce losses, and provide effective action steps to protect your assets, most notably your organizations' employees.

We will put together an agenda and send it, along some additional information to help you prepare for the workshop, in the coming days. However, we ask that you please mark your calendars and plan to attend. Please also let us know how many from your organization will be attending, so we can prepare accordingly. Please let me know if you have any questions or require any assistance. You can reach us at (404) 635-7522 or 1 (800) TRY-GEMA or you may contact me directly at (404) 693-5507. We look forward to hearing from you in this important process.

Sincerely!



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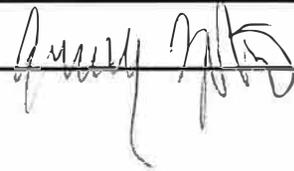
State Hazard Mitigation Planning Team Workshop 4

Name	Agency
Carl Mickalonis	FEMA
Darlene Booker	FEMA
Edwarding Marrone	FEMA
Ernest Hunter	FEMA
Joretta Simmons	FEMA
Kerry Gatewood	FEMA
Kristen Hurns	FEMA
Lillian Huffman	FEMA
Marlene Dawkins	FEMA
Martin Erbele	FEMA
Sabrina Simms	FEMA
Valerie Rhoads	FEMA
Dominic Bruno	Ga. Building Authority
Ann Thompson	Ga. Dept of Administrative Services
Charles Lawrence	Ga. Dept of Administrative Services
Wade Damron	Ga. Dept of Administrative Services
Gary Kelley	Ga. Dept of Agriculture
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Carol Schwinne	Ga. Dept of Audits
Steve Pleger	Ga. Dept of Banking and Finance
Elizabeth Smith	Ga. Dept of Community Affairs
Tommy Lowmon	Ga. Dept of Community Affairs
John Lowe	Ga. Dept of Defense
	Ga. Dept of Driver Services
Karen Hampton	Ga. Dept of Economic Development
Jeffrey Hodges	Ga. Dept of Education
	Ga. Dept of Human Resources
Ahmed Bakr	Ga. Dept of Natural Resources
Anna Truszczynski	Ga. Dept of Natural Resources
Barbara Stitt	Ga. Dept of Natural Resources
Barty Simonton	Ga. Dept of Natural Resources
Chris Bruegge	Ga. Dept of Natural Resources
Clete Barton	Ga. Dept of Natural Resources
J. R. Campbell	Ga. Dept of Natural Resources
Jennifer Welte	Ga. Dept of Natural Resources
Judd Smith	Ga. Dept of Natural Resources
Nathan Jennings	Ga. Dept of Natural Resources
Sean Early	Ga. Dept of Natural Resources
Stephen Adams	Ga. Dept of Natural Resources
Tymeria Kelly	Ga. Dept of Natural Resources
Veronica Craw	Ga. Dept of Natural Resources
Jennifer Kline	Ga. Dept of Natural Resources CRD
Brian Shoun	Ga. Dept of Natural Resources Floodplain Mgt Unit

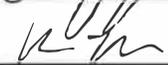
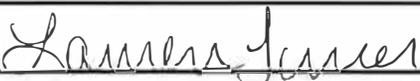
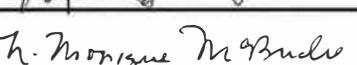
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Charlisa Bell	Ga. Dept of Public Health
Charlisa Ussery	Ga. Dept of Public Health
Kelly Nadeau	Ga. Dept of Public Health
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Amy Henderson	Ga. Municipal Association
Kelli Bennett	Ga. Municipal Association
Terrell Jacobs	Ga. Municipal Association
Barry Dorsey	Ga. Ports Authority
Jamie McCurry	Ga. Ports Authority
Jay Matthews	Ga. Rural Water Authority
David Griffin	Ga. Safe Dams
Jessica Mimbs	Ga. Soil and Water Conservation Commission
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Beatrice Soler	GEMA/HS
Christen Robinson	GEMA/HS
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Olivia Hancock	Jekyll Island Authority
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	Subsequent Injury Trust Fund
Lisa Beck	Technical College System of Ga
Jill Gambill	UGA Marine Extension and Ga Sea Grant
Jeffrey Morris	USACE
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Sign in Sheet

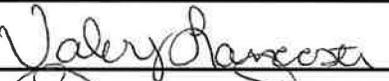
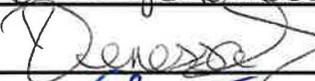
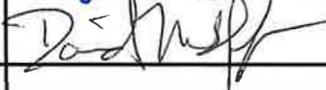
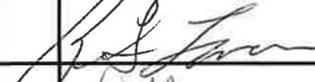
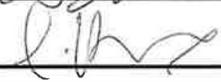
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Developing Georgia's Mitigation Strategy - Workshop 4/26/2023

Sign in Sheet

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Appendix B-III
Agency and Partner Participation

SHMS Update Meeting and Workshop Participation			
Name	Organization	Sector	Participation
Stephanie Hines	Georgia Administrative Office of the Courts	Judicial	Annual/Post Diaster Updates
Ann Thompson	Georgia Department of Administrative Services	General Government	Annual/Post Diaster Updates, Workshops
Wade Damron	Georgia Department of Administrative Services/Risk Management	General Government	Annual/Post Diaster Updates
Vanessa Sims-Green	Georgia Department of Agriculture	Agriculture (Food, Economic Development)	Annual/Post Diaster Updates, Workshops
Steve Pleger	Georgia Department of Banking and Finance	Financial	Email
Tommy Lowmon	Georgia Department of Community Affairs	Economic Development, Housing, Land Use and Development, Recovery	Annual/Post Diaster Updates, Workshops
Kathy Trembley	Georgia Department of Community Affairs CDBGDR	Recovery	Annual/Post Diaster Updates
Karen Hampton	Georgia Department of Economic Development	Economic Development	Annual/Post Diaster Updates, Workshops
Jeff Hodges	Georgia Department of Education	Education	Annual/Post Diaster Updates
Ahmed Bakr	Georgia Department of Natural Resources	Natural and Cultural Resources, Land Use and Development	Annual/Post Diaster Updates, Workshops
Jennifer Kline	Georgia Department of Natural Resources Coastal Resources	Natural and Cultural Resources, Land Use and Development, Recovery	Annual/Post Diaster Updates
Amy Rammo-Kuhs	Georgia Department of Natural Resources Environmental Protection Division	Natural and Cultural Resources	Annual/Post Diaster Updates
Haydn Blaize	Georgia Department of Natural Resources Floodplain Mgmt	Natural and Cultural Resources, Land Use and Development	Annual/Post Diaster Updates, Workshops, Email
Veronica Crow	Georgia Department of Natural Resources Non-Point Source Pollution	Natural and Cultural Resources	Annual/Post Diaster Updates
David Griffin	Georgia Department of Natural Resources Safe Dams	Critical Infrastructure/Natural & Cultural Resources	Annual/Post Diaster Updates, Workshops, Email
Jennifer Welte	Georgia Department of Natural Resources Watershed Protection Branch	Natural and Cultural Resources, Land Use and Development	Annual/Post Diaster Updates
Kelly Nadeau	Georgia Department of Public Health Emergency Preparedness and Response	Health and Social Services	Annual/Post Diaster Updates, Workshops
Charlissa Bell	Georgia Department of Public Health Planning and Preparedness	Health and Social Services	Annual/Post Diaster Updates
Lance Scott	Georgia Department of Public Safety State Patrol Air Ops	Law Enforcement / Emergency Management	Workshops
Emily Fish	Georgia Department of Transportation	Infrastructure	Annual/Post Diaster Updates, Workshops
Matt Needham	Georgia Department of Transportation Emergency Operations	Critical Infrastructure/Homeland Security	Annual/Post Diaster Updates, Workshops
Valerie Grooms	Georgia Emergency Management and Homeland Security Agency	Recovery, Mitigation, Emergency Management	Annual/Post Diaster Updates, Workshops
Beatrice Soler	Georgia Emergency Management and Homeland Security Agency Community Recovery	Recovery, Emergency Management	Annual/Post Diaster Updates, Workshops
Warren Shephard	Georgia Emergency Management and Homeland Security Agency Critical Infrastructure	Critical Infrastructure/Homeland Security	Workshops
Alicia Schoening	Georgia Emergency Management and Homeland Security Agency Hazard Mitigation	Mitigation, Emergency Management	Annual/Post Diaster Updates, Workshops
Mike EngleKing	Georgia Emergency Management and Homeland Security Agency Planning	Emergency Management	Annual/Post Diaster Updates

SHMS Update Meeting and Workshop Participation			
Name	Organization	Sector	Participation
LaTashae Walker	Georgia Emergency Management and Homeland Security Agency Public Assistance	Recovery, Emergency Management	Annual/Post Diaster Updates
Shelby Bergman	Georgia Emergency Management and Homeland Security Agency Radiological Emergency Preparedness	Radiological, Emergency Management	Workshops, Email
Leah Lord	Georgia Environmental Finance Authority	Economic Development, Natural and Cultural Resources	Workshops
Ken Parker	Georgia Forestry Commission	Natural and Cultural Resources	Annual/Post Diaster Updates, Workshops
Gus Elliot	Georgia Office of Planning and Budget	General Government	Annual/Post Diaster Updates
Barry Dorsey	Georgia Ports Authority	Economic Development, Infrastructure	Workshops
Jay Matthews	Georgia Rural Water Authority	Critical Infrastructure/Homeland Security	Annual/Post Diaster Updates
MarcVincent	Georgia World Congress Center	Economic Development	Annual/Post Diaster Updates
Noel Jensen	Jekyll Island Authority	Natural and Cultural Resoources, Economic Development, Land Use and Development, Housing	Annual/Post Diaster Updates, Email
Lisa Beck	Tech College System of Georgia	Education	Annual/Post Diaster Updates, Workshops, Email
Tripp Voss	Tennessee Emergency Management Agency	Neighboring State EMA	Annual/Post Diaster Updates
Lawton Brantley	University of Georgia Information Technology Outreach Service	Contractor	Annual/Post Diaster Updates, Workshops
Mike Coverson	University System of Georgia Board of Regents	Education	Annual/Post Diaster Updates
Derek Fellows	FEMA	Emergency Management, Mitigation	Annual/Post Diaster Updates
Stephen Juszcyk	FEMA RIV HMA	Emergency Management, Mitigation	Annual/Post Diaster Updates
Lillian Huffman	FEMA RIV Planning	Emergency Management, Mitigation	Annual/Post Diaster Updates, Workshops
Lillian Huffman	FEMA RIV Planning	Emergency Management, Mitigation	Workshops
Jeffery Morris	USACE	Natural and Cultural Resources, Critical Infrastructure	Annual/Post Diaster Updates
Carmelo Nieves	USDA	Health and Social Services - Food, Water, Medicines	Annual/Post Diaster Updates
Cran Upshaw	USDA NRCS	Natural and Cultural Resources, Critical Infrastructure	Email
Penelope Marshal	Amicalola EMC	Infrastructure	Annual/Post Diaster Updates
Daniel Frizzell	Blue Ridge Mountain EMC	Infrastructure	Annual/Post Diaster Updates
Travis Stone	Friends of Disabled Adults and Children	Vulnerable/Underserved Populations	Workshops
Skipper Stipmaas	Ga Heirs Property Law Center	Legal, Vulnerable/Underserved Populations	Workshops
Terrell Jacobs	Ga. Municipal Association	Economic Development/General Government	Annual/Post Diaster Updates
David Johnson	Greystone Power Corp	Infrastructure	Annual/Post Diaster Updates
Maurice Bailey	Gullah Geechee Peoples	Underserved Population	Workshops
Leslie Nichols	Jackson EMC	Infrastructure	Annual/Post Diaster Updates
Jennifer Hilburn	One Hundred Mile	Natural and Cultural Resources, Vulnerable/Underserved Populations	Workshops
Kelly Sharon	Red Cross	Housing, Sheltering, Food, Vulnerable/Underserved Populations	Workshops
Matthew Atkins	Red Cross	Housing, Sheltering, Food, Vulnerable/Underserved Populations	Workshops

SHMS Update Meeting and Workshop Participation			
Name	Organization	Sector	Participation
Lanita Lloyd	Salvation Army	Food, Sheltering, Vulnerable/Underserved Populations	Workshops
Kathy Shemwell	Southwest GA COAD	Recovery, Vulnerable/Underserved Populations	Workshops
Stacy Chastain	Tri-State EMC	Infrastructure	Annual/Post Diaster Updates

Appendix C

Risk Ranking Process

Historical Impact

Annualized losses

The annualized losses are based on historical data. The date range of 2002-2021 was used because of the unreliability in older records. Annualized losses are determined by the total reported loss divided by the number of the years in the date range. These scores are pre-filled on the ranking table.

Rating	Adjusted Losses Per Year
1	Up to \$1 million
2	1-5 million
3	5-10 million
4	10-20 million
5	More than \$20 million

Injuries and Deaths per year

The injuries and deaths are based on historical data. The date range of 2002-2021 was used because of the unreliability in older records. Annualized injuries and deaths are determined by the total reported divided by the number of the years in the date range. These scores are pre-filled on the ranking table.

Rating	Per Year
0	None
1	Less than 10
2	10-20
3	20-30
4	30-40
5	More than 40

Historical Occurrence of Events

The number of recorded incidents.

Rating	Frequency Per Year
1	Less than 25 events
2	25-50
3	50-100
4	100-200
5	More than 200

Potential Hazard

Duration

Potential duration of a single event. Determined at 1st Workshop

Rating	Number of Days
1	Less than 1 day
2	1-3 days
3	3-7 days
4	More than 1 week

Area Impacted per Event

Potential area impacted by a single event. Determined at 1st Workshop

Rating	Number of Counties
1	1-5
2	6-10
3	11-25
4	More than 25

Potential Vulnerability

Fatalities

The Potential number of fatalities from a single occurrence.

Rating	Description
0	No impact
1	Fewer than 5
2	5-10
3	11-50
4	More than 50

Injuries

The potential number of injuries from a single occurrence.

Rating	Description
0	No impact
1	1-25
2	26-100
3	More than 100

Evacuation

Potential evacuation needs from a single occurrence

Rating	Description
0	No impact
1	Up to 100 evacuated, sheltered in place or stranded
2	100 – 500 evacuated, sheltered in place or stranded
3	More than 500 evacuated, sheltered in place or stranded

Property

Potential property damage from a single occurrence

Rating	Description
0	No impact
1	Minor, mostly cosmetic
2	Localized severe, a few buildings destroyed
3	Widespread severe

Critical Infrastructure Impacted

Potential impacts to critical infrastructure. This includes water, power, communication, transportation, etc.

Rating	Description
0	No impact
1	1 service interrupted
2	2-3 services interrupted
3	More than 3 services interrupted

Environmental Damage

Potential environment impacts from a single occurrence.

Rating	Description
0	No impact
1	Localized reversible damage. Quick cleanup possible
2	Major, but reversible damage. Full cleanup difficult
3	Irreversible damage. Full cleanup not possible

Economic Disruption

Potential for businesses to be impacted / out of service.

Rating	Description
0	No impact
1	Could result in losses for a few businesses
2	Could result in losses for an industry

Psychosocial Impact

Potential impacts from public reaction, including panic, self-evacuation, hoarding, etc.

Rating	Description
0	No impact
1	Significant impacts, including limited panic, hoarding, self-evacuation and long term impacts
2	Widespread impacts, including mass panic, widespread hoarding, self-evacuation and long term impacts

20 year Historical Impact

Hazard	Annualized Losses	Injuries and Deaths	Historical Frequency	Historical Score
Dam Failure	0	0	0	0
Drought	5	0	4	9
Inland Flooding	5	1	4	10
Seismic Hazards	0	0	0	0
Severe Weather	5	3	5	13
Severe Winter Weather	5	1	1	7
Geologic Hazards	0	0	0	0
Coastal Hazards	1	1	1	3
Tornadoes	5	5	2	12
Hurricane Wind	3	1	4	8
Wildfire	2	1	1	4
Wind	3	1	3	7
Extreme Heat	1	1	3	5

Workshop 1 Natural Hazard Ranking Groups

Group 1

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Dam Failure	4	3	7
Drought	4	4	8
Inland Flooding	2	3	5
Seismic Hazards	1	1	2
Severe Weather	2	3	5
Severe Winter Weather	3	3	6
Geologic Hazards	1	1	2
Coastal Hazards	2	2	4
Tornadoes	1	3	4
Hurricane Wind	3	3	6
Wildfire	2	1	3
Wind	1	1	2
Extreme Heat	4	4	8

Group 2

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Dam Failure	4	2	6
Drought	4	4	8
Inland Flooding	3	3	6
Seismic Hazards	1	2	3
Severe Weather	2	4	6
Severe Winter Weather	2	4	6
Geologic Hazards	3	1	4
Coastal Hazards	2	2	4
Tornadoes	1	2	3
Hurricane Wind	2	4	6
Wildfire	4	2	6
Wind	2	4	6
Extreme Heat	4	4	8
Coastal Erosion (new)	4	2	6

Group 3

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Dam Failure	2	2	4
Drought	4	4	8
Inland Flooding	3	4	7
Seismic Hazards	1	3	4
Severe Weather	1	4	5
Severe Winter Weather	4	4	8
Geologic Hazards	1	1	2
Coastal Hazards	2	2	4
Tornadoes	1	4	5
Hurricane Wind	3	4	7
Wildfire	4	3	7
Wind	1	4	5
Extreme Heat	4	4	8

Workshop 1 Non-Natural Hazard Ranking Groups

Group 1

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Infrastructure Failure	3	4	7
Cyberattack	3	4	7
HazMat Spills / Release	1	2	3
Active Shooter	1	1	2
Infectious Disease	4	4	8
Radiological Release	4	4	8
Terrorism (New)	2	4	6
			0
			0
			0
			0
			0
			0
			0

Group 2

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Infrastructure Failure	4	4	8
Cyberattack	4	4	8
HazMat Spills / Release	2	1	3
Active Shooter	1	1	2
Infectious Disease	4	4	8
Radiological Release	2	4	6
Terrorism (New)	1	4	5
Compliance Violation? (New)			0
			0
			0
			0
			0
			0
			0

Group 3

Potential Hazard			
Hazard	Duration	Area Impacted	Total Hazard Score
Infrastructure Failure	4	2	6
Cyberattack	4	4	8
HazMat Spills / Release	2	1	3
Active Shooter	1	1	2
Infectious Disease	4	4	8
Radiological Release	4	3	7
Terrorism (New)	3	3	6
			0
Biological Hazards (New)	4	4	8
Domestic Unrest(New)	2	1	3
Commerce Interruption (New)	3	4	7
			0
			0

Workshop 1 Natural Hazard Ranking Results

Hazard	Duration			Average Score
	Group 1	Group 2	Group 3	
Dam Failure	4	4	2	3
Drought	4	4	4	4
Inland Flooding	2	3	3	3
Seismic Hazards	1	1	1	1
Severe Weather	2	2	1	2
Severe Winter Weather	3	2	4	3
Geologic Hazards	1	3	1	2
Coastal Hazards	2	2	2	2
Tornadoes	1	1	1	1
Hurricane Wind	3	2	3	3
Wildfire	2	4	4	3
Wind	1	2	1	1
Extreme Heat	4	4	4	4

Hazard	Area Impacted			Average Score
	Group 1	Group 2	Group 3	
Dam Failure	3	2	2	2
Drought	4	4	4	4
Inland Flooding	3	3	4	3
Seismic Hazards	1	2	3	2
Severe Weather	3	4	4	4
Severe Winter Weather	3	4	4	4
Geologic Hazards	1	1	1	1
Coastal Hazards	2	2	2	2
Tornadoes	3	2	4	3
Hurricane Wind	3	4	4	4
Wildfire	1	2	3	2
Wind	1	4	4	3
Extreme Heat	4	4	4	4
Coastal Erosion (new)	4		2	6

Workshop 1 Non-Natural Hazard Ranking Results

Hazard	Duration			Average Score
	Group 1	Group 2	Group 3	
Infrastructure Failure	3	4	4	4
Cyberattack	3	4	4	4
HazMat Spills / Release	1	2	2	2
Active Shooter	1	1	1	1
Infectious Disease	4	4	4	4
Radiological Release	4	2	4	3
Biological Hazards (New)			4	4
Domestic Unrest (New)			2	2
Commerce Interruption (New)			3	3
Terrorism (New)	2	1	3	2
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				#DIV/0!
				#DIV/0!

Hazard	Area Impacted			Average Score
	Group 1	Group 2	Group 3	
Infrastructure Failure	4	4	2	3
Cyberattack	4	4	4	4
HazMat Spills / Release	2	1	1	1
Active Shooter	1	1	1	1
Infectious Disease	4	4	4	4
Radiological Release	4	4	3	4
Biological Hazards (New)			4	4
Domestic Unrest (New)			1	1
Commerce Interruption (New)			4	4
Terrorism (New)	4	4	3	4
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Workshop 1 Natural Hazard Ranking Summary Results

Hazard	Group 1	Group 2	Group 3	Average Table Ranking
Dam Failure	7	6	4	6
Drought	8	8	8	8
Inland Flooding	5	6	7	6
Seismic Hazards	2	3	4	3
Severe Weather	5	6	5	5
Severe Winter Weather	6	6	8	7
Geologic Hazards	2	4	2	3
Coastal Hazards	4	4	4	4
Tornadoes	4	3	5	4
Hurricane Wind	6	6	7	6
Wildfire	3	6	7	5
Wind	2	6	5	4
Extreme Heat	8	8	8	8
Coastal Erosion		6		6

Workshop 1 Non-Natural Hazard Ranking Summary Results

Hazard	Group 1	Group 2	Group 3	Average Table Ranking
Infrastructure Failure	7	8	6	7
Cyberattack	7	8	8	8
HazMat Spills / Release	3	3	3	3
Active Shooter	2	2	2	2
Infectious Disease	8	8	8	8
Radiological Release	8	6	7	7
Terrorism (New)	6	5	6	6
Biological Hazards (New)			8	8
Domestic Unrest (New)			3	3
Commerce Interruption (New)			7	7

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Workshop 2 Vulnerability Tables

Group 1

Potential Hazard									
Hazard	Fatalities	Injuries	Evacuation	Property	Critical Infrastructure	Environmental	Economy	Psychosocial	Total Vulnerability Score
Dam Failure	3	2	3	2	3	2	1	1	17
Drought	1	1	0	3	2	2	2	1	12
Inland Flooding	3	2	3	3	3	2	2	2	20
Seismic Hazards	1	1	1	1	3	2	1	1	11
Severe Weather	1	1	1	2	2	1	1	1	10
Severe Winter Weather	2	2	3	2	3	1	1	2	16
Geologic Hazards	1	1	1	2	3	2	1	1	12
Coastal Hazards	3	2	3	3	3	3	2	2	21
Tornadoes	2	2	3	3	3	3	2	2	20
Hurricane Wind	1	1	3	3	3	2	2	2	17
Wildfire	1	1	2	2	2	1	1	1	11
Wind	1	1	1	2	1	1	1	0	8
Extreme Heat	1	2	1	1	2	1	0	0	8

Group 2

Potential Hazard									
Hazard	Fatalities	Injuries	Evacuation	Property	Critical Infrastructure	Environmental	Economy	Psychosocial	Total Vulnerability Score
Dam Failure	3	2	2	2	3	2	1	1	16
Drought	0	0	0	0	1	1	2	1	5
Inland Flooding	1	1	2	3	3	2	2	1	15
Seismic Hazards	0	0	0	2	1	0	1	0	4
Severe Weather	0	0	0	1	1	1	1	0	4
Severe Winter Weather	2	1	1	1	3	1	2	1	12
Geologic Hazards	0	0	0	1	1	1	1	0	4
Coastal Hazards	1	1	1	2	2	2	2	0	11
Tornadoes	3	2	1	2	2	1	1	1	13
Hurricane Wind	3	2	3	3	3	2	2	1	19
Wildfire	1	1	1	2	2	1	1	0	9
Wind	0	1	0	1	1	1	1	0	5
Extreme Heat	1	1	0	0	1	1	2	0	6

Group 1

Potential Hazard									
Hazard	Fatalities	Injuries	Evacuation	Property	Critical Infrastructure	Environmental	Economy	Psychosocial	Total Vulnerability Score
Infrastructure Failure	2	2	1	1	3	2	1	0	12
Cyberattack	0	0	1	0	2	0	2	2	7
HazMat Spills / Release	2	2	3	2	2	3	2	2	18
Active Shooter	2	1	2	1	1	0	1	1	9
Infectious Disease	4	3	3	0	2	0	2	2	16
Radiological Release	3	3	3	3	3	3	2	2	22
Terrorism	3	3	2	2	3	2	1	2	18
Biological Hazards	0	1	0	2	1	1	2	1	8
Domestic Unrest	1	1	1	2	2	1	1	1	10
Commerce Interruption	0	1	0	0	1	0	2	2	6

Group 2

Potential Hazard									
Hazard	Fatalities	Injuries	Evacuation	Property	Critical Infrastructure	Environmental	Economy	Psychosocial	Total Vulnerability Score
Infrastructure Failure	1	1	0	1	3	1	1	0	8
Cyberattack	0	0	0	0	3	0	2	1	6
HazMat Spills / Release	1	1	1	0	1	3	2	2	11
Active Shooter	2	1	1	1	1	0	1	2	9
Infectious Disease	4	3	3	0	3	0	2	2	17
Radiological Release	2	1	2	0	2	3	2	2	14
Terrorism	3	2	2	2	2	1	2	2	16
Biological Hazards	1	1	1	0	1	0	2	2	8
Domestic Unrest	1	2	2	1	2	0	2	2	12
Commerce Interruption	1	1	0	1	1	0	2	2	8

Workshop 2 Vulnerability Ranking Summary Results

Hazard	Group 1	Group 2	Average Table Ranking
Dam Failure	17	16	17
Drought	12	5	9
Inland Flooding	20	15	18
Seismic Hazards	11	4	8
Severe Weather	10	4	7
Severe Winter Weather	16	12	14
Geologic Hazards	12	4	8
Coastal Hazards	21	11	16
Tornadoes	20	13	17
Hurricane Wind	17	19	18
Wildfire	11	9	10
Wind	8	5	7
Extreme Heat	8	6	7

Hazard	Group 1	Group 2	Average Table Ranking
Infrastructure Failure	12	8	10
Cyberattack	7	6	7
HazMat Spills / Release	18	11	15
Active Shooter	9	9	9
Infectious Disease	16	17	17
Radiological Release	22	14	18
Terrorism	18	16	17
Biological Hazards	8	8	8
Domestic Unrest	10	12	11
Commerce Interruption	6	8	7

Final Ranking Results - Natural Hazards

Hazard	20 year Historical Impact		Potential Hazard		Potential Vulnerability Impact	
	Combined Historic Ranking	Historical Score	Hazard Group Rankings	Total Hazard Score (History + Hazard)	Vulnerability Group Rankings	Total Risk Score (History + Hazard + Vulnerability)
Dam Failure	0	0	6	6	17	22
Drought	9	9	8	17	9	26
Inland Flooding	10	10	6	16	18	34
Seismic Hazards	0	0	3	3	8	11
Severe Weather	13	13	5	18	7	25
Severe Winter Weather	7	7	7	14	14	28
Geologic Hazards	0	0	3	3	8	11
Coastal Hazards	3	3	4	7	16	23
Tornadoes	12	12	4	16	17	33
Hurricane Wind	8	8	6	14	18	32
Wildfire	4	4	5	9	10	19
Wind	7	7	4	11	7	18
Extreme Heat	5	5	8	13	7	20

Ranking Score	Hazard	Priority
34	Inland Flooding	High
33	Tornadoes	High
32	Hurricane Wind	High
28	Severe Winter Weather	High
26	Drought	High
25	Severe Weather	Medium
23	Coastal Hazards	Medium
22	Dam Failure	Medium
20	Extreme Heat	Medium
19	Wildfire	Medium
18	Wind	Medium
11	Seismic Hazards	Low
11	Geologic Hazards	Low

High= >25
Medium= 16-25
Low= <16

Notes:
Historical Impact data based on SHELUDS on 20 year period 2002-2021.
Potential Hazard and Vulnerability are Subjective variables.

Final Ranking Results - Non-Natural Hazards

Hazard	Potential		Potential Vulnerability Impact	
	Group Rankings	Total Hazard Score	Group Rankings	Total Risk Score (Hazard + Vulnerability)
Infrastructure Failure	7	7	10	17
Cyberattack	8	8	7	14
HazMat Spills / Release	3	3	15	18
Active Shooter	2	2	9	11
Infectious Disease	8	8	17	25
Radiological Release	7	7	18	25
Terrorism	6	6	17	23
Biological Hazards	8	8	8	16
Domestic Unrest	3	3	11	14
Commerce Interruption	7	7	7	14

Ranking Score	Hazard	Priority
25	Infectious Disease	High
25	Radiological Release	High
23	Terrorism	High
18	HazMat Spills / Release	High
17	Infrastructure Failure	High
16	Biological Hazards	High
14	Cyberattack	Medium
14	Domestic Unrest	Medium
14	Commerce Interruption	Medium
11	Active Shooter	Medium

High= >15
Medium= <16

Notes:

No Historic Data

Potential Hazard and Vulnerability are Subjective variables.

Appendix D
Other Risk Information

Appendix D-I
DNR Coastal Resources Sea Level
Rise Study

Georgia Coastal Region NOAA CZM Project of Special Merit Final Report

Date: September 22, 2017

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Acronyms

FEMA – Federal Emergency Management Agency

GBS – General Building Stock

UDF – User Defined Facilities

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Executive Summary

The potential for complacency exists among coastal Georgia residents, policy makers, business owners and other stakeholders due to the fact that the coast has not been hit by a major storm in many decades and just recently avoided a hurricane landfall once again. However, the Georgia Coastal Management Program GCMP is well aware of the importance of creating disaster resilient communities and the need to incorporate long-term planning for natural disasters into state and local management processes.

This project not only provides a regional assessment for probable storm-scenarios for coastal communities but it has also generated innovative simulations of the potential predicted effects of a warming climate, such as sea-level rise and more intense coastal storms. A warming atmosphere can produce major changes in temperatures, land cover, precipitation (drought, fire, and floods), wildlife risks, rising seas (increased erosion, salt marsh loss), stronger storms producing increased storm damage, and economic losses among other effects that occur over several decades or longer. With these changes to the atmosphere, the intensity, power, destructive energy (i.e., a combination of intensity and duration) and frequency of hurricanes is likely to increase (Emmanuel, 2005; CCSP, 2008; Karl et al 2009). Also, with a predicted sea level rise of at least one meter by 2100, the Southeast will likely see an increase in storm surge, which could easily be the most costly consequence of long-term hazards (Karl et al., 2009). Hurricane intensity is also projected to increase, which will likely increase storm surge (Knutson and Tulyea 2004).

To capture high and low frequency hurricane events in coastal Georgia, three hurricane scenarios and their associated storm surge were analyzed. The first was a high frequency event, a Category 1 hurricane. Wind risk data within Hazus-MH estimates that Category 1 hurricanes have a 5% annual chance (20 year return period) to strike coastal Georgia. The most extreme hurricanes to impact Georgia were in 1893 (strong CAT 3) and 1898 (CAT 4). To simulate an extreme, high-impact, low frequency hurricane event, a Category 4 hurricane that skirts the Georgia coastline was simulated with current sea levels. This orientation to the coastline maximizes the hurricane's wind and storm surge impacts along the coastline. A Category 5 hurricane has never made landfall in Georgia and has an annual likelihood of occurrence that is minimal (< 0.1% annual chance). However, with changes to sea surface temperatures, the potential for stronger hurricanes in the Atlantic Ocean are possible. Therefore, in the final scenario, a Category 5 hurricane with a direct landfall along the Georgia coastline was simulated to capture the potential impacts from a stronger storm under future sea surface temperatures. Each scenario was then simulated using a 1-meter rise in sea level. The scenario

outputs between baseline and future conditions were compared to demonstrate the increased risk due to increasing sea surface temperatures and rising sea levels.

The intense thunderstorms within hurricanes also produce heavy rains. To capture the impacts of rainfall from hurricanes the 1% annual chance flooding areas along the streams and rivers in coastal Georgia were computed. The scenario was completed twice, first under current sea-level conditions and second with a 1 meter increase to sea levels. These two scenarios along with the wind and storm surge simulations capture the impacts from hurricanes landfalling in Georgia under current and future climates.

Perhaps the greatest benefit of this project will be the increased awareness and understanding of coastal Georgia's vulnerability to long-term hazards by the local decision makers and coastal stakeholders. Their appreciation for the risks and vulnerabilities will be critical for the successful long-term implementation of future planning.

Finally, this project ultimately benefits the general public who live in coastal Georgia. Informed preparation for the inevitable risks and changes will lessen negative impacts to the public in terms of economics, health and culture. Given Georgia's vast expanse of coastal estuaries and rivers, preservation of healthy ecosystems through appropriate planning tremendously benefits Georgia's general public by preserving opportunities for livelihood and recreation. As a result of local leadership's education through this project, the general public too will develop increased resiliency.

Section

1

Introduction

The geography studied for this project encompasses an eleven county area covering 5,735 square miles along the Georgia coastline. It contains over 240,000 buildings with a building replacement value in excess of 48 billion dollars. Counties included in the study are Effingham, Chatham, Bryan, Liberty, Long, McIntosh, Wayne, Glynn, Brantley, Camden and Charlton. According to the U.S. Census the 2010 population of this area was 630,681.



Figure 1: Project Study Area

Section

2

Inventory Development

2.1 Overview

While there exist a growing number of data sources that describe the built environment, most of these currently suffer from one or more characteristics that make their use for a study of this type less than ideal. These may include being out of date, incomplete, or even fee-based. Beginning in 2011, a number of entities within the State of Georgia embarked on an initiative to develop tools and data about the built environment that could support better informed modeling of the impacts of natural hazards. This effort was a collaboration between the Georgia Emergency Management Agency, the Georgia Department of Natural Resources and the Coastal Regional Commission of Georgia.

Building exposure data, hereinafter referred to in this report as ‘building inventory,’ developed as part of this initiative were derived from county parcel maps and computer-aided-mass appraisal (CAMA) files in selected Georgia counties. These included the 11 coastal counties chosen for this study. The inventory was formatted to be consistent with the requirements of Hazus-MH Release 3.2, the modeling platform selected for this project. Hazus-MH is a GIS-based tool developed by the U.S. Federal Emergency Management Agency that is an extension of Esri’s ArcGIS Desktop release 10.4. It enables the estimation of social and economic impacts from floods, earthquake and hurricanes. To estimate these impacts requires three key inputs. These include a description of what is exposed to the hazard, the building inventory; a description of the hazard itself; and a methodology for assessing losses. This part of the report focuses on the building inventory. Aspects of the Hazus-MH hazard and loss estimation methodology of relevance to the study will be discussed later in the report.

Hazus-MH comes with a building inventory for the entire United States, which means that any community can produce an assessment of risk with minimal effort. While the ‘out-of-the-box’ inventory provides a reasonable depiction of exposure for assessing regional impacts, it tends to offer limited utility for localized estimations. For this reason, it was decided for this project that the Hazus-MH provided inventory should be updated with the refined inventory produced for Georgia. Building inventory in Hazus-MH can be represented in two different ways, points for individual buildings – referred to in Hazus-MH as User Defined Facilities– and in an aggregated format referred to in Hazus-MH as the General Building Stock. Both representations were used for this project due to the type of outputs available from each.

User Defined Facilities were located at the centroids of parcels. This decision was based on the availability of data to support the inventory development. Figure 2 shows an example of User Defined Facility inventory in Glynn County.



Figure 2: Example of User Defined Facility Inventory

The General Building Stock Inventory was aggregated to geographic boundaries supported by Hazus-MH for modeling losses from hurricanes and floods. For hurricane loss estimations, aggregation occurs at the level of 2010 census tracts. For flood loss estimations, aggregation occurs at the level of 2010 census blocks. It is assumed in Hazus-MH that building stock is evenly distributed across census boundaries. This assumption can lead to over or underestimations of hazard impact in some cases. For this reason, in Hazus-MH 3.2, census blocks are clipped to remove areas without population such as vacant land, forested areas and water bodies. Figure 3 shows an example of the General Building Stock inventory for the flood model in Glynn County. Labels represent building counts in each census block.



Figure 3: Example of General Building Stock Inventory.

Both the User Defined Facility inventory and the General Building Stock inventory were attributed with information gathered from the CAMA data necessary to support the calculation of losses. For the User Defined Facility Inventory examples of these attributes include a description of how each structure is used (e.g. residential, commercial, industrial, etc.); the material from which each structure is built (e.g. wood, concrete, steel, etc.) the size of the

structure; costs of replacement for the structure, its contents and any inventory; the foundation type and first floor elevation; and so forth.

In addition to the General Building Stock inventory and the User Defined Inventory described above, Hazus-MH also includes a type of inventory referred to as Essential Facilities. These types of structures include police stations; fire stations; care facilities such as hospitals and clinics; and emergency operation centers. Given the not-for-profit purpose of these facilities, they are usually not accounted for in CAMA data which is collected for tax assessment purposes. For this reason we also integrated updates of the Hazus-MH Essential Facility data completed by the Coastal Regional Commission of Georgia as part of this project.

2.2 General Building Stock and User Defined Facility Updates

CAMA data is information about properties typically used for taxation purposes. It includes content about the ownership of each property, structural characteristics of any buildings on the property, their use and a variety of other information.

In the past, property assessment information was stored in paper form. However, most county assessors have now transitioned to digital representations of the type of information stored and managed by CAMA software. There are a multitude of different CAMA software options available – in the State of Georgia there were 10 different CAMA software applications in use. While there are some commonalities across CAMA software, such as the fact that they all store information about properties, the data structure and options vary widely between software. In addition, even in cases where two counties may use the same CAMA software they often elect to populate fields with different codes or other values customized to their needs. While this offers a great deal of flexibility for taxation purposes, it can make use of this type of data for hazard modeling and other purposes somewhat challenging.

In order to address this challenge, the development of inventory for this project required the creation of tools that could convert the CAMA data from its native format to a Hazus-MH compliant format that is consistent across all counties. These tools were developed with Esri's Data Interoperability extension by The Polis Center at Indiana University Purdue University Indianapolis. The tools, along with detailed workflows, were delivered to the state so that they can maintain consistently updated versions of their building data into the future. Where information was not available from the CAMA data, assumptions were put in place based on other sources of information or expert opinion. These were incorporated within the tool and the associated workflow documentation. For example, content cost, a representation of the cost to replace furnishings and other non-structural components of a building, are not reported in CAMA files. For content replacement cost, values were estimated as a percentage of the replacement cost of the structure. For example, for a RES1 (single family residential) building,

the content values was assumed to be 50% of the building replacement cost. The complete list of occupancy type to content replacement value conversions can be found in Table 14.6 of the Hazus-MH Flood Technical Manual.¹

Figure 4 offers an example of one of the tools in which occupancy codes used in a CAMA system are translated to Hazus-MH compliant values. For instance, a value of '0004' is translated to 'RES1' which, in Hazus-MH, refers to a single family dwelling.

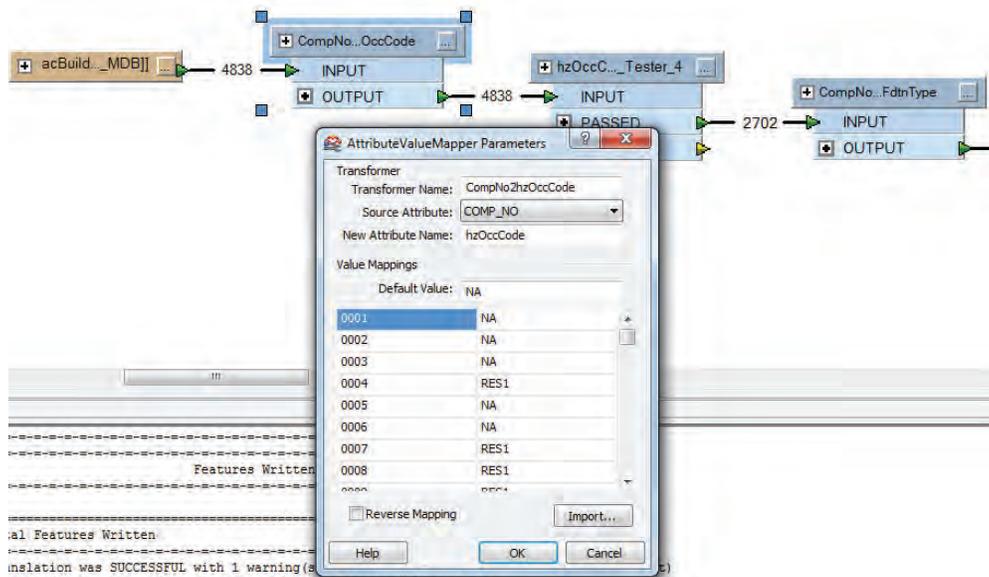


Figure 4: Example of Data Conversion Tool Interface

The following tables provide match rates between parcel data and CAMA data for each of the counties in the study. They also provide default as well as updated Hazus-MH building counts and building replacement costs. With the exception of Glynn County, the match rate was exceptional. For Glynn County it was determined that the mismatch between the parcel records and assessor records could be due to several condominiums belonging to one parcel, but each having a unique PIN which was not used in the join between the parcel and CAMA records and therefore was deemed acceptable.

It should be noted that, while the data collected from the counties for this project yielded what is believe to be useful information about the built environment against which to model potential impacts of flooding, these data were not intended to be perfect in nature. There were, for example, a number of assumptions made about building characteristics that would impact the specifics of the model output. For example, given the lack of information in the CAMA data about first floor elevations, the default first floor elevation values applied in Hazus for riverine pre-FIRM structures were universally applied to all buildings in the dataset. This

¹ Hazus-MH 2.1 Flood Technical Manual page 453, Table 14.6.

would have the result in some cases of overestimating impacts of flooding where first floor elevations were actually higher than modeled. However, given the predicted depth of water along the coastline in the modeled scenarios we believe this impact would be limited in nature. Future analysis could seek to refine the estimates by refining this and other assumptions should funding and time be available to support such an effort.

After update, there are a total of 241,987 buildings in the 11-county region with a combined building replacement cost value of slightly over \$48 billion. Replacement costs values are calculated using Hazus-MH provided 2014 RS Means costs for materials and labor per square foot by occupancy and then regionally adjusted.

Brantley County

Percentage Match Rate: 98.6%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	134	224	\$58,275	\$90,652
Industrial	43	98	\$14,043	\$37,864
Residential	7,950	8,401	\$929,136	\$690,100
Agricultural	9	0	\$4,008	0
Religious	18	40	\$14,767	\$25,558
Government	11	3	\$5,107	\$744
Educational	8	4	\$10,850	\$2,163

Table 1: Brantley County General Building Stock Inventory Update Statistics

Bryan County

Percentage Match Rate: 97.1%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	491	401	\$254,144	\$120,049
Industrial	125	156	\$55,089	\$84,783
Residential	11,027	13,426	\$2,882,790	\$2,090,537
Agricultural	28	0	\$7,957	0
Religious	57	106	\$32,639	\$26,461
Government	17	44	\$13,657	\$18,981
Educational	22	28	\$32,041	\$34,908

Table 2: Bryan County General Building Stock Inventory Update Statistics

Camden County

Percentage Match Rate: 99.7%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	817	1,069	\$463,170	\$833,846
Industrial	168	19	\$58,586	\$53,514
Residential	18,670	18,966	\$4,263,335	\$3,016,919
Agricultural	20	7	\$4,764	\$10,674
Religious	117	154	\$77,177	\$134,505
Government	69	50	\$61,940	\$60,080
Educational	36	27	\$28,480	\$359,306

Table 3: Camden County General Building Stock Inventory Update Statistics

Charlton County

Percentage Match Rate: 97%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	151	192	\$87,395	\$84,279
Industrial	43	87	\$22,600	\$76,695
Residential	4,336	4,145	\$591,524	\$394,789
Agricultural	9	0	\$2,279	0
Religious	25	9	\$15,063	\$4,986
Government	5	12	\$2,627	\$60,097
Educational	6	2	\$9,223	\$2,109

Table 4: Charlton County General Building Stock Inventory Update Statistics

Chatham County

Percentage Match Rate: 98.83

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	5,914	5,259	\$4,670,204	\$5,139,157
Industrial	1,362	455	\$907,791	\$1,392,019
Residential	93,115	89,804	\$23,911,712	\$16,340,181
Agricultural	180	14	\$44,461	\$2,412
Religious	802	260	\$684,358	\$254,669
Government	164	35	\$137,772	\$143,296
Educational	197	52	\$390,447	\$159,859

Table 5: Chatham County General Building Stock Inventory Update Statistics

Effingham County

Percentage Match Rate: 99.8%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	654	486	\$310,281	\$282,922
Industrial	249	137	\$104,906	\$226,312
Residential	18,867	22,679	\$3,861,472	\$3,215,340
Agricultural	50	7	\$10,380	\$16,064
Religious	120	25	\$73,165	\$60,675
Government	19	14	\$16,283	\$7,837
Educational	19	6	\$31,270	\$20,807

Table 6: Effingham County General Building Stock Inventory Update Statistics

Glynn County

Percentage Match Rate: 80.4%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	2,057	972	\$1,357,850	\$293,458
Industrial	510	110	\$252,333	\$61,629
Residential	34,208	28,024	\$8,405,595	\$5,002,803
Agricultural	83	129	\$15,944	\$3,629
Religious	266	182	\$205,834	\$72,433
Government	74	8	\$63,421	\$3,434
Educational	71	25	\$111,854	\$86,558

Table 7: Glynn County General Building Stock Inventory Update Statistics

Liberty County

Percentage Match Rate: 96.9%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	786	1,022	\$442,597	\$999,579
Industrial	157	49	\$105,243	\$131,054
Residential	22,303	21,286	\$4,502,396	\$2,795,998
Agricultural	28	6	\$6,197	\$2,060
Religious	101	154	\$61,452	\$116,353
Government	62	32	\$36,887	\$38,628
Educational	51	30	\$41,587	\$242,513

Table 8: Liberty County General Building Stock Inventory Update Statistics

Long County

Percentage Match Rate: 88.5%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	43	118	\$22,496	\$41,343
Industrial	23	19	\$5,729	\$8,115
Residential	5,942	4,376	\$633,397	\$501,604
Agricultural	3	0	\$867	0
Religious	9	11	\$8,090	\$14,592
Government	4	2	\$1,982	\$709
Educational	2	0	\$1,312	0

Table 9: Long County General Building Stock Inventory Update Statistics

McIntosh County

Percentage Match Rate: 98.3%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	143	226	\$104,671	\$146,066
Industrial	32	115	\$10,653	\$71,647
Residential	8,989	7,005	\$1,239,599	\$875,943
Agricultural	8	0	\$1,423	0
Religious	22	35	\$16,356	\$27,926
Government	18	8	\$14,322	\$2,454
Educational	7	6	\$7,247	\$42,223

Table 10: McIntosh County General Building Stock Inventory Update Statistics

Wayne County

Percentage Match Rate: 91.2%

Occupancy	Building Count – Default Hazus 3.1	Building Count Updated Hazus 3.1	Replacement Cost Default Hazus 3.1 (X \$1,000)	Replacement Cost Updated Hazus 3.1 (X \$1,000)
Commercial	646	604	\$311,464	\$330,092
Industrial	190	23	\$109,172	\$65,428
Residential	11,603	10,367	\$1,770,746	\$1,285,206
Agricultural	51	3	\$10,335	\$1,391
Religious	108	0	\$68,566	0
Government	27	1	\$22,491	\$196
Educational	20	136	\$20,823	\$97,929

Table 11: Wayne County General Building Stock Inventory Update Statistics

2.3 Essential Facility Updates

Updates of the Hazus-MH Essential Facilities were completed by the Coastal Regional Commission of Georgia. The update process included verification of the existence and location of each facility. Aerial imagery was used to verify the location. County websites, along with local knowledge, were used to verify the name, address, replacement cost and other information about each facility where possible.

The following table provides information about the default and updated county for each facility type by county.

Facility Type	Default Hazus-MH Building Count	Updated Building Count
Brantley County		
Fire Stations	1	34
Police Stations	2	6
Emergency Operation Centers	1	1
Medical Care Facilities	0	4
Schools	6	20
Bryan County		
Fire Stations	5	9
Police Stations	2	2
Emergency Operation Centers	0	1
Medical Care Facilities	0	2
Schools	14	8
Camden County		
Fire Stations	4	18
Police Stations	5	5
Emergency Operation Centers	1	1
Medical Care Facilities	1	1
Schools	15	15
Charlton County		
Fire Stations	1	10
Police Stations	2	9
Emergency Operation Centers	0	1
Medical Care Facilities	1	7
Schools	6	9
Chatham County		
Fire Stations	20	40
Police Stations	15	20
Emergency Operation Centers	0	1
Medical Care Facilities	5	4
Schools	87	159
Effingham County		
Fire Stations	4	18
Police Stations	3	5
Emergency Operation Centers	0	1
Medical Care Facilities	1	3
Schools	14	16
Glynn County		
Fire Stations	3	14

Facility Type	Default Hazus-MH Building Count	Updated Building Count
Police Stations	8	11
Emergency Operation Centers	0	1
Medical Care Facilities	2	12
Schools	30	32
Liberty County		
Fire Stations	8	14
Police Stations	6	6
Emergency Operation Centers	0	1
Medical Care Facilities	2	1
Schools	22	21
Long County		
Fire Stations	0	6
Police Stations	2	3
Emergency Operation Centers	0	1
Medical Care Facilities	0	5
Schools	4	6
McIntosh County		
Fire Stations	1	11
Police Stations	2	6
Emergency Operation Centers	0	1
Medical Care Facilities	0	2
Schools	6	7
Wayne County		
Fire Stations	6	11
Police Stations	1	2
Emergency Operation Centers	0	1
Medical Care Facilities	1	4
Schools	10	9

Table 12: Essential Facility Inventory Update Statistics

Section**3**

Hazard Development and Analysis

Methodology

3.1 Hazard Development Methodology

Hazus-MH provides a wide range of options for defining a hazard. Some of these options rely on Hazus-MH to generate the hazard while others allow for expert input. For this study we applied a combination of these. A total of eight hazard scenarios were developed. The purpose of each scenario, the methodology used to develop it, and any limitations that should be considered when assessing the estimated loss impacts are described in the following pages.

3.1.1 High Frequency – Category 1 Hurricane Scenario

The team developed three scenarios related to a Category 1 (5% annual chance / 20-year return period) hurricane as described by its maximum sustained wind speeds. The modeled hurricane was assumed to have similar characteristics to the 1898 storm that impacted the Georgia coastline. In all three scenarios, the modeled hurricane has a forward speed of 10 mph with hurricane force winds extending outward at a distance of 20 miles from the center of the storm (Figure 5). The hurricane winds and storm surge were calculated using Hazus-MH's wind and surge models.

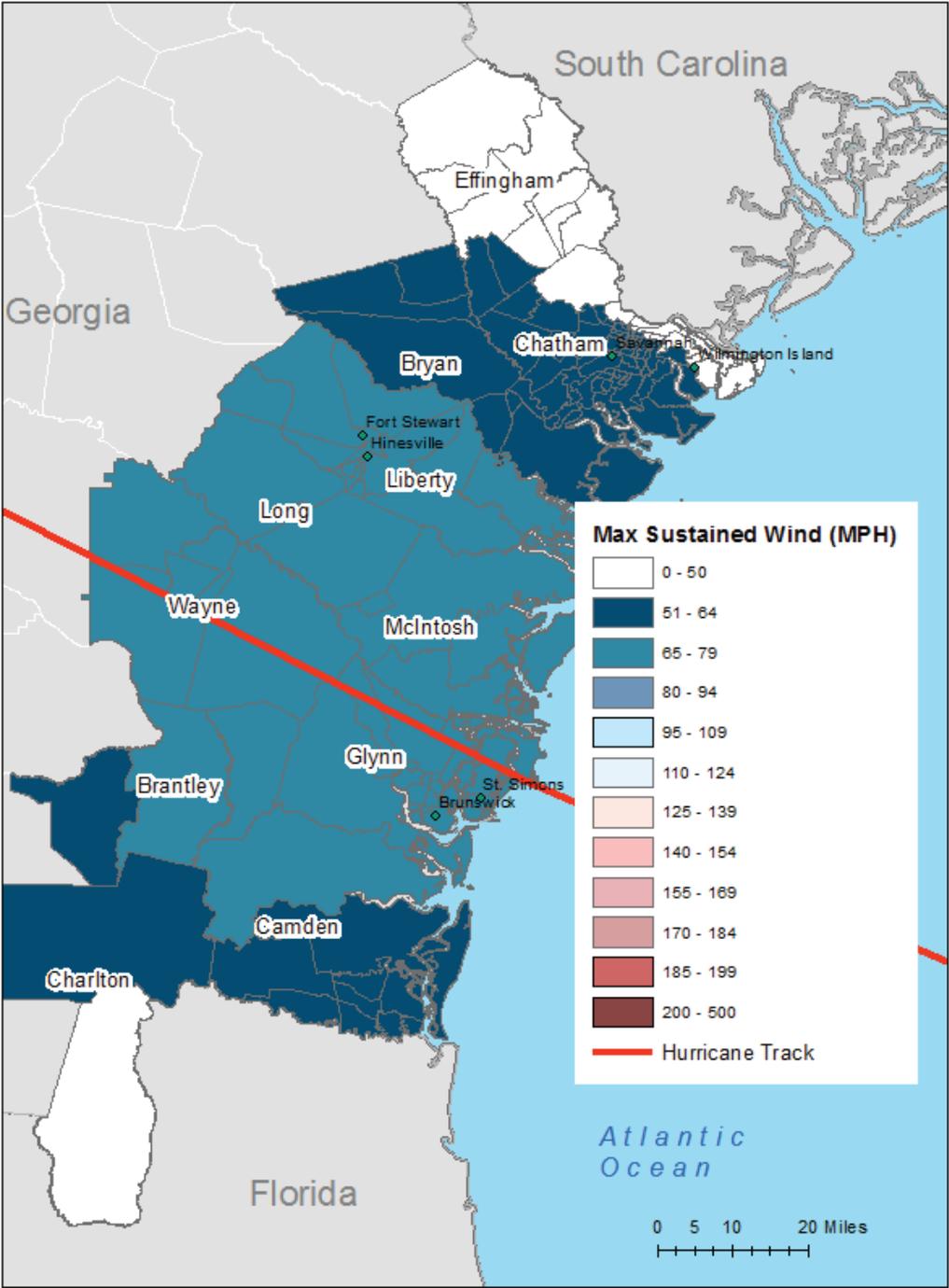


Figure 5: Maximum Sustained Winds for a Category 1 Hurricane

The three scenarios have varying changes to the storm surge. The first modeled scenario represents storm surge conditions that should be expected from a Category 1 hurricane without the consideration of future sea level rise. In this scenario, a Lidar derived DEM from Georgia Southern University was used to estimate storm surge with current sea levels. The second scenario represents the potential future conditions that could be expected from flooding with sea level rise during a Category 1 hurricane. In this simulation the storm surge reflects the 'typical' rise expected based upon the Category 1 windspeeds that were modeled. The relationship between hurricane windspeeds and storm surge can vary based-upon the wind history of an approaching hurricane. The third scenario simulates the impacts of sea-level rise from a Category 1 hurricane, but assumes a worst case storm surge event. Both sea level rise scenarios are based-upon a 1 meter sea level rise DEM calculated using the Sea Level Affecting Marshes Model (SLAMM) by Georgia Southern University. A comparison of the extent of flooding from a Category 1 hurricane with and without potential sea level rise (typical surge conditions) is represented in Figure 6. Figure 7 includes the same Category 1 hurricane without sea level rise as in Figure 6, but is compared against a worst case storm surge under future sea level rise conditions.

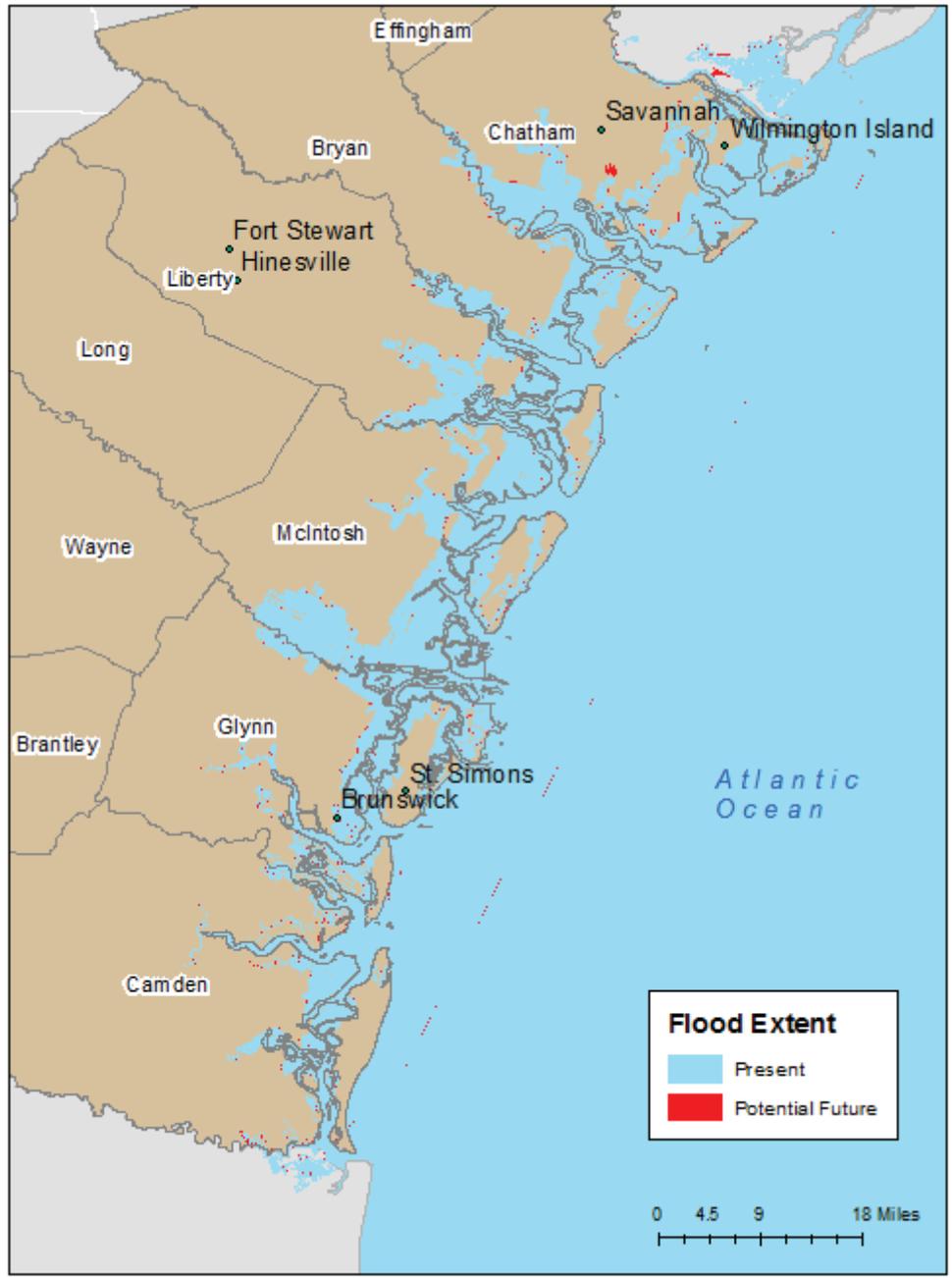


Figure 6: Category 1 hurricane with present ocean conditions compared with a 'typical' storm surge under potential future sea level rise conditions.



Figure 7: Category 1 hurricane with present ocean conditions compared with a worst case storm surge under potential future sea level rise conditions.

3.1.2 Worst Case Wind and Storm Surge Scenarios

Two scenarios were developed to represent a worst case wind damage and storm surge scenario with a category 4 hurricane glancing the coastline of Georgia and impacting all coastal communities that falls in line with the dominant path that is supported by hurricane climatology from this region.

This scenario reflects the physical characteristics of Hurricane Floyd (1999) and the 1893 Sea Island hurricanes. The modeled storm moves at 6 mph and has hurricane force winds extending out 40 miles from the center. This storm tracks parallel to the Georgia coastline as it makes a turn to the north (Figure 8). The hurricane winds and storm surge are calculated using Hazus-MH's wind and surge models.

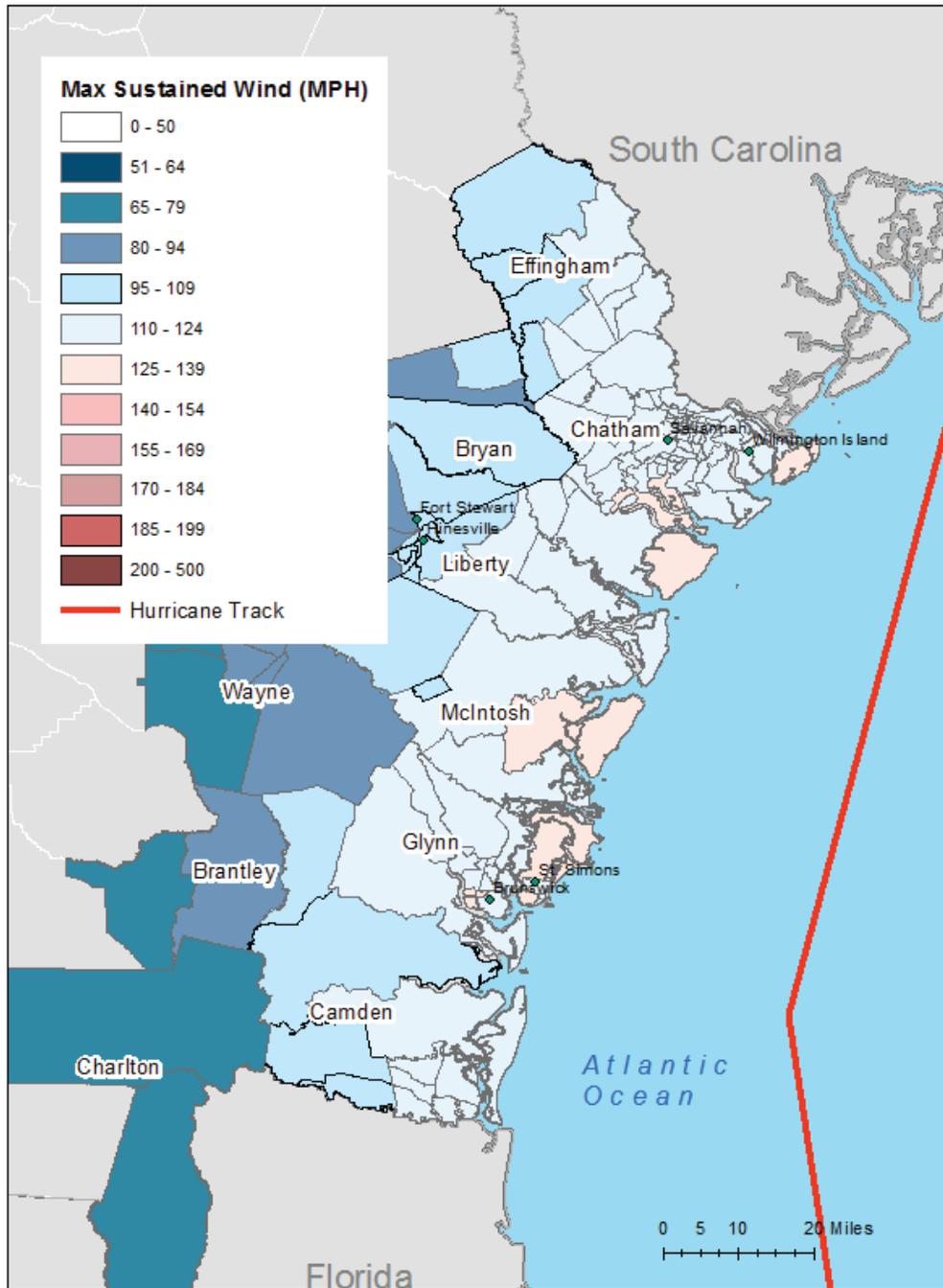


Figure 7: Maximum Sustained Winds for the Modeled Category 4 Storm

Two surge scenarios were performed. For the first scenario, a Lidar derived DEM from Georgia Southern University was used to estimate storm surge with current sea levels. In the second scenario, a DEM was used that represents a 1 meter potential future sea level rise calculated using the Sea Level Affecting Marshes Model (SLAMM) by Georgia Southern University was used. Figure 9 shows the comparison between these events.

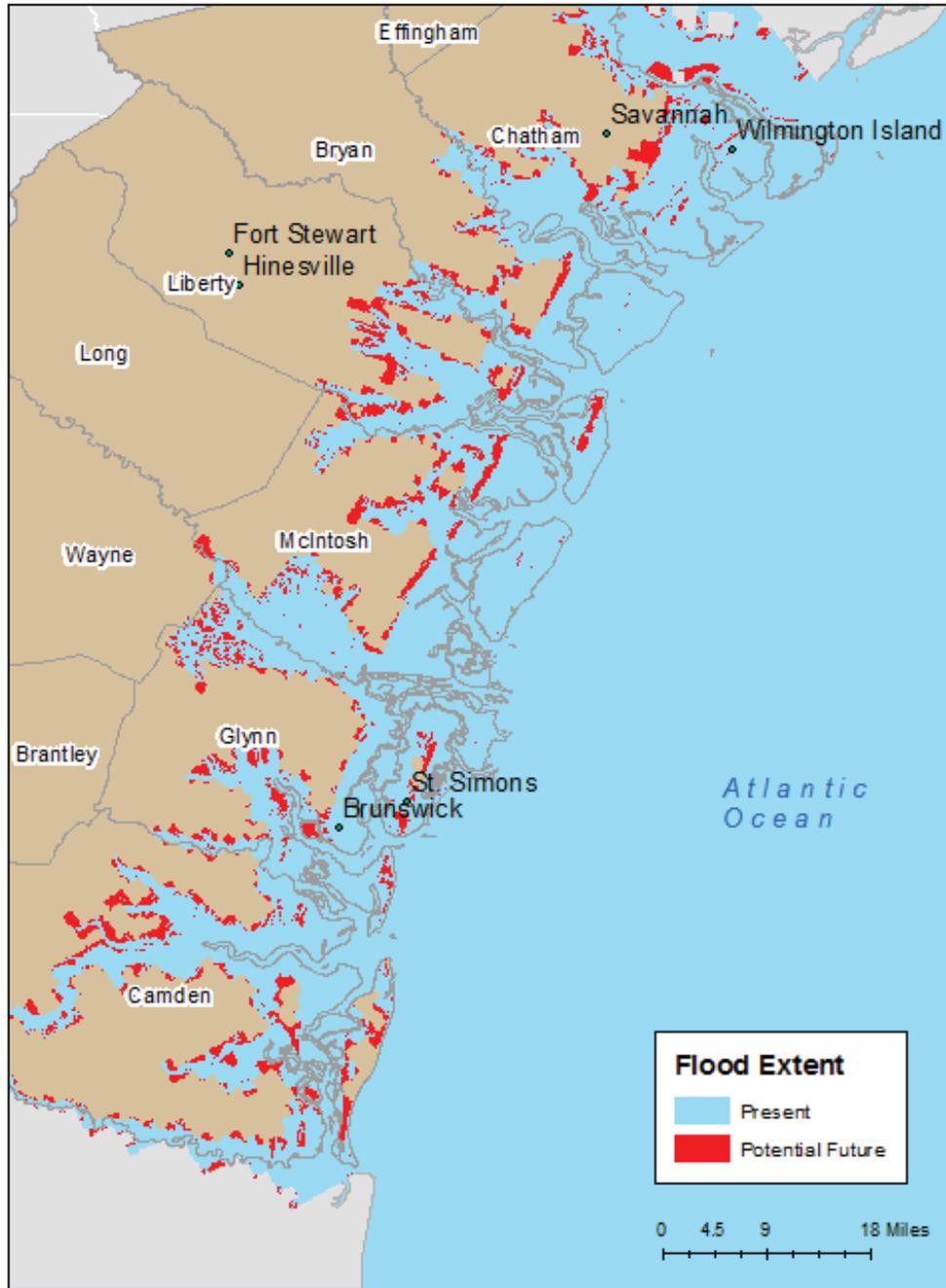


Figure 8: Present and Potential Future Worst Case Category 4 Storm Surge

3.1.3 Worst Case Maximum Impacts Wind and Storm Surge Scenarios

Two scenarios were developed that represented worst case maximum impacts of wind and storm surge with a Category 5 directly impacting the coastline.

For this scenario the simulated hurricane winds and trajectory reflects the characteristics of Hurricane Andrew (1992) that impacted south Florida in 1992. The storm has a forward motion of 18 mph with hurricane force winds extending 30 miles from the center. The fast motion of the hurricane produces lower than usual amounts of rainfall for a category 5 hurricane. The modeled hurricane makes landfall south of Savannah near Sapelo Island (Figure 10). The hurricane winds and storm surge are calculated using Hazus-MH's wind and surge models.

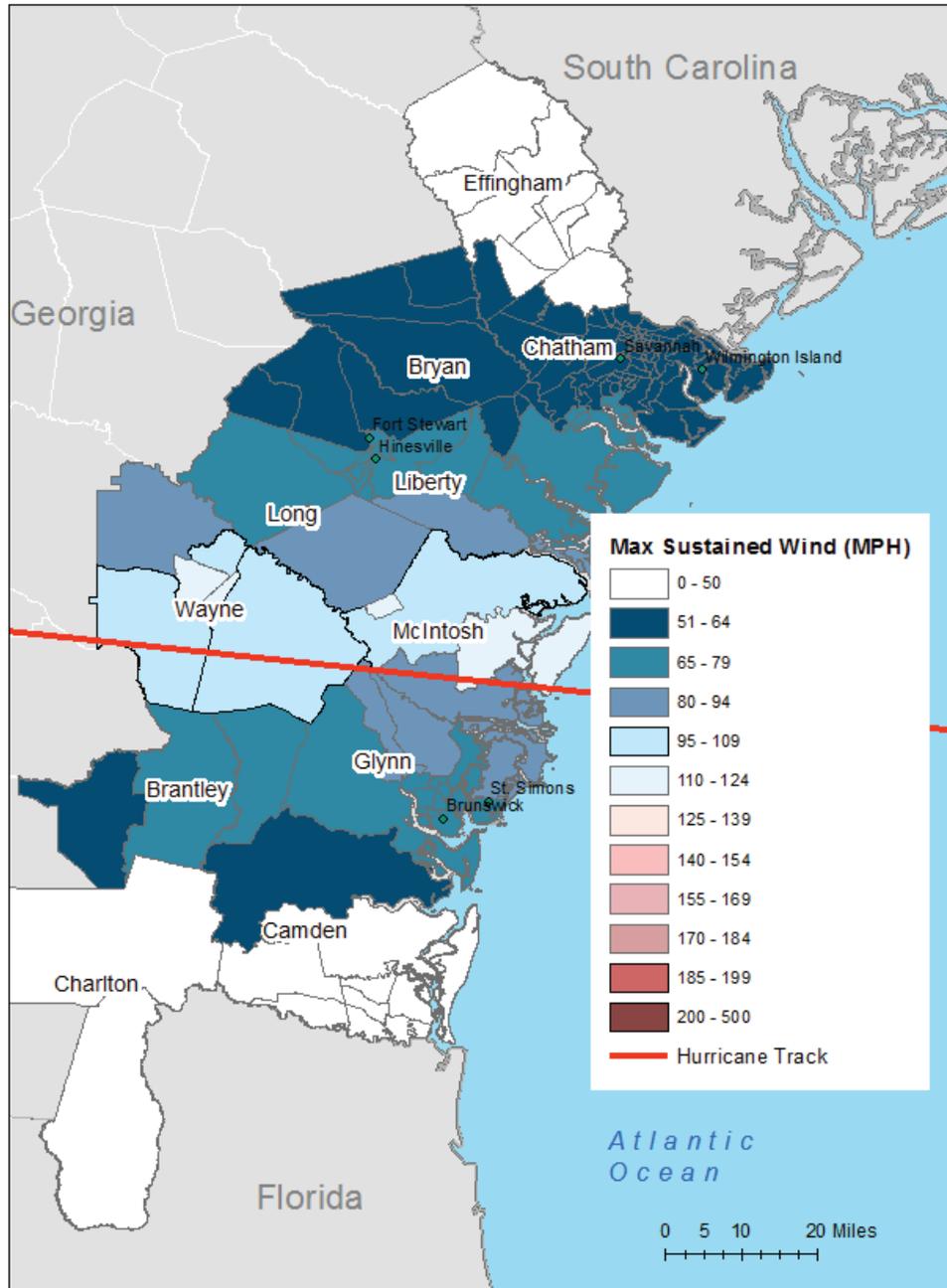


Figure 9: Maximum Sustained Winds for the Modeled Category 5 Hurricane.

Two storm surge scenarios were generated. For the first scenario a Lidar derived DEM from Georgia Southern University was used to estimate storm surge with current sea levels. In the second scenario a DEM representing predictions of future potential sea level rise are included by using a 1 meter sea level rise simulation created using the Sea Level Affecting Marshes Model (SLAMM) by Georgia Southern University. A comparison of the extent of each flood event is offered in Figure 11.



Figure 10: Present and Potential Future Category 5 Storm Surge

3.1.4 Riverine Flood Scenarios

Two scenarios were developed simulating the impacts for current and future impacts of riverine flooding. The 1% annual chance flood for all streams and rivers with a drainage area of 10 square miles or greater were modeled in all 11 coastal Georgia counties using Hazus-MH. In the first scenario a Lidar derived DEM from Georgia Southern University was used to estimate riverine flooding with current sea levels. To simulate the impacts of sea-level rise, the predictions of flooding were made based-upon a DEM representing a 1 meter sea level rise

calculated using the Sea Level Affecting Marshes Model (SLAMM) by Georgia Southern University. Figure 12 depicts flood extent with and without anticipated potential future sea level rise conditions.

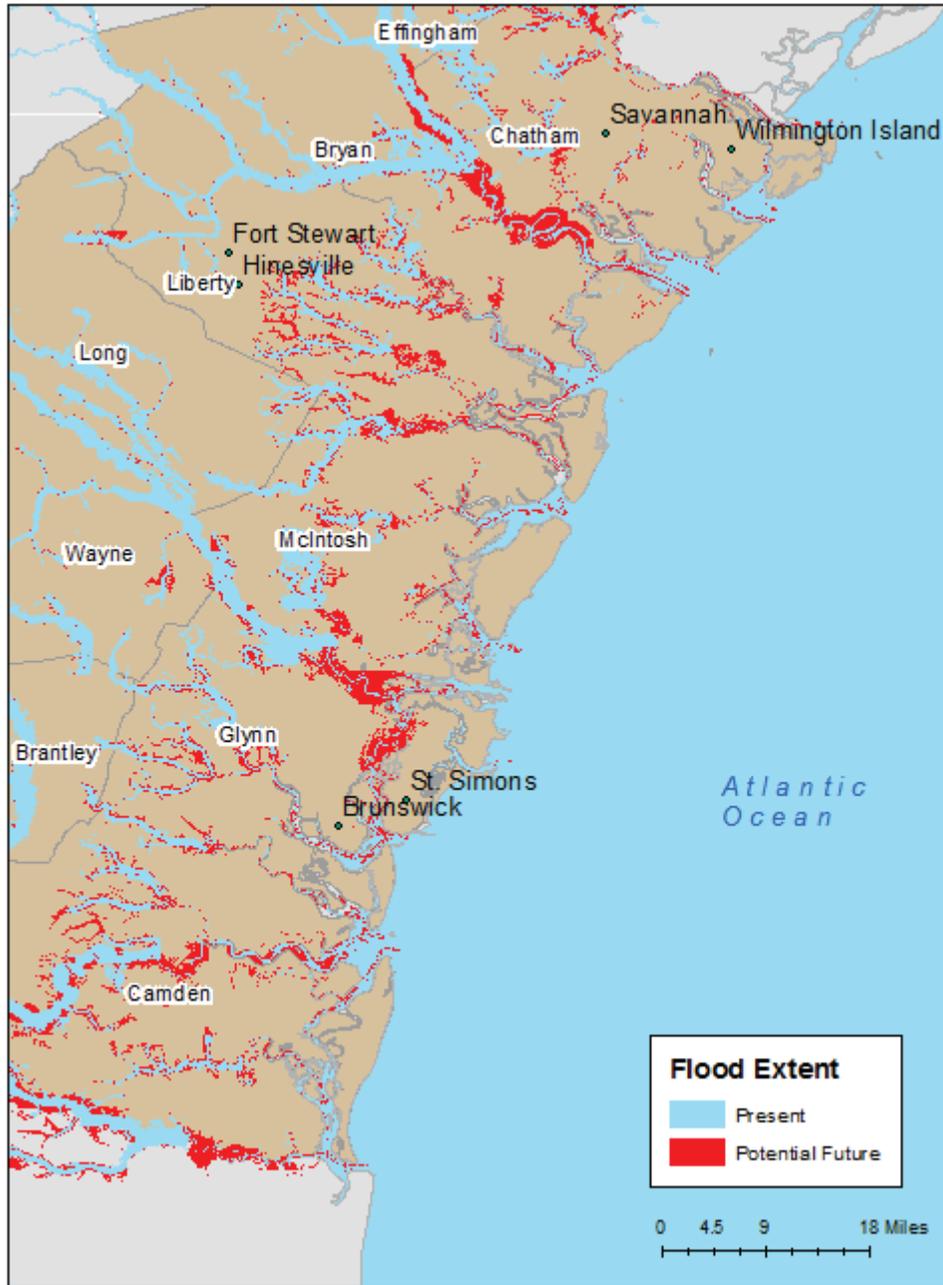


Figure 11: Present and Future Potential Flooding for the 1% Return Period

3.2 Analysis Methodology

The following material provides an overview of the key aspects of the analysis methodology employed in Hazus-MH. For additional information on this methodology the reader is encouraged to consult the Hazus-MH technical and user manuals available from FEMA's Map Service Center².

3.2.1 Flood Building Damage Analysis

In the Hazus-MH flood model, General Building Stock is reported by 2010 census block geographies. As described previously, a key assumption associated with the General Building Stock is that all structures are evenly distributed. Clearly, this is not always the case. Figure 13 illustrates an example in which the actual location of two of the four structures are in areas of three feet of water while the other two structures are entirely outside of the flooded area. Hazus-MH would assume, however, that three of the four structures are impacted and that only one is in three feet of water while the others are in relatively shallow water and potentially unscathed.

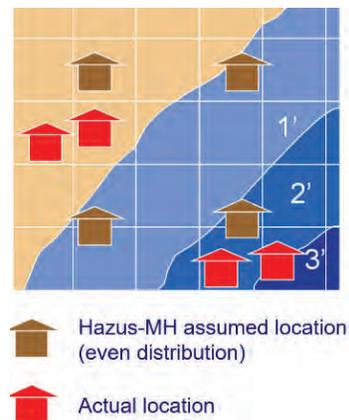


Figure 12: Hazus-MH Interpretation of Locations of Structures within the General Building Stock Inventory

As mentioned in Section Two, the assumption of even distribution of structures is partially mitigated by the use of clipped census block polygons from which unpopulated areas such as forests, vacant land and water have been removed. However, there is still considerable potential for error to be introduced in loss estimations due to the even distribution assumption. In order to mitigate this issue, we elected to take advantage of the Hazus-MH User Defined Facility inventory where possible to refine the building loss estimations for this study.

User Defined Facilities outputs used for this study included the number of damaged buildings based on their occupancy. It also included for each building the losses to the building itself, its

² Hazus-MH technical and user manuals can be obtained from FEMA's Map Service Center at <https://www.fema.gov/hazus-mh-user-technical-manuals>.

contents and, where applicable, its inventory due to flooding. As is the case for the General Building Stock, the User Defined Facility inventory categorizes buildings based on seven General Occupancies (residential, commercial, industrial, agricultural, government, religion and education) and 33 specific occupancies (e.g. single family residential, multifamily residential, etc.). It further defines buildings by the type of material from which they are constructed. In the Hazus-MH flood model materials include wood, concrete, steel, masonry and manufactured homes. Additionally, critical attributes for user defined facilities include first floor elevation and the number of stories of each structure.

Damages to individual user defined facilities are assessed using depth damage curves. Figure 14 provides an example of damage curves associated with single family residential homes with one story and no basement. The sample curves reflect estimated damage percentages for the building itself as well as the contents of the building.

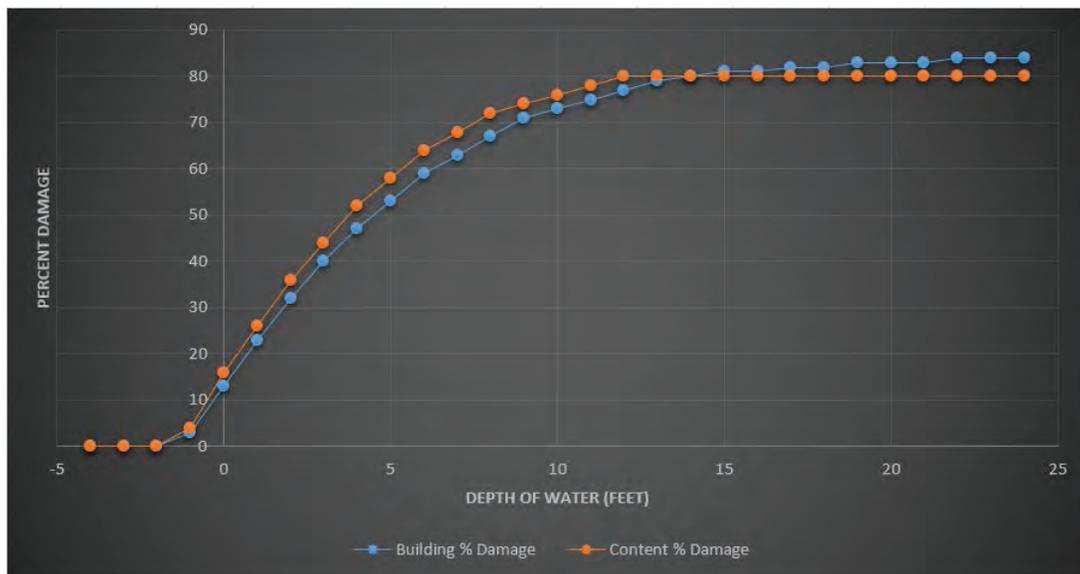


Figure 13: Building Damage and Content Damage Curves for Single Family Residential Home with 1-Story and No Basement

3.2.2 Hurricane Wind Building Damage Analysis

All hurricane wind related impacts associated with this study were based on exposure defined in the Hazus-MH General Building Stock inventory. The only exception to this is estimated damage related to Hazus-MH Essential Facilities. As noted earlier, the Hazus-MH General Building Stock inventory contains information that describes characteristics of buildings aggregated to 2010 census boundaries. In the Hurricane model aggregation is determined by the 2010 census tracts. Factors considered by Hazus-MH for estimating wind impacts include wind pressures, wind-borne debris, tree blow-down, rainfall, and storm duration. The model explicitly accounts for the impacts of wind on various structure components including roof cover, roof deck, whole roof failures, window and door failures and wall damage.

Hazus-MH includes over 300,000 hurricane wind damage functions that are applied to the building inventory to assess impacts. Figure 15 provides an example of the probability of various damage states to a single family home one story in height and constructed of wood. This outcome reflects a hip shaped roof, the presence of secondary water resistance measures, toe-nail roof-wall connections, and open terrain. It also assumes the presence of hurricane shutters. Note, for example, that at a 140 MPH peak gust wind speed the probability of destruction would be less than 0.1 (or a 10% chance).

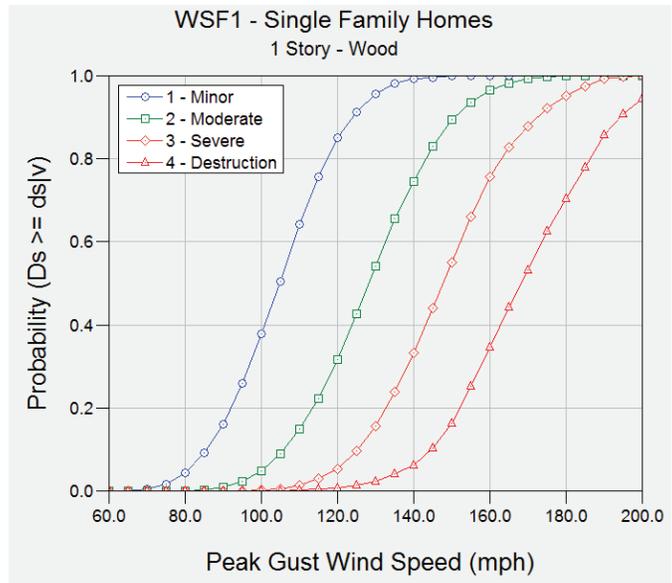


Figure 14: Hurricane Wind Damage Curves for Single Family Home with Hurricane Shutters.

Figure 16 reflects the same conditions, but adjusted to assume that no hurricane shutters are present. In this situation, the same peak gust wind speed would yield a probability of destruction that exceeds 0.5 (or a 50% chance).

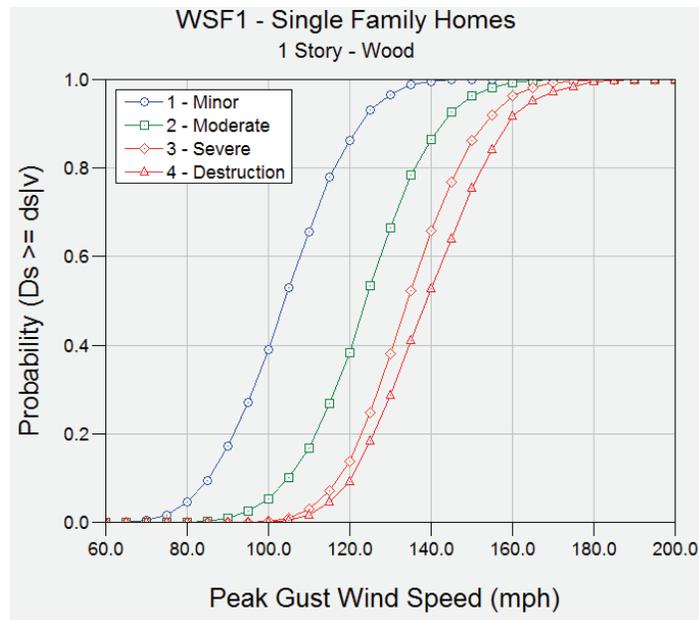


Figure 15: Hurricane Wind Damage Curves for Single Family Home without Hurricane Shutters.

3.2.3 Hurricane and Flood Displaced Population Analysis

Displaced population estimates in the hurricane wind model are based primarily on building loss ratios within each census tract. Considered in the model are the number of uninhabitable units due to damage, the number of uninhabitable housing units due to loss of water or power, and the number of households to include both single and multi-family dwelling units.

Determination of displaced population in the flood model is heavily influenced by physical access into the area where population is located. This is a function of the depth of water and the ability to travel into the area on foot or by vehicle. It should be noted that displaced population estimates may be underrepresented in this report due to factors not considered in this study. For example, water and sewer utilities may be damaged within the inundation area that impact residences outside of that area.

3.2.4 Hurricane and Flood Debris Analysis

The hurricane wind debris model is based on the damage states for structural and non-structural components of several model building types. For each damaged component, the debris generated in each building type category (wood, masonry, metal and other) is calculated based on the component's damage state and weight statistics. Then, by adding up the debris produced by all the damaged components, the total debris weight for each model building type can be estimated. The debris volume is simply estimated by dividing the debris weight by its

density. Specific assumptions about each modeled building type as they related to debris generation are provided in the Hazus-MH documentation.³

In addition to building related damage, the Hazus-MH Hurricane Wind model provides an estimation of tree debris that is reported in this study for each hurricane wind scenario. This estimate considers the density of trees as well as their height. It also considers the type of trees grouped by deciduous, coniferous and mixed based on root systems and resistance to wind. The tree database that comes with Hazus-MH was not modified for this study. From its analysis Hazus-MH provides an estimate of total tree debris as well as debris eligible for removal at the public's expense as a result of being located on roadways for instance.

The Hazus-MH flood model reports building debris in terms of estimated tons of building finishes, structural components and foundation materials. It is important to note that this is not an all-inclusive representation of flood related debris. For examples, it does not consider debris from vegetation, sediment or building contents. Flood debris estimations are evaluated based upon a combination of building occupancies and foundation types. Default assumptions about building foundation type weights are pre-populated in Hazus-MH and were not modified for this study.

3.2.5 Hurricane and Flood Essential Facility Analysis

Essential facilities consist of police stations, fire stations, schools, hospitals and emergency operation centers. Of these, fire stations, schools and hospitals have been explicitly modeled in the Hazus-MH hurricane wind model methodology. Fire stations and schools are often low-rise structures and are modeled in Hazus-MH as such, while hospitals can be low-rise or high-rise in nature. In the Hazus-MH methodology essential facility damage is limited to entry doors and windows, overhead doors (fire station only), and metal roof systems. All essential facilities were modeled assuming that whole wall failure and roof framing member failure would not occur. Detailed information on the assumptions associated with various damage states for each essential facility type is provided in the Hazus-MH documentation.⁴

As is the case for most damage estimations in the Hazus-MH flood model, Essential Facility loss estimates are based on the use of depth damage functions. Input required to estimate losses includes the building height, presence/absence of a basement and first floor elevation. The methodology applied to assess Essential Facility impacts is similar to that of the General Building Stock except that Essential Facilities are assessed at the location of the facility – a point with latitude and longitude coordinates.

³ See Hazus-MH 2.1 Hurricane Technical Manual Chapter 11: Debris Generated from Damaged Buildings.

⁴ Hazus-MH 2.1 Hurricane Technical Manual page 6-140 to 6-158.

3.2.6 Combined Wind and Storm Surge Loss Analysis

Sections 3.2.1 through 3.2.5 described losses from wind and flood. Within the areas impacted by both wind and storm surge there is potential within Hazus-MH for some double counting of damages to building components if separately calculated hurricane wind losses are added to separately calculated storm surge related flood losses. FEMA developed a methodology to address this issue that has been used in this study. Unfortunately, the combined loss methodology has a few limitations. It is entirely based upon the General Building Stock and it only provides estimates for combined wind and storm surge economic losses. It does not provide estimations for debris, displaced population, or many of the other outputs only available by modeling separate wind and flood losses. For this reason we chose to also provide the analysis output described in sections 3.2.1 through 3.2.5 given the importance of considering displaced population, debris estimations, and a refined estimation of flood impacts only available by incorporating point level building inventory (user defined facilities) into the study.

A combined loss estimation effectively ‘deconstructs’ buildings into those components more likely to be damaged by wind vs flooding. The combined loss model defines seven major building sub-assemblies:

1. Foundation: Includes site work, footings, and walls, slabs, piers or piles.
2. Below First Floor: Items other than the foundation that are located below the first floor of the structure such as mechanical equipment, stairways, parking pads, break away flood walls, etc.
3. Structure Framing: Includes all of the main load carrying structural members of the building below the roof framing and above the foundation.
4. Roof Covering: Includes the roof membrane material and flashing
5. Roof Framing: Includes trusses, rafters, and sheathing¹
6. Exterior Walls: Includes wall covering, windows, exterior doors, and insulation
7. Interiors: Includes interior wall and floor framing, drywall, paint, interior trim, floor coverings, cabinets, counters, mechanical, and electrical

These groupings allow for roof covering, for example, to contribute more on average to wind-only loss than to flood-only loss. Additional details about the Hazus-MH combined wind and storm surge loss methodology can be found in the Hazus-MH documentation.⁵

⁵ Hazus-MH 2.2 Hurricane Technical Manual pages 13-1 to 13-58.

Section

4

Scenario Results

As indicated previously, a total of eight scenarios were modeled for this study.

These include

- Scenario 1: Wind and flooding conditions that should be expected from a Category 1 hurricane without consideration of future sea level rise
- Scenario 2: Wind and flooding conditions that should be expected from a Category 1 hurricane that includes ‘typical’ storm surge conditions with the consideration of future sea level rise
- Scenario 3: Wind and flooding conditions that should be expected from a Category 1 hurricane that includes ‘worst case’ storm surge conditions with the consideration of future sea level rise
- Scenario 4: Worst case damage wind and storm surge scenario with a category 4 hurricane glancing the coastline of Georgia and impacting all coastal communities that falls in line with the dominant path that is supported by hurricane climatology from this region. No sea level rise included.
- Scenario 5: Worst case damage wind and storm surge scenario with a category 4 hurricane glancing the coastline of Georgia and impacting all coastal communities that falls in line with the dominant path that is supported by hurricane climatology from this region. Sea level rise included.
- Scenario 6: Worst case maximum impacts of wind and storm surge with a slow moving Category 5 hurricane skirting the coastline. No sea level rise included.
- Scenario 7: Worst case maximum impacts of wind and storm surge with a slow moving Category 5 hurricane skirting the coastline. Sea level rise included.
- Scenario 8: Riverine flooding based on present day 1% annual flood risk
- Scenario 9: Riverine flooding based on 1% annual flood risk with sea level rise

While seven different flood hazards were studied to reflect impact differences with and without sea level rise, only three wind hazards were considered since the same wind hazards were assumed to apply to both the pre and post sea level rise flooding conditions.

The following pages describe the total potential impacts that each scenario could potentially produce on the 11 counties included in this study.

Sections 4.1 to 4.3 describe potential hurricane wind and flood related economic impacts to buildings, their contents and their inventory. Note that the losses reported in these sections do not account for all potential economic impacts such as business interruption.

4.1 Wind Related Building Damages

Table 13 provides a summary of the expected hurricane wind only building, content and inventory losses for each of the modeled scenarios. The number of buildings damaged column reflects the total of all buildings that have experienced any amount of damage from minor to total destruction.

	Number of Buildings Damaged	Building Loss	Content Loss	Inventory Loss
Scenarios 1, 2 and 3: Category 1 hurricane	6,253	\$149,011,000	\$54,332,000	\$36,000
Scenarios 4 and 5: Worst case Category 4 storm	202,716	\$18,034,083,000	\$8,816,381,000	\$128,315,000
Scenarios 6 and 7: CAT 5 impact	21,038	\$731,913,000	\$326,710,000	\$3,660,000

Table 13: Wind Related Building Damages

4.2 Storm Surge Related Building Damages

Table 14 provides a summary of the expected damages from storm surge for each of the modeled scenarios. Total Buildings Damaged reflects the total number of buildings in any state of damage from minor damage to destruction. Building loss refers to damage to the structure only. Content loss is an estimate of loss to furniture, equipment that is not integral with the structure, computers and other supplies. Contents do not include inventory or nonstructural components such as lighting, ceilings, mechanical and electrical equipment and other fixtures. Inventory losses are things within a structure that can be sold. Thus, they do not apply to many occupancies. Note that the numbers in the following table do not account for potential impacts such as business interruption.

Occupancy Classification	Total Buildings Damaged	Building Loss	Content Loss	Inventory Loss
Scenario 1: Category 1: no sea level rise – typical storm surge				
Residential	833	\$103,556,570	\$53,526,254	\$0
Commercial	21	\$6,024,609	\$8,397,919	\$1,540,494
Industrial	6	\$931,324	\$1,956,087	\$1,360,870
Agricultural	0	\$0	\$0	\$0
Religious	3	\$780,758	\$1,138,039	\$0
Government	1	\$545,385	\$774,056	\$0
Education	0	\$0	\$0	\$0
Total	864	\$111,838,646	\$65,792,355	\$2,901,364
Scenario 2: Category 1: with sea level rise – typical storm surge				
Residential	897	\$112,652,761	\$58,311,433	\$0
Commercial	24	\$7,460,365	\$10,590,231	\$1,217,504
Industrial	5	\$567,683	\$1,204,559	\$840,890
Agricultural	0	\$0	\$0	\$0
Religious	3	\$762,774	\$1,138,039	\$0
Government	1	\$602,965	\$774,056	\$0
Education	0	\$0	\$0	\$0
Total	930	\$122,046,549	\$72,018,318	\$2,058,394
Scenario 3: Category 1: – with sea level rise – worst case storm surge				
Residential	13,229	\$1,371,109,780	\$795,470,941	\$0
Commercial	207	\$55,633,846	\$145,297,259	\$64,672,135
Industrial	66	\$18,105,287	\$47,502,734	\$36,222,239
Agricultural	4	\$68,456	\$127,609	\$188,597
Religious	11	\$724,313	\$4,746,879	\$0
Government	7	\$750,324	\$4,375,836	\$0
Education	4	\$736,688	\$3,947,222	\$0
Total	13,528	\$1,447,128,694	\$1,001,468,481	\$101,082,972
Scenario 4: Worst case Cat 4 – no sea level rise				
Residential	34,788	\$5,198,594,335	\$2,597,713,127	\$0
Commercial	845	\$323,305,587	\$395,886,284	\$184,953,146
Industrial	126	\$58,879,895	\$114,322,088	\$81,555,531
Agricultural	20	\$1,237,870	\$1,056,652	\$1,334,707
Religious	87	\$52,850,234	\$63,661,170	\$0
Government	20	\$13,888,202	\$18,319,263	\$0
Education	14	\$64,798,880	\$77,093,803	\$0
Total	35,900	\$5,713,555,002	\$3,268,052,388	\$267,843,384
Scenario 5: Worst case Cat 4 – with sea level rise				
Residential	61,243	\$8,369,375,182	\$4,319,081,572	\$0
Commercial	1,879	\$923,392,109	\$1,278,973,829	\$695,656,759
Industrial	223	\$280,098,311	\$588,204,934	\$415,077,351
Agricultural	34	\$2,065,484	\$2,076,351	\$2,676,772
Religious	228	\$103,431,319	\$157,952,130	\$0
Government	59	\$48,480,573	\$76,847,209	\$0
Education	35	\$77,895,258	\$134,994,087	\$0

Occupancy Classification	Total Buildings Damaged	Building Loss	Content Loss	Inventory Loss
Total	63,701	\$9,804,738,236	\$6,558,130,113	\$1,113,410,882
Scenario 6: Category 5: no sea level rise				
Residential	681	\$79,418,793	\$41,194,887	\$0
Commercial	17	\$6,001,494	\$8,186,675	\$1,658,085
Industrial	2	\$67,681	\$142,134	\$98,618
Agricultural	0	\$0	\$0	\$0
Religious	3	\$805,663	\$1,138,039	\$0
Government	0	\$0	\$0	\$0
Education	0	\$0	\$0	\$0
Total	703	\$86,293,630	\$50,661,734	\$1,756,703
Scenario 7: Category 5: with sea level rise				
Residential	12,119	\$1,209,231,574	\$705,533,728	\$0
Commercial	221	\$43,581,195	\$121,874,135	\$58,430,486
Industrial	47	\$8,682,478	\$21,915,482	\$17,144,312
Agricultural	1	\$54,854	\$106,374	\$159,006
Religious	11	\$1,035,131	\$6,844,053	\$0
Government	3	\$383,259	\$2,272,929	\$0
Education	1	\$139,130	\$674,420	\$0
Total	12,403	\$1,263,107,621	\$859,221,121	\$75,733,803

Table 14: Storm Surge Related Building Damages

4.3 Riverine Flood Related Building Damages

Table 15 provides a summary of the expected damages from riverine flooding for each of the modeled scenarios. Note that the numbers in the following table do not account for potential impacts such as business interruption.

Occupancy Classification	Total Buildings Damaged	Building Loss	Content Loss	Inventory Loss
Scenario 8: Riverine flooding based on present day 1% annual flood risk				
Residential	2,605	\$39,108,405	\$21,541,540	\$0
Commercial	62	\$2,205,176	\$8,591,221	\$4,910,938
Industrial	19	\$2,340,913	\$4,833,707	\$4,700,863
Agricultural	2	\$0	\$1,091	\$0
Religious	4	\$299,774	\$1,646,610	\$0
Government	4	\$285,751	\$1,069,704	\$0
Education	2	\$94,032	\$527,284	\$0
Total	2,698	\$44,334,051	\$38,211,157	\$9,611,802
Scenario 9: Riverine flooding based on 1% annual flood risk with sea level rise				
Residential	6,183	\$63,517,493	\$34,634,144	\$0
Commercial	188	\$4,706,776	\$19,222,774	\$14,385,782
Industrial	30	\$4,269,474	\$7,167,847	\$7,045,146
Agricultural	6	\$361	\$10,290	\$1,505

Occupancy Classification	Total Buildings Damaged	Building Loss	Content Loss	Inventory Loss
Religious	18	\$597,871	\$3,960,494	\$0
Government	18	\$1,125,146	\$6,008,707	\$0
Education	8	\$96,468	\$545,766	\$0
Total	6,451	\$74,313,589	\$71,550,022	\$21,432,433

Table 15: Riverine Flood Related Building Damages

Sections 4.4 to 4.6 address modeled wind and flood impacts to essential facilities.

4.4 Wind Related Essential Facility Impacts

Table 16 provides a summary of the expected wind related damages to the 620 Essential Facilities in the region for each of the modeled scenarios.

	Facilities Moderately Damaged (>50%)	Facilities Completely Damaged (>50%)	Facilities with expected loss of use (<1 day)
Scenarios 1, 2 and 3: Category 1 hurricane	0	0	620
Scenarios 4 and 5: Worst case Category 4	475	20	233
Scenarios 6 and 7: Category 5 hurricane	41	0	575

Table 16: Wind Related Essential Facility Impacts

4.5 Storm Surge Related Essential Facility Impacts

Table 17 provides a summary of the expected storm surge related damages to the 620 Essential Facilities in the region for each of the modeled scenarios. In this table as well as in Table 18 moderate damage is considered 11-50% damage. Substantial damage is where the damage to the building and contents exceeds 50% of the buildings total replacement cost and the building is generally considered a total loss. Note that this is different from structural failure. In general, it is expected that the major structural components of a building will survive a flood, but that the structural finishes and the contents / inventory may be severely damaged due to inundation. Loss of use refers to the normal functioning of a building.

	Facilities at least Moderately Damaged	Facilities at Least Substantially Damaged	Facilities with expected loss of use (<1 day)
Scenario 1: Category 1 – no sea level rise – typical surge	0	0	0
Scenario 2: Category 1 – with sea level rise – typical surge	0	0	0

	Facilities at least Moderately Damaged	Facilities at Least Substantially Damaged	Facilities with expected loss of use (<1 day)
Scenario 3: Category 1 – with sea level rise – typical surge	16	2	21
Scenario 4 Worst case Cat 4 – no sea level rise	1	57	60
Scenario 5 Worst case Cat 4 – with sea level rise	5	109	146
Scenario 6: Category 5– no sea level rise	0	0	0
Scenario 7: Category 5 – with sea level rise	7	3	18

Table 17: Storm Surge Related Essential Facility Impacts

4.6 Riverine Flood Related Essential Facility Impacts

Table 18 provides a summary of the expected riverine flood damages to the 620 Essential Facilities in the region for each of the modeled scenarios.

	Facilities Moderately Damaged (>50%)	Facilities Completely Damaged (>50%)	Facilities with expected loss of use (<1 day)
Scenario 8: Riverine flooding based on present day 1% annual flood risk	3	0	3
Scenario 9: Riverine flooding based 1% annual flood risk with sea level rise	0	0	4

Table 18: Riverine Flood Related Essential Facility Impacts

Sections 4.7 to 4.9 provide the estimated number of displaced people as a result of the modeled scenarios.

4.7 Wind Related Displaced People

Table 19 provides an estimated number of displaced households based on wind related damages for each of the modeled scenarios.

	Total Displaced People
Scenarios 1, 2 and 3: Category 1 hurricane	Less than 50
Scenario 4 and 5: Worst case category 4	Approximately 197,500
Scenarios 6 and 7: Category 5 hurricane	Approximately 4,000

Table 19: Wind Related Displaced Households (rounded to the nearest 500)

4.8 Storm Surge Related Displaced People

Table 20 provides an estimated number of displaced people based on storm surge related damages for each of the modeled scenarios.

	Total Displaced People
Scenario 1: Category 1 – no sea level rise – typical surge	Approximately 2,000
Scenario 2: Category 1 – with sea level rise – typical surge	Approximately 2,000
Scenario 3: Category 1 – with sea level rise – typical surge	Approximately 25,500
Scenario 4: Worst case Cat 4 – no sea level rise	Approximately 78,500
Scenario 5: Worst case Cat 4 – with sea level rise	Approximately 148,000
Scenario 6: Category 5– no sea level rise	Approximately 1,500
Scenario 7: Category 5 – with sea level rise	Approximately 21,500

Table 20: Storm Surge Related Displaced Households (rounded to the nearest 500)

4.9 Riverine Flood Related Displaced People

Table 21 provides an estimated number of displaced households based on riverine flood related damages for each of the modeled scenarios.

	Total Displaced People
Scenario 8: Riverine flooding based on present day 1% annual flood risk	Approximately 5,000
Scenario 9: Riverine flooding based on 1% annual flood risk with sea level rise	Approximately 14,000

Table 21: Riverine Flood Related Displaced Households (rounded to nearest 500)

Sections 4.10 to 4.12 address the potential debris impacts from the modeled scenarios.

4.10 – Wind Related Building and Tree Debris Impacts

Table 22 provides an estimate of building and tree related debris based on wind related damages for each of the modeled scenarios.

	Brick, Wood and Other (Tons)	Reinforced Concrete Steel (Tons)	Tree Debris Eligible for Removal with Public Funds	Other Tree Debris	Total
Scenarios 1, 2 and 3: Category 1 hurricane	Approximately 16,000	Less than 10	Approximately 96,500	Approximately 1,365,000	Approximately 1,477,500
Scenario 4 and 5: Worst case category 4	Approximately 3,110,000	Approximately 79,000	Approximately 1,122,000	Approximately 12,621,000	Approximately 16,932,500

Scenarios 6 and 7: Category 5 hurricane	Approximately 122,500	Approximately 5,000	Approximately 215,000	Approximately 3,462,500	Approximately 3,805,000
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Table 22: Wind Related Building and Tree Debris Impacts (all numbers rounded to the nearest 500)

4.11 – Storm Surge Related Debris Impacts

Table 23 provides an estimate of building debris based on storm surge related damages for each of the modeled scenarios.

	Finishes (Tons)	Structures (Tons)	Foundations (Tons)	Total (Tons)
Scenario 1: Category 1 – no sea level rise – typical surge	Approximately 10,000	Approximately 22,000	Approximately 19,000	Approximately 51,000
Scenario 2: Category 1 – with sea level rise – typical surge	Approximately 9,000	Approximately 19,500	Approximately 18,000	Approximately 47,000
Scenario 3: Category 1 – with sea level rise – typical surge	Approximately 98,000	Approximately 72,000	Approximately 52,000	Approximately 222,000
Scenario 4 Worst case Cat 4 – no sea level rise	Approximately 364,500	Approximately 597,000	Approximately 687,000	Approximately 1,649,000
Scenario 5 Worst case Cat 4 – with sea level rise	Approximately 501,500	Approximately 1,028,500	Approximately 1,055,000	Approximately 2,585,000
Scenario 6: Category 5– no sea level rise	Approximately 11,000	Approximately 24,000	Approximately 20,000	Approximately 55,500
Scenario 7: Category 5 – with sea level rise	Approximately 88,500	Approximately 69,000	Approximately 48,000	Approximately 205,000

Table 23: Storm Surge Related Debris Impacts (all numbers rounded to the nearest 500)

4.12 – Riverine Flood Related Debris Impacts

Table 24 provides an estimate of building debris based on riverine flood related damages for each of the modeled scenarios.

	Finishes (Tons)	Structures (Tons)	Foundations (Tons)	Total (Tons)
Scenario 8: Riverine flooding based on present day 1% annual flood risk	Approximately 2,500	Approximately 1,000	Approximately 2,000	Approximately 5,500
Scenario 9: Riverine flooding based on 1%	Approximately 4,000	Approximately 1,500	Approximately 3,000	Approximately 8,500

	Finishes (Tons)	Structures (Tons)	Foundations (Tons)	Total (Tons)
annual flood risk with sea level rise				

Table 24: Riverine Flood Related Debris Impacts (all numbers rounded to the nearest 500)

4.13 – Combined Wind and Storm Surge Economic Impacts

Table 25 provides a combined wind and storm surge related economic loss estimate for each of the modeled scenarios. It should be noted that these values do not include damages from riverine flooding. In addition, they do not account for losses related to business interruption or other types of economic impact.

	Building Loss	Content Loss	Inventory Loss	Total Loss
Scenario 1: Category 1– no sea level rise – typical surge	\$299,662,000	\$149,372,000	\$445,000	\$449,479,000
Scenario 2: Category 1 – with sea level rise – typical surge	\$2,073,733,000	\$1,353,473,000	\$9,376,000	\$3,436,582,000
Scenario 4: Worst case Category 4 – no sea level rise	\$20,522,737,000	\$10,771,808,000	\$151,524,000	\$31,446,070,000
Scenario 5: Worst case Category 4 – with sea level rise	\$22,930,984,000	\$13,076,474,000	\$213,430,000	\$36,220,888,000
Scenario 6 Worst case maximum impact – no sea level rise	\$854,855,000	\$405,460,000	\$3,986,000	\$1,264,301,000
Scenario 7 Worst case maximum impact – with sea level rise	\$2,319,754,000	\$1,373,358,000	\$8,848,000	\$3,701,960,000

Table 25: Combined Wind and Storm Surge Economic Impacts

Note: No combined losses were calculated for the Category 1 hurricane that included worst case storm surge under future sea level rise (Scenario 3).

Section

5

How to Use this Information

This study was designed to assess the potential impacts of hurricane related wind and flooding on Georgia coastal communities, both under current conditions and based upon the predictions of the scientific community related to climate change.

The report is not designed to predict with precision what will happen in the future. Its findings are based on a variety of assumptions related to the hazards modeled as well as the description of the built environment. Altering the modeled scenarios by simply shifting the track of a hurricane by a few miles would yield significant differences in both economic and social impacts. This, however, does not diminish the value of the report because its primary goal is to highlight the potential magnitude of increased impact that could be realized without the application of effective mitigation practices.

Readers of this report will note that the predicted increases in social and economic impacts are significant. Yet, it is important to note that this study did not attempt to comprehensively evaluate the full range of impacts that would almost certainly be realized should the modeled events take place. For example, we did not consider the potentially significant economic impacts related to business interruption, impacts to the utility or transportation infrastructure, or the possibility of casualties. This is important to consider given that, as significant as the losses reported for this study are, they would likely be much more profound if these events were to occur.

We hope that this study serves as a call to action for the homeowners, businesses, governmental organizations and other stakeholders who have interests in the Georgia coastal communities. The information in this report should not be a reflection of what will happen, but rather what could occur if current conditions are not mitigated.

For next steps we recommend the following:

- Use the findings in this report to inform stakeholders of the magnitude of impact that could be realized from hurricanes of the present and future. Explore and implement the many regulatory as well as economic incentivizes that can encourage these individuals and organizations to take action to mitigate these impacts through more effective land use planning, hazard resistance construction practices, and educational outreach.

- Consider more detailed studies especially in areas that would be prone to the most significant impacts. These studies could incorporate refined estimations of hazard predictions as well as improvements to the exposure data used to characterize impacts and associated losses.

Appendix D-II

UGA ITOS State Coastal Facility Hazus Assessment with Sea Level Rise

To assess the threat of Sea Level Rise along Georgia's coastline GEMA is reviewing a report published by Georgia's Department of Natural Resources. This report uses Hazus to analyze the effects of tropical storms and hurricanes on buildings in coastal counties using current sea levels and comparing those results with 1-meter sea level rise.

In addition to the report, analysis of just State assets was run using HAZUS-MH to assess the potential monetary impact of a 100yr flooding event with and without sea level rise. There are 832 state owned or leased properties included in the analysis that are located in the six coastal counties (Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh). Of those 832 Hazus-MH estimates that 331 could potentially be at risk of flooding. The total exposure amount (\$653.6M) of the 331 properties remains the same whether using the current depth grid or the depth grid adjusted for 1 meter of sea level rise. However, there is an estimated increase of \$2.3 million in building damages and \$3.9 million in combined building and content losses. The results of the analysis shows that a 1-meter sea level rise could have a costly monetary impact in the event of flooding during a 100yr storm.

The following is a list of maps and what they are representing.

Figure A: This map shows the total number of BLLIP buildings that were mapped in the county and the total monetary exposure for the buildings by county.

Figure B: This map shows the number of buildings that HAZUS-MH estimates could be at risk and the exposure for those buildings. This analysis was run with current Sea Levels.

Figure C: This map shows the number of buildings that HAZUS-MH estimates could be at risk and the exposure for those buildings. This analysis was run with a 1-meter Sea Level Rise.

Figure D: This map shows the number of buildings that HAZUS-MH estimates could be damaged and the losses those buildings might suffer. This analysis was run with current Sea Levels.

Figure E: This map shows the number of buildings that HAZUS-MH estimates could be damaged and the losses those buildings might suffer. This analysis was run with a 1-meter Sea Level Rise.

Study Name	BLLIP Buildings	Exposure	BLLIP Buildings at Risk	Exposure at Risk
Bryan - No Sea Level Rise	75	\$15,121,000	45	\$12,745,000
Bryan - Sea Level Rise	75	\$15,121,000	45	\$12,745,000
Camden - No Sea Level Rise	74	\$11,955,000	11	\$7,918,000
Camden - Sea Level Rise	74	\$11,955,000	11	\$7,918,000
Chatham - No Sea Level Rise	362	\$764,580,000	119	\$431,163,000
Chatham - Sea Level Rise	362	\$764,580,000	118	\$431,163,000
Glynn - No Sea Level Rise	122	\$219,327,000	55	\$155,230,000
Glynn - Sea Level Rise	122	\$219,327,000	54	\$155,230,000
Liberty - No Sea Level Rise	24	\$17,645,000	4	\$1,759,000
Liberty - Sea Level Rise	24	\$17,645,000	4	\$1,759,000
McIntosh - No Sea Level Rise	175	\$44,818,000	97	\$44,818,000
McIntosh - Sea Level Rise	175	\$44,818,000	94	\$44,818,000

Buildings Damages	Building Losses	Combined Building and Content Losses	Building Loss Ratio
43	\$818,000	\$3,084,000	6.4
42	\$840,000	\$3,127,000	6.6
10	\$281,000	\$811,000	3.5
10	\$266,000	\$804,000	3.4
99	\$21,134,000	\$27,552,000	4.9
98	\$22,327,000	\$29,090,000	5.2
44	\$9,478,000	\$22,866,000	6.1
44	\$10,460,000	\$25,011,000	6.7
4	\$109,000	\$250,000	6.2
4	\$117,000	\$264,000	6.7
57	\$2,024,000	\$3,962,000	4.5
54	\$2,129,000	\$4,151,000	4.8

Total Building Losses - No Sea Level Rise	\$33,844,000
Total Building Losses - Sea Level Rise	\$36,139,000
Difference	\$2,295,000

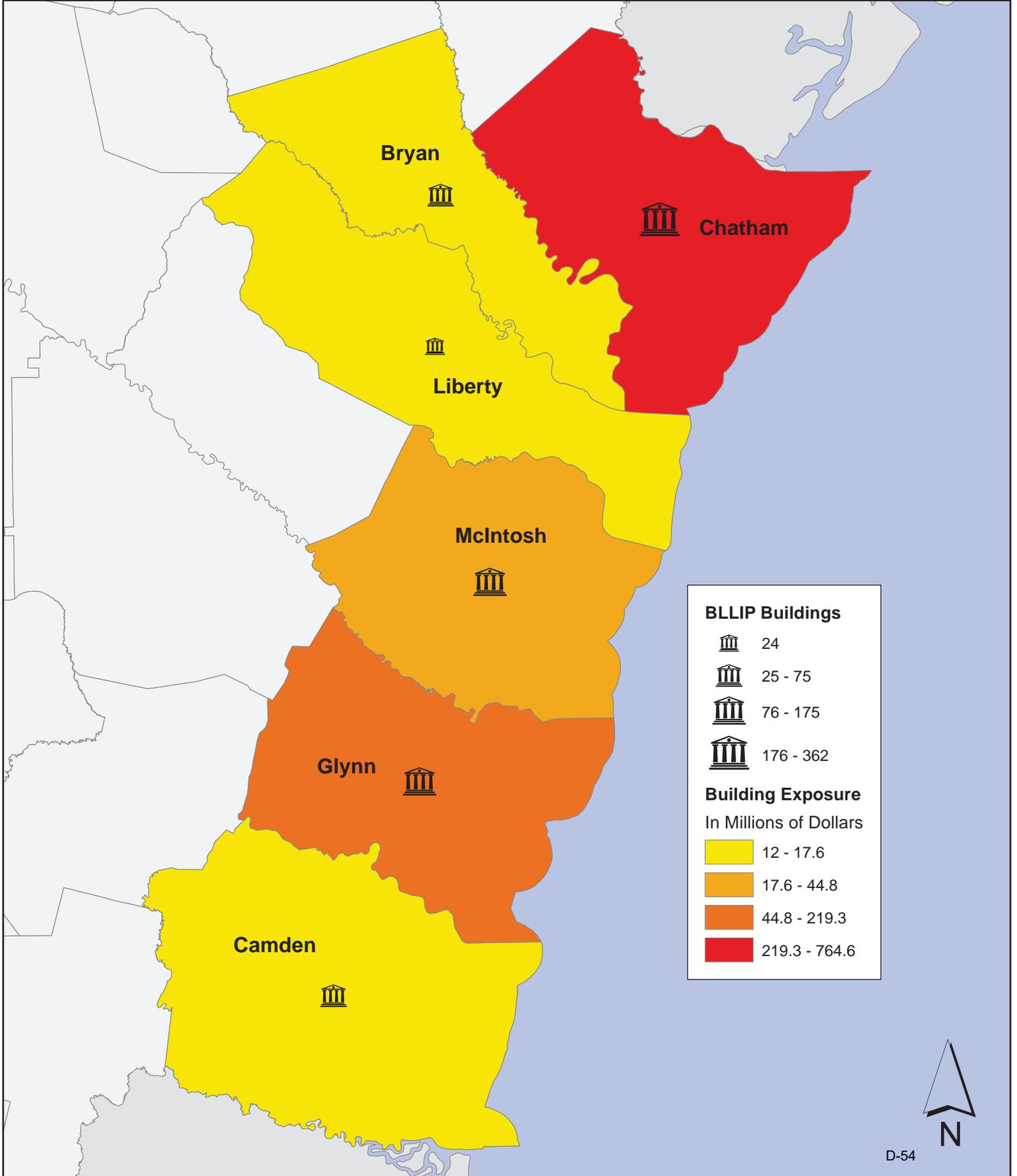
Total Combined Losses - No Sea Level Rise	\$58,525,000
Total Combined Losses - Sea Level Rise	\$62,447,000
Difference	\$3,922,000

		Exposure Amounts
BLLIP Total Buildings	832	\$1,073,446,000
BLLIP Total Buildings at Potential Risk	331	\$653,633,000



BLLIP Sea Level Rise Analysis

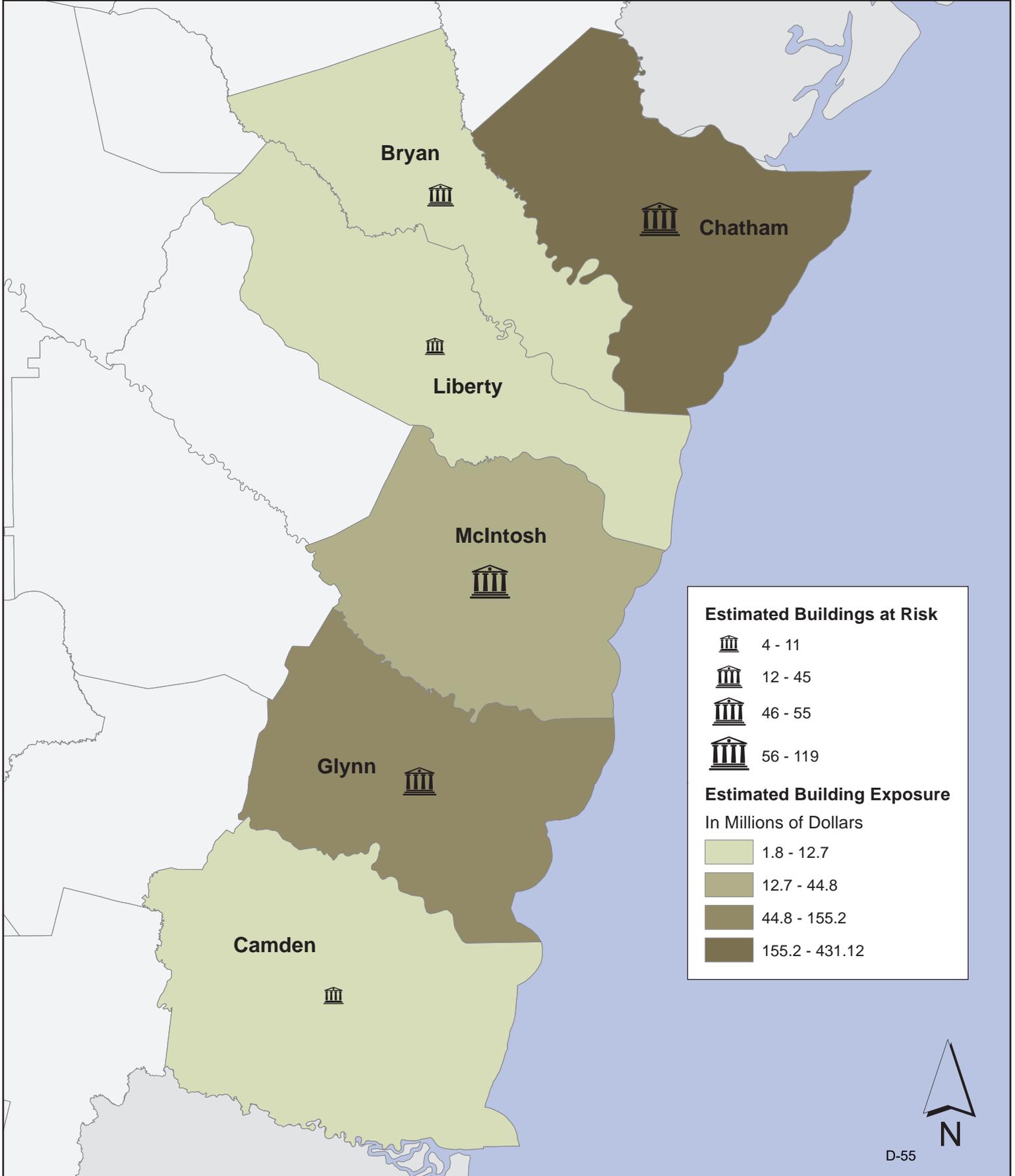
BLLIP Buildings





BLLIP Sea Level Rise Analysis

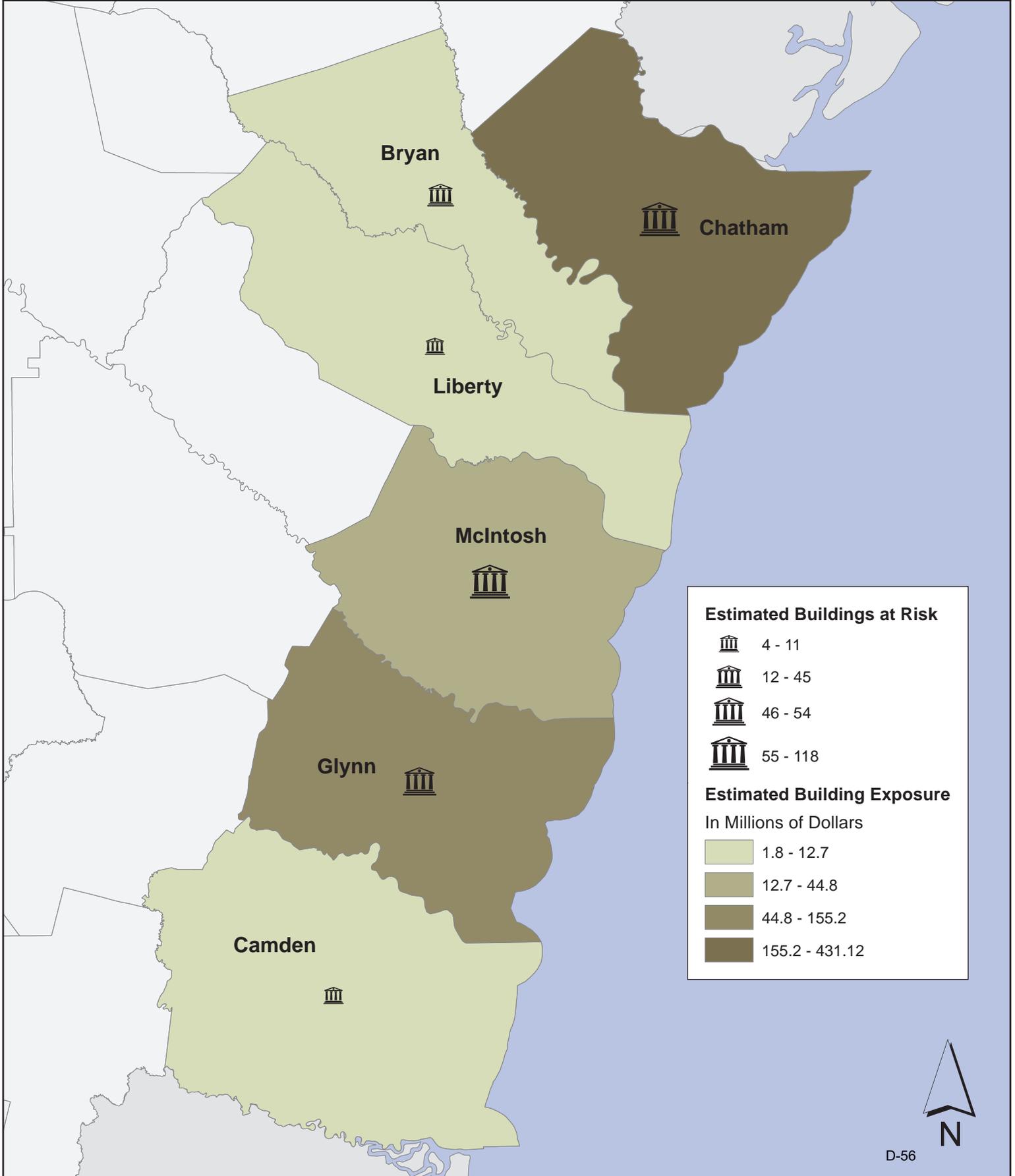
Buildings at Risk and Exposure Amounts with No Sea Level Rise





BLLIP Sea Level Rise Analysis

Buildings at Risk and Exposure Amounts with Sea Level Rise



Estimated Buildings at Risk

- 4 - 11
- 12 - 45
- 46 - 54
- 55 - 118

Estimated Building Exposure
In Millions of Dollars

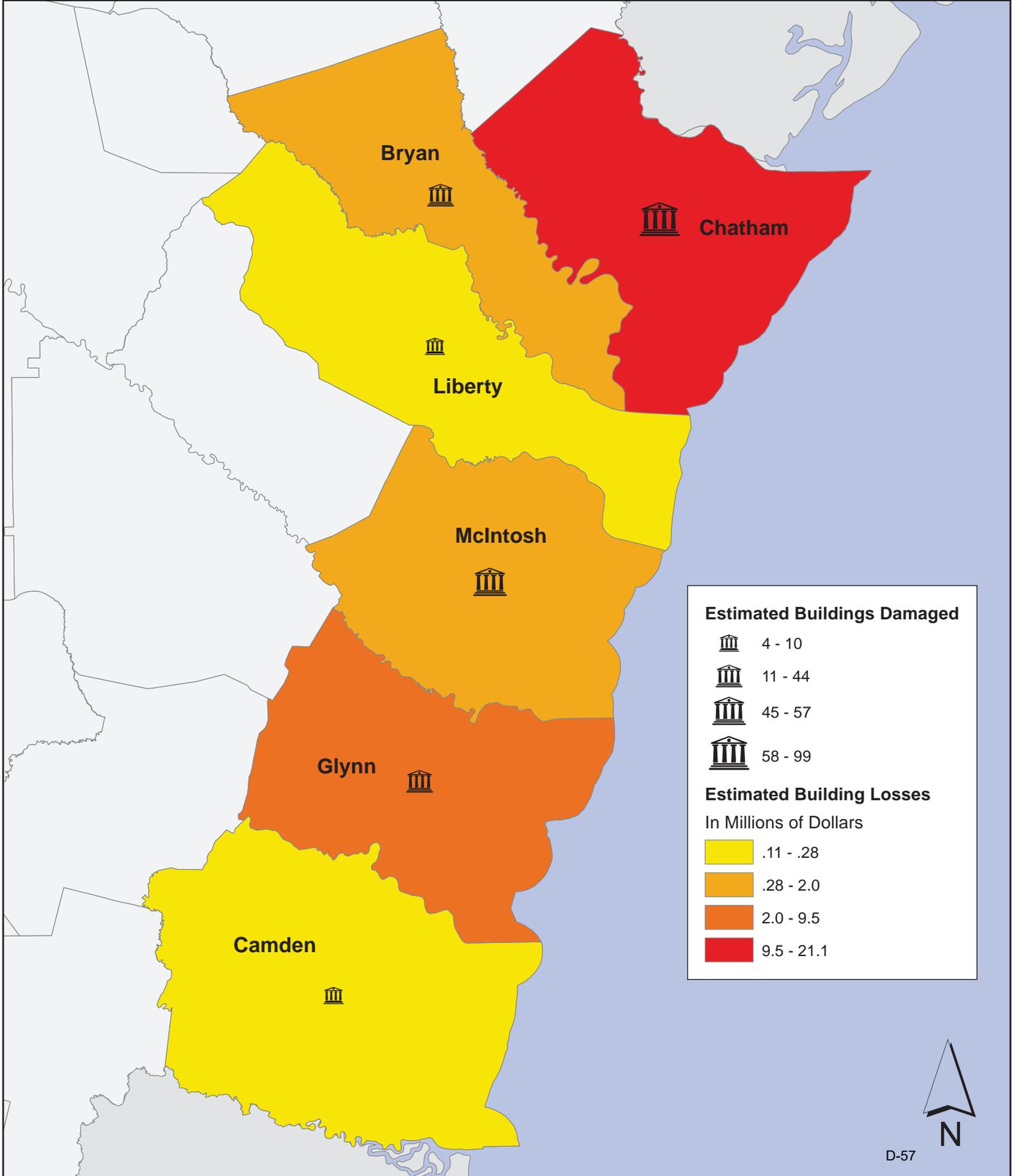
- 1.8 - 12.7
- 12.7 - 44.8
- 44.8 - 155.2
- 155.2 - 431.12





BLLIP Sea Level Rise Analysis

Buildings Damaged and Loss Amounts with No Sea Level Rise



Estimated Buildings Damaged

- 4 - 10
- 11 - 44
- 45 - 57
- 58 - 99

Estimated Building Losses

In Millions of Dollars

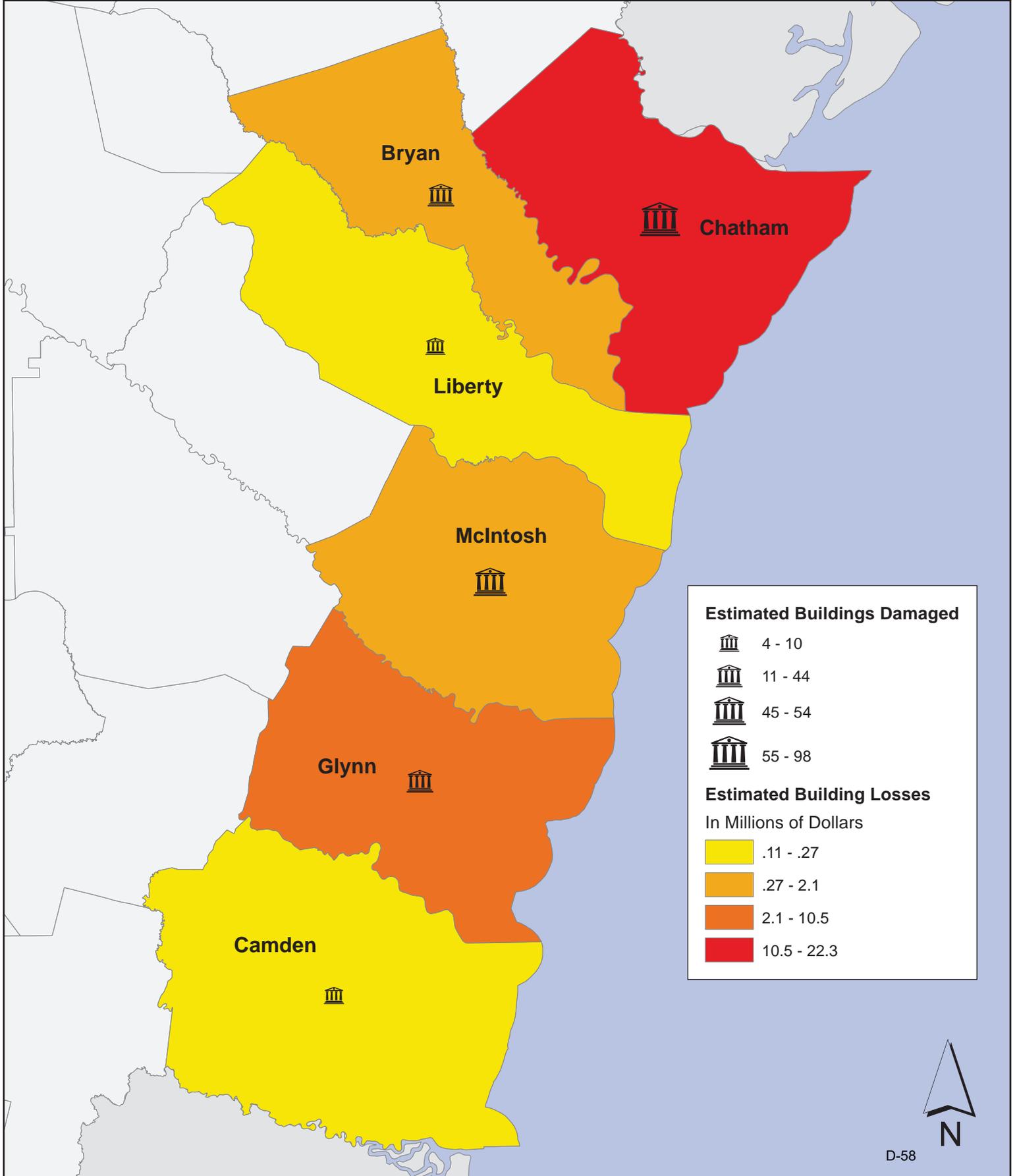
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- .28 - 2.0
- 2.0 - 9.5
- 9.5 - 21.1





BLLIP Sea Level Rise Analysis

Buildings Damaged and Loss Amounts with Sea Level Rise



Estimated Buildings Damaged

- 4 - 10
- 11 - 44
- 45 - 54
- 55 - 98

Estimated Building Losses

In Millions of Dollars

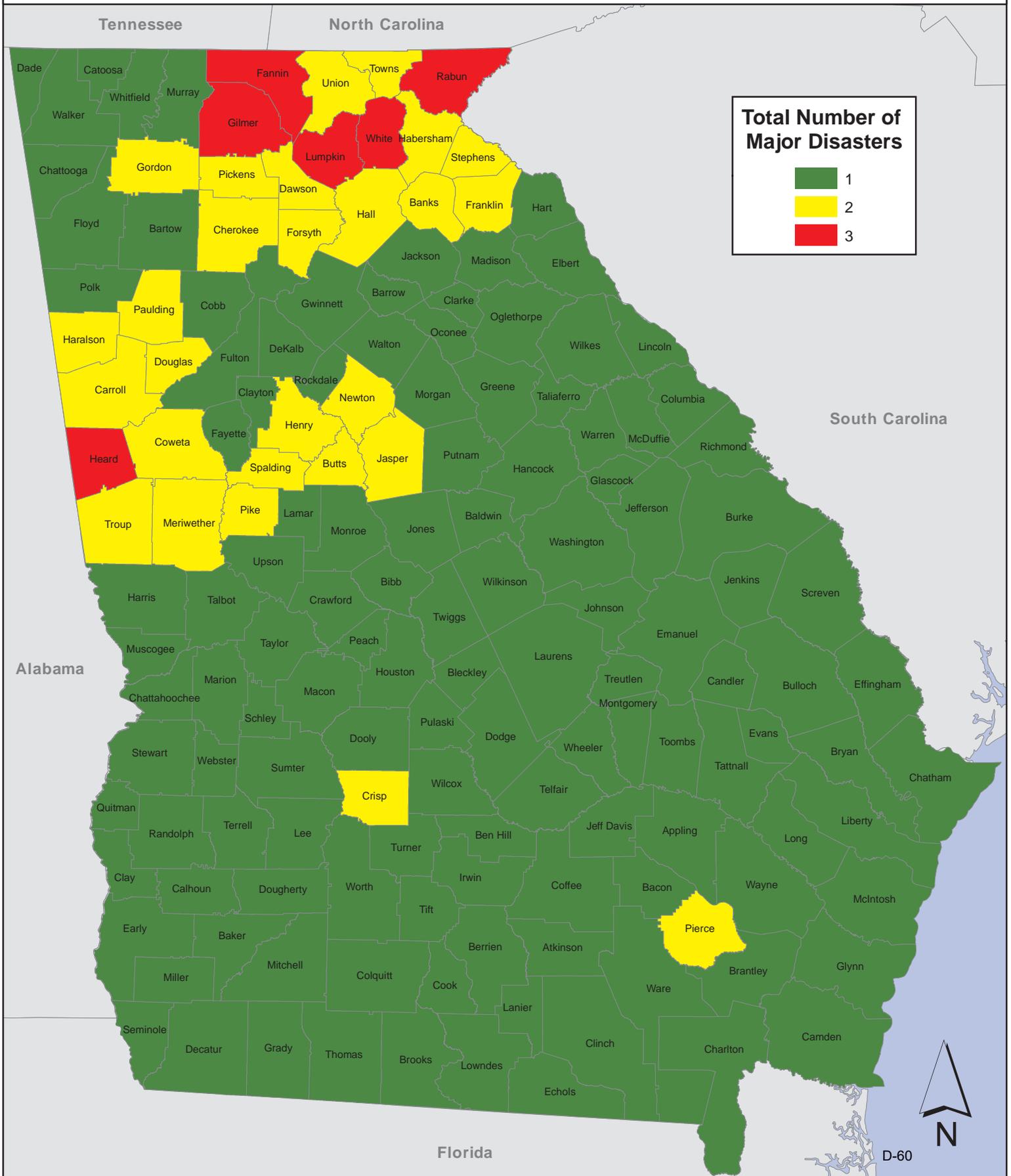
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- 2.1 - 10.5
- 10.5 - 22.3



Appendix D-III
Georgia Declaration History

Presidential Disaster Declarations by County

Major Disasters (2019 - 2023)



Total Number of Major Disasters

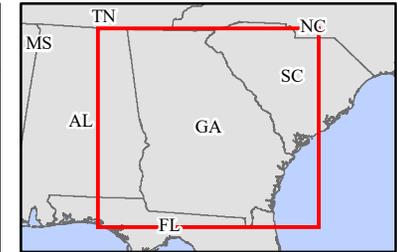
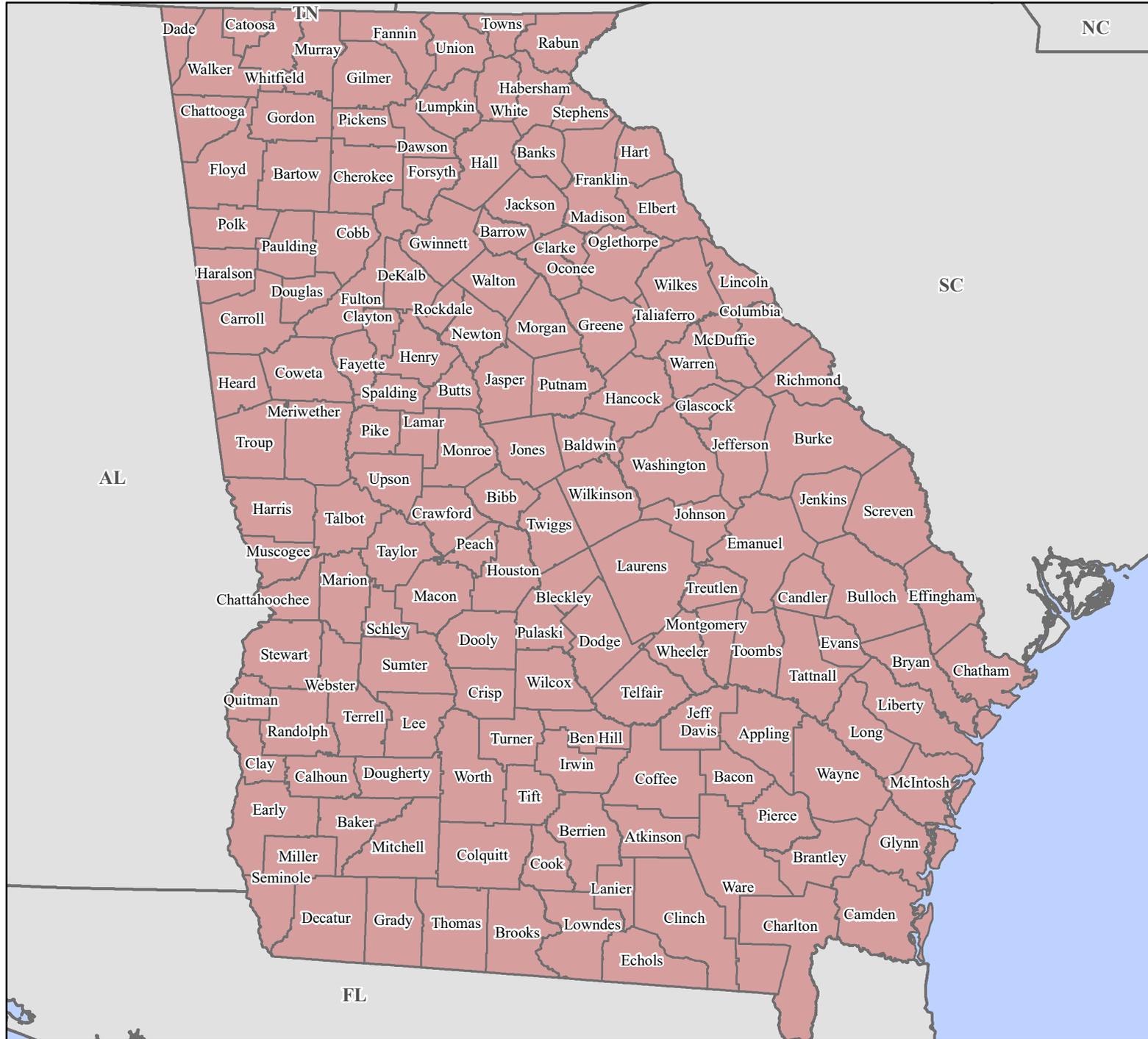
- 1
- 2
- 3



FEMA-4501-DR, Georgia Disaster Declaration as of 04/30/2020



FEMA



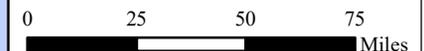
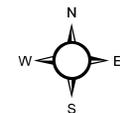
Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Georgia.

Designated Counties

Individual Assistance and Public Assistance (Category B)

Individual Assistance:
Individual Assistance limited to the Crisis Counseling Program in all areas in the State of Georgia.

Public Assistance:
Emergency protective measures (Category B), including direct federal assistance, for all areas in the State of Georgia.

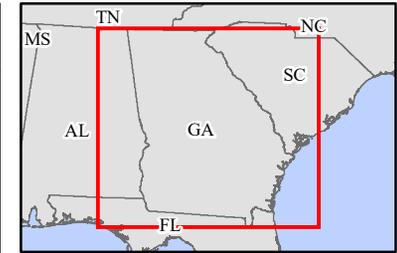
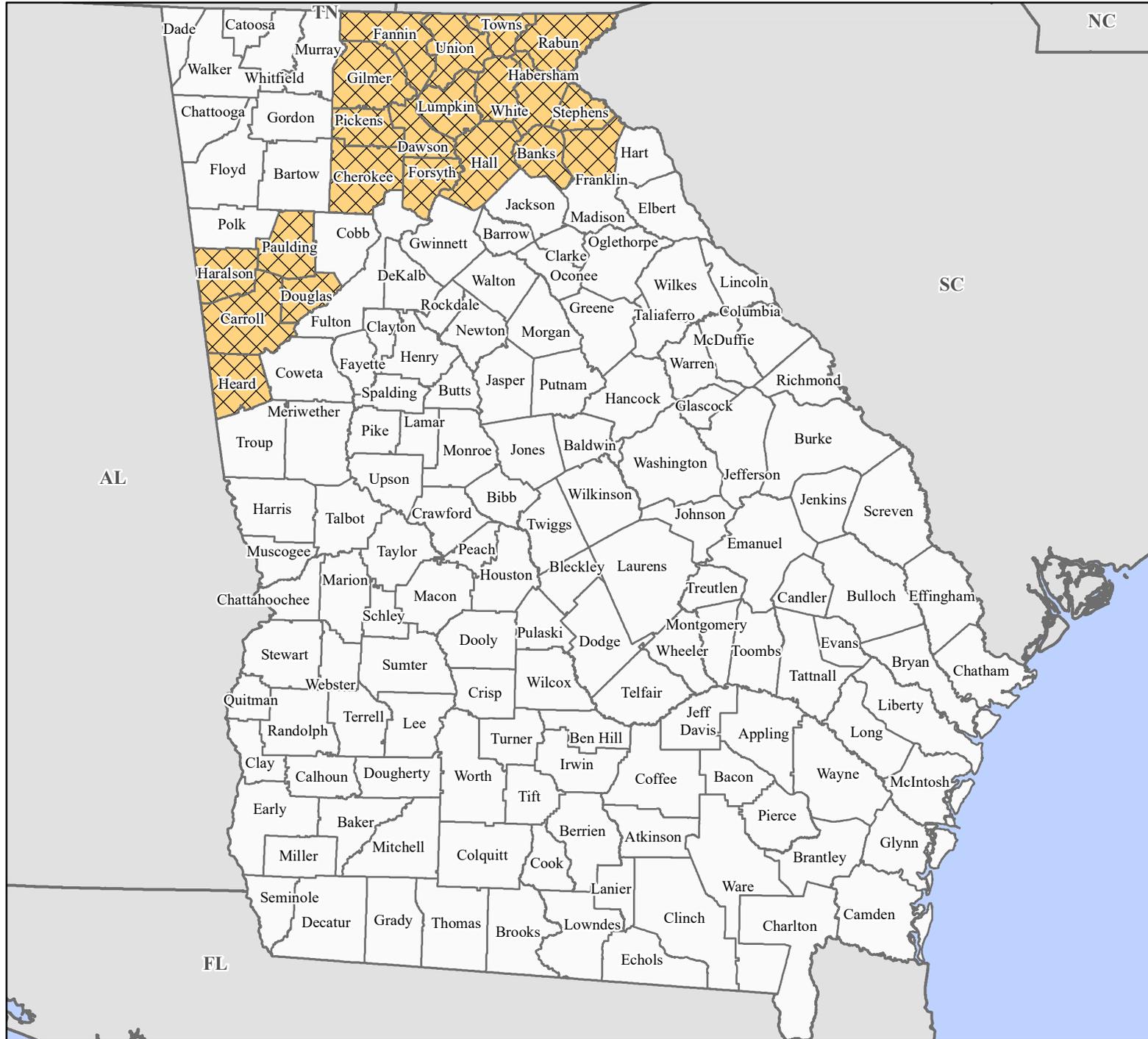


Data Sources:
FEMA, ESRI;
Initial Declaration: 03/29/2020
Disaster Federal Registry Notice:
Amendment #1: 04/30/2020
Datum: North American 1983
Projection: Transverse Mercator

FEMA-4579-DR, Georgia Disaster Declaration as of 01/12/2021



FEMA

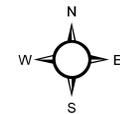


Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Georgia.

All designated areas in the State of Georgia are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Designated Counties

- No Designation
- Public Assistance (Categories A - G)

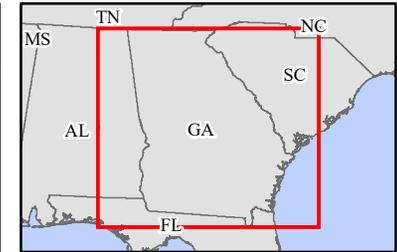
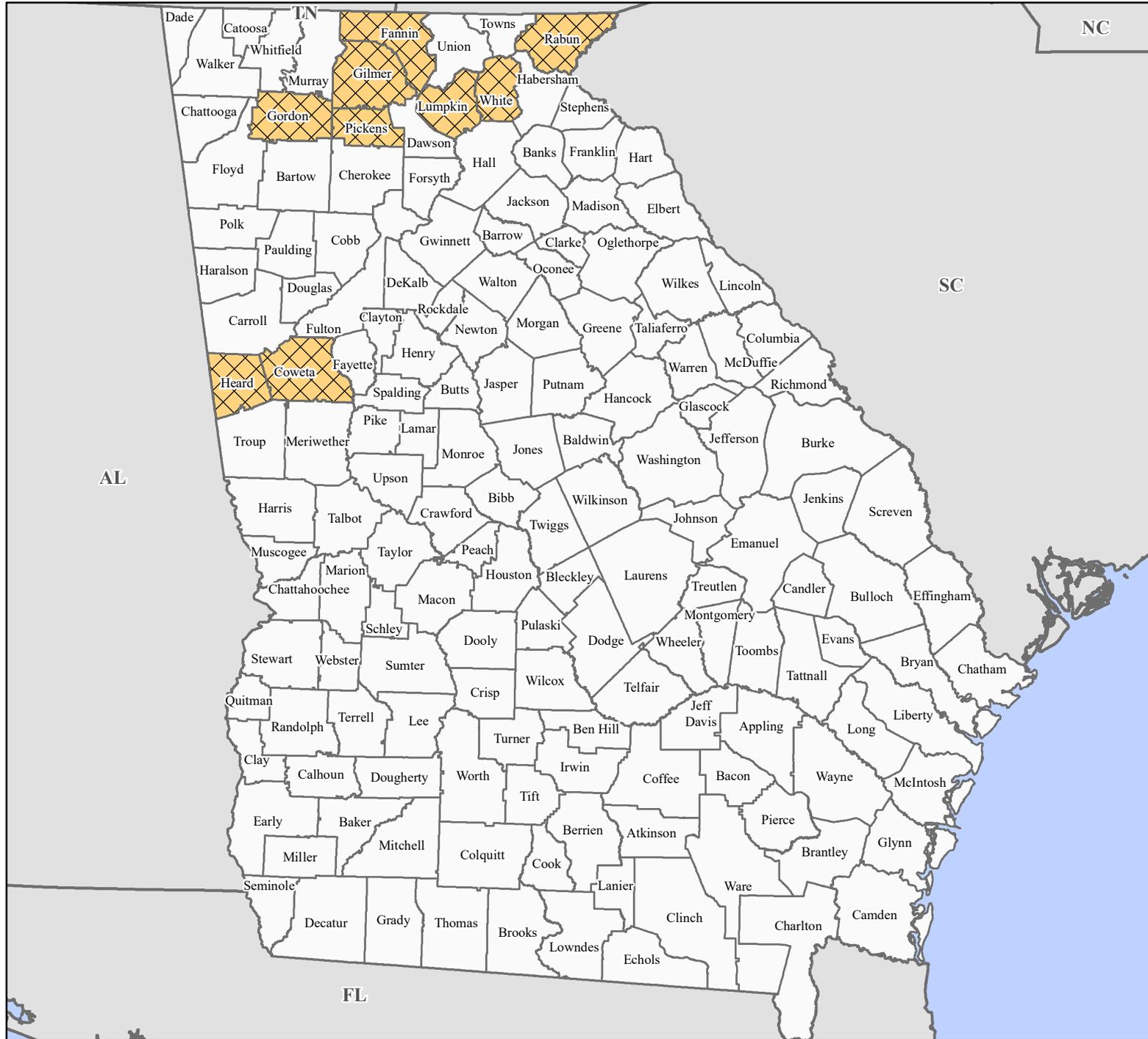


Data Sources:
FEMA, ESRI;
Initial Declaration: 01/12/2021
Disaster Federal Registry Notice: 01/12/2021
Datum: North American 1983
Projection: Transverse Mercator

FEMA-4600-DR, Georgia Disaster Declaration as of 05/27/2021



FEMA



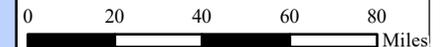
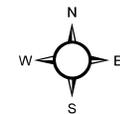
Data Layer/Map Description:

The types of assistance that have been designated for selected areas in the State of Georgia.

All areas in the State of Georgia are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Designated Counties

- No Designation
- Public Assistance (Categories A - G)



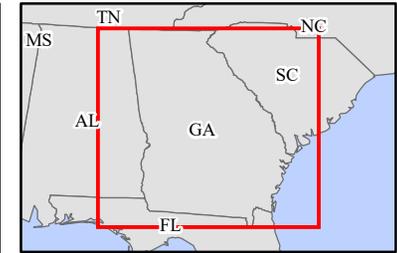
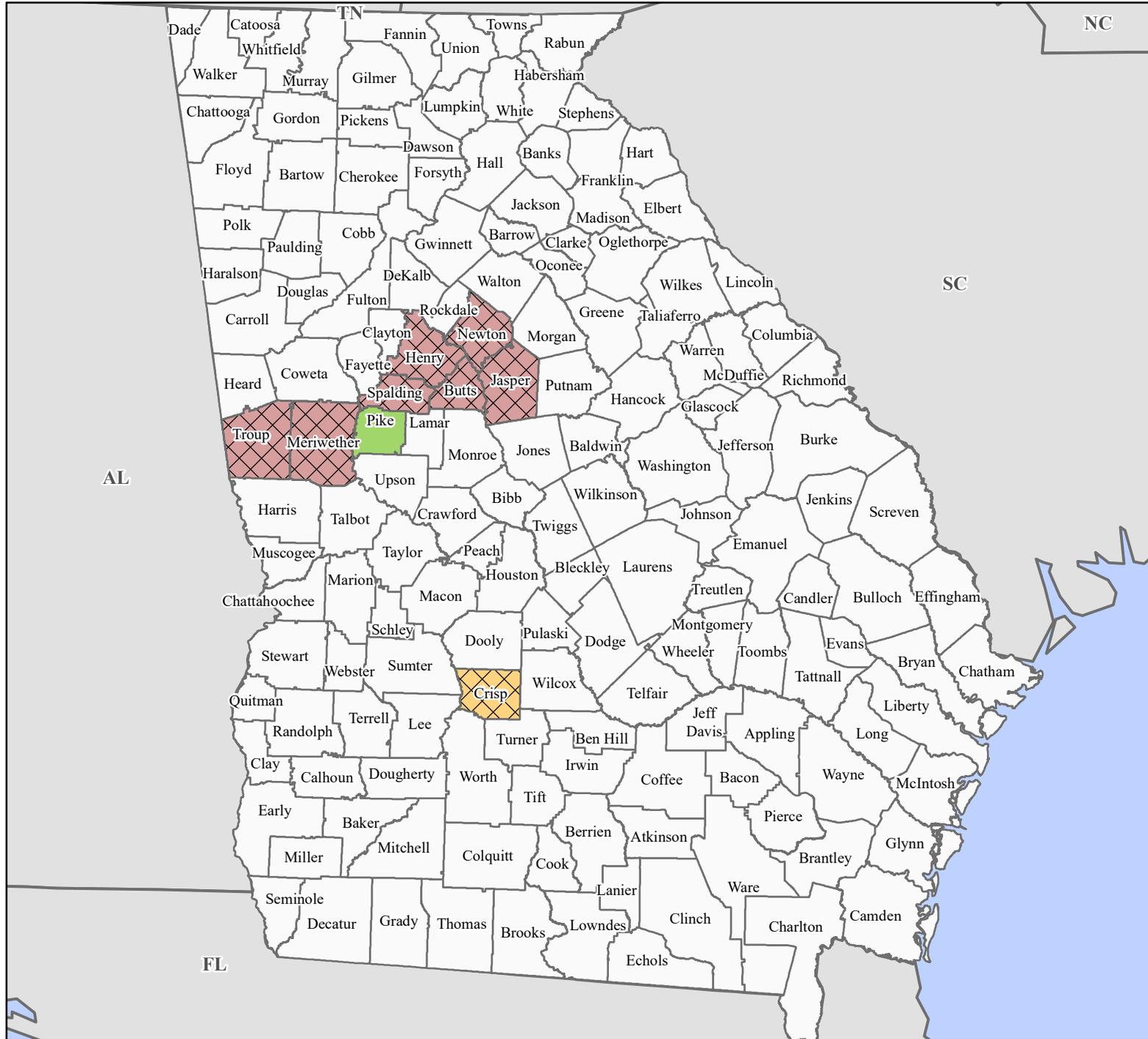
Data Sources:

FEMA, ESRI;
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 Disaster Federal Registry Notice:
 Amendment #1: 05/27/2021
 Datum: North American 1983
 Projection: Transverse Mercator

FEMA-4685-DR, Georgia Disaster Declaration as of 02/10/2023



FEMA



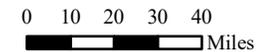
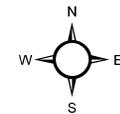
Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Georgia.

All areas in the State of Georgia are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Additional designations may be made at a later date if requested by the state and warranted by the results of further damage assessments.

Designated Counties

- No Designation
- Individual Assistance
- Individual Assistance and Public Assistance (Categories A - G)
- Public Assistance (Categories A - G)

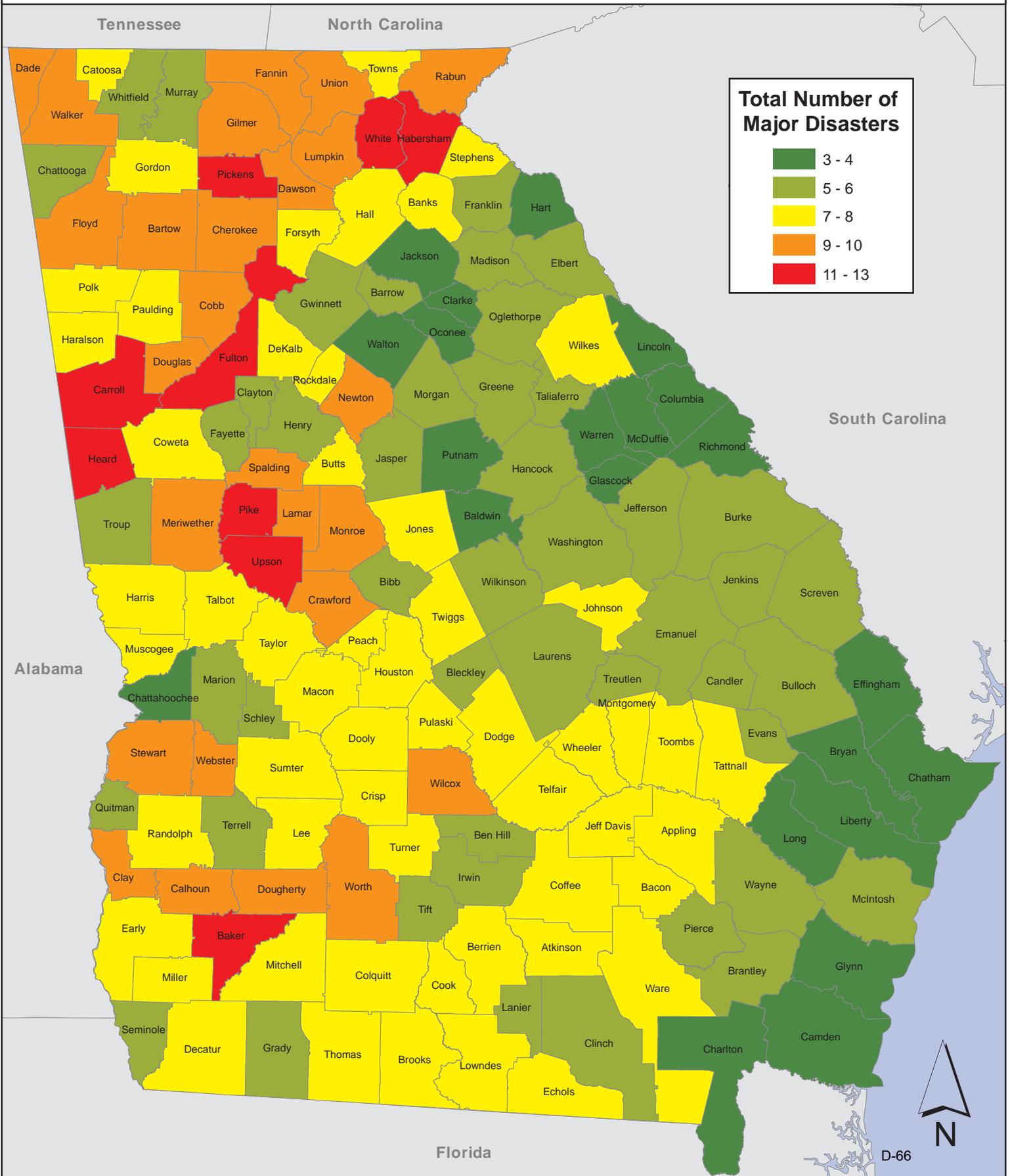


Data Sources:

FEMA, ESRI;
Initial Declaration: 01/16/2023
Disaster Federal Registry Notice:
Amendment #1: 02/10/2023
Datum: North American 1983
Projection: Transverse Mercator

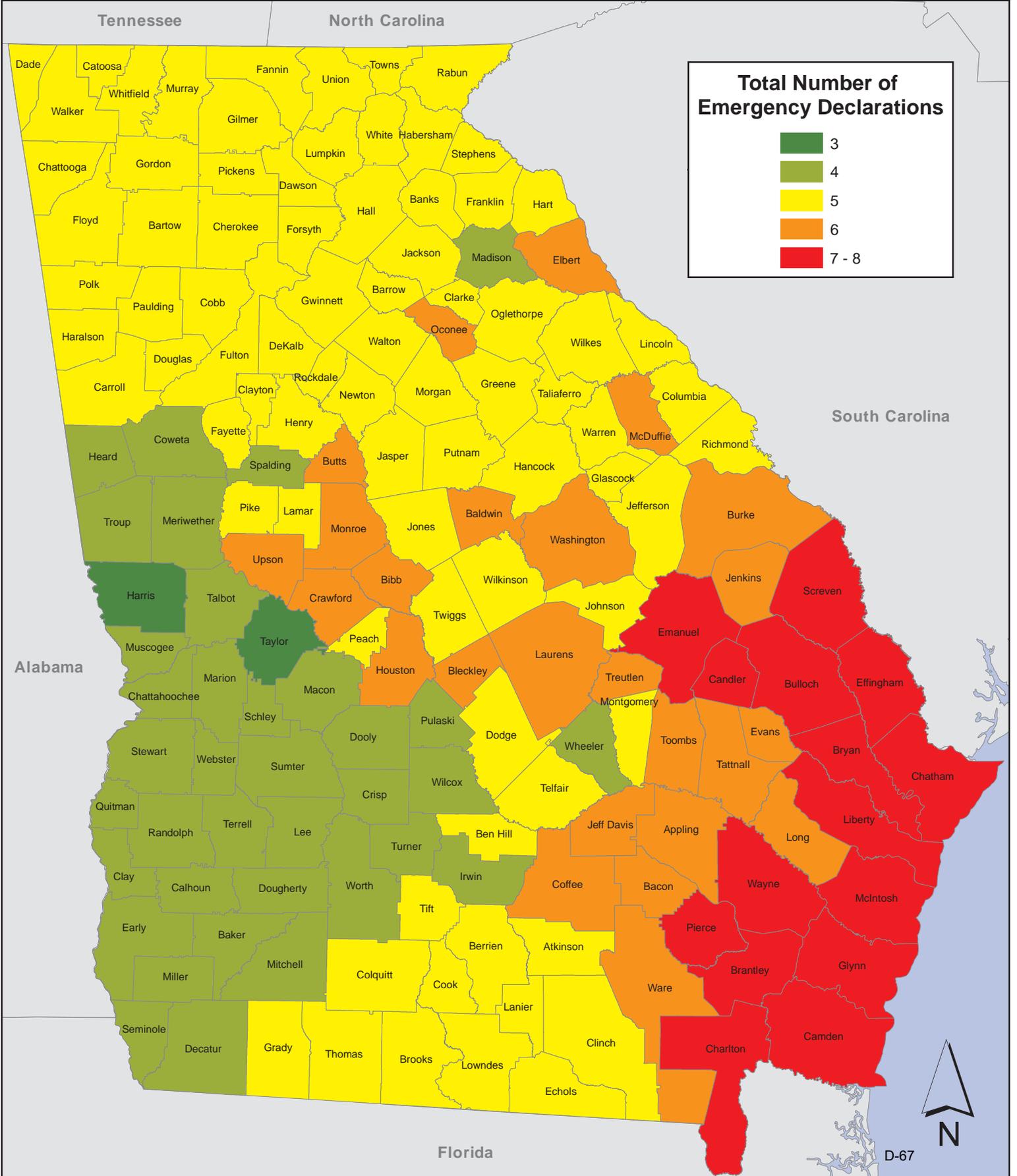
Presidential Disaster Declarations by County

Major Disasters (1990 - 2023)



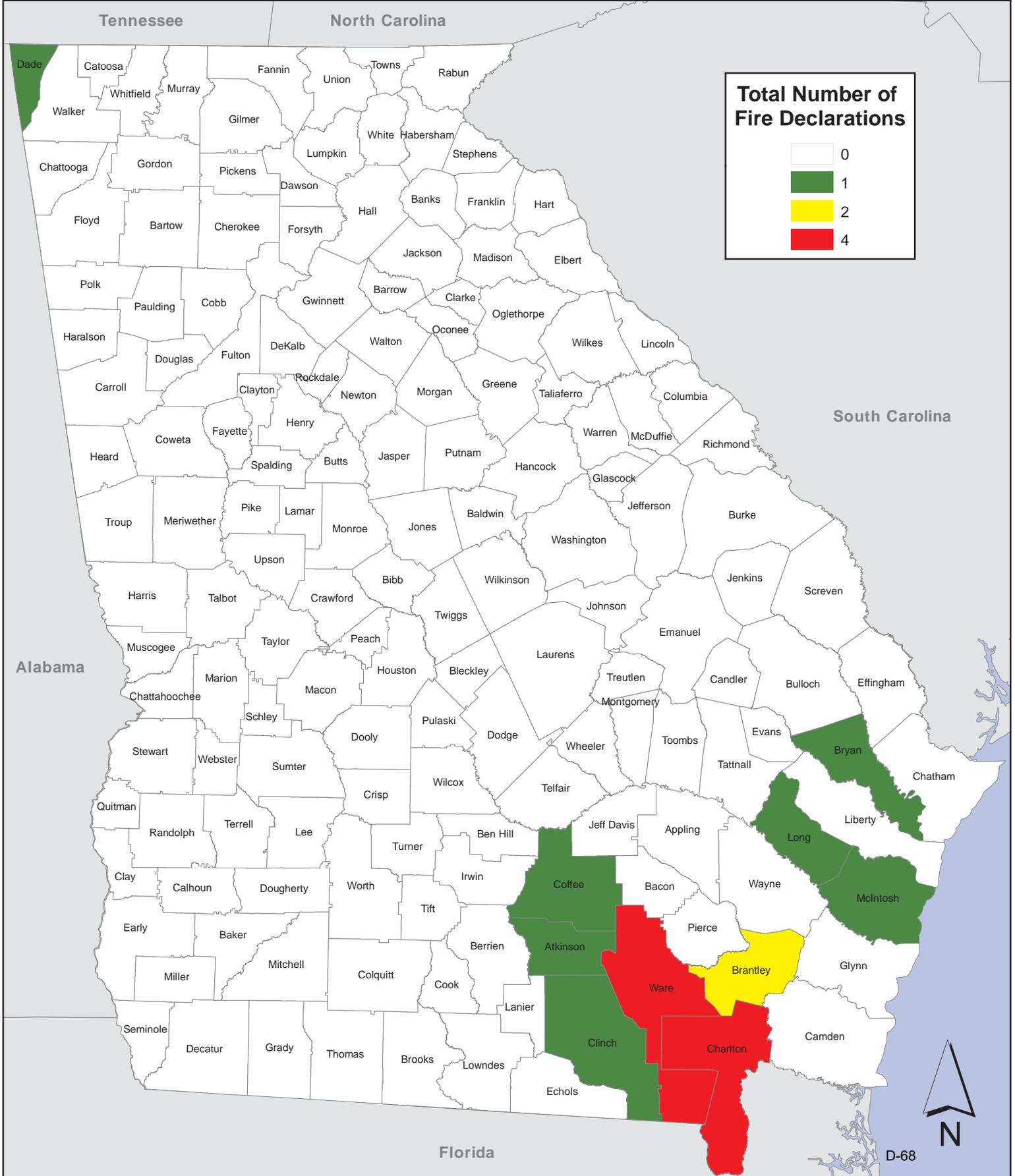
Presidential Disaster Declarations by County

Emergency Declarations (1990 - 2023)



Presidential Disaster Declarations by County

Fire Declarations (1990 - 2023)



Presidential Major Disaster Declarations 2019 - Present										
County	4501	4579	4600	4685						Total
Appling	1									1
Atkinson	1									1
Bacon	1									1
Baker	1									1
Baldwin	1									1
Banks	1	1								2
Barrow	1									1
Bartow	1									1
Ben Hill	1									1
Berrien	1									1
Bibb	1									1
Bleckley	1									1
Brantley	1									1
Brooks	1									1
Bryan	1									1
Bulloch	1									1
Burke	1									1
Butts	1			1						2
Calhoun	1									1
Camden	1									1
Candler	1									1
Carroll	1	1								2
Catoosa	1									1
Charlton	1									1
Chatham	1									1
Chattahoochee	1									1
Chattooga	1									1
Cherokee	1	1								2
Clarke	1									1
Clay	1									1
Clayton	1									1
Clinch	1									1
Cobb	1									1
Coffee	1									1
Colquitt	1									1
Columbia	1									1
Cook	1									1
Coweta	1		1							2
Crawford	1									1
Crisp	1			1						2
Dade	1									1
Dawson	1	1								2
Decatur	1									1
DeKalb	1									1
Dodge	1									1

Presidential Major Disaster Declarations 2019 - Present

County	4501	4579	4600	4685						Total
Dooly	1									1
Dougherty	1									1
Douglas	1	1								2
Early	1									1
Echols	1									1
Effingham	1									1
Elbert	1									1
Emanuel	1									1
Evans	1									1
Fannin	1	1	1							3
Fayette	1									1
Floyd	1									1
Forsyth	1	1								2
Franklin	1	1								2
Fulton	1									1
Gilmer	1	1	1							3
Glascocock	1									1
Glynn	1									1
Gordon	1		1							2
Grady	1									1
Greene	1									1
Gwinnett	1									1
Habersham	1	1								2
Hall	1	1								2
Hancock	1									1
Haralson	1	1								2
Harris	1									1
Hart	1									1
Heard	1	1	1							3
Henry	1			1						2
Houston	1									1
Irwin	1									1
Jackson	1									1
Jasper	1			1						2
Jeff Davis	1									1
Jefferson	1									1
Jenkins	1									1
Johnson	1									1
Jones	1									1
Lamar	1									1
Lanier	1									1
Laurens	1									1
Lee	1									1
Liberty	1									1
Lincoln	1									1

Presidential Major Disaster Declarations 2019 - Present

County	4501	4579	4600	4685						Total
Long	1									1
Lowndes	1									1
Lumpkin	1	1	1							3
Macon	1									1
Madison	1									1
Marion	1									1
McDuffie	1									1
McIntosh	1									1
Meriwether	1			1						2
Miller	1									1
Mitchell	1									1
Monroe	1									1
Montgomery	1									1
Morgan	1									1
Murray	1									1
Muscogee	1									1
Newton	1			1						2
Oconee	1									1
Oglethorpe	1									1
Paulding	1	1								2
Peach	1									1
Pickens	1	1								2
Pierce	1		1							2
Pike	1			1						2
Polk	1									1
Pulaski	1									1
Putnam	1									1
Quitman	1									1
Rabun	1	1	1							3
Randolph	1									1
Richmond	1									1
Rockdale	1									1
Schley	1									1
Screven	1									1
Seminole	1									1
Spalding	1			1						2
Stephens	1	1								2
Stewart	1									1
Sumter	1									1
Talbot	1									1
Taliaferro	1									1
Tattnall	1									1
Taylor	1									1
Telfair	1									1
Terrell	1									1

Presidential Major Disaster Declarations 2019 - Present										
County	4501	4579	4600	4685						Total
Thomas	1									1
Tift	1									1
Toombs	1									1
Towns	1	1								2
Treutlen	1									1
Troup	1			1						2
Turner	1									1
Twiggs	1									1
Union	1	1								2
Upson	1									1
Walker	1									1
Walton	1									1
Ware	1									1
Warren	1									1
Washington	1									1
Wayne	1									1
Webster	1									1
Wheeler	1									1
White	1	1	1							3
Whitfield	1									1
Wilcox	1									1
Wilkes	1									1
Wilkinson	1									1
Worth	1									1
TOTAL	159	21	9	9	0	0	0	0	0	

Emergency Declarations 2019 - Present

County	3464								Total
Appling	1								1
Atkinson	1								1
Bacon	1								1
Baker	1								1
Baldwin	1								1
Banks	1								1
Barrow	1								1
Bartow	1								1
Ben Hill	1								1
Berrien	1								1
Bibb	1								1
Bleckley	1								1
Brantley	1								1
Brooks	1								1
Bryan	1								1
Bulloch	1								1
Burke	1								1
Butts	1								1
Calhoun	1								1
Camden	1								1
Candler	1								1
Carroll	1								1
Catoosa	1								1
Charlton	1								1
Chatham	1								1
Chattahoochee	1								1
Chattooga	1								1
Cherokee	1								1
Clarke	1								1
Clay	1								1
Clayton	1								1
Clinch	1								1
Cobb	1								1
Coffee	1								1
Colquitt	1								1
Columbia	1								1
Cook	1								1
Coweta	1								1
Crawford	1								1
Crisp	1								1
Dade	1								1
Dawson	1								1
Decatur	1								1
DeKalb	1								1
Dodge	1								1

Emergency Declarations 2019 - Present

County	3464								Total
Dooly	1								1
Dougherty	1								1
Douglas	1								1
Early	1								1
Echols	1								1
Effingham	1								1
Elbert	1								1
Emanuel	1								1
Evans	1								1
Fannin	1								1
Fayette	1								1
Floyd	1								1
Forsyth	1								1
Franklin	1								1
Fulton	1								1
Gilmer	1								1
Glascok	1								1
Glynn	1								1
Gordon	1								1
Grady	1								1
Greene	1								1
Gwinnett	1								1
Habersham	1								1
Hall	1								1
Hancock	1								1
Haralson	1								1
Harris	1								1
Hart	1								1
Heard	1								1
Henry	1								1
Houston	1								1
Irwin	1								1
Jackson	1								1
Jasper	1								1
Jeff Davis	1								1
Jefferson	1								1
Jenkins	1								1
Johnson	1								1
Jones	1								1
Lamar	1								1
Lanier	1								1
Laurens	1								1
Lee	1								1
Liberty	1								1
Lincoln	1								1

Emergency Declarations 2019 - Present								
County	3464							Total
Long	1							1
Lowndes	1							1
Lumpkin	1							1
Macon	1							1
Madison	1							1
Marion	1							1
McDuffie	1							1
McIntosh	1							1
Meriwether	1							1
Miller	1							1
Mitchell	1							1
Monroe	1							1
Montgomery	1							1
Morgan	1							1
Murray	1							1
Muscogee	1							1
Newton	1							1
Oconee	1							1
Oglethorpe	1							1
Paulding	1							1
Peach	1							1
Pickens	1							1
Pierce	1							1
Pike	1							1
Polk	1							1
Pulaski	1							1
Putnam	1							1
Quitman	1							1
Rabun	1							1
Randolph	1							1
Richmond	1							1
Rockdale	1							1
Schley	1							1
Screven	1							1
Seminole	1							1
Spalding	1							1
Stephens	1							1
Stewart	1							1
Sumter	1							1
Talbot	1							1
Taliaferro	1							1
Tattnall	1							1
Taylor	1							1
Telfair	1							1
Terrell	1							1

Emergency Declarations 2019 - Present									
County	3464								Total
Thomas	1								1
Tift	1								1
Toombs	1								1
Towns	1								1
Treutlen	1								1
Troup	1								1
Turner	1								1
Twiggs	1								1
Union	1								1
Upson	1								1
Walker	1								1
Walton	1								1
Ware	1								1
Warren	1								1
Washington	1								1
Wayne	1								1
Webster	1								1
Wheeler	1								1
White	1								1
Whitfield	1								1
Wilcox	1								1
Wilkes	1								1
Wilkinson	1								1
Worth	1								1
TOTAL	159	0	0	0	0	0	0	0	159

Fire Management Assistance Declarations 2019 to Present (None to date)											
County											Total
											0
TOTAL	0	0	0	0	0	0	0	0	0	0	0

Only counties included in declarations are shown.
 *No designated counties for these declarations.

Presidential Major Disaster Declarations 2010 - 2018										
County	1973	4165	4215	4259	4284	4294	4297	4338	4400	Total
Appling							1	1	1	3
Atkinson								1	1	2
Bacon								1	1	2
Baker				1		1	1	1	1	5
Baldwin		1						1		2
Banks			1					1		2
Barrow			1					1		2
Bartow	1							1		2
Ben Hill								1	1	2
Berrien							1	1	1	3
Bibb								1		1
Bleckley								1	1	2
Brantley					1		1	1		3
Brooks							1	1	1	3
Bryan					1			1		2
Bulloch		1			1		1	1	1	5
Burke		1						1	1	3
Butts		1						1		2
Calhoun						1	1	1	1	4
Camden					1			1		2
Candler		1			1			1	1	4
Carroll		1		1				1		3
Catoosa	1							1		2
Charlton								1		1
Chatham					1			1		2
Chattahoochee				1				1	1	3
Chattooga								1		1
Cherokee	1							1		2
Clarke								1		1
Clay							1	1	1	3
Clayton								1		1
Clinch								1		1
Cobb								1		1
Coffee								1	1	2
Colquitt							1	1	1	3
Columbia		1						1		2
Cook							1	1	1	3
Coweta	1	1						1		3
Crawford				1				1	1	3
Crisp							1	1	1	3
Dade	1	1		1				1		4
Dawson			1					1		2
Decatur				1				1	1	3
DeKalb								1		1
Dodge								1	1	2

Presidential Major Disaster Declarations 2010 - 2018										
County	1973	4165	4215	4259	4284	4294	4297	4338	4400	Total
Dooly								1	1	2
Dougherty						1	1	1	1	4
Douglas				1				1		2
Early						1		1		2
Echols							1	1	1	3
Effingham					1			1		2
Elbert			1					1		2
Emanuel		1			1			1	1	4
Evans					1			1	1	3
Fannin		1		1				1		3
Fayette		1		1				1		3
Floyd	1							1		2
Forsyth			1					1		2
Franklin			1					1		2
Fulton		1						1		2
Gilmer		1		1				1		3
Glascok		1						1	1	3
Glynn					1			1		2
Gordon	1							1		2
Grady								1	1	2
Greene	1			1				1		3
Gwinnett								1		1
Habersham	1	1	1					1		4
Hall			1					1		2
Hancock		1						1	1	3
Haralson		1		1				1		3
Harris	1			1				1		3
Hart								1		1
Heard	1	1						1		3
Henry								1		1
Houston								1	1	2
Irwin								1	1	2
Jackson			1					1		2
Jasper		1						1		2
Jeff Davis				1				1	1	3
Jefferson		1						1	1	3
Jenkins		1			1			1	1	4
Johnson		1						1	1	3
Jones		1						1	1	3
Lamar	1	1		1				1		4
Lanier								1		1
Laurens								1	1	2
Lee								1	1	2
Liberty					1			1		2
Lincoln								1		1

Presidential Major Disaster Declarations 2010 - 2018										
County	1973	4165	4215	4259	4284	4294	4297	4338	4400	Total
Long					1			1		2
Lowndes							1	1		2
Lumpkin	1		1					1		3
Macon				1				1	1	3
Madison		1	1					1		3
Marion				1				1	1	3
McDuffie		1						1		2
McIntosh					1			1		2
Meriwether	1	1		1				1		4
Miller								1	1	2
Mitchell						1		1	1	3
Monroe	1	1						1		3
Montgomery				1				1	1	3
Morgan	1	1		1				1		4
Murray								1		1
Muscogee				1				1		2
Newton	1	1		1				1		4
Oconee								1		1
Oglethorpe			1	1				1		3
Paulding								1		1
Peach								1	1	2
Pickens	1	1	1	1				1		5
Pierce					1			1		2
Pike		1						1		2
Polk	1							1		2
Pulaski								1	1	2
Putnam								1	1	2
Quitman								1	1	2
Rabun	1							1		2
Randolph							1	1	1	3
Richmond		1						1		2
Rockdale								1		1
Schley								1	1	2
Screven		1			1			1	1	4
Seminole								1	1	2
Spalding	1	1						1		3
Stephens			1					1		2
Stewart				1				1	1	3
Sumter								1	1	2
Talbot				1				1		2
Taliaferro		1		1				1		3
Tattnall					1		1	1	1	4
Taylor				1				1		2
Telfair								1	1	2
Terrell								1	1	2

Presidential Major Disaster Declarations 2010 - 2018										
County	1973	4165	4215	4259	4284	4294	4297	4338	4400	Total
Thomas							1	1	1	3
Tift								1	1	2
Toombs					1			1	1	3
Towns				1				1		2
Treutlen								1	1	2
Troup	1			1				1		3
Turner						1	1	1	1	4
Twiggs		1						1	1	3
Union				1				1		2
Upson	1	1		1			1	1		5
Walker	1	1						1		3
Walton								1		1
Ware					1		1	1		3
Warren		1						1		2
Washington		1						1	1	3
Wayne					1			1		2
Webster				1				1	1	3
Wheeler								1	1	2
White	1	1	1					1		4
Whitfield		1						1		2
Wilcox							1	1	1	3
Wilkes		1		1				1		3
Wilkinson								1	1	2
Worth						1	1	1	1	4
TOTAL	25	45	15	34	20	7	22	159	68	

Presidential Major Disaster Declarations 2000 - 2009										
County	1311	1315	1554	1560	1686	1750	1761	1833	1858	Total
Appling				1				1		2
Atkinson				1				1		2
Bacon				1				1		2
Baker				1	1			1		3
Banks	1		1							2
Barrow	1									1
Bartow	1					1			1	3
Ben Hill				1				1		2
Berrien				1				1		2
Bibb				1			1			2
Bleckley				1						1
Brantley				1				1		2
Brooks				1				1		2
Burke						1				1
Butts	1			1						2
Calhoun				1				1		2
Camden				1				1		2
Candler				1						1
Carroll	1		1				1		1	4
Catoosa	1								1	2
Charlton				1						1
Chattooga	1								1	2
Cherokee	1		1						1	3
Clarke	1									1
Clay			1		1					2
Clayton			1							1
Clinch				1				1		2
Cobb	1		1						1	3
Coffee				1				1		2
Colquitt		1		1				1		3
Cook				1				1		2
Coweta									1	1
Crawford				1	1		1		1	4
Crisp				1				1		2
Dade			1							1
Dawson	1		1						1	3
Decatur		1		1				1		3
DeKalb	1		1			1			1	4
Dodge				1				1		2
Dooly				1					1	2
Dougherty				1	1			1		3
Douglas	1						1		1	3
Early			1					1		2
Echols				1				1		2
Elbert	1		1	1						3

Presidential Major Disaster Declarations 2000 - 2009										
County	1311	1315	1554	1560	1686	1750	1761	1833	1858	Total
Emanuel				1			1			2
Evans				1						1
Fannin	1		1							2
Floyd	1					1				2
Forsyth	1		1							2
Franklin	1		1							2
Fulton	1		1			1			1	4
Gilmer	1		1							2
Glynn				1			1			2
Gordon	1									1
Grady		1		1				1		3
Greene	1			1						2
Gwinnett	1								1	2
Habersham	1		1							2
Hall	1									1
Hancock				1	1					2
Haralson	1									1
Harris			1	1						2
Hart	1			1						2
Heard			1						1	2
Henry	1									1
Houston				1					1	2
Irwin				1				1		2
Jackson	1									1
Jasper	1			1						2
Jeff Davis				1				1		2
Jefferson						1	1			2
Jenkins							1			1
Johnson				1			1			2
Jones	1			1						2
Lamar	1			1						2
Lanier				1				1		2
Laurens				1			1			2
Lee								1		1
Long				1						1
Lowndes				1				1		2
Lumpkin	1		1							2
Macon				1						1
Madison			1							1
McDuffie					1					1
McIntosh				1			1	1		3
Miller			1					1		2
Mitchell		1			1			1		3
Monroe	1			1				1		3
Montgomery				1				1		2

Presidential Major Disaster Declarations 2000 - 2009										
County	1311	1315	1554	1560	1686	1750	1761	1833	1858	Total
Muscogee					1					1
Newton	1								1	2
Oconee	1									1
Oglethorpe	1									1
Paulding	1								1	2
Peach				1					1	2
Pickens	1		1							2
Pierce				1				1		2
Pike	1		1	1						3
Polk						1				1
Pulaski				1				1		2
Putnam				1						1
Rabun	1		1	1						3
Rockdale	1								1	2
Schley				1						1
Seminole								1		1
Spalding	1			1						2
Stephens	1		1						1	3
Stewart					1					1
Sumter				1	1					2
Talbot				1						1
Taliaferro	1			1						2
Tattnall				1				1		2
Taylor				1	1				1	3
Telfair				1				1		2
Thomas				1				1		2
Tift		1		1				1		3
Toombs				1				1		2
Towns			1							1
Treutlen				1			1			2
Turner		1		1				1		3
Twiggs				1			1			2
Union	1		1							2
Upson	1		1	1				1		4
Walker	1								1	2
Walton	1									1
Ware				1				1		2
Warren					1					1
Washington				1						1
Wayne				1				1		2
Webster				1	1					2
Wheeler				1				1		2
White	1		1							2
Wilcox				1				1		2
Wilkes	1		1	1						3

Presidential Major Disaster Declarations 2000 - 2009										
County	1311	1315	1554	1560	1686	1750	1761	1833	1858	Total
Wilkinson				1	1		1			3
Worth				1	1			1		3
TOTAL		6	31	80	15	7	14	46	23	

Presidential Major Disaster Declarations 1990 - 1999													
County	857	880	897	969	980	1020	1033	1042	1071	1076	1209	1271	Total
Appling			1								1		2
Atkinson			1								1		2
Bacon			1								1		2
Baker	1						1				1		3
Baldwin											1		1
Banks									1				1
Barrow									1		1		2
Bartow					1	1			1		1		4
Ben Hill											1		1
Berrien			1								1		2
Bibb	1						1				1		3
Bleckley											1		1
Brantley											1		1
Brooks			1					1			1		3
Bryan								1			1		2
Bulloch								1			1		2
Burke		1									1		2
Butts	1						1				1		3
Calhoun							1				1		2
Camden								1					1
Candler											1	1	2
Carroll	1			1			1		1		1		5
Catoosa	1					1			1				3
Charlton											1		1
Chatham								1			1		2
Chattahoochee													0
Chattooga	1								1				2
Cherokee				1		1			1		1		4
Clarke													0
Clay							1		1		1		3
Clayton							1		1		1		3
Clinch			1					1			1		3
Cobb	1			1	1				1		1		5
Coffee			1								1		2
Colquitt								1			1		2
Columbia		1									1		2
Cook											1		1
Coweta							1		1				2
Crawford							1				1		2
Crisp							1				1		2
Dade	1			1					1		1		4
Dawson									1		1		2
Decatur							1	1			1		3
DeKalb									1		1		2
Dodge							1				1		2

Presidential Major Disaster Declarations 1990 - 1999													
County	857	880	897	969	980	1020	1033	1042	1071	1076	1209	1271	Total
Dooly	1						1				1	1	4
Dougherty							1			1	1		3
Douglas	1								1		1		3
Early	1						1				1		3
Echols											1		1
Effingham								1			1		2
Elbert													0
Emanuel		1									1		2
Evans											1		1
Fannin	1								1				2
Fayette							1		1				2
Floyd	1					1			1		1		4
Forsyth									1		1		2
Franklin													0
Fulton	1						1		1		1		4
Gilmer	1								1				2
Glascocock													0
Glynn											1		1
Gordon	1								1		1		3
Grady								1			1		2
Greene				1									1
Gwinnett									1		1		2
Habersham						1			1		1		3
Hall					1				1		1		3
Hancock													0
Haralson									1		1		2
Harris	1								1				2
Hart													0
Heard	1				1				1		1		4
Henry	1						1				1		3
Houston							1				1		2
Irwin											1		1
Jackson													0
Jasper							1						1
Jeff Davis			1								1		2
Jefferson		1									1		2
Jenkins		1									1		2
Johnson		1	1								1		3
Jones				1			1				1		3
Lamar							1				1		2
Lanier			1								1		2
Laurens			1								1		2
Lee	1						1				1		3
Liberty											1		1
Lincoln				1							1		2

Presidential Major Disaster Declarations 1990 - 1999													
County	857	880	897	969	980	1020	1033	1042	1071	1076	1209	1271	Total
Long											1		1
Lowndes			1								1		2
Lumpkin				1		1			1		1		4
Macon	1						1				1		3
Madison													0
Marion	1						1						2
McDuffie		1											1
McIntosh											1		1
Meriwether	1				1		1		1				4
Miller							1				1		2
Mitchell							1				1		2
Monroe	1			1			1				1		4
Montgomery							1				1		2
Morgan													0
Murray	1					1			1		1		4
Muscogee	1								1		1		3
Newton	1						1				1		3
Oconee													0
Oglethorpe							1						1
Paulding									1		1		2
Peach							1				1		2
Pickens						1			1		1		3
Pierce			1										1
Pike	1				1		1		1		1		5
Polk	1				1				1				3
Pulaski	1						1				1		3
Putnam				1									1
Quitman							1		1		1		3
Rabun						1			1		1		3
Randolph							1		1		1		3
Richmond		1									1		2
Rockdale							1		1		1		3
Schley							1						1
Screven		1									1		2
Seminole							1				1		2
Spalding				1			1		1		1		4
Stephens													0
Stewart	1						1		1		1		4
Sumter							1				1		2
Talbot	1			1			1		1		1		5
Taliaferro				1									1
Tattall											1		1
Taylor							1						1
Telfair							1				1		2
Terrell							1				1		2

Presidential Major Disaster Declarations 1990 - 1999													
County	857	880	897	969	980	1020	1033	1042	1071	1076	1209	1271	Total
Thomas			1					1			1		3
Tift								1			1		2
Toombs							1				1		2
Towns									1		1		2
Treutlen											1		1
Troup							1		1				2
Turner											1		1
Twiggs							1				1		2
Union	1								1		1		3
Upson	1						1		1				3
Walker	1					1			1		1		4
Walton					1								1
Ware			1								1		2
Warren													0
Washington													0
Wayne											1		1
Webster	1						1				1		3
Wheeler							1				1		2
White						1			1		1		3
Whitfield	1					1			1				3
Wilcox	1						1				1		3
Wilkes				1									1
Wilkinson											1		1
Worth							1	1			1		3
TOTAL	38	9	15	14	8	12	55	13	50	1	119	2	

Emergency Declarations 1990 - 2018									
County	3097	3144	3218	3368	3379	3387	3406	3422	Total
Appling	1		1		1	1	1		5
Atkinson			1		1	1	1		4
Bacon	1		1		1	1	1		5
Baker			1			1	1		3
Baldwin	1		1	1		1	1		5
Banks	1		1	1		1			4
Barrow	1		1	1		1			4
Bartow	1		1	1		1			4
Ben Hill	1		1			1	1		4
Berrien	1		1			1	1		4
Bibb	1		1	1		1	1		5
Bleckley	1		1	1		1	1		5
Brantley	1		1		1	1	1	1	6
Brooks	1		1			1	1		4
Bryan	1	1	1		1	1	1	1	7
Bulloch	1		1	1	1	1	1		6
Burke			1	1	1	1	1		5
Butts	1		1	1		1	1		5
Calhoun			1			1	1		3
Camden	1	1	1		1	1	1	1	7
Candler	1		1	1	1	1	1		6
Carroll	1		1	1		1			4
Catoosa	1		1	1		1			4
Charlton	1		1		1	1	1	1	6
Chatham	1	1	1		1	1	1	1	7
Chattahoochee			1			1	1		3
Chattooga	1		1	1		1			4
Cherokee	1		1	1		1			4
Clarke			1	1		1	1		4
Clay			1			1	1		3
Clayton	1		1	1		1			4
Clinch			1		1	1	1		4
Cobb	1		1	1		1			4
Coffee	1		1		1	1	1		5
Colquitt	1		1			1	1		4
Columbia			1	1		1	1		4
Cook	1		1			1	1		4
Coweta			1	1		1			3
Crawford	1		1	1		1	1		5
Crisp			1			1	1		3
Dade	1		1	1		1			4
Dawson	1		1	1		1			4
Decatur			1			1	1		3
DeKalb	1		1	1		1			4
Dodge	1		1			1	1		4

Emergency Declarations 1990 - 2018									
County	3097	3144	3218	3368	3379	3387	3406	3422	Total
Dooly			1			1	1		3
Dougherty			1			1	1		3
Douglas	1		1	1		1			4
Early			1			1	1		3
Echols			1		1	1	1		4
Effingham	1		1		1	1	1	1	6
Elbert	1		1	1		1	1		5
Emanuel	1		1	1	1	1	1		6
Evans	1		1		1	1	1		5
Fannin	1		1	1		1			4
Fayette	1		1	1		1			4
Floyd	1		1	1		1			4
Forsyth	1		1	1		1			4
Franklin	1		1	1		1			4
Fulton	1		1	1		1			4
Gilmer	1		1	1		1			4
Glascok			1	1		1	1		4
Glynn	1	1	1		1	1	1	1	7
Gordon	1		1	1		1			4
Grady	1		1			1	1		4
Greene			1	1		1	1		4
Gwinnett	1		1	1		1			4
Habersham	1		1	1		1			4
Hall	1		1	1		1			4
Hancock			1	1		1	1		4
Haralson	1		1	1		1			4
Harris			1			1			2
Hart	1		1	1		1			4
Heard			1	1		1			3
Henry	1		1	1		1			4
Houston	1		1	1		1	1		5
Irwin			1			1	1		3
Jackson	1		1	1		1			4
Jasper			1	1		1	1		4
Jeff Davis	1		1		1	1	1		5
Jefferson			1	1		1	1		4
Jenkins			1	1	1	1	1		5
Johnson			1	1		1	1		4
Jones			1	1		1	1		4
Lamar			1	1		1	1		4
Lanier	1		1			1	1		4
Laurens	1		1	1		1	1		5
Lee			1			1	1		3
Liberty	1	1	1		1	1	1	1	7
Lincoln			1	1		1	1		4

Emergency Declarations 1990 - 2018									
County	3097	3144	3218	3368	3379	3387	3406	3422	Total
Long			1		1	1	1	1	5
Lowndes	1		1			1	1		4
Lumpkin	1		1	1		1			4
Macon			1			1	1		3
Madison			1	1		1			3
Marion			1			1	1		3
McDuffie	1		1	1		1	1		5
McIntosh	1	1	1		1	1	1	1	7
Meriwether			1	1		1			3
Miller			1			1	1		3
Mitchell			1			1	1		3
Monroe	1		1	1		1	1		5
Montgomery	1		1			1	1		4
Morgan			1	1		1	1		4
Murray	1		1	1		1			4
Muscogee			1			1	1		3
Newton	1		1	1		1			4
Oconee	1		1	1		1	1		5
Oglethorpe			1	1		1	1		4
Paulding	1		1	1		1			4
Peach			1	1		1	1		4
Pickens	1		1	1		1			4
Pierce	1		1		1	1	1	1	6
Pike	1		1	1		1			4
Polk	1		1	1		1			4
Pulaski			1			1	1		3
Putnam			1	1		1	1		4
Quitman			1			1	1		3
Rabun	1		1	1		1			4
Randolph			1			1	1		3
Richmond			1	1		1	1		4
Rockdale	1		1	1		1			4
Schley			1			1	1		3
Screven	1		1	1	1	1	1		6
Seminole			1			1	1		3
Spalding			1	1		1			3
Stephens	1		1	1		1			4
Stewart			1			1	1		3
Sumter			1			1	1		3
Talbot			1			1	1		3
Taliaferro			1	1		1	1		4
Tattnall	1		1		1	1	1		5
Taylor			1			1			2
Telfair	1		1			1	1		4
Terrell			1			1	1		3

Emergency Declarations 1990 - 2018									
County	3097	3144	3218	3368	3379	3387	3406	3422	Total
Thomas	1		1			1	1		4
Tift	1		1			1	1		4
Toombs	1		1		1	1	1		5
Towns	1		1	1		1			4
Treutlen			1	1	1	1	1		5
Troup			1	1		1			3
Turner			1			1	1		3
Twiggs			1	1		1	1		4
Union	1		1	1		1			4
Upson	1		1	1		1	1		5
Walker	1		1	1		1			4
Walton	1		1	1		1			4
Ware	1		1		1	1	1		5
Warren			1	1		1	1		4
Washington	1		1	1		1	1		5
Wayne	1		1		1	1	1	1	6
Webster			1			1	1		3
Wheeler			1			1	1		3
White	1		1	1		1			4
Whitfield	1		1	1		1			4
Wilcox			1			1	1		3
Wilkes			1	1		1	1		4
Wilkinson			1	1		1	1		4
Worth			1			1	1		3
TOTAL	93	6	159	91	30	159	107	12	657

Fire Management Assistance Declarations 1990 - 2018													
County	2921	2920	2876	2875	2697	2693	2688	2686	2685	2362	5163	5181	Total
Atkinson							1						1
Brantley		1						1					2
Bryan					1								1
Charlton		1				1			1		1		4
Clinch											1		1
Coffee			1										1
Dade												1	1
Long				1									1
McIntosh										1			1
Ware	1	1							1		1		4
TOTAL	1	3	1	1	1	1	1	1	2	1	3	1	

Only counties included in declarations are shown.

Presidential Major Disaster Declarations Prior to 1990															
County	1*	16*	110*	150*	177*	180*	214	370	391	425	460	507	536*	541	Total
Baker							1								1
Banks												1			1
Bartow										1					1
Berrien										1					1
Bleckley							1								1
Bryan							1								1
Catoosa								1							1
Chattooga								1							1
Clarke								1	1						2
Clayton								1							1
Cobb							1								1
Coffee										1					1
Crawford							1								1
Dade								1							1
Dawson										1					1
Decatur							1								1
DeKalb								1							1
Dougherty							1								1
Fannin										1					1
Floyd							1								1
Forsyth										1					1
Franklin												1			1
Fulton											1				1
Gilmer										1					1
Gordon								1		1					2
Habersham												1			1
Hall							1			1		1			3
Haralson										1					1
Henry								1							1
Houston							1								1
Jackson												1			1
Jefferson							1								1
Laurens							1								1
Lee							1								1
Long							1								1
Lumpkin										1		1			2
Madison								1							1
Mitchell										1					1
Montgomery							1								1
Murray										1					1
Oconee								1							1
Paulding							1			1					2
Peach							1								1
Pickens										1					1
Polk										1					1

Presidential Major Disaster Declarations Prior to 1990															
County	1*	16*	110*	150*	177*	180*	214	370	391	425	460	507	536*	541	Total
Rabun										1		1			2
Rockdale								1							1
Stephens												1		1	2
Tattnall							1								1
Taylor							1								1
Tift										1					1
Toombs							1								1
Treutlen							1								1
Walker								1							1
Walton								1							1
Washington							1								1
Wheeler							1								1
Whitfield								1		1					2
Worth										1					1
TOTAL	0	0	0	0	0	0	23	14	1	20	1	8	0	1	

* Location records are not available for these declarations
Only counties included in declarations are shown.

Emergency Declarations Prior to 1990					
County	3008*	3044	3072*	3089*	Total
Appling		1			1
Atkinson		1			1
Bacon		1			1
Baker		1			1
Baldwin		1			1
Banks		1			1
Barrow		1			1
Bartow		1			1
Ben Hill		1			1
Berrien		1			1
Bibb		1			1
Bleckley		1			1
Brantley		1			1
Brooks		1			1
Bryan		1			1
Bulloch		1			1
Burke		1			1
Butts		1			1
Camden		1			1
Candler		1			1
Carroll		1			1
Catoosa		1			1
Charlton		1			1
Chatham		1			1
Chattahoochee		1			1
Chattooga		1			1
Cherokee		1			1
Clarke		1			1
Clayton		1			1
Clinch		1			1
Cobb		1			1
Coffee		1			1
Colquitt		1			1
Columbia		1			1
Cook		1			1
Coweta		1			1
Crawford		1			1
Crisp		1			1
Dade		1			1
Dawson		1			1
Decatur		1			1
DeKalb		1			1
Dodge		1			1
Dooly		1			1

Emergency Declarations Prior to 1990					
County	3008*	3044	3072*	3089*	Total
Douglas		1			1
Early		1			1
Echols		1			1
Effingham		1			1
Elbert		1			1
Emanuel		1			1
Fayette		1			1
Floyd		1			1
Forsyth		1			1
Franklin		1			1
Fulton		1			1
Glascocock		1			1
Glynn		1			1
Gordon		1			1
Grady		1			1
Greene		1			1
Gwinnett		1			1
Habersham		1			1
Hall		1			1
Hancock		1			1
Haralson		1			1
Harris		1			1
Hart		1			1
Heard		1			1
Henry		1			1
Houston		1			1
Irwin		1			1
Jackson		1			1
Jasper		1			1
Jeff Davis		1			1
Jefferson		1			1
Jenkins		1			1
Johnson		1			1
Jones		1			1
Lamar		1			1
Lanier		1			1
Laurens		1			1
Lee		1			1
Liberty		1			1
Lincoln		1			1
Long		1			1
Lowndes		1			1
Lumpkin		1			1
Macon		1			1

Emergency Declarations Prior to 1990					
County	3008*	3044	3072*	3089*	Total
Madison		1			1
Marion		1			1
McDuffie		1			1
McIntosh		1			1
Meriwether		1			1
Miller		1			1
Mitchell		1			1
Monroe		1			1
Montgomery		1			1
Morgan		1			1
Murray		1			1
Newton		1			1
Oconee		1			1
Oglethorpe		1			1
Paulding		1			1
Peach		1			1
Pickens		1			1
Pierce		1			1
Pike		1			1
Polk		1			1
Pulaski		1			1
Putnam		1			1
Richmond		1			1
Rockdale		1			1
Schley		1			1
Screven		1			1
Seminole		1			1
Spalding		1			1
Stephens		1			1
Stewart		1			1
Sumter		1			1
Talbot		1			1
Taliaferro		1			1
Tattnall		1			1
Taylor		1			1
Telfair		1			1
Thomas		1			1
Tift		1			1
Toombs		1			1
Treutlen		1			1
Troup		1			1
Twiggs		1			1
Upson		1			1
Walker		1			1

Emergency Declarations Prior to 1990					
County	3008*	3044	3072*	3089*	Total
Walton		1			1
Ware		1			1
Warren		1			1
Washington		1			1
Wayne		1			1
Webster		1			1
Wheeler		1			1
White		1			1
Whitfield		1			1
Wilcox		1			1
Wilkes		1			1
Wilkinson		1			1
TOTAL	0	144	0	0	

* Location records are not available for these declarations
Only counties included in declarations are shown.

Appendix D-IV
2022 Georgia Hazard Identification
and Risk Assessment



Georgia Hazard Identification and Risk Assessment

2022

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Approval and Implementation

Hazard Identification and Risk Assessment and appendices, including the Consequence Analysis, have been approved and implemented by:

James C. Stallings
James C. Stallings (Jun 7, 2022 14:18 EDT)

7 June 2022

James C. Stallings, Director
Georgia Emergency Management and
Homeland Security Agency

Date

Record of Change

Change #	Date	Part Affected	Date Posted	Who Posted
1		This version supersedes the 2018 Georgia Hazard Identification and Risk Assessment dated April 2018, which is rescinded.		Michael Engleking EM Planner

Record of Distribution

Plan #	Office/Department	Representative	Signature
1	GEMA/HS Emergency Management	Deputy Director	
2	GEMA/HS Homeland Security	Deputy Director	
3	GEMA/HS Recovery	Deputy Director	
4	GEMA/HS Finance & Administration	Deputy Director	
5	GEMA/HS Hazard Mitigation	Hazard Mitigation Manager	
6	GEMA/HS CIKR	CIKR Manager	
7	GEMA/HS External Affairs	PIO	
8	GEMA/HS Training & Exercises	Training Manager	
9	Ga Emergency Communications Agency	Executive Director	
10	Ga Department of Transportation	ESF 1 Lead	
11	Ga Department of Natural Resources – Environmental Protection Division	ESF 3 Lead	
12	Ga Forestry Commission	ESF 4 Lead	
13	Ga Department of Human Services	ESF 6 Liaison	
14	Ga Department of Public Health	ESF 8 Lead	
15	Ga Department of Natural Resources	ESF 10 Lead	
16	Ga Department of Agriculture	ESF 11 Lead	
17	Ga Environmental Finance Authority	ESF 12 Lead	
18	Ga Department of Public Safety	ESF 13 Lead	
19	Ga Department of Defense	ESF 16 Lead	
20	American Red Cross	ARC Liaison	

1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide a statewide overview of how various natural, human-caused, and technological hazards impact the State of Georgia. This Hazard Identification and Risk Assessment (HIRA) undertakes an all-hazards identification, classification, and vulnerability indexing process to ensure hazard analysis is comprehensive and all encompassing.

For the purposes of this HIRA, a natural hazard is defined as an event or physical condition that has the potential to cause fatalities, injuries, property and infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss. In addition, a human-caused hazard includes any disastrous event caused directly and principally by one or more identifiable deliberate or negligent human actions, while a technological hazard is a hazard originating from technological or industrial conditions, including accidents, dangerous procedures, or failures.

These hazards can be intensified by societal behavior and practices, such as building in a floodplain, along a seacoast, or an earthquake fault. All these hazards may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage if the extent, magnitude, and impact is significant. While it is impossible to prevent and mitigate all hazards, the impacts of these hazards can, at a minimum, be mitigated or, in some instances, prevented entirely.

Georgia is not immune to any of these hazard types. Tropical cyclones and related coastal flooding, winter storms, and river flooding affect Georgia on a recurring basis. The coastal counties in the state are vulnerable to hurricane storm surge. Other damages associated with hurricanes and tropical storms include inland flooding, damaging winds and tornadoes. This type of flooding poses an additional health risk as it involves the overflow of storm sewer systems and is usually caused by inadequate drainage following heavy rain, or an extreme storm surge. In addition, Georgia is home to numerous pieces of critical infrastructure that are vulnerable to both human caused hazards, such as a cyber compromise or terrorism, and technological hazards, such as an infrastructure failure or transportation accidents.

Identifying the risk and vulnerability for a community is critical when determining how to allocate finite resources to carry out feasible and appropriate mitigation actions. The hazard analysis involves identifying all the hazards that potentially threaten Georgia, and then analyzing them individually to determine the degree of threat posed by each hazard. Addressing risk and vulnerability through hazard mitigation measures will reduce societal, economic, and environmental exposure to natural hazard impacts.

For multi-hazard identification, all hazards that may potentially impact the state should be identified, including natural, human-caused, and technological hazards, as well as cascading emergencies - situations when one hazard triggers others sequentially. For

example, severe flooding that damages buildings which store hazardous, water-reactive chemicals could result in critical contamination problems, dramatically escalating the type and magnitude of an event. Dam failures may result from an earthquake, creating a dangerous flash flooding scenario for communities located in dam inundation areas.

(1) Federal Emergency Management Agency. "Threat and Hazard Identification and Risk Assessment Guide

1.2 HIRA Updates

This HIRA updates the content from the previous edition, including the incorporation of content from Georgia's Hazard Mitigation Strategy (HMS) and Georgia's Threat and Hazard Identification and Risk Assessment (THIRA).

This HIRA includes:

- Update of all Risk and Vulnerability Assessments for all hazards.
- Update of the consequence analysis for all hazards;
- Update of all maps and data to encompass changes since the previous edition; and
- Amendment to critical facility data and structures information to include Georgia's Geographic Information System data sets.

The information in this document has been reviewed and revised by the state's Subject-Matter Experts (SME). The SMEs have validated the information contained within this section adequately represents the risk and vulnerability in Georgia.

2.0 HAZARD IDENTIFICATION

In order to fulfill the planning guidelines outlined in the Disaster Mitigation Act of 2000 and the Emergency Management Accreditation Program (EMAP), this HIRA addresses natural hazards, human caused hazards, and technological hazards.

The previously approved Georgia 2019 HMS focused on natural hazards and the Georgia 2018 THIRA focused on manmade hazards, while this HIRA update includes all hazards.

For the purposes of the HIRA, hazards have been grouped by hazard type (natural, human-caused, and technological) as well as by similarity of hazard events, occurrences, and typical impacts.

As part of the HIRA update, "pandemic" terminology was added to the Infectious Disease hazard section. In addition, human-caused hazards and technological hazards were added to the overall vulnerability assessment to align with the THIRA and to meet the requirements for EMAP accreditation.

It should be noted that the below hazards are not a complete listing of all hazards that may occur in Georgia. This listing accurately represents the hazards that impact Georgia most frequently and have the potential to cause fatalities, injuries, property and infrastructure damage, agricultural loss, damage to the environment, interruption of

business, or other types of harm or loss. The following hazards are not addressed in the HIRA:

- Landslides
- Tsunamis

The hazards listed above were considered and discussed but it was decided that these hazards would not be included in the HIRA due to:

- The low frequency of occurrence;
- The minimal probability of occurrence; and/or
- The lack of resources to devote to further research the likelihood of potential occurrence or impact.

Table 1: Hazard Identification and Hazard Grouping

Natural Hazards			
Severe Weather <ul style="list-style-type: none"> • Thunderstorms • High/Strong Winds • Lightning • Hail • Tornadoes 	Flooding <ul style="list-style-type: none"> • River Flooding • Flash Flooding • Urban Flooding • Coastal Flooding 	Tropical Cyclone <ul style="list-style-type: none"> • Storm Surge • Tropical Cyclone Winds • Heavy Rainfall • Tornadoes 	Winter Weather <ul style="list-style-type: none"> • Snow • Extreme Cold • Ice • Blizzard • Freezing Rain • Sleet
Drought/Wildfire <ul style="list-style-type: none"> • Extreme Heat • Wildfires • Smoke • Water Shortage 	Geologic Hazards <ul style="list-style-type: none"> • Sinkholes • Earthquakes 	Infectious Diseases <ul style="list-style-type: none"> • Infectious Diseases • Food Borne Diseases • Agricultural Disease Outbreaks • Novel Disease Outbreaks 	
Human Caused Hazards			
Cybersecurity Incident <ul style="list-style-type: none"> • Hacking/Phishing • Infrastructure Disruptions • Ransomware/Malware • Network Intrusion/Disruption • Transportation 	Active Shooter <ul style="list-style-type: none"> • Explosives/Improvised Explosive Devices • Vehicle Ramming • Sniper Attack • Hostage Taking 	Radiological Release <ul style="list-style-type: none"> • Radiological Release Technical • Radiological Release Hostile 	Hazardous Material Release <ul style="list-style-type: none"> • Transportation-Related Storage-Related, Spills, And Leaks
Technological Hazards			
Dam Failure <ul style="list-style-type: none"> • Downstream Flooding • Erosion • Property Damage • Environmental Damage • Transportation Disruption • Infrastructure Disruption 		Infrastructure Failure <ul style="list-style-type: none"> • Communications • Transportation • Energy • Public Works 	

Table 2: Hazard Identification Process

Hazard of Concern	How and Why hazard was Identified
Severe Weather <ul style="list-style-type: none"> • Thunderstorms • High/Strong Winds • Lightning • Hail • Tornadoes 	<ul style="list-style-type: none"> • Review of historical disaster declarations and the National Weather Service (NWS) National Center for Environmental Information (NCEI) Storm Events Database • 20 out of 45 declared disaster events in Georgia were Severe Weather events
Flooding <ul style="list-style-type: none"> • River Flooding • Flash Flooding • Urban Flooding • Coastal Flooding 	<ul style="list-style-type: none"> • Review of historical disaster declarations and NWS NCEI Storm Events Database • Flooding impacts Georgia nearly every year and results in the majority of the damages associated with hazard events • 11 out of 45 declared disaster events in Georgia were flood events
Tropical Cyclone <ul style="list-style-type: none"> • Storm Surge • Tropical Cyclone Winds • Heavy Rainfall • Tornadoes 	<ul style="list-style-type: none"> • Review of historical disaster declarations and NWS NCEI Storm Events Database • NWS NCEI hurricane data • 9 out of 45 declared disaster events in Georgia were hurricane, tropical storm, or coastal events
Winter Weather <ul style="list-style-type: none"> • Snow • Extreme Cold • Ice • Blizzard • Freezing Rain • Sleet 	<ul style="list-style-type: none"> • Review of historical disaster declarations and NWS NCEI • 4 out of 45 declared disaster events in Georgia were winter weather-related events
Drought/Wildfire <ul style="list-style-type: none"> • Extreme Heat • Wildfires • Smoke • Water Shortage 	<ul style="list-style-type: none"> • Review of historical disaster declarations, NWS NCEI Storm Events Database, U.S. Drought Monitor and Drought Impact Reporter • The entire State of Georgia is subject to the effects of drought • 11 out of 45 declared disaster events in Georgia were extreme heat or wildfire events
Geologic Hazards <ul style="list-style-type: none"> • Sinkholes • Earthquakes 	<ul style="list-style-type: none"> • Review of historical data, including United States Geological Survey • Earthquakes have impacted Georgia in the past. Between 2001 and 2020, there have been 197 earthquake events with epicenters in Georgia
Infectious Diseases: <ul style="list-style-type: none"> • Infectious Diseases • Food Borne Diseases • Agricultural Disease Outbreaks • Novel Disease Outbreaks 	<ul style="list-style-type: none"> • Numerous bodies of water located in the state that assist with the breeding of mosquitos and other waterborne pathogens • 1 out of 45 declared disaster events in Georgia were an infectious disease event
Cybersecurity Incident <ul style="list-style-type: none"> • Hacking/Phishing • Infrastructure Disruptions • Ransomware/Malware • Network Intrusion/Disruption • Transportation 	<ul style="list-style-type: none"> • Most of Georgia's critical infrastructure is linked to some technology-based platform, which is a key vector of attack in a cybersecurity incident
Active Shooter <ul style="list-style-type: none"> • Explosives/Improvised Explosive Devices • Vehicle Ramming • Sniper Attack • Hostage Taking 	<ul style="list-style-type: none"> • Terrorist attacks can occur anywhere • Georgia is an attractive target due to it's to major urban areas, seaports, and tourism.

Radiological Release (Technical, Hostile) <ul style="list-style-type: none"> • Individuals (Physical and Psychological Health) • Property • Environment • Infrastructure • Agriculture • Zoological • Economy 	<ul style="list-style-type: none"> • Georgia contains 6 counties within the 10-mile Emergency Planning Zone • 76 counties within the 50-mile Ingestion Pathway Zone of nuclear power plants located within Georgia and adjacent states.
Hazardous Material Release <ul style="list-style-type: none"> • Injury • Loss of life • Property damage • Environmental damage 	<ul style="list-style-type: none"> • Over 445 reports of petroleum and sewage hazmat releases reported in 2019-2020 • 19,934 Tier 2 Facilities in Georgia
Dam Failure <ul style="list-style-type: none"> • Downstream Flooding • Erosion • Property Damage • Environmental Damage • Transportation Disruption • Infrastructure Disruption 	<ul style="list-style-type: none"> • Georgia has 4537 Dams, according to the 2019 Dam Inventory • In Georgia all major rivers are dammed at least once • Numerous smaller dams, including agricultural exist
Infrastructure Failure <ul style="list-style-type: none"> • Communications • Transportation • Energy • Water/Wastewater 	<ul style="list-style-type: none"> • Georgia is home to numerous pieces of critical infrastructure across all identified sectors

2.1 Disaster History

Georgia is vulnerable to impacts from tropical cyclones, winter storms, severe weather, flooding, wildfires, terrorist attacks, pandemics, and more. The following are examples of these types of disasters that have occurred in Georgia over the past 30 years.

Georgia is vulnerable to impacts from tropical cyclones, winter storms, severe weather, flooding, wildfires, terrorist attacks, pandemics, and more. The following are examples of these types of disasters that have occurred in Georgia over the past 30 years.

Tropical Cyclones

Tropical cyclone is an all-encompassing term describing hurricanes, tropical storms, and tropical depressions (typhoons are tropical cyclones that form in the western Pacific and Indian Ocean). Tropical cyclones that impact Georgia form in the Atlantic Basin (Atlantic Ocean, Caribbean Sea, and Gulf of Mexico). Due to Georgia's Atlantic coastline and proximity to the Gulf of Mexico, the state can receive impacts from tropical cyclones that make landfall along the Southeast Coast and along the northern Gulf Coast. There are four main hazards that tropical cyclones can produce in Georgia: *storm surge* (a rapid and sustained rise in sea level), *high to extreme winds*, *inland flooding*, and *tornadoes*.

Storm surge has the highest potential to cause devastation to Georgia's coastal regions (mainly in Chatham, Bryan, Liberty, McIntosh, Glynn, and Camden counties). While coastal Georgia has not recorded devastating storm surge over the past century, the potential exists for a landfalling hurricane to produce some of the highest storm surge values possible in the United States. Due to a variety of factors, Georgia's coastline is especially vulnerable to extremely high storm surge values, making it one of the most vulnerable coastlines along with Louisiana. While storm surge values of a few to several feet have been experienced, storm surge values of 10 to 20 feet or more are possible in realistic worst-case scenarios. This type of surge would not just affect the immediate coastline of Georgia but could potentially inundate much if not all of the aforementioned 6 counties. Recent tropical cyclones that have produced storm surge in Georgia include Floyd in 1999, Matthew in 2016, and Irma in 2017. Storm surge values varied between 3 and 5 feet along the Georgia coast during those events.

High to extreme winds can have devastating effects on several sectors in Georgia. The most recent and significant example is Hurricane Michael in 2018, which rapidly intensified in the Gulf of Mexico and made landfall along the Florida Panhandle as a Category 5 hurricane. Although Michael officially weakened to just below major hurricane status before the center of the storm entered southwest Georgia, widespread sustained hurricane force winds caused massive power outages, agricultural loss, and damage to infrastructure. Another example of less extreme but more widespread wind damage occurred just the year prior in 2017 from Hurricane Irma, which also made landfall along the Florida Gulf Coast and was weakening as it moved into Georgia. However, due to an expanding wind field, wind gusts of 40-60 mph were experienced across much of Georgia, resulting in widespread power outages from downed trees and power lines. Hurricane Matthew in 2016 did not make landfall in Georgia but moved close enough to the Georgia coast that wind gusts of 94-96 mph were recorded on Tybee Island.

Inland flooding is also a major threat to Georgia from tropical cyclones due to the state's proximity to the Gulf of Mexico. Slower-moving storms can dump several inches to multiple feet of rainfall in the span of days. The most memorable example of this came from Tropical Storm Alberto in 1994, which stalled and dropped up to 25 inches of rain over parts of Georgia in less than 24 hours on July 4th. Thirty-four people were killed, more than 50,000 were displaced from their homes, and at least 400 coffins were forced from water-logged graves into flooded streets.

Finally, *tornados* are a common occurrence in tropical cyclones that affect the Southeast. While Louisiana and Mississippi suffered the greatest effects from Hurricane Katrina in 2005, Georgia received over 100,000 evacuees from the Gulf States. On August 29th, bands of heavy rain and damaging winds affected Western Georgia triggering a tornado outbreak. 18 tornadoes touched down in Georgia, killing two people and destroying numerous homes and businesses. Although tornadoes from tropical cyclones tend to be weaker than tornadoes from severe thunderstorms, they can be harder to detect and see, as they spin up quickly and are often rain-wrapped. While tornadoes may not pose as serious of a threat from tropical cyclones as storm surge, high winds, and flooding, they occur often enough to warrant consideration.

For a more in-depth history of impacts to Georgia from Hurricanes Floyd in 1999, Matthew in 2016, Irma in 2017, Michael in 2018, and Zeta in 2020, see 2.1.1 Georgia Hurricane History.

Winter Weather

Georgia regularly receives frozen precipitation during the winter, coming in the form of snow, sleet, freezing rain, or a combination of the three with or without liquid rainfall. Most often when wintry precipitation falls in Georgia, it causes minor to moderate (“nuisance”) impacts that mostly range from roads closures to sporadic power outages. However, Georgia occasionally receives winter weather systems with the potential to cause major impacts. The most notable example of this over the past twenty years occurred in January 2014. In what could be considered a perfect confluence of events, a flash freeze crippled much of Georgia including downtown Atlanta on January 28, 2014. Drivers were stuck or stranded on roads for several hours, even for upwards of 24 hours, due to the impassability of roads and interstates. Students were stuck at their schools overnight, babies were born on roadways, and a massive volunteer effort was staged to keep people from freezing or starving outdoors. Impacts from this system lasted for weeks, and it continues to be the benchmark for worst case scenario planning and training at the time of publication. Following this storm, the State of Georgia made significant systematic improvements to winter weather response. These improvements drastically reduced the impacts of future storms, especially during December 2017 when snowfall totals far exceeded projected amounts.

Severe Weather

Like most of the southeastern and midwestern United States, Georgia experiences two severe weather seasons, primarily during Spring and secondarily during Autumn. When severe thunderstorms develop, any combination of damaging thunderstorm winds (greater than 50 knots/58 mph), large hail (greater than 1 inch in diameter) and/or tornadoes are possible. Severe thunderstorms occur frequently across Georgia, and dozens of tornadoes touch down in Georgia every year. Typically, most tornado touchdowns occur during outbreaks or particularly strong severe weather systems that move through during the Spring. However, tornadoes can sporadically develop and touch down at any point during the year across Georgia.

The costliest and one of the deadliest tornado outbreaks ever in the United States occurred on April 27th, 2011. Over a dozen tornadoes (including an EF-4 in Catoosa County) moved through Georgia, killing 14 people. The largest tornado outbreak ever recorded in Georgia occurred on January 21-22, 2017, where 41 tornadoes were recorded across the state. This set a new record for a two-day period in Georgia history (previously 25 recorded on September 15-16, 2004). In Georgia alone during these two days, 16 people were killed, 137 people were injured, and \$313 million in damages occurred. One long-tracked tornado was on the ground for over 80 miles and reached EF-3 intensity. Another one of the strongest tornadoes to ever move through Georgia occurred in the early morning hours of March 26th, 2021, in and around the city of Newnan. At its peak, the tornado reached EF-4 strength, just one month shy of the 10-year anniversary of the most recent EF-4 in Georgia. This was also the first EF-4 or

greater tornado to impact the Metro Atlanta area since an EF-4 tornado touched down in Cobb and Cherokee counties on November 22, 1992. An EF-5 tornado has never been recorded in Georgia.

Tornadoes often cause the most devastation from severe weather, but thunderstorm wind gusts and large hail can also threaten life and property in Georgia. Thunderstorm winds can easily reach 60 to 80 mph in brief bursts, which can cause tornado-like damage on a large scale. Hail can also cause damage to roofs, cars, and other property.

Flooding

Flooding can occur in a few different forms: flash flooding, river flooding, and areal flooding. Flash flooding can be the most dangerous due to its rapid onset, but river flooding and areal flooding can be devastating and prolonged. The two most notable flooding events in Georgia over the past 30 years came from Tropical Storm Alberto in 1994 (discussed in the tropical cyclone inland flooding section above) and the epic floods of 2009 which impacted Metro Atlanta.

Between September 15-21, 2009, over a foot of rain fell over much of northern Georgia with up to 20 inches reported in spots. This caused a combination of flash flooding, river flooding, and areal flooding that killed 10 people and damaged 20,000 homes, businesses, and buildings culminating in over \$300 million in damage. Hundreds of people were rescued by boat from their homes and neighborhoods. Some flood gages reached 500-year statistical levels, and many records were broken that had been previously set 90 years earlier in 1919.

Wildfires

Wildfires spread quickly and change direction rapidly, igniting brush, trees, and homes. On April 16, 2007, a downed power line ignited drought-parched forest floors in southern Georgia, which led to the largest and most devastating wildfires in state history. Nearly 564,000 acres were consumed in Georgia and Florida, and 18 homes were destroyed. More than 3,300 firefighters from 44 states, Canada and Puerto Rico came in to battle the blazes. In 2017, wildfires engulfed 19,411 acres across North Georgia, and the West Mims Fire on the Georgia/Florida line burned an estimated 130,942 acres.

Terrorism

Georgia is at risk for terrorist attacks. While Georgia has not experienced a large-scale attack, they can occur without warning. During the 1996 Olympics, a bombing occurred at Centennial Olympic Park, killing four and injuring 111. The next year, an Atlanta-area health clinic and a gay nightclub were bombed by the same man. In June 2009, a Georgia Tech student was convicted of conspiring to provide material support for terrorism and was sentenced to 13 years in federal prison.

Infectious Diseases (Epidemics, Pandemics, and outbreaks)

Pandemics can spread rapidly, leaving little time to prepare once an outbreak starts. In March 2020, the World Health Organization declared COVID-19 a pandemic. As of

September 2021, over 20,000 people died and more than 76,000 people were hospitalized in Georgia because of the virus.

2.1.1 Georgia Hurricane History (1990-2020)

Hurricane Floyd (1999)

In September 1999, Georgia, along with Florida, South Carolina and North Carolina, experienced large evacuation as Hurricane Floyd bore down on the southeastern coastline. An estimated three million people took to the highways to flee Floyd's forecasted path, jamming interstates in search of safety and shelter.

Hurricane Matthew (2016)

Hurricane Matthew began impacting coastal portions of Georgia on the morning of Friday, October 7, 2016, as a Category 3 major hurricane. After weakening to a Category 2, the center of the hurricane moved north and northeast, generally parallel to the southeast Atlantic coast. The center of the storm passed Brunswick, Georgia just 60 miles offshore before passing Savannah, Georgia only 35 miles offshore. The worst impacts began Friday evening and lasted through Saturday morning, and included record-breaking storm surge flooding, extreme rainfall, and sustained hurricane-force winds. This was the first time that hurricane-force impacts had occurred on the Georgia coast since Hurricane David in 1979.

Major to record-breaking flooding occurred along the Georgia coast. Sea Camp Dock at Cumberland Island briefly reached major flood stage on Friday afternoon. St. Simon's Island came within 3 inches of major flood stage early Saturday morning. The Savannah River at Fort Pulaski broke a 37-year record by nearly 4 inches early Saturday morning. All of this flooding was caused by excessive storm surge.

Hunter U.S. Army Airfield received 17.49 inches of rainfall between 11:00 AM Thursday and 10:00 AM Saturday. Savannah International Airport received 11.51 inches. The record for daily rainfall in the Savannah area was 9.02 inches, which occurred on September 16, 1924. Average annual rainfall in Savannah is 47.96 inches. Parts of Savannah received more than one-third of their yearly total over this period.

Widespread amounts of 6-10 inches of rainfall were reported, with parts of Bryan, Chatham, Effingham, and Glynn counties receiving 10-16 inches.

Widespread hurricane-force wind gusts were observed, and in some counties lasted for almost 5 straight hours. The highest wind gusts were recorded on Tybee Island: a 94 MPH wind gust at 4:19 AM and a 96 MPH wind gust at 4:38 AM on Saturday morning. Tropical storm-force wind gusts of 39 MPH or greater occurred in Appling, Bacon, Bulloch, Candler, Charlton, Chatham, Evans, Glynn, Jeff Davis, Liberty, McIntosh, Screven, Ware, and Wayne counties. Hurricane-force winds of 74 MPH or greater occurred in multiple portions of Chatham and Bryan counties.

Hurricane Irma (2017)

Hurricane Irma made landfall as a major hurricane in southwest Florida on September 10, 2017. Irma moved northward through the day on September 10th, gradually losing

intensity but continuing to bring widespread wind damage and heavy rainfall along its track. By the morning of Monday, September 11th, then-Tropical Storm Irma moved into Georgia with a very large wind field containing at least tropical storm force wind gusts (39+mph). These high winds lasted several hours across most of the state, which resulted in many thousands of downed trees and caused 1.5 million customers in Georgia to lose power. Given the extensive damage, power was not restored to many areas for several days. With generally dry conditions prior to Irma's arrival, flooding issues in North and Central Georgia were relatively minor, though portions of southern and coastal Georgia experienced more significant flooding as well as coastal storm surge.

Widespread sustained winds of 30-45 mph with gusts in the 50-65 mph range downed numerous trees and power lines across the area. Many trees fell onto homes and businesses, causing additional damage. Unfortunately, at least two people were killed in North Georgia due to falling trees with several others sustaining injuries. The heaviest rainfall totals were confined to far southeast Georgia, where some areas received 9-13 inches of rainfall. In North and Central Georgia, most areas received 3-5 inches of rainfall. Even though much of the area was on the side of Irma typically favorable for tornadoes, no tornadoes were reported across Georgia during Irma's passage. The primary reason for this lack of tornadoes was the fact that an unseasonably cool and stable air mass was in place across the area. In fact, high temperatures were only in the 60s that day, which set record cool high temperatures for September 11th for many locations. These cool temperatures eliminated any instability that would have supported tornado-producing tropical convection associated with Irma.

Hurricane Michael (2018)

Hurricane Michael made landfall near Mexico Beach, Florida as a Category 5(?) hurricane around mid-morning October 10th, 2018. By 5pm, the storm had entered Southwest Georgia near Donalsonville as a Category 3 storm. It traveled a path from Donalsonville, through Albany and Dublin and exited the state just north of Augusta by 11am Thursday, October 11th.

Tragically, three people lost their lives as a result of the storm. In addition, the storm caused over \$2.5 billion in losses to the agriculture industry, according to the University of Georgia Extension Service. Losses to the cotton and timber industries totaled nearly \$700 million (cotton) and nearly \$1 billion (timber), respectively.

Hurricane Zeta (2020)

Hurricane Zeta made landfall in southern Louisiana as a Category 3 storm and traveled northeast across Mississippi and Alabama, reaching Northwest Georgia near Cedartown and Rome as a tropical storm around 1am Thursday morning, October 29th and exiting the state near Franklin, N.C. by 10am.

The storm caused three fatalities and over one million people to lose power. Power outages ranged throughout metro Atlanta and North and Central Georgia, extending as far south as Sumter County in Southwest Georgia. Notably, Bulloch and McIntosh Counties, in Southeast Georgia, also experienced power outages during this time.

2.2 Federally Declared Disasters (2001-2020)

- (DR-1554) September 18, 2004: Georgia Hurricane Ivan.
Individual Assistance - Dollars Approved: \$4,243,819.01
Public Assistance - Dollars Approved: \$11,948,606.45
- (DR-1560) September 24, 2004: Georgia Tropical Storm Frances.
Public Assistance - Dollars Approved: \$15,368,109.08
- (DR-1686) March 03, 2007: Georgia Severe Storms and Tornadoes.
Individual Assistance - Dollars Approved: \$1,354,036.12
Public Assistance - Dollars Approved: \$50,329,193.22
- (DR-1750) March 20, 2008: Georgia Severe Storms and Tornadoes.
Individual Assistance - Dollars Approved: \$1,351,662.70
Public Assistance - Dollars Approved: \$3,505,637.41
- (DR-1761) May 23, 2008: Georgia Severe Storms and Flooding.
Individual Assistance - Dollars Approved: \$2,458,564.00
Public Assistance - Dollars Approved: \$10,732,656.80
- (DR-1833) April 23, 2009: Georgia Severe Storms, Flooding, Tornadoes, and Straight-line Winds.
Individual Assistance - Dollars Approved: \$4,420,415.46
Public Assistance - Dollars Approved: \$21,064,693.30
- (DR-1858) September 24, 2009: Georgia Severe Storms and Flooding.
Individual Assistance - Dollars Approved: \$58,999,961.95
Public Assistance - Dollars Approved: \$78,188,645.56
- (DR-1973) April 29, 2011: Georgia Severe Storms, Tornadoes, Straight-line Winds, and Associated Flooding.
Individual Assistance - Dollars Approved: \$5,549,148.17
Public Assistance - Dollars Approved: \$20,337,390.55
- (DR-4165) March 06, 2014: Georgia Severe Winter Storm.
Public Assistance - Dollars Approved: \$46,734,451.61
- (DR-4215) April 20, 2015: Georgia Severe Winter Storm.
Public Assistance - Dollars Approved: \$10,843,502.79
- (DR-4259) February 26, 2016: Georgia Severe Storms and Flooding.
Public Assistance - Dollars Approved to date: \$19,634,249.33
- (DR-4284) October 08, 2016: Georgia Hurricane Matthew.
Individual Assistance - Dollars Approved: \$6,593,971.53
Public Assistance - Dollars Approved to date: \$96,120,859.39
- (DR-4294) January 25, 2017: Georgia Severe Storms, Tornadoes, and Straight-line Winds.
Individual Assistance - Dollars Approved: \$620,724.39
Public Assistance - Dollars Approved to date: \$14,777,933.28

(DR-4297) January 26, 2017: Georgia Severe Storms, Tornadoes, and Straight-line Winds.

Individual Assistance - Dollars Approved: \$2,960,695.39

Public Assistance - Dollars Approved to date: \$24,283,289.48

(DR-4338) September 15, 2017: Georgia Hurricane Irma.

Individual Assistance - Dollars Approved: \$12,696,704.44

Public Assistance - Dollars Approved to date: \$120,495,053.08

(DR-4400) October 14, 2018: Georgia Hurricane Michael

Individual Assistance – Dollars Approved: \$12,581,999.88

Public Assistance – Dollars Approved to date: \$342,155,677.08

(DR-4501) March 29, 2020: Georgia COVID-19 Pandemic

Individual Assistance – Dollars Approved: \$41,094,747.08

Public Assistance – Dollars Approved to date: \$201,936,722.61

(DR-4579) January 12, 2021: Georgia Tropical Storm Zeta

Public Assistance – Dollars Approved to date: \$5,474,256.45

(DR-4600) May 5, 2021: Georgia Severe Storms, Tornadoes, and Straight-line

Public Assistance – Dollars Approved to date: \$174,284.90

Source: <https://www.fema.gov/data-visualization-disaster-declarations-states-and-counties>

3.0 RISK ASSESSMENT

This section details the risk assessment process and the methods used to rank hazard risks. Results from this process and accompanying methods will be presented in hazard-specific sections that follow.

Hazard Identification - In this step the hazards that could impact your community are separated from those that cannot. This requires a review of all hazards and their causes to determine whether they may be a threat to your community. This may require the consultation of the scientific community, historical records, and government agencies.

Risk Assessment - In this step the level of risk for each hazard is examined. This may involve speaking with hazard experts, researching past occurrences and possible scenarios. The likelihood of the hazard occurring and the potential impacts of the hazard on people, property, the environment, business and finance and critical infrastructure should be examined.

Risk Analysis - The information collected in the risk assessment step will be analyzed in this step. The desired outcome of the risk analysis is the ranking of the hazards. This highlights the hazards that should be considered a current priority for your emergency management program.

Monitor and Review - It is important to remember that a HIRA is an ongoing process and hazards, and their associated risks must be monitored and reviewed.

3.1 Ranking Methodology

In this section, the methodology of scoring vulnerability for a hazard will be explained as it relates to each hazard. The discussion of the methodology is critical to understanding how and why hazards are prioritized in Georgia.

A standardized methodology, which allows for greater flexibility and room for subject matter expertise was developed to compare different hazards' risk at the State level. This method prioritizes hazard risk based on a blend of quantitative factors extracted from multiple data sources.

These factors include Frequency (Table 3), Likelihood of Occurrence and Vulnerability to Hazard (Tables 4-11) which include:

- Social Impacts (fatalities, injuries, and evacuation) (Tables 4-6);
- Property Damage (hazard on buildings, structures and crops) (Table 7);
- Critical Infrastructure Service Disruptions/Impact (Table 8);
- Environmental Damage (Table 9);
- Business/Financial Impact (Table 10) and
- Psychosocial Impact (Table 11)

Likelihood of hazard occurrence (Table 3) was rated on a scale of one (1) through (6), in which the probability of future occurrence ranged from less than a one percent chance in the next 100 years (score of 1) to near 100 percent probability of happening within 12 – 60 months (score of 6).

Table 3 Likelihood of hazard occurrence

Frequency	Category	Percent Chance	Description
1	Rare	Less than a 1% chance of occurrence in any year.	Hazards with return periods >100 years.
2	Very Unlikely	Between a 1% - 2% chance of occurrence in any year.	Occurs every 50 – 100 years and includes hazards that have not occurred but are reported to be more likely to occur in the near future.
3	Unlikely	Between 3% – 10% chance of occurrence in any year.	Occurs every 20 – 50 years
4	Probable	Between 11% – 50% chance of occurrence in any year.	Occurs every 5 – 20 years
5	Likely	Between 51% – 99% chance of occurrence in any year.	Occurs >5 years.
6	Almost Certain	100% chance of occurrence in any year.	The hazard occurs annually.

Social Impacts are the direct negative effects of a hazard on the physical health of people. The social impacts sub variable is further divided into the fatality rate, injury rate and evacuation rate. Add all three together to get the social impact score.

- Fatalities Table (4) was rated on a scale of (0) through (4), in which the probability of a fatality is not likely (score of 0) to catastrophic more than 50 (Score of 4).
- Injuries Table (5) was rated on a scale of (0) through (3), in which the probability of an injury is not likely (score of 0) to severe more than 100 (Score of 3).
- Evacuation Table (6) was rated on a scale of (0) through (3), in which the probability of an evacuation is not likely (score of 0) to severe more than 500 (Score of 3).

Table 4 Fatalities

Vulnerability	Category	Description
0	None	Not likely to result in fatalities within the community.
1	Minor	Could result in fewer than five fatalities within the community.
2	Moderate	Could result in 5 to 10 Fatalities within the community.
3	Severe	Could result in 11 to 50 fatalities within the community.
4	Catastrophic	Could result in 50+ fatalities within the community.

Table 5 Injuries

Vulnerability	Category	Description
0	None	Not likely to result in injuries within the community.
1	Minor	Could injure fewer than 25 people within community.
2	Moderate	Could injure 26 to 100 people within the community.
3	Severe	Could injure 100+ people within the community.

Table 6 Evacuation

Vulnerability	Category	Description
0	None	Not likely to result in an evacuation shelter-in-place orders, or people stranded.
1	Minor	Could result in fewer than 100 people being evacuated, sheltered-in-place or stranded.
2	Moderate	Could result in 100 - 500 people being evacuated, sheltered-in-place or stranded.
3	Severe	Could result in more than 500 people being evacuated, sheltered-in-place or stranded.

Property Damage is the direct negative effects of a hazard on buildings, structures and other forms of property, such as crops.

Table (7) was rated on a scale of (0) through (3), in which the probability of property damage is not likely (score of 0) to widespread damage (Score of 3).

Table 7 Property Damage

Vulnerability	Category	Description
0	None	Not likely to result in property damage within the community.
1	Minor	Could cause minor and mostly cosmetic damage.
2	Moderate	Localized severe damage (a few buildings destroyed).
3	Severe	Widespread severe damage (many buildings destroyed).

Critical Infrastructure Service Impact are the negative effects of a hazard on the interdependent, interactive, interconnected networks of institutions, services, systems, and processes that meet vital human needs, sustain the economy, protect public safety and security, and maintain continuity of and confidence in government.

Table (8) was rated on a scale of (0) through (3), in which the probability of critical infrastructure service impact is not likely (score of 0) to severe (Score of 3).

Table 8 Critical Infrastructure Service Impact (CI)

Vulnerability	Category	Description
0	None	Not likely to disrupt critical infrastructure services.
1	Minor	Could disrupt 1 critical infrastructure service.
2	Moderate	Could disrupt 2 – 3 critical infrastructure services.
3	Severe	Could disrupt more than 3 critical infrastructure services.

Environmental Damage is the negative effects of a hazard on the environment, including the soil, water, air and/or plants and animals.

Table (9) was rated on a scale of (0) through (3), in which the probability of environmental damage is not likely (score of 0) to severe (Score of 3).

Table 9 Environmental Damage

Vulnerability	Category	Description
0	None	Not likely to result in environmental damage.
1	Minor	Could cause localized and reversible damage. Quick clean up possible.
2	Moderate	Could cause major but reversible damage. Full clean up difficult.
3	Severe	Could cause irreversible environmental damage. Full clean up not possible.

Business/Financial Impact that have a negative economic consequence of a hazard.

Table (10) was rated on a scale of (0) through (2), in which the probability of business/financial impact is not likely (score of 0) to severe (Score of 2).

Table 10 Business/Financial Impact

Vulnerability	Category	Description
0	None	Not likely to disrupt business/financial activities.
1	Moderate	Could result in losses for a few businesses.
2	Severe	Could result in losses for an industry.

Psychosocial Impact is the negative response of the community or a subset of the community to a hazard caused by their perception of risk. This includes human responses such as self-evacuation, mass panic and other potential undesirable responses.

Table (11) was rated on a scale of (0) through (2), in which the probability of Psychosocial Impact is not likely (score of 0) to severe (Score of 2).

Table 11 Psychosocial Impact

Vulnerability	Category	Description
0	None	Not likely to result in significant psychosocial impacts.
1	Moderate	Significant psychosocial impacts including limited panic, hoarding, self-evacuation and long-term psychosocial impacts.
2	Severe	Widespread psychosocial impacts, e.g. mass panic, widespread hoarding, self-evacuation and long-term psychological impacts.

3.2 Composite Hazard Index

The total vulnerability value can be obtained by adding the values obtained from each of the sub variables.

Table 12 Total Vulnerability

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
0	0	0	0	0	0	0

Once the vulnerability values have been added up, they are put into groups as shown in the table below. This gives equal weight to vulnerability and frequency.

Table 13 Vulnerability Groups

Sub Total Variable	Vulnerability	Description
1 - 4	1	Minor

5- 6	2	Slight
7- 8	3	Moderate
9 - 10	4	Severe
11 - 12	5	Very Severe
+13	6	Catastrophic

Risk Analysis

Once you have completed the Frequency and Vulnerability Work Sheets, you can now begin to prioritize your hazards by using the HIRA equation:

$$\text{Risk} = \text{Frequency} * \text{Vulnerability}$$

Table 14 Risk Analysis

Level Of Risk	
< 5	Very Low
6 -10	Low
11- 15	Moderate
16- 20	High
21- 25	Very High
> 25	Extreme

4.0 IMPACT ANALYSIS

Impact Analysis includes all populations and assets (environmental, economic, and critical facilities) that may be at risk from natural, human-caused, and technological hazards. Impact analysis measures the level of assets, populations, or resources within a given region, city, or town. The impacts are a function of the built environment, local economy, demographics, and environmental uses of a given region.

4.1 Facility Analysis

The damage and/or destruction of Georgia’s seven (7) community lifeline sectors (Safety and Security; Food, Water, and Shelter; Health and Medical; Energy (Power and Fuel); Communications; Transportation; and Hazardous Materials) represents enormous economic, social, and general functional costs to a community, while also impeding emergency response and recovery activities.

Approximately 1 million people live within 75 miles of the Gulf of Mexico and in the 11 counties closest to the Atlantic Ocean in Georgia. These areas are the most vulnerable to hurricanes. A nonfunctional road can have major implications for a community: general loss of productivity; disruption of physical access preventing residents from getting to work or other daily activities; prevention of emergency vehicles from reaching

destinations; associated health and safety implications; and potential access difficulties causing the disruption of important lifeline supplies, such as food and other deliveries to the community.

Damaged or destroyed utility lines and facilities, including electricity, computer and satellite links, gas, sewer, and water services can cripple a region after a disaster. Power lines are often badly damaged or destroyed, resulting in the loss of power for days, weeks, or even months. This is particularly critical considering modern societies' dependence on electricity. In addition to basic modern household appliances being affected, public water supplies and water treatment and sewage facilities can also be impacted. Electric pumps cannot pump drinking water into an area without power, and even if they could, the water delivery system could be breached in several areas. Decreased levels in elevated water tanks also results in a lack of safe drinking water. Even disaster victims who do get water may have to boil it to eliminate waterborne pathogens introduced to the supply in breached areas or due to low service pressures.

Although not a complete representation of all the possible types of facilities, this dataset is a good representation of critical and state facilities in Georgia.

Table 15 Types of Facilities

State Owned Holdings:	21,386
State route miles	17,923
Interstate miles	1,247
Law Enforcement	841
Fire Stations	1748
Hospitals	222
Dispatch Centers	183
First Responder's Communication Towers	517
Fixed Gateways	178
TV Digital Station Transmitters	53
AM Transmission Towers	193
FM Transmission Towers	512
Cellular Towers	688
City Halls	125
Housing Units	4,283,477
Mobile Homes	384,876 (±4700)
Airports	454
Dams	4537
Fishing and Boating Access/Marinas	896

It should be noted that State Owned Holdings includes leased property, Law Enforcement includes Correctional Institutions, Fire Stations includes Emergency Medical Services, and Schools to capture all schools including higher education and as a result the school layer was more comprehensive compared to the Colleges and Universities data. The State Facilities dataset overlaps several of the critical facilities, as they are state-owned facilities.

Many privately-owned buildings and structures (such as hospitals, power plants, and certain industrial facilities) are critical to societal function, especially during emergencies

and disasters. Thus, critical facilities data collection extended to a broader array of critical facilities than would be available by only using state-owned facilities.

5.0 CONSEQUENCE ANALYSIS

The Consequence Analysis (CA) investigates the impact of each identified hazard on various elements of the community and state infrastructure of Georgia. The impact of each hazard is evaluated in terms of disruption of operations, recovery challenges, and overall wellbeing to all Georgia's residents and first responders. The CA supplements the hazard profile by analyzing specific impacts the most probable hazards would have on the State of Georgia. The CA analyzes the impact on the following:

1. Public
2. Responders
3. Continuity of operations (including delivery of services)
4. Property, facilities, and infrastructure
5. Environment
6. Economic condition of the state
7. Public confidence in governance

The following subsections present a description of each type of hazard Georgia may experience. The information presented in this section has been expanded upon to include human-caused and technological hazards. Facility data has been included in the vulnerability analysis as applicable.

Impacts from extreme weather events have become more frequent during the past half-century, and this trend is projected to continue. For instance, more frequent intense precipitation events may translate into more frequent flash flooding episodes. The National Climate Assessment and Development Committee documented that the average temperature across the United States increased 1.8°F since 1901, with the majority of the increase since 1980. Significant and hazardous weather events have and will continue to become more intense and frequent, and will result in health and livelihood related impacts, such as water supply, agriculture, transportation, and energy. In addition to more intense storm systems, the impacts of climate change include, but are not limited to, more frequent and intense heat waves, increases in ocean and freshwater temperatures, frost-free-days, heavy downpours, floods, sea level rise, droughts, and wildfires.

National Climate Assessment and Development Advisory Committee (NCADAC) May 2014 Climate Assessment Report. <http://ncadac.globalchange.gov/>

5.1 Severe Weather

5.1.1 Description: Severe Weather events can include thunderstorms, lightning, hail, tornadoes, and high winds individually and in combination covering large areas of the state. While most events related to severe weather are limited in terms of their impact, duration, and spatial extent, severe weather remains one of the most

common disaster types in the State of Georgia. Below are descriptions of each type of event which make up Severe Weather:

Thunderstorms: Thunderstorms are formed when moist air near the earth's surface is forced upward through some catalyst (convection or frontal system). As the moist air rises, the air condenses to form clouds. Because condensation is a warming process, the cloud continues to expand upward. When the initial updraft is halted by the upper troposphere, both an anvil shape and a downdraft form. This updraft and downdraft combination forms a "cell." Each thunderstorm cell may extend several miles across its base and to reach 40,000 feet in altitude. Thunderstorm cells can compound and move abreast to form a squall line of cells, extending farther than any individual cell's potential. Georgia experiences thunderstorms an average of 50 to 80 days per year.

High Winds: Sustained convective winds of 35 knots (40 mph) or greater lasting for one hour or longer, or winds (sustained or gusts) of 50 knots (58 mph) for any duration (or otherwise locally/regionally defined), on a widespread or localized basis.

The NCEI divides wind events into several types including High Wind, Strong Wind, Thunderstorm Wind, Tornado and Tropical Cyclone. For the purpose of this risk assessment, the Wind hazard will include data from High Wind, Strong Wind and Thunderstorm Wind.

Lightning: Lightning occurs when the difference between the positive and negative charges of the upper layers of the cloud and the earth's surface becomes great enough to overcome the resistance of the insulating air. The current flows along the forced conductive path to the surface (in cloud to ground lightning) and reaches up to 100 million volts of electrical potential. In Georgia, lightning strikes peak in July, with June and August experiencing the next highest numbers of strikes.

Hail: Hail is a type of precipitation that forms during the updraft- and downdraft-driven turbulence within the cloud. The hailstones are formed by layers of accumulated ice (with more layers creating larger hailstones) that can range from the size of a pea to the size of a grapefruit. Hailstones span a variety of shapes but usually are spherical.

Tornado: A tornado is a violently rotating column of air in contact with the surface of the ground. Exceptionally large tornadoes may not exhibit the classic "funnel" shape but can appear as a large, turbulent cloud near the ground or a large rain shaft. Most significant tornadoes stem from the right, rear quadrant of large thunderstorm systems where the circulation develops between 15,000 and 30,000 feet.

5.1.2 Previous Major Occurrences: In Georgia, an average of 295 severe weather events per year occurred from 2001-2020, causing 1422 injuries, 208 fatalities, and more than \$264 million in damages. These events include 343 tornado events, giving a historic average of approximately 17 events per year. Tornado specific events resulted in 864 injuries, 71 fatalities, and more than \$31 million in damages.

5.1.3 Impact on Public: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state's citizens. Below are

descriptions of the impacts that make up Severe Weather and descriptions of their impact on the public.

Thunderstorms: Thunderstorms cause an extensive amount of damage having high winds, rain, hail, flooding, and excessive lightning. They can cause heavy damage, destruction, and injury to the public. Thunderstorms can cause destruction of property, power failures, flooding, and even injury or death. Additionally, thunderstorms present some risk to those who are exposed to the elements during such events.

High Winds: High winds can damage private and public property, such as vehicles, food sources, trees, and power lines, as well as cause bodily injury from flying debris. Power outages can lead to disruption of employment, businesses, commerce, communication, and food resources. High winds may also cause buildings and structures to collapse, which may cause injury or death.

Lightning: According to the Vaisala U.S. National Lightning Detection Network, from 2009-2018 Georgia averaged approximately 642,203 clouds to ground lightning flashes per year. While lightning frequently occurs, only 7 lightning deaths were reported in 2011-2020, ranking Georgia 10th highest in the United States.

Hail: Hailstorms mostly endanger crops but have been known to damage automobiles, aircraft, and structures. Hail stones can vary in diameter, and in Georgia hail of up to 4.25 inches has been recorded. Individuals caught in a hailstorm could suffer injury or death depending on the size of the hail.

Tornado: Destructive because of strong winds and wind-borne debris, tornadoes can topple buildings, roll mobile homes, uproot vegetation, and launch objects hundreds of yards. Flying debris from tornados poses the greatest risk to people and may cause injury or death.

5.1.4 Impacts to Public Health: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its population. Below are descriptions of the impacts of these individual events and their impact on public health:

Thunderstorms: Potential health concerns include damage to homes, fire caused by lightning, and multiple fatalities. There can also be localized flooding and the need for swift water rescues. Significant portions of the population may be displaced by the destruction and those individuals may not have access to personal documents or medical records. Shelter and basic necessities will be of major concern to the public and their health. In addition, incorrect use of generators can lead to carbon monoxide poisonings.

High Winds: The damage of high winds may cause chemical and hazardous materials to spread to sources of food, water, and areas utilized by the public as well as animals.

Lightning: Potential public health concerns include lightning fatalities and long-term physical and mental effects for survivors. Homes and buildings can be set ablaze causing significant property damage.

Hail: Hailstorms mostly endanger crops but have been known to damage automobiles, aircraft, and structures.

Tornado: Tornadoes can have a significant impact on homes, businesses, and agricultural products. Losses may impact food stability in the state or region. There will also be an increased demand for medical treatment for traumatic injuries. Significant portions of the population may be displaced by the destruction.

5.1.5 Impact on Responders: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its citizens. Below are descriptions of the impacts of these individual events and their impact on responders:

Thunderstorms: Exposure to lightning, flooding, and high winds may cause injuries to first responders. Vehicles and resources may be damaged, leading to impaired response activities. First responders may be unable to access roadways due to flooding, trees down, or debris. Extreme caution may need to be exercised if thunderstorms produce heavy rainfall or hail. Visibility may also decrease significantly, greatly impacting transport activities.

High Winds: High winds may also destroy property and resources of first responders. High winds may create power outages that can hinder critical communications, access, or usability of resources. Injuries to first responders and equipment may be caused by flying debris, further challenging response operations. The ability of first responders to conduct their duties may be hindered by high winds, especially if trees, power lines, and/or debris have impacted roadways and transit.

Lightning: Lightning can cause power outages and damage communication equipment. It may also damage response vehicles or buildings. Lightning may start fires on buildings and homes which will require actions by all types of response teams.

Hail: Hail can cause damage to buildings and vehicles. Large hail can injure and possibly kill responders.

Tornado: First responders can be injured resulting in employee absenteeism that impacts the overall capacity to respond to an event. In addition, the deposit of debris on major roadways, the location of the event, damage to equipment or facilities may increase the amount of time required for first responders to complete rescue operations. Exposed wires or hazardous materials may cause injury to first responders in the process of conducting search and rescue operations.

5.1.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan (COOP). In the event of Severe Weather that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal

governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.1.7 Delivery of Services: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its citizens. Below are descriptions of the impacts of these individual events and their impact on the delivery of services:

Thunderstorms: Delivery of services may be impaired by flooding, downed power lines, and destruction of roadways and resources. The ability to deliver goods and services can be impacted locally, regionally, or statewide depending on the magnitude of the event.

High Winds: Any items in the path of high winds such as cars, trucks, planes, crops, and light buildings such as mobile homes may be destroyed or permanently damaged. The delivery of goods and services can be severely impacted if debris falls into roadways obstructing passage and access.

Lightning: In Georgia, lightning strikes peak in June, July and August due to the amount of convective activity peaking in the summer. Southeast Georgia receives the greatest density of lightning strikes with Charlton County and Brantley County each averaging greater than 80 events per km².

Hail: Hail can knock down trees and power lines which can block roadways and hinder response vehicles.

Tornado: Buildings and homes may be damaged by tornadic winds which can cause injuries and casualties. Roads may become blocked slowing response vehicles and the delivery of services may be impacted by dangerous conditions or lack of adequate access to transportation options. This may cause food, water, and resource systems to be delayed or halted, as well as personal transportation limitations for the public.

5.1.8 Property, Facilities, and Infrastructure: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its citizens. Below are descriptions of the impacts of these individual events and their impact on property, facilities, and infrastructure:

Thunderstorms: Public utility equipment such as power lines and transformers are most at risk from thunderstorms and their by-products. If power lines are downed it can create a cascading effect for isolated power outages or full-scale blackouts depending on the severity of the weather. Properties and critical facilities also may face foundational and physical damage due to flooding, lightning strikes, or excessive winds, delaying response and recovery operations. Power outages and physical damage to structures may cause energy supply and water supply systems to be disrupted or fail. Sewage systems may be compromised and taken off grid.

High Winds: High winds can cause minor to extreme damage to property. Excessive winds can uproot and topple trees, lift cars, break windows, and knock out power lines, leading to power outages to critical facilities. Transportation pathways may become obstructed by hazardous and nonhazardous debris, slowing down response and recovery activities.

Lightning: Lightning can damage buildings and cause fires. Damage to buildings can have severe effects on the infrastructure of communities. Also, many types of buildings such as hospitals, fire and rescue buildings, and other government facilities can be damaged.

Hail: Large Hail can cause significant roof and building damage and vehicles can be damaged and windows broken.

Tornado: Damages from lower intensity tornadoes (EF-0 to EF-1) can range from chimney damage to uprooted shallow trees. A significant tornado (EF-2 to EF-3) would cause damage to roofs on frame houses, complete destruction of mobile homes and large trees and utility lines snapping. A devastating tornado (EF-4 to EF-5) would result in well-constructed houses being leveled, weak foundations blown away for some distance, and cars thrown. Mobile homes within the state are especially vulnerable. Communications or power infrastructure may be damaged or destroyed, resulting in service disruptions. Tornadoes may also disrupt transportation services.

5.1.9 Impact on Environment: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its population. Below are descriptions of the impacts of these individual types and their impact on the environment:

Thunderstorms: Waste and debris from damaged structures can contaminate sources of water, food, and safety. In addition, debris and by-products of thunderstorms can impact the environment by possibly spreading pollution; damaging sewer and wastewater treatment plants; and disturbing the wildlife and natural areas.

High Winds: High winds on the environment affects foliage, trees, animals, cars, and structures, leading to the chance of hazardous and dangerous chemicals and materials being introduced into local waterways, agriculture, public and private spaces, and can affect fragile ecosystems.

Lightning: Lightning strikes may ignite wooded areas or fields, leading to destruction of agricultural crops, critical ecosystems, and natural habitats.

Hail: Hailstorms mostly endanger crops but have been known to damage automobiles, aircraft, and structures.

Tornado: Tornadoes may cause significant damage to the environment by exposing hazardous materials, causing contamination of water or food sources, or uprooting vegetation. Animals may be injured by flying debris or being lifted by the tornado. Agricultural crops may be lost due to contamination or being uprooted.

5.1.10 Impact on State Economy: Severe Weather covers a wide section of natural disasters and has one of the most consequential effects on the state and its citizens. Below are descriptions of the impacts of these individual events and their impact on the state's economy.

Thunderstorms: Resources from all levels of the state will be utilized. Local and state governments will face adverse fiscal consequences. State employees and government agencies may not be able to go to work reducing the ability to respond quickly.

High Winds: State and local resources may be costly for recovery from high wind damage. While federal grant reimbursements help cover the costs of damage, there is still an adverse fiscal impact on local governments.

Lightning: Large events can place a heavy burden on the state's economy and budget. Federal resources may need to be sought. Homes and buildings can be set ablaze causing significant property damage.

Hail: Hailstorms mostly endanger crops but have been known to damage automobiles, aircraft, and structures. This can have a very large impact on car dealerships, and individual cars and trucks. Many of these vehicles will have to be repaired or replaced. Damage to crops will be one of the largest losses to the state.

Tornado: Tornadoes pose a fiscal impact on the local and state governments, even if some of those costs can be recouped through federal grant reimbursements. Local, county, and state resources may be drained by the response to a tornado.

5.1.11 Public Confidence in the State's Governance: Immediate, effective, and direct actions are necessary to build and foster public confidence in state governance. Efficiency in response and recovery operations is critical in keeping public confidence high. Ineffective response can decrease the public's confidence in the state's ability to respond and govern.

5.2 Flooding

5.2.1 Hazard Description: Flooding events can include river flooding, flash flooding, coastal flooding, and urban flooding, individually and in combination, covering large areas of the state. While most events related to inland flooding are limited in terms of their impact, duration, and spatial extent, inland flooding remains one of the more common hazards in the State of Georgia. Below are descriptions of each type of event:

River Flooding: River flooding is a temporary overflow of water on normally dry lands adjacent to the source of water (river, stream, or lake). The causes of river flooding include mass sources of precipitation such as tropical cyclones, frontal systems, and thunderstorms combined with other environmental variables such as changes to the physical environment, topography, ground saturation, soil types, basin size, drainage patterns, and vegetative cover. Adverse impacts can include structural damage, temporary backwater effects in sewers and drainage systems, death of livestock, agricultural crop loss, loss of egress and access to critical facilities

due to roads being washed-out or overtopped, and unsanitary conditions resulting from materials being deposited during recession.

Flash Flooding: Flash flooding rapidly peaks and recedes giving insufficient time for evacuations. The more dangerous flash floods are common to the mountainous, impermeable surfaces of northern Georgia.

Coastal Flooding: Coastal flooding is the inundation of land areas along the coast caused by higher than average high tides and worsened by heavy rains and onshore winds.

Urban Flooding: Urban flash flooding can present dangerous conditions, especially with roads that are washing out or overtopped. Also, debris can clog rivers and creeks, causing flooding in areas that typically do not flood. Insufficient or damaged culverts can become clogged and create areas of flooding locally.

5.2.2 Previous Major Occurrences: In total, 712 flooding events occurred between 2001-2020 in Georgia. This equates to a historic average of approximately 35.6 events per year. These storms in total have caused 15 injuries, 17 fatalities, and more than \$97.6 million in damages.

The worst flooding event in Georgia since record keeping began stemmed from Tropical Storm Alberto, a decaying tropical cyclone that impacted Georgia in July 1994. The system produced torrential rainfall and resulted in some of the worst flooding ever observed across portions of Georgia, Alabama, and Florida. By far, the worst flooding occurred along Georgia's Flint and Ocmulgee Rivers and their tributaries. Across the entire three-state area affected by the flooding, 17 NWS river forecast locations set new record flood stages, some breaking the old record by 5–7 feet. The flooding from Tropical Storm Alberto took a significant toll on human life, killing 33 people. Of that total, 31 deaths occurred in Georgia and the other two in Alabama. In addition, approximately 50,000 people were forced from their homes by the flooding. More than 18,000 dwellings were damaged or destroyed, and nearly 12,000 people applied for emergency housing.

Flooding occurred in 2009 in northwest Georgia and the Atlanta area. This storm was considered an "Epic" storm that statistically only has a 1 in 500 chance of occurring each year. The Atlanta area received 9 to 12 inches of rain during this event and there was approximately \$225 million in damages.

5.2.3 Impact on Public: Depending upon the location of rainfall, flooding can occur in all areas of the state. Rural areas typically suffer crop damage or damage to roads. Many of the fatalities, as is typical with flooding events, occur resulting from flash flooding, and most occur in vehicles.

5.2.4 Impacts to Public Health: Flooding can have a significant effect on communities, especially those near larger rivers or creeks. Flood waters become filled with all types of toxic waste if it remains for a long period of time. Citizens are in grave danger during flash flooding events. Many become trapped in their homes and cars. There are potential long-term health concerns related to mold growth in residential structures.

5.2.5 Impact on Responders: Fire, police, and emergency responders are often called on to evacuate people if flooding is imminent. First responders may face challenges with transportation and access to a location due to flooded or obstructed roadways. Flash floods and mudslides due to heavy rainfall can also injure first responders, as well as delay response operations. Coordinating response to flooding events can be a significant effort by first responders especially in the event of flash floods. Responders can also be impacted by exposures to flood waters.

5.2.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of flooding that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.2.7 Delivery of Services: Flooding can cause road and bridge closures, as well as disrupt transit service. If any of these shutdowns occur, the ability to deliver goods and services efficiently will be impacted. Exposure to water may also damage or destroy physical goods such as food, clothing, and hygiene products.

5.2.8 Property, Facilities, and Infrastructure: Flooding can cause significant property damage to homes and businesses. This in turn impacts the market value of flooded property. In addition, floods can impact schools, hospitals, and other municipal infrastructure which impacts the public's ability to use these services. Water sources can become contaminated with toxic and dangerous chemicals, or fecal matter. Water and sewer system disruptions may trigger solid-waste collection and disposal disruptions, causing dangerous public health risks.

5.2.9 Impact on Environment: Inland Flooding can impact the environment by spreading pollution, damaging water and wastewater treatment plants, and creating debris. In addition, the standing water following a flooding event can cause the spread of mosquitoes, disease, and other pollutants.

5.2.10 Impact on State Economy: Repeated flooding can have a devastating effect on property value which can have a detrimental effect on local tax bases. Flooding also places a significant drain on response resources, which can become costly during a large flooding event.

5.2.11 Public Confidence in the State's Governance: Ineffective flooding response can decrease the public's confidence in the state's ability to respond and govern. Multi-level government response requires direct actions that must be immediate and effective to maintain public confidence. Efficiency in response and recovery operations is critical in keeping public confidence high.

5.3 Tropical Cyclone

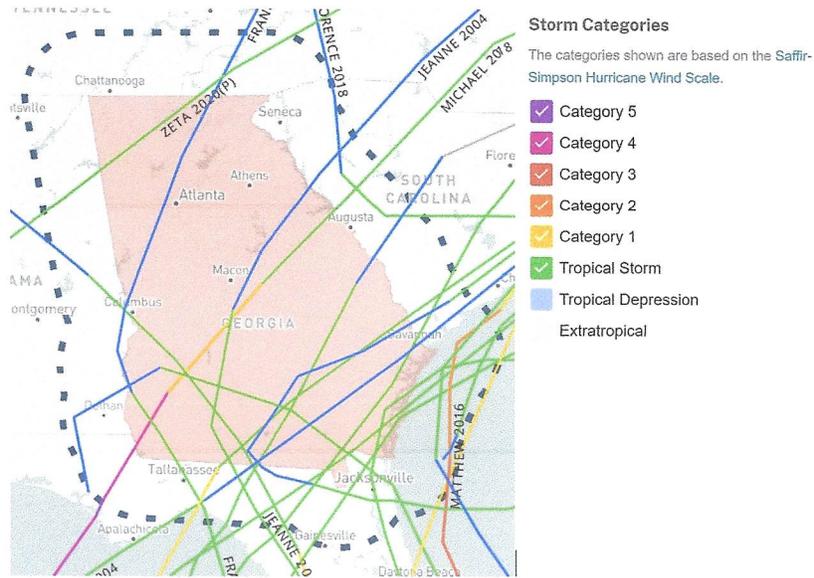


Figure 5-1 Tropical Storm / Hurricane Tracks

19 total storms have impacted Georgia at tropical storm or hurricane strength between 2001 and 2020.
 12 occurred within state lines, 7 occurred within 50 miles of state lines.
 Only 1 entered Georgia as a hurricane (Hurricane Michael – 2020). (NOAA Historical Hurricane Tracks)

5.3.1 Hazard Description: A hurricane is an intense tropical weather system with a well-defined circulation, producing maximum sustained winds of 74 mph or greater. Hurricane intensity is classified into five categories using the Saffir-Simpson Hurricane Scale. Winds in a hurricane range from 74 to 95 mph for a Category 1 hurricane to greater than 156 mph for a Category 5 hurricane. Hurricanes can cause catastrophic damage to coastlines and areas several hundred miles inland. Hurricanes can produce winds exceeding 155 miles per hour as well as tornadoes and microbursts. Additionally, hurricanes can create storm surges along the coast and cause extensive damage from heavy rainfall. Floods and flying debris from excessive winds are often the deadliest and most destructive results of hurricanes. Hurricane hazards can include storm surge, high winds, heavy rainfall, and tornados individually and in combination covering large areas of the state. Below are descriptions of each of these hazard types:

Storm Surge: An abnormal rise in sea level accompanying a hurricane or other intense storm, and whose height is the difference between the observed sea surface and the level that would have occurred in the absence of the cyclone. Storm surge produced by a tropical cyclone is a function of the geography of the coastline, the intensity of the hurricane, the angle of approach, and the forward speed.

High Winds: Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many

shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.

Heavy Rainfall: Heavy rainfall can be described as a large amount of rain in one area for an extended amount of time which can cause significant flooding, contributing to flash floods, mudflows, or overtopping levees and dams.

Tornado: A tornado is a violently rotating column of air (seen only when containing condensation, dust, or debris) in contact with the surface of the ground. Tornadoes spawned by tropical systems tend to be weaker compared to tornadoes spawned by severe thunderstorms, but when coupled with the other hazards posed by tropical cyclones, the damage can be similar if not more extensive. Tropically induced tornadoes can also be more difficult to spot due to their quick spin-up nature, being embedded in rain bands, and oftentimes being rain-wrapped. This also typically prevents tropical tornadoes from being long tracked. Tornadoes usually appear in the right-front quadrant of a tropical cyclone since that is where the combination of forward motion and counter-clockwise rotation is highest.

5.3.2 Previous Major Occurrences: Between 1800 and 1850, three major hurricanes made landfall on the Georgia Coast in 1804, 1813, and 1824 causing a combined total of more than 600 fatalities.

Between 1851 and 1899, 17 tropical cyclones, three that became major hurricanes (in 1854, 1893, and 1898), made landfall on the Georgia Coast, with the number of fatalities nearing 2,700. From 1900 to 1949, four tropical cyclones (1911, 1928, 1940, and 1947) made landfall on the Georgia Coast. Between 1950 and 1999, only one hurricane made landfall along the Georgia coast (David in 1979). Between 2000 and 2020, Georgia has been impacted by Hurricane Matthew in 2016, Hurricane Irma in 2017, Hurricane Michael in 2018, and Hurricane Zeta in 2020.

5.3.3 Impact on Public: A large portion of Georgia's population is located in the coastal region of the state. During the summer months, the population in this area increases significantly due to the tourist season. Damage to homes, businesses, infrastructure, government facilities, and roadways can cause serious disruption to response operations. High winds, flooding and flying debris can have long-term consequences to all affected areas.

5.3.4 Impacts to Public Health: Toxic waste and materials can be introduced into flooding waters, contaminating water supplies as well as standing water. Extreme flooding, storm surge, and high winds may cause death or injury for humans and animals. Toxic flood waters can lead to the spread of disease. Mosquitoes may spread infection to humans and other animals.

5.3.5 Impact on Responders: First responders face many hazards such as flooding, high winds, and storm surge, which may cause personal injury, disease, or death. Coordinating an evacuation in advance of a significant hurricane event requires enhanced response coordination and causes a substantial strain on resources. Critical facilities and roadways may flood, lose power, or become damaged or destroyed. Emergency vehicles may become inoperable or inaccessible, reducing

response and recovery operations. Major events may require the localized suspension of public safety services for the safety of the responders.

5.3.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Tropical Cyclone that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.3.7 Delivery of Services: The ability to deliver goods and services efficiently will be impacted depending on the magnitude of the storm. Flooding and high winds cause damage to roadways and bridges, disrupting the availability of response units. Many businesses in the hurricane evacuation zone will have to shut down, causing loss of business and financial hardships. First response vehicles may become damaged, destroyed, or inoperable under extreme conditions.

5.3.8 Property, Facilities, and Infrastructure: Depending upon the magnitude and impact of the storm, widespread destruction to property, facilities, and infrastructure may occur. Public and private structures that are damaged may face significant recovery efforts and costs. Hurricanes and tropical storms can impact roads, bridges, schools, and healthcare facilities by water damage from storm surge. Communication systems such as TV and radio towers and internet systems can be damaged or destroyed. Power outages and the disruption of transportation can delay emergency response teams.

5.3.9 Impact on Environment: Hurricanes and tropical storms can cause significant devastation to coastal communities. Beach erosion and stream blockage can negatively impact the environment near the coast. Strong winds and flooding can cause damage to animals and crops.

5.3.10 Impact on State Economy: Georgia has a significant tourist industry, and a major hurricane or tropical storm could cause damage to beaches, historical sites, and other areas that tourists frequent. The costs of response and recovery efforts are significant and can have cascading impacts on the state economy at large.

5.3.11 Public Confidence in the State's Governance: Ineffective response both before and after a hurricane or tropical storm can decrease the public's confidence in the state's ability to respond and govern. Governmental response across local, state, regional, and federal levels require direct actions that must be immediate and effective to maintain public confidence.

5.4 Winter Weather

5.4.1 Hazard Description: Winter Weather events can include extreme cold, blizzards, snow, ice, freezing rain and sleet individually and in combination covering

large areas of the state. While most events related to Winter Weather are limited in terms of their impact, duration, and spatial extent, Winter Weather typically affects the northern part of the state annually. Below are descriptions of each type of event:

Snow: Precipitation in the form of ice crystals, mainly of intricately branched, hexagonal form and often agglomerated into snowflakes, formed directly from the freezing of the water vapor in the air

Ice: Frozen water, the solid state of water

Freezing Rain: Rain that falls as a liquid but freezes into glaze upon contact with the ground

Sleet: Pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes

Blizzard: A blizzard means the following conditions are expected to prevail for a period of three hours or longer: 1) Sustained wind or frequent gusts to 35 miles per hour or greater; and 2) Considerable falling and/or blowing snow

Extreme Cold: Below normal temperatures that may lead to serious health problems.

5.4.2 Previous Major Occurrences: In total, 287 winter weather events occurred from 2001 to 2020 in Georgia. This equates to a historic average of approximately 14.4 events per year. These storms in total have caused 64 injuries, 13 fatalities, and more than \$5 million in damages.

5.4.3 Impact on Public: Freezing temperatures and heavy snow accumulation may cause dangerous travel conditions leading to collisions and injury on roadways, individuals not being able to go to work, or accessing critical community facilities. Power lines can become overloaded with heavy snow which can break and lead to a loss of electricity and heat in homes and businesses. Children and the elderly are especially susceptible to severe cold in their homes with loss of heat. This can cause a dangerous situation for pets that remain outdoors.

5.4.4 Impacts to Public Health: Extremely cold weather with low temperatures can lead to hypothermia, frost bite and could possibly lead to death. Individuals without shelter or a heating system are susceptible to these conditions. In addition, incorrect use of generators during power outages can lead to carbon monoxide poisonings.

5.4.5 Impact on Responders: First responders must protect themselves from exposure to freezing conditions for prolonged periods of time. Deteriorating road conditions create a delivery of service challenge. First responders' duties will include managing evacuation of people from snow impacted areas, directing traffic, closing roads, operating shelters, and taking care of the injured and sick. Equipment may also be damaged or destroyed due to cold temperatures, heavy wind, ice, and heavy snowfall, which may lead to a decrease in response capabilities.

5.4.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Winter Weather that affects the state's operations, the Agency

will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.4.7 Delivery of Services: Emergency response by first responders is compromised depending on the severity of the winter weather event. Deteriorating road conditions may lead to roadway and bridge closures, as well as transit service disruptions. Slick roads and icy conditions lead to increased vehicle accidents. Businesses may have to shut down, which leads to the disruption of goods and services.

5.4.8 Property, Facilities, and Infrastructure: Snow and ice can impact access to homes and critical facilities such as hospitals, schools, and supermarkets. Power loss can lead to disruption of critical infrastructure and technology. State and local transportation systems, government services, and communications may be disrupted during winter weather conditions. Roads and bridges may be heavily impacted by winter weather which can cause detours and delays. Roads and bridges can be completely obstructed by downed trees, power lines, and snow accumulation.

5.4.9 Impact on Environment: Vegetation and trees can be damaged with heavy snow and ice accumulation. Flooding may occur after the rapid melting of snow. Animals are susceptible to exposure to extreme cold, which may lead to illness or death. Flooding can lead to the release of foreign materials and dangerous chemicals which may leak into natural environments and water reservoirs, thus causing further damage.

5.4.10 Impact on State Economy: Winter Weather costs local and state governments a great deal of money and assets, possibly requiring assistance from the federal government. The removal of excess snow and debris is expensive. Businesses may not be able to open, thus causing a loss in revenue. Agricultural damage may also result in decreased revenue.

5.4.11 Public Confidence in the State's Governance: The public's confidence in the state's government is affected by immediate local and state response through direct and effective actions. Efficiency in response and recovery operations is critical in keeping public confidence high.

5.5 Drought/Wildfire

5.5.1 Hazard Description: Drought is a normal, recurrent feature of climate consisting of a deficiency of precipitation over an extended period of time (usually a season or more). This deficiency results in a water shortage for some social or environmental sector. Drought should be judged relative to some long-term average condition of balance between precipitation and evapotranspiration in a particular area that is considered "normal." Because the impacts of drought conditions are largely

dependent on the human activity in the area, the spatial extent of droughts can span a few counties to the entire state. Temporal characteristics of droughts are drastically different from other hazards due to the possibility of extremely lengthy durations as well as a sluggish rate of onset.

Extreme Heat: Extreme heat can cause significant damage to the local environment by dehydrating vegetation and wildlife, which would create a cascading effect to the surrounding environment. Extreme temperatures may severely decrease the yield of Georgia's cash crops. Extreme heat can be associated with drought and prolonged heat waves. Vulnerable human populations, as well as livestock are adversely affected by extreme heat and may suffer medical problems or death.

Wildfires: A wildfire is an uncontained fire that spreads through the environment. Wildfires may consume large areas, including infrastructure, property, and resources. Not only do the flames harm the environment, but the massive volumes of smoke spread by wind also affect the health of nearby populations. Wildfires result from the interaction of three crucial elements: fuel, ignition (heat), and oxygen. Natural and manmade forces cause the three crucial elements to coincide in a manner that produces wildfire events.

Smoke: Smoke is suspended carbon particles in air resulting from the combustion of wood, peat, coal or other organic matter. Smoke can cause health issues for people, even far away from fires.

Water Shortage: The loss of water due to evaporation, drought and overuse by local populations is of major concern to local communities that rely on this water for survival.

5.5.2 Previous Major Occurrences: Because droughts are "creeping" disasters, only large-scale events are considered notable. One of the most severe drought events in Georgia occurred in 1977 and resulted in a federal disaster declaration. The drought spanned most of the Midwestern and Southeastern United States and doomed many harvests of hay, corn, soybean, cotton, and peanut. The declaration included 130 of Georgia's 159 counties, with costs to farmers topping \$300 million (figure not inflation-adjusted).

On April 16, 2007, a downed power line ignited drought-parched forest floors in southern Georgia, which led to the largest and most devastating wildfires in state history. Nearly 564,000 acres were consumed in Georgia and Florida, and 18 homes were destroyed. More than 3,300 firefighters from 44 states, Canada and Puerto Rico came in to battle the blazes.

In 2017 wildfires engulfed 19,411 acres across North Georgia and the West Mims Fire near the Georgia/Florida border burned an estimated 130,942 acres.

5.5.3 Impact on Public: Extreme heat can have large impacts on the wellbeing of those more vulnerable to severe conditions, such as the elderly and young children. Loss of electricity may impact air conditioning and cooling mechanisms in homes, leading to increased indoor temperatures. In the case of wildfires, not only do the

flames harm the environment, but the massive volumes of smoke spread by certain atmospheric conditions also affect the health of nearby populations.

5.5.4 Impacts to Public Health: Physical effects of heat can cause major health problems, dehydration, and may lead to death. People begin to suffer heat-related illness when their bodies are unable to compensate and properly cool. Heat stroke may increase the body temperature to 106 degrees Fahrenheit or higher. Very high body temperatures may damage the brain or other vital organs.

5.5.5 Impact on Responders: First responders need to take necessary measures to avoid the effects of extreme heat and wildfire suppression such as drinking plenty of water and getting proper rest. Emergency responders are susceptible to heat stroke and severe dehydration resulting from fire or extreme heat. There is also the possibility of extreme heat damaging instruments or equipment necessary for response activities.

5.5.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Drought/Wildfire that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.5.7 Delivery of Services: Wildfires can cause death or injury to people and animals, damage or destroy structures, and disrupt community services including transportation, gas, power, communications, and other services.

5.5.8 Property, Facilities, and Infrastructure: Drought has a significant effect on the water supply which is a major component to the infrastructure of communities. Wildfire can affect property of the state and its citizens. Droughts have severely affected municipal and industrial water supplies, stream-water quality, recreation, hydro power generation, navigation, and agricultural production.

The wildfires that cause the greatest loss of life and property are those located in the Wildland-Urban Interface. Wildland-Urban Interface has been defined in many ways, but from a fire management perspective, it is commonly considered an area where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

5.5.9 Impact on Environment: Storage projects are often used to mitigate drought and improve ecosystem services. These projects involve diverting floodwaters from a stream, river, or other body of water into a conduit such as a canal, pipe, or wetland and storing them in an above-ground storage facility. Water is then slowly released, reducing flood risk as well as facilitating groundwater recharge/seepage.

5.5.10 Impact on State Economy: Drought has had major effects on the state's economy over many years. Reduction in crop and grass production affects our food

supply as well as the food supply for farm animals. Fighting and putting down wildfires cost the State a good deal of funds each year. Proximity to wooded areas, exposes many of the state's facilities to wildfire and the cost to replace them.

5.5.11 Public Confidence in the State's Governance: Effective and timely actions by the state and local communities will bolster the public's confidence in the state's governance.

5.6 Geologic Hazards

5.6.1 Hazard Description: Earthquakes are defined as the sudden motion or trembling of the Earth's surface caused by an abrupt release of slowly accumulated strain. This release typically manifests on the surface as ground shaking, surface faulting, tectonic uplifting and subsidence, or ground failures, and tsunamis.

Sinkholes are generally defined as a natural depression or hole in the surface topography formed by mechanisms such as the gradual removal of soluble bedrock by percolating water, the collapse of cave roofs (due to some seismic activity), or the lowering of the water table. These natural phenomena occur in areas where the subsurface rock consists of evaporates (salt, gypsum, and anhydrite) and carbonates (limestone and dolomite).

Landslides occur when masses of rock, earth or debris move down a slope. Debris and mud flows are rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, during heavy rainfall or rapid snowmelt, changing the earth into a flowing river of mud or "slurry." They can flow rapidly, striking with little or no warning at avalanche speeds. They also can travel several miles from their source, growing in size as they pick up trees, boulders, cars and other materials.

5.6.2 Previous Major Occurrences:

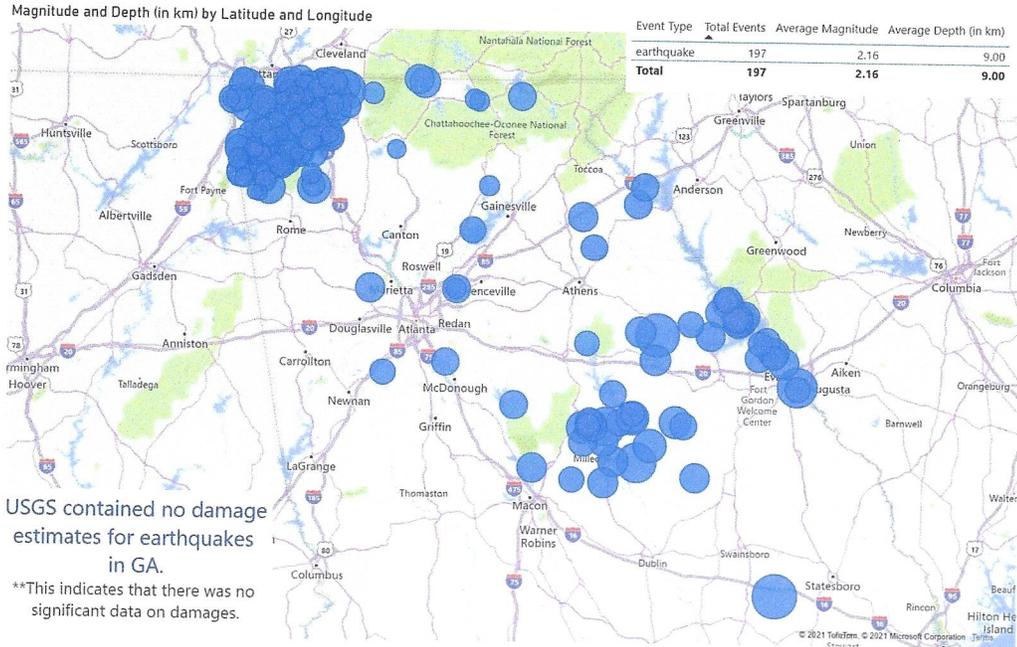


Table 16 Earthquakes

Year	Magnitude	Area Affected	Remarks
1811-1812	7.3-7.8	New Madrid	Rerouted MS River; Damage in Richmond; Felt in Boston
1886	6.9	Charleston, SC	V-VIII intensity
1914	5.0	North Georgia	Caused little damage
1964	4.5	Lake Sinclair	Tremors every 2-3 years
1972	4.5	Clarks Hill Reservoir	Quakes felt every 20 seconds
1976		Toombs County	V intensity
1985	3.0-3.5	Columbus	
1996	2.4	DeKalb County	Norris Lake area
2003	4.9	North Georgia/ Alabama border	Some power outages; Felled trees; Minor household damage
2010	2.8	Northwestern Georgia	Dalton area
2013	2.5-2.8	Georgia / South Carolina border	Thurmond Lake area
2015	2.6	Eatonton	Lake Oconee area
2017	2.7	Sparta, Georgia	Intensity IV; Minor household damage
2018	2.7	Northwestern Georgia	Intensity III; reported by over 100 people

Sinkholes: There have been no significant losses from sinkholes in the State of Georgia since at least 1960. However, one notable sinkhole event exists in recent history. During the 1994 flooding of Albany, Georgia from Tropical Storm Alberto, numerous sinkholes formed under the floodwaters. Notable sinkholes occurred in

Riverside and Oakview Cemeteries in downtown Albany, where a combination of flood waters and subsiding terrain released disturbed gravesites.

Landslides: An exact historical record is difficult to determine as many landslides and debris flow events are minor, do not cause significant damage or go unreported. Spatial Hazard Events and Losses Database for the United States (SHELDUS) data from 1952 to 2012 list one event occurring in Rabun County in 2004. Property losses from this event were estimated at \$100,000. This event was triggered by excessive rainfalls from Hurricane Ivan as it passed through the State. In August 2013, heavy rains created a mudslide in Sandy Springs, GA that closed a local road. The road was closed for one year while a retaining wall was constructed at a cost of approximately \$1 million. Residents reported eight other mudslides in the area.

5.6.3 Impact on Public: Geologic hazards may cause injury or death to the public by causing vehicle accidents, falling/flowing debris, or structure failure.

5.6.4 Impacts to Public Health: After a geologic hazard event, people may be seeking medical treatment for injuries or services that are interrupted from the event such as water, wastewater, or power. Fires or hazardous material releases could also be a result of a geologic hazard event.

5.6.5 Impact on Responders: The extent of the damage caused by a geologic hazard event could impact the responders' ability to access the damaged area and to transport people and resources to and from the area. Equipment, facilities, or other resources may be damaged from the event which could affect the responders' ability to respond by limiting speed and efficiency.

5.6.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of geologic hazard that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.6.7 Delivery of Services: Delivery of services may be affected by dangerous transportation conditions, including waterways, causing resources to be delayed or halted in their delivery to the public. Ground shaking or land subsidence could damage or destroy the goods or services that need to be delivered.

5.6.8 Property, Facilities, and Infrastructure: All critical facilities in the planning area are exposed to an earthquake hazard. All critical facilities in northwest Georgia and the coastal plain region are susceptible to sinkholes. All critical facilities in northeast Georgia may be affected by landslides. Transportation routes (roads, bridges, and waterways), pipelines, and buildings can collapse or be disrupted during a geologic hazard event.

5.6.9 Impact on Environment: Geologic hazard events have the potential to trigger secondary hazards such as fire, flash flooding, hazardous materials release, and dam failures. Toxins released during these events can have a detrimental effect on the environment by impacting bodies of water, groundwater, animals, livestock, and crops.

5.6.10 Impact on State Economy: Local, county, and state resources may be exhausted during the initial response. Reimbursement from the federal government should be possible if the local, county, or state government is overwhelmed but this will take time to process. If the event is severe, it may disrupt the private sector's ability to operate therefore impacting the overall State economy.

5.6.11 Public Confidence in the State's Governance: Governmental response must be immediate and effective to maintain public confidence. If the State is disorganized in its response operations or takes too long to begin recovery operations, the public may lose confidence in the government's ability to manage the event.

5.7 Infectious Diseases

5.7.1 Hazard Description: Georgia has a list of diseases that are required by law to be reported to the Department of Public Health thus enabling public health follow-up for patients, identification of close contacts and to identify outbreaks. All Georgia physicians, laboratories, and other health care providers are required by law (O.C.G.A. 31-12-2) to report patients with the conditions listed under Notifiable Disease Reporting Requirements. Both laboratory confirmed and clinical diagnoses are reportable within the specified time interval. This is particularly important to do in a timely manner for any disease or condition that may require immediate public health intervention. Disease reporting also provides a better understanding of disease trends and patterns in Georgia to support program and policy decision-making and resource allocation.

5.7.2 Previous Major Occurrences: Every year the Georgia Department of Public Health investigates hundreds of notifiable disease cases and outbreaks. Some examples of larger occurrences from the last five years include Zika, Legionella, Measles and Mumps Most notably in 2020, Georgia experienced the COVID-19 pandemic, which is ongoing through the time of the publication of this HIRA. As of September 2021, there were over 20,000 deaths and over 76,000 hospitalizations due to COVID-19.

5.7.3 Impact on Public: Depending on the scale of outbreak and type of disease, residents of the State of Georgia may be at risk of illness or death if they are exposed to the disease. Population density may play a role in the spread of disease.

5.7.4 Impacts to Public Health: An epidemic/pandemic will have significant impacts on public health. Specific impacts to residents will be dependent upon the type of disease or infection that is spread.

5.7.5 Impact on Responders: Any responder could be affected by the illness which he/she is investigating due to the infectious nature of the pathogen.

5.7.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Infectious Diseases that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there has been one (1) major incident, COVID-19, which has led to the shutdown of many state, county, or municipal governmental operations. While expectation remains minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to limit access to government services and reduce availability of responders and assets. If activation of alternate facilities occurs, in-person operations may be difficult. Additionally, computer/network and other communication access may be impacted due to increased demand from working in remote locations.

5.7.7 Delivery of Services: Epidemics may, under extreme circumstances or large outbreaks, cause disruption of services in the event of employee absenteeism. Pandemic events may require the temporary closure of private and public businesses and government services, causing further disruption of services.

5.7.8 Property, Facilities, and Infrastructure: It is highly unlikely that an epidemic would have direct effects on critical infrastructure or other facilities or structures. However, under very extreme cases of absenteeism, it is possible that regular maintenance or repairs would not be performed, resulting in disrepair.

5.7.9 Impact on Environment: In some cases, disease outbreak is caused by infections spread from animals to humans. Under these circumstances, infections may be spread as the result of normal care (proximity) to sick animals or consumption of byproducts of infected animals. Infected animals may die resulting from the disease; timely removal of infected animal carcasses may help to reduce the spread of the disease among animals. It is unlikely that an epidemic would have any additional direct impacts on the environment.

5.7.10 Impact on State Economy: Depending on the scale of outbreak and type of disease, a localized infectious disease outbreak could impact the State of Georgia significantly. In the event residents and workers became infected from an epidemic, employee absenteeism would increase and the length of time necessary to recoup and regain lost time and money could be six months or longer.

5.7.11 Public Confidence in the State's Governance: Governmental response, on all levels – state and local – requires direct actions that must be immediate and effective to maintain public confidence. If government functionality is reduced by absenteeism, the public's confidence in governance may be reduced. The ability of the Department of Public Health to perform critical functions will directly impact the community's perception of government during an epidemic. Maintenance of these operations will be critical to response and recovery operation.

5.8 Cyber Incidents or Attacks on Government or Critical Infrastructure Sectors

5.8.1 Hazard Description: In broad terms, Cybersecurity refers to the methods, techniques, and practices of protecting cyberspace (internet-connected networks, devices, software applications, and the sensitive data that travels through them all) from unauthorized access that would compromise the confidentiality, integrity and/or availability of the data. Cyberspace and its underlying infrastructure are vulnerable to a wide range of risks stemming from both physical and cyber threats and hazards. Sophisticated cyber criminals, threat actors and nation-states exploit vulnerabilities to steal information and money and are developing capabilities to disrupt, destroy, or threaten the delivery of essential services.

Cyberspace is particularly difficult to secure due to several factors:

- the ability of malicious actors to operate from anywhere in the world,
- the linkages between cyberspace and physical systems,
- and the difficulty of reducing vulnerabilities and consequences in complex cyber networks.

Of growing concern is the cyber threat to critical infrastructure, which is increasingly subject to sophisticated cyber intrusions that pose new risks. As information technology becomes increasingly integrated with physical infrastructure operations, there is increased risk for wide scale or high-consequence events that could cause harm or disrupt services upon which our economy and the daily lives of millions of Georgians depend.

Cyber security is constantly evolving, and consists of a growing set of processes, risk management approaches, technologies, and best practices. Below are the basics on a few of the most common types of cyber security areas that need to be addressed and focused on:

- **Network Security:** Helps to protect internal traffic by controlling incoming and outgoing connections to prevent threats from accessing or spreading across the network. Important layers of network security can include antivirus programs, antispyware, Intrusion Detection/Prevention Systems (IDS/IPS) and a “next-gen” network firewall that can control traffic based on security policy and permissions.
- **Application Security:** Software as a Service (SaaS) and cloud-based applications are more accessible than ever and spread across various networks, and therefore can be especially vulnerable to attacks. Security controls such as requiring strong user passwords, multi-factor authentication methods, next-gen antivirus programs, application layer firewalls, and encryption services are most effective when implemented before the application is deployed.
- **Information Security:** Often confused with cybersecurity, “InfoSec” is a crucial part of overall cyber security that refers to the processes and tools designed to

- protect sensitive information from modification, disruption, and destruction. The three primary tenets of InfoSec include confidentiality, integrity, and availability.
- **Cloud Security:** Cloud models allow for more convenience and an “always on” connectivity that requires more advanced considerations to keep them safe. Cloud security measures focus on building and hosting secure applications, enabling data recovery in case of loss, storage and network protections against malicious attacks, identity and access management (IAM), and reducing human error that can result in data leaks.
 - **Data Loss Prevention (DLP):** Data loss prevention focuses on three common pain points experienced by organizations of all sizes: personal information protection, intellectual property (IP) protection, and data visibility. DLP software tools monitor and control endpoints, filter data streams on networks, and protect data while at rest, in motion, and in use. Once a breach is detected, DLP software alerts IT professionals and provides encryption to prevent end users from maliciously or accidentally putting sensitive data at risk.
 - **End User Education:** Research indicates that 90% of cyber claims stem from some type of human error or behavior. It’s such a major point of weakness that even hiring a qualified technology partner to manage security won’t protect an organization from the lack of end user education. One key and cost-effective first step to securing sensitive data is to implement cyber security training for internal teams to understand their role in device security, network responsibilities, and how to identify signs of malicious activity.

Considering the risk and potential consequences of malicious cyber events, strengthening the security and resilience of cyberspace has become an important national homeland security mission.

5.8.2 Previous Major Occurrences: In the last three or so years, the State of Georgia has seen an ever-increasing number of cybersecurity attacks either directly on State / Local government and education or to a private sector entity that has had significant impacts on governments or the citizens of Georgia through indirect consequences.

A very clear example of how a private company attack can have significant impacts to the populace was the ransomware attack against Colonial Pipeline. Headquartered in Alpharetta, GA and owning the largest fuel pipeline infrastructure in the United States, their pipeline transports roughly 2.5 million barrels of fuel daily from the Gulf Coast to the Eastern Seaboard. A leaked password was used by a Russian-linked cybercrime organization known as Darkside to gain access to the networks of the company on April 29th, 2021. On May 7th just before 5 AM, Darkside threat actors began their attack on corporate networks which resulted in the company completely shutting down the entire pipeline by 6:10 AM. Production remained completely shut down for five days which resulted in public panic buying and almost immediate shortages and complete outages of fuel. It took numerous weeks after the resumption of services for the supply chain to fully stabilize and recover.

From January 2019 to October 2021, the Office of the State's Chief Information Security Officer (CISO) has tracked over 30 significant cybersecurity attacks against Georgia's State and Local agencies.

These incidents included:

- Ransomware 15
- O365 Compromise 5
- Website Defacement 3
- Network Compromise 2
- Supply Chain 2
- Third Party Vendor 1
- End Point Compromise 1
- Typo squatting 1

A number of these ransomware events included impacts to Public Safety and Emergency Management agencies, some of which seriously impacted their ability to function. Some incidents also included local Public Safety Answering Points/e911 Centers.

5.8.4 Impact on Public: As was evidenced in section 5.8.2, Cybersecurity attacks against government and private sector infrastructure can affect the public directly in numerous ways. Impacts can range from minor inconvenience to major catastrophe depending upon the mission of the government agency or private infrastructure provider affected.

A sampling of the potential impacts to the general public are listed below:

- Dispersion of misleading and false information through website defacement/alteration
- Lack of availability of records and information from governmental entities
- Disclosure of personal information (PII) to nefarious or criminal enterprise
- Disruption of an entity's ability to service the public properly
- Disruption of the ability to travel via public transit, railway or airlines
- Lack of availability of commodity items such as fuel and food
- Creation of states of civil unrest through misinformation campaigns and compromise of social media accounts

5.8.5 Impacts to Public Health: There are several ways that a cyber-attack or incident could impact the public health. Attacks on the healthcare sector or on infrastructure such as water treatment are examples of how a cyber-attack can directly impact public health.

Healthcare: As the healthcare sector continues to offer life-critical services while working to improve treatment and patient care with new technologies, criminals and cyber threat actors look to exploit the vulnerabilities that are coupled with these changes. As a result, the healthcare industry is plagued by a myriad of cybersecurity-

related issues. These issues range from malware that compromises the integrity of systems and privacy of patients, to distributed denial of service (DDoS) attacks that disrupt facilities' ability to provide patient care. While other critical infrastructure sectors experience these types of attacks, the nature of the healthcare industry's mission poses unique challenges. For healthcare, cyber-attacks can have ramifications beyond financial loss and breach of privacy. Ransomware, for example, is a particularly egregious form of malware for hospitals as the loss of patient data can put lives at risk.

Water Treatment: As of October 2021, there are 2,243 Drinking Water/Public Water System permits issued by the GA DNR's Environmental Protection Division's Watershed Protection Branch. The permitted entities provide drinking water to Georgians in all 159 counties. In the event of a successful cyber-attack, the water could become unknowingly contaminated, or the supply/availability can be compromised.

Nationwide attacks against the water sector are on the increase both for criminal enterprise as well as terroristic attack:

- On Friday, February 5, 2021, a hacker initiated an attack on an Oldsmar, Florida water treatment facility which briefly adjusted the levels of sodium hydroxide from 100 parts per million to 11,100 parts per million. This attack occurred about 15 miles from the location of, and two days before the Super Bowl. If successful, the attack would have increased the amount of sodium hydroxide to an incredibly dangerous level in the water supply. The attack was discovered as it was occurring and stopped.
- In January 2021, a hacker tried to poison a water treatment plant that served parts of the San Francisco Bay Area.
- In May 2021, hackers breached the network of the Belle Vernon Municipal Authority in Pennsylvania.

CISA/DHS reported that in March, July, and August of 2021, threat actors launched ransomware that impacted the networks *and* industrial control systems of water systems in Nevada, Maine and California respectively.

5.8.6 Impact on Responders: The principle impacts on law enforcement, fire department, EMS and other first responder elements are primarily ones of limitation of function. A cyber-attack or incident that impacts the computer aided dispatch system will require that other legacy, manual processes be implemented to continue the operational capabilities of the responder. Other attacks against infrastructure could impact the public's ability to reach first responders (such as a Distributed Denial of Service - DDoS attack against the telephony services of an e911 center) or the first responder's ability to reach the public (such as an attack that disables all networked traffic signals in a major metropolitan area such as Atlanta).

5.8.7 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of a cyber-attack on critical infrastructure that affects the state's

operations, the Agency will enact the COOP appropriately to the situation at hand. Additionally a cybersecurity attack or incident could impact GEMA/HS' ability to implement their COOP based on the severity of the hazard to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.8.8 Delivery of Services: Cybersecurity attacks would most certainly create a disruption of services to a lesser or greater extent depending upon the breadth and scope of a given attack. Governments' ability to deliver services effectively has become more and more dependent upon cyber technology thus creating more attack surfaces for threat actors to target and as these attack surfaces increase, so will the attacks and attempted attacks. Largely to the adoption of a just-in-time delivery model, commercial and industrial sectors will be impacted in the event of a major disruption (as evidenced by the 2021 Colonial Pipeline ransomware attack) of supply chain capabilities and will create an availability vacuum and/or significant cost increase of everyday goods and services.

5.8.9 Property, Facilities, and Infrastructure: From an all-hazards perspective, the relevant threat created by a cybersecurity attack or compromise is an attack against industrial controls systems (ICS) or Supervisory Control and Data Acquisition (SCADA) systems. Such compromises could create a real danger to property and infrastructure through the danger of overheating, over pressurization, and display of erroneous data to allow systems to fail. At best the compromise of these system could allow threat actors to:

- Manipulate the HVAC systems to make working in a building uncomfortable at best or dangerously impossible at worst.
- The energy consumption of a building can be destabilized by unauthorized powering up or down of lights.
- Security cameras or motion detectors can be turned on or off, or footage deleted to mask criminal activity.
- Access control systems can be manipulated so that privileges can be revoked or granted to the whole building (via card readers or otherwise) or doors opened to off-limits areas.
- Fire-monitoring and suppression systems can be triggered, including alarms and sprinklers.
- Lift access controls can be suppressed or overridden.

5.8.10 Impact on Environment: Threat actor manipulation of ICS/SCADA systems could create a situation that could cause industrial waste leakage or release into the environment. Such an incident could have short-term and long-term effects depending upon the nature of the spill or release. Such a disaster could occur at locations like hazardous waste disposal and transport hubs, nuclear facilities, petroleum storage and processing facilities, and chemical production facilities to name a few.

5.8.11 Impact on State Economy: As a result of the proliferation of computer networks in ALL industries and in government, the potential of economic impact could be, for example, very minimal (thousands of dollars) for a small state agency with five computers to tens of millions of dollars (as was evidenced by the costs associated with the recovery of the City of Atlanta ransomware attack in 2018, estimated at \$17M). One internet report (https://www.comparitech.com/blog/information-security/government-ransomware-attacks/#Key_findings) puts Georgia at an estimated \$5.76B for the estimated dollar amounts lost in US government ransomware attacks from 2018 to 2020.

5.8.12 Public Confidence in the State's Governance: Public opinion can be a fickle thing; few may sympathize with the plight of an affected government agency or entity while most will take exception to the breach of their personal data or the lack of availability of governmental services. The public trusts (or believes) that the government has their personal data properly secured. Whether or not there is evidence in a cyber-attack that data was exfiltrated, each publicized attack of ransomware or breach in cybersecurity chips away at the confidence in the competency of governance. Surveys conducted by various polling organizations in 2021 give evidence that ... "Recent high-profile breaches, including Solar Winds, Colonial Pipeline, and JBS Foods, have exposed how vulnerable organizations are to cybercrime and in particular ransomware attacks. Of note with recent attacks is how data breaches can quickly affect aspects of everyday life, such as the ability to fill a car with gasoline or buy meat at the grocery store. To rebuild consumer trust, survey respondents say organizations must invest in advanced technology systems that help proactively reduce their risk of third party-perpetrated cyberattacks."

5.9 Active Shooter

5.9.1 Hazard Description: Active killer or active shooter names the perpetrator of a type of mass murder marked by rapidity, scale, randomness, and often suicide.

The United States Department of Homeland Security defines the active shooter as "an individual actively engaged in killing or attempting to kill people in a confined and populated area; in most cases, active shooters use firearms and there is no pattern or method to their selection of victims." Most incidents occur at locations in which the killers find little impediment in pressing their attack. Locations are generally described as soft targets, that is, they carry limited security measures to protect members of the public. In most instances, shooters commit suicide, are shot by police, or surrender when confrontation with responding law enforcement becomes unavoidable.

According to various sources 46 percent of active shooter incidents are ended by the application of force by police or security, 40 percent end in the shooter's suicide, 14 percent of the time the shooter surrenders and, in less than 1 percent of cases, the violence ends with the attacker fleeing.

Georgia has several large venue event centers and hosts SEAR 1 and SEAR 2 events annually. Crowds for events regularly exceed 250,000 people.

5.9.2 Previous Major Occurrences: There have been 75 mass shootings in the United States since Sandy Hook Elementary, where a gunman in 2012 killed 20 first-graders, six faculty members and himself. In those 75 shootings, at least 235 people died. As of December 2017, Georgia led the nation in school shootings, but not all of these events involved injuries.

Active shooter incidents in Georgia for 2016:

- Four people injured in Roswell on March 6, 2016 – An early morning argument at a Roswell hookah bar ended with a Gwinnett County man shooting into a car full of people and wounding four.
- Five people injured in northwest Atlanta on March 15, 2016 – Police suspect the five people injured in a shooting near a well-known nightclub in northwest Atlanta were innocent bystanders.
- Six people killed in Columbia County on April 22, 2016 – A 50-year-old man suspected of fatally shooting five people in two separate incidents in Appling was found dead in his home. The cause of death was an apparent gunshot wound.
- Five people killed in Moultrie on May 15, 2016 – Five people found dead in a South Georgia house fire were shot, and the blaze was set intentionally as a cover-up.
- One killed, three injured in Jackson on May 21, 2016.
- Four killed in Henry County on October 27, 2016 – Four people were fatally shot in the head in a McDonough home.

5.9.3 Impact on Public: Active shooters pose a direct threat to people and would cause considerable injury and death. An active shooter attack could kill and injure hundreds, which would overwhelm Level I Trauma Centers and local hospitals. Businesses, schools, and locations near the attack would be disrupted.

5.9.4 Impacts to Public Health: An active shooter attack will have varying effects on the population including injury, death, and significant psychological impacts. These impacts may be immediate or long-term depending on where the active shooter attack occurs.

5.9.5 Impact on Responders: An active shooter attack can create a dangerous environment and significant challenge for first responders. First responders may have to manage the evacuation of people from the area impacted, as well as direct traffic, close roads, operate shelters, and take care of the injured. First responders may also become the direct target of the active shooter themselves either immediately or as a secondary attack during response activities. Based on the type of attack Personal Protective Equipment may be required to protect the first responder. Equipment may also be damaged or destroyed due to the impact of the attack, which may lead to a decrease in response capabilities.

5.9.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of active shooter attack that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal

governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.9.7 Delivery of Services: The ability to deliver services can be impacted locally, regionally, or statewide depending on the characteristics of an active shooter attack. To reduce the public's potential exposure to the effects of an attack, roadway and bridge closures may be required, as well as transit service disruptions. Businesses and places of commerce may completely shut down due to an active shooter attack, which leads to the disruption of goods and services.

5.9.8 Property, Facilities, and Infrastructure: Transportation, governmental operations, and infrastructure facilities may be disrupted during a large-scale active shooter attack, both directly and indirectly. Roads and bridges may be heavily impacted by an active shooter attack, especially if explosive devices are utilized in the active shooter attack. An active shooter attack and the response and recovery from those attacks can impact access to homes and critical entities such as hospitals, schools, and supermarkets, as well as other critical facilities. Safe access to homes, vehicles, structures, and resources may adversely affect response activities. If power loss occurs as part of or following an active shooter attack, it may lead to disruption of critical infrastructure and technology.

5.9.9 Impact on Environment: An active shooter attack involving bombings and arson pose considerable negative impacts to the environment in the form of smoke and destruction of vegetation.

5.9.10 Impact on State Economy: An active shooter attack poses a fiscal impact on the local and state governments. Local, county, and state resources may be required during an active shooter therefore reducing their availability for future events. Private businesses may not be able to maintain operations during or after an incident if they are impacted, which would impact the economy.

5.9.11 Public Confidence in the State's Governance: If government employees or facilities are targeted directly by an active shooter, it will have a significant impact on the state's ability to govern. The public's confidence in the state's governance is affected by immediate local and state response through direct and effective actions. Efficiency in response and recovery operations is critical in keeping public confidence high.

5.10 Radiological Release (Technical, Hostile)

5.10.1 Hazard Description: The State of Georgia has six counties within the 10-mile Emergency Planning Zone (EPZ) and 76 counties within the 50-mile Ingestion Pathway Zone (IPZ) of nuclear power plants located within Georgia and adjacent states. Although the risk frequency is low, potential consequences are high.

Within the 10-mile EPZ the primary hazard is direct radiological contamination due to the release of radiological material from the nuclear power plant and the resulting fallout from the plume as it is driven by local weather conditions. It is expected that a high percentage of the radiological material will be deposited on the ground prior to reaching the 10-mile EPZ limit.

Potential impacts within the 50-mile IPZ are primarily focused on the impact to soil and water as it relates to crops, livestock, and poultry. The primary focus is to identify potential contamination and prevent the introduction of contaminated foodstuffs into the food chain.

Georgia's agricultural industry plays a major role in the State's economy, contributing billions of dollars annually. Georgia, ranked first in the nation's production of broilers (young chickens weighing less than two and a half pounds), blueberries, peanuts, and pecans.

An actual radiation impact, or perceived impact, to Georgia crops, livestock, poultry, and food industry could be overwhelming.

5.10.2 Previous Major Occurrences: The Three Mile Island Unit 2 reactor, near Middletown, PA., partially melted down on March 28, 1979. This was the most serious accident in U.S. commercial nuclear power plant operating history. Although its small radioactive releases had no detectable health effects on plant workers or the public, its aftermath brought about sweeping changes involving emergency response planning, reactor operator training, human factors engineering, radiation protection, and many other areas of nuclear power plant operations. It also caused the Nuclear Regulatory Commission (NRC) to tighten and heighten its regulatory oversight. All of these changes significantly enhanced U.S. reactor safety.

In addition to the enhanced NRC oversight, the Federal Government created a new program called Radiological Emergency Preparedness (REP). As outlined in federal guidance documents, the mission of the REP Program is to adequately protect the public health and safety by providing reasonable assurance that appropriate protective measures can be implemented offsite in the event of a radiological emergency.

The Fukushima Daiichi nuclear disaster was an energy accident at the Fukushima Daiichi Nuclear Power Plant in Ōkuma, Fukushima Japan, initiated primarily by the tsunami following the Tōhoku earthquake on 11 March 2011. Immediately after the earthquake, the active reactors automatically shut down their sustained fission reactions. However, the tsunami disabled the emergency generators that would have provided power to control and operate the pumps necessary to cool the reactors. The insufficient cooling led to three nuclear meltdowns, hydrogen-air explosions, and the release of radioactive material in Units 1, 2, and 3 from 12 March to 15 March. Loss of cooling also caused the pool for storing spent fuel from Reactor 4 to overheat on 15 March due to the decay heat from the fuel rods.

5.10.3 Impact on Public: The State of Georgia has a footprint in three 10-mile Emergency Planning Zones surrounding the following nuclear power plants; Plant

Hatch, located in Appling County; Plant Vogtle, located in Burke County; and Plant Farley, located on the west bank of the Chattahoochee River in Houston County, Alabama. The total at risk populations within the 10-mile Emergency Planning Zones are approximately; Plant Hatch, 8,900, Plant Vogtle, 3000, and Plant Farley, 1400. Both Appling and Toombs Counties each have one school within the 10-mile EPZ.

In addition, there are 70 more counties in Georgia within the 50-mile Ingestion Pathway Zones of nuclear power plants in South Carolina and Tennessee.

5.10.4 Impacts to Public Health: Based on all available information, the State of Georgia Radiological Emergency Coordinator will provide state and local decision makers with Protective Action Recommendations regarding minimizing the potential impact to the public. The recommendations may be to evacuate individuals within the potentially affected areas, advise individuals within the impacted areas to shelter in place, or in the event of a hostile action at the nuclear plant for those individuals to go inside and stay inside.

The State of Georgia highly recommends evacuation from areas of potential plume impact. Plans and procedures are in place to activate evacuee reception centers outside of the 10-mile EPZ where individuals can be screened for radiological contamination and decontaminated, as necessary. Congregate shelters will be located nearby to provide temporary accommodations for those individuals who may be unable to return to their residence due to radiological contamination.

The impact to public health, to include psychological public health, will vary depending on the size, strength, movement, and impact of the radiological release. Radiological health effects, both acute (short term) and chronic (long term), will be based on an individual's proximity to the radiological material, time of exposure, and strength of the specific isotope. Protective Action Guidelines are available to identify levels of contamination and an appropriate response.

5.10.5 Impact on Responders: As with any emergency event, emergency responders will be called upon to carry out operations in support of the overall response. The type of response assignment will be based upon the responder's primary area of expertise, i.e., law enforcement, fire suppression, emergency medical services, etc. A response to a radiological emergency may place emergency response personnel in a unique situation where they must adhere to and be mindful of radiological exposure and contamination as they conduct response activities. State and local first responders within Georgia have been provided training in radiological emergency response and radiation exposure and contamination protocols.

5.10.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of radiological emergency at a nuclear power facility that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of

alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.10.7 Delivery of Services:

Based on the locations of the nuclear power plants affecting the State of Georgia, the impact on the delivery of goods and services may possibly include national, state, regional, and local areas. Regional and local delivery of goods and services may be impacted by the closure of roads and bridges resulting from locations contaminated with radiological material. The statewide, and possibly national delivery of services may be impacted by railroads in South Georgia which serve a major terminal in Waycross. Additionally, several poultry and food processing centers in Georgia may be closed or products embargoed to protect the food chain from being potentially contaminated.

5.10.8 Property, Facilities, and Infrastructure: The impact to property, facilities, and infrastructure may be directly attributed to contamination of radiological material or the loss may be attributed to the lack of access to these areas for the near or long term. Based upon field monitoring information and protective action guidelines, some areas may be successfully decontaminated and available for return to limited or full service. Others with more extensive contamination, or the inability to be successfully decontaminated to an acceptable level, may need to be destroyed or placed on restricted access rendering them unusable for an identified or indefinite period.

5.10.9 Impact on Environment: Radiation is naturally occurring. Radiation comes to us from both natural and manmade sources. Limiting radiation exposure and contamination to acceptable protective action guideline levels allows the environment to provide critical resources such as safe water, air, and soil to support and sustain an ecological balance. This balance is crucial to sustaining agricultural and zoological interests. A radiological impact to the environment can be both near and long-term depending on identified contamination levels. Radiological contamination provides for adverse effects on individuals, agriculture interests, poultry, and livestock.

5.10.10 Impact on State Economy: Agriculture in the State of Georgia is a multi-billion-dollar industry with over 9 million acres devoted to farming. Much of this area is located within a 50-mile ingestion pathway of nuclear power plants in Georgia and adjacent states. Not only will a nuclear power plant emergency cost the State and local governments during the initial response, but it will also impact local and regional businesses if they are unable to maintain operations or sell their products for a unspecified period of time.

5.10.11 Public Confidence in the State's Governance: During the Three Mile Island emergency event in March 1979, the public lost confidence in state and local government's ability to control and effectively respond to the event due to their lack of preparedness and ineffective information sharing and dissemination with the public. Following the events at Three Mile Island, the REP Program was created to ensure that plans and procedures are in place to effectively respond and to communicate information and protective actions to residents and business near the facility. A nuclear power plant emergency will be live, breaking news across all forms of media

around the world. Confidence in state and local government will be based upon their ability to respond to a nuclear power plant emergency effectively and efficiently.

5.11 Hazardous Material Release (Transpiration / Storage Spills & Leaks)

5.11.1 Hazard Description: A hazardous material is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Hazardous materials are routinely stored and transported throughout Georgia. Georgia's industrial capacity and network of highways, pipelines, waterways, and railways result in vulnerabilities to hazardous material releases. Storage sites as well as hazardous materials in transit could be impacted by accidental, criminal, or terrorist events. Many sites that utilize or store hazardous materials are in coastal counties where they are could be exposed to tropical cyclone winds and rains.

A release of a hazardous material could result in injury, long term health problems, loss of life and damage to property and the environment. The consequences of a hazardous material release will vary greatly depending on the location, time, quantity, and material released.

5.11.2 Previous Major Occurrences: Based on available data, there were over 900 reports of oil and hazmat releases reported to the Georgia Environmental Protection Division in 2017. Some of the major occurrences:

- Benzyl Chloride releases in Fulton and Clayton Counties;
- Sulfuric acid spill in Fulton County;
- Multiple tanker roll overs throughout GA releasing thousands of gallons of gasoline and diesel fuel;
- Multiple train derailments resulting in the release of thousands of gallons of oil and diesel fuel;
- 1,200 gallons of gasoline spilled into Lake Thurmond Reservoir;
- Mercury spill in Whitfield County; and
- Multiple sunken vessels along Georgia's coast.

5.11.3 Impact on Public: Cities within Georgia with dense populations, particularly along major travel routes, are the most vulnerable (with an emphasis on any particularly vulnerable groups, such as infants and young children in day-care centers, children in schools, the elderly in residential facilities, hospital patients, etc.).

5.11.4 Impacts to Public Health: Varying chemicals will have different effects on the population as well as environmental effects which will dilute or increase the chemical releases potency. Protective measures will need to be taken particularly for those of the most vulnerable communities.

5.11.5 Impact on Responders: Varying chemical incidents can create a dangerous environment and significant challenge for first responders. First responders may have to manage the evacuation of people from the area impacted by a chemical incident, as well as direct traffic, close roads, operate shelters, and take care of the injured

and sick. First responders must control their own exposure to the chemical incident and ensure the correct PPE is utilized. Equipment may also be damaged or destroyed due to the impact of the chemical incident, which may lead to a decrease in response capabilities.

5.11.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Hazardous Material Spill/Release that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.11.7 Delivery of Services: The ability to deliver services can be impacted locally, regionally, or statewide depending on the characteristics of the chemical incident. To reduce the public's potential exposure to dangerous chemicals, roadway and bridge closures may be required, as well as transit service disruptions. Businesses and places of commerce may completely shut down due to chemical incidents, which leads to the disruption of goods and services.

5.11.8 Property, Facilities, and Infrastructure: Transportation, governmental operations, and infrastructure facilities may be disrupted during a significant chemical incident. Roads and bridges can be completely obstructed by chemical releases and required cleanup. Chemical incidents can impact access to homes and critical entities such as hospitals, schools, and supermarkets, as well as other critical facilities. Safe access to homes, vehicles, structures, and resources may adversely affect response activities. Power loss can lead to disruption of critical infrastructure and technology.

5.11.9 Impact on Environment: Agriculture crops and livestock are extremely susceptible to the adverse effects of chemicals and the potential of a spill or contamination of a large area of land. Chemical incidents may impact the environment directly by causing pollution, damaging sewer and wastewater treatment plants; or disturbing or killing wildlife and adversely affecting nature preserves.

5.11.10 Impact on State Economy: Severe chemical incidents pose a fiscal impact on the local and state governments. Local, county, and state resources may be required during a large chemical incident therefore reducing their availability for future events. Additionally, private businesses may not be able to maintain operations during or after an incident if they are impacted, which would impact the economy.

5.11.11 Public Confidence in the State's Governance: The public's confidence in the state's governance is affected by immediate local and state response through

direct and effective actions. Efficiency in response and recovery operations is critical in keeping public confidence high.

5.12 Dam Failure

5.12.1 Hazard Description: A dam is a constructed barrier across flowing water that obstructs, directs, or slows the velocity of the water, creating a reservoir, lake, or impoundment. The structure's purpose is to retain water for a variety of purposes such as generating power, providing water for irrigation or water supply, or controlling flooding.

The threat of dam failures is triggered by carelessness of design, construction, and maintenance. The integrity of older dams, often affected by weathering, mechanical changes, and the influence of chemical agents, is deteriorating. Not only is dam failure risk increasing (with aging infrastructure) but the population vulnerable to this hazard is also increasing due to downstream development.

Dam failures are generally grouped into three classifications: hydraulic, seepage, and structural. The three types of failure sometimes compound upon one another to create complex and interrelated hazard events.

Hydraulic failures are a result of the uncontrolled flow of water over and around the dam structure as well as the erosive action on the dam and its foundation. The uncontrolled flow causing the failure is often classified as wave action, toe erosion, or gullying. Earthen dams are particularly susceptible to hydraulic failure because earthen materials erode at relatively slow velocities. This type of failure constitutes approximately 40% of all dam failures.

While all dams exhibit some seepage, the velocity and amount of water are controlled to prevent failure. Seepage occurs through the structure and its foundation and erodes the structure from within. Seepage accounts for approximately 4% of all dam failures.

Structural failure involves the rupture of the dam or the foundation by water movement, earthquake, or sabotage. Large earthen dams and dams constructed with weak materials (such as silt) are especially susceptible to structural failure. This type of failure accounts for approximately 30% of all dam failures.

5.12.2 Previous Major Occurrences: Kelly Barnes Dam, Toccoa, Georgia. The original structure consisted of a rock crib dam built in 1899 to create a small reservoir for a hydroelectric plant. The Toccoa Falls Bible Institute built an earthen dam over the original rock crib dam in 1937 to develop a more stable electric power source. The dam structure was raised several times, reaching 42 feet above the rock foundation by 1957, when power production was halted, and the reservoir was solely utilized for recreation. At around 1:30 am on Sunday, November 6, 1977, the Kelly Barnes Dam failed. This collapse resulted in a flash flood that swept downstream causing 39 fatalities and caused \$2.3 million in property damage. The sole cause of the failure is undetermined, but the probable causes include a local slide on the steep downstream slope probably associated with piping (form of seepage) and a localized

breach in the crest followed by progressive erosion, saturation of the downstream embankment, and the subsequent total collapse of the structure.

Other dam failures have occurred in Georgia with some related to the spring of 1990 flooding and the July 1994 flooding associated with Tropical Storm Alberto. However, these dam failures were not documented as having a significant contribution to already flooded conditions.

5.12.3 Impact on Public: Dam failures impact those living near the incident area by resulting in flooding, power outages, property damage, and injury or death. Evacuations of the incident zone may require the victims to be sheltered. Roadways may be inaccessible to the public, inhibiting their ability to receive help.

5.12.4 Impacts to Public Health: Fast-moving water and debris-filled water are very dangerous to the public and can result in injury or death. Standing water poses health risks to the public because it can contain or foster diseases.

5.12.5 Impact on Responders: A dam failure may cause inaccessibility of transportation routes or damage to resources. Flooding from a dam failure puts responders in dangerous situations including performing swift high-water rescues, facilitating evacuations, and controlling traffic.

5.12.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of dam failure that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.12.7 Delivery of Services: Delivery of services may be disrupted due to transportation issues or access to goods. Public transportation may also be affected preventing victims from getting goods and services they need. Loss of power and communication could directly or indirectly affect all levels of response to the incident area.

5.12.8 Property, Facilities, and Infrastructure: Flooding from dam failures will damage or destroy all property, facilities, or infrastructure in its path. Roads, bridges, and other critical facilities may be directly or indirectly impacted from the rush of water and debris. Water and wastewater plants may become overwhelmed causing sanitation issues. Homes and businesses may be damaged or destroyed if near the incident.

5.12.9 Impact on Environment: Environmental impacts of a dam failure include flooding, moving debris, disturbance of pollutants, and overloading of water and wastewater treatment plants. Ecosystems could be heavily affected causing death or migration of wildlife.

5.12.10 Impact on State Economy: The fiscal impacts on the state economy will be due to a disruption in transportation routes inhibiting citizens' ability to travel to and from work and businesses. The utilization of resources at all levels of government will also add stress to the state's economy.

5.12.11 Public Confidence in the State's Governance: Governmental response must be immediate and effective to maintain public confidence. If the state is disorganized in its response operations or takes too long to begin recovery operations, the public may lose confidence in the government's ability to manage the event.

5.13 Infrastructure Failure

5.13.1 Hazard Description: Infrastructure in the United States is becoming more prone to failure as the average age of structures increases. Infrastructure is owned and managed by both the public and private sector and includes a number of structures that improve living conditions and commerce, including schools, hospitals, roads, bridges, dams, sewers, and energy systems. Between 2000 and 2009, the average age of government and privately-owned structures (excluding housing) increased by about one year. For government structures, the trend was even more pronounced over the long term—United States structures' average age rose from 18 years in 1970 to 25 in 2009, indicating that structures are being replaced at a slower rate. Bridges are generally designed to last 50 years, and the average bridge in the United States is 43 years old. Georgia has almost 800 structurally deficient bridges and over 2,000 functionally obsolete bridges.

Metro Atlanta's current system of multiple transit providers is inefficient, as well as time-consuming and confusing to the users. Metropolitan Atlanta Rapid Transit Authority is the largest transit agency in the country that does not receive state funding support for operations. Collaboration between governments is needed to establish a truly regional, accessible transit system in Georgia. Although traffic fatalities have been significantly reduced in the last five years, Georgia's traffic fatality rate is still well above the national average. Metro Atlanta is congested during peak commute hours.

Georgia has 191 wastewater plants with capacities over 1 million gallons per day. Tightening water quality standards such as instream nutrient level limits will likely require utilities to implement additional treatment processes and technologies. Reducing and eliminating sewer overflows must receive the focused attention of utilities. Also, improving maintenance programs with techniques such as expanded asset management is critical. These challenges underscore the need for workforce development to recruit qualified staff and keep up with advancing technologies.

5.13.2 Previous Major Occurrences: March 30, 2017 – A bridge collapsed on Interstate 85 in Atlanta, Georgia, after a massive fire. After the collapse of the 100-foot-long section, I-85 was closed to traffic over approximately two miles (between its split with I-75 and the interchange with State Route 400). Three sections of

northbound I-85 and three sections of southbound I-85 were replaced by May 13, 2017.

April 21, 2017 – An internet outage today disrupted Georgia Milestones testing across the state. As a result, some districts including Gwinnett and Clayton had to delay testing. A Department of Education spokesman reported “PeachNet (state internet provider) went down for a little while this morning. We had 124 districts testing. According to IT for GaDOE, 22 districts remained out as of late this morning. Some delayed testing today.”

December 17, 2017 – A major power outage halted air traffic at Hartsfield-Jackson Atlanta International Airport for 11 hours, grounding all the hub's outgoing flights and halting incoming traffic for tens of thousands of travelers hoping to land at the world's busiest airport. The outage, reported after a fire ravaged an underground power substation, forced travelers out of the darkened terminal and into an icy rain for hours, witnesses reported. It stranded others on Atlanta's tarmac as they waited to get off of incoming flights.

5.13.3 Impact on Public: Critical infrastructure failures impact those living within the hazard area and surrounding areas and can lead to heavy flooding, power loss, property damage, injury, and even death. Extensive flooding and damage may lead to the evacuation and displacement of those individuals in the impact zone. Roadways may be obstructed or inaccessible to the public, challenging transport and resource acquirement activities.

5.13.4 Impacts to Public Health: A failure of critical infrastructure, regardless of which piece of the infrastructure failed, would have a direct impact on public health. Power outages, transit failures, access to clean water would all be critical infrastructure failures which would create severe and immediate public health impacts.

5.13.5 Impact on Responders: Infrastructure failure would have a direct and immediate impact on first responder's ability to respond effectively. Critical infrastructure failure may cause inaccessibility of roadways for first responders as well as damage of materials and resources. Communications system failure would impact the responders' ability to communicate their status or communicate through their command system to identify areas that require response.

5.13.6 Continuity of Operations: GEMA/HS maintains a Continuity of Operations Plan. In the event of Infrastructure failure that affects the state's operations, the Agency will enact the COOP appropriately to the situation. To date, there have been few or no major incidents that have shut down state, county, or municipal governmental operations. While expectation is minimal, this threat may impact GEMA/HS ability to implement their COOP based on the hazard's potential to cause power outages and transportation difficulties. If activation of alternate facilities occurs, travel may be difficult. Additionally, computer/network and other communication access may be impacted due to power outages.

5.13.7 Delivery of Services: Delivery of services will be disrupted due to critical infrastructure failure. Transit systems may face closures due to public safety concerns due to inability to operate transportation vehicles such as trains and buses. The ability to deliver food, drinking-water, and services will be impacted locally, regionally, and statewide due to problems with accessibility and transport abilities. Communications, transportation, and governmental services operations would be impacted due to power failure and accessibility challenges.

5.13.8 Property, Facilities, and Infrastructure: Roads and bridges may be impacted and water and sewer systems may be damaged, leading to the issue of sanitation and waste collection. Property of homes and businesses may be completely destroyed if situated close to the failure point.

5.13.9 Impact on Environment: The impacts on the environment of critical infrastructure would vary based on the event and impact. Failure of wastewater plants would result in spreading pollution and hazardous materials throughout the environment including large bodies of water. Ecosystems and natural habitats may be destroyed, causing migration.

5.13.10 Impact on State Economy: Critical infrastructure failure would have a direct and considerable fiscal impact on the State government, even after some of the costs have been paid through federal disaster declarations if the failure was caused by another hazard. Additionally, infrastructure failure in every sector has the potential to impact the ability of businesses to operate. If the private sector is not able to maintain operability, there would be continued revenue loss until operability is restored.

5.13.11 Public Confidence in the State's Governance: Critical infrastructure failure would have a direct and immediate impact on the state's ability to provide governance, maintain order, and ensure the continuity of public services. If there were delays in restoring infrastructure, and any services contingent on this infrastructure, the public would become increasingly distrustful of the government's ability to restore services and ensure public safety and wellbeing. Direct, immediate, and effective actions must be taken to maintain public confidence. Response activities must include all levels of government.

6.0 OVERALL HAZARDS RESULTS AND SUMMARY

The preceding hazard sections discussed the probability, impacts, vulnerabilities, and risk for each of the natural, human-caused, and technological hazards determined to have a significant impact on the population, facilities, and infrastructure in the State of Georgia. This final sub-section to the HIRA provides an overall assessment and summary of the individual hazard analyses.

6.1 Composite Hazard Priorities

Hazard: Severe Weather

Risk Assessment: Frequency: 7 X Consequence: 5 = 35 Extreme

Associated Hazards:

- Thunderstorms;
- High Winds;
- Lightning;
- Hail;
- Tornado (*Most Significant Hazard in Georgia*)

Table 12 for Severe Weather

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
6	2	2	2	1	1	14

Hazard: Infrastructure Failure

Risk Assessment: Frequency: 6 X Consequence: 6 = 36 Extreme

Associated Hazards:

- Communications
- Transportation
- Energy
- Public Works

Table 12 for Infrastructure Failure

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
10	2	3	1	2	2	20

Hazard: Cyber Attack

Risk Assessment: Frequency: 6 X Consequence: 6 = 36 Extreme

Associated Hazards:

- Hacking/Phishing
- Infrastructure Disruptions
- Ransomware/Malware Attacks
- Network Intrusion/Disruptions
- Transpiration Intrusion/Disruptions

Table 12 for Cyber Attack

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
10	0	3	0	2	2	17

Hazard: Hazardous Material Spill/Release

Risk Assessment: Frequency: 6 X Consequence: 6 = 36 Extreme

Associated Hazards:

- Injury
- loss of life
- property and environmental damage

Table 12 for Hazardous Material Spill/Release

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
5	2	2	3	1	1	14

Hazard: Inland Flooding

Risk Assessment: Frequency: 6 X Consequence: 5 = 30 Extreme

Associated Hazards:

- River Flooding;
- Flash Flooding;
- Urban Flooding.

Table 12 for Inland Flooding

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
2	2	3	2	1	1	11

Hazard: Tropical Cyclone

Risk Assessment: Frequency: 5 X Consequence: 6 = 30 Extreme

Associated Hazards:

- Storm Surge;
- High Winds;
- Heavy Rainfall;
- Tornado.

Table 12 for Tropical Cyclone

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
10	3	3	3	2	2	23

Hazard: Active Shooters

Risk Assessment: Frequency: 5 X Consequence: 6 = 30 Extreme

Associated Hazards:

- Explosives/Improvised Explosive Devices
- Vehicle Ramming
- Sniper Attack
- Hostage Taking

Table 12 for Active Shooter

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
8	2	1	1	1	2	15

Hazard: Winter Weather

Risk Assessment: Frequency: 4 X Consequence: 4 = 16 High

Associated Hazards:

- Snow;
- Ice;
- Freezing Rain;
- Sleet;
- Blizzard;
- Extreme Cold.

Table 12 for Winter Weather

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
4	1	2	1	1	0	9

Hazard: Infectious Diseases

Risk Assessment: Frequency: 6 X Consequence: 1 = 6 Low

Associated Hazards:

- Food borne diseases;
- Agricultural disease outbreaks;
- Novel disease outbreaks.

Table 12 for Infectious Diseases

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
3	0	0	0	1	1	5

Hazard: Dam Failure

Risk Assessment: Frequency: 2 X Consequence: 3 = 6 Low

Associated Hazards:

- Downstream Flooding;
- Erosion;
- Property Damage;
- Environmental Damage;
- Transportation Disruption;
- Infrastructure Disruption.

Table 12 for Dam Failure

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
2	1	1	2	1	1	8

Hazard: Geologic Hazards

Risk Assessment: Frequency: 2 X Consequence: 2 = 4 Very Low

Associated Hazards:

- Earthquake;
- Sinkhole;
- Landslide.

Table 12 for Geologic Hazards

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
0	1	1	2	1	0	5

Hazard: Drought/Wildfire

Risk Assessment: Frequency: 1 X Consequence: 2 = 3 Very Low

Associated Hazards:

- Extreme Heat;
- Wildfires;
- Smoke;
- Water Shortage.

Table 12 for Drought/Wildfire

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
0	1	1	2	1	1	6

Hazard: Radiological Release

Risk Assessment: Frequency: 1 X Consequence: 3 = 3 Very Low

Associated Hazards:

- Radiological contamination impact areas:
 - Individuals (Physical and Psychological Health)
 - Property (Private / Commercial / Governmental)
 - Environment (Air / Land / Water)
 - Infrastructure (Private / Commercial / Governmental)

- Agriculture
- Zoological
 - Economy (Restricted Use Space / Consumer Confidence)

Table 12 for Radiological Release

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/Financial Impact	Psycho-social Impact	Sub-variable Total
2	1	1	3	1	1	9

7.0 PLAN MAINTENANCE

GEMA/HS is the responsible agency for publishing the Hazard Identification and Risk Assessment. The Deputy Director of Emergency Management will oversee the update and maintain this plan as required. Appropriate officials in state agencies should recommend changes at any time and provide information periodically as to changes of personnel and available resources. All changes will be referred to the GEMA/HS Planning Section Manager.

This plan will be updated in accordance with the Plans Standardization and Maintenance Policy and the Plans Schedule.

8.0 ANNEXES

Annex A Acronyms

CA – Consequence Analysis

CI – Critical Infrastructure Service Impact

COOP – Continuity of Operations Plan

DDOS – Distributed Denial of Service

EMAP – Emergency Management Accreditation Program

EPZ – Emergency Planning Zone

Fin-Tech – Finance & Technology Industries

GDOA – Georgia Department of Agriculture

GEMA/HS – Georgia Emergency Management and Homeland Security Agency

HIRA – Hazard Identification and Risk Assessment

HMS – Hazard Mitigation Strategy
IPZ – Ingestion Pathway Zone
NCADAC – National Climate Assessment and Development Advisory Committee
NCEI – National Center for Environmental Information
NRC – Nuclear Regulatory Commission
NWS – National Weather Service
REP – Radiological Emergency Preparedness
SCADA – Supervisory Control and Data Acquisition
SEAR – Special Event Assessment Rating
SME – Subject-Matter Experts
SNAP – Supplemental Nutrition Assistance Program
TANF – Temporary Assistance for Needy Families
THIRA – Threat and Hazard Identification and Risk Assessment
WIC – Woman Infant and Children

Hazard Profile / Vulnerability Analysis Instructions

1. **Hazard Identification** - In this step identify the hazards that have the largest and probable impact. This requires a review of all hazards and their causes to determine whether they may be a threat. This may require the consultation of the scientific community, historical records government agencies and other stakeholders. List the identified hazards in table 1 below by natural, human-caused, or technological hazards. Use table two to explain how and why the hazard was identified.
2. **Hazard Profile:** - In this step the level of risk for each hazard is examined using a risk assessment. This may involve speaking with hazard experts, researching past occurrences and possible scenarios. The likelihood of the hazard occurring and the potential impacts of the hazard on people, property, the environment, business and finance and critical infrastructure should be examined. The desired outcome of the risk assessment is the ranking of the hazards.
3. **Vulnerability Analysis** - The information collected in the hazard profile step will be analyzed in this step. This highlights the hazards that should be considered a current priority for your emergency management program.
4. **Monitor and Review** - It is important to remember that a HIRA is an ongoing process and hazards, and their associated risks must be monitored and reviewed.

Table 1 Hazard Identification and Hazard Grouping

Natural Hazards	Human Caused Hazards	Technological Hazards

Table 2 Hazard Identification Process

Hazard of Concern	How and Why hazard was Identified

Hazard Profile Steps:

1. **Hazard:** List a hazard from table 1 above.
2. **Associated Hazards:** List any associated hazards for the main hazard.
3. **Risk Assessment:** Frequency (Table 3) * Consequence (Table 13) = level of risk in table 14
 - a. **Obtain Frequency:** Use Table 3 below to record the frequency of the hazards and add to Hazard Profile and Consequence Analysis Worksheet in Annex C.

Table 3 Likelihood of hazard occurrence

Frequency	Category	Percent Chance	Description
1	Rare	Less than a 1% chance of occurrence in any year.	Hazards with return periods >100 years.
2	Very Unlikely	Between a 1- 2% chance of occurrence in any year.	Occurs every 50 – 99 years and includes hazards that have not occurred but are reported to be more likely to occur in the near future.
3	Unlikely	Between a 3 – 10% chance of occurrence in any year.	Occurs every 20 – 49 years
4	Probable	Between an 11 – 50% chance of occurrence in any year.	Occurs every 5 – 19 years
5	Likely	Between a 51 – 99% chance of occurrence in any year.	Occurs >4 years.
6	Almost Certain	100% chance of occurrence in any year.	The hazard occurs annually.

b. **Vulnerability** : Vulnerability is divided into six categories based on recommended practices. Use Table 4 – 11 below to record the frequency of the hazards that could affect your community. **Note:** The social impacts sub variable is further divided into the fatality rate, injury rate and evacuation rate.

Social Impacts - The direct negative effects of a hazard on the physical health of people. Social Impacts include fatalities, injuries, and evacuation.

Table 4 Fatalities

Vulnerability	Category	Description
0	None	Not likely to result in fatalities within the community.
1	Minor	Could result in fewer than five fatalities within the community.
2	Moderate	Could result in 5 – 10 Fatalities within the community.
3	Severe	Could result in 10-50 fatalities within the community.
4	Catastrophic	Could result in 50+ fatalities within the community.

Table 5 Injuries

Vulnerability	Category	Description
0	None	Not likely to result in injuries within the community.
1	Minor	Could injure fewer than 25 people within community.
2	Moderate	Could injure 25 – 100 people within the community.
3	Severe	Could injure +100 people within the community.

Table 6 Evacuation

Vulnerability	Category	Description
0	None	Not likely to result in an evacuation shelter-in-place orders, or people stranded.
1	Minor	Could result in fewer than 100 people being evacuated, sheltered-in-place or stranded.
2	Moderate	Could result in 100 - 500 people being evacuated, sheltered-in-place or stranded.
3	Severe	Could result in more than 500 people being evacuated, sheltered-in-place or stranded.

Property Damage - The direct negative effects of a hazard on buildings, structures, and other forms of property, such as crops.

Table 7 Property Damage

Vulnerability	Category	Description
0	None	Not likely to result in property damage within the community.
1	Minor	Could cause minor and mostly cosmetic damage.
2	Moderate	Localized severe damage (a few buildings destroyed).
3	Severe	Widespread severe damage (many buildings destroyed).

Critical Infrastructure Service Disruptions/Impact - The negative effects of a hazard on the interdependent, interactive, interconnected networks of institutions, services, systems, and processes that meet vital human needs, sustain the economy, protect public safety and security, and maintain continuity of and confidence in government.

Table 8 Critical Infrastructure Service Impact (CI)

Vulnerability	Category	Description
0	None	Not likely to disrupt critical infrastructure services.
1	Minor	Could disrupt 1 critical infrastructure service.
2	Moderate	Could disrupt 2 – 3 critical infrastructure services.
3	Severe	Could disrupt more than 3 critical infrastructure services.

Environmental Damage - The negative effects of a hazard on the environment, including the soil, water, air and/or plants and animals.

Table 9 Environmental Damage

Vulnerability	Category	Description
0	None	Not likely to result in environmental damage.
1	Minor	Could cause localized and reversible damage. Quick clean up possible.
2	Moderate	Could cause major but reversible damage. Full clean up difficult.
3	Severe	Could cause severe and irreversible environmental damage. Full clean up not possible.

Business/Financial Impact - The negative economic effects of a hazard.

Table 10 Business/Financial Impact

Vulnerability	Category	Description
0	None	Not likely to disrupt business/financial activities.
1	Moderate	Could result in losses for a few businesses.
2	Severe	Could result in losses for an industry.

Psychosocial Impacts - The negative response of community or a subset of the community to a hazard caused by their perception of risk. This includes human responses such as self-evacuation, mass panic and other potential undesirable responses.

Table 11 Psychosocial Impact

Vulnerability	Category	Description
0	None	Not likely to result in significant psychosocial impacts.
1	Moderate	Significant psychosocial impacts including limited panic, hoarding, self-evacuation and long-term psychosocial impacts.
2	Severe	Widespread psychosocial impacts, e.g. mass panic, widespread hoarding and self-evacuation and long-term psychological impacts.

The total vulnerability value can be obtained by adding the values obtained from each of the sub variables.

Table 12 Total Vulnerability

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/ Financial Impact	Psycho-social Impact	Sub-variable Total

Once the vulnerability values have been added up, they are put into groups as shown in the table below.

Table 13

Sub Total Variable	Vulnerability	Description
1 - 4	1	Minor
5- 6	2	Slight
7- 8	3	Moderate
9 - 10	4	Severe
11 - 12	5	Very Severe
+13	6	Catastrophic

This gives equal weight to Vulnerability and Frequency.

Risk Amassment

Once you have completed the Frequency, Vulnerability Work Sheets, you can now begin to prioritize your hazards by using the HIRA equation:

$$\text{Risk} = \text{Frequency} * \text{Vulnerability}$$

Table 14

Level of Risk		Level of Risk	
< 5	Very Low	16- 20	High
6 -10	Low	21- 25	Very High
11- 15	Moderate	> 25	Extreme

Consequence Analysis steps:

1. **Hazard:** Retype hazard and add level of Risk.
4. **Hazard Description:** Type one to two paragraphs about the selected hazards including all associated hazards.
5. **Previous Major Occurrences:** Discuss only the last two or three times the selected hazard had a major impact on the State.
 - a. Or if there are no major impacts of the selected hazard, list the last two or three times the hazard has occurred,
 - b. Or if the selected hazard has not occurred, list worst case scenarios.
6. **Impact on Public:**

- 7. Impacts to Public Health:
- 8. Impact on Responders:
- 9. Continuity of Operations:
- 10. Delivery of Services:
- 11. Property, Facilities, and Infrastructure:
- 12. Impact on Environment:
- 13. Impact on State Economy:

Annex C Hazard Profile / Vulnerability Analysis Worksheet

Hazard Profile / Vulnerability Analysis Worksheet

Hazard Profile

- 1. **Hazard:** List the hazard from table 1 from the Hazard Profile / Vulnerability Analysis Instructions
- 2. **Associated Hazards:** List any associated hazards for the main hazard.
- 3. **Risk Assessment:** Frequency (Table 2) * Vulnerability (Table 12) = level of risk table 13
 - a. **Frequency:** Add a (1-6) from table 2 from the Hazard Profile / Consequence Analysis Instructions
 - b. **Vulnerability :** Use the sub-variable total from table 11 to find consequence in table 12.

Table 11: Use tables 3-10 to fill in table 11. **Note:** Social impacts is tables 3-5 added together.

Social Impacts	Property Damage	Critical Infrastructure Impact	Environmental Damage	Business/ Financial Impact	Psycho-social Impact	Sub-variable Total
Add Tables 3-5	Table 6	Table 7	Table 8	Table 9	Table 10	Total of tables 3-10

Consequence Analysis

- 1. Hazard:
- 2. Hazard Description:
- 3. Previous Major Occurrences:
- 4. Impact on Public:
- 5. Impacts to Public Health:
- 6. Impact on Responders:
- 7. Continuity of Operations:

- 8. Delivery of Services:**
- 9. Property, Facilities, and Infrastructure:**
- 10. Impact on Environment:**
- 11. Impact on State Economy:**
- 12. Public Confidence in the State's Governance:**

Annex C-Data Sources for Updates

1. Statistical Data Updates for Hazard Evaluation

Weather Statistics (Bulk data download)

<https://www.ncdc.noaa.gov/stormevents/ftp.jsp>

Additional information from GEMA/HS Hazard Mitigation.

**Note – Currency will have to be edited/formatted to provide useful data due to multiple entry methods for different years.

Earthquake Statistics

Earthquake Catalog <https://earthquake.usgs.gov/earthquakes/search/>

**Note – Draw Rectangle on map and export. Use GIS to sort all earthquakes inside GA borders.

Active Shooter Statistics

Provided by GEMA/HS Homeland Security.

Critical Infrastructure Failure Statistics

Provided by GEMA/HS CIKR Section.

Infectious Disease Statistics

Provided by GDPH Epidemiology Section.

Cyber Statistics

Provided by Georgia Technology Authority.

**Note – ESF 17 may be able to assist in the future.

Hazardous Material Release Statistics

DNR-EPD Complaint Tracking System: <https://epd.georgia.gov/rules-laws-enforcement/complaint-tracking-system>

**Request Login through EPD Hazardous Materials

Dam Statistics

Dam Breach data source: Provided by Safe Dam Program Manager.

Hurricane Tracks

<https://coast.noaa.gov/hurricanes/#map>

Lightning Data

<https://interactive-lightning-map.vaisala.com/>

2. Disaster Declarations

<https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>

Additional information from GEMA/HS Recovery Division.

3. Data for Table 15

State owned holdings data source:

State of Georgia Building Land and Lease Inventory of Property Public Access GIS <https://www.realpropertiesgeorgia.org/PublicHome/Index?ReturnUrl=%2f>

State route mileage report data source:

http://www.dot.ga.gov/DriveSmart/Data/Documents/400%20Series/437/437_Report_2020.pdf

Interstate miles report found at:

http://www.dot.ga.gov/DriveSmart/Data/Documents/400%20Series/438/438_Report_2020.pdf

Local Law Enforcement data source:

HIFLD Open Data : Local Law Enforcement Locations : Local Law Enforcement Locations (arcgis.com)

Fire stations data source:

<https://hifld-geoplatom.opendata.arcgis.com/datasets/fire-stations/explore?filters=eyJTVkVURSI6WyJHQSJdfQ%3D%3D&location=32.646826%2C-83.218428%2C7.70>

Hospital data source:

HIFLD Open Data : Hospitals : Hospitals (arcgis.com)

911 Center Data Source:

<https://gema.georgia.gov/local-911-center-directory>

First Responder's Comm towers and fixed gateways data source:

Requested from GECA

TV Digital Station Transmitters data source:

HIFLD Open Data : TV Digital Station Transmitters : TV Digital Station Transmitters (arcgis.com)

AM towers data source:

HIFLD Open Data : AM Transmission Towers : AM Transmission Towers (arcgis.com)

FM towers data source:

HIFLD Open Data : FM Transmission Towers : FM Transmission Towers
(arcgis.com)

Cell Towers data source:

HIFLD Open Data : Cellular Towers : Cellular Towers (arcgis.com)

City Halls data source:

HSIP Gold 2015 data

Housing Units and Mobile Homes data source:

American Community Survey Vintage 2015 - 2019, data was obtained from
Census on December 11, 2020. [https://gema-
soc.maps.arcgis.com/home/item.html?id=a6549bd25a0e42bbab8758efd49a54b4](https://gema-soc.maps.arcgis.com/home/item.html?id=a6549bd25a0e42bbab8758efd49a54b4)

Airport data source:

USA Airports - Overview (arcgis.com)

Dam Inventory data source:

[https://epd.georgia.gov/document/document/inventory-dams-november-
2019/download](https://epd.georgia.gov/document/document/inventory-dams-november-2019/download)

Fishing and Boating Access/Marina data source:

WRD_Water_Access_Points - Overview (arcgis.com)

Appendix D-V
Local and State Risk
Assessment Data

Local Critical Facilities Risk Data from GMIS																		
Special Flood Hazard Area			>90MPH Winds			Seismic 2% Chance exceeding 33-83%			Wildfire Moderate to High Risk			SLOSH Cat 1 and 2			Landslide at Risk			
County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	
Appling	\$74,522,233	8	Appling	\$307,681,859	139	Bartow	\$2,242,584,456	418	Appling	\$170,910,162	66	Camden	\$48,185,214	28	Banks	\$52,673,255	24	
Atkinson	\$200,000	4	Atkinson	\$147,994,869	85	Bryan	\$6,440,795	10	Atkinson	\$78,057,700	68	Chatham	\$153,006,060	47	Barrow	\$104,877,225	94	
Baker	\$377,970	1	Bacon	\$291,948,158	151	Bulloch	\$3,044,828	3	Bacon	\$79,894,490	64	Glynn	\$797,224,896	213	Bartow	\$2,149,649,396	300	
Baldwin	\$7,382,993	5	Baker	\$8,710,125	12	Burke	\$20,392,677	25	Baker	\$3,345,900	6	Liberty	\$2,540	1	Carroll	\$141,785,341	11	
Barrow	\$87,088	3	Baldwin	\$761,813,314	180	Catoosa	\$253,947,672	84	Baldwin	\$215,390,819	49	McIntosh	\$5,365,150	3	Catoosa	\$253,947,672	84	
Bartow	\$14,000,000	14	Ben Hill	\$306,616,172	34	Chatham	\$3,240,646,870	206	Banks	\$38,828,523	18				Chattooga	\$119,816,558	41	
Berrien	\$2,812,873	3	Berrien	\$187,642,316	94	Chattooga	\$119,816,558	41	Barrow	\$49,723,637	53				Cherokee	\$1,455,091,548	206	
Bibb	\$90,300,000	7	Bibb	\$1,404,723,802	287	Cherokee	\$568,805,838	102	Bartow	\$1,898,635,776	210				Clarke	\$2,311,724,420	686	
Bleckley	\$3,050,000	4	Bleckley	\$412,934,500	82	Columbia	\$1,301,623,851	231	Ben Hill	\$155,698,759	12				Cobb	\$1,499,792,492	459	
Brantley	\$173,590	4	Brantley	\$51,048,091	88	Dade	\$109,990,593	44	Berrien	\$149,751,971	63				Dade	\$109,990,593	44	
Bryan	\$4,329,576	6	Brooks	\$171,223,846	40	Dawson	\$12,192,989	15	Bibb	\$650,905,245	171				Dawson	\$54,362,712	118	
Bulloch	\$1,353,100	4	Bryan	\$106,502,772	49	Effingham	\$1,169,649,004	82	Bleckley	\$394,021,500	58				Decatur	\$173,100	1	
Burke	\$85,000	1	Bulloch	\$1,550,217,346	157	Elbert	\$561,175,786	137	Brantley	\$33,107,726	69				DeKalb	\$1,513,777,330	70	
Butts	\$75,579,070	7	Burke	\$210,154,942	122	Fannin	\$80,792,140	50	Brooks	\$31,817,180	17				Douglas	\$1,447,811,614	63	
Calhoun	\$5,000	1	Calhoun	\$43,583,538	70	Floyd	\$2,949,533,655	268	Bryan	\$77,710,799	33				Elbert	\$568,603,032	158	
Camden	\$15,865,170	12	Camden	\$257,010,023	139	Franklin	\$14,000,000	14	Bulloch	\$745,811,295	91				Fannin	\$80,792,140	50	
Candler	\$1,050,000	3	Candler	\$232,760,134	88	Gilmer	\$94,629,400	92	Burke	\$102,666,066	61				Floyd	\$2,949,533,655	268	
Carroll	\$0	6	Catoosa	\$253,947,672	84	Gordon	\$136,516,778	98	Butts	\$100,743,388	97				Forsyth	\$2,454,540,403	371	
Catoosa	\$16,395,214	9	Charlton	\$456,364,614	100	Habersham	\$23,297,330	10	Calhoun	\$24,158,154	53				Franklin	\$63,000,000	58	
Charlton	\$247,500	2	Chatham	\$3,240,646,870	206	Haralson	\$750,000	2	Camden	\$176,081,310	106				Fulton	\$4,804,664,189	582	
Chatham	\$128,439,260	55	Chattahoochee	\$9,231,278	17	Hart	\$75,990,666	47	Candler	\$170,765,936	46				Gilmer	\$93,629,400	91	
Chattooga	\$10,664,000	7	Chattooga	\$119,816,558	41	Lincoln	\$63,282,768	47	Carroll	\$358,414,025	219				Gordon	\$114,500,928	73	
Cherokee	\$31,049,700	10	Clay	\$46,107,813	45	Lumpkin	\$80,139,118	33	Catoosa	\$160,420,930	55				Gwinnett	\$6,595,754,378	863	
Clarke	\$1,851,500	12	Clinch	\$101,143,906	51	McDuffie	\$101,941,500	54	Charlton	\$348,135,214	66				Habersham	\$229,365,770	73	
Clay	\$16,100,000	4	Coffee	\$906,579,574	132	Murray	\$69,820,000	43	Chatham	\$363,071,730	136				Hall	\$1,272,644,247	201	
Clayton	\$3,818,500	1	Colquitt	\$313,486,682	128	Oglethorpe	\$373,431	2	Chattahoochee	\$7,906,095	12				Hart	\$76,248,766	50	
Clinch	\$3,000,000	1	Columbia	\$1,471,230,022	299	Paulding	\$144,476,419	9	Chattooga	\$102,283,598	26				Jackson	\$106,766,628	151	
Cobb	\$15,486	2	Cook	\$198,051,152	58	Pickens	\$120,897,525	78	Cherokee	\$816,741,432	159				Lincoln	\$250,000	2	
Colquitt	\$2,429,580	14	Crawford	\$48,081,343	69	Polk	\$650,328,517	158	Clarke	\$780,013,508	351				Lumpkin	\$139,161,212	59	
Columbia	\$1,273,747	8	Crisp	\$1,220,614,443	179	Rabun	\$143,417,478	58	Clay	\$22,251,580	29				Madison	\$1,390,968,616	46	
Cook	\$2,363,900	7	Dade	\$109,990,593	44	Richmond	\$317,421,735	186	Clayton	\$591,977,963	99				Marion	\$175,000	1	
Coweta	\$12,021,642	9	Decatur	\$302,432,101	90	Screven	\$105,505,904	52	Clinch	\$63,152,070	30				Murray	\$63,705,000	36	
Crawford	\$1,984	1	Dodge	\$140,631,013	138	Stephens	\$241,312,111	177	Cobb	\$1,125,192,152	313				Oconee	\$198,320,797	145	
Crisp	\$8,723,860	8	Dooley	\$223,744,411	92	Taliaferro	\$215,000	3	Coffee	\$363,248,114	75				Oglethorpe	\$94,541,747	84	
Dade	\$1,543,197	3	Dougherty	\$576,973,749	177	Towns	\$52,692,397	41	Colquitt	\$221,357,048	72				Paulding	\$562,910,007	89	
Dawson	\$7,000,000	8	Early	\$98,866,919	68	Union	\$58,830,670	86	Columbia	\$802,153,702	184				Pickens	\$120,897,525	78	
Decatur	\$11,637,169	4	Echols	\$100,179,421	27	Walker	\$142,344,078	89	Cook	\$143,994,052	42				Polk	\$649,081,760	146	
Dodge	\$148,100	2	Effingham	\$1,169,649,004	82	Warren	\$2,100,000	1	Coweta	\$199,399,648	122				Rabun	\$143,417,478	58	
Dooley	\$20,706,200	11	Emanuel	\$60,760,908	159	White	\$37,363,110	17	Crawford	\$24,255,754	44				Stephens	\$244,318,511	192	
Dougherty	\$9,333,122	16	Evans	\$69,923,941	59	Whitfield	\$479,137,871	203	Crisp	\$265,783,935	69				Towns	\$52,692,397	41	
Douglas	\$3,506,451	9	Floyd	\$2,949,533,655	268	Wilkes	\$148,357,797	74	Dade	\$39,619,246	35				Union	\$58,830,670	86	
Early	\$15,225,968	5	Glascok	\$29,393,547	33				Dawson	\$33,169,723	93				Walker	\$142,344,078	89	
Effingham	\$5,000	1	Glynn	\$1,371,675,454	355				Decatur	\$183,126,158	57				Walton	\$49,379,115	17	
Elbert	\$2,500	5	Gordon	\$136,516,778	98				DeKalb	\$1,529,998,490	330				White	\$235,983,520	64	
Emanuel	\$655,000	7	Grady	\$220,266,493	79				Dodge	\$120,214,422	103				Whitfield	\$479,137,871	203	
Evans	\$200,000	4	Hancock	\$30,420,487	38				Dooley	\$130,847,812	58				Wilkes	\$1,938,982	8	
Fannin	\$2,112,024	4	Harris	\$65,702,516	49				Dougherty	\$124,950,712	98							
Fayette	\$36,742,000	7	Houston	\$2,225,780,050	253				Douglas	\$555,941,675	79							
Floyd	\$70,319,029	27	Irwin	\$223,108,834	32				Early	\$66,009,647	35							
Forsyth	\$26,712,924	34	Jeff Davis	\$420,880,000	63				Echols	\$93,729,421	23							
Fulton	\$62,651,400	14	Jefferson	\$328,905,013	119				Effingham	\$101,386,518	53							
Gilmer	\$33,733,900	24	Jenkins	\$75,588,750	56				Elbert	\$52,329,504	88							
Glascok	\$1,500,000	1	Johnson	\$49,509,410	104				Emanuel	\$30,742,861	107							
Glynn	\$331,998,240	93	Jones	\$220,134,497	67				Evans	\$27,440,300	35							
Gordon	\$14,276,865	14	Lanier	\$155,539,298	62				Fannin	\$49,987,036	27							

Local Critical Facilities Risk Data from GMIS																	
Special Flood Hazard Area			>90MPH Winds			Seismic 2% Chance exceeding 33-83%			Wildfire Moderate to High Risk			SLOSH Cat 1 and 2			Landslide at Risk		
County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities
Greene	\$66,515,300	1	Laurens	\$540,619,751	192				Fayette	\$572,903,230	89						
Gwinnett	\$38,804,500	40	Lee	\$145,348,753	45				Floyd	\$1,672,880,068	156						
Habersham	\$96,000	2	Liberty	\$308,006,893	150				Forsyth	\$454,657,520	227						
Hall	\$15,774,670	4	Lincoln	\$63,282,768	47				Franklin	\$27,000,000	30						
Haralson	\$6,660,000	2	Long	\$55,277,516	45				Fulton	\$7,445,328,223	1332						
Harris	\$250,000	1	Lowndes	\$1,233,729,441	349				Gilmer	\$27,559,300	31						
Heard	\$1,739,375	2	Macon	\$117,823,482	113				Glascock	\$20,649,447	26						
Henry	\$22,800	2	Marion	\$162,098,000	81				Glynn	\$845,267,332	235						
Houston	\$5,000,000	6	McDuffie	\$115,568,091	77				Gordon	\$77,801,426	47						
Irwin	\$340,672	1	McIntosh	\$26,321,750	42				Grady	\$165,343,143	57						
Jeff Davis	\$76,980,000	12	Miller	\$80,026,900	24				Greene	\$106,091,892	53						
Jefferson	\$1,195,700	3	Mitchell	\$266,623,484	69				Gwinnett	\$4,080,793,277	666						
Jenkins	\$9,880,000	7	Montgomery	\$91,287,330	84				Habersham	\$93,086,500	44						
Johnson	\$148,383	3	Murray	\$69,820,000	43				Hall	\$703,007,593	137						
Jones	\$2,800,000	2	Muscogee	\$2,140,973,440	164				Hancock	\$22,769,200	21						
Lamar	\$116,463	1	Peach	\$125,702,520	95				Haralson	\$110,972,574	82						
Laurens	\$25,700,000	6	Pierce	\$497,416,044	144				Harris	\$35,537,482	33						
Lee	\$50,000	1	Polk	\$650,515,617	159				Hart	\$49,803,514	36						
Liberty	\$1,082,990	14	Pulaski	\$152,821,292	63				Heard	\$66,892,864	38						
Long	\$99,983	1	Quitman	\$22,255,000	22				Henry	\$343,003,400	100						
Lowndes	\$60,419,484	13	Randolph	\$114,869,409	80				Houston	\$560,076,100	154						
Lumpkin	\$155,190	2	Richmond	\$512,393,065	424				Irwin	\$120,189,962	21						
Macon	\$788,392	7	Schley	\$103,765,000	55				Jackson	\$65,676,431	101						
McDuffie	\$3,158,355	17	Screven	\$109,842,704	55				Jasper	\$49,773,930	22						
McIntosh	\$4,718,200	4	Seminole	\$98,309,105	38				Jeff Davis	\$310,040,000	35						
Meriwether	\$100,000	1	Stewart	\$76,356,874	68				Jefferson	\$213,947,330	85						
Mitchell	\$20,329,000	9	Sumter	\$721,768,945	254				Jenkins	\$43,434,250	34						
Monroe	\$2,000,000	1	Talbot	\$21,921,437	58				Johnson	\$47,481,700	85						
Morgan	\$271,300	2	Taliaferro	\$34,692,300	28				Jones	\$154,819,000	35						
Murray	\$16,389,375	5	Tattnell	\$280,944,444	52				Lamar	\$42,529,431	36						
Muscogee	\$303,000,000	2	Taylor	\$153,362,732	161				Lanier	\$119,303,686	44						
Newton	\$5,472,200	3	Telfair	\$157,779,591	116				Laurens	\$200,287,839	110						
Oconee	\$3,280,000	6	Terrell	\$40,111,671	35				Lee	\$88,495,698	32						
Peach	\$500,000	1	Thomas	\$275,813,187	150				Liberty	\$197,225,227	113						
Pickens	\$157,947	4	Tift	\$419,585,160	185				Lincoln	\$30,409,496	36						
Pierce	\$7,000,000	1	Toombs	\$229,779,937	124				Long	\$29,767,134	33						
Pike	\$135,388	1	Treutlen	\$53,531,995	54				Lowndes	\$703,802,856	230						
Polk	\$23,030,904	13	Troup	\$1,261,009,712	227				Lumpkin	\$60,422,481	36						
Pulaski	\$3,185,000	5	Turner	\$137,758,656	117				Macon	\$35,461,684	67						
Putnam	\$4,746,932	3	Twiggs	\$64,775,000	78				Madison	\$27,683,615	39						
Rabun	\$1,207,000	3	Walker	\$142,344,078	89				Marion	\$102,347,000	62						
Richmond	\$911,467	13	Ware	\$440,553,119	167				McDuffie	\$69,861,036	43						
Rockdale	\$122,982,300	25	Warren	\$63,530,837	36				McIntosh	\$15,102,600	28						
Screven	\$16,200	1	Washington	\$153,050,231	117				Meriwether	\$37,896,600	43						
Seminole	\$23,825,000	12	Wayne	\$295,795,812	53				Miller	\$57,421,900	17						
Spalding	\$14,532,757	6	Webster	\$63,006,118	38				Mitchell	\$33,969,605	28						
Stephens	\$8,807,401	19	Wheeler	\$170,618,000	58				Monroe	\$88,540,360	37						
Stewart	\$576,821	1	Whitfield	\$479,137,871	203				Montgomery	\$79,647,911	68						
Sumter	\$45,112,000	18	Wilcox	\$47,715,106	102				Morgan	\$82,249,101	91						
Taylor	\$15,812,000	19	Wilkes	\$148,357,797	74				Murray	\$40,039,250	23						
Telfair	\$425,000	5	Wilkinson	\$55,325,883	110				Muscogee	\$1,040,277,684	90						
Thomas	\$0	16	Worth	\$66,029,787	66				Newton	\$110,610,399	44						
Tift	\$395,750	8							Oconee	\$98,480,052	113						
Towns	\$1,500,000	1							Oglethorpe	\$41,477,604	43						
Treutlen	\$50,000	1							Paulding	\$354,253,705	65						

Local Critical Facilities Risk Data from GMIS																	
Special Flood Hazard Area			>90MPH Winds			Seismic 2% Chance exceeding 33-83%			Wildfire Moderate to High Risk			SLOSH Cat 1 and 2			Landslide at Risk		
County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities	County	Value	Number of Facilities
Troup	\$144,645,498	27							Peach	\$53,330,900	56						
Turner	\$24,966,013	8							Pickens	\$92,763,888	59						
Twiggs	\$1,000,000	1							Pierce	\$381,716,288	108						
Union	\$682,466	3							Pike	\$35,691,249	28						
Upson	\$590,000	3							Polk	\$353,390,254	89						
Walker	\$8,360,966	6							Pulaski	\$49,575,271	24						
Walton	\$0	2							Putnam	\$28,229,762	31						
Ware	\$13,915,564	9							Quitman	\$14,780,000	17						
Washington	\$8,824,000	10							Rabun	\$122,743,772	45						
Wayne	\$417,544	2							Randolph	\$49,026,409	52						
Wheeler	\$125,000	1							Richmond	\$198,031,983	228						
White	\$350,000	2							Rockdale	\$711,927,066	130						
Whitfield	\$29,319,885	16							Schley	\$63,529,000	37						
Wilcox	\$10,000	1							Screven	\$56,292,506	36						
Wilkes	\$6,419,100	4							Seminole	\$56,735,305	23						
Wilkinson	\$20,309	1							Spalding	\$281,858,834	116						
Worth	\$600,000	3							Stephens	\$175,015,451	128						
									Stewart	\$14,862,830	41						
									Sumter	\$403,309,744	143						
									Talbot	\$17,805,039	43						
									Taliaferro	\$29,302,300	22						
									Tattnall	\$181,293,816	43						
									Taylor	\$115,391,232	93						
									Telfair	\$97,564,371	75						
									Terrell	\$14,504,856	21						
									Thomas	\$146,957,293	83						
									Tift	\$217,377,739	107						
									Toombs	\$98,807,033	68						
									Towns	\$34,733,022	27						
									Treutlen	\$20,447,018	40						
									Troup	\$401,888,517	134						
									Turner	\$86,988,298	67						
									Twiggs	\$26,300,000	43						
									Union	\$44,008,959	58						
									Upson	\$222,278,362	120						
									Walker	\$94,782,228	51						
									Walton	\$121,176,455	53						
									Ware	\$126,210,641	75						
									Warren	\$28,552,130	25						
									Washington	\$80,754,455	78						
									Wayne	\$74,799,993	32						
									Webster	\$28,080,329	24						
									Wheeler	\$32,668,000	39						
									White	\$230,003,640	49						
									Whitfield	\$233,489,979	113						
									Wilcox	\$30,475,106	75						
									Wilkes	\$72,067,097	41						
									Wilkinson	\$28,852,881	77						
									Worth	\$36,774,835	46						

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
APPLING	150	\$3,998,460.00	\$5,350,940.00	0.32%	0	0	27	74,314	0
ATKINSON	23	\$826,250.00	\$1,227,250.00	0.18%	0	0	19	45,345	0
BACON	80	\$3,097,640.00	\$4,394,800.00	0.22%	0	0	18	54,823	0
BAKER	25	\$553,680.00	\$718,240.00	0.31%	0	0	10	68,681	0
BALDWIN	42	\$3,910,180.00	\$3,930,500.00	0.07%	0	0	121	19,098	0
BANKS	6	\$270,430.00	\$270,600.00	0.02%	0	0	20	15	0
BARROW	47	\$2,370,310.00	\$2,966,370.00	0.05%	0	0	36	5,312	0
BARTOW	56	\$3,222,020.00	\$4,111,030.00	0.04%	0	0	61	15,179	0
BEN HILL	46	\$2,465,760.00	\$3,337,470.00	0.10%	0	0	20	30,108	0
BERRIEN	72	\$2,854,510.00	\$4,084,030.00	0.18%	0	0	27	60,867	0
BIBB	243	\$15,721,100.00	\$19,676,080.00	0.04%	0	0	112	21,779	0
BLECKLEY	22	\$1,004,900.00	\$1,061,680.00	0.10%	0	0	17	10,073	0
BRANTLEY	237	\$4,943,390.00	\$6,718,190.00	0.49%	0	0	27	142,088	0
BROOKS	90	\$2,719,830.00	\$3,694,790.00	0.19%	0	0	13	77,031	0
BRYAN	1659	\$30,741,120.00	\$44,278,900.00	0.83%	0	0	15	205,306	2
BULLOCH	940	\$22,285,810.00	\$29,395,000.00	0.31%	0	0	88	215,181	1
BURKE	128	\$3,395,140.00	\$4,673,500.00	0.27%	0	0	52	116,288	0
BUTTS	13	\$1,361,070.00	\$1,885,240.00	0.09%	0	0	17	8,972	0
CALHOUN	42	\$1,136,500.00	\$1,871,460.00	0.38%	0	0	22	75,628	0
CAMDEN	1538	\$44,855,370.00	\$50,024,020.00	0.05%	0	0	35	284,672	5
CANDLER	116	\$2,667,200.00	\$3,963,280.00	0.24%	0	0	10	61,391	0
CARROLL	69	\$5,441,700.00	\$7,006,960.00	0.07%	1	0	114	21,345	0
CATOOSA	13	\$967,520.00	\$1,331,990.00	0.02%	0	0	41	5,205	0
CHARLTON	182	\$3,156,730.00	\$4,666,780.00	0.42%	0	0	22	268,510	0
CHATHAM	14320	\$358,092,700.00	\$471,200,850.00	1.09%	4	0	146	285,814	82
CHATTAHOOCHEE									
CHATTOOGA	3	\$521,950.00	\$753,950.00	0.03%	0	0	24	10,069	0
CHEROKEE	67	\$7,226,060.00	\$974,730.00	0.03%	0	0	92	7,201	0
CLARKE	24	\$4,378,470.00	\$4,381,900.00	0.03%	2	0	637	4,724	0

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
CLAY	28	\$1,070,730.00	\$1,126,190.00	0.02%	0	0	7	41,777	0
CLAYTON	72	\$7,756,820.00	\$10,258,160.00	0.04%	1	0	82	10,706	0
CLINCH	42	\$12,762,550.00	\$1,748,900.00	0.20%	0	0	15	134,433	0
COBB	379	\$22,266,070.00	\$33,211,150.00	0.03%	1	0	267	16,816	0
COFFEE	139	\$6,217,310.00	\$8,823,860.00	0.20%	0	0	65	72,145	0
COLQUITT	280	\$5,579,090.00	\$7,879,870.00	0.23%	0	0	43	91,604	0
COLUMBIA	404	\$32,919,120.00	\$47,181,310.00	0.19%	0	0	69	28,546	0
COOK	91	\$3,038,780.00	\$4,122,020.00	0.21%	0	0	18	33,349	0
COWETA	53	\$14,742,840.00	\$14,749,060.00	0.08%	0	0	63	22,325	0
CRAWFORD	11	\$1,080,140.00	\$1,499,600.00	0.12%	0	0	26	23,745	0
CRISP	80	\$2,767,400.00	\$4,116,520.00	0.21%	1	0	28	39,412	0
DADE	5	\$163,170.00	\$210,010.00	0.02%	0	0	19	1,531	0
DAWSON	1	\$280,170.00	\$280,860.00	0.02%	0	0	19	19	0
DECATUR	476	\$7,831,900.00	\$11,376,300.00	0.49%	0	0	45	179,183	1
DEKALB	232	\$53,991,190.00	\$69,558,650.00	0.04%	1	0	203	9,938	0
DODGE	50	\$2,215,870.00	\$3,059,170.00	0.14%	0	0	28	57,208	0
DOOLY	28	\$1,262,300.00	\$1,781,410.00	0.20%	0	0	21	54,531	0
DOUGHERTY	580	\$9,533,430.00	\$12,850,050.00	0.16%	1	0	40	62,182	0
DOUGLAS	28	\$6,091,810.00	\$8,789,300.00	0.06%	0	0	55	8,506	0
EARLY	172	\$2,601,000.00	\$35,556,680.00	36.00%	1	0	22	102,631	0
ECHOLS	24	\$691,620.00	\$1,027,960.00	0.34%	0	0	10	140,355	0
EFFINGHAM	2611	\$50,816,240.00	\$70,406,730.00	0.81%	0	0	50	199,437	3
ELBERT	16	\$792,320.00	\$1,048,290.00	0.06%	0	0	36	19,720	0
EMANUEL	120	\$3,907,450.00	\$5,499,220.00	0.22%	37	0	37	86,216	0
EVANS	141	\$3,074,490.00	\$4,341,820.00	0.30%	0	0	19	65,016	0
FANNIN	12	\$291,500.00	\$291,780.00	0.01%	0	0	26	4	0
FAYETTE									
FLOYD	67	\$1,742,540.00	\$2,202,010.00	0.02%	0	0	91	14,316	0
FORSYTH	40	\$6,444,520.00	\$27,525,780.00	0.03%	0	0	70	6,199	0

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
FRANKLIN	13	\$611,240.00	\$774,910.00	0.05%	0	0	26	2,836	0
FULTON	179	\$47,591,960.00	\$71,145,780.00	0.04%	7	0	327	22,486	0
GILMER	1	\$268,000.00	\$269,910.00	0.01%	0	0	14	8	0
GLASCOCK	8	\$233,930.00	\$323,060.00	0.15%	0	0	12	13,887	0
GLYNN	29451	\$94,886,000.00	\$101,160,000.00	1.22%	0	0	18	226,109	22
GORDON	42	\$1,035,930.00	\$1,326,290.00	0.03%	0	0	38	11,498	0
GRADY	249	\$5,888,010.00	\$8,242,580.00	0.34%	0	0	27	86,454	0
GREENE	11	\$1,994,930.00	\$1,995,940.00	0.10%	0	0	29	25,202	0
GWINNETT	125	\$28,425,850.00	\$42,742,550.00	0.05%	0	0	385	19,672	0
HABERSHAM	7	\$442,850.00	\$443,310.00	0.01%	0	0	40	21	0
HALL	174	\$4,113,990.00	\$4,858,000.00	0.03%	0	0	89	6,965	0
HANCOCK	8	\$549,010.00	\$735,980.00	0.11%	0	0	17	20,894	0
HARALSON	26	\$1,408,200.00	\$2,082,980.00	0.06%	0	0	37	12,092	0
HARRIS	38	\$3,257,650.00	\$4,191,900.00	0.11%	0	0	30	32,723	0
HART	14	\$1,041,650.00	\$1,441,250.00	0.05%	0	0	20	9,216	0
HEARD	8	\$442,710.00	\$607,820.00	0.06%	0	0	22	13,389	0
HENRY	162	\$7,931,220.00	\$11,275,110.00	0.05%	0	0	85	16,602	0
HOUSTON	295	\$17,904,380.00	\$25,510,100.00	0.11%	0	0	77	27,536	0
IRWIN	30	\$1,604,420.00	\$2,167,300.00	0.21%	0	0	15	50,385	0
JACKSON	19	\$1,815,770.00	\$2,313,250.00	0.04%	0	0	61	4,735	0
JASPER	10	\$763,040.00	\$1,049,780.00	0.09%	0	0	16	11,984	0
JEFF DAVIS	87	\$2,771,180.00	\$3,870,330.00	0.12%	0	0	19	49,831	0
JEFFERSON	46	\$2,173,330.00	\$2,941,130.00	0.12%	0	0	28	58,084	0
JENKINS	62	\$1,312,780.00	\$1,770,940.00	0.31%	0	0	14	59,391	0
JOHNSON	24	\$1,040,280.00	\$1,406,880.00	0.00%	0	0	0	26,859	0
JONES	18	\$1,990,250.00	\$2,795,800.00	0.08%	0	0	29	24,776	0
LAMAR	19	\$1,165,690.00	\$1,582,880.00	0.09%	0	0	21	11,999	0
LANIER	37	\$1,771,050.00	\$2,859,480.00	0.33%	0	0	15	29,163	0
LAURENS	101	\$7,730,390.00	\$10,853,820.00	0.12%	0	0	44	70,867	0

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
LEE	133	\$4,175,450.00	\$5,544,660.00	0.22%	0	0	20	33,304	0
LIBERTY	1588	\$3,345,270.00	\$46,972,050.00	0.70%	0	0	45	251,769	0
LINCOLN	10	\$789,780.00	\$1,161,390.00	0.14%	0	0	13	15,991	0
LONG	284	\$5,472,450.00	\$7,361,150.00	0.69%	0	0	23	155,545	1
LOWNDES	795	\$26,724,510.00	\$37,697,000.00	0.22%	0	0	149	114,561	0
LUMPKIN	5	\$238,720.00	\$238,850.00	0.01%	0	0	52	15	0
MACON	16	\$1,841,890.00	\$1,843,620.00	0.11%	0	0	29	45,154	0
MADISON	10	\$875,990.00	\$1,078,270.00	0.06%	0	0	28	4,829	0
MARION	17	\$532,570.00	\$630,930.00	0.12%	0	0	15	29,948	0
MCDUFFIE	39	\$1,633,560.00	\$2,198,730.00	0.11%	0	0	20	17,174	0
MCINTOSH	749	\$7,369,390.00	\$10,886,780.00	0.99%	0	0	8	203,663	3
MERIWETHER	27	\$1,618,740.00	\$2,329,200.00	0.11%	0	0	30	19,992	0
MILLER	91	\$1,041,420.00	\$1,373,270.00	0.33%	0	0	13	58,934	0
MITCHELL	133	\$4,177,680.00	\$6,494,360.00	0.36%	0	0	33	112,692	0
MONROE	22	\$2,583,000.00	\$3,759,000.00	0.10%	0	0	30	25,543	0
MONTGOMERY	37	\$1,782,520.00	\$2,545,300.00	0.24%	0	0	20	34,195	0
MORGAN	20	\$1,291,040.00	\$1,771,820.00	0.08%	0	0	27	13,931	0
MURRAY	5	\$456,120.00	\$693,890.00	0.02%	0	0	21	6,135	0
MUSCOGEE	471	\$10,277,430.00	\$12,783,490.00	0.12%	3	0	144	17,239	0
NEWTON	30	\$7,530,530.00	\$11,392,610.00	0.10%	0	0	41	18,800	0
OCONEE	11	\$2,166,670.00	\$2,978,150.00	0.07%	0	0	40	10,476	0
OGLETHORPE	7	\$590,300.00	\$817,320.00	0.08%	0	0	45	16,276	0
PAULDING	73	\$6,585,980.00	\$9,666,450.00	0.06%	0	0	66	14,670	0
PEACH	42	\$3,045,960.00	\$4,136,070.00	0.09%	0	0	47	12,085	0
PICKENS	8	\$601,770.00	\$602,040.00	0.02%	0	0	30	1,372	0
PIERCE	261	\$6,948,530.00	\$10,269,890.00	0.43%	0	0	25	97,310	0
PIKE	13	\$1,329,060.00	\$1,881,050.00	0.10%	0	0	20	12,753	0
POLK	35	\$1,208,130.00	\$1,501,280.00	0.04%	0	0	46	9,286	0
PULASKI	18	\$945,460.00	\$1,123,990.00	0.11%	0	0	12	20,988	0

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
PUTNAM	26	\$2,196,530.00	\$3,225,000.00	0.08%	0	0	21	19,659	0
QUITMAN	1489	\$512,580.00	\$547,830.00	0.23%	0	0	11	25,702	0
RABUN	2	\$352,310.00	\$449,840.00	0.02%	0	0	34	4,034	0
RANDOLPH	57	\$1,379,770.00	\$2,073,280.00	0.29%	0	0	24	68,592	0
RICHMOND	906	\$20,576,340.00	\$25,358,650.00	0.12%	0	0	116	30,314	0
ROCKDALE	29	\$5,246,020.00	\$7,750,370.00	0.06%	1	0	36	4,946	0
SCHLEY	7	\$279,600.00	\$330,830.00	0.13%	0	0	9	10,766	0
SCREVEN	209	\$4,162,000.00	\$6,718,000.00	0.30%	0	0	23	239,309	0
SEMINOLE	231	\$5,947,770.00	\$6,312,470.00	0.03%	0	0	18	84,978	0
SPALDING	96	\$5,004,470.00	\$7,417,250.00	0.10%	1	0	62	14,991	0
STEPHENS	38	\$305,170.00	\$322,050.00	0.01%	0	0	31	351	0
STEWART	17	\$471,120.00	\$593,700.00	0.18%	0	0	13	51,566	0
SUMTER	76	\$3,194,001.00	\$2,631,840.00	0.08%	0	0	101	46,249	0
TALBOT	6	\$470,530.00	\$625,420.00	0.11%	0	0	17	21,773	0
TALIAFERRO	1	\$126,040.00	\$172,700.00	0.10%	0	0	9	6,252	0
TATTNALL	289	\$5,827,400.00	\$7,823,070.00	0.24%	0	0	34	133,846	0
TAYLOR	13	\$1,421,820.00	\$1,422,200.00	0.15%	0	0	21	37,975	0
TELFAIR	55	\$16,684,060.00	\$2,216,120.00	0.09%	0	0	22	64,432	0
TERRELL	41	\$1,891,550.00	\$2,021,150.00	0.21%	0	0	13	41,263	0
THOMAS	373	\$8,304,030.00	\$11,409,300.00	0.27%	1	0	42	12,472	0
TIFT	149	\$7,316,380.00	\$10,230,190.00	0.15%	0	0	92	35,990	0
TOOMBS	274	\$5,082,850.00	\$6,581,660.00	0.16%	0	0	32	78,805	0
TOWNS	1	\$110,770.00	\$110,820.00	0.01%	0	0	16	0	0
TREUTLEN	27	\$962,130.00	\$1,441,100.00	0.23%	0	0	12	23,003	0
TROUP	74	\$8,437,860.00	\$12,749,130.00	0.12%	1	0	65	30,649	0
TURNER	40	\$1,536,400.00	\$2,170,940.00	0.15%	0	0	25	33,314	0
TWIGGS	10	\$687,070.00	\$907,390.00	0.08%	0	0	14	17,721	0
UNION	4	\$191,470.00	\$191,660.00	0.01%	0	0	26	4	0
UPSON	56	\$2,299,010.00	\$3,417,820.00	0.09%	0	0	34	20,832	0

Hurricane Wind Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Economic losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People needing Short Term Shelter
WALKER	7	\$1,675,100.00	\$1,675,850.00	0.02%	0	0	43	9,366	0
WALTON	39	\$3,737,100.00	\$4,705,690.00	0.06%	0	0	43	13,997	0
WARE	464	\$106,662,110.00	\$14,777,390.00	0.27%	1	0	35	259,414	0
WARREN	7	\$396,540.00	\$525,400.00	0.12%	0	0	15	18,380	0
WASHINGTON	36	\$3,186,930.00	\$3,188,990.00	0.11%	0	0	26	49,236	0
WAYNE	514	\$10,833,530.00	\$15,222,850.00	0.51%	0	0	30	196,033	1
WEBSTER									
WHEELER	19	\$672,390.00	\$971,440.00	0.17%	0	0	12	33,047	0
WHITE	11	\$135,960.00	\$136,370.00	0.01%	0	0	26	11	0
WHITFIELD	34	\$1,074,570.00	\$1,624,320.00	0.02%	0	0	106	6,780	0
WILCOX	22	\$875,480.00	\$1,151,470.00	0.16%	0	0	17	39,455	0
WILKES	8	\$1,062,410.00	\$1,063,430.00	0.06%	0	0	17	26,287	0
WILKINSON	11	\$714,190.00	\$912,430.00	0.09%	0	0	20	26,335	0
WORTH	58	\$1,836,090.00	\$2,381,140.00	0.21%	0	0	30	63,082	0

Coastal Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service less than a day	Total Debris	Number People Displaced	Number People needing Short Term Shelter
Bryan	139	\$8,650,951.00	0.51%	0	0	0	1,983	1,485	1,422
Camden	32	\$281,031.00	0.01%	0	0	0	50	1,022	951
Chatham	136	\$5,328,542.00	0.02%	0	0	0	3,473	3,955	3,819
Effingham	0	\$0.00	0.00%	0	0	0	-	0	0
Glynn	161	\$4,046,061.00	0.08%	2	0	0	7,716	3,387	3,039
Liberty	12	\$65,748.00	0.01%	0	0	0	27	106	86
McIntosh	181	\$3,226,749.00	0.50%	0	0	0	626	1,126	934

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
APPLING	256	\$3,282,130.00	0.27%	2	0	1	3,162	2,273	774
ATKINSON	23	\$517,499.00	0.20%	0	0	0	666	694	251
BACON	31	\$1,047,760.00	0.17%	2	0	0	1,904	388	91
BAKER	183	\$4,366,929.00	2.53%	0	0	0	2,146	385	140
BALDWIN	280	\$32,391,459.00	0.79%	3	0	0	12,564	1,024	1,024
BANKS	134	\$3,933,035.00	0.34%	0	0	0	11,129	848	252
BARROW	675	\$37,185,135.00	0.83%	0	0	0	29,650	4,977	3,355
BARTOW	792	\$34,339,758.00	0.39%	0	0	0	36,837	4,618	2,640
BEN HILL	106	\$9,935,039.00	0.40%	0	0	0	1,796	652	132
BERRIEN	232	\$6,319,656.00	0.49%	0	0	0	4,444	1,620	648
BIBB	374	\$110,278,947.00	0.33%	0	0	0	38,309	63,258	4,567
BLECKLEY	23	\$630,437.00	0.08%	0	0	0	856	338	69
BRANTLEY	268	\$8,011,410.00	0.83%	1	0	1	3,716	2,965	2,062
BROOKS	70	\$2,429,208.00	0.25%	0	0	0	1,532	1,371	708
BRYAN	2,847	\$80,945,825.00	2.29%	1	0	1	4,301	8,196	6,717
BULLOCH	1,089	\$16,128,662.00	0.24%	1	0	1	1,561	6,435	3,811
BURKE	42	\$1,079,857.00	0.11%	0	0	0	3,295	1,017	419
BUTTS	220	\$10,127,911.00	0.76%	0	0	0	4,933	1,080	361
CALHOUN	200	\$2,420,329.00	1.13%	0	0	0	1,513	409	135
CAMDEN	1,320	\$24,094,383.00	0.59%	1	0	1	1,129	7,184	5,784
CANDLER	127	\$3,177,857.00	0.39%	0	0	0	3,202	847	457
CARROLL	738	\$54,505,494.00	0.75%	0	0	0	26,188	6,301	3,923
CATOOSA	1,213	\$44,287,723.00	1.06%	0	0	0	61,369	6,284	4,750
CHARLTON	98	\$1,907,951.00	0.30%	1	0	1	3,925	997	473
CHATHAM	13,842	\$553,478,030.00	1.70%				32,016	53,159	48,005
CHATTOOGA	606	\$20,032,770.00	1.60%	3	0	0	21,417	3,093	2,008
CHEROKEE	509	\$51,937,356.00	0.26%	0	0	0	74,625	10,836	8,836
CLARKE	312	\$37,658,282.00	0.38%	11	0	0	20,454	5,238	4,166

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
CLAY	7	\$337,151.00	0.20%	0	0	0	1,106	119	72
CLAYTON	1,179	\$83,189,721.00	0.50%	0	0	0	14,608	18,166	15,988
CLINCH	321	\$3,156,988.00	0.54%	0	0	0	1,086	1,898	1,049
COBB	3,962	\$322,261,292.00	0.46%	0	0	0	139,613	42,114	32,550
COFFEE	381	\$12,770,013.00	0.48%	1	0	1	5,819	2,432	1,146
COLQUITT	723	\$17,689,963.00	0.76%	1	0	0	15,906	4,144	2,231
COLUMBIA	449	\$33,801,329.00	0.21%	0	0	0	18,112	6,347	4,714
COOK	519	\$7,571,302.00	0.58%	0	0	0	6,270	3,316	1,689
COWETA	325	\$17,118,303.00	0.15%	0	0	0	12,878	7,665	4,961
CRAWFORD	47	\$1,541,768.00	0.21%	0	0	0	1,663	409	225
CRISP	711	\$20,876,180.00	1.65%	1	0	0	4,572	1,818	998
DADE	329	\$9,914,770.00	1.02%	3	0	0	7,377	824	236
DAWSON	148	\$871.00	0.06%	0	0	0	6,594	892	279
DECATUR	759	\$21,504,755.00	1.42%	1	0	0	4,493	1,936	1,293
DEKALB	4,416	\$619,240,534.00	0.45%	1	0	0	172,505	41,982	34,704
DODGE	106	\$4,669,591.00	0.49%	0	0	0	8,070	691	195
DOOLY	274	\$5,233,920.00	1.04%	1	0	0	3,121	919	455
DOUGHERTY	3,389	\$80,511,036.00	1.39%	1	0	0	11,618	14,504	12,762
DOUGLAS	468	\$39,406,015.00	0.41%	0	0	0	39,427	8,485	6,495
EARLY	277	\$6,398,640.00	1.03%	0	0	0	6,037	710	169
ECHOLS	24	\$604,706.00	0.52%	0	0	0	1,272	216	56
EFFINGHAM	567	\$11,881,294.00	0.20%	0	0	0	1,981	8,951	7,714
ELBERT	55	\$1,386,638.00	0.16%	0	0	0	6,389	445	40
EMANUEL	119	\$3,325,391.00	0.20%	0	0	0	3,711	1,012	265
EVANS	67	\$3,730,786.00	0.42%	0	0	0	2,279	663	172
FANNIN	994	\$46,015,651.00	1.46%	0	0	0	22,323	1,393	213
FLOYD	1,528	\$72,953,855.00	0.96%	1	0	0	31,024	6,186	4,201
FORSYTH	511	\$54,221,624.00	0.22%	0	0	0	72,814	10,794	8,101

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
FRANKLIN	32	\$1,618,154.00	0.22%	0	0	0	5,004	305	22
FULTON	3,625	\$379,377,242.00	0.36%	3	0	0	169,732	35,836	28,880
GILMER	655	\$37,335,438.00	1.51%	1	0	0	20,105	1,225	246
GLASCOCK	18	\$372,459.00	0.28%	0	0	0	564	161	63
GLYNN	5,142	\$131,110,125.00	2.39%	27	0	0	25,732	40,855	35,679
GORDON	1,171	\$50,285,004.00	1.34%	2	0	0	30,191	4,760	2,921
GRADY	22	\$8,065,166.00	0.49%	0	0	0	6,126	1,289	461
GREENE	36	\$1,420,917.00	0.11%	2	0	0	3,840	416	49
GWINNETT	3,049	\$193,521,638.00	0.37%	1	0	0	84,550	16,296	39,015
HABERSHAM	171	\$9,777,121.00	0.43%	0	0	0	25,498	1,247	315
HALL	569	\$34,187,323.00	0.25%	0	0	0	61,152	8,028	4,528
HANCOCK	77	\$2,547,594.00	0.53%	1	0	0	1,409	211	8
HARALSON	186	\$7,467,996.00	0.42%	0	0	0	8,033	919	228
HARRIS	351	\$21,836,100.00	0.90%	1	0	0	9,871	1,895	864
HART	127	\$6,127,140.00	0.36%	0	0	0	9,049	829	156
HEARD	182	\$6,723,942.00	1.01%	0	0	0	4,278	865	216
HENRY	1,237	\$69,587,591.00	0.45%	0	0	0	54,510	15,522	11,669
HOUSTON	2	\$158,399.00	0.03%	0	0	1	17,070	5,440	4,158
IRWIN	45	\$2,654,398.00	0.71%	0	0	0	1,331	630	190
JACKSON	201	\$11,378,707.00	0.32%	0	0	0	13,573	2,640	1,200
JASPER	111	\$3,497,949.00	0.53%	0	0	0	2,555	370	49
JEFF DAVIS	131	\$1,589,081.00	0.07%	1	0	2	2,475	871	242
JEFFERSON	103	\$2,692,263.00	0.20%	0	0	0	3,633	764	207
JENKINS	256	\$3,014,054.00	0.83%	0	0	0	1,407	731	349
JOHNSON	45	\$1,263,583.00	0.20%	0	0	0	1,385	553	141
JONES	200	\$19,841,470.00	1.09%	0	0	0	10,738	1,378	480
LAMAR	88	\$5,408,954.00	0.52%	0	0	0	4,184	629	159
LANIER	66	\$1,307,919.00	0.33%	1	0	0	430	655	310

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
LAURENS	300	\$13,052,763.00	0.22%	0	0	0	11,466	2,222	980
LEE	344	\$12,000,529.00	0.65%	0	0	0	3,263	2,064	1,665
LIBERTY	752	\$17,145,462.00	0.42%	0	0	0	3,264	5,563	4,837
LINCOLN	6	\$157,730.00	0.04%	0	0	0	2,067	182	10
LONG	247	\$6,613,284.00	0.86%	0	0	0	1,237	1,605	1,056
LOWNDES	272	\$41,964,177.00	0.37%	0	0	0	8,011	5,098	3,418
LUMPKIN	185	\$10,171,795.00	0.50%	2	0	0	14,446	849	190
MACON	63	\$8,528,877.00	0.89%	1	0	0	3,322	14,740	400
MADISON	109	\$4,024,335.00	0.32%	0	0	0	3,774	827	78
MARION	15	\$382,112.00	0.15%	0	0	0	563	91	6
MCDUFFIE	48	\$1,628,782.00	0.14%	0	0	0	3,306	446	47
MCINTOSH	822	\$11,184,260.00	1.51%	2	0	1	4,141	3,371	2,618
MERIWETHER	173	\$6,381,223.00	0.49%	0	0	0	5,712	1,046	233
MILLER	190	\$3,203,409.00	1.16%	0	0	0	2,296	648	222
MITCHELL	989	\$21,543,667.00	1.93%	6	0	0	6,426	3,557	2,099
MONROE	170	\$18,448,157.00	0.83%	0	0	0	9,266	1,237	363
MONTGOMERY	106	\$2,589,633.00	0.57%	0	0	0	2,479	534	160
MORGAN	348	\$21,060,249.00	1.52%	0	0	0	25,537	1,279	253
MURRAY	410	\$10,102,949.00	0.54%	0	0	0	13,233	2,877	1,960
MUSCOGEE	1,105	\$42,816,804.00	0.52%	3	0	0	26,320	6,969	5,242
NEWTON	489	\$34,369,480.00	0.47%	0	0	0	15,846	6,099	4,089
OCONEE	215	\$16,002,399.00	0.55%	0	0	0	16,037	1,551	741
OGLETHORPE	68	\$2,310,215.00	0.33%	0	0	0	3,332	452	37
PAULDING	468	\$29,740,156.00	0.25%	1	0	0	14,324	5,884	4,364
PEACH	2	\$58,259.00	0.01%	0	0	0	260	38	11
PICKENS	393	\$38,043,217.00	1.22%	0	0	0	12,297	1,498	429
PIERCE	174	\$6,899,708.00	0.52%	0	0	0	4,667	1,592	911
PIKE	56	\$3,008,655.00	0.27%	0	0	0	2,516	482	62

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
POLK	919	\$30,954,466.00	1.07%	1	0	0	11,325	3,220	1,737
PULASKI	137	\$6,400,422.00	0.76%	1	0	1	7,140	1,283	869
PUTNAM	880	\$36,034,941.00	1.60%	0	0	0	21,490	1,553	754
QUITMAN	5	\$76,968.00	0.05%	0	0	0	2,505	134	54
RABUN	522	\$28,550,041.00	1.29%	2	0	0	12,605	885	125
RANDOLPH	15	\$281,549.00	0.07%	0	0	0	486	73	3
RICHMOND	1,503	\$55,831,653.00	0.36%	0	0	0	34,539	7,406	5,751
ROCKDALE	385	\$23,485,309.00	0.28%	0	0	0	15,448	3,774	2,901
SCHLEY	5	\$166,769.00	0.13%	0	0	0	321	86	9
SCREVEN	105	\$2,344,347.00	0.28%	0	0	0	2,498	809	178
SEMINOLE	1,266	\$23,974,474.00	2.80%	2	0	0	4,049	1,795	1,242
SPALDING	369	\$17,768,362.00	0.38%	0	0	0	15,320	3,399	1,582
STEPHENS	409	\$14,222,427.00	0.69%	0	0	0	56,867	1,808	471
STEWART	21	\$896,002.00	0.84%	0	0	0	643	85	2
SUMTER	323	\$16,095,991.00	0.54%	0	0	0	4,474	1,291	682
TALBOT	29	\$1,041,442.00	0.37%	0	0	0	655	155	6
TALIAFERRO	8	\$223,934.00	0.30%	0	0	0	723	51	1
TATNALL	102	\$2,507,993.00	0.34%	0	0	0	4,247	1,185	340
TAYLOR	59	\$2,401,873.00	0.61%	0	0	0	1,485	338	121
TELFAIR	92	\$2,617,241.00	0.17%	0	0	0	2,672	837	282
TERRELL	32	\$926,907.00	0.27%	0	0	0	845	197	16
THOMAS	630	\$23,852,771.00	0.86%	0	0	0	9,735	2,816	1,434
TIFT	379	\$14,807,995.00	0.33%	0	0	0	4,442	3,114	1,745
TOOMBS	180	\$6,784,287.00	0.25%	0	0	0	6,080	1,621	671
TOWNS	260	\$11,758,703.00	0.91%	0	0	0	11,174	440	78
TREUTLEN	37	\$879,011.00	0.24%	0	0	0	1,114	331	51
TROUP	531	\$22,246,363.00	0.35%	1	0	0	9,914	3,132	1,531
TURNER	80	\$4,071,345.00	0.47%	0	0	0	5,013	359	56

Riverine Flooding Local Hazus Data									
County	Number of Buildings Damaged	Value of Building losses	Loss Ratio	Essential Facilities moderately damaged	essential facilities completely damaged	essential facilities out of service	Total Debris	Number People Displaced	Number People needing Short Term Shelter
TWIGGS	19	\$524,212.00	0.12%	0	0	0	1,067	269	94
UNION	916	\$40,452,876.00	1.88%	0	0	0	14,189	1,281	291
UPSON	125	\$5,042,620.00	0.29%	0	0	0	10,865	725	163
WALKER	777	\$131,566,946.00	2.31%	1	0	0	10,890	68,756	1,907
WALTON	1,192	\$62,965,268.00	1.08%	0	0	0	36,062	6,553	3,459
WARE	466	\$33,277,123.00	0.84%	2	0	2	6,704	3,645	1,874
WARREN	3	\$89,015.00	0.05%	0	0	0	804	71	1
WASHINGTON	262	\$6,744,191.00	0.38%	1	0	0	4,259	1,005	422
WAYNE	166	\$5,400,488.00	0.27%	0	0	0	3,060	2,092	1,099
WHEELER	33	\$577,305.00	0.26%	0	0	0	1,899	433	90
WHITE	216	\$19,259,036.00	0.82%	1	0	0	20,545	875	210
WHITFIELD	858	\$55,692,710.00	0.85%	0	0	0	69,751	5,596	3,394
WILCOX	55	\$2,042,001.00	0.55%	0	0	0	3,462	393	151
WILKES	8	\$230,545.00	0.05%	0	0	0	1,934	217	12
WILKINSON	87	\$7,183,148.00	1.14%	1	0	1	1,912	409	145
WORTH	493	\$11,117,135.00	1.30%	0	0	0	4,941	1,454	445

Essential Facilities and Population

County	Totals	2020 Census Population	Population served per facility	Percent Population Served / Facility
Appling	27	18,444	683	3.70%
Atkinson	19	8,286	436	5.26%
Bacon	18	11,140	619	5.56%
Baker	10	2,876	288	10.00%
Baldwin	121	43,799	362	0.83%
Banks	20	18,035	902	5.00%
Barrow	36	83,505	2320	2.78%
Bartow	61	108,901	1785	1.64%
Ben Hill	20	17,194	860	5.00%
Berrien	27	18,160	673	3.70%
Bibb	112	157,346	1405	0.89%
Bleckley	17	12,583	740	5.88%
Brantley	27	18,021	667	3.70%
Brooks	13	16,301	1254	7.69%
Bryan	20	44,738	2237	5.00%
Bulloch	88	81,099	922	1.14%
Burke	52	24,596	473	1.92%
Butts	17	25,434	1496	5.88%
Calhoun	22	5,573	253	4.55%
Camden	35	54,768	1565	2.86%
Candler	10	10,981	1098	10.00%
Carroll	114	119,148	1045	0.88%
Catoosa	41	67,872	1655	2.44%
Charlton	22	12,518	569	4.55%
Chatham	175	295,291	1687	0.57%
Chattahoochee	N/A	9,565	#VALUE!	#VALUE!
Chattooga	24	24,965	1040	4.17%
Cherokee	92	266,620	2898	1.09%
Clarke	637	128,671	202	0.16%
Clay	7	2,848	407	14.29%
Clayton	82	297,595	3629	1.22%
Clinch	14	6,749	482	7.14%
Cobb	267	766,149	2869	0.37%
Coffee	65	43,092	663	1.54%
Colquitt	43	45,898	1067	2.33%
Columbia	69	156,010	2261	1.45%
Cook	18	17,229	957	5.56%
Coweta	63	146,158	2320	1.59%
Crawford	26	12,130	467	3.85%
Crisp	28	20,128	719	3.57%
Dade	19	16,251	855	5.26%
Dawson	19	26,798	1410	5.26%

Essential Facilities and Population

County	Totals	2020 Census Population	Population served per facility	Percent Population Served / Facility
Decatur	45	29,367	653	2.22%
Dekalb	203	764,382	3765	0.49%
Dodge	28	19,925	712	3.57%
Dooly	21	11,208	534	4.76%
Dougherty	40	85,790	2145	2.50%
Douglas	55	144,237	2622	1.82%
Early	22	10,854	493	4.55%
Echols	10	3,697	370	10.00%
Effingham	50	64,769	1295	2.00%
Elbert	36	19,637	545	2.78%
Emanuel	37	22,768	615	2.70%
Evans	19	10,774	567	5.26%
Fannin	26	25,319	974	3.85%
Fayette	N/A	119,194	#VALUE!	#VALUE!
Floyd	91	98,584	1083	1.10%
Forsyth	70	251,283	3590	1.43%
Franklin	26	23,424	901	3.85%
Fulton	327	1,066,710	3262	0.31%
Gilmer	14	31,353	2240	7.14%
Glascocock	12	2,884	240	8.33%
Glynn	65	84,499	1300	1.54%
Gordon	38	57,544	1514	2.63%
Grady	27	26,236	972	3.70%
Greene	29	18,915	652	3.45%
Gwinnett	385	957,062	2486	0.26%
Habersham	41	46,031	1123	2.44%
Hall	89	203,136	2282	1.12%
Hancock	17	8,735	514	5.88%
Haralson	37	29,919	809	2.70%
Harris	30	34,668	1156	3.33%
Hart	20	25,828	1291	5.00%
Heard	22	11,412	519	4.55%
Henry	85	240,712	2832	1.18%
Houston	77	163,633	2125	1.30%
Irwin	15	9,666	644	6.67%
Jackson	61	75,907	1244	1.64%
Jasper	16	14,588	912	6.25%
Jeff Davis	19	14,779	778	5.26%
Jefferson	28	15,709	561	3.57%
Jenkins	14	8,674	620	7.14%
Johnson	30	9,189	306	3.33%
Jones	29	28,347	977	3.45%

Essential Facilities and Population

County	Totals	2020 Census Population	Population served per facility	Percent Population Served / Facility
Lamar	21	18,500	881	4.76%
Lanier	15	9,877	658	6.67%
Laurens	44	49,570	1127	2.27%
Lee	20	33,163	1658	5.00%
Liberty	45	65,256	1450	2.22%
Lincoln	13	7,690	592	7.69%
Long	23	16,168	703	4.35%
Lowndes	149	118,251	794	0.67%
Lumpkin	52	33,488	644	1.92%
Macon	29	12,082	417	3.45%
Madison	28	30,120	1076	3.57%
Marion	15	7,498	500	6.67%
McDuffie	20	21,632	1082	5.00%
Mcintosh	27	10,975	406	3.70%
Meriwether	30	20,613	687	3.33%
Miller	13	6,000	462	7.69%
Mitchell	33	21,755	659	3.03%
Monroe	30	27,957	932	3.33%
Montgomery	20	8,610	431	5.00%
Morgan	27	20,097	744	3.70%
Murray	21	39,973	1903	4.76%
Muscogee	144	206,922	1437	0.69%
Newton	41	112,483	2743	2.44%
Oconee	40	41,799	1045	2.50%
Oglethorpe	45	14,825	329	2.22%
Paulding	66	168,661	2555	1.52%
Peach	47	27,981	595	2.13%
Pickems	30	33,216	1107	3.33%
Pierce	25	19,716	789	4.00%
Pike	20	18,889	944	5.00%
Polk	46	42,853	932	2.17%
Pulaski	12	9,855	821	8.33%
Putnam	21	22,047	1050	4.76%
Quitman	11	2,235	203	9.09%
Rabun	34	16,883	497	2.94%
Randolph	24	6,425	268	4.17%
Richmond	116	206,607	1781	0.86%
Rockdale	35	93,570	2673	2.86%
Schley	9	4,547	505	11.11%
Screven	24	14,067	586	4.17%
Seminole	18	9,147	508	5.56%
Spalding	62	67,306	1086	1.61%

Essential Facilities and Population

County	Totals	2020 Census Population	Population served per facility	Percent Population Served / Facility
Stephens	31	26,784	864	3.23%
Stewart	13	5,314	409	7.69%
Sumter	101	29,616	293	0.99%
Talbot	17	5,733	337	5.88%
Taliaferro	9	1,559	173	11.11%
Tattnall	34	22,842	672	2.94%
Taylor	21	7,816	372	4.76%
Telfair	22	12,477	567	4.55%
Terrell	13	9,185	707	7.69%
Thomas	42	45,798	1090	2.38%
Tift	92	41,344	449	1.09%
Toombs	32	27,030	845	3.13%
Towns	16	12,493	781	6.25%
Treutlen	12	6,406	534	8.33%
Troup	65	69,426	1068	1.54%
Turner	25	9,006	360	4.00%
Twiggs	14	8,022	573	7.14%
Union	26	24,632	947	3.85%
Upson	34	27,700	815	2.94%
Walker	43	67,654	1573	2.33%
Walton	43	96,673	2248	2.33%
Ware	35	36,251	1036	2.86%
Warren	15	5,215	348	6.67%
Washington	26	19,988	769	3.85%
Wayne	23	30,144	1311	4.35%
Webster	0	2,348	#DIV/0!	#DIV/0!
Wheeler	12	7,471	623	8.33%
White	26	28,003	1077	3.85%
Whitfield	106	102,864	970	0.94%
Wilcox	17	8,766	516	5.88%
Wilkes	17	9,565	563	5.88%
Wilkinson	20	8,877	444	5.00%
Worth	31	20,784	670	3.23%

BLIP State Owned Buildings Risk Data from GMIS											
Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Baldwin	9	Appling	22	Baldwin	4	Appling	5	Bryan	18	Baldwin	4
Barrow	20	Atkinson	6	Bartow	362	Atkinson	6	Camden	6	Banks	9
Bartow	68	Bacon	18	Bleckley	1	Bacon	6	Chatham	181	Barrow	174
Berrien	1	Baker	3	Bryan	59	Baldwin	119	Glynn	144	Bartow	86
Bibb	1	Baldwin	402	Burke	4	Banks	2	McIntosh	147	Catoosa	21
Brantley	3	Ben Hill	22	Catoosa	21	Barrow	29			Chattooga	99
Bryan	13	Berrien	25	Chatham	460	Bartow	86			Cherokee	11
Butts	5	Bibb	265	Chattooga	98	Ben Hill	8			Clarke	701
Camden	1	Bleckley	66	Cherokee	8	Berrien	8			Cobb	129
Charlton	1	Brantley	8	Clarke	2	Bibb	148			Cook	5
Chatham	149	Brooks	6	Columbia	80	Bleckley	47			Coweta	1
Chattooga	9	Bryan	83	Crisp	1	Brantley	3			Dade	84
Clarke	10	Bulloch	174	Dade	84	Bryan	43			Dawson	99
Clay	1	Burke	51	Dawson	9	Bulloch	81			DeKalb	123
Clayton	4	Butts	1	Dooly	4	Burke	15			Douglas	56
Clinch	1	Calhoun	33	Effingham	15	Butts	79			Elbert	150
Coffee	2	Camden	75	Elbert	150	Calhoun	4			Fannin	14
Colquitt	14	Candler	17	Fannin	14	Camden	26			Floyd	133
Cook	12	Catoosa	21	Floyd	133	Candler	12			Forsyth	24
Coweta	7	Charlton	44	Franklin	92	Carroll	105			Franklin	175
Crisp	26	Chatham	469	Gilmer	18	Catoosa	13			Fulton	11
Dawson	3	Chattahoochee	6	Gordon	67	Charlton	8			Gilmer	18
DeKalb	12	Chattooga	98	Greene	1	Chatham	277			Gordon	60
Dougherty	20	Clarke	3	Gwinnett	1	Chattahoochee	5			Gwinnett	83
Douglas	8	Clay	55	Habersham	39	Chattooga	68			Habersham	126
Early	4	Clinch	17	Hart	56	Cherokee	10			Hall	136
Elbert	9	Coffee	113	Lincoln	68	Clarke	326			Hart	57
Emanuel	7	Colquitt	55	Lumpkin	82	Clay	15			Jackson	8
Evans	5	Columbia	145	McDuffie	20	Clayton	44			Lincoln	1
Floyd	3	Cook	32	McIntosh	1	Clinch	9			Lumpkin	103
Franklin	1	Crawford	8	Meriwether	1	Cobb	76			Madison	46

BLIP State Owned Buildings Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Fulton	2	Crisp	145	Murray	104	Coffee	64			Marion	2
Gilmer	2	Dade	84	Paulding	1	Colquitt	19			Monroe	1
Glynn	59	Decatur	76	Pickens	15	Columbia	67			Murray	38
Gordon	14	Dodge	98	Polk	24	Cook	19			Newton	1
Hall	7	Dooly	42	Rabun	97	Coweta	12			Oconee	63
Heard	2	Dougherty	104	Richmond	165	Crawford	8			Oglethorpe	32
Henry	1	Early	57	Screven	16	Crisp	17			Paulding	43
Jasper	1	Echols	5	Stephens	21	Dade	12			Pickens	15
Jeff Davis	6	Effingham	15	Sumter	1	Dawson	14			Polk	24
Jefferson	2	Emanuel	107	Tattnall	2	Decatur	35			Rabun	99
Jenkins	4	Evans	39	Towns	15	DeKalb	178			Stephens	26
Lanier	1	Floyd	134	Union	120	Dodge	85			Toombs	3
Laurens	2	Fulton	1	Walker	76	Dooly	22			Towns	53
Lincoln	1	Glynn	242	White	25	Dougherty	59			Union	120
Long	8	Gordon	67	Whitfield	69	Douglas	18			Walker	76
Lowndes	9	Grady	14	Wilkes	32	Early	8			White	193
Lumpkin	1	Greene	2			Echols	5			Whitfield	70
Macon	3	Hancock	37			Effingham	11			Wilkinson	1
Madison	1	Harris	146			Elbert	8				
McDuffie	1	Hart	1			Emanuel	36				
McIntosh	130	Houston	123			Evans	28				
Meriwether	3	Irwin	17			Fannin	9				
Mitchell	1	Jeff Davis	22			Fayette	3				
Morgan	6	Jefferson	23			Floyd	82				
Newton	1	Jenkins	65			Forsyth	15				
Peach	1	Johnson	43			Franklin	34				
Polk	3	Jones	37			Fulton	64				
Rabun	14	Lamar	1			Gilmer	5				
Richmond	4	Lanier	25			Glynn	62				
Seminole	9	Laurens	78			Gordon	49				
Spalding	3	Lee	59			Grady	12				

BLLIP State Owned Buildings Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Stewart	15	Liberty	26			Greene	4				
Sumter	3	Lincoln	69			Gwinnett	77				
Taliaferro	7	Long	27			Habersham	88				
Tattnall	1	Lowndes	224			Hall	69				
Taylor	1	Lumpkin	1			Hancock	9				
Thomas	1	Macon	75			Haralson	4				
Tift	10	Marion	17			Harris	7				
Troup	3	McDuffie	47			Hart	34				
Union	34	McIntosh	171			Heard	1				
Upson	4	Meriwether	1			Henry	3				
Walker	2	Miller	7			Houston	29				
Walton	4	Mitchell	54			Irwin	8				
Ware	2	Montgomery	53			Jackson	2				
Washington	6	Murray	104			Jasper	12				
Wheeler	13	Muscogee	198			Jeff Davis	1				
White	6	Newton	2			Jefferson	16				
		Peach	121			Jenkins	13				
		Pierce	6			Johnson	7				
		Pike	1			Jones	4				
		Polk	25			Lamar	37				
		Pulaski	47			Lanier	24				
		Quitman	1			Laurens	42				
		Rabun	2			Lee	27				
		Randolph	12			Liberty	25				
		Richmond	346			Lincoln	7				
		Schley	3			Long	16				
		Screven	16			Lowndes	112				
		Seminole	53			Lumpkin	38				
		Spalding	1			Macon	20				
		Stewart	64			Madison	7				
		Sumter	171			Marion	6				

BLIP State Owned Buildings Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
		Talbot	13			McDuffie	8				
		Taliaferro	95			McIntosh	74				
		Tattnall	411			Meriwether	60				
		Taylor	28			Miller	4				
		Telfair	52			Mitchell	32				
		Terrell	16			Monroe	56				
		Thomas	42			Montgomery	33				
		Tift	322			Morgan	16				
		Toombs	52			Murray	46				
		Treutlen	24			Muscogee	140				
		Troup	57			Newton	53				
		Turner	21			Not GA County	1				
		Twiggs	9			Oconee	17				
		Union	7			Oglethorpe	11				
		Walker	77			Paulding	37				
		Ware	236			Peach	103				
		Warren	5			Pickens	14				
		Washington	115			Pierce	6				
		Wayne	60			Pike	28				
		Webster	9			Polk	15				
		Wheeler	111			Pulaski	40				
		Whitfield	69			Putnam	26				
		Wilcox	42			Quitman	1				
		Wilkes	32			Rabun	26				
		Wilkinson	10			Randolph	7				
		Worth	7			Richmond	145				
						Rockdale	19				
						Schley	1				
						Screven	9				
						Seminole	12				
						Spalding	73				

BLLIP State Owned Buildings Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
						Stephens	16				
						Stewart	8				
						Sumter	94				
						Talbot	1				
						Taliaferro	13				
						Tattnall	261				
						Taylor	16				
						Telfair	34				
						Terrell	7				
						Thomas	26				
						Tift	103				
						Toombs	9				
						Towns	29				
						Treutlen	22				
						Troup	17				
						Turner	12				
						Twiggs	7				
						Union	46				
						Upson	37				
						Walker	53				
						Walton	8				
						Ware	107				
						Warren	5				
						Washington	42				
						Wayne	27				
						Webster	2				
						Wheeler	3				
						White	12				
						Whitfield	44				
						Wilcox	4				
						Wilkes	24				

BLIP State Owned Buildings Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
						Wilkinson	7				
						Worth	2				

LLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
Richmond	\$319,683,584	Richmond	\$1,671,301,338	Chatham	\$1,206,274,999	Chatham	\$840,264,513	Clarke	\$5,631,577,762
Glynn	\$199,526,946	Chatham	\$1,229,301,231	Richmond	\$495,321,683	Carroll	\$240,491,949	Cobb	\$972,037,251
Troup	\$103,496,143	Bulloch	\$904,891,048	Whitfield	\$209,528,978	Baldwin	\$159,204,069	Hall	\$373,228,652
Washington	\$67,276,459	Baldwin	\$864,670,743	Floyd	\$199,884,494	Gwinnett	\$104,231,614	DeKalb	\$367,042,071
McIntosh	\$36,573,064	Lowndes	\$741,909,644	Lumpkin	\$168,139,722	Fulton	\$84,839,746	Gwinnett	\$339,723,423
Upson	\$33,353,309	Muscogee	\$615,674,770	Bartow	\$122,094,847	Muscogee	\$73,530,666	Bartow	\$315,564,750
Gordon	\$30,205,017	Dougherty	\$560,742,613	Habersham	\$86,714,294	Cobb	\$63,184,395	Lumpkin	\$296,518,399
Walton	\$28,781,928	Glynn	\$422,350,017	Walker	\$83,937,808	Dougherty	\$62,304,171	Whitfield	\$242,562,478
Henry	\$27,100,000	Bibb	\$392,935,520	Elbert	\$48,875,831	Clarke	\$49,104,752	Floyd	\$216,879,344
Walker	\$22,423,638	Tift	\$339,442,121	Chattooga	\$46,449,257	Peach	\$46,864,324	Habersham	\$189,319,750
Baldwin	\$18,205,862	Houston	\$335,426,783	Columbia	\$43,161,228	Dodge	\$38,359,382	Fulton	\$131,237,544
Polk	\$17,115,758	Sumter	\$331,704,433	Gordon	\$35,757,985	Glynn	\$34,614,659	Chattooga	\$82,627,747
Ware	\$14,165,853	Floyd	\$216,884,494	Polk	\$33,854,076	Walker	\$28,059,511	Walker	\$78,583,296
Union	\$11,778,988	Whitfield	\$209,528,978	Wilkes	\$31,856,537	Henry	\$27,103,223	White	\$76,131,320
Rabun	\$11,158,791	Peach	\$181,418,949	Cherokee	\$28,612,803	Lamar	\$23,712,029	Barrow	\$68,373,652
White	\$8,408,160	Tattnall	\$174,498,094	Catoosa	\$23,428,883	Camden	\$23,109,829	Forsyth	\$68,040,678
Chatham	\$7,118,585	Troup	\$165,996,278	Murray	\$21,354,568	Richmond	\$22,890,031	Paulding	\$67,628,324
Spalding	\$6,674,449	Ware	\$163,881,262	Rabun	\$19,341,354	Tift	\$21,557,571	Elbert	\$66,207,791
Wheeler	\$6,621,876	Laurens	\$155,939,105	Pickens	\$19,275,362	Bleckley	\$20,738,629	Douglas	\$53,082,988
Taylor	\$6,454,968	Dodge	\$133,329,808	Effingham	\$18,604,670	Bulloch	\$19,588,135	Newton	\$49,960,800
Lumpkin	\$6,308,200	Bleckley	\$131,647,740	Baldwin	\$17,997,185	Bibb	\$19,486,187	Gordon	\$46,828,285
Tattnall	\$5,950,230	Washington	\$129,756,872	Stephens	\$17,465,268	Pulaski	\$18,058,742	Pickens	\$45,254,210
Bartow	\$5,602,644	Coffee	\$119,009,647	Lincoln	\$16,863,934	DeKalb	\$17,743,695	Cherokee	\$40,214,192
Lowndes	\$5,512,859	Columbia	\$96,794,294	Union	\$16,726,879	Sumter	\$16,461,651	Towns	\$39,505,200
Mitchell	\$5,042,694	Decatur	\$93,100,438	Franklin	\$16,062,857	Tattnall	\$15,641,713	Union	\$39,451,287
Peach	\$3,957,035	Clarke	\$87,303,700	Bryan	\$13,272,502	Cherokee	\$13,052,416	Dawson	\$37,638,495
Taliaferro	\$3,942,758	Walker	\$84,287,808	Dade	\$13,167,032	Ware	\$12,850,912	Polk	\$33,823,854
Hall	\$3,256,710	Macon	\$76,855,096	Hart	\$12,835,313	Floyd	\$12,752,335	Franklin	\$30,598,833
Seminole	\$2,700,000	Colquitt	\$67,405,045	Fannin	\$8,184,199	Liberty	\$10,804,943	Rabun	\$30,394,066
Sumter	\$2,665,660	Johnson	\$67,151,773	Gilmer	\$7,339,188	Pickens	\$10,763,410	Hart	\$26,450,419
Long	\$2,515,163	Crisp	\$63,854,923	Gwinnett	\$6,975,150	Spalding	\$10,688,850	Stephens	\$24,436,316

LLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
Dougherty	\$2,335,417	Mitchell	\$63,291,858	Tattnell	\$5,950,230	Newton	\$10,625,955	Catoosa	\$23,428,883
Meriwether	\$2,250,000	Dooly	\$63,277,814	Screven	\$3,451,438	Habersham	\$10,033,468	Dade	\$13,261,510
Laurens	\$2,230,181	Toombs	\$62,998,970	Bleckley	\$2,628,649	Lowndes	\$9,860,406	Fannin	\$8,184,199
Tift	\$2,202,450	Emanuel	\$61,265,453	McDuffie	\$2,287,300	Rockdale	\$7,553,273	Oconee	\$7,931,158
Newton	\$1,828,750	Wilcox	\$53,720,043	Dooly	\$1,196,339	Mitchell	\$7,148,618	Oglethorpe	\$7,500,903
Floyd	\$1,540,030	Wayne	\$51,610,364	Towns	\$992,300	Taylor	\$6,816,968	Gilmer	\$7,339,188
Evans	\$1,223,000	Calhoun	\$49,192,533	Clarke	\$900,000	Hall	\$6,809,154	Madison	\$5,067,446
Stewart	\$1,154,980	Chattooga	\$46,449,257	McIntosh	\$677,040	Gordon	\$6,806,475	Murray	\$5,066,752
Jefferson	\$1,058,402	Telfair	\$45,708,939	White	\$396,360	McIntosh	\$6,600,238	Banks	\$2,715,950
Fulton	\$948,482	Pulaski	\$44,840,033	Dawson	\$303,768	Laurens	\$5,820,746	Coweta	\$2,328,000
Macon	\$678,038	Lee	\$42,483,556	Burke	\$235,000	Bartow	\$5,757,326	Jackson	\$1,373,600
Clarke	\$651,627	Camden	\$40,455,015	Crisp	\$100,000	Clayton	\$5,538,918	Monroe	\$633,816
Lincoln	\$600,000	Hancock	\$39,363,277	Greene	\$51,000	Wilkes	\$4,713,975	Wilkinson	\$516,949
DeKalb	\$520,576	Lumpkin	\$37,400,000	Sumter	\$0	Meriwether	\$4,655,367	Marion	\$200,000
Thomas	\$476,122	McIntosh	\$36,971,468	Meriwether	\$0	Decatur	\$4,649,370	Cook	\$107,000
Lanier	\$470,400	Polk	\$35,874,902	Paulding	\$0	Paulding	\$4,451,570	Baldwin	\$52,080
Crisp	\$424,224	Gordon	\$35,757,985			Bryan	\$4,230,546	Toombs	\$21,757
Madison	\$374,000	Wilkes	\$31,856,537			Coffee	\$4,014,988	Lincoln	\$20,000
Jenkins	\$370,000	Thomas	\$31,649,151			Thomas	\$3,943,286		
McDuffie	\$366,282	Harris	\$29,272,512			Chattooga	\$3,621,683		
Colquitt	\$352,592	Bryan	\$28,212,086			Effingham	\$3,433,520		
Emanuel	\$340,657	McDuffie	\$28,013,485			Treutlen	\$2,729,599		
Morgan	\$269,280	Stewart	\$26,657,448			Polk	\$2,679,453		
Jeff Davis	\$211,993	Lamar	\$26,281,431			Lumpkin	\$2,455,012		
Bryan	\$176,690	Terrell	\$25,185,459			Butts	\$2,341,456		
Jasper	\$133,440	Burke	\$24,459,438			Whitfield	\$2,210,110		
Douglas	\$117,565	Catoosa	\$23,428,883			Columbia	\$2,158,457		
Elbert	\$81,820	Ben Hill	\$21,390,067			Telfair	\$2,132,588		
Barrow	\$72,680	Murray	\$21,354,568			Atkinson	\$2,085,910		
Coweta	\$65,783	Effingham	\$18,604,670			Jefferson	\$2,056,465		
Cook	\$63,500	Wheeler	\$18,486,851			Colquitt	\$1,788,342		

BLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
Early	\$52,635	Lincoln	\$17,613,934			Upton	\$1,717,017		
Heard	\$49,848	Liberty	\$16,932,444			Hart	\$1,630,034		
Brantley	\$47,112	Turner	\$16,883,725			Crawford	\$1,617,530		
Gilmer	\$39,752	Evans	\$15,987,948			Grady	\$1,615,286		
Chattooga	\$32,000	Appling	\$15,687,951			Union	\$1,587,370		
Franklin	\$16,000	Clay	\$15,372,367			Forsyth	\$1,534,641		
Butts	\$8,550	Bacon	\$14,183,407			Putnam	\$1,533,138		
Clayton	\$6,600	Jefferson	\$13,340,690			Montgomery	\$1,398,632		
Clinch	\$6,428	Dade	\$13,167,032			Lanier	\$1,312,739		
Coffee	\$5,700	Taliaferro	\$13,021,290			Rabun	\$1,310,402		
Dawson	\$5,500	Candler	\$12,667,421			Candler	\$1,289,663		
Clay	\$5,404	Treutlen	\$12,467,490			Clinch	\$1,280,680		
Charlton	\$4,062	Early	\$11,207,639			Murray	\$1,262,609		
Bibb	\$1,600	Taylor	\$10,834,798			Pike	\$1,255,119		
Berrien	\$1,250	Clinch	\$10,489,786			Monroe	\$1,254,118		
Camden	\$0	Jenkins	\$10,468,268			Seminole	\$1,251,825		
		Long	\$9,582,784			Stephens	\$1,215,192		
		Seminole	\$8,816,769			Terrell	\$1,165,859		
		Montgomery	\$8,528,906			Washington	\$1,142,516		
		Webster	\$7,978,118			Fannin	\$1,135,599		
		Cook	\$7,155,580			Towns	\$1,125,400		
		Charlton	\$6,582,586			Turner	\$1,115,679		
		Randolph	\$5,739,180			Douglas	\$1,076,740		
		Jeff Davis	\$5,142,986			Evans	\$1,056,096		
		Jones	\$5,140,628			Wayne	\$1,049,922		
		Worth	\$4,647,089			Pierce	\$1,020,025		
		Newton	\$4,159,600			Warren	\$913,000		
		Marion	\$3,806,912			Houston	\$906,975		
		Screven	\$3,451,438			Dooly	\$900,293		
		Berrien	\$3,395,337			Echols	\$899,656		
		Union	\$3,138,020			Cook	\$849,200		

BLLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
		Hart	\$2,938,104			Crisp	\$833,137		
		Grady	\$2,451,071			Ben Hill	\$797,990		
		Irwin	\$2,431,609			Not GA County	\$740,871		
		Atkinson	\$2,085,910			Fayette	\$715,000		
		Miller	\$2,028,469			Chattahoochee	\$648,560		
		Lanier	\$1,836,679			Emanuel	\$640,158		
		Wilkinson	\$1,717,561			Catoosa	\$638,400		
		Crawford	\$1,617,530			Madison	\$502,186		
		Brantley	\$1,482,262			Randolph	\$485,200		
		Brooks	\$1,358,223			Lee	\$451,771		
		Talbot	\$1,197,220			Taliaferro	\$451,676		
		Chattahoochee	\$1,148,560			Screven	\$447,007		
		Twiggs	\$1,063,336			Long	\$445,382		
		Pierce	\$1,020,025			Macon	\$425,135		
		Warren	\$913,000			Oconee	\$414,093		
		Echols	\$899,656			Franklin	\$399,664		
		Butts	\$840,000			Clay	\$398,670		
		Spalding	\$641,254			Twiggs	\$371,896		
		Fulton	\$491,625			Barrow	\$340,500		
		Greene	\$483,357			Burke	\$335,196		
		Baker	\$462,223			Wilkinson	\$320,862		
		Schley	\$265,000			Brantley	\$319,500		
		Pike	\$238,500			Marion	\$308,952		
		Rabun	\$39,000			Coweta	\$302,516		
		Meriwether	\$0			Irwin	\$271,465		
		Quitman	\$0			Jasper	\$259,854		
						Troup	\$255,231		
						Bacon	\$254,327		
						Miller	\$239,000		
						Hancock	\$187,990		
						Charlton	\$179,476		

BLLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
						Jenkins	\$175,548		
						Morgan	\$169,178		
						Oglethorpe	\$147,400		
						McDuffie	\$123,139		
						Dawson	\$123,135		
						Early	\$120,180		
						Berrien	\$118,662		
						Worth	\$81,049		
						Walton	\$75,100		
						Stewart	\$71,784		
						Lincoln	\$71,700		
						Greene	\$54,784		
						Toombs	\$54,257		
						White	\$52,000		
						Appling	\$48,120		
						Gilmer	\$40,672		
						Johnson	\$39,676		
						Calhoun	\$38,233		
						Haralson	\$35,900		
						Wilcox	\$34,272		
						Jackson	\$28,000		
						Banks	\$25,700		
						Elbert	\$25,100		
						Dade	\$17,280		
						Harris	\$17,048		
						Jones	\$16,000		
						Heard	\$13,950		
						Wheeler	\$11,997		
						Webster	\$10,319		
						Jeff Davis	\$9,000		
						Quitman	\$0		

BLLIP State Owned Buildings Risk Value Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities	County	Value of Facilities
						Talbot	\$0		
						Schley	\$0		

BLIP State Leased Facilities Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Appling	1	Appling	5	Bartow	30	Appling	3	Chatham	8	Appling	1
Bacon	1	Atkinson	4	Bryan	2	Atkinson	3	Glynn	9	Banks	1
Baker	1	Bacon	4	Burke	1	Bacon	1	Wayne	1	Barrow	6
Baldwin	7	Baker	4	Catoosa	5	Baker	2			Bartow	26
Bartow	2	Baldwin	52	Chatham	33	Baldwin	18			Catoosa	5
Bryan	3	Ben Hill	5	Chattooga	1	Barrow	6			Chattooga	1
Camden	3	Berrien	6	Cherokee	6	Bartow	14			Cherokee	8
Candler	1	Bibb	38	Columbia	7	Ben Hill	2			Clarke	35
Catoosa	1	Bleckley	3	Dade	5	Berrien	4			Cobb	28
Charlton	1	Brantley	2	Dawson	1	Bibb	21			Dade	5
Chatham	10	Brooks	2	Effingham	9	Bleckley	1			Dawson	3
Clayton	4	Bryan	9	Elbert	7	Brantley	2			DeKalb	14
Clinch	1	Bulloch	35	Fannin	2	Brooks	2			Douglas	6
Cobb	4	Burke	6	Floyd	17	Bryan	6			Elbert	7
Cook	2	Calhoun	1	Franklin	4	Bulloch	12			Fannin	2
Crisp	2	Camden	8	Gilmer	6	Burke	4			Floyd	17
Decatur	1	Candler	5	Gordon	7	Butts	6			Forsyth	10
DeKalb	1	Carroll	1	Hart	6	Calhoun	1			Franklin	6
Dougherty	1	Catoosa	5	Lincoln	7	Camden	6			Fulton	6
Early	1	Charlton	7	Lumpkin	6	Candler	4			Gilmer	7
Echols	1	Chatham	33	McDuffie	7	Carroll	10			Gordon	7
Emanuel	1	Chattahoochee	3	Murray	7	Catoosa	5			Gwinnett	38
Floyd	2	Chattooga	1	Pickens	5	Charlton	2			Habersham	7
Franklin	1	Clay	8	Polk	7	Chatham	24			Hall	71
Gilmer	1	Clinch	2	Rabun	4	Chattahoochee	1			Hart	6
Glynn	2	Coffee	13	Richmond	17	Chattooga	1			Jackson	2
Gordon	2	Colquitt	7	Screven	6	Cherokee	4			Lincoln	2
Hancock	1	Columbia	11	Stephens	7	Clarke	24			Lumpkin	10
Henry	1	Cook	9	Towns	1	Clay	3			Madison	2
Houston	1	Crawford	2	Union	7	Clayton	22			Murray	4
Jenkins	1	Crisp	8	Walker	10	Clinch	2			Oconee	5

BLIP State Leased Facilities Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Lanier	1	Dade	5	Whitfield	11	Cobb	16			Oglethorpe	2
Liberty	1	Decatur	12	Wilkes	6	Coffee	6			Paulding	7
Lincoln	2	Dodge	7			Colquitt	1			Pickens	5
Lowndes	5	Dooly	1			Columbia	9			Polk	7
McIntosh	2	Dougherty	22			Cook	8			Rabun	4
Meriwether	1	Early	5			Coweta	8			Stephens	8
Murray	1	Echols	2			Crawford	2			Stewart	1
Muscogee	2	Effingham	9			Crisp	2			Towns	1
Polk	2	Elbert	1			Dade	4			Union	7
Quitman	1	Emanuel	10			Dawson	1			Walker	10
Richmond	3	Evans	4			Decatur	3			Walton	1
Stephens	1	Floyd	17			DeKalb	62			White	6
Tattnall	1	Forsyth	1			Dodge	6			Whitfield	11
Tift	2	Glascocock	2			Dooly	1			Wilkes	1
Wayne	1	Glynn	17			Dougherty	10				
Whitfield	1	Gordon	7			Douglas	6				
		Grady	3			Early	2				
		Hancock	4			Echols	2				
		Haralson	1			Effingham	7				
		Harris	3			Elbert	3				
		Houston	15			Emanuel	7				
		Irwin	2			Evans	2				
		Jeff Davis	4			Fannin	2				
		Jefferson	7			Fayette	6				
		Jenkins	4			Floyd	7				
		Johnson	3			Forsyth	6				
		Jones	4			Franklin	2				
		Lanier	3			Fulton	23				
		Laurens	18			Gilmer	1				
		Lee	6			Glascocock	2				
		Liberty	7			Glynn	9				

BLLIP State Leased Facilities Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
		Lincoln	7			Gordon	4				
		Long	3			Grady	1				
		Lowndes	44			Greene	3				
		Macon	2			Gwinnett	30				
		Marion	1			Habersham	7				
		McDuffie	7			Hall	66				
		McIntosh	4			Hancock	2				
		Meriwether	1			Haralson	4				
		Miller	2			Harris	1				
		Mitchell	8			Hart	3				
		Montgomery	1			Heard	2				
		Murray	7			Henry	9				
		Muscogee	47			Houston	11				
		Peach	5			Irwin	1				
		Pierce	3			Jackson	2				
		Polk	7			Jasper	2				
		Pulaski	2			Jefferson	3				
		Quitman	4			Jenkins	2				
		Randolph	5			Johnson	3				
		Richmond	23			Jones	3				
		Schley	2			Lamar	14				
		Screven	6			Lanier	1				
		Seminole	3			Laurens	15				
		Sumter	17			Lee	3				
		Talbot	3			Liberty	6				
		Taliaferro	1			Lincoln	1				
		Tattnall	11			Long	2				
		Taylor	3			Lowndes	27				
		Telfair	3			Lumpkin	6				
		Terrell	4			Macon	2				
		Thomas	22			Madison	2				

BLLIP State Leased Facilities Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
		Tift	27			Marion	1				
		Toombs	12			McDuffie	7				
		Treutlen	3			McIntosh	3				
		Troup	16			Meriwether	4				
		Turner	3			Miller	2				
		Twiggs	1			Mitchell	1				
		Walker	10			Monroe	5				
		Ware	14			Montgomery	1				
		Warren	2			Morgan	3				
		Washington	5			Murray	6				
		Wayne	9			Muscogee	13				
		Webster	3			Newton	6				
		Wheeler	1			Oconee	4				
		Whitfield	11			Oglethorpe	1				
		Wilcox	2			Paulding	7				
		Wilkes	6			Peach	2				
		Wilkinson	2			Pickens	4				
		Worth	5			Pierce	3				
						Polk	6				
						Pulaski	1				
						Putnam	2				
						Quitman	1				
						Rabun	2				
						Randolph	5				
						Richmond	12				
						Rockdale	5				
						Schley	2				
						Screven	3				
						Seminole	1				
						Spalding	21				
						Stephens	7				

BLIP State Leased Facilities Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
						Sumter	10				
						Talbot	2				
						Taliaferro	1				
						Tattnall	8				
						Taylor	3				
						Telfair	3				
						Terrell	3				
						Thomas	17				
						Tift	17				
						Toombs	7				
						Towns	1				
						Troup	12				
						Turner	2				
						Twiggs	1				
						Union	3				
						Upson	4				
						Walker	7				
						Walton	32				
						Ware	2				
						Warren	1				
						Washington	4				
						Wayne	4				
						Webster	1				
						Wheeler	1				
						White	6				
						Whitfield	5				
						Wilcox	1				
						Wilkes	4				
						Wilkinson	1				

BLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
Appling	\$327,166	Appling	\$645,295	Bartow	\$4,112,854	Appling	\$337,205	Appling	\$0
Bacon	\$40,000	Atkinson	\$219,595	Bryan	\$40,000	Atkinson	\$219,595	Banks	\$191,962
Baker	\$0	Bacon	\$456,763	Burke	\$14,000	Bacon	\$100,000	Barrow	\$1,123,886
Baldwin	\$365,000	Baker	\$216,423	Catoosa	\$347,407	Baker	\$216,423	Bartow	\$4,112,854
Bartow	\$0	Baldwin	\$3,678,000	Chatham	\$9,543,757	Baldwin	\$1,432,106	Catoosa	\$347,407
Bryan	\$70,000	Ben Hill	\$221,338	Chattooga	\$379,815	Barrow	\$1,123,886	Chattooga	\$379,815
Camden	\$0	Berrien	\$641,312	Cherokee	\$359,560	Bartow	\$2,492,149	Cherokee	\$1,295,569
Candler	\$14,000	Bibb	\$11,945,084	Columbia	\$770,090	Ben Hill	\$211,338	Clarke	\$10,679,491
Catoosa	\$256,985	Bleckley	\$228,125	Dade	\$447,980	Berrien	\$104,000	Cobb	\$44,311,572
Charlton	\$0	Brantley	\$288,891	Dawson	\$165,490	Bibb	\$7,014,678	Dade	\$447,980
Chatham	\$2,202,236	Brooks	\$366,455	Effingham	\$492,318	Bleckley	\$218,087	Dawson	\$184,790
Clayton	\$580,533	Bryan	\$492,087	Elbert	\$387,272	Brantley	\$288,891	DeKalb	\$1,040,340
Clinch	\$160,389	Bulloch	\$12,452,272	Fannin	\$298,532	Brooks	\$366,455	Douglas	\$605,509
Cobb	\$651,227	Burke	\$717,339	Floyd	\$2,887,152	Bryan	\$452,087	Elbert	\$387,272
Cook	\$5,000	Calhoun	\$210,728	Franklin	\$285,135	Bulloch	\$671,886	Fannin	\$298,532
Crisp	\$302,194	Camden	\$414,444	Gilmer	\$893,449	Burke	\$703,339	Floyd	\$2,887,152
Decatur	\$0	Candler	\$294,757	Gordon	\$976,124	Butts	\$360,944	Forsyth	\$2,387,354
DeKalb	\$250,000	Carroll	\$0	Hart	\$507,310	Calhoun	\$210,728	Franklin	\$552,337
Dougherty	\$0	Catoosa	\$347,407	Lincoln	\$102,745	Camden	\$410,944	Fulton	\$3,199,467
Early	\$150,000	Charlton	\$265,275	Lumpkin	\$552,388	Candler	\$294,757	Gilmer	\$893,449
Echols	\$0	Chatham	\$9,543,757	McDuffie	\$580,541	Carroll	\$1,159,934	Gordon	\$976,124
Emanuel	\$309,074	Chattahoochee	\$281,919	Murray	\$462,617	Catoosa	\$347,407	Gwinnett	\$27,275,855
Floyd	\$2,105,484	Chattooga	\$379,815	Pickens	\$354,202	Charlton	\$196,414	Habersham	\$858,213
Franklin	\$20,000	Clay	\$570,561	Polk	\$917,860	Chatham	\$3,357,095	Hall	\$2,498,622
Gilmer	\$35,000	Clinch	\$260,389	Rabun	\$201,683	Chattahoochee	\$205,289	Hart	\$507,310
Glynn	\$0	Coffee	\$1,494,594	Richmond	\$6,316,306	Chattooga	\$379,815	Jackson	\$430,031
Gordon	\$482,960	Colquitt	\$1,232,081	Screven	\$625,141	Cherokee	\$1,015,009	Lincoln	\$0
Hancock	\$50,000	Columbia	\$810,090	Stephens	\$353,361	Clarke	\$8,629,213	Lumpkin	\$1,089,515

BLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
Henry	\$100,000	Cook	\$899,343	Towns	\$134,143	Clay	\$570,561	Madison	\$234,935
Houston	\$12,873	Crawford	\$174,894	Union	\$400,629	Clayton	\$12,000,799	Murray	\$448,617
Jenkins	\$0	Crisp	\$1,647,236	Walker	\$1,393,926	Clinch	\$260,389	Oconee	\$600,620
Lanier	\$50,000	Dade	\$447,980	Whitfield	\$2,852,407	Cobb	\$3,591,513	Oglethorpe	\$125,665
Liberty	\$0	Decatur	\$1,126,990	Wilkes	\$277,472	Coffee	\$723,524	Paulding	\$838,902
Lincoln	\$0	Dodge	\$704,543			Colquitt	\$14,000	Pickens	\$354,202
Lowndes	\$0	Dooly	\$254,618			Columbia	\$752,877	Polk	\$917,860
McIntosh	\$20,000	Dougherty	\$5,109,794			Cook	\$534,343	Rabun	\$201,683
Meriwether	\$466,165	Early	\$659,904			Coweta	\$3,248,205	Stephens	\$367,361
Murray	\$35,000	Echols	\$182,611			Crawford	\$174,894	Stewart	\$139,761
Muscogee	\$0	Effingham	\$492,318			Crisp	\$122,258	Towns	\$134,143
Polk	\$150,000	Elbert	\$324,063			Dade	\$437,103	Union	\$400,629
Quitman	\$0	Emanuel	\$4,451,134			Dawson	\$165,490	Walker	\$1,393,926
Richmond	\$0	Evans	\$328,361			Decatur	\$646,132	Walton	\$240,499
Stephens	\$1	Floyd	\$2,887,152			DeKalb	\$30,941,875	White	\$810,492
Tattnall	\$144,362	Forsyth	\$52,000			Dodge	\$528,638	Whitfield	\$2,852,407
Tift	\$200,000	Glascok	\$113,557			Dooly	\$254,618	Wilkes	\$0
Wayne	\$10,039	Glynn	\$2,080,155			Dougherty	\$1,672,885	(blank)	\$2,002,500
Whitfield	\$469,568	Gordon	\$976,124			Douglas	\$735,509		
		Grady	\$346,583			Early	\$475,904		
		Hancock	\$226,367			Echols	\$182,611		
		Haralson	\$14,000			Effingham	\$492,318		
		Harris	\$401,426			Elbert	\$338,105		
		Houston	\$1,180,605			Emanuel	\$950,934		
		Irwin	\$171,625			Evans	\$52,537		
		Jeff Davis	\$269,898			Fannin	\$298,532		
		Jefferson	\$838,075			Fayette	\$481,891		
		Jenkins	\$474,384			Floyd	\$240,570		

BLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
		Johnson	\$199,851			Forsyth	\$559,919		
		Jones	\$515,920			Franklin	\$284,567		
		Lanier	\$272,828			Fulton	\$25,209,477		
		Laurens	\$1,873,306			Gilmer	\$110,000		
		Lee	\$421,237			Glascocock	\$113,557		
		Liberty	\$917,671			Glynn	\$1,481,913		
		Lincoln	\$102,745			Gordon	\$784,512		
		Long	\$236,410			Grady	\$50,000		
		Lowndes	\$4,875,097			Greene	\$259,334		
		Macon	\$722,721			Gwinnett	\$6,411,013		
		Marion	\$118,060			Habersham	\$858,213		
		McDuffie	\$580,541			Hall	\$3,891,022		
		McIntosh	\$161,180			Hancock	\$176,367		
		Meriwether	\$0			Haralson	\$493,942		
		Miller	\$234,674			Harris	\$221,426		
		Mitchell	\$811,222			Hart	\$1		
		Montgomery	\$182,842			Heard	\$735,854		
		Murray	\$462,617			Henry	\$1,843,945		
		Muscogee	\$26,629,032			Houston	\$441,053		
		Peach	\$35,137			Irwin	\$35,000		
		Pierce	\$320,857			Jackson	\$430,031		
		Polk	\$917,860			Jasper	\$277,407		
		Pulaski	\$259,920			Jefferson	\$660,195		
		Quitman	\$140,034			Jenkins	\$474,384		
		Randolph	\$581,957			Johnson	\$199,851		
		Richmond	\$7,891,008			Jones	\$501,920		
		Schley	\$144,802			Lamar	\$435,144		
		Screven	\$625,141			Lanier	\$222,828		

BLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
		Seminole	\$292,712			Laurens	\$1,867,368		
		Sumter	\$999,277			Lee	\$382,737		
		Talbot	\$393,870			Liberty	\$867,671		
		Taliaferro	\$93,725			Lincoln	\$88,745		
		Tattnall	\$699,556			Long	\$226,371		
		Taylor	\$774,251			Lowndes	\$370,124		
		Telfair	\$382,564			Lumpkin	\$602,388		
		Terrell	\$666,041			Macon	\$722,721		
		Thomas	\$2,257,700			Madison	\$234,935		
		Tift	\$2,693,318			Marion	\$118,060		
		Toombs	\$1,286,473			McDuffie	\$580,541		
		Treutlen	\$199,648			McIntosh	\$141,180		
		Troup	\$1,272,086			Meriwether	\$388,000		
		Turner	\$287,651			Miller	\$234,674		
		Twiggs	\$154,723			Mitchell	\$0		
		Walker	\$1,393,926			Monroe	\$288,733		
		Ware	\$1,825,192			Montgomery	\$182,842		
		Warren	\$139,038			Morgan	\$204,899		
		Washington	\$780,495			Murray	\$462,617		
		Wayne	\$787,986			Muscogee	\$2,848,591		
		Webster	\$127,842			Newton	\$1,155,451		
		Wheeler	\$212,664			Oconee	\$535,620		
		Whitfield	\$2,852,407			Oglethorpe	\$0		
		Wilcox	\$222,782			Paulding	\$838,902		
		Wilkes	\$277,472			Peach	\$35,137		
		Wilkinson	\$184,891			Pickens	\$339,202		
		Worth	\$444,120			Pierce	\$320,857		
		(blank)	\$170,000			Polk	\$906,529		

BLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
						Pulaski	\$199,920		
						Putnam	\$289,046		
						Quitman	\$106,034		
						Rabun	\$201,683		
						Randolph	\$581,957		
						Richmond	\$790,703		
						Rockdale	\$579,556		
						Schley	\$144,802		
						Screven	\$494,081		
						Seminole	\$50,000		
						Spalding	\$1,522,926		
						Stephens	\$353,361		
						Sumter	\$625,363		
						Talbot	\$393,870		
						Taliaferro	\$93,725		
						Tattnall	\$342,651		
						Taylor	\$774,251		
						Telfair	\$382,564		
						Terrell	\$666,041		
						Thomas	\$1,152,661		
						Tift	\$1,099,654		
						Toombs	\$969,637		
						Towns	\$134,143		
						Troup	\$795,046		
						Turner	\$217,651		
						Twiggs	\$154,723		
						Union	\$238,522		
						Upton	\$242,310		

BLLIP State Leased Facilities Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value	County	Insured Contents Value
						Walker	\$1,233,837		
						Walton	\$110,809		
						Ware	\$234,629		
						Warren	\$139,038		
						Washington	\$496,689		
						Wayne	\$395,947		
						Webster	\$117,803		
						Wheeler	\$212,664		
						White	\$810,492		
						Whitfield	\$2,431,936		
						Wilcox	\$222,782		
						Wilkes	\$177,472		
						Wilkinson	\$170,891		

BLLIP Other State Assets Risk Data from GMIS											
Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Appling	4	Appling	19	Bartow	14	Appling	2	Bryan	3	Banks	5
Atkinson	2	Atkinson	7	Bryan	9	Atkinson	4	Chatham	539	Barrow	45
Baker	2	Bacon	6	Burke	2	Bacon	1	Effingham	1	Bartow	11
Baldwin	3	Baker	3	Catoosa	8	Baldwin	21	Glynn	55	Catoosa	8
Barrow	23	Baldwin	55	Charlton	1	Banks	4	McIntosh	17	Chattooga	22
Ben Hill	1	Barrow	1	Chatham	734	Barrow	5			Cherokee	5
Berrien	3	Ben Hill	9	Chattooga	22	Bartow	7			Clarke	92
Bryan	5	Berrien	28	Cherokee	5	Ben Hill	2			Cobb	31
Burke	2	Bibb	49	Columbia	12	Berrien	2			Dade	11
Camden	1	Bleckley	9	Dade	11	Bibb	22			Dawson	12
Carroll	1	Brantley	5	Dawson	5	Bleckley	7			DeKalb	16
Charlton	4	Brooks	5	Effingham	14	Brantley	3			Douglas	13
Chatham	528	Bryan	18	Elbert	69	Brooks	2			Elbert	69
Clarke	1	Bulloch	38	Fannin	4	Bryan	11			Fannin	4
Clay	5	Burke	31	Floyd	22	Bulloch	6			Floyd	22
Cobb	4	Calhoun	8	Forsyth	2	Burke	4			Forsyth	17
Coffee	2	Camden	14	Franklin	16	Butts	20			Franklin	21
Colquitt	3	Candler	4	Fulton	1	Calhoun	2			Fulton	9
Cook	4	Catoosa	8	Gilmer	4	Camden	5			Gilmer	4
Coweta	1	Charlton	12	Gordon	8	Candler	3			Gordon	7
Crawford	1	Chatham	766	Habersham	3	Carroll	11			Gwinnett	37
Crisp	3	Chattahoochee	4	Hart	20	Catoosa	4			Habersham	24
Decatur	8	Chattooga	22	Jeff Davis	1	Charlton	2			Hall	49
DeKalb	1	Clay	13	Laurens	1	Chatham	84			Hart	20
Dougherty	28	Clinch	6	Lincoln	7	Chattahoochee	4			Jackson	5
Douglas	5	Coffee	17	Lumpkin	5	Chattooga	11			Jeff Davis	1
Early	8	Colquitt	13	McDuffie	5	Cherokee	1			Liberty	1
Echols	1	Columbia	24	McIntosh	1	Clarke	41			Lincoln	2
Effingham	4	Cook	10	Murray	24	Clay	2			Lumpkin	6
Elbert	46	Crawford	3	Not GA County	1	Clayton	10			Madison	5
Emanuel	2	Crisp	12	Pickens	4	Clinch	5			Monroe	2

BLLIP Other State Assets Risk Data from GMIS											
Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Evans	4	Dade	11	Polk	5	Cobb	24			Morgan	1
Floyd	4	Dawson	4	Rabun	38	Coffee	4			Murray	12
Fulton	2	Decatur	37	Richmond	75	Colquitt	5			Not GA County	1
Glynn	34	Dodge	26	Screven	26	Columbia	13			Oconee	6
Gordon	3	Dooly	8	Stephens	5	Cook	4			Oglethorpe	6
Grady	2	Dougherty	55	Towns	3	Coweta	4			Paulding	5
Greene	3	Early	26	Union	13	Crawford	2			Pickens	4
Hall	9	Echols	6	Walker	14	Dade	5			Polk	5
Hancock	2	Effingham	14	White	6	Dawson	6			Rabun	39
Harris	5	Emanuel	55	Whitfield	14	Decatur	4			Richmond	2
Hart	3	Evans	18	Wilkes	3	DeKalb	61			Stephens	5
Heard	2	Floyd	22			Dodge	19			Towns	3
Houston	1	Fulton	2			Dooly	7			Union	13
Jasper	4	Glascok	3			Dougherty	36			Walker	14
Jeff Davis	4	Glynn	69			Douglas	6			White	9
Jefferson	1	Gordon	8			Early	2			Whitfield	14
Laurens	5	Grady	6			Echols	5			Wilcox	1
Lee	1	Hancock	12			Effingham	9				
Liberty	1	Harris	20			Elbert	4				
Lincoln	5	Heard	1			Emanuel	13				
Long	2	Houston	17			Evans	9				
Lowndes	2	Irwin	5			Fannin	3				
Macon	2	Jackson	1			Fayette	3				
McDuffie	9	Jeff Davis	26			Floyd	8				
McIntosh	21	Jefferson	22			Forsyth	11				
Mitchell	1	Jenkins	15			Franklin	4				
Monroe	2	Johnson	7			Fulton	23				
Montgomery	2	Jones	8			Gilmer	2				
Morgan	5	Lanier	10			Glascok	3				
Muscogee	3	Laurens	25			Glynn	40				
Newton	4	Lee	17			Gordon	6				

BLLIP Other State Assets Risk Data from GMIS											
Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
Pierce	2	Liberty	12			Grady	2				
Polk	1	Lincoln	9			Greene	2				
Pulaski	5	Long	10			Gwinnett	34				
Putnam	3	Lowndes	55			Habersham	17				
Rabun	10	Macon	18			Hall	14				
Richmond	2	Marion	3			Hancock	1				
Screven	8	McDuffie	35			Haralson	4				
Seminole	11	McIntosh	29			Harris	2				
Stewart	11	Meriwether	3			Hart	12				
Talbot	1	Miller	2			Heard	2				
Tattnall	5	Mitchell	13			Henry	6				
Terrell	1	Montgomery	10			Houston	5				
Toombs	3	Murray	22			Irwin	1				
Towns	1	Muscogee	28			Jackson	4				
Troup	1	Not GA County	1			Jasper	3				
Union	2	Oconee	1			Jeff Davis	3				
Washington	3	Peach	11			Jefferson	12				
Wayne	3	Pierce	8			Jenkins	10				
Webster	1	Polk	5			Johnson	4				
Wheeler	1	Pulaski	9			Jones	6				
Wilcox	2	Quitman	2			Lamar	1				
		Randolph	3			Lanier	10				
		Richmond	87			Laurens	5				
		Schley	2			Lee	13				
		Screven	26			Liberty	8				
		Seminole	15			Lincoln	2				
		Stewart	20			Long	7				
		Sumter	17			Lowndes	29				
		Talbot	8			Lumpkin	6				
		Taliaferro	2			Macon	7				
		Tattnall	48			Madison	3				

BLLIP Other State Assets Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
		Taylor	5			Marion	3				
		Telfair	13			McDuffie	5				
		Terrell	6			McIntosh	13				
		Thomas	6			Meriwether	5				
		Tift	56			Miller	2				
		Toombs	19			Mitchell	6				
		Treutlen	13			Monroe	11				
		Troup	16			Montgomery	7				
		Turner	4			Morgan	3				
		Twiggs	3			Murray	12				
		Union	1			Muscogee	16				
		Upton	1			Newton	16				
		Walker	14			Not GA County	2				
		Ware	24			Oconee	7				
		Warren	4			Oglethorpe	4				
		Washington	27			Paulding	2				
		Wayne	20			Peach	6				
		Webster	5			Pickens	4				
		Wheeler	8			Pierce	5				
		Whitfield	14			Pike	6				
		Wilcox	10			Polk	2				
		Wilkes	3			Pulaski	5				
		Wilkinson	8			Putnam	10				
		Worth	3			Quitman	1				
						Rabun	8				
						Randolph	2				
						Richmond	15				
						Rockdale	2				
						Schley	2				
						Screven	6				
						Seminole	5				

BLLIP Other State Assets Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
						Spalding	6				
						Stephens	4				
						Stewart	5				
						Sumter	12				
						Talbot	2				
						Taliaferro	1				
						Tattnall	32				
						Taylor	5				
						Telfair	7				
						Terrell	3				
						Thomas	4				
						Tift	23				
						Toombs	2				
						Towns	1				
						Treutlen	13				
						Troup	3				
						Turner	2				
						Twiggs	3				
						Union	9				
						Upson	2				
						Walker	13				
						Walton	2				
						Ware	15				
						Warren	3				
						Washington	11				
						Wayne	2				
						Webster	2				
						Wheeler	3				
						White	4				
						Whitfield	10				
						Wilcox	4				

BLLIP Other State Assets Risk Data from GMIS											
Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		SLOSH Cat 1 and 2		Landslide at Risk	
County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities	County	Number of Facilities
						Wilkes	2				
						Wilkinson	3				

BLIP Other State Assets Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value
Appling	\$210,000	Appling	\$956,256	Bartow	\$2,347,352	Appling	\$96,000	Banks	\$1,409,984
Atkinson	\$60,000	Atkinson	\$153,050	Bryan	\$402,000	Atkinson	\$76,800	Barrow	\$4,033,192
Baker	\$120,000	Bacon	\$320,850	Burke	\$60,000	Bacon	\$41,250	Bartow	\$1,497,352
Baldwin	\$120,000	Baker	\$170,000	Catoosa	\$207,722	Baldwin	\$6,039,217	Catoosa	\$207,722
Barrow	\$3,078,391	Baldwin	\$19,030,064	Charlton	\$125,000	Banks	\$152,387	Chattooga	\$3,870,515
Ben Hill	\$30,000	Barrow	\$75,000	Chatham	\$1,412,079,500	Barrow	\$132,700	Cherokee	\$255,101
Berrien	\$50,000	Ben Hill	\$181,548	Chattooga	\$3,870,515	Bartow	\$471,869	Clarke	\$35,968,452
Bryan	\$285,000	Berrien	\$542,675	Cherokee	\$275,101	Ben Hill	\$63,500	Cobb	\$10,918,982
Burke	\$60,000	Bibb	\$5,298,284	Columbia	\$430,962	Berrien	\$66,300	Dade	\$907,256
Camden	\$0	Bleckley	\$1,193,800	Dade	\$907,256	Bibb	\$1,973,883	Dawson	\$419,724
Carroll	\$100,000	Brantley	\$121,053	Dawson	\$95,000	Bleckley	\$1,096,800	DeKalb	\$36,235,000
Charlton	\$105,000	Brooks	\$108,334	Effingham	\$792,407	Brantley	\$66,250	Douglas	\$6,596,725
Chatham	\$631,636,957	Bryan	\$742,482	Elbert	\$1,526,602	Brooks	\$40,334	Elbert	\$1,526,602
Clarke	\$100,000	Bulloch	\$19,966,103	Fannin	\$102,636	Bryan	\$425,482	Fannin	\$102,636
Clay	\$2,025,000	Burke	\$907,895	Floyd	\$2,999,680	Bulloch	\$15,860,500	Floyd	\$2,999,680
Cobb	\$109,638	Calhoun	\$1,006,800	Forsyth	\$150,000	Burke	\$47,837	Forsyth	\$2,493,167
Coffee	\$40,000	Camden	\$442,112	Franklin	\$867,200	Butts	\$4,381,394	Franklin	\$939,019
Colquitt	\$23,000	Candler	\$127,798	Fulton	\$0	Calhoun	\$66,000	Fulton	\$13,016,332
Cook	\$56,000	Catoosa	\$207,722	Gilmer	\$98,544	Camden	\$321,921	Gilmer	\$98,544
Coweta	\$0	Charlton	\$885,447	Gordon	\$294,086	Candler	\$99,598	Gordon	\$294,086
Crawford	\$45,000	Chatham	\$1,540,781,500	Habersham	\$0	Carroll	\$682,523	Gwinnett	\$9,206,014
Crisp	\$2,058,750	Chattahoochee	\$169,179	Hart	\$1,044,713	Catoosa	\$92,887	Habersham	\$4,604,991
Decatur	\$180,000	Chattooga	\$3,870,515	Jeff Davis	\$0	Charlton	\$61,747	Hall	\$18,857,223
DeKalb	\$163,234	Clay	\$2,583,624	Laurens	\$40,000	Chatham	\$142,789,932	Hart	\$1,044,713
Dougherty	\$2,135,417	Clinch	\$252,948	Lincoln	\$96,867	Chattahoochee	\$169,179	Jackson	\$586,305
Douglas	\$5,075,000	Coffee	\$1,142,771	Lumpkin	\$139,436	Chattooga	\$3,261,869	Jeff Davis	\$0
Early	\$72,000	Colquitt	\$1,054,640	McDuffie	\$117,985	Cherokee	\$25,000	Liberty	\$27,391
Echols	\$30,000	Columbia	\$1,831,849	McIntosh	\$60,000	Clarke	\$13,023,998	Lincoln	\$60,000
Effingham	\$379,000	Cook	\$160,250	Murray	\$8,401,789	Clay	\$1,687,224	Lumpkin	\$186,236
Elbert	\$1,032,505	Crawford	\$109,440	Not GA County	\$24,015	Clayton	\$1,826,724	Madison	\$113,559
Emanuel	\$40,000	Crisp	\$2,507,577	Pickens	\$187,940	Clinch	\$157,150	Monroe	\$73,588
Evans	\$111,000	Dade	\$907,256	Polk	\$123,551	Cobb	\$7,304,654	Morgan	\$5,000

BLIP Other State Assets Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value
Floyd	\$135,000	Dawson	\$95,000	Rabun	\$277,013	Coffee	\$82,250	Murray	\$721,789
Fulton	\$70,000	Decatur	\$5,713,618	Richmond	\$14,818,067	Colquitt	\$902,668	Oconee	\$376,549
Glynn	\$136,254,545	Dodge	\$2,961,614	Screven	\$1,443,580	Columbia	\$1,360,635	Oglethorpe	\$121,741
Gordon	\$90,000	Dooly	\$3,108,798	Stephens	\$154,734	Cook	\$67,000	Paulding	\$993,188
Grady	\$60,000	Dougherty	\$5,881,981	Towns	\$46,509	Coweta	\$130,400	Pickens	\$187,940
Greene	\$75,000	Early	\$192,054	Union	\$517,460	Crawford	\$64,440	Polk	\$123,551
Hall	\$8,620,281	Echols	\$128,775	Walker	\$1,466,941	Dade	\$704,015	Rabun	\$277,013
Hancock	\$30,000	Effingham	\$792,407	White	\$122,700	Dawson	\$147,358	Richmond	\$31,301
Harris	\$180,000	Emanuel	\$1,269,464	Whitfield	\$2,845,931	Decatur	\$1,256,289	Stephens	\$154,734
Hart	\$75,000	Evans	\$754,190	Wilkes	\$71,545	DeKalb	\$111,059,665	Towns	\$46,509
Heard	\$46,000	Floyd	\$2,999,680			Dodge	\$2,793,023	Union	\$517,460
Houston	\$30,000	Fulton	\$1,880,000			Dooly	\$3,064,798	Walker	\$1,466,941
Jasper	\$86,600	Glascocock	\$23,217			Dougherty	\$2,775,257	White	\$165,246
Jeff Davis	\$40,000	Glynn	\$147,220,149			Douglas	\$1,486,725	Whitfield	\$2,845,931
Jefferson	\$30,000	Gordon	\$294,086			Early	\$30,054	Wilcox	\$0
Laurens	\$110,000	Grady	\$268,012			Echols	\$92,775		
Lee	\$30,000	Hancock	\$2,874,198			Effingham	\$443,407		
Liberty	\$50,000	Harris	\$1,810,442			Elbert	\$217,794		
Lincoln	\$79,200	Heard	\$25,000			Emanuel	\$423,957		
Long	\$40,000	Houston	\$1,110,923			Evans	\$512,893		
Lowndes	\$60,000	Irwin	\$136,600			Fannin	\$55,836		
Macon	\$50,000	Jackson	\$70,000			Fayette	\$760,565		
McDuffie	\$78,500	Jeff Davis	\$340,653			Floyd	\$2,398,504		
McIntosh	\$2,143,680	Jefferson	\$346,284			Forsyth	\$1,212,377		
Mitchell	\$2,318,000	Jenkins	\$138,289			Franklin	\$170,000		
Monroe	\$865,000	Johnson	\$2,369,880			Fulton	\$18,279,348		
Montgomery	\$30,000	Jones	\$150,569			Gilmer	\$59,774		
Morgan	\$2,500	Lanier	\$233,039			Glascocock	\$23,217		
Muscogee	\$460,000	Laurens	\$1,273,525			Glynn	\$2,497,786		
Newton	\$40,500	Lee	\$2,844,326			Gordon	\$234,086		
Pierce	\$60,000	Liberty	\$825,262			Grady	\$115,000		
Polk	\$0	Lincoln	\$214,867			Greene	\$21,154		

BLIP Other State Assets Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value
Pulaski	\$140,750	Long	\$207,072			Gwinnett	\$8,003,120		
Putnam	\$100,000	Lowndes	\$14,292,171			Habersham	\$4,467,175		
Rabun	\$156,550	Macon	\$6,566,198			Hall	\$904,632		
Richmond	\$45,000	Marion	\$79,722			Hancock	\$27,994		
Screven	\$245,000	McDuffie	\$446,765			Haralson	\$159,401		
Seminole	\$455,000	McIntosh	\$2,429,823			Harris	\$109,202		
Stewart	\$1,762,545	Meriwether	\$172,660			Hart	\$877,713		
Talbot	\$48,000	Miller	\$40,271			Heard	\$205,788		
Tattnell	\$40,000	Mitchell	\$3,287,126			Henry	\$2,518,673		
Terrell	\$30,000	Montgomery	\$1,027,013			Houston	\$183,050		
Toombs	\$60,000	Murray	\$8,327,923			Irwin	\$16,000		
Towns	\$30,000	Muscogee	\$4,717,366			Jackson	\$558,793		
Troup	\$425,000	Not GA County	\$30,000			Jasper	\$35,302		
Union	\$60,000	Oconee	\$0			Jeff Davis	\$135,650		
Washington	\$0	Peach	\$180,150			Jefferson	\$180,129		
Wayne	\$120,000	Pierce	\$248,594			Jenkins	\$74,589		
Webster	\$30,000	Polk	\$123,551			Johnson	\$192,880		
Wheeler	\$30,000	Pulaski	\$2,642,750			Jones	\$85,569		
Wilcox	\$30,000	Quitman	\$21,036			Lamar	\$28,668		
		Randolph	\$246,303			Lanier	\$233,039		
		Richmond	\$17,825,992			Laurens	\$368,360		
		Schley	\$63,000			Lee	\$2,775,926		
		Screven	\$1,443,580			Liberty	\$460,737		
		Seminole	\$975,283			Lincoln	\$17,667		
		Stewart	\$2,571,257			Long	\$164,102		
		Sumter	\$7,215,530			Lowndes	\$7,053,645		
		Talbot	\$268,536			Lumpkin	\$186,236		
		Taliaferro	\$55,000			Macon	\$2,299,300		
		Tattnell	\$10,340,450			Madison	\$43,559		
		Taylor	\$120,430			Marion	\$79,722		
		Telfair	\$4,065,678			McDuffie	\$83,533		
		Terrell	\$760,142			McIntosh	\$1,058,353		

BLIP Other State Assets Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value
		Thomas	\$325,170			Meriwether	\$162,048		
		Tift	\$3,267,671			Miller	\$40,271		
		Toombs	\$904,949			Mitchell	\$2,633,000		
		Treutlen	\$243,168			Monroe	\$129,075		
		Troup	\$2,735,101			Montgomery	\$961,013		
		Turner	\$165,949			Morgan	\$37,765		
		Twiggs	\$69,100			Murray	\$743,796		
		Union	\$99,905			Muscogee	\$3,558,808		
		Upson	\$240,000			Newton	\$2,123,582		
		Walker	\$1,466,941			Not GA County	\$54,015		
		Ware	\$3,382,502			Oconee	\$376,549		
		Warren	\$189,347			Oglethorpe	\$81,557		
		Washington	\$5,372,695			Paulding	\$258,225		
		Wayne	\$1,757,374			Peach	\$111,750		
		Webster	\$144,000			Pickens	\$187,940		
		Wheeler	\$200,500			Pierce	\$160,901		
		Whitfield	\$2,845,931			Pike	\$188,303		
		Wilcox	\$2,709,650			Polk	\$16,000		
		Wilkes	\$71,545			Pulaski	\$2,532,000		
		Wilkinson	\$134,000			Putnam	\$728,775		
		Worth	\$109,000			Quitman	\$9,036		
						Rabun	\$101,338		
						Randolph	\$126,303		
						Richmond	\$1,398,902		
						Rockdale	\$122,123		
						Schley	\$63,000		
						Screven	\$345,060		
						Seminole	\$575,000		
						Spalding	\$236,826		
						Stephens	\$128,734		
						Stewart	\$565,922		
						Sumter	\$6,937,400		

BLLIP Other State Assets Value Risk Data from GMIS

Special Flood Hazard Area		>90MPH Winds		Seismic 2% Chance exceeding 33-83%		Wildfire Moderate to High Risk		Landslide at Risk	
County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value	County	Insured Assets Value
						Talbot	\$51,076		
						Taliaferro	\$30,000		
						Tattnall	\$8,056,450		
						Taylor	\$120,430		
						Telfair	\$3,228,378		
						Terrell	\$715,500		
						Thomas	\$274,500		
						Tift	\$1,258,666		
						Toombs	\$119,076		
						Towns	\$2,216		
						Treutlen	\$243,168		
						Troup	\$163,534		
						Turner	\$100,000		
						Twiggs	\$69,100		
						Union	\$440,072		
						Upson	\$108,970		
						Walker	\$1,421,941		
						Walton	\$30,000		
						Ware	\$2,911,052		
						Warren	\$39,347		
						Washington	\$1,907,262		
						Wayne	\$59,621		
						Webster	\$81,000		
						Wheeler	\$118,500		
						White	\$117,546		
						Whitfield	\$2,513,500		
						Wilcox	\$2,352,000		
						Wilkes	\$26,545		
						Wilkinson	\$70,000		

Appendix D-VI

Georgia Safe Dams 2023 HHPD Eligible Dams and NID High Hazard Potential Dams

2023 Eligible High Hazard Potential Dams

Dam Name	County	State ID #	NID #	Height	Max Storage	Owner Type Non-Federal (Yes/No)	Purpose Non- hydropower (Yes/No)	High Hazard Potential (Yes/No) Category I	EAP (Yes/No)	Funding Non-USDA (Yes/No)	Population at Risk	Comments
Lake Wildwood Dam	Bibb	011-015-00978	GA00212	32	3420	Yes	Yes	Yes	Yes	No	379	73 homes, 20 businesses (including a school and an apartment building)
Lakeside Dam	Bibb	011-013-00594	GA00207	45	2118	Yes	Yes	Yes	Yes	No	N/A	N/A
Lake Ashley Dam	Carroll	022-002-00282	GA02362	56.5	1310	Yes	Yes	Yes	Yes	No	N/A	N/A
Tara Lake Dam	Carroll	022-001-00281	GA00118	101.4	12885	Yes	Yes	Yes	Yes	No	174	57 homes, 1 business
Bedgood's Lake Dam	Clarke	029-002-00039	GA04101	32	209	Yes	Yes	Yes	Yes	No	9	3 homes
Cochran Lake Dam	Cobb	033-059-01852	GA04406	31	92	Yes	Yes	Yes	Yes	No	186	62 homes (including 2 clubhouses)
Jackson Creek Lake Dam	Cobb	033-049-01361	GA02297	17.2	127	Yes	Yes	Yes	Yes	No	N/A	N/A
Kellner Lake Dam	Cobb	033-076-01884	GA02405	31	80	Yes	Yes	Yes	Yes	No	N/A	N/A
Wigley Lake Dam	Cobb	033-056-01849	GA04473	26.4	83	Yes	Yes	Yes	Yes	No	N/A	N/A
Woodbridge Lake Dam	Columbia	036-033-01399	GA02222	31	514	Yes	Yes	Yes	Yes	No	93	31 homes
McKnight Lake Dam	Coweta	038-057-02634	GA01193	28	265	Yes	Yes	Yes	Yes	No	3	1 home
Sibley Millpond Dam	Coweta	038-058-02611	GA02436	26	90	Yes	Yes	Yes	Yes	No	6	2 homes
Crooked Creek Lake Dam	DeKalb	044-100-04375	GA03927	23	1111	Yes	Yes	Yes	Yes	No	69	23 homes
Erin Lake Dam	DeKalb	044-004-00033	GA01324	34	166	Yes	Yes	Yes	Yes	No	201	67 homes
Kings Cliff Lake Dam	DeKalb	044-089-02710	GA03913	28	26	Yes	Yes	Yes	Yes	No	81	27 homes
Plantation Subdivision Lake Dam	Douglas	048-072-05532	GA06789	28	15	Yes	Yes	Yes	Yes	No	21	7 homes
Young Lake Dam	Fannin	055-012-01799	GA02356	36.5	104	Yes	Yes	Yes	Yes	No	42	13 homes, 1 business
Kozisek Lake Dam	Fayette	056-018-00910	GA01357	27.6	380	Yes	Yes	Yes	Yes	No	15	1 mobile home park, 2 homes, 4 businesses
Margaret Phillips Lake Dam	Fayette	056-006-00821	GA01359	16	239	Yes	Yes	Yes	Yes	No	15	1 mobile home park, 1 home, 4 businesses
Conasauga Lake Dam	Floyd	057-001-00060	GA02065	15	336	Yes	Yes	Yes	Yes	No	612	204 structures
Stonebridge Lake Dam	Floyd	057-041-04933	GA05468	23	458	Yes	Yes	Yes	Yes	No	33	11 homes
Green Lake Dam	Forsyth	058-034-02768	GA06255	28.8	86.4	Yes	Yes	Yes	Yes	No	N/A	N/A
Tyson Proteins Oxidation Pond Dam	Forsyth	058-025-01604	GA00551	55	303	Yes	Yes	Yes	Yes	No	N/A	N/A
Atlanta Reservoir Dam No. 1	Fulton	060-002-00009	GA01494	90	642	Yes	Yes	Yes	Yes	No	6399	1845 homes, 61 mixed use, 107 industrial, up to 8 commercial
East Point Reservoir Dam	Fulton	060-097-01292	GA01899	40.6	236	Yes	Yes	Yes	Yes	No	3	1 business
Irene Lake Dam	Fulton	060-047-00763	GA01912	32	153	Yes	Yes	Yes	Yes	No	33	10 homes, 1 business
Lake Forrest Dam	Fulton	060-150-04550	GA03828	39.7	75	Yes	Yes	Yes	Yes	No	156	45 homes, 7 businesses
Stonegate Lake Dam	Fulton	060-088-00968	GA03833	28	96	Yes	Yes	Yes	Yes	No	27	9 homes
Fowler Lake Dam	Gilmer	061-027-01781	GA02343	32	130	Yes	Yes	Yes	Yes	No	51	17 homes
Lovejoy Lake Dam	Gilmer	061-025-01792	GA00611	29	74	Yes	Yes	Yes	Yes	No	30	9 homes, 1 business
Rainbow Lake Dam	Gilmer	061-022-02151	GA00613	50	1695	Yes	Yes	Yes	Yes	No	243	81 homes
Hogan's Lake Dam	Gwinnett	067-031-00601	GA00583	32	106	Yes	Yes	Yes	Yes	No	138	46 homes
Summit Chase No. 1 Dam	Gwinnett	067-023-00651	GA03907	22	239	Yes	Yes	Yes	Yes	No	234	78 homes
Walter Richards Lake Dam	Harris	072-017-02032	GA01661	44	1044	Yes	Yes	Yes	Yes	No	105	35 homes
Lake Cindy Dam	Henry	075-001-00247	GA01557	24	252	Yes	Yes	Yes	Yes	No	135	45 homes
Lake Dow Dam	Henry	075-023-01131	GA01979	36	2268	Yes	Yes	Yes	Yes	No	18	6 homes
Moon Lake Dam	Henry	075-060-04393	GA05440	26	207	Yes	Yes	Yes	Yes	No	81	27 homes
Nelson Hill Subdivision Lake Dam	Lowndes	092-033-05727	GA07522	8.7	144.7	Yes	Yes	Yes	Yes	No	150	50 homes
Seagraves Mill Pond Dam	Madison	095-001-00021	GA04873	35	429	Yes	Yes	Yes	Yes	No	N/A	N/A
The Farm Lake Dam	Oconee	108-021-04420	GA04971	35	1128	Yes	Yes	Yes	Yes	No	24	8 homes
Lake Swan Dam	Paulding	110-053-04476	GA05227	25.5	962	Yes	Yes	Yes	Yes	No	9	3 homes
Pegamore Lake Dam	Paulding	110-002-01551	GA00151	42	644	Yes	Yes	Yes	Yes	No	45	15 homes
Sequoyah Lake Dam	Pickens	112-013-00933	GA02359	64	2115	Yes	Yes	Yes	Yes	No	84	27 homes, 1 business
Forest Hills Lake Dam	Richmond	121-034-04435	GA05230	28	38	Yes	Yes	Yes	Yes	No	33	11 homes
Cowan Lake Dam	Rockdale	122-034-01341	GA01284	33	508	Yes	Yes	Yes	Yes	No	48	16 homes
Walden Woods Lake Dam	Washington	150-047-02466	GA02709	24	115	Yes	Yes	Yes	Yes	No	N/A	N/A
Clear Lake Dam	White	154-001-00152	GA00512	44	135	Yes	Yes	Yes	Yes	No	12	2 homes, 2 businesses

2023 Eligible High Hazard Potential Dams

<u>Dam Name</u>	<u>County</u>	<u>State ID #</u>	<u>NID #</u>	<u>Height</u>	<u>Max Storage</u>	<u>Owner Type Non-Federal (Yes/No)</u>	<u>Purpose Non- hydropower (Yes/No)</u>	<u>High Hazard Potential (Yes/No) Category I</u>	<u>EAP (Yes/No)</u>	<u>Funding Non-USDA (Yes/No)</u>	<u>Population at Risk</u>	<u>Comments</u>
Pfau Lake Dam	White	154-040-04537	GA00533	31	58	Yes	Yes	Yes	Yes	No	33	11 homes
Dalton Utilities Impoundment Dike #3	Whitfield	155-020-04697	GA04602	26	522	Yes	Yes	Yes	Yes	No	12	4 homes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Appling	Tara Lake Dam	GA01217	High	Satisfactory	44755	Yes
Baldwin	Carrington Woods Lake Dam	GA00293	High	Fair	42802	Yes
Baldwin	Sinclair	GA00836	High	Not Available		Yes
Banks	Grove River W/S Str. #51 Dam	GA01832	High	Satisfactory	43362	Yes
Banks	Hudson River WS Str #11	GA05261	High	Satisfactory	42438	Yes
Barrow	Winder Reservoir Dam	GA00601	High	Fair	42754	Yes
Barrow	Barber Creek WS Str # 25	GA00605	High	Fair	42430	Yes
Barrow	Fort Yargo Lake State Park Dam	GA00604	High	Satisfactory	42754	Yes
Barrow	Marbury Creek WS Str # 22	GA00603	High	Satisfactory	42754	Yes
Bartow	Pine Log Tributary WS Str # 25	GA02186	High	Poor	43853	Yes
Bartow	Pumpkinvine Creek W/S Str. # 2 Dam	GA00786	High	Poor	43853	Yes
Bartow	Raccoon Creek W/S Str # 7	GA00777	High	Satisfactory	43853	Yes
Bartow	Pine Log Creek Watershed Str #66	GA00774	High	Poor	43853	Yes
Bartow	Allatoona Dam - Saddle Dike	GA03742	High	Not Available		Yes
Bartow	Allatoona Dam	GA03742	High	Not Available		Yes
Bibb	Lake Wildwood Dam	GA00212	High	Poor	42976	Yes
Bibb	Frank C. Amerson Jr. Lake Dam	GA04343	High	Poor	42438	Yes
Bibb	Lakeside Dam	GA00207	High	Poor	42437	Yes
Bibb	Lake Tobesofkee Dam	GA00201	High	Satisfactory	42438	Yes
Butts	Indian Springs State Park Lake Dam	GA01038	High	Satisfactory	42437	Yes
Butts	Jones Farm Pond Dam	GA06154	High	Satisfactory	42437	Yes
Carroll	Little Tallapoosa River W/S Str. #31	GA00129	High	Fair	42782	Yes
Carroll	Lower Little Tallapoosa River WS Str # 35	GA02468	High	Fair	42753	Yes
Carroll	Lower Little Tallapoosa River WS Str No 25	GA02164	High	Fair	42753	Yes
Carroll	Lower Little Tallapoosa River WS Str # 36	GA02170	High	Fair	42753	Yes
Carroll	Lake Ashley Dam	GA02362	High	Poor	42395	Yes
Carroll	Tara Lake Dam	GA00118	High	Poor	42395	Yes
Carroll	Plant Wansley Main Storage Lake Dam	GA04461	High	Satisfactory	43865	Yes
Carroll	Little Tallapoosa River W/S Str. #30	GA02162	High	Fair	42782	Yes
Carroll	Little Tallapoosa River W/S Str. #29 Dam	GA00127	High	Fair	42782	Yes
Carroll	Snake Creek Reservoir Dam	GA05490	High	Satisfactory	42383	Yes
Carroll	Sharpe's Creek Reservoir Lake Dam	GA04474	High	Satisfactory	42782	Yes
Carroll	Little Tallapoosa River W/S Str. #36 Dam	GA00131	High	Fair	42782	Yes
Carroll	Lower Little Tallapoosa River W/S Str. # 86	GA04042	High	Fair	42753	Yes
Carroll	Lower Little Tallapoosa River Watershed Structure No. 53	GA00132	High	Poor	43041	Yes
Carroll	Little Tallapoosa River WS Str # 21	GA00126	High	Fair	42395	Yes
Carroll	Little Tallapoosa River W/S Str. #13	GA02159	High	Fair	42782	Yes
Carroll	Walkers Lake Dam	GA00113	High	Satisfactory	43865	Yes
Carroll	Southwire Lake Dam	GA04049	High	Satisfactory	43865	Yes
Carroll	Carrollton Holding Pond Dam	GA07029	High	Not Rated		Yes
Cherokee	Lake Arrowhead Dam	GA02364	High	Satisfactory	43900	Yes
Cherokee	Little River WS Str # 22	GA00046	High	Fair	42766	Yes
Cherokee	Mill - Canton Creek W/S Str. #8 Dam	GA00038	High	Fair	43900	Yes
Cherokee	Atlanta Gas Light Lake Dam	GA00053	High	Satisfactory	43900	Yes
Cherokee	Hickory Log Reservoir Dam	GA06208	High	Satisfactory	42747	Yes
Cherokee	Stamp Shoals Creek WS Str # 1	GA00032	High	Fair	42747	Yes
Cherokee	Keeter Lake Dam	GA05984	High	Poor	42809	Yes
Cherokee	Amber Lake Dam	GA07048	High	Satisfactory	42383	Yes
Clarke	Little Sandy - Trail Creek W/S Str. #10	GA01756	High	Fair	42816	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Clarke	Little Sandy - Trail Creek W/S Str. #16	GA01755	High	Satisfactory	42816	Yes
Clarke	Little Sandy - Trail Creek WS Str # 14	GA01757	High	Fair	42816	Yes
Clarke	Bedgood's Lake Dam	GA04101	High	Poor	43545	Yes
Clayton	Clayton State University Lake Dam	GA01292	High	Satisfactory	42745	Yes
Clayton	Clayton County International Park Lake Dam	GA03698	High	Satisfactory	42745	Yes
Clayton	Joy Lake Dam	GA01302	High	Satisfactory	42745	Yes
Clayton	Joy West Lake Dam	GA01291	High	Satisfactory	42745	Yes
Clayton	Lake Louise Dam	GA01786	High	Satisfactory	42745	Yes
Clayton	Spivey Station Lake Dam	GA01783	High	Satisfactory	40918	Yes
Clayton	J.W. Smith Reservoir Dam	GA03893	High	Satisfactory	42381	Yes
Cobb	Mcdonough Ash Pond # 4 Dam	GA01482	High	Satisfactory	42402	Yes
Cobb	Kellner Lake Dam	GA02405	High	Poor	43503	Yes
Cobb	Loch Highland Lake (Lower) Dam	GA03866	High	Satisfactory	42409	Yes
Cobb	Loch Highland Upper Lake Dam	GA03867	High	Satisfactory	42409	Yes
Cobb	Camp Bert Adams Lake Dam	GA01470	High	Satisfactory	42621	Yes
Cobb	Noonday Creek WS Str # 9	GA01468	High	Satisfactory	42444	Yes
Cobb	Noonday Creek WS Str # 17	GA01491	High	Poor	42445	Yes
Cobb	Noonday Creek WS Str # 15	GA01488	High	Fair	42832	Yes
Cobb	Chestnut Hill Lake Dam	GA05289	High	Satisfactory	42444	Yes
Cobb	James E. Quarles Wtp Dam	GA07909	High	Satisfactory	43361	Yes
Cobb	Jackson Creek Lake Dam	GA02297	High	Poor	42409	Yes
Cobb	Wigley Lake Dam	GA04473	High	Poor	42410	Yes
Cobb	Timber Lake Dam	GA01474	High	Poor	43503	Yes
Cobb	Noonday Creek WS Str # 16	GA01490	High	Satisfactory	42836	Yes
Cobb	North Landing Lake Dam	GA01479	High	Satisfactory	43531	Yes
Cobb	Paces Lake Dam	GA01469	High	Satisfactory	43727	Yes
Cobb	Laura Lake Dam	GA01477	High	Satisfactory	43503	Yes
Cobb	Wooten Lake Dam	GA02409	High	Satisfactory	43531	Yes
Cobb	Reeves Lake Dam	GA02417	High	Satisfactory	43899	Yes
Cobb	Gordon and Dees Lake Dam	GA04405	High	Satisfactory	44000	Yes
Cobb	Morgan Farms Lake Dam	GA02408	High	Satisfactory	43503	Yes
Cobb	Bishop Lake Dam	GA01480	High	Satisfactory	42409	Yes
Cobb	Mcneel Lake Dam	GA02416	High	Satisfactory	42747	Yes
Cobb	Cochran Lake Dam	GA04406	High	Unsatisfactory	43531	Yes
Cobb	Highland Pointe Lake Dam	GA05288	High	Satisfactory	43531	Yes
Cobb	Clearwater Lake Dam	GA04470	High	Satisfactory	42832	Yes
Cobb	Morgan Falls	GA00842	High	Not Available		Yes
Colquitt	Indian Lake Dam	GA01590	High	Poor	42389	Yes
Colquitt	Hunnicutt Lake Dam	GA09016	High	Poor	41296	Yes
Columbia	Woodbridge Lake Dam	GA02222	High	Poor	42768	Yes
Columbia	Windmill Plantation Lake Dam	GA04169	High	Not Rated		Yes
Columbia	Vernon Pond Dam	GA07652	High	Satisfactory	42768	Yes
Columbia	Erin's Place Lake Dam	GA00334	High	Poor	43580	Yes
Columbia	Stevens Creek	GA00852	High	Not Available		Yes
Coweta	Newnan Waterworks Dam # 5	GA02443	High	Satisfactory	42760	Yes
Coweta	Mcknight Lake Dam	GA01193	High	Poor	42409	Yes
Coweta	Sibley Millpond Dam	GA02436	High	Poor	42760	Yes
Coweta	Newnan Waterworks Dam # 3	GA01205	High	Satisfactory	42760	Yes
Coweta	Newman Waterworks Dam # 2	GA01189	High	Satisfactory	42760	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Coweta	Cedar Creek WS Str # 9	GA04493	High	Satisfactory	42760	Yes
Coweta	J.T. Haynes Reservoir Dam	GA06195	High	Satisfactory	42760	Yes
Coweta	Browns Creek Lake Dam	GA05297	High	Satisfactory	42760	Yes
Coweta	Newnan Waterworks Dam # 1	GA04190	High	Satisfactory	42760	Yes
Dawson	Etowah River Reach WS Str # 22	GA00142	High	Fair	42809	Yes
Dawson	Amicalola Creek WS Str # 3	GA00147	High	Fair	42809	Yes
Dawson	Etowah River Reach Sub WS Str # 12	GA00660	High	Satisfactory	42822	Yes
Dawson	Yellow Creek Reservoir Dam	GA04495	High	Satisfactory	42802	Yes
Dawson	Etowah River Reach WS Str # 23	GA00143	High	Fair	42809	Yes
Dawson	Amicalola Creek WS Str # 1	GA00145	High	Fair	42809	Yes
DeKalb	Mystery Valley Lake Dam	GA03921	High	Poor	44203	Yes
DeKalb	Crooked Creek Lake Dam	GA03927	High	Poor	44203	Yes
DeKalb	Scott Candler Reservoir #2	GA00227	High	Satisfactory	44231	Yes
DeKalb	Erin Lake Dam	GA01324	High	Poor	43552	Yes
DeKalb	Glen Emerald Lake Dam	GA01795	High	Poor	42781	Yes
DeKalb	Kings Cliff Lake Dam	GA03913	High	Poor	44203	Yes
DeKalb	Murphey Candler Lake Dam	GA01326	High	Satisfactory	42781	Yes
DeKalb	Echo Lake Dam	GA01320	High	Satisfactory	42832	Yes
DeKalb	Buena Vista Lake Dam	GA01333	High	Satisfactory	43543	Yes
DeKalb	Kenilworth Lake Dam	GA01940	High	Satisfactory	43543	Yes
DeKalb	Southland Lake Dam	GA01328	High	Poor	44203	Yes
DeKalb	North Lake Dam	GA02051	High	Satisfactory	42810	Yes
DeKalb	Turner Hill Lake Dam	GA06147	High	Satisfactory	42810	Yes
DeKalb	Stone Mountain Park Lake Dam	GA01325	High	Satisfactory	42810	Yes
DeKalb	East Lake Country Club Dam	GA01318	High	Satisfactory	43543	Yes
DeKalb	Silver Lake Dam	GA01322	High	Satisfactory	44203	Yes
DeKalb	Scott Candler Reservoir Dam #1	GA01311	High	Satisfactory	44231	Yes
DeKalb	Water's Edge Lake Dam	GA03928	High	Satisfactory	44203	Yes
Dougherty	Flint River	GA00835	High	Not Available		Yes
Dougherty	Muckafoonee Creek Dam	GA00835	High	Not Available		Yes
Douglas	Plantation Subdivision Lake Dam	GA06789	High	Poor	43522	Yes
Douglas	Mirror Lake Dam	GA02519	High	Fair	43522	Yes
Elbert	Richard B. Russell Dam	GA01705	High	Not Available		Yes
Fannin	Young Lake Dam	GA02356	High	Poor	42430	Yes
Fannin	Blue Ridge Dam	GA11101	High	Not Available		Yes
Fayette	Ford Lake Dam	GA02030	High	Satisfactory	42754	Yes
Fayette	Pye Lake Dam	GA01356	High	Satisfactory	42754	Yes
Fayette	Horton Creek Reservoir Dam	GA04477	High	Satisfactory	42409	Yes
Fayette	Lake Kedron Dam	GA04476	High	Satisfactory	42409	Yes
Fayette	Kozisek Lake Dam	GA01357	High	Poor	42754	Yes
Fayette	Margaret Phillips Lake Dam	GA01359	High	Poor	42754	Yes
Fayette	Castle Lake Dam	GA01388	High	Poor	44965	Yes
Fayette	Dickson Lake Dam	GA01341	High	Satisfactory	42754	Yes
Fayette	Mcintosh Reservoir Dam	GA05484	High	Satisfactory	42409	Yes
Floyd	Conasauga Lake Dam	GA02065	High	Poor	42810	Yes
Floyd	Stonebridge Lake Dam	GA05468	High	Poor	42810	Yes
Floyd	Berry College Reservoir Dam	GA00749	High	Satisfactory	44944	Yes
Floyd	Rocky Mtn Ps Lower Main Dam	GA00839	High	Not Available		Yes
Floyd	Rocky Mtn Dam C	GA00840	High	Not Available		Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Floyd	Rocky Mtn Dam A	GA00839	High	Not Available		Yes
Floyd	Rocky Mtn Ps Upper Dam and Fused Overpump Spillway	GA00838	High	Not Available		Yes
Forsyth	Tyson Proteins Oxidation Pond Dam	GA00551	High	Poor	42822	Yes
Forsyth	Pine Lake Dam	GA00549	High	Satisfactory	42383	Yes
Forsyth	Settingdown Creek Sub WS Str # 27	GA06130	High	Poor	42383	Yes
Forsyth	Settingdown Creek WS Str # 56	GA00554	High	Poor	42822	Yes
Forsyth	Settingdown Creek WS Str # 25	GA00566	High	Poor	42383	Yes
Forsyth	Settingdown Creek WS Str # 6	GA00557	High	Poor	42822	Yes
Forsyth	Settingdown Creek WS Str # 54	GA00553	High	Poor	42822	Yes
Forsyth	Settingdown Creek WS Str # 30 A	GA00562	High	Poor	42383	Yes
Forsyth	Green Lake Dam	GA06255	High	Poor		Yes
Forsyth	Etowah River W/S Str. #1 Dam	GA06128	High	Satisfactory	42809	Yes
Forsyth	Dunroven Lake Dam	GA04308	High	Satisfactory	42822	Yes
Forsyth	Buford Dam - Saddle Dike 1	GA00824	High	Not Available		Yes
Forsyth	Buford Dam - Saddle Dike 2	GA00824	High	Not Available		Yes
Franklin	North Broad River W/S Str. #38	GA00508	High	Poor		Yes
Fulton	Willow Lake Dam	GA03680	High	Poor	43859	Yes
Fulton	Carriage Lake Dam	GA03681	High	Poor	42404	Yes
Fulton	Lake Charles Dam	GA01914	High	Satisfactory	42409	Yes
Fulton	Northridge Lake Dam	GA00150	High	Satisfactory	42404	Yes
Fulton	Little River W/S Str. #34	GA01497	High	Poor	42766	Yes
Fulton	Little River W/S Str. #25	GA01512	High	Poor	42766	Yes
Fulton	Little River W/S Str. #39 Dam	GA01506	High	Poor	42766	Yes
Fulton	Seven Oaks Lake Dam	GA03827	High	Poor	38261	Yes
Fulton	Atlanta Reservoir Dam No. 2	GA01495	High	Satisfactory	42402	Yes
Fulton	Lake Forrest Dam	GA03828	High	Poor	42411	Yes
Fulton	Glenover Drive Lake Dam	GA07203	High	Poor	42766	Yes
Fulton	East Point Reservoir Dam	GA01899	High	Poor	42754	Yes
Fulton	Atlanta-Fulton Reservoir #2 Dam	GA08050	High	Satisfactory	42417	Yes
Fulton	Daniels & Thomaselli Lake Dam	GA01975	High	Poor	42417	Yes
Fulton	Capital City Country Club Lake Dam	GA01916	High	Satisfactory	42781	Yes
Fulton	Gilham's Lake Dam	GA01513	High	Satisfactory	42409	Yes
Fulton	Atlanta-Fulton Reservoir #1 Dam	GA05283	High	Satisfactory	42417	Yes
Fulton	Powers Lake Dam	GA03843	High	Satisfactory	42411	Yes
Fulton	Willow Springs Lake Dam	GA01502	High	Satisfactory	43859	Yes
Fulton	Lower Nesbit Ferry Lake Dam	GA04488	High	Satisfactory	42417	Yes
Fulton	Crooked Creek Lake Dam	GA05105	High	Satisfactory	42766	Yes
Fulton	Atlanta Reservoir Dam No. 1	GA01494	High	Poor	43272	Yes
Fulton	Lake Frances Dam	GA01522	High	Satisfactory	42892	Yes
Fulton	Stonegate Lake Dam	GA03833	High	Poor	42409	Yes
Fulton	Irene Lake Dam	GA01912	High	Poor	42766	Yes
Gilmer	Ellijay River W/S Str. #10 Dam	GA00632	High	Poor	42430	Yes
Gilmer	Lovejoy Lake Dam	GA00611	High	Poor	42431	Yes
Gilmer	Lake Yanu Dam	GA00614	High	Satisfactory	42431	Yes
Gilmer	Lake Dakwa Dam	GA02337	High	Satisfactory	42431	Yes
Gilmer	Lake Atagahi Dam	GA02465	High	Satisfactory	42431	Yes
Gilmer	Ellijay River WS Str # 12	GA00633	High	Poor	42430	Yes
Gilmer	Cartecay River WS Str # 5	GA00622	High	Poor	42459	Yes
Gilmer	Cartecay River WS Str # 3	GA00621	High	Poor	42459	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Gilmer	Cartecay River W/S Str. #7 Dam	GA00624	High	Poor	42459	Yes
Gilmer	Cartecay River WS Str # 10	GA00626	High	Not Rated		Yes
Gilmer	Cartecay River WS Str # 6	GA00623	High	Poor	42459	Yes
Gilmer	Ellijay River W/S Str. #11 Dam	GA02192	High	Poor	42430	Yes
Gilmer	Ellijay River WS Str # 9	GA00631	High	Poor	42431	Yes
Gilmer	Ellijay River W/S Str. # 3	GA00629	High	Poor	42430	Yes
Gilmer	Mountaintown Creek WS Str # 2	GA00635	High	Poor	42432	Yes
Gilmer	Mountaintown Creek WS Str # 4	GA00637	High	Poor	42459	Yes
Gilmer	Ellijay River W/S Str. #4 Dam	GA00630	High	Poor	42430	Yes
Gilmer	Mountaintown Creek WS Str # 1	GA00634	High	Poor	42432	Yes
Gilmer	Rainbow Lake Dam	GA00613	High	Poor	42432	Yes
Gilmer	Fowler Lake Dam	GA02343	High	Poor	42431	Yes
Gilmer	Ellijay River W/S Str. #1	GA00627	High	Satisfactory	42431	Yes
Gilmer	Clotfelter Lake Dam	GA02342	High	Satisfactory	42431	Yes
Gordon	Stewart Farm Pond Dam	GA08079	High	Satisfactory	42675	Yes
Gordon	Cedar Hill Lake Dam	GA00813	High	Fair	42451	Yes
Gordon	Pine Log Creek W/S Str. #86	GA04519	High	Poor	42451	Yes
Grady	Tired Creek Reservoir Dam	GA06438	High	Satisfactory	41674	Yes
Gwinnett	Upper Mulberry River WS Str. # 11	GA01906	High	Satisfactory	42803	Yes
Gwinnett	Rc&D Watershed Structure Y-16	GA00591	High	Satisfactory	42425	Yes
Gwinnett	Haynes Creek-Brushy Fork W/S Str. #25	GA00594	High	Not Rated		Yes
Gwinnett	Lake Louella Dam	GA01819	High	Poor	42564	Yes
Gwinnett	Rc&D Watershed Structure Y-14	GA03946	High	Satisfactory	42425	Yes
Gwinnett	Inverness Lake Dam	GA01814	High	Satisfactory	41367	Yes
Gwinnett	Rc&D Watershed Structure Y-15	GA00590	High	Satisfactory	42425	Yes
Gwinnett	Rc&D Watershed Structure Y-17	GA00592	High	Satisfactory	42425	Yes
Gwinnett	Haynes-Brushy Fork Creek WS Str. # 3	GA00595	High	Satisfactory	42396	Yes
Gwinnett	Haynes Creek - Brushy Fork Creek WS Str H-22	GA00596	High	Satisfactory	43865	Yes
Gwinnett	City of Lawrenceville Lake Dam	GA00571	High	Satisfactory	42425	Yes
Gwinnett	Berkeley Lake Dam	GA05700	High	Satisfactory		Yes
Gwinnett	Crescent River Pond A Dam	GA05727	High	Satisfactory	41367	Yes
Gwinnett	Norman Lake Dam	GA00586	High	Satisfactory	41367	Yes
Gwinnett	Summit Chase No. 1 Dam	GA03907	High	Poor	42396	Yes
Gwinnett	Lake Matthews Dam	GA00576	High	Satisfactory	42396	Yes
Gwinnett	Mulberry Lake Dam	GA05756	High	Satisfactory	42803	Yes
Gwinnett	Crowe Lake Dam No. 3	GA00582	High	Satisfactory	42425	Yes
Gwinnett	Haynes Creek- Brushy Fork Creek WS Str. # 21	GA00593	High	Fair	43865	Yes
Gwinnett	Upper Mulberry River WS Str. # 7	GA05328	High	Satisfactory	42803	Yes
Gwinnett	Sims Lake Dam	GA01822	High	Satisfactory	41367	Yes
Gwinnett	No Business Creek WS Str. # 1	GA00587	High	Satisfactory	42396	Yes
Gwinnett	Cooper'S Pond Dam	GA04516	High	Satisfactory	43270	Yes
Gwinnett	Hogan's Lake Dam	GA00583	High	Poor	42425	Yes
Gwinnett	Yellow River Rc&D WS Str. Y-3	GA00588	High	Satisfactory	42396	Yes
Gwinnett	Buford Dam - Saddle Dike 3	GA00824	High	Not Available		Yes
Gwinnett	Buford Dam	GA00824	High	Not Available		Yes
Habersham	Soque River W/S Str. #29	GA00651	High	Satisfactory	42857	Yes
Habersham	Soque River W/S Str. #34	GA00652	High	Satisfactory	43158	Yes
Habersham	Soque River W/S Str. #36	GA01840	High	Satisfactory	42857	Yes
Habersham	Soque River WS Str # 13	GA00650	High	Poor	42816	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Habersham	Sautee Creek W/S Str. #22	GA00657	High	Fair	42746	Yes
Habersham	Hazel Creek W/S Str. #19	GA00655	High	Poor	42439	Yes
Habersham	Hazel Creek W/S Str. #7	GA00656	High	Fair	43606	Yes
Habersham	Hazel Creek W/S Str. #12	GA00654	High	Fair	42439	Yes
Habersham	Habersham Mills Lake Dam	GA00659	High	Satisfactory	42438	Yes
Habersham	Soque Creek W/S Str. #44	GA06212	High	Poor	42438	Yes
Habersham	Mauldin Creek Lake Dam	GA04514	High	Satisfactory	42746	Yes
Habersham	Tugalo	GA00844	High	Not Available		Yes
Hall	Cedar Creek Reservoir Dam	GA05394	High	Satisfactory	42803	Yes
Hall	Sterling On The Lake Dam #1	GA00535	High	Satisfactory	42803	Yes
Hancock	Wallace	GA00854	High	Not Available		Yes
Haralson	Lower Little Tallapoosa WS Str # 78	GA02045	High	Poor	42753	Yes
Haralson	Little River WS Str # 2	GA02042	High	Fair	42753	Yes
Harris	Lake Franklin Dam	GA01662	High	Satisfactory	44706	Yes
Harris	Upper Falls Creek Lake Dam	GA01650	High	Fair	42803	Yes
Harris	Walter Richards Lake Dam	GA01661	High	Poor	43537	Yes
Harris	Whippoorwill Lake Dam	GA03712	High	Fair	42803	Yes
Harris	Concharty Lake Dam	GA01656	High	Satisfactory	42802	Yes
Harris	Palmetto Creek W/S Str. # 1 Dam	GA01646	High	Satisfactory	44944	Yes
Harris	Piedmont Lake Dam	GA05963	High	Satisfactory	44949	Yes
Harris	Bartletts Ferry, Main Dam	GA00830	High	Not Available		Yes
Harris	Goat Rock	GA00826	High	Not Available		Yes
Hart	Beaverdam Creek WS Str # 8	GA00412	High	Fair	41326	Yes
Hart	Beaverdam Creek WS Str # 17	GA00414	High	Fair	41326	Yes
Hart	Hartwell Dam - Saddle Dike 1	GA01702	High	Not Available		Yes
Hart	Hartwell Dam	GA01702	High	Not Available		Yes
Henry	Lake Dow Dam	GA01979	High	Poor	42396	Yes
Henry	S. Howell Gardner Reservoir Dam	GA04630	High	Not Rated		Yes
Henry	Moon Lake Dam	GA05440	High	Poor	43510	Yes
Henry	Blalock Reservoir Dam	GA04534	High	Satisfactory	42381	Yes
Henry	Mcdonough Reservoir Dam	GA04535	High	Satisfactory	43510	Yes
Henry	Long Branch Reservoir Dam	GA05478	High	Satisfactory	42396	Yes
Henry	Steeles Mill Reservoir Dam	GA07965	High	Satisfactory	42396	Yes
Henry	Lake Cindy Dam	GA01557	High	Poor	42782	Yes
Henry	Tussahaw Reservoir Dam	GA07200	High	Satisfactory	42396	Yes
Henry	Belair Lake Dam	GA05986	High	Poor	43510	Yes
Henry	Spivey Lake Dam	GA04533	High	Satisfactory	42767	Yes
Henry	Cook Lake Dam	GA01568	High	Satisfactory	42767	Yes
Henry	Shoal Creek Reservoir Dam	GA06037	High	Satisfactory	42381	Yes
Houston	West Leisure Lake Dam	GA04537	High	Satisfactory	42438	Yes
Houston	Houston Lake Dam	GA00238	High	Satisfactory	42438	Yes
Jackson	Bear Creek Reservoir	GA06335	High	Satisfactory	41319	Yes
Jackson	Sandy Creek WS Structure # 12	GA00967	High	Poor	42759	Yes
Jackson	Sandy Creek WS Structure # 15	GA00964	High	Poor	42759	Yes
Jackson	Sandy Creek W/S Str. #23 Dam	GA00986	High	Poor	42759	Yes
Jackson	Hood Lake Dam	GA02077	High	Satisfactory	42759	Yes
Jasper	Lloyd Shoals - North Saddle Dike	GA00873	High	Not Available		Yes
Jasper	Lloyd Shoals	GA00873	High	Not Available		Yes
Jefferson	Lake Marian Dam	GA03259	High	Fair	42801	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Jones	Town Creek Reservoir Dam	GA04542	High	Satisfactory	42993	Yes
Lamar	Potato Creek WS Str # 115	GA01048	High	Fair	42782	Yes
Lee	Bartletts Ferry, Labyrinth Spillway	GA00830	High	Not Available		Yes
Lowndes	Nelson Hill Subdivision Lake Dam	GA07522	High	Poor	41297	Yes
Lumpkin	Etowah River WS Str # 25	GA02137	High	Fair	42809	Yes
Lumpkin	Etowah River WS Str # 26	GA00545	High	Fair	42809	Yes
Lumpkin	Yahoola Creek Reservoir Dam	GA07468	High	Satisfactory	42446	Yes
Lumpkin	Whitner's Lake Dam	GA02756	High	Satisfactory	42446	Yes
Madison	Seagraves Mill Pond Dam	GA04873	High	Poor	43698	Yes
Madison	South River W/S Str. #29	GA00427	High	Satisfactory	42817	Yes
Madison	Little Sandy-Trail Creek W/S Str. #2	GA00436	High	Poor	42759	Yes
Madison	Little Sandy - Trail Creek W/S Str. #1	GA00424	High	Satisfactory	42759	Yes
Madison	South Fork Broad River WS Str # 35	GA00429	High	Poor	42817	Yes
Madison	South Fork Broad River W/S Str. #64	GA00434	High	Poor	41325	Yes
Madison	South Broad River W/S Str. #10	GA00425	High	Fair	42817	Yes
Madison	South Fork River WS Str # 31	GA00428	High	Poor	42816	Yes
Madison	South River W/S Str. # 51	GA00431	High	Poor	42817	Yes
Madison	South River WS Str # 4	GA00430	High	Satisfactory	42759	Yes
Madison	Muse Lake Dam	GA04871	High	Satisfactory	43747	Yes
Madison	South Fork River WS Str # 27	GA00426	High	Poor	42817	Yes
McCormick	J. Strom Thurmond Dam	GA01701	High	Not Available		Yes
Meriwether	Cane Creek WS Str #2	GA01097	High	Fair	42452	Yes
Monroe	Plant Scherer Ash Pond Dam	GA07217	High	Satisfactory	42437	Yes
Monroe	Plant Scherer Main Storage Pond Dam	GA04557	High	Satisfactory	42437	Yes
Monroe	High Falls Lake Dam	GA02060	High	Satisfactory	42437	Yes
Murray	Seventh Day Adventist Lake Dam	GA04581	High	Satisfactory	44755	Yes
Murray	Fort Mountain State Park Lake Dam	GA00708	High	Satisfactory	42803	Yes
Murray	Carters Re-Regulation Dam	GA00822	High	Not Available		Yes
Murray	Carters Main Dam	GA00821	High	Not Available		Yes
Muscogee	Oliver	GA00837	High	Not Available		Yes
Muscogee	North Highlands	GA00853	High	Not Available		Yes
Newton	Stone Lea Lake Dam	GA00993	High	Satisfactory	43538	Yes
Newton	Cornish Creek Reservoir Dam	GA05174	High	Satisfactory	43538	Yes
Newton	Melody Lake Dam	GA05153	High	Satisfactory	42795	Yes
Newton	Covington Las Holding Dam	GA06285	High	Satisfactory	42795	Yes
Oconee	The Farm Lake Dam	GA04971	High	Poor	43545	Yes
Oconee	Yonah	GA00874	High	Not Available		Yes
Oglethorpe	South Fork Broad River W/S Str. # 65	GA01742	High	Poor	41325	Yes
Oglethorpe	Watson Mill Pond Dam	GA04553	High	Satisfactory	43545	Yes
Paulding	Pumpkinvine Creek W/S Str. #26	GA00007	High	Poor	42747	Yes
Paulding	Pumpkinvine Creek W/S Str. #50	GA00008	High	Poor	42747	Yes
Paulding	Pumpkinvine Creek W/S Str. # 3	GA00002	High	Poor	42747	Yes
Paulding	Richland Creek Reservoir Dam	GA06052	High	Satisfactory	43740	Yes
Paulding	Pegamore Lake Dam	GA00151	High	Poor	43544	Yes
Paulding	Pumpkinvine Creek WS Str #1	GA00001	High	Poor	42815	Yes
Paulding	Lake Swan Dam	GA05227	High	Poor	43544	Yes
Pickens	Sharp Mountain Creek W/S Str. #22	GA00697	High	Poor	42760	Yes
Pickens	Young Kim Lake Dam	GA00672	High	Satisfactory	42760	Yes
Pickens	Bent Tree Lake Dam	GA00688	High	Fair	42745	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Pickens	Petit Lake Dam	GA00685	High	Satisfactory	42760	Yes
Pickens	Long Swamp Creek WS Str # 8	GA00705	High	Poor	42760	Yes
Pickens	Long Swamp Creek W/S Str. #9	GA00687	High	Poor	42760	Yes
Pickens	Long Swamp Creek WS Str # 14	GA02139	High	Poor	42760	Yes
Pickens	Sequoyah Lake Dam	GA02359	High	Poor	42759	Yes
Pickens	Sharp Mountain Creek WS Str # 12	GA00692	High	Poor	42759	Yes
Pickens	Sharp Mountain Creek WS Str # 14	GA00694	High	Fair	42760	Yes
Pickens	Sharp Mountain Creek WS Str # 2	GA00691	High	Poor	42759	Yes
Pickens	Talking Rock Creek WS Str # 13	GA00703	High	Poor	42759	Yes
Pickens	Sharp Mountain Creek WS Str # 13	GA00693	High	Poor	42809	Yes
Pickens	Sharp Mountain Creek WS Str # 1	GA00690	High	Poor	42759	Yes
Pickens	Grandview Lake Dam	GA00683	High	Satisfactory	43704	Yes
Pickens	Upper Twin Mountain Lake Dam	GA00681	High	Satisfactory	42759	Yes
Pike	Potato Creek W/S Str. #33	GA01060	High	Fair	42782	Yes
Pike	Potato Creek W/S Str. #82	GA01062	High	Fair	42782	Yes
Pike	Potato Creek W/S Str. #66	GA01058	High	Poor	42782	Yes
Pike	Still Branch Reservoir Dam	GA07632	High	Satisfactory	42782	Yes
Polk	Big Cedar Creek W/S Str. # 32	GA04572	High	Poor	42395	Yes
Polk	Big Cedar Creek WS Str # 41	GA04573	High	Poor	42395	Yes
Polk	Big Cedar Creek WS Str # 48	GA04574	High	Poor	42453	Yes
Polk	Euharlee Creek WS Str # 4	GA01152	High	Poor	42453	Yes
Putnam	Ash Pond E Dam	GA04576	High	Satisfactory	42802	Yes
Rabun	Black Rock Mountain State Park Lake Dam	GA02070	High	Poor	44229	Yes
Rabun	Lake Toccoa Dam	GA00795	High	Satisfactory	44229	Yes
Rabun	Mathis & Terrora	GA00856	High	Not Available		Yes
Rabun	Burton	GA00864	High	Not Available		Yes
Rabun	Tallulah Falls	GA00855	High	Not Available		Yes
Rabun	Nacoochee	GA00861	High	Not Available		Yes
Rabun	Saddle Dam A	GA00856	High	Not Available		Yes
Randolph	Bullock Lake Dam	GA01066	High	Fair	41296	Yes
Richmond	Richmond Co. Vo-Tech Retention Pond	GA04940	High	Satisfactory	40863	Yes
Richmond	Tobacco Road Wtp Dam	GA05485	High	Satisfactory	42767	Yes
Richmond	Lake Aumond Dam	GA02129	High	Satisfactory	43580	Yes
Richmond	Forest Hills Lake Dam	GA05230	High	Poor	43580	Yes
Richmond	Wrightsboro Rd. Det. Dam	GA05233	High	Satisfactory	43580	Yes
Richmond	Butler Reservoir	GA01721	High	Not Available		Yes
Richmond	Gordon Lake Dam	GA01722	High	Not Available		Yes
Richmond	Aug. Canal Left Embkmt + Structures (Below + Bulkhead Structure)	GA06398	High	Not Available		Yes
Richmond	Augusta Canal Right Embankment	GA06398	High	Not Available		Yes
Rockdale	Meadow Brook Lake Dam #2	GA01287	High	Fair	42389	Yes
Rockdale	Lakefield Commons Dam	GA05683	High	Satisfactory	43706	Yes
Rockdale	Jack Turner Reservoir Dam	GA04518	High	Satisfactory	43538	Yes
Rockdale	Cowan Lake Dam	GA01284	High	Poor	42389	Yes
Rockdale	Walker Lake Dam	GA01269	High	Satisfactory	42795	Yes
Spalding	Heads Creek Reservoir Dam	GA01465	High	Satisfactory	42409	Yes
Spalding	Upper Towaliga Reservoir Dam	GA05325	High	Satisfactory	42396	Yes
Stephens	North Fork Broad River WS Str # 5	GA00469	High	Poor	41326	Yes
Stephens	North Fork Broad River WS Str # 13	GA00484	High	Poor	41326	Yes
Stephens	North Fork Broad River WS Str # 1	GA00478	High	Satisfactory	42439	Yes

NID High Hazard Dams						
County	Dam Name	NID ID	Hazard Potential Classification	Condition Assessment	Condition Assessment Date	EAP Prepared
Stephens	Yonah Low Reservoir Rim	GA00874	High	Not Available		Yes
Taylor	Taylor Mill Lake Dam	GA04985	High	Satisfactory	41305	Yes
Taylor	Rustins Pond Dam	GA02744	High	Satisfactory	41305	Yes
Thomas	Timberlake Dam	GA04988	High	Satisfactory	41296	Yes
Towns	Hightower Creek WS Str # 13	GA00641	High	Poor	42445	Yes
Troup	Yellow Jacket Creek Watershed Str. # 15	GA02705	High	Fair	42452	Yes
Troup	Edmondson Lake Dam	GA02580	High	Poor	42452	Yes
Troup	West Point Dam	GA00820	High	Not Available		Yes
Union	Robert W. Woodruff Reservoir Dam	GA04908	High	Satisfactory	42445	Yes
Union	Vogel State Park Lake Dam	GA00663	High	Satisfactory	44180	Yes
Union	Nottely Dam - Saddle Dam No. 2	GA29101	High	Not Available		Yes
Union	Nottely Dam	GA29101	High	Not Available		Yes
Union	Nottely Dam - Saddle Dam No. 1	GA29101	High	Not Available		Yes
Upton	Potato Creek WS Str # 6	GA01613	High	Satisfactory	41305	Yes
Upton	Lake Thomaston Dam	GA05079	High	Satisfactory	43545	Yes
Upton	Sunnyside Lake Dam	GA01625	High	Satisfactory	41305	Yes
Walton	Hard Labor Creek Reservoir Dam	GA05821	High	Satisfactory	42795	Yes
Walton	Jt Briscoe Reservoir Dam	GA05241	High	Satisfactory	42754	Yes
Warren	Rocky Comfort W/S Str. # 50	GA06054	High	Poor	42767	Yes
Warren	Rocky Comfort Creek WS Str # 45	GA00367	High	Fair	42767	Yes
Warren	Rocky Comfort Creek WS Str # 46	GA00369	High	Fair	42767	Yes
Washington	Walden Woods Lake Dam	GA02709	High	Poor	42801	Yes
Washington	Imerys 5c Clay Impoundment Dam	GA04702	High	Satisfactory	44706	Yes
Washington	Smith Pond Tailings Dam	GA07174	High	Satisfactory	42801	Yes
Washington	5-C Impoundment	GA83452	High	Not Available		Yes
White	Mountain Lakes Dam	GA04721	High	Fair	41311	Yes
White	Lake Nora Dam	GA04598	High	Satisfactory	41311	Yes
White	Sautee Creek W/S Str. #13	GA00527	High	Poor	42746	Yes
White	Tesnatee Creek W/S Str. # 11m	GA04600	High	Fair	41311	Yes
White	Pfau Lake Dam	GA00533	High	Poor	41311	Yes
White	Clear Lake Dam	GA00512	High	Poor	41311	Yes
White	Blue Creek Reservoir Dam	GA04239	High	Satisfactory	41311	Yes
White	Louis Lake Dam	GA00525	High	Satisfactory	41311	Yes
White	Wendy Lake Dam	GA00524	High	Satisfactory	41311	Yes
White	Unicoi State Park Lake Dam	GA00514	High	Satisfactory	42746	Yes
White	Sautee Creek W/S Str. #12	GA04599	High	Poor	42746	Yes
Whitfield	Dalton Utilities Impoundment Dike #3	GA04602	High	Poor	42964	Yes
Whitfield	Lower Haig Mill Reservoir Dam	GA06332	High	Satisfactory	42802	Yes
Whitfield	Upper Haig Mill Lake Dam	GA00730	High	Satisfactory	42802	Yes
Whitfield	River Road Reservoir Dam	GA04601	High	Satisfactory	42964	Yes
Wilkinson	Ira Holliman Tailings Impoundment Dam	GA07545	High	Satisfactory	42802	Yes
Wilkinson	Vinson Impound # 1 Dam	GA04604	High	Satisfactory	42802	Yes
Worth	Pritchard Lake Dam	GA03479	High	Satisfactory	42851	Yes
Worth	Crisp County (Warwick)	GA00719	High	Not Available		Yes

Appendix D-VII
Other Risk Assessment Data
and Information

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Appling	140	0.30	195	0.36	447	1.55	551	0.56	621	0.76	620	0.60	638	0.58	648	0.71	483	0.68
Atkinson	118	0.46	136	0.89	305	2.40	395	0.98	437	0.72	472	1.18	419	1.29	453	1.02	342	1.12
Bacon	85	0.63	99	0.21	326	1.31	433	0.46	484	0.64	485	0.72	503	0.55	520	0.69	367	0.65
Baker	34	2.17	48	0.21	56	6.37	87	4.78	309	3.09	457	2.15	433	2.56	426	1.78	231	2.89
Baldwin	528	0.19	501	0.25	530	0.84	568	0.34	585	0.29	589	0.34	597	0.22	620	0.45	565	0.36
Banks	351	1.80	408	0.55	457	2.89	555	0.69	515	0.67	600	1.50	546	0.56	560	1.36	499	1.25
Barrow	545	0.33	608	0.20	615	0.51	658	0.26	594	0.17	674	0.32	637	0.29	650	0.32	623	0.30
Bartow	615	0.39	661	0.36	645	0.80	688	0.40	682	0.42	685	0.85	697	0.43	705	0.43	672	0.51
Ben Hill	26	0.05	24	0.05	167	1.66	269	1.30	297	0.46	263	0.47	296	0.35	313	0.43	207	0.60
Berrien	198	0.64	198	0.99	230	2.42	274	1.45	289	0.78	256	0.83	238	0.58	294	0.32	247	1.00
Bibb	712	0.13	714	0.13	694	0.52	721	0.17	722	0.11	725	0.20	722	0.14	724	0.21	717	0.20
Bleckley	134	0.59	171	1.79	130	5.95	153	4.76	176	1.08	143	1.78	165	1.04	249	1.87	165	2.36
Brantley	36	0.16	72	0.39	329	1.69	437	0.62	454	0.45	456	0.71	458	0.46	468	0.45	339	0.62
Brooks	98	0.59	114	1.07	114	2.26	190	0.62	178	0.54	183	0.33	116	0.93	144	0.68	142	0.88
Bryan	251	0.22	289	0.62	275	0.31	438	0.08	514	0.21	560	0.24	556	0.22	594	0.31	435	0.28
Bulloch	476	0.13	490	0.47	427	0.24	662	0.25	666	0.23	671	0.25	683	0.14	681	0.31	595	0.25
Burke	397	0.42	351	0.65	328	0.57	361	0.77	390	0.22	416	0.36	384	0.47	406	0.51	379	0.50
Butts	168	0.13	286	0.32	398	0.72	482	0.23	486	0.18	408	0.22	415	0.39	493	0.41	392	0.33
Calhoun	123	2.57	188	2.19	231	2.26	326	8.08	350	1.36	335	1.78	278	1.43	282	1.03	264	2.59
Camden	432	0.19	418	0.57	526	1.17	568	0.39	598	0.31	609	0.32	607	0.32	631	0.34	549	0.45
Candler	138	0.68	158	1.44	181	1.23	390	1.09	379	0.58	375	0.81	360	0.42	402	0.50	298	0.84
Carroll	441	0.05	522	0.07	676	0.40	705	0.15	690	0.15	711	0.30	695	0.12	696	0.15	642	0.17
Catoosa	104	0.03	148	0.15	647	0.25	659	0.26	661	0.35	661	0.41	654	0.35	664	0.44	525	0.28
Charlton	154	0.58	197	1.07	341	3.28	363	1.08	308	0.94	343	0.67	353	0.32	380	0.76	305	1.09
Chatham	723	0.20	729	1.26	728	0.52	729	0.16	730	0.20	732	0.20	730	0.18	730	0.20	729	0.37
Chattahoochee	34	0.24	35	0.13	93	0.33	154	0.48	167	0.33	131	0.41	120	0.32	121	0.29	107	0.32
Chattooga	395	0.39	418	0.28	535	0.70	541	0.58	566	0.57	577	0.81	550	0.51	574	0.77	520	0.58
Cherokee	665	0.09	681	0.08	690	0.19	711	0.10	712	0.06	721	0.16	709	0.10	720	0.12	701	0.11
Clarke	638	0.18	660	0.09	656	0.33	675	0.17	701	0.10	709	0.20	703	0.18	689	0.15	679	0.18
Clay	148	2.93	149	2.07	159	6.92	253	9.17	205	5.08	239	6.42	186	4.62	187	2.09	191	4.91
Clayton	721	0.13	726	0.16	726	0.34	727	0.18	730	0.20	731	0.30	728	0.23	730	0.22	727	0.22
Clinch	101	2.53	118	3.89	89	8.17	118	1.60	119	1.35	92	1.08	109	1.80	119	0.99	108	2.68
Cobb	718	0.11	730	0.13	729	0.25	729	0.12	730	0.09	727	0.16	728	0.10	730	0.13	728	0.14
Coffee	122	0.08	155	0.11	537	0.95	593	0.35	639	0.23	637	0.27	644	0.23	638	0.28	496	0.31
Colquitt	164	0.26	186	0.40	193	0.97	270	0.70	308	0.16	333	0.21	218	0.26	297	0.25	246	0.40
Columbia	673	0.13	681	0.19	680	0.21	689	0.14	695	0.20	709	0.17	696	0.12	697	0.18	690	0.17
Cook	114	0.42	130	1.07	129	3.61	144	0.95	154	0.79	146	0.84	125	0.86	128	0.73	134	1.16
Coweta	451	0.08	433	0.09	514	0.19	683	0.25	683	0.26	686	0.58	672	0.28	681	0.31	600	0.25
Crawford	301	0.61	339	0.75	324	1.36	371	0.74	378	0.64	403	0.71	409	0.42	450	0.66	372	0.74
Crisp	8	0.06	5	0.09	20	0.08	35	0.05	32	0.04	32	0.01	17	0.06	15	0.00	21	0.05
Dade	440	0.62	396	0.92	378	0.91	346	1.00	443	0.97	443	0.99	452	0.56	432	0.73	416	0.84
Dawson	311	0.70	309	0.38	403	0.87	595	0.28	591	0.23	574	0.60	595	0.30	564	0.27	493	0.46
Decatur	427	0.43	430	0.46	480	1.02	543	3.68	595	0.60	573	0.79	549	0.70	558	0.73	519	1.05
DeKalb	723	0.31	729	0.38	730	1.08	730	0.34	730	0.41	731	0.78	730	0.41	730	0.54	729	0.53
Dodge	134	0.61	154	1.13	160	3.43	189	3.61	200	1.14	180	1.59	190	0.96	270	1.26	185	1.72
Dooley	211	0.51	204	0.23	242	1.36	238	1.69	274	0.71	397	1.18	407	0.83	428	1.45	300	0.99
Dougherty	236	0.08	265	0.07	322	0.22	370	0.39	478	0.14	602	0.15	575	0.10	555	0.10	425	0.16
Douglas	516	0.08	692	0.08	708	0.21	718	0.12	713	0.11	729	0.24	728	0.15	708	0.16	689	0.14
Early	89	0.37	66	0.83	82	1.53	146	2.04	226	0.46	274	0.39	197	0.29	210	0.37	161	0.78
Echols	61	8.38	91	5.36	60	10.71	92	2.02	115	2.52	124	1.62	70	4.77	242	2.54	107	4.74
Effingham	593	0.24	627	1.33	593	0.53	592	0.24	638	0.29	662	0.34	643	0.28	661	0.36	626	0.45
Elbert	112	0.26	90	0.13	168	0.26	389	0.21	325	0.25	316	0.17	326	0.20	331	0.21	257	0.21
Emanuel	271	0.27	281	0.42	267	0.54	470	0.48	457	0.23	579	0.54	596	0.29	610	0.62	441	0.43
Evans	128	0.11	160	2.31	219	0.93	387	1.13	427	0.81	408	0.59	389	0.98	439	1.31	320	1.02

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022 - January, February, March & December

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Appling	39	0.07	195	0.36	132	0.47	153	0.61	185	0.27	201	0.35	199	0.45	212	0.69	165	0.41
Atkinson	43	0.19	136	0.89	85	0.58	107	1.14	146	0.28	160	0.96	132	0.78	146	0.73	119	0.69
Bacon	20	0.04	99	0.21	94	0.71	106	0.31	155	0.16	144	1.07	159	0.53	183	0.70	120	0.47
Baker	8	0.30	48	0.21	22	7.45	15	2.08	56	3.70	170	2.18	148	1.74	139	1.96	76	2.45
Baldwin	169	0.10	501	0.25	184	0.25	170	0.27	181	0.26	181	0.29	187	0.15	192	0.57	221	0.27
Banks	86	2.88	408	0.55	138	0.60	189	0.47	166	0.62	191	0.72	179	0.41	187	2.36	193	1.08
Barrow	158	0.54	608	0.20	196	0.15	212	0.13	194	0.08	225	0.15	208	0.24	216	0.28	252	0.22
Bartow	182	0.21	661	0.36	220	1.42	224	0.25	218	0.36	231	0.53	226	0.45	231	0.39	274	0.50
Ben Hill	4	0.03	24	0.05	29	0.06	69	0.37	92	0.64	78	0.45	107	0.15	101	0.49	63	0.28
Berrien	45	0.30	198	0.99	62	1.12	83	0.50	77	0.49	79	0.54	89	0.34	116	0.14	94	0.55
Bibb	236	0.09	714	0.13	238	0.10	236	0.06	238	0.10	239	0.15	236	0.08	237	0.17	297	0.11
Bleckley	29	0.57	171	1.79	45	0.20	34	1.57	59	0.78	31	0.27	48	0.96	43	0.28	58	0.80
Brantley	11	0.19	72	0.39	50	0.41	121	0.75	143	0.21	136	0.32	130	0.17	150	0.41	102	0.36
Brooks	27	0.23	114	1.07	38	1.20	40	0.07	45	0.35	82	0.17	33	0.25	42	0.95	53	0.54
Bryan	67	0.07	289	0.62	90	0.22	126	0.03	123	0.16	164	0.22	168	0.12	173	0.27	150	0.21
Bulloch	136	0.15	490	0.47	160	0.07	205	0.11	213	0.14	215	0.22	225	0.12	222	0.29	233	0.20
Burke	125	0.31	351	0.65	117	0.41	97	0.19	124	0.09	116	0.44	124	0.22	125	0.49	147	0.35
Butts	46	0.20	286	0.32	98	0.26	144	0.31	162	0.07	143	0.11	135	0.08	196	0.43	151	0.22
Calhoun	23	2.40	188	2.19	75	2.66	75	1.21	108	0.77	143	1.85	74	1.09	79	0.65	96	1.60
Camden	134	0.01	418	0.57	146	0.05	170	0.71	190	0.21	193	0.15	202	0.14	210	0.33	208	0.27
Candler	38	0.12	158	1.44	57	0.15	127	0.23	105	0.61	112	0.39	109	0.48	119	0.80	103	0.53
Carroll	134	0.03	522	0.07	222	0.66	236	0.14	226	0.14	238	0.16	231	0.09	227	0.15	255	0.18
Catoosa	28	0.03	148	0.15	207	0.29	214	0.14	210	0.21	219	0.14	213	0.74	214	0.73	182	0.30
Charlton	45	0.22	197	1.07	57	0.88	119	1.40	92	0.46	89	0.63	108	0.19	121	0.42	104	0.66
Chatham	241	0.10	729	1.26	242	0.16	242	0.11	242	0.12	244	0.13	242	0.11	242	0.13	303	0.26
Chattahoochee	7	0.28	35	0.13	18	0.06	32	0.41	54	0.09	39	0.62	33	0.11	42	0.22	33	0.24
Chattooga	103	0.18	418	0.28	171	0.79	167	0.36	177	0.35	178	0.35	186	0.52	189	1.04	199	0.48
Cherokee	208	0.09	681	0.08	234	0.33	232	0.11	238	0.05	238	0.06	233	0.07	239	0.12	288	0.12
Clarke	202	0.21	660	0.09	213	0.07	220	0.14	229	0.10	236	0.13	230	0.13	227	0.16	277	0.13
Clay	49	2.52	149	2.07	47	3.57	71	2.76	73	3.78	79	8.28	58	4.45	56	1.62	73	3.63
Clayton	240	0.14	726	0.16	242	0.22	242	0.13	242	0.17	243	0.25	241	0.20	242	0.25	302	0.19
Clinch	23	0.20	118	3.89	22	3.50	35	0.96	39	0.52	27	0.62	33	0.31	48	1.15	43	1.39
Cobb	237	0.06	730	0.13	242	0.50	242	0.11	242	0.08	244	0.07	241	0.11	242	0.11	303	0.15
Coffee	20	0.07	155	0.11	167	0.37	174	0.27	204	0.17	202	0.19	218	0.13	207	0.35	168	0.21
Colquitt	55	0.19	186	0.40	68	0.49	63	0.26	105	0.05	154	0.16	60	0.31	86	0.15	97	0.25
Columbia	223	0.07	681	0.19	218	0.13	222	0.04	226	0.16	236	0.12	230	0.07	228	0.27	283	0.13
Cook	24	0.11	130	1.07	45	2.11	37	1.35	47	0.86	36	0.20	22	0.11	29	0.73	46	0.82
Coweta	134	0.03	433	0.09	165	0.10	225	0.21	227	0.15	232	0.68	221	0.44	226	0.27	233	0.25
Crawford	82	0.62	339	0.75	97	0.23	90	0.25	113	0.40	122	0.35	146	0.27	147	0.40	142	0.41
Crisp	5	0.06	5	0.09	5	0.04	5	0.06	10	0.00	12	0.00	8	0.06	2	0.00	7	0.04
Dade	139	0.55	396	0.92	137	0.88	98	1.57	146	1.86	137	0.34	139	0.52	151	0.73	168	0.92
Dawson	102	1.46	309	0.38	126	0.82	193	0.13	195	0.15	185	0.15	192	0.29	189	0.36	186	0.47
Decatur	131	0.19	430	0.46	138	0.84	165	0.48	178	0.60	194	0.48	162	0.47	167	0.96	196	0.56
DeKalb	241	0.17	729	0.38	242	0.82	242	0.32	242	0.26	243	0.31	242	0.36	242	0.60	303	0.40
Dodge	31	0.38	154	1.13	56	1.76	51	0.35	58	1.46	55	0.58	46	0.45	106	0.56	70	0.83
Dooley	57	0.43	204	0.23	71	0.11	50	0.12	82	0.46	107	0.65	92	0.32	137	1.36	100	0.46
Dougherty	56	0.05	265	0.07	112	0.34	86	0.05	123	0.05	214	0.07	189	0.09	171	0.07	152	0.10
Douglas	157	0.04	692	0.08	230	0.37	237	0.16	232	0.05	242	0.13	241	0.10	240	0.14	284	0.13
Early	28	0.12	66	0.83	21	1.41	33	0.37	58	0.03	129	0.26	45	0.25	57	0.45	55	0.47
Echols	22	7.35	91	5.36	13	0.44	10	1.72	27	1.73	71	1.50	37	5.03	76	0.68	43	2.98
Effingham	194	0.15	627	1.33	185	0.12	190	0.11	208	1.33	218	0.20	215	0.24	215	0.22	257	0.33
Elbert	30	0.40	90	0.13	62	0.07	140	0.04	98	0.28	97	0.13	90	0.16	92	0.43	87	0.20
Emanuel	74	0.21	281	0.42	96	0.23	149	0.14	139	0.18	181	0.52	199	0.23	192	0.45	164	0.30
Evans	37	0.08	160	2.31	81	0.28	133	0.57	121	0.51	138	0.75	108	0.76	117	0.92	112	0.77

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022 - January, February, March & December

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Fannin	7	3.84	15	0.26	15	0.13	19	0.05	38	2.13	98	2.61	127	1.82	109	2.51	54	1.67
Fayette	108	0.10	404	0.04	161	0.06	214	0.10	217	0.07	218	0.24	191	0.03	219	0.16	217	0.10
Floyd	211	0.25	671	0.19	235	0.50	223	0.20	231	0.13	239	0.34	235	0.34	237	0.22	285	0.27
Forsyth	99	0.13	311	0.03	141	0.11	233	0.06	239	0.05	239	0.04	230	0.05	233	0.11	216	0.07
Franklin	81	0.57	247	0.09	112	0.10	189	0.07	186	0.11	184	0.11	154	0.17	165	0.30	165	0.19
Fulton	241	0.12	731	0.23	242	0.36	242	0.21	242	0.20	244	0.23	242	0.17	242	0.28	303	0.22
Gilmer	183	0.94	615	0.84	215	1.78	196	0.69	211	0.78	211	1.07	210	0.77	218	1.27	257	1.02
Glascock	28	0.25	109	2.53	35	3.02	34	1.45	53	1.56	70	0.24	55	0.48	64	2.00	56	1.44
Glynn	214	0.11	679	1.15	223	0.10	227	0.61	227	0.10	233	0.09	229	0.15	235	0.39	283	0.34
Gordon	99	0.06	328	0.13	221	0.61	210	0.17	221	0.17	213	0.25	213	0.59	218	0.47	215	0.31
Grady	1	0.03	9	0.02	34	0.42	131	0.48	150	0.16	178	0.50	151	0.47	168	0.86	103	0.37
Greene	125	0.17	327	0.41	110	0.61	154	0.40	160	0.32	170	0.42	171	0.15	187	0.50	176	0.37
Gwinnett	241	0.31	731	0.22	242	0.40	242	0.48	242	0.35	244	0.30	242	0.29	242	0.63	303	0.37
Habersham	172	0.73	532	0.17	196	0.36	195	0.28	203	0.11	207	0.12	212	0.26	212	0.84	241	0.36
Hall	209	1.07	715	0.31	239	0.35	239	0.27	237	0.22	242	0.31	238	0.32	242	0.68	295	0.44
Hancock	94	0.48	246	0.97	100	1.27	121	0.89	149	0.62	137	1.47	134	1.22	173	1.42	144	1.04
Haralson	99	0.14	329	0.25	167	1.66	192	0.47	174	0.25	210	0.35	197	0.26	197	0.31	196	0.46
Harris	132	0.29	420	0.17	146	0.43	165	0.47	181	1.68	185	0.18	157	0.26	182	0.55	196	0.50
Hart	51	0.36	231	0.11	112	0.07	176	0.07	154	0.14	146	0.10	138	0.16	158	0.22	146	0.15
Heard	17	#DIV/0!	102	#DIV/0!	104	#DIV/0!	135	#DIV/0!	132	#DIV/0!	187	#DIV/0!	146	#DIV/0!	131	#DIV/0!	119	#DIV/0!
Henry	201	0.05	670	0.07	228	0.09	231	0.10	231	0.09	242	0.12	233	0.08	240	0.14	285	0.09
Houston	218	0.04	707	0.08	233	0.05	222	0.03	225	0.03	225	0.06	215	0.04	216	0.05	283	0.05
Irwin	19	0.06	77	0.38	50	0.16	86	0.61	118	0.66	94	0.89	121	0.27	121	0.66	86	0.46
Jackson	119	0.44	675	0.37	221	0.57	222	0.20	210	0.17	231	0.27	223	0.38	221	0.39	265	0.35
Jasper	33	0.26	245	0.55	88	0.53	123	0.48	132	0.42	144	0.70	137	0.30	186	0.50	136	0.47
Jeff Davis	30	0.24	114	0.16	113	0.27	114	0.18	167	0.08	170	0.26	166	0.77	165	0.43	130	0.30
Jefferson	140	0.17	446	0.58	137	0.49	128	0.34	145	0.17	153	0.23	148	0.18	167	0.24	183	0.29
Jenkins	42	0.83	99	1.64	30	1.15	45	0.29	53	0.11	54	0.70	49	0.30	42	0.73	52	0.72
Johnson	37	0.27	103	0.46	50	1.03	92	0.38	115	0.52	128	0.78	131	0.74	124	0.68	98	0.61
Jones	94	0.24	342	0.43	121	0.31	133	0.37	139	0.94	158	0.50	169	0.34	168	0.69	166	0.48
Lamar	112	0.17	390	0.39	152	0.42	147	0.17	171	0.26	197	0.33	177	0.18	213	0.62	195	0.32
Lanier	23	0.34	140	1.51	30	0.09	19	0.11	49	0.36	33	0.74	34	0.63	30	0.38	45	0.52
Laurens	150	0.04	416	0.33	135	0.13	133	0.19	141	0.28	178	0.27	190	0.24	189	0.42	192	0.24
Lee	70	0.06	206	0.15	96	0.37	134	0.42	143	0.25	157	0.24	127	0.38	128	0.15	133	0.25
Liberty	97	0.05	399	0.60	139	0.06	195	0.10	211	0.12	199	0.15	197	0.11	201	0.39	205	0.20
Lincoln	72	0.52	214	0.61	85	0.17	116	0.36	94	0.20	97	0.54	84	1.94	118	2.52	110	0.86
Long	24	0.09	114	2.00	81	0.21	152	0.49	186	0.40	154	0.68	151	0.83	172	0.80	129	0.69
Lowndes	171	0.06	593	0.29	181	0.14	193	0.08	198	0.08	199	0.18	197	0.13	207	0.16	242	0.14
Lumpkin	144	2.28	484	0.38	182	1.14	189	0.29	207	0.29	206	0.28	185	0.42	201	1.02	225	0.76
Macon	101	0.71	439	0.74	124	0.60	121	0.64	137	0.30	142	0.69	145	0.55	133	0.58	168	0.60
Madison	82	0.82	537	0.26	178	0.15	206	0.27	184	0.17	204	0.19	201	0.30	200	0.77	224	0.37
Marion	54	0.74	210	0.43	64	0.51	67	0.37	81	1.43	73	0.93	81	0.78	108	0.78	92	0.75
McDuffie	147	0.17	401	0.59	129	0.23	126	0.16	135	0.42	143	0.26	144	0.14	150	0.57	172	0.32
McIntosh	78	0.41	322	2.13	92	0.06	89	1.23	116	0.15	133	0.60	128	0.40	133	0.56	136	0.69
Meriwether	143	0.18	461	0.56	146	0.30	161	0.49	164	0.66	188	0.32	179	0.15	201	0.60	205	0.41
Miller	12	4.17	84	3.47	32	0.64	26	3.48	57	1.92	111	0.44	34	0.39	49	1.25	51	1.97
Mitchell	50	0.02	205	0.32	66	0.29	82	0.04	124	0.11	207	0.45	215	0.23	209	0.58	145	0.26
Monroe	97	0.16	391	0.40	153	0.19	152	0.18	178	0.17	194	0.13	174	0.18	196	0.47	192	0.24
Montgomery	34	0.09	111	1.09	29	0.33	20	0.55	52	0.10	114	0.70	129	0.97	125	0.22	77	0.51
Morgan	77	0.08	379	0.25	107	0.24	163	0.24	170	0.27	158	0.24	169	0.19	206	0.30	179	0.22
Murray	112	0.10	379	0.24	198	0.28	203	0.24	215	0.24	192	0.37	207	0.58	209	0.43	214	0.31
Muscogee	239	0.07	714	0.15	235	0.09	237	0.13	238	0.17	244	0.16	236	0.10	239	0.13	298	0.13
Newton	52	0.21	156	0.14	79	0.04	183	0.05	191	0.08	177	0.31	151	0.04	177	0.19	146	0.13
Oconee	50	0.12	160	0.10	69	0.46	171	0.11	176	0.12	175	0.11	165	0.09	193	0.23	145	0.17

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County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Oglethorpe	49	0.68	180	0.27	78	0.19	113	0.16	134	0.37	161	0.42	134	0.51	150	1.04	125	0.46
Paulding	84	0.03	648	0.05	215	0.52	238	0.07	235	0.06	238	0.09	242	0.05	238	0.10	267	0.12
Peach	101	0.66	393	0.25	114	0.22	113	0.12	152	0.35	160	0.19	153	0.30	175	0.36	170	0.31
Pickens	158	0.43	520	0.42	187	1.35	179	0.56	192	0.64	183	0.51	195	0.40	211	0.97	228	0.66
Pierce	29	0.06	210	0.56	133	0.18	126	0.41	165	0.14	186	0.36	165	0.28	186	0.53	150	0.31
Pike	146	0.43	463	0.47	136	0.24	153	0.42	137	0.26	179	0.37	176	0.24	177	0.55	196	0.37
Polk	181	0.15	576	0.20	194	1.38	211	0.21	203	0.47	226	0.48	221	0.52	221	0.47	254	0.48
Pulaski	38	0.09	145	0.38	40	0.57	49	0.40	61	0.48	67	0.94	51	0.41	82	2.09	67	0.67
Putnam	90	0.33	352	0.49	113	0.22	131	0.67	161	0.63	140	0.27	141	0.42	170	0.88	162	0.49
Quitman	17	9.78	64	1.51	19	1.25	50	1.59	49	4.65	70	3.92	44	1.05	61	1.87	47	3.20
Rabun	138	1.30	514	0.75	191	1.38	184	1.63	196	1.62	200	0.75	208	1.08	225	2.69	232	1.40
Randolph	63	0.20	188	0.98	61	1.07	73	1.09	80	0.93	95	2.09	66	2.71	77	0.78	88	1.23
Richmond	236	0.07	714	0.13	239	0.06	238	0.06	234	0.04	234	0.05	238	0.08	237	0.14	296	0.08
Rockdale	105	0.03	308	0.03	130	0.10	188	0.06	179	0.10	204	0.16	195	0.11	215	0.10	191	0.09
Schley	24	0.61	103	1.47	46	0.60	44	0.37	62	1.52	48	1.32	54	0.53	57	0.84	55	0.91
Screven	3	1.82	48	1.72	9	1.39	8	0.04	14	0.29	14	0.38	10	0.10	12	0.74	15	0.81
Seminole	43	2.06	118	0.36	46	0.49	60	0.85	52	0.58	54	0.95	44	1.32	59	0.83	60	0.93
Spalding	83	0.05	480	0.17	171	0.19	177	0.16	194	0.19	182	0.11	172	0.12	193	0.17	207	0.14
Stephens	81	0.67	333	0.22	116	0.19	198	0.15	173	0.26	187	0.14	184	0.11	180	0.57	182	0.29
Stewart	28	1.14	91	0.67	47	2.44	70	1.35	70	1.11	80	0.61	63	0.51	54	1.08	63	1.11
Sumter	134	0.21	475	0.21	143	0.24	155	0.22	161	0.27	181	0.36	164	0.20	179	0.37	199	0.26
Talbot	76	0.90	245	1.07	53	0.66	84	0.22	113	2.07	115	1.02	95	0.56	117	0.56	112	0.88
Taliaferro	17	0.15	70	0.71	32	1.79	49	1.80	62	3.05	53	2.02	72	2.74	60	4.32	52	2.07
Tattnall	91	0.13	298	1.02	98	0.58	171	0.23	176	0.39	175	0.29	189	0.33	187	0.47	173	0.43
Taylor	97	0.45	348	1.04	98	1.30	70	1.24	103	0.46	117	0.74	110	0.67	103	1.14	131	0.88
Telfair	47	0.78	167	0.98	65	0.61	51	0.21	48	0.20	60	0.67	73	0.79	99	1.96	76	0.78
Terrell	65	0.19	225	0.41	71	0.25	113	0.55	114	1.20	97	0.62	75	0.39	101	1.86	108	0.68
Thomas	50	0.10	217	0.24	93	0.30	129	0.17	126	0.04	183	0.18	141	0.21	138	0.52	135	0.22
Tift	131	0.21	417	0.45	126	0.17	141	0.25	148	0.30	185	0.27	154	0.13	165	0.25	183	0.25
Toombs	97	0.11	316	0.11	88	0.11	97	0.18	115	0.05	168	0.14	208	0.28	170	0.29	157	0.16
Towns					3	0.00	2	0.00	37	0.08	82	0.90	97	0.16	83	0.92	51	0.34
Treutlen	24	0.05	89	0.43	21	1.29	26	0.07	29	0.04	91	0.45	102	0.55	111	0.50	62	0.42
Troup	37	0.08	83	0.06	72	0.27	161	0.09	154	0.30	187	0.17	170	0.12	152	0.31	127	0.17
Turner	39	0.28	181	1.30	58	2.13	81	0.72	106	0.36	164	0.47	146	0.37	141	0.80	115	0.80
Twiggs	22	0.69	121	1.26	52	1.48	33	1.02	49	1.57	53	1.38	73	1.00	78	0.74	60	1.14
Union					3	0.00	2	0.00	52	0.19	151	0.50	165	0.38	155	1.27	88	0.39
Upson	75	0.10	227	0.21	63	0.22	67	0.28	94	0.08	153	0.12	132	0.16	162	0.48	122	0.21
Walker	35	0.01	180	0.18	204	0.58	202	0.14	216	0.15	204	0.12	198	0.41	205	0.15	181	0.22
Walton	87	0.06	254	0.06	113	0.13	225	0.22	209	0.22	216	0.13	212	0.11	223	0.19	192	0.14
Ware	111	0.11	450	0.45	155	0.12	169	0.15	177	0.14	182	0.25	183	0.23	198	0.21	203	0.21
Warren	54	0.74	164	1.42	61	1.04	76	0.77	87	1.43	97	1.22	73	0.91	91	2.22	88	1.22
Washington	48	0.04	157	0.06	68	0.14	148	0.42	172	0.53	148	0.48	176	0.27	181	0.41	137	0.29
Wayne	73	0.24	280	0.89	140	0.17	157	0.27	181	0.36	192	0.24	189	0.33	198	0.32	176	0.35
Webster	15	0.86	47	0.99	15	3.97	45	1.43	58	1.45	33	2.40	41	0.68	52	1.27	38	1.63
Wheeler	8	0.10	54	1.75	21	1.82	17	0.31	21	0.18	25	0.56	23	0.38	25	0.54	24	0.70
White	143	0.97	467	0.29	181	0.99	192	0.39	204	0.34	220	0.30	196	0.29	211	1.40	227	0.62
Whitfield	61	0.04	332	0.10	226	0.29	221	0.12	229	0.08	221	0.12	230	0.38	230	0.25	219	0.17
Wilcox	50	1.13	170	0.84	61	2.07	60	1.93	65	0.66	100	0.63	113	0.40	122	0.85	93	1.06
Wilkes	20	0.62	70	0.40	49	0.36	101	0.58	77	0.25	86	0.63	86	0.86	93	1.18	73	0.61
Wilkinson	35	0.44	167	1.04	44	0.56	54	0.81	51	0.71	71	0.37	69	0.98	79	0.39	71	0.66
Worth	18	0.09	112	0.35	46	1.00	37	0.12	88	0.41	208	0.70	186	0.58	209	0.66	113	0.49

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022 - May - August

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Appling	51	0.50	52	0.41	168	0.46	210	0.57	228	1.19	218	0.80	224	0.67	228	0.68	172	0.66
Atkinson	39	0.87	41	0.55	123	0.75	155	0.70	159	0.70	166	1.52	172	1.26	166	1.29	128	0.95
Bacon	38	1.31	24	0.12	128	0.76	166	0.73	169	0.52	187	0.75	197	0.62	176	1.03	136	0.73
Baker	14	4.67	22	0.31	12	0.10	18	0.11	146	4.25	151	2.45	176	3.43	158	1.97	87	2.16
Baldwin	185	0.26	168	0.47	202	0.17	205	0.30	205	0.27	204	0.39	221	0.27	232	0.57	203	0.34
Banks	142	0.75	154	0.35	163	0.86	192	1.07	202	0.77	196	1.08	194	0.85	201	1.19	181	0.87
Barrow	205	0.22	211	0.20	219	0.25	232	0.33	221	0.15	223	0.44	223	0.44	223	0.47	220	0.31
Bartow	214	0.46	230	0.32	229	0.64	237	0.52	237	0.52	227	0.54	238	0.45	239	0.64	231	0.51
Ben Hill	10	0.07	8	0.03	81	0.53	95	0.52	114	0.30	108	0.58	109	0.50	107	0.51	79	0.38
Berrien	84	1.25	68	0.66	96	1.20	110	0.38	134	1.18	100	0.58	94	0.98	96	0.65	98	0.86
Bibb	238	0.20	243	0.22	242	0.13	246	0.18	245	0.15	245	0.22	245	0.22	246	0.24	244	0.20
Bleckley	54	0.38	48	2.48	38	4.08	56	0.61	62	2.14	50	0.45	68	0.97	122	0.85	62	1.49
Brantley	14	0.10	22	0.18	153	0.46	167	0.73	159	0.64	171	0.95	174	0.81	164	0.68	128	0.57
Brooks	46	0.65	44	1.09	38	0.70	87	0.52	78	0.74	40	0.67	64	1.23	48	0.70	56	0.79
Bryan	103	0.39	97	0.28	107	0.08	174	0.09	217	0.23	206	0.23	191	0.39	215	0.33	164	0.25
Bulloch	167	0.13	175	0.16	152	0.05	234	0.25	235	0.28	233	0.27	232	0.20	233	0.31	208	0.21
Burke	146	0.60	138	0.73	127	0.22	133	0.83	153	0.37	163	0.29	114	0.79	152	0.69	141	0.57
Butts	50	0.14	106	0.35	157	0.38	188	0.20	164	0.22	144	0.24	139	0.69	163	0.54	139	0.35
Calhoun	48	2.36	66	2.02	80	0.91	128	3.37	125	1.89	99	1.42	120	1.49	100	1.41	96	1.86
Camden	158	0.38	149	0.20	203	0.34	215	0.32	206	0.27	213	0.49	209	0.45	213	0.33	196	0.35
Candler	63	1.08	57	0.43	66	0.21	131	0.57	141	0.68	133	1.13	138	0.42	136	0.46	108	0.62
Carroll	150	0.08	188	0.07	231	0.16	240	0.20	233	0.15	235	0.20	245	0.14	237	0.22	220	0.15
Catoosa	43	0.04	44	0.05	231	0.26	229	0.50	230	0.47	218	0.33	227	0.19	231	0.28	182	0.26
Charlton	59	0.86	85	0.38	158	1.96	139	1.04	114	0.70	129	0.91	143	0.44	126	1.36	119	0.96
Chatham	240	0.29	244	0.38	245	0.29	245	0.22	246	0.20	246	0.19	246	0.26	246	0.24	245	0.26
Chattahoochee	18	0.27	22	0.15	38	0.24	49	0.19	56	0.38	51	0.27	60	0.41	44	0.49	42	0.30
Chattooga	149	0.51	126	0.31	187	0.89	183	0.91	200	0.70	199	0.65	195	0.52	203	0.76	180	0.66
Cherokee	227	0.08	239	0.08	239	0.09	242	0.11	237	0.06	243	0.17	241	0.16	242	0.15	239	0.11
Clarke	221	0.19	230	0.13	231	0.22	234	0.26	240	0.13	239	0.23	240	0.32	239	0.17	234	0.20
Clay	50	4.93	70	2.23	66	1.80	84	1.97	71	8.79	66	2.43	70	4.49	72	1.99	69	3.58
Clayton	240	0.16	242	0.23	246	0.16	245	0.25	246	0.22	246	0.27	245	0.30	246	0.23	245	0.23
Clinch	31	2.01	43	4.33	25	0.69	43	3.21	35	2.76	38	0.40	43	2.69	37	1.49	37	2.20
Cobb	239	0.12	246	0.20	246	0.14	246	0.16	246	0.07	244	0.11	246	0.10	246	0.15	245	0.13
Coffee	59	0.15	41	0.02	202	0.18	216	0.25	223	0.38	227	0.23	223	0.35	225	0.37	177	0.24
Colquitt	55	0.14	65	0.56	62	0.90	108	0.20	105	0.18	90	0.21	79	0.33	103	0.25	83	0.35
Columbia	223	0.15	229	0.24	237	0.10	236	0.22	243	0.36	241	0.20	234	0.20	238	0.19	235	0.21
Cook	52	0.60	49	1.22	36	1.63	41	0.45	53	0.36	57	0.98	77	0.99	43	1.20	51	0.93
Coweta	159	0.10	154	0.09	165	0.12	233	0.43	235	0.35	232	0.34	234	0.22	229	0.47	205	0.26
Crawford	121	0.89	135	0.70	135	0.31	162	0.73	132	1.01	159	0.83	146	0.63	171	0.92	145	0.75
Crisp	3	0.06	1	0.09	2	0.09	5	0.04	5	0.24	13	0.02	5	0.07	2	0.00	5	0.08
Dade	149	0.82	138	1.35	120	0.86	119	0.69	151	0.59	159	0.75	174	0.86	152	0.88	145	0.85
Dawson	106	0.46	118	0.40	148	0.29	209	0.55	191	0.38	190	0.30	212	0.38	202	0.17	172	0.37
Decatur	148	0.64	155	0.75	189	0.66	198	0.94	217	0.71	192	0.90	210	0.78	199	1.02	189	0.80
DeKalb	240	0.40	245	0.53	246	0.51	246	0.40	246	0.57	246	0.62	246	0.58	246	0.71	245	0.54
Dodge	59	0.35	62	0.83	55	0.61	63	1.10	79	1.29	60	0.47	80	0.71	84	0.60	68	0.74
Dooley	91	0.83	82	0.38	87	0.65	80	0.37	84	0.20	170	1.42	177	1.09	152	1.55	115	0.81
Dougherty	102	0.06	85	0.07	111	0.07	130	0.14	189	0.22	201	0.20	212	0.12	204	0.16	154	0.13
Douglas	154	0.19	241	0.11	241	0.11	245	0.16	245	0.17	246	0.10	246	0.23	230	0.24	231	0.16
Early	30	0.45	34	1.12	34	1.35	49	1.42	93	0.59	59	0.56	78	0.47	79	0.57	57	0.82
Echols	28	6.52	30	5.02	19	1.51	57	1.05	43	1.51	37	2.18	17	3.42	75	2.34	38	2.94
Effingham	204	0.28	223	0.30	212	0.48	207	0.36	224	0.32	228	0.48	216	0.48	226	0.45	218	0.37
Elbert	43	0.09	39	0.23	35	0.13	111	0.24	114	0.38	125	0.23	122	0.19	118	0.13	88	0.20
Emanuel	104	0.39	96	0.47	70	0.27	167	0.26	172	0.31	199	0.35	209	0.49	213	0.69	154	0.40
Evans	50	0.12	59	0.99	79	0.18	148	1.15	177	1.21	144	0.72	158	1.54	153	1.61	121	0.94

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022 - May - August

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Fannin	7	1.66	7	0.37	11	0.13	17	0.40	102	0.87	139	1.24	134	1.47	162	1.65	72	0.97
Fayette	133	0.07	140	0.05	155	0.03	236	0.14	224	0.16	226	0.11	227	0.19	222	0.20	195	0.12
Floyd	226	0.16	230	0.21	237	0.33	233	0.32	241	0.34	245	0.30	243	0.35	244	0.34	237	0.29
Forsyth	105	0.02	113	0.02	117	0.04	241	0.09	224	0.12	236	0.15	238	0.08	240	0.15	189	0.08
Franklin	82	0.08	85	0.13	117	0.18	203	0.30	206	0.20	198	0.14	192	0.14	181	0.09	158	0.16
Fulton	240	0.23	246	0.33	246	0.30	246	0.27	246	0.36	246	0.38	246	0.31	246	0.35	245	0.32
Gilmer	211	0.89	211	0.92	232	1.46	228	2.06	225	1.10	230	1.28	237	1.14	238	0.90	227	1.22
Glascock	37	1.91	45	5.14	40	2.43	72	2.77	89	3.14	102	0.82	55	0.94	63	0.80	63	2.24
Glynn	224	0.26	233	0.21	243	0.35	236	0.26	243	0.26	240	0.33	245	0.25	240	0.41	238	0.29
Gordon	111	0.23	118	0.10	236	0.26	233	0.36	230	0.49	232	0.38	229	0.32	230	0.53	202	0.33
Grady	1	0.02	4	0.02	169	0.97	197	1.70	190	0.56	107	0.44	181	0.73	194	0.51	130	0.62
Greene	118	0.44	115	0.47	141	0.42	183	0.29	185	0.33	193	0.90	185	0.30	201	0.33	165	0.43
Gwinnett	245	0.29	246	0.29	246	0.35	246	0.83	246	0.51	246	0.46	246	0.50	246	0.53	246	0.47
Habersham	196	0.22	182	0.09	203	0.20	224	0.22	213	0.26	218	0.23	217	0.21	218	0.21	209	0.20
Hall	239	0.56	245	0.36	244	0.52	246	0.45	241	0.33	246	0.41	244	0.35	246	0.50	244	0.43
Hancock	92	1.24	84	1.65	76	0.93	191	1.02	168	1.28	160	1.60	173	0.58	186	1.74	141	1.25
Haralson	107	0.52	106	0.24	181	0.55	192	0.27	197	0.39	205	0.35	223	0.43	208	0.54	177	0.41
Harris	148	0.33	149	0.22	182	0.53	195	0.62	191	0.83	195	0.82	202	0.82	199	0.70	183	0.61
Hart	72	0.04	80	0.16	95	0.14	179	0.22	188	0.29	172	0.18	200	0.15	168	0.14	144	0.16
Heard	23	#DIV/0!	35	#DIV/0!	94	#DIV/0!	139	#DIV/0!	134	#DIV/0!	178	#DIV/0!	183	#DIV/0!	180	#DIV/0!	121	#DIV/0!
Henry	212	0.06	229	0.11	241	0.10	244	0.12	242	0.10	240	0.11	244	0.17	241	0.23	237	0.12
Houston	238	0.08	235	0.10	240	0.07	244	0.12	235	0.06	236	0.07	240	0.07	230	0.07	237	0.08
Irwin	21	1.27	34	0.39	95	0.75	130	1.45	142	1.11	108	1.53	135	1.26	145	0.96	101	1.09
Jackson	215	0.25	232	0.45	232	0.42	228	0.48	221	0.24	232	0.42	224	0.51	233	0.51	227	0.41
Jasper	54	0.39	100	0.87	117	0.54	174	0.67	152	0.37	147	0.36	152	0.92	209	0.63	138	0.59
Jeff Davis	41	0.11	38	0.06	131	0.55	174	0.65	192	0.66	182	0.54	203	0.58	218	0.94	147	0.51
Jefferson	152	0.60	167	0.64	176	0.29	169	0.61	181	0.48	199	0.52	192	0.47	190	0.83	178	0.56
Jenkins	38	0.26	33	2.47	36	1.46	51	0.69	56	0.53	90	1.40	62	1.10	77	1.35	55	1.16
Johnson	32	0.48	36	0.43	36	0.18	141	0.98	136	0.47	168	1.28	160	0.65	147	1.47	107	0.74
Jones	119	0.92	126	0.55	170	0.67	183	0.68	185	0.98	178	0.49	185	0.78	200	0.95	168	0.75
Lamar	122	0.37	120	0.16	156	0.38	191	0.49	195	0.41	201	0.47	191	0.59	218	0.48	174	0.42
Lanier	42	2.00	64	0.62	35	1.83	47	2.99	50	1.02	52	0.65	34	0.59	45	1.27	46	1.37
Laurens	148	0.76	144	0.49	138	0.36	158	0.57	183	0.42	217	0.52	209	0.46	215	0.92	177	0.56
Lee	84	0.11	72	0.10	130	0.52	166	0.75	178	0.61	139	0.53	161	0.54	141	0.36	134	0.44
Liberty	136	0.12	139	0.16	139	0.19	225	0.16	240	0.28	226	0.31	227	0.35	220	0.24	194	0.23
Lincoln	75	1.46	69	0.18	64	0.85	136	1.51	123	1.86	112	1.26	111	2.53	121	0.78	101	1.30
Long	46	0.51	38	0.07	32	1.08	211	0.65	224	0.54	180	0.46	188	0.67	190	0.86	139	0.60
Lowndes	194	0.48	203	0.21	199	0.19	212	0.19	196	0.23	217	0.25	204	0.37	208	0.29	204	0.28
Lumpkin	186	0.41	176	0.43	207	0.79	204	0.68	207	0.69	204	0.46	223	0.54	227	0.28	204	0.54
Macon	150	0.84	168	0.60	149	0.51	171	0.82	172	1.00	185	0.62	172	1.06	191	1.09	170	0.82
Madison	191	0.63	203	0.32	197	0.76	218	0.57	196	0.46	228	0.96	214	0.59	208	0.50	207	0.60
Marion	88	0.86	81	0.69	86	2.02	128	0.96	113	0.73	96	1.28	128	0.66	100	0.67	103	0.98
McDuffie	136	0.60	165	0.91	164	0.26	147	0.44	159	0.35	192	0.26	153	0.95	168	0.46	161	0.53
McIntosh	104	0.70	104	0.63	114	0.37	122	0.28	139	0.57	181	0.58	165	0.65	156	0.91	136	0.59
Meriwether	142	0.92	172	1.06	176	0.58	199	0.68	200	1.68	213	0.69	198	0.77	196	1.01	187	0.92
Miller	35	2.89	28	7.81	31	3.31	53	2.53	57	1.93	67	0.27	57	2.51	54	1.94	48	2.90
Mitchell	98	0.28	87	0.59	92	0.25	126	0.25	187	0.79	229	0.45	230	0.68	214	0.73	158	0.50
Monroe	105	0.34	136	0.48	182	0.45	203	0.59	205	0.56	205	0.35	210	0.61	208	0.55	182	0.49
Montgomery	38	0.18	42	1.81	22	0.09	43	0.83	69	0.10	186	0.49	134	0.51	113	0.68	81	0.59
Morgan	105	0.27	147	0.14	140	0.11	213	0.46	192	0.45	202	0.59	204	0.24	223	0.44	178	0.34
Murray	128	0.29	121	0.31	213	0.34	226	0.66	228	0.48	222	0.26	211	0.32	223	0.34	197	0.38
Muscogee	238	0.30	242	0.23	241	0.18	246	0.20	241	0.21	242	0.39	243	0.24	246	0.30	242	0.26
Newton	52	0.11	67	0.17	190	0.20	180	0.15	199	0.13	185	0.22	175	0.14	215	0.18	158	0.16
Oconee	65	0.08	61	0.07	83	0.08	200	0.24	227	0.18	204	0.15	204	0.53	203	0.12	156	0.18

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022 - May - August

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Oglethorpe	49	0.39	66	0.30	56	0.44	175	0.67	207	0.45	195	0.50	158	0.40	158	0.35	133	0.44
Paulding	90	0.02	232	0.07	233	0.13	240	0.09	244	0.14	245	0.05	246	0.16	234	0.18	221	0.11
Peach	144	0.25	140	0.24	159	0.46	188	0.28	187	0.36	186	0.53	192	0.36	203	0.27	175	0.34
Pickens	193	0.57	186	0.54	205	0.51	212	0.68	205	0.77	199	0.55	227	0.36	218	0.47	206	0.56
Pierce	59	0.22	60	0.12	157	0.46	194	0.59	211	0.53	202	0.86	205	0.46	195	0.83	160	0.51
Pike	153	0.43	138	0.53	136	0.76	165	0.87	161	0.63	184	0.61	171	0.54	209	1.27	165	0.70
Polk	201	0.21	188	0.30	203	0.54	218	0.48	214	0.36	227	0.57	230	0.59	234	0.41	214	0.43
Pulaski	49	0.22	58	0.48	42	1.52	52	0.46	56	0.72	128	0.79	144	0.77	99	2.15	79	0.89
Putnam	114	0.37	133	0.81	156	0.55	192	0.56	168	0.57	179	1.28	190	0.63	203	1.53	167	0.79
Quitman	24	4.53	22	2.24	40	3.58	76	3.47	75	7.10	48	5.27	52	4.32	54	4.48	49	4.37
Rabun	190	0.79	191	0.58	211	0.70	204	1.05	221	1.04	224	1.13	227	1.56	215	0.85	210	0.96
Randolph	75	0.48	61	1.51	98	0.91	130	1.08	101	1.13	90	0.99	103	0.84	93	1.03	94	0.99
Richmond	240	0.12	243	0.14	245	0.10	243	0.16	246	0.19	245	0.15	245	0.12	245	0.11	244	0.14
Rockdale	116	0.05	99	0.02	192	0.16	211	0.24	224	0.19	221	0.31	221	0.24	215	0.13	187	0.17
Schley	39	0.76	48	1.70	52	1.60	75	1.47	74	0.41	79	2.87	87	0.92	67	1.48	65	1.40
Screven	10	1.53	15	0.92	8	0.71	7	1.92	19	0.35	6	0.09	12	1.58	16	1.69	12	1.10
Seminole	62	1.47	44	0.50	45	0.47	65	0.60	75	2.50	58	1.25	41	1.68	69	1.29	57	1.22
Spalding	89	0.30	161	0.21	174	0.31	198	0.26	189	0.18	200	0.26	182	0.15	204	0.20	175	0.23
Stephens	105	0.30	107	0.40	131	0.08	191	0.26	183	0.15	181	0.27	201	0.19	196	0.23	162	0.23
Stewart	35	1.92	32	1.14	61	0.66	97	3.33	95	1.44	73	2.41	74	2.18	66	2.06	67	1.89
Sumter	158	0.31	174	0.27	182	0.46	194	0.36	205	0.30	211	0.38	198	0.67	208	0.55	191	0.41
Talbot	94	0.89	106	2.05	83	1.38	107	1.98	128	2.28	109	0.94	127	1.41	141	2.64	112	1.70
Taliaferro	20	0.12	29	0.99	8	6.10	110	2.67	75	2.13	56	3.67	48	2.16	68	2.76	52	2.58
Tattnall	99	0.54	114	0.39	97	0.48	218	0.72	232	0.68	205	0.49	209	0.65	210	1.16	173	0.64
Taylor	110	1.00	134	1.13	99	0.80	141	1.81	114	1.33	126	0.44	149	0.83	126	1.40	125	1.09
Telfair	60	1.53	69	1.09	59	0.96	78	1.30	77	2.83	70	0.44	95	2.35	82	1.94	74	1.56
Terrell	82	1.20	83	0.21	109	1.90	137	1.20	131	0.92	101	1.24	118	1.05	114	0.97	109	1.09
Thomas	100	0.38	85	0.24	154	0.16	185	0.24	179	0.17	146	0.21	178	0.28	176	0.22	150	0.24
Tift	151	0.54	156	0.34	163	0.32	166	0.31	161	0.42	173	0.20	177	0.26	181	0.24	166	0.33
Toombs	100	0.07	107	0.20	104	0.25	153	0.21	157	0.21	209	0.20	210	0.41	211	0.33	156	0.23
Treutlen	26	0.24	29	0.89	13	0.54	27	0.29	43	1.10	130	0.42	107	0.97	123	1.44	83	0.57
Troup	30	0.06	35	0.04	165	0.24	189	0.50	191	0.50	196	0.22	205	0.29	204	0.45	152	0.79
Turner	54	1.22	73	2.53	103	0.64	116	1.18	131	1.00	136	0.36	132	1.17	144	1.63	100	1.32
Twiggs	38	2.48	54	1.88	50	0.88	67	0.79	94	0.77	83	0.99	90	0.67	73	2.68	93	0.80
Upson	86	0.15	79	0.31	96	0.17	118	0.28	133	0.29	158	0.30	174	0.28	166	0.53	129	0.26
Walker	52	0.03	60	0.05	227	0.41	228	0.24	227	0.26	209	0.29	214	0.15	221	0.19	198	0.27
Walton	80	0.11	91	0.09	114	0.18	237	0.31	234	0.22	235	0.23	225	0.23	235	0.46	173	0.73
Ware	155	0.27	151	0.28	178	0.52	209	0.31	205	0.54	206	0.57	201	0.28	205	0.48	148	0.30
Warren	69	0.63	75	2.26	70	1.45	98	1.20	110	0.51	126	0.86	98	1.27	102	1.00	111	0.75
Washington	56	0.06	54	0.09	44	0.07	189	0.40	199	0.44	185	0.85	189	0.70	207	0.73	130	0.94
Wayne	83	0.39	100	0.24	167	0.52	204	0.35	206	0.41	205	0.42	214	0.39	226	0.62	141	0.68
Webster	14	0.72	21	1.65	36	2.03	65	1.89	74	2.99	49	1.47	61	1.53	58	7.46	107	2.06
Wheeler	19	1.73	22	1.25	35	0.28	32	3.82	28	1.52	22	0.65	24	4.02	27	1.14	73	1.44
White	175	0.31	172	0.22	200	0.59	203	0.41	219	0.55	219	0.26	215	0.43	210	0.51	157	0.66
Whitfield	102	0.03	116	0.13	233	0.19	238	0.20	241	0.23	231	0.10	232	0.24	239	0.25	159	0.33
Wilcox	53	1.32	67	0.59	71	1.18	69	0.81	98	0.74	143	3.67	141	1.20	136	1.06	95	1.48
Wilkes	29	0.22	37	0.39	28	0.97	133	1.16	103	0.73	104	1.61	108	1.21	92	0.53	87	0.84
Wilkinson	54	1.43	66	1.17	55	1.73	74	0.70	86	0.51	71	0.94	98	0.42	83	0.91	82	0.70
Worth	39	0.75	42	0.59	73	0.13	73	0.30	169	1.56	204	0.64	207	0.80	200	1.00	171	0.86
							2	0.00	102	0.24	127	0.42	113	0.45	134	0.62	96	0.34
							2	0.00	149	0.38	184	0.43	187	0.25	177	0.44	140	0.30

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Fannin	32	2.06	15	0.26	35	0.10	60	0.20	231	1.44	348	2.62	374	1.78	373	1.66	184	1.27
Fayette	360	0.07	404	0.04	493	0.12	666	0.09	653	0.11	656	0.19	630	0.09	656	0.15	565	0.11
Floyd	666	0.17	671	0.19	697	0.36	687	0.23	708	0.25	720	0.52	717	0.31	721	0.25	698	0.29
Forsyth	326	0.06	311	0.03	381	0.09	710	0.08	699	0.09	709	0.15	690	0.07	698	0.10	566	0.08
Franklin	251	0.31	247	0.09	345	0.24	574	0.16	571	0.15	582	0.30	519	0.13	538	0.17	453	0.19
Fulton	723	0.18	731	0.23	730	0.47	730	0.23	730	0.29	732	0.48	730	0.22	730	0.28	730	0.30
Gilmer	598	0.85	615	0.84	648	1.49	631	1.22	659	0.90	660	1.93	659	0.89	672	0.90	643	1.13
Glascock	89	1.45	109	2.53	126	5.50	162	2.63	214	2.36	254	0.66	145	0.69	191	1.55	161	2.17
Glynn	669	0.16	679	1.15	697	1.33	689	0.34	701	0.22	704	0.26	710	0.20	708	0.37	695	0.50
Gordon	320	0.12	328	0.13	630	0.35	660	0.26	682	0.32	670	0.43	661	0.36	662	0.43	580	0.30
Grady	4	0.03	9	0.02	295	1.40	510	2.92	488	0.45	445	0.54	498	0.65	538	0.53	348	0.82
Greene	375	0.24	327	0.41	382	1.31	502	0.44	509	0.30	514	0.68	532	0.22	568	0.39	464	0.50
Gwinnett	728	0.26	731	0.22	730	0.60	730	0.58	730	0.39	732	0.60	730	0.38	730	0.51	730	0.44
Habersham	538	0.46	532	0.17	600	0.85	639	0.22	643	0.18	641	0.50	642	0.22	640	0.38	609	0.37
Hall	677	0.66	715	0.31	720	1.27	724	0.34	717	0.30	730	0.85	719	0.32	728	0.47	716	0.57
Hancock	251	0.78	246	0.97	268	3.17	469	1.20	474	0.93	463	1.60	471	0.80	532	1.41	397	1.36
Haralson	315	0.28	329	0.25	517	0.89	562	0.36	579	0.36	618	0.73	596	0.31	605	0.34	515	0.44
Harris	403	0.31	420	0.17	490	0.90	537	0.66	566	0.92	560	0.60	519	0.46	558	0.60	507	0.58
Hart	183	0.16	231	0.11	307	0.17	542	0.12	519	0.19	493	0.19	497	0.13	500	0.15	409	0.15
Heard	62		102		286		401		412		541		478		495		347	#DIV/0!
Henry	638	0.05	670	0.07	695	0.18	703	0.11	713	0.09	718	0.14	715	0.11	717	0.15	696	0.11
Houston	655	0.06	707	0.08	674	0.14	697	0.11	680	0.06	688	0.07	673	0.06	669	0.06	680	0.08
Irwin	56	0.90	77	0.38	238	2.35	356	1.43	377	0.72	308	1.00	351	0.66	402	0.83	271	1.03
Jackson	522	0.35	675	0.37	676	0.81	656	0.30	611	0.21	690	0.40	652	0.37	666	0.36	644	0.40
Jasper	153	0.37	245	0.55	322	1.30	431	0.54	399	0.37	421	0.52	423	0.50	595	0.49	374	0.58
Jeff Davis	111	0.17	114	0.16	371	1.71	436	0.65	527	0.46	527	0.42	531	0.57	561	0.64	397	0.60
Jefferson	437	0.54	446	0.58	461	0.77	455	0.64	508	0.32	522	0.41	506	0.27	530	0.54	483	0.51
Jenkins	105	0.53	99	1.64	108	1.64	149	1.08	169	0.28	204	0.98	141	0.98	207	0.78	148	0.99
Johnson	104	0.39	103	0.46	142	1.41	348	1.67	368	0.53	427	1.09	416	0.62	419	0.91	291	0.88
Jones	327	0.48	342	0.43	460	1.98	477	0.72	492	0.74	495	0.71	505	0.47	527	0.69	453	0.78
Lamar	354	0.30	390	0.39	464	0.99	488	0.38	553	0.41	571	0.47	543	0.35	628	0.52	499	0.48
Lanier	112	1.14	140	1.51	100	4.03	95	1.90	145	0.77	125	1.75	98	0.88	108	0.71	115	1.59
Laurens	440	0.38	416	0.33	418	0.81	470	1.19	499	0.34	592	0.48	588	0.30	601	0.65	503	0.56
Lee	227	0.11	206	0.15	340	0.77	459	1.64	477	0.45	441	0.53	428	0.47	408	0.21	373	0.54
Liberty	370	0.10	399	0.60	410	0.33	631	0.14	650	0.21	632	0.28	633	0.21	634	0.31	545	0.27
Lincoln	214	1.05	214	0.61	233	1.16	361	1.01	315	1.14	300	0.96	296	1.62	353	1.51	286	1.13
Long	95	0.32	114	2.00	160	1.02	537	0.60	577	0.58	504	0.71	517	0.86	525	0.76	379	0.86
Lowndes	547	0.25	593	0.29	571	0.64	612	0.20	572	0.13	612	0.20	605	0.22	623	0.18	592	0.26
Lumpkin	503	1.03	484	0.38	572	1.65	583	0.48	607	0.42	613	0.92	619	0.49	628	0.53	576	0.74
Macon	368	0.74	439	0.74	409	1.86	433	1.50	447	0.73	478	1.11	439	0.75	468	0.89	435	1.04
Madison	424	0.65	537	0.26	544	0.77	635	0.35	500	0.30	637	0.67	609	0.44	604	0.49	561	0.49
Marion	197	0.86	210	0.43	224	2.29	313	1.05	302	0.82	264	1.40	281	0.72	299	0.76	261	1.04
McDuffie	434	0.36	401	0.59	436	0.61	431	0.34	450	0.31	488	0.30	409	0.45	475	0.42	441	0.42
McIntosh	288	0.46	322	2.13	315	1.86	313	0.54	403	0.56	484	0.61	452	0.63	443	0.66	378	0.93
Meriwether	425	0.55	461	0.56	486	0.92	541	0.60	543	0.93	588	0.57	551	0.38	589	0.74	523	0.66
Miller	84	2.46	84	3.47	105	2.22	143	8.88	191	1.28	235	0.54	131	3.56	164	1.33	142	2.97
Mitchell	196	0.30	205	0.32	226	0.50	334	0.92	482	0.48	645	0.65	656	0.45	633	0.59	422	0.53
Monroe	336	0.21	391	0.40	482	0.80	534	0.37	559	0.43	585	0.29	581	0.35	597	0.45	508	0.41
Montgomery	106	0.12	111	1.09	91	1.76	127	1.61	159	0.15	438	0.70	383	0.62	375	0.45	224	0.81
Morgan	302	0.16	379	0.25	402	0.55	551	0.33	532	0.37	538	0.38	563	0.18	629	0.35	487	0.32
Murray	364	0.17	379	0.24	615	0.26	649	0.42	657	0.34	621	0.56	628	0.38	649	0.31	570	0.34
Muscogee	717	0.18	714	0.15	712	0.30	722	0.16	718	0.17	724	0.27	719	0.16	723	0.19	719	0.20
Newton	167	0.14	156	0.14	427	0.37	536	0.11	576	0.11	524	0.24	498	0.10	573	0.15	432	0.17
Oconee	176	0.07	160	0.10	295	0.32	544	0.18	586	0.15	578	0.17	547	0.26	596	0.17	435	0.18

US Dept of Energy Eagle 1 Reported Power Outages 2015-2022

County	2015		2016		2017		2018		2019		2020		2021		2022		Averages	
	Number Customer Outages	Percent of Customers																
Oglethorpe	149	0.52	180	0.27	206	0.52	428	0.42	480	0.35	534	0.50	431	0.45	471	0.74	360	0.47
Paulding	350	0.04	648	0.05	672	0.23	709	0.08	718	0.10	721	0.18	729	0.10	703	0.12	656	0.11
Peach	346	0.37	393	0.25	387	0.85	450	0.26	506	0.31	496	0.44	507	0.32	552	0.31	455	0.39
Pickens	539	0.47	520	0.42	572	1.15	575	0.53	594	0.58	581	0.95	634	0.36	624	0.58	580	0.63
Pierce	145	0.12	210	0.56	446	0.96	493	0.42	564	0.40	581	0.56	545	0.53	564	0.55	444	0.51
Pike	433	0.36	463	0.47	414	1.10	458	0.58	450	0.38	540	0.61	501	0.32	566	0.80	478	0.58
Polk	576	0.22	576	0.20	601	0.74	635	0.32	629	0.38	670	0.81	676	0.49	677	0.41	630	0.45
Pulaski	128	0.31	145	0.38	149	2.35	170	2.34	207	0.79	294	1.96	314	0.75	271	1.52	210	1.30
Putnam	327	0.36	352	0.49	414	2.39	483	0.66	492	0.51	470	0.94	484	0.57	551	1.14	447	0.88
Quitman	52	6.84	64	1.51	113	4.76	211	5.96	185	5.76	183	3.62	144	2.22	181	2.92	142	4.20
Rabun	501	0.88	514	0.75	594	2.19	577	1.09	627	1.07	644	2.08	654	1.27	657	1.36	596	1.34
Randolph	203	0.44	188	0.98	254	1.42	347	5.37	264	0.81	276	1.90	257	1.29	260	0.78	256	1.62
Richmond	713	0.08	714	0.13	720	0.16	720	0.13	721	0.10	716	0.11	721	0.09	720	0.10	718	0.11
Rockdale	325	0.03	308	0.03	484	0.38	590	0.12	604	0.13	639	0.22	617	0.17	635	0.11	525	0.15
Schley	98	0.85	103	1.47	153	3.50	213	1.59	199	1.29	193	2.11	183	1.10	183	1.05	166	1.62
Screven	20	1.05	48	1.72	33	1.92	29	0.48	57	0.21	38	0.41	34	0.87	45	0.90	38	0.95
Seminole	136	1.59	118	0.36	141	1.33	236	5.23	178	1.50	150	1.24	132	1.57	178	1.36	159	1.77
Spalding	280	0.20	480	0.17	523	0.53	564	0.22	582	0.21	577	0.16	531	0.13	591	0.18	516	0.22
Stephens	291	0.36	333	0.22	383	0.43	576	0.17	551	0.18	555	0.70	571	0.21	568	0.34	479	0.33
Stewart	89	1.57	91	0.67	174	3.11	261	4.39	246	1.13	240	1.78	199	1.30	188	1.78	186	1.97
Sumter	452	0.22	475	0.21	487	0.94	551	1.02	539	0.33	581	0.47	543	0.36	563	0.45	524	0.50
Talbot	235	0.88	245	1.07	215	2.35	291	1.09	349	1.79	343	0.90	336	0.97	380	1.38	299	1.30
Taliaferro	50	0.15	70	0.71	65	7.21	232	2.26	201	2.88	171	3.60	178	2.33	192	4.12	145	2.91
Tattnall	297	0.40	298	1.02	297	1.02	572	0.76	600	0.58	585	0.45	608	0.47	596	0.76	482	0.68
Taylor	288	0.64	348	1.04	287	2.14	329	1.38	336	0.80	371	0.83	362	0.81	343	1.06	333	1.09
Telfair	156	0.89	167	0.98	179	6.70	207	4.74	188	1.32	198	1.72	228	1.35	257	1.83	198	2.44
Terrell	238	0.59	225	0.41	285	2.01	386	3.18	346	0.90	295	1.09	301	0.74	318	1.07	299	1.25
Thomas	214	0.27	217	0.24	368	0.54	478	0.73	464	0.15	489	0.21	475	0.27	478	0.26	398	0.33
Tift	415	0.30	417	0.45	432	1.00	477	0.84	466	0.30	499	0.30	496	0.21	507	0.26	464	0.46
Toombs	294	0.11	316	0.11	316	0.31	395	0.32	386	0.13	577	0.19	621	0.29	580	0.27	436	0.22
Towns					6	0.01	14	0.00	213	0.31	323	0.71	298	0.47	306	0.57	193	0.35
Treutlen	72	0.19	89	0.43	60	1.85	98	0.41	121	0.57	328	0.41	336	0.67	355	0.80	182	0.66
Troup	93	0.06	83	0.06	349	0.35	511	0.29	536	0.43	570	0.29	547	0.18	535	0.33	403	0.25
Turner	130	0.68	181	1.30	244	3.31	299	3.61	366	0.73	421	0.56	378	0.70	417	1.20	305	1.51
Twiggs	96	1.21	121	1.26	154	3.23	167	1.59	220	0.91	195	1.48	237	1.01	228	1.90	177	1.57
Union					3	0.00	14	0.00	325	0.46	511	0.71	502	0.35	486	0.67	307	0.36
Upson	230	0.12	227	0.21	264	0.37	277	0.25	370	0.20	458	0.34	450	0.29	482	0.44	345	0.28
Walker	133	0.04	180	0.18	627	0.38	640	0.18	654	0.19	597	0.29	620	0.21	633	0.16	511	0.20
Walton	271	0.08	254	0.06	403	0.37	678	0.24	661	0.21	667	0.23	653	0.13	681	0.26	534	0.20
Ware	387	0.19	450	0.45	509	0.72	554	0.26	563	0.36	562	0.41	575	0.27	602	0.28	525	0.37
Warren	179	0.82	164	1.42	202	2.93	266	1.22	293	0.78	305	1.07	252	0.98	329	1.28	249	1.31
Washington	139	0.04	157	0.06	163	0.51	511	0.65	539	0.45	497	0.63	527	0.43	563	0.54	387	0.42
Wayne	226	0.29	280	0.89	470	0.92	566	0.31	586	0.41	593	0.35	598	0.40	639	0.45	495	0.50
Webster	42	1.67	47	0.99	99	7.05	177	7.23	189	3.02	121	3.96	135	1.47	154	3.83	121	3.65
Wheeler	44	0.81	54	1.75	84	2.83	85	4.61	77	0.67	69	1.38	69	1.67	81	0.69	70	1.80
White	483	0.71	467	0.29	571	1.53	593	0.39	646	0.40	668	0.81	625	0.31	625	0.71	585	0.64
Whitfield	255	0.04	332	0.10	685	0.19	677	0.15	697	0.17	677	0.17	685	0.26	696	0.21	588	0.16
Wilcox	143	0.92	170	0.84	199	3.49	234	3.22	276	0.82	344	2.11	367	0.97	385	0.87	265	1.66
Wilkes	77	0.45	70	0.40	122	1.04	323	1.01	274	0.51	282	0.97	286	0.90	260	0.94	212	0.78
Wilkinson	144	1.17	167	1.04	157	3.19	196	1.04	220	0.64	207	0.57	248	0.91	244	0.75	198	1.16
Worth	87	0.56	112	0.35	176	0.98	182	1.06	400	0.83	604	0.77	555	0.60	602	0.71	340	0.73

Average Percentages of Customer Cell Service Outages Hurricanes Irma, Matthew, Michael and Zeta

Hurricane Zeta		Hurricane Michael		Hurricane Matthew		Hurricane Irma	
County	Average Percent Out	County	Average Percent Out	County	Average Percent Out	County	Average Percent Out
LUMPKIN	25.68%	QUITMAN	50.00%	LIBERTY	35.18%	WILKES	50.00%
WHITE	19.48%	WEBSTER	47.05%	BRYAN	26.16%	GLYNN	15.83%
HABERSHAM	18.00%	SCHLEY	44.45%	CHATHAM	18.44%	CAMDEN	12.00%
DAWSON	15.50%	WHEELER	37.50%	CAMDEN	9.46%	LANIER	10.00%
FULTON	14.15%	MILLER	32.50%	GLYNN	8.16%	MITCHELL	8.80%
FANNIN	14.15%	WILCOX	31.25%	MCINTOSH	4.50%	BROOKS	8.67%
RABUN	13.63%	EARLY	30.58%			CHARLTON	6.70%
PAULDING	11.85%	PEACH	23.90%			WARE	5.87%
POLK	10.70%	WORTH	22.28%			THOMAS	5.25%
CARROLL	10.35%	EVANS	21.10%			COLQUITT	5.00%
DOUGLAS	9.40%	TERRELL	21.07%			CLINCH	4.90%
PICKENS	7.70%	CLAY	20.80%			ECHOLS	4.80%
DEKALB	7.65%	BAKER	19.33%			BAKER	4.50%
HARALSON	7.45%	DECATUR	19.18%			DECATUR	4.30%
COBB	7.15%	GRADY	18.65%			LOWNDES	3.17%
UNION	6.90%	TELFAIR	17.75%				
GILMER	5.60%	BEN HILL	17.00%				
STEPHENS	5.55%	TURNER	16.63%				
BARTOW	5.50%	DOOLY	16.43%				
FLOYD	5.40%	PULASKI	16.28%				
GWINNETT	4.90%	WILKINSON	16.10%				
HALL	4.90%	MITCHELL	15.89%				
BANKS	4.50%	RANDOLPH	15.50%				
CHEROKEE	4.20%	COLQUITT	14.53%				
CLAYTON	3.70%	COOK	13.90%				
COWETA	2.95%	THOMAS	13.80%				
JACKSON	2.95%	CRISP	13.03%				
CHATTOOGA	2.80%	CALHOUN	12.20%				
FAYETTE	2.80%	BROOKS	11.50%				
HEARD	2.80%	TREUTLEN	11.42%				
TROUP	2.80%	DOUGHERTY	11.40%				
WHITFIELD	2.55%	BLECKLEY	10.85%				
FORSYTH	1.95%	DODGE	10.08%				
WALKER	1.95%	ATKINSON	10.00%				
MURRAY	1.15%	JOHNSON	10.00%				
GORDON	0.95%	IRWIN	9.75%				
CATOOSA	0.80%	LEE	9.46%				
		UPSON	9.40%				
		MACON	9.19%				
		CANDLER	9.10%				
		ECHOLS	9.10%				
		SUMTER	8.78%				
		BACON	7.70%				
		BULLOCH	7.70%				
		TIFT	7.20%				
		TOOMBS	7.00%				
		TATTNALL	6.95%				
		MARION	6.90%				
		EMANUEL	6.80%				
		TWIGGS	6.80%				
		JONES	6.15%				
		STEWART	5.60%				
		APPLING	5.30%				
		BURKE	5.15%				
		LAURENS	5.02%				
		HOUSTON	5.00%				
		CRAWFORD	4.80%				
		WARREN	4.65%				
		TAYLOR	3.75%				
		HANCOCK	3.70%				
		SEMINOLE	3.34%				
		SCREVEN	3.30%				
		JEFF DAVIS	3.22%				
		WASHINGTON	2.98%				
		MONTGOMERY	2.87%				
		BIBB	2.38%				
		MCDUFFIE	2.23%				
		COFFEE	1.60%				
		BALDWIN	1.45%				

Average Percentages of Customer Cell Service Outages Hurricanes Irma, Matthew, Michael and Zeta

Hurricane Zeta		Hurricane Michael		Hurricane Matthew		Hurricane Irma	
County	Average Percent Out	County	Average Percent Out	County	Average Percent Out	County	Average Percent Out
		WARE	1.40%				
		RICHMOND	0.90%				
		LOWNDES	0.60%				

EPD Permitted Community Water Systems by Population Served	
County Name	Population Served
Appling	5573
Atkinson	3895
Bacon	4765
Baker	712
Baldwin	43883
Banks	9673
Barrow	109843
Bartow	93426
Ben Hill	14050
Berrien	7337
Bibb	130571
Bleckley	8497
Brantley	2499
Brooks	8034
Bryan	29083
Bulloch	64548
Burke	8042
Butts	35614
Calhoun	5523
Camden	49031
Candler	5409
Carroll	103422
Catoosa	63302
Charlton	6917
Chatham	328091
Chattahoochee	2847
Chattooga	25109
Cherokee	224803
Clarke	122569
Clay	2304
Clayton	270075
Clinch	3965
Cobb	832874
Coffee	21151
Colquitt	22371
Columbia	122516
Cook	10312
Coweta	133983
Crawford	5414
Crisp	15911
Dade	16285

**EPD Permitted Community Water
Systems by Population Served**

County Name	Population Served
Dawson	19253
Decatur	16082
DeKalb	743000
Dodge	10606
Dooly	8007
Dougherty	91321
Douglas	109762
Early	6218
Echols	895
Effingham	42512
Elbert	9158
Emanuel	12984
Evans	6362
Fannin	16502
Fayette	95396
Floyd	93704
Forsyth	292873
Franklin	22251
Fulton	1636159
Gilmer	17185
Glascock	947
Glynn	75034
Gordon	49488
Grady	11930
Greene	18326
Gwinnett	837198
Habersham	39332
Hall	147382
Hancock	8315
Haralson	23984
Harris	51462
Hart	14759
Heard	9172
Henry	247909
Houston	208752
Irwin	3183
Jackson	59802
Jasper	8170
Jeff Davis	6258
Jefferson	10882
Jenkins	5337

EPD Permitted Community Water Systems by Population Served	
County Name	Population Served
Johnson	4311
Jones	32172
Lamar	8162
Lanier	7645
Laurens	29314
Lee	20815
Liberty	66596
Lincoln	5664
Long	6351
Lowndes	94543
Lumpkin	11707
Macon	9940
Madison	10161
Marion	6839
McDuffie	17717
McIntosh	10218
Meriwether	11315
Miller	1836
Mitchell	19501
Monroe	16131
Montgomery	4339
Morgan	8119
Murray	28400
Muscogee	229000
Newton	87468
Oconee	25001
Oglethorpe	5099
Paulding	127863
Peach	21381
Pickens	35658
Pierce	8128
Pike	4177
Polk	38646
Pulaski	7051
Putnam	21261
Quitman	3243
Rabun	15942
Randolph	6175
Richmond	209251
Rockdale	148258
Schley	4802

EPD Permitted Community Water Systems by Population Served	
County Name	Population Served
Screven	6684
Seminole	4183
Spalding	66864
Stephens	27411
Stewart	5972
Sumter	17150
Talbot	4848
Taliaferro	1322
Tattnell	13202
Taylor	4309
Telfair	10115
Terrell	6222
Thomas	32064
Tift	32921
Toombs	18469
Towns	17952
Treutlen	3115
Troup	51707
Turner	5340
Twiggs	3150
Union	22857
Upson	20346
Walker	80394
Walton	121741
Ware	36384
Warren	3239
Washington	13236
Wayne	13877
Webster	1014
Wheeler	4392
White	14119
Whitfield	99315
Wilcox	5467
Wilkes	5141
Wilkinson	6420
Worth	9596



College of Agricultural &
Environmental Sciences
UNIVERSITY OF GEORGIA

Ag Snapshots

2023



The University of Georgia
Center for Agribusiness and Economic Development's
focus on Georgia's agricultural industry

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Ag Snapshots 2023

A brief focus on Georgia's agricultural industry

Author: Sharon P. Kane, Senior Public Service Associate, Economist
Center for Agribusiness and Economic Development
College of Agricultural and Environmental Sciences

Agriculture, a driving force for local economies across Georgia, has long shaped the state's history. The 2023 Ag Snapshots report on Georgia's agricultural economy is based on the 2021 Georgia Farm Gate Value Report, an annual, county-level economic valuation for all food and fiber production in the state. Together these commodities directly represent a value of nearly \$14.7 billion to the Georgia economy.

Beyond their farm gate values, these commodities form a foundation for our diverse agricultural supply chain, providing key resources to many sectors and adding value within the economy. Ag Snapshots provides the output and jobs supported by food and fiber production, which include the directly related industries along the supply chain – **the total economic contribution** – to highlight the importance of the agricultural economy to Georgia. In 2021, food and fiber production and related industries represented \$73.2 billion in output to Georgia's \$1.2 trillion economy and more than 340,827 jobs.



Center for Agribusiness
and Economic Development

College of Agricultural & Environmental Sciences

UNIVERSITY OF GEORGIA

Top 10 Georgia Commodities

in order of value



Broilers
\$4.2 billion
28.7% of total



Cotton
\$1.0 billion
6.8% of total



Peanuts
\$776.7 million
5.3% of total



Timber
\$660.6 million
4.5% of total



Beef
\$658.6 million
4.5% of total



Greenhouse
\$635.9 million
4.3% of total



Eggs
\$635.1 million
4.3% of total



Corn
\$509.1 million
3.5% of total



Pecans
\$383.8 million
2.6% of total



Blueberries
\$348.7 million
2.4% of total

Food and fiber production
plus directly related processing and indirect sectors
contributes...



73.2 billion dollars

&



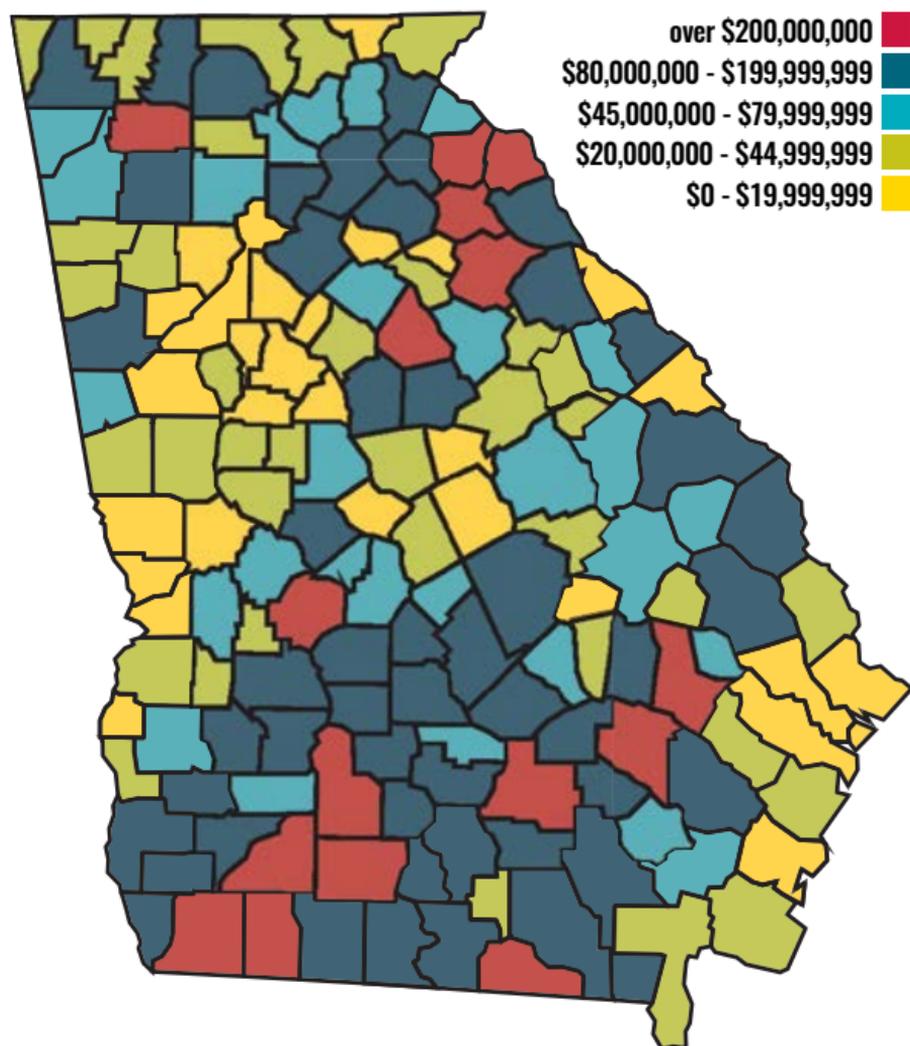
340,827 jobs

to the Georgia economy

2021 TOTAL FARM GATE VALUE

2021 Georgia Farm Gate Value = \$14.7 billion

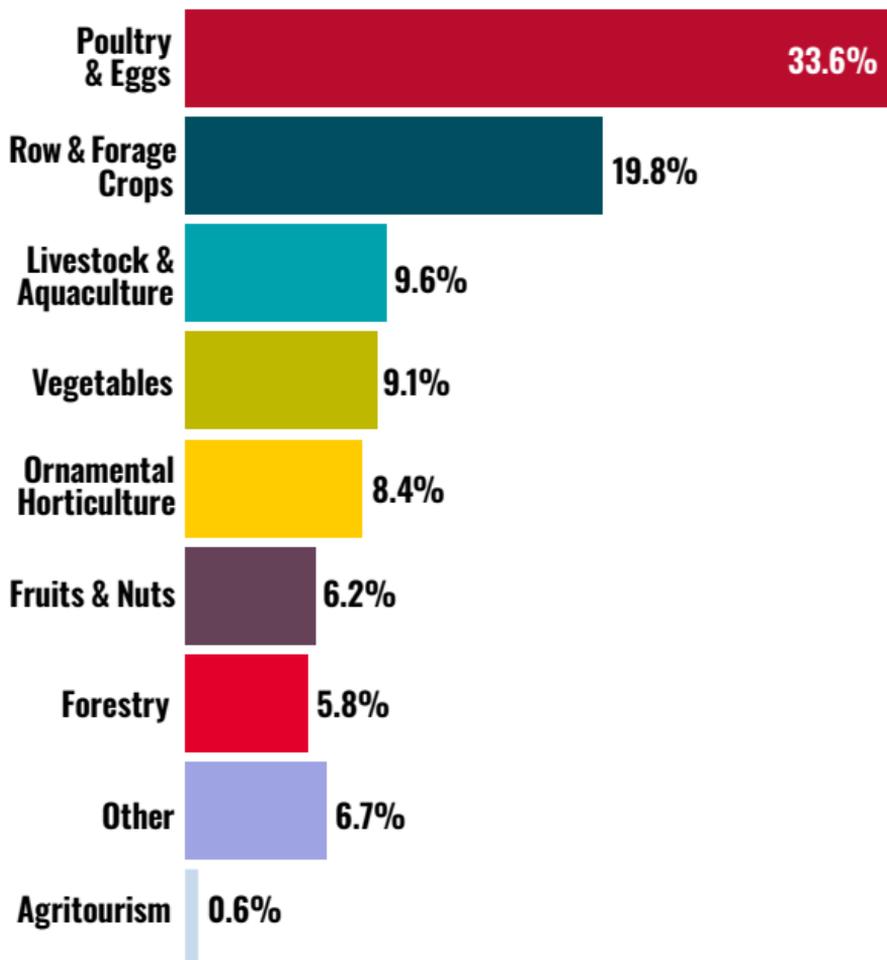
2020 = \$12.2 billion



In 2021, agriculture and related industries contributed \$73.2 billion in output to Georgia's \$1.2 trillion economy.

D-271

Total by Commodity Group



D-272

2021 NATIONAL COMMODITY RANKINGS*



COMMODITY
Broilers
Peanuts
Pecans, Utilized



COMMODITY
Cotton Lint
Cotton Seed
Watermelon



COMMODITY
Blueberries
Cantaloupe
Peaches

Source: U.S. Department of Agriculture National Agricultural Statistics Service, "Georgia Agricultural Facts, Leading Georgia Agricultural Highlights: 2021," October 2022

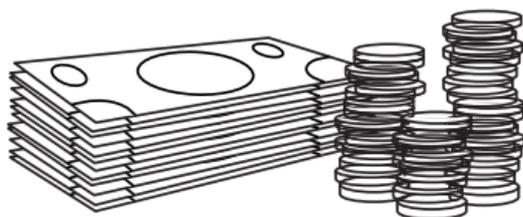
*Ranking in terms of total production

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Top 10 Indirect Industries Supported

in terms of employment

1	Truck transportation	7,598
2	Real estate	5,413
3	Other nondurable goods wholesalers	4,536
4	Employment services	3,440
5	Management of companies and enterprises	3,092
6	Grocery and related product wholesalers	2,551
7	Other durable goods wholesalers	2,136
8	Couriers and messengers	1,753
9	Services to buildings	1,658
10	Warehousing and storage	1,462



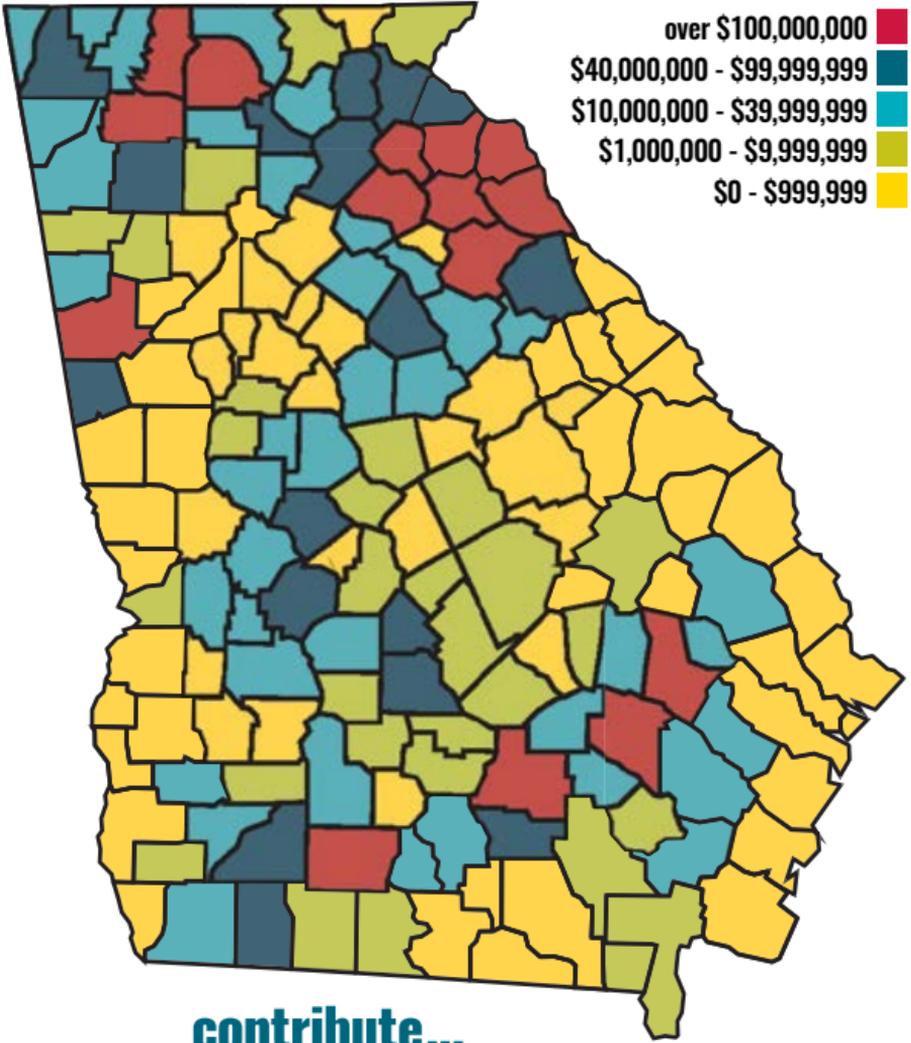
The economic contribution of food and fiber plus related industries adds up to nearly \$6,775 per person in Georgia.

Source: Calculations using the U.S. Census Bureau Quick Facts,
2021 Georgia Population Estimates

D-274

POULTRY & EGGS

2021 Georgia Farm Gate Value = \$4.94 billion
2020 = \$3.26 billion



contribute...



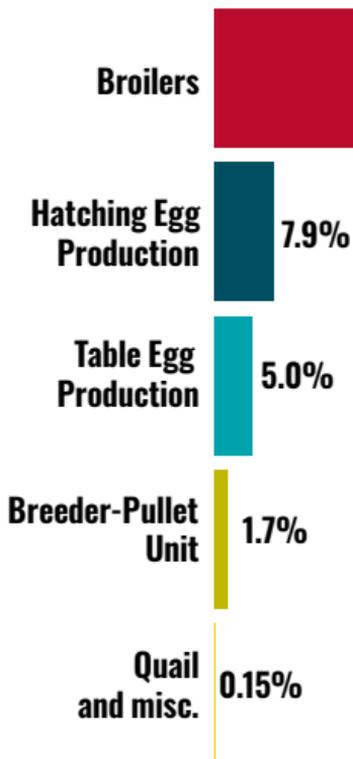
23.4 billion dollars



81,776 jobs

to the Georgia economy

D-275



Georgia has led the nation in broiler production for decades.



Nearly 3 out of 4 Georgia counties

are involved in poultry and egg production.

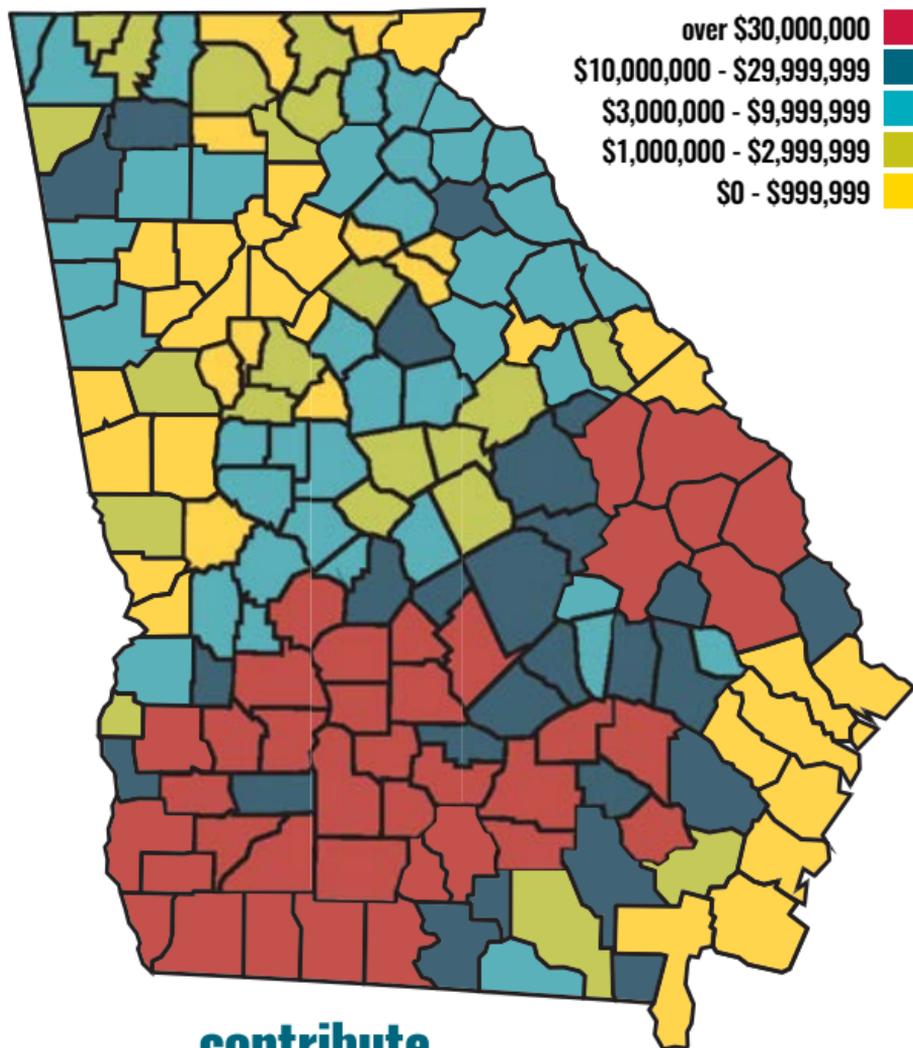


D-276

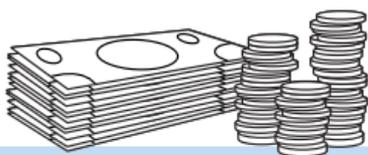
ROW & FORAGE CROPS

2021 Georgia Farm Gate Value = \$2.92 billion

2020 = \$2.34 billion



contribute...



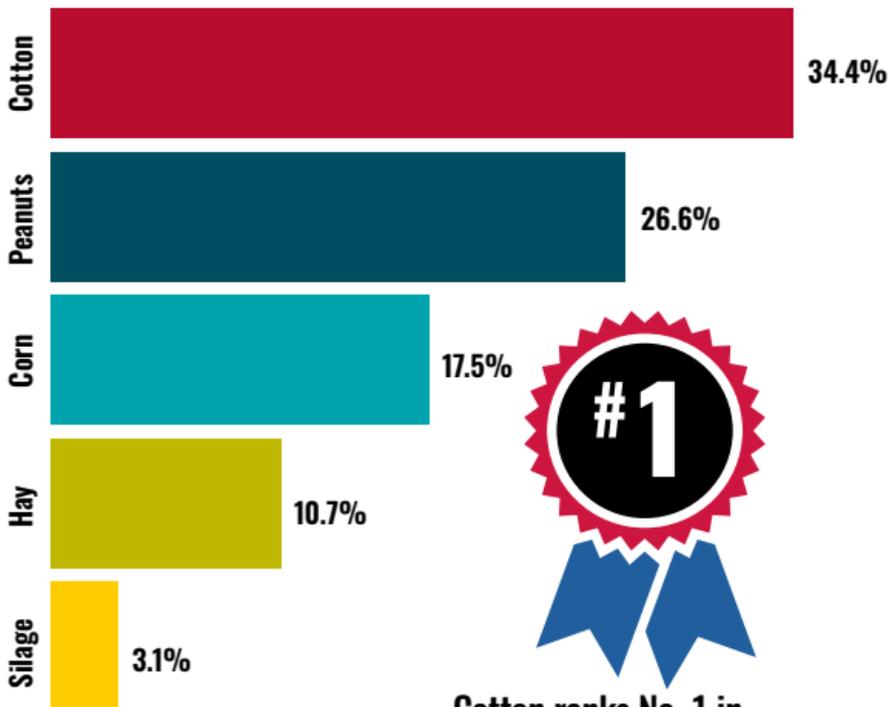
13.5 billion dollars



81,380 jobs

to the Georgia economy

D-277



Cotton ranks No. 1 in production value among row and forage crops in Georgia and No. 2 in the nation.



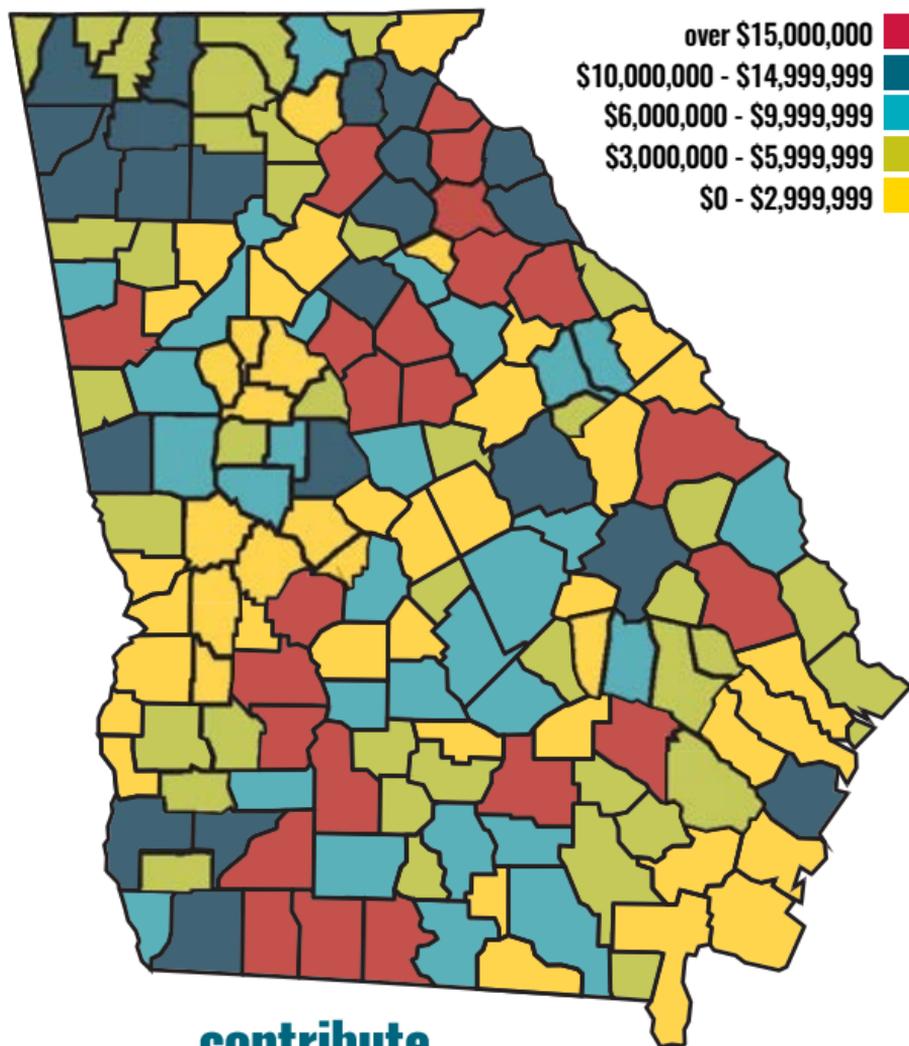
Source: U.S. Department of Agriculture National Agricultural Statistics Service, Quick Stats, Peanut Production Measured in lbs. 2021

D-278

LIVESTOCK & AQUACULTURE

2021 Georgia Farm Gate Value = \$1.40 billion

2020 = \$1.39 billion



contribute...



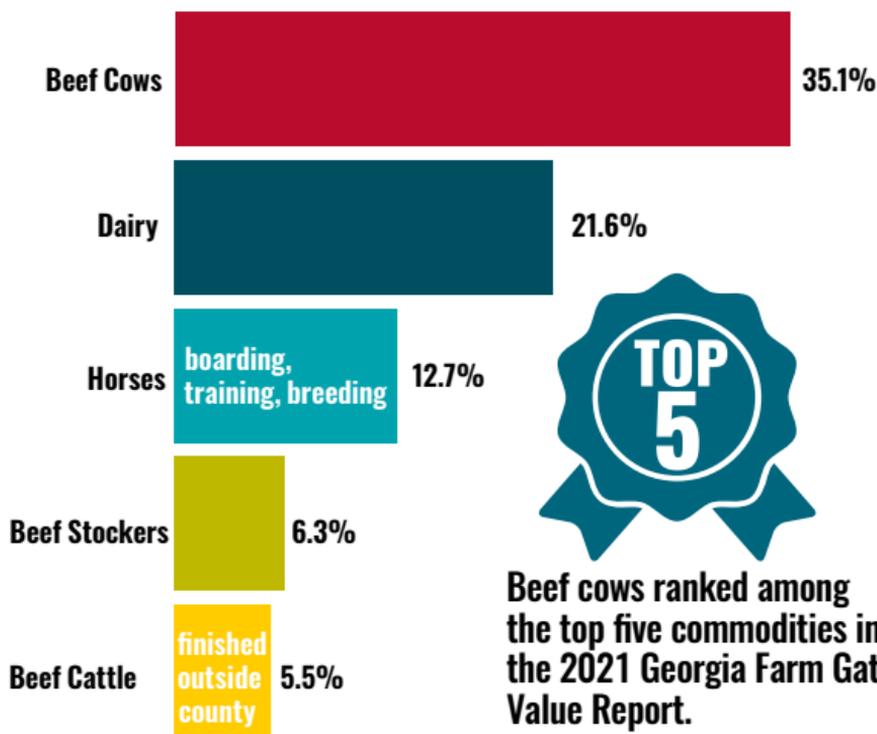
9.2 billion dollars



32,094 jobs

to the Georgia economy

D-279



This category includes commodities ranging from catfish to honey bees.

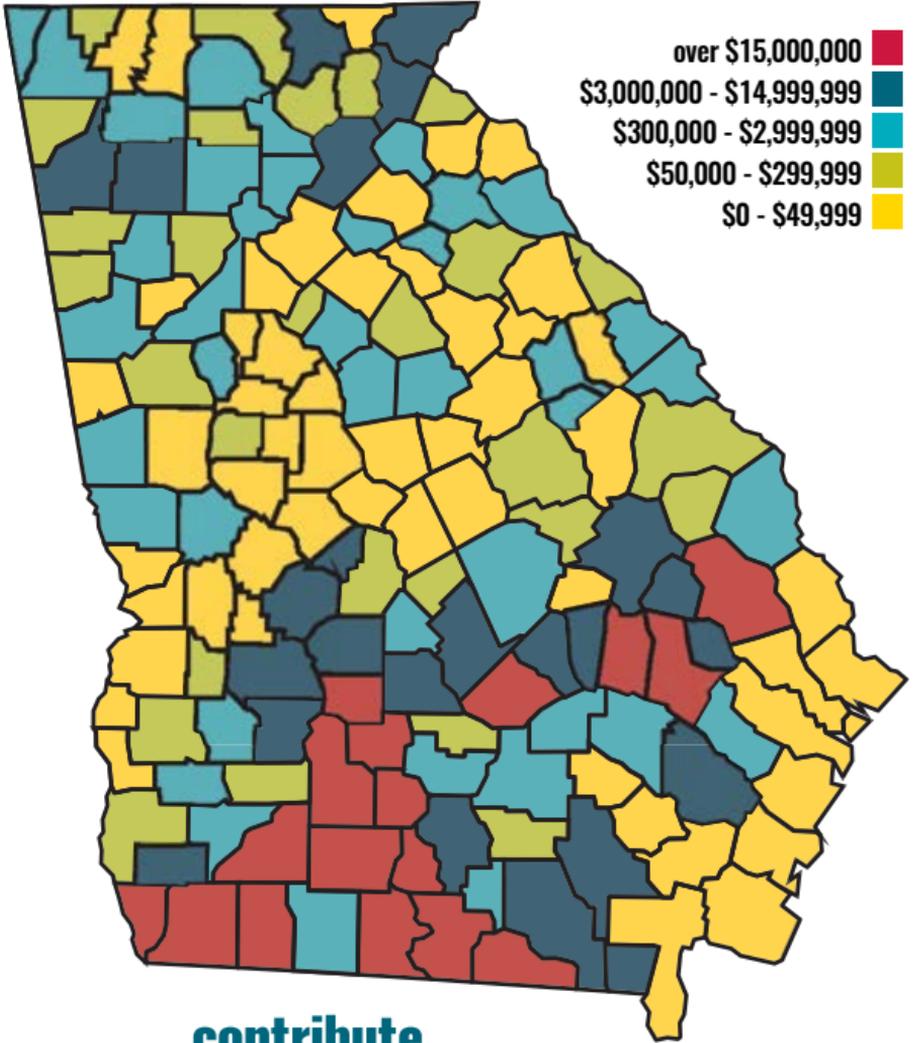
Raising, boarding, training and breeding horses makes up 12.7% of this group.

D-280

VEGETABLES

2021 Georgia Farm Gate Value = \$1.34 billion

2020 = \$1.24 billion



contribute...



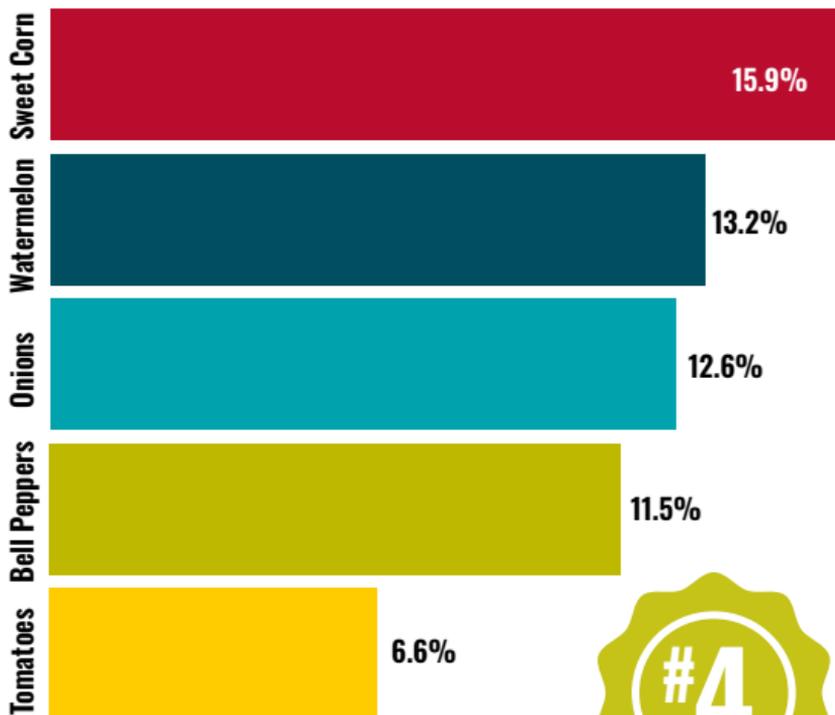
2.8 billion dollars



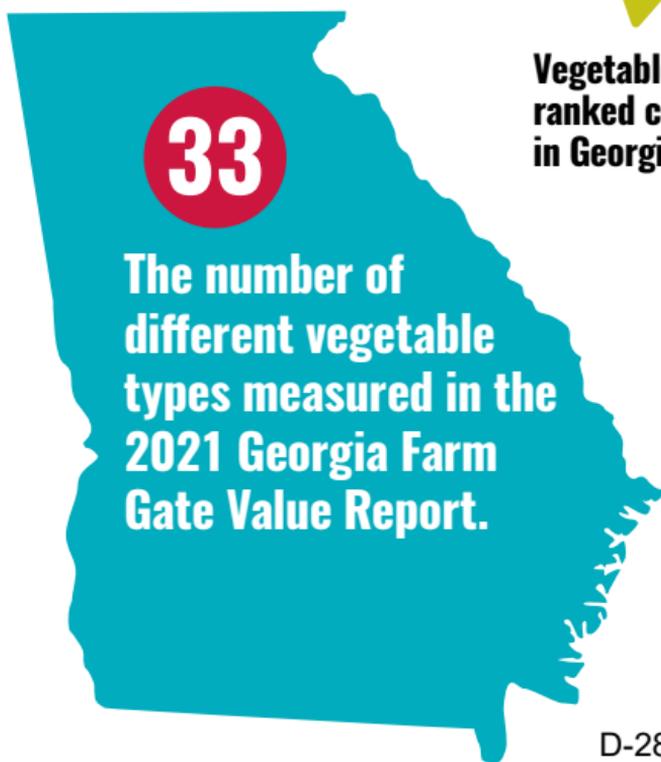
& 12,322 jobs

D-281

to the Georgia economy



Vegetables are the No. 4 ranked commodity group in Georgia.

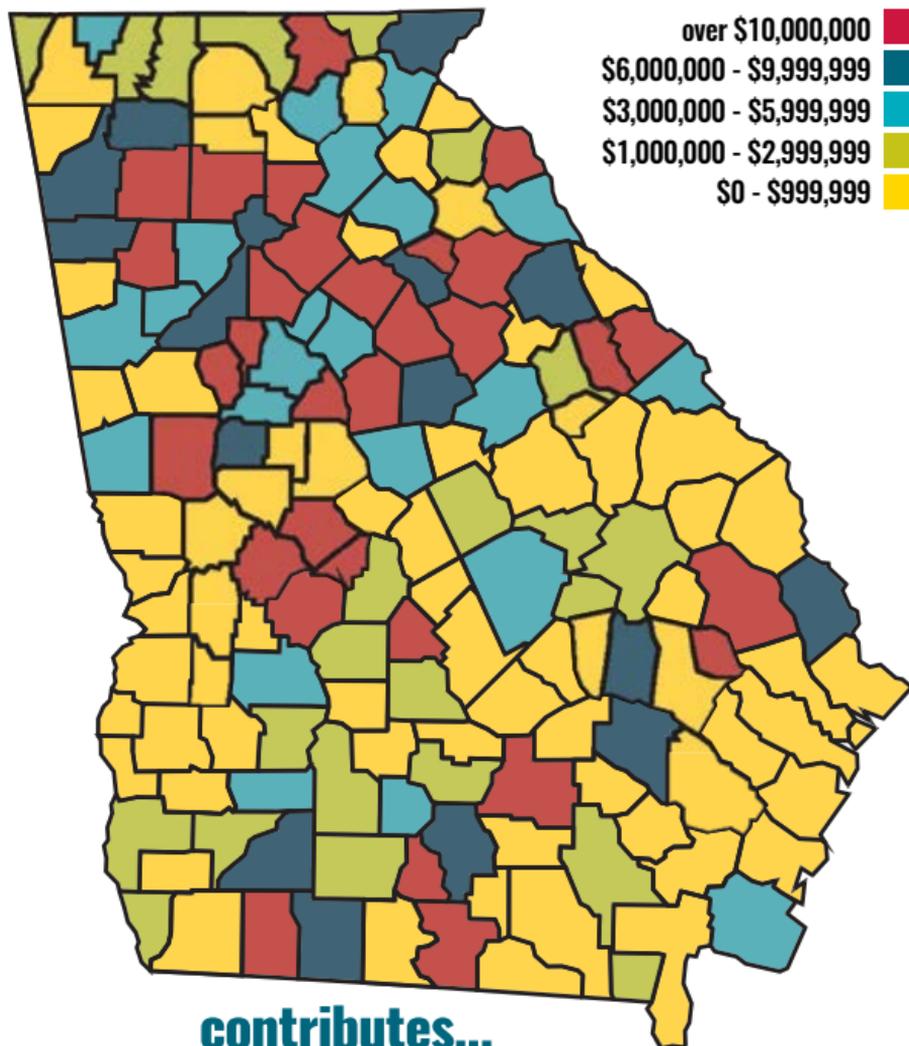


D-282

ORNAMENTAL HORTICULTURE

2021 Georgia Farm Gate Value = \$1.24 billion

2020 = \$1.18 billion



contributes...



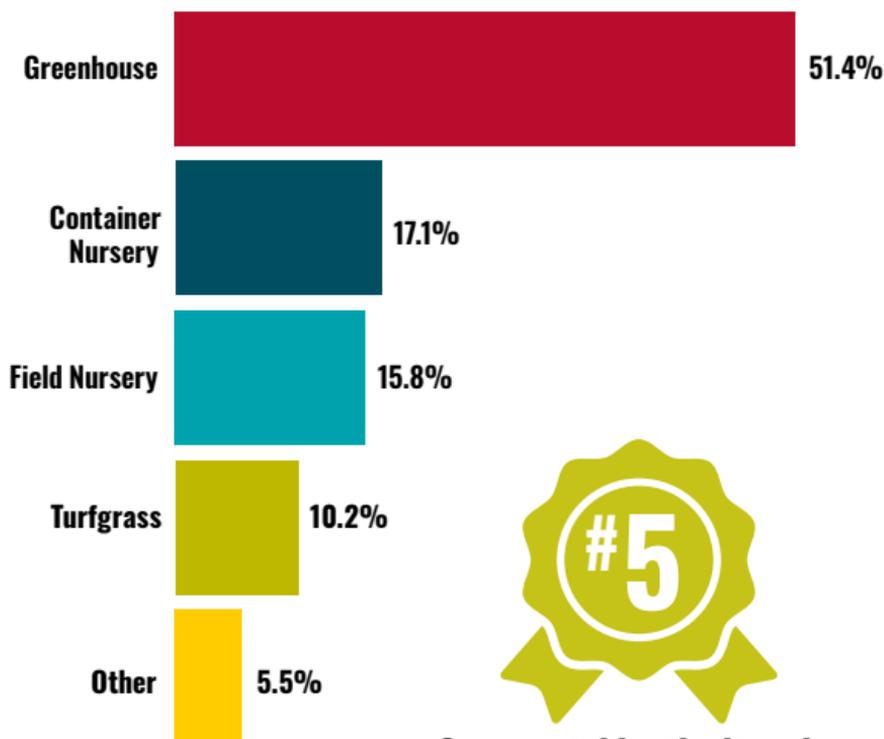
9.3 billion dollars



& 65,915 jobs

to the Georgia economy

D-283



Ornamental horticulture is ranked the No. 5 commodity group in Georgia.

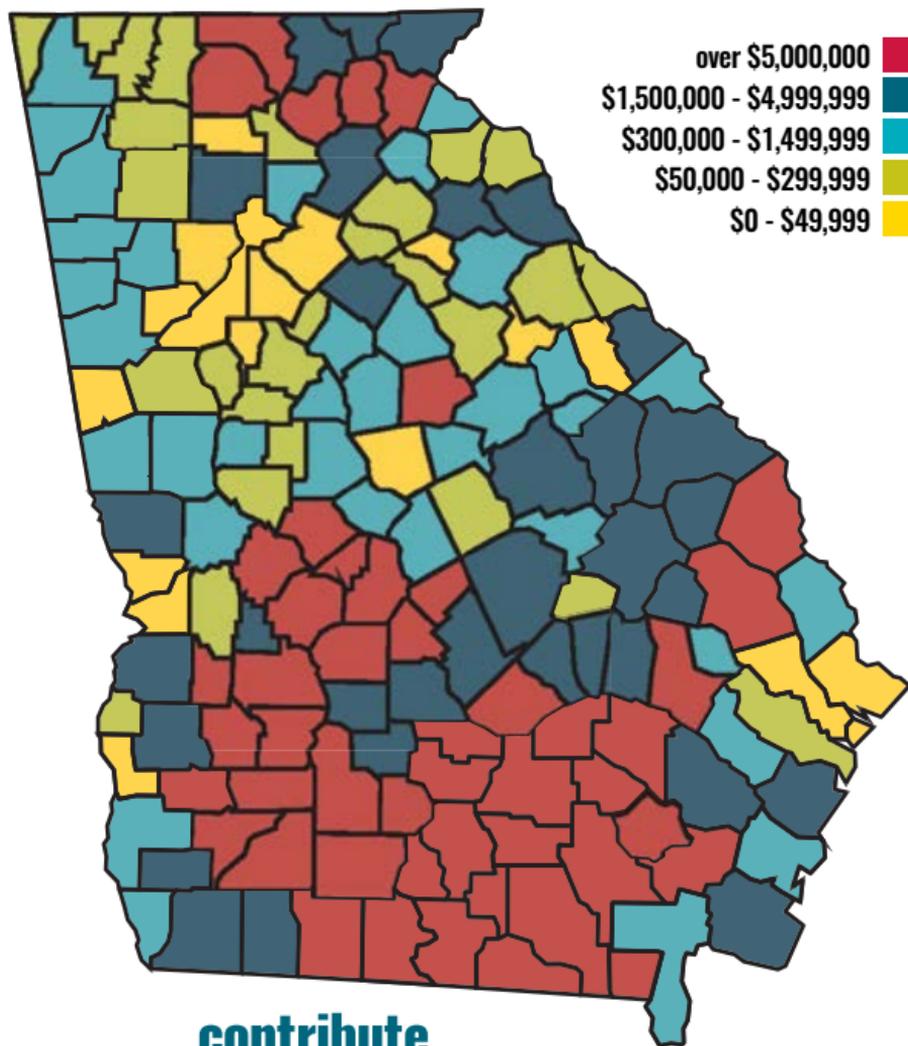


Landscape and horticultural services make up a large portion of the economic contribution for this group.

D-284

FRUITS & NUTS

2021 Georgia Farm Gate Value = \$912.08 million
2020 = \$732.64 million



contribute...



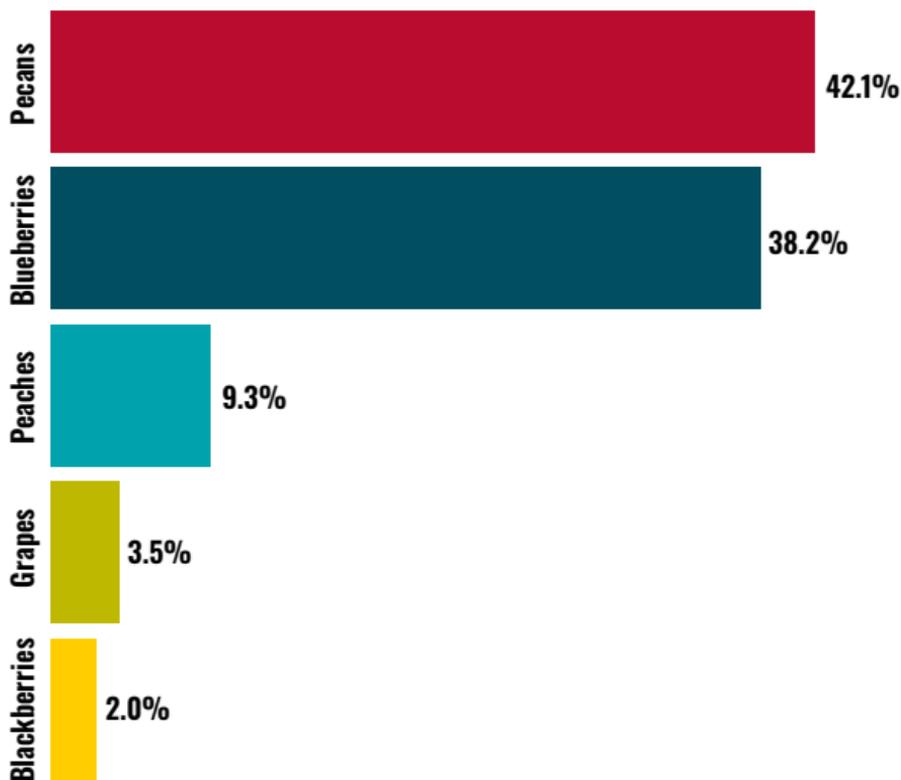
2.5 billion dollars



& 12,135 jobs

to the Georgia economy

D-285



Georgia's top three:

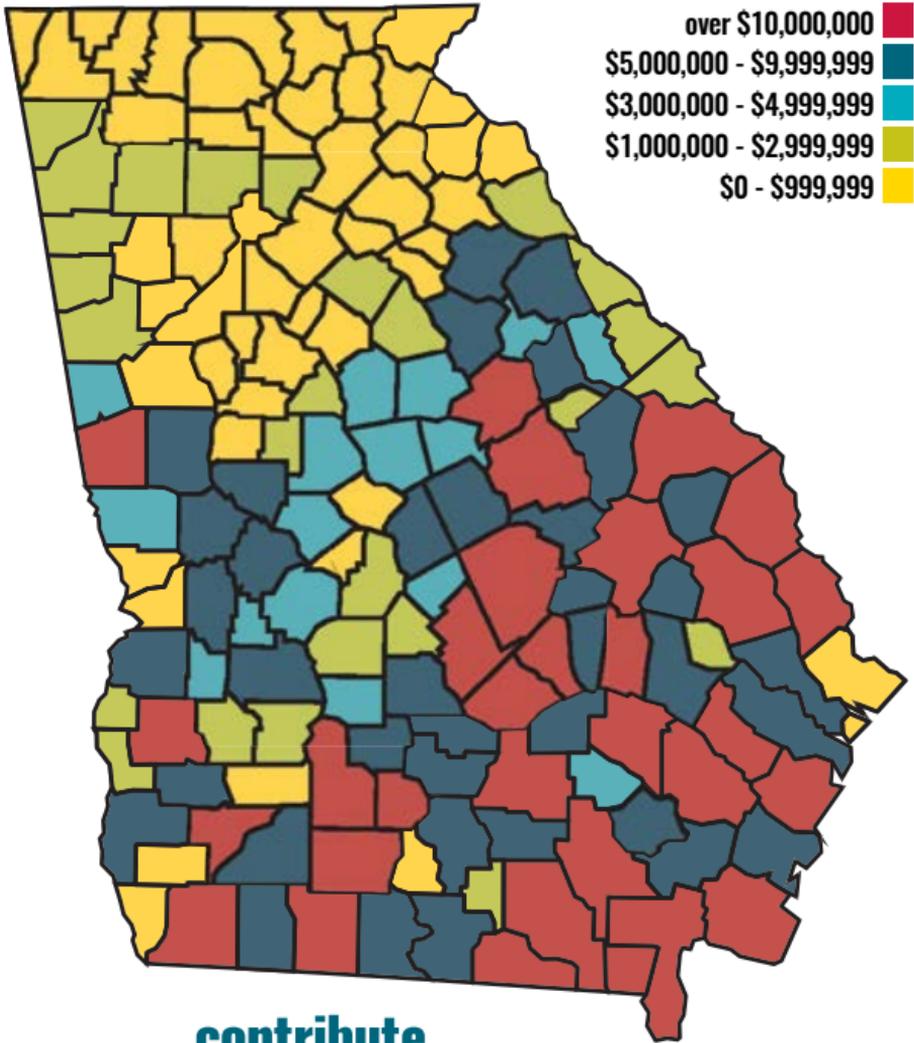
**Pecans,
blueberries and
peaches**



**are also
top-ranked crops nationally.**

FORESTRY & PRODUCTS

2021 Georgia Farm Gate Value = \$858.21 million
2020 = \$806.26 million



contribute...



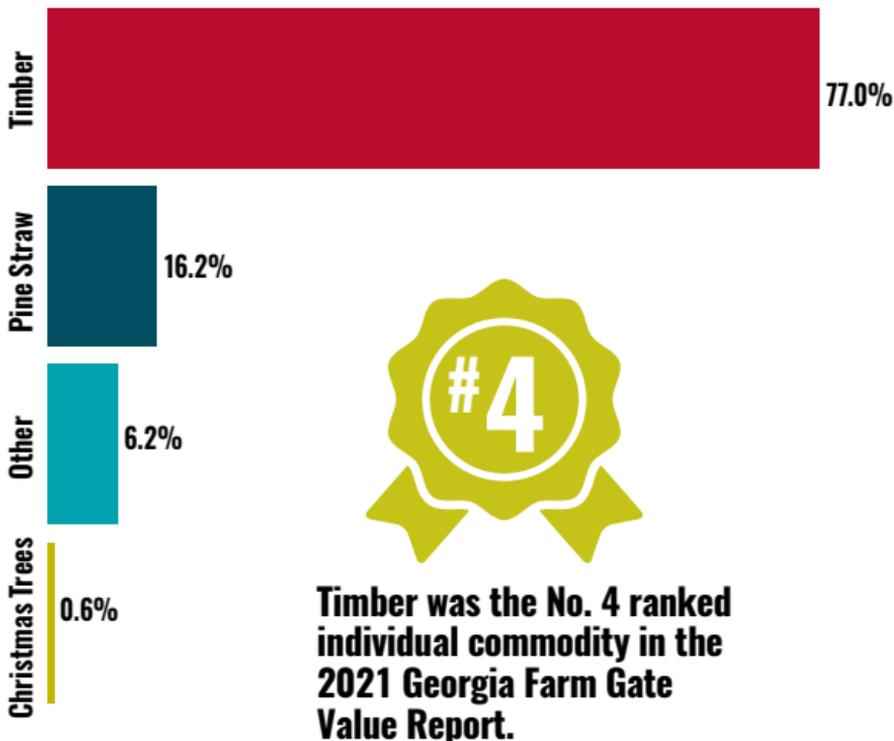
13.5 billion dollars



58,842 jobs

to the Georgia economy

D-287



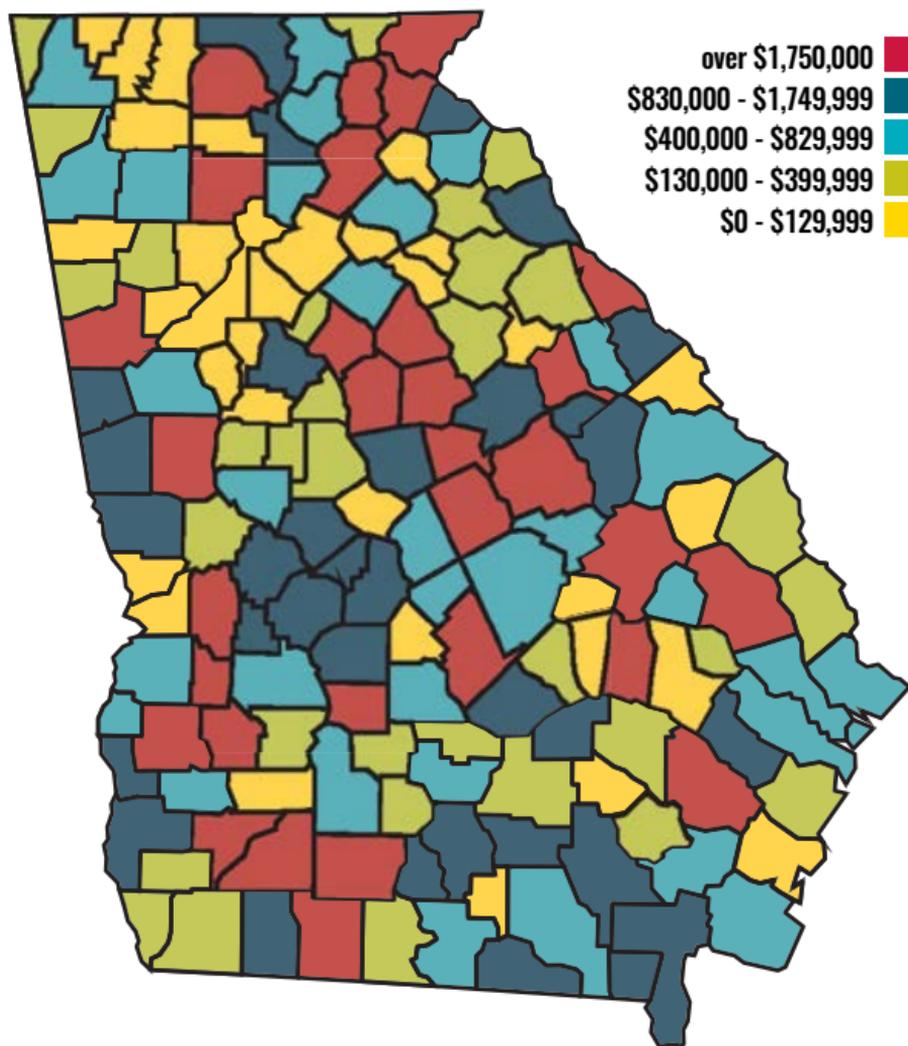
Source: www.gfagrow.org

D-288

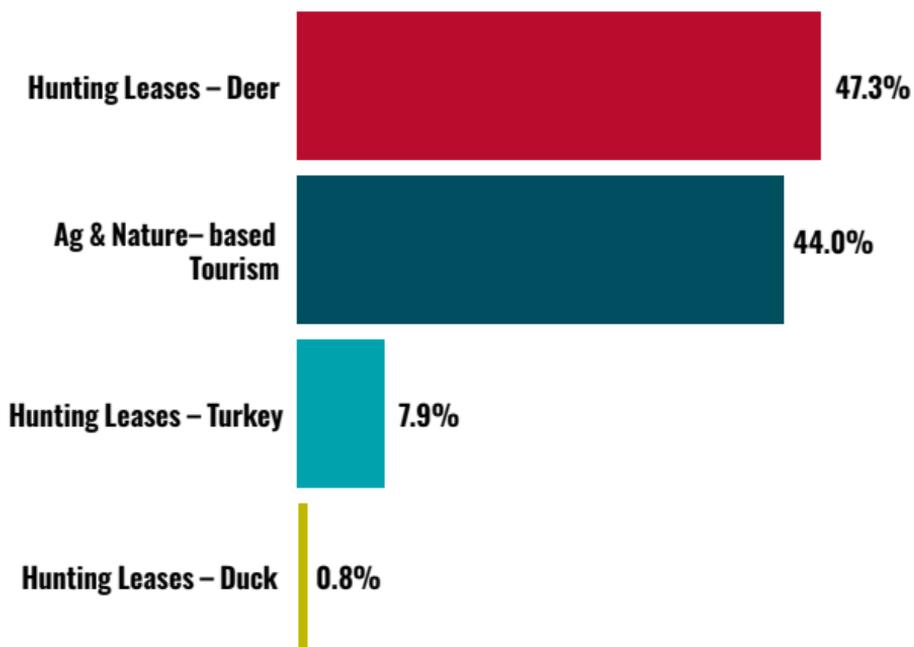
AGRITOURISM & HUNTING LEASES

2021 Georgia Farm Gate Value = \$216.75 million

2020 = \$200.73 million

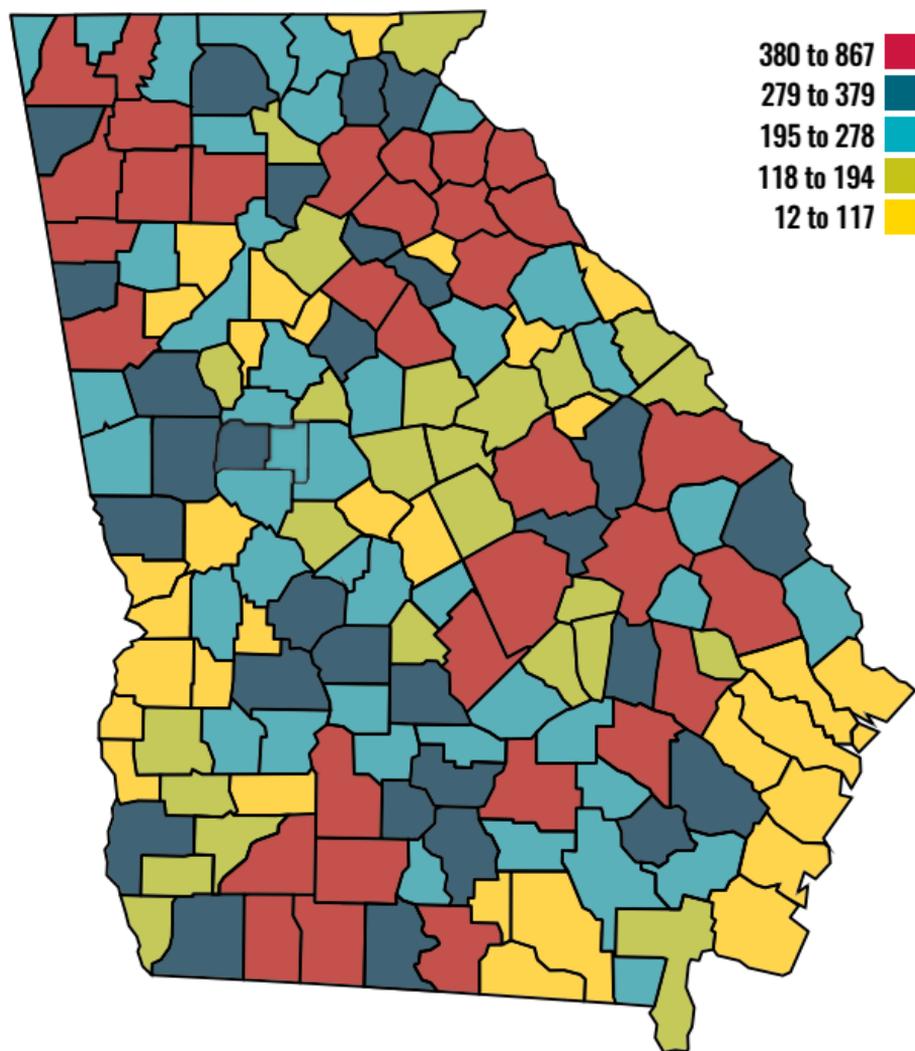


Agriculture- and nature-based activities such as camping, trail riding and corn mazes make Georgia a popular destination for tourists. Millions of residents and nonresidents enjoy outdoor activities such as hunting, fishing and wildlife-watching.

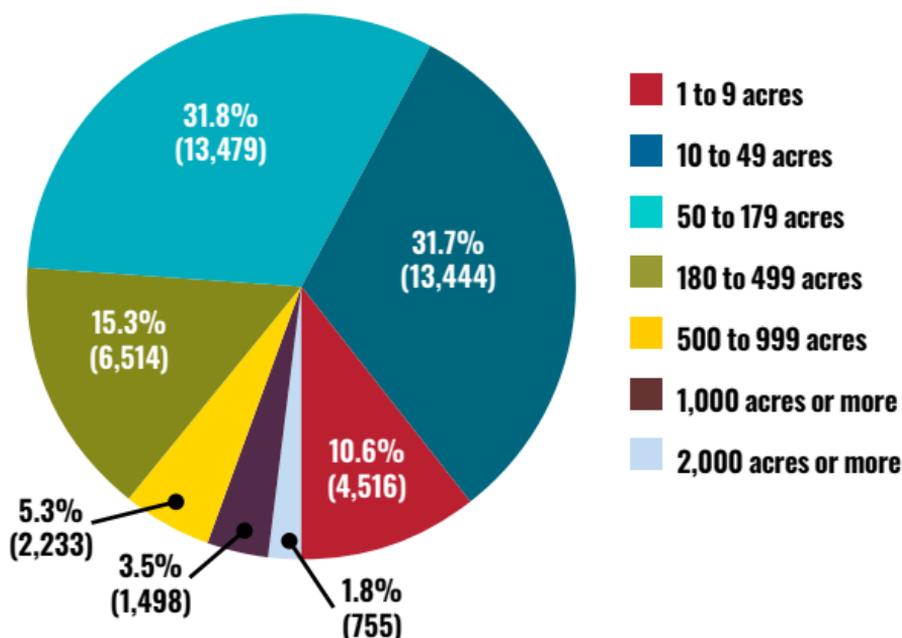


D-290

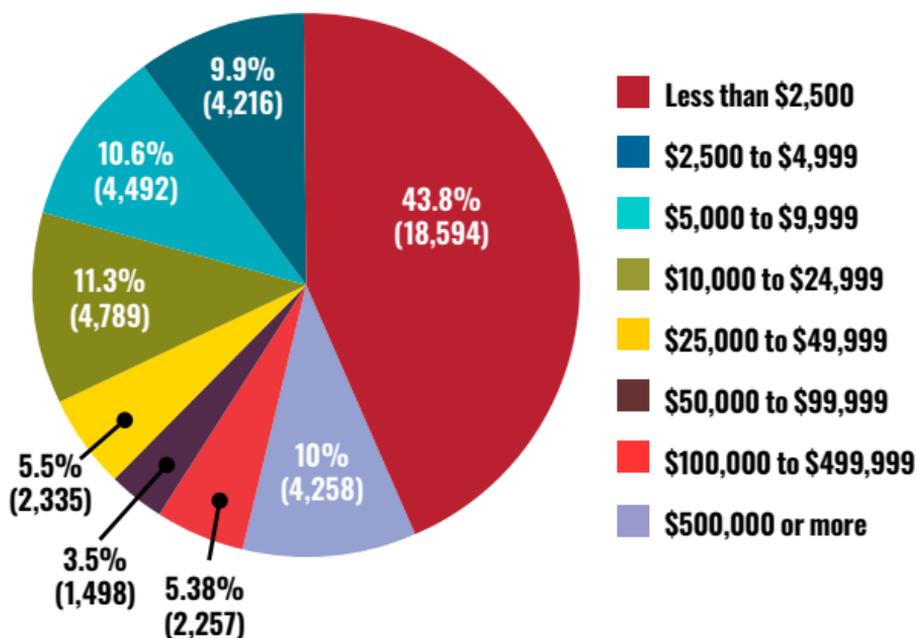
NUMBER OF FARMS BY COUNTY



Georgia Farms by Size



Georgia Farms by Sales Value



Source: U.S. Department of Agriculture National Agricultural Statistics Service, 2017 Census of Agriculture D-292

GEORGIA FARM STATISTICS

Number of farms statewide • 42,439

Land in farms • 9,953,730 acres

Average farm size • 235 acres

Harvested cropland • 3,628,707 acres

Market value of agricultural products sold • \$9.57 billion

Total farm production expenses • \$7.1 billion

FARMERS, PRIMARY PRODUCERS

(formerly called principal operators)

Worked 200+ days off farm • 37.3% (15,838)

Average age of primary producer • 59.8 years

Female • 22.9% (9,717)

Black • 4.4% (1,878)

Hispanic, Latino or Spanish origin • 1.2% (525)



Source: U.S. Department of Agriculture National Agricultural Statistics Service,
2017 Census of Agriculture



UNIVERSITY OF GEORGIA

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Ag Snapshots are a brief focus on Georgia's agricultural industry and are based on the Georgia Farm Gate Value Report. Publication date and data presented may differ.

The Center for Agribusiness and Economic Development

www.caed.uga.edu

Visit our website for access to this publication, a map of county level impacts, the complete 2021 Georgia Farm Gate Value Report and historic reports:

caed.uga.edu/publications/georgia-agricultural-statistics.html



College of Agricultural & Environmental Sciences
UNIVERSITY OF GEORGIA

Nick T. Place
Dean and Director

STATE SOLAR

spotlight

Georgia

Ranks
7th
for total installed
solar capacity

Total solar installed (MW)

5,041

764 MW in 2022

Growth projection over
the next 5 years (MW)

3,129

Ranks 16th



Solar jobs in the state¹

5,382

Ranked 14th in 2021



Enough solar
installed to power

588,770
homes

Percentage of state's
electricity from solar²

5.83%



224

solar companies are
currently operating in
Georgia³



54
manufacturers



79
installers/developers



91
other companies

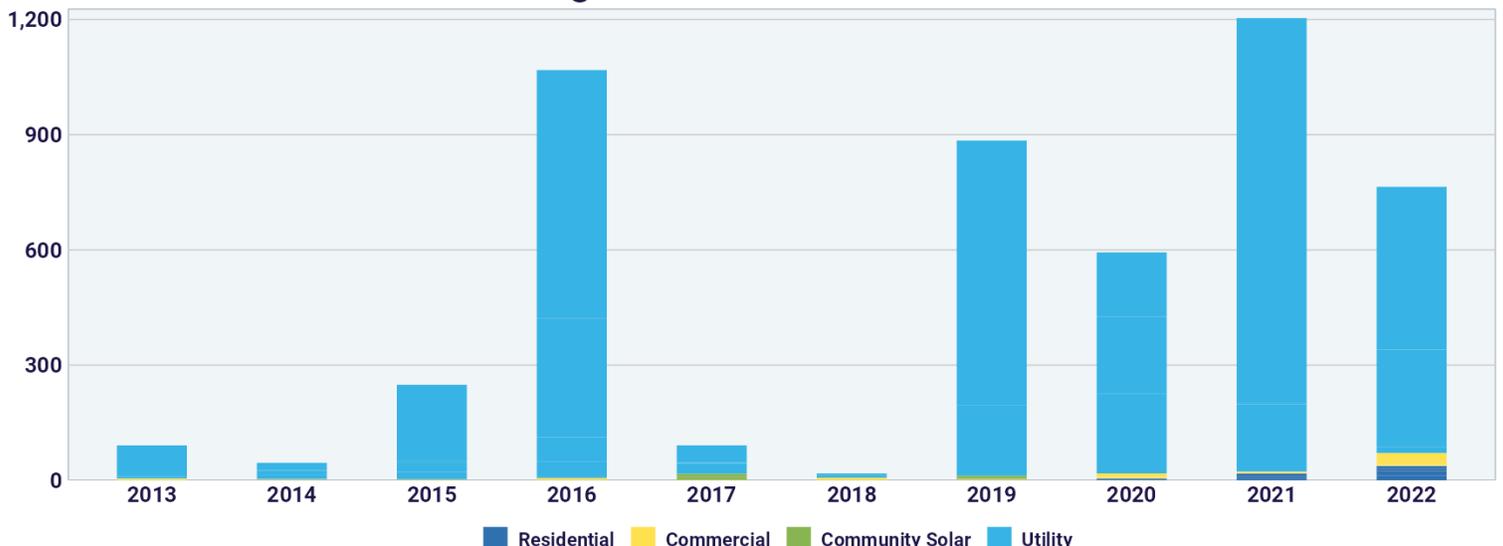
Value of the
state solar
market **\$5.6**
billion

with \$846
million invested in 2022

Price decline over
the last ten years

54%

Georgia Annual Solar Installations



STATE SOLAR *spotlight*

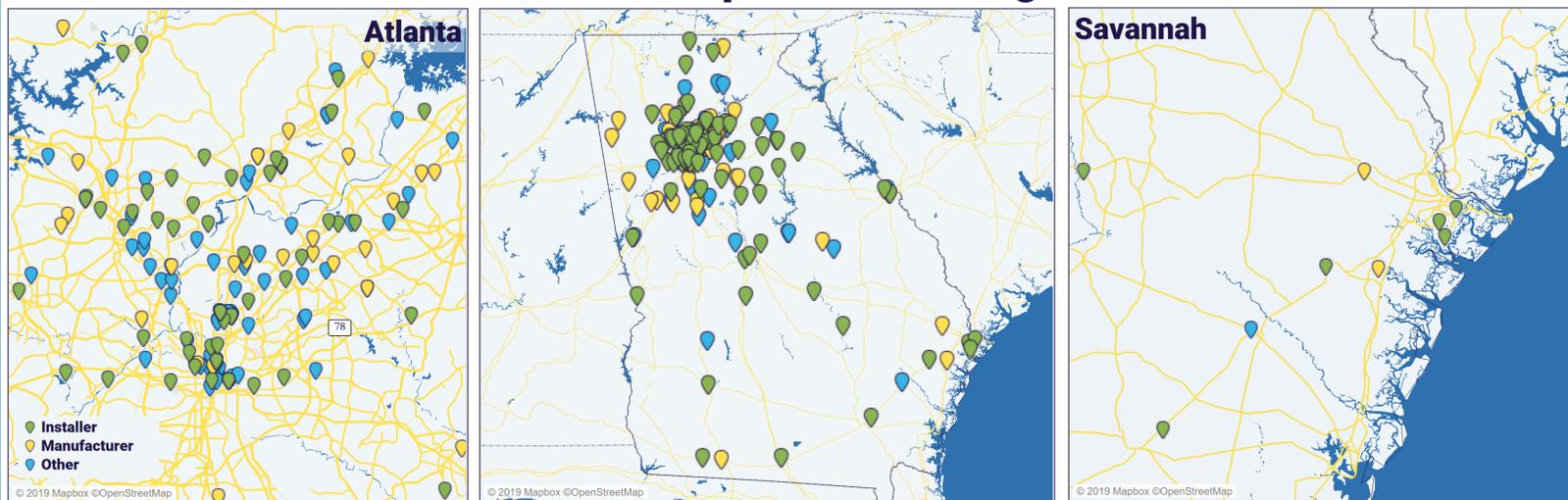
Georgia

Ranks
7th

More information about solar energy in Georgia⁴

- Cool Springs Solar in Bainbridge was developed by NextEra and came online in 2021. This 298 MW project produces enough electricity to power 35303 homes.
- Meta, Google, and Walmart have all gone solar in Georgia. Meta's 152 MW Snipesville II Solar project in Denton is the largest corporate project in the state.
- At 261 MW, Twiggs in Dry Branch is among the largest solar installations in Georgia. Completed by Origis Energy in 2020, this solar project has enough electric capacity to power more than 30919 homes.

Solar Companies in Georgia



References

All data from SEIA/Wood Mackenzie Power & Renewables, Solar Market Insight© unless otherwise noted: <https://www.seia.org/smi>

¹National Solar Jobs Census 2022: <https://irecusa.org/programs/solar-jobs-census/>

²Energy Information Administration, Electric Power Monthly: <https://www.eia.gov/electricity/monthly/#generation>

³SEIA, National Solar Database: <https://www.seia.org/research-resources/national-solar-database>

⁴SEIA, Solar Project Tracker (includes Solar Means Business: <https://www.solarmeansbusiness.com>, Major Solar Projects List: <https://www.seia.org/research-resources/major-solar-projects-list> and Solar in Schools: <https://www.seia.org/research-resources/brighter-future-study-solar-us-schools-0>

Appendix D-VIII
CDC Social Vulnerability
Documentation

CDC/ATSDR SVI 2020 Documentation - 8/5/2022

Please see data dictionary below beginning on page 7.

Introduction

What is Social Vulnerability?

Every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or a disease outbreak, or an anthropogenic event such as a harmful chemical spill. The degree to which a community exhibits certain social conditions, including high poverty, low percentage of vehicle access, or crowded households, may affect that community's ability to prevent human suffering and financial loss in the event of disaster. These factors describe a community's social vulnerability.

What is CDC/ATSDR Social Vulnerability Index?

ATSDR's Geospatial Research, Analysis, & Services Program (GRASP) created the Centers for Disease Control and Prevention and Agency for Toxic Substances and Disease Registry Social Vulnerability Index (CDC/ATSDR SVI or simply SVI, hereafter) to help public health officials and emergency response planners identify and map the communities that will most likely need support before, during, and after a hazardous event.

SVI indicates the relative vulnerability of every U.S. Census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. SVI ranks the tracts on 16 social factors, including unemployment, racial and ethnic minority status, and disability, and further groups them into four related themes. Thus, each tract receives a ranking for each Census variable and for each of the four themes as well as an overall ranking. In addition to tract-level rankings, SVI 2010, 2014, 2016, 2018, and 2020 also have corresponding rankings at the county level.

Notes below that describe "tract" methods also refer to county methods.

How can SVI help communities be better prepared for hazardous events?

SVI provides specific socially and spatially relevant information to help public health officials and local planners better prepare communities to respond to emergency events such as severe weather, floods, disease outbreaks, or chemical exposure.

SVI can be used to:

- Assess community need during emergency preparedness planning.
- Estimate the type and amount of needed supplies such as food, water, medicine, and bedding.
- Decide how many emergency personnel are required to assist people.
- Identify areas in need of emergency shelters.
- Create a plan to evacuate people, accounting for those who have special needs, such as those without vehicles, the elderly, or people who do not speak English well.
- Identify communities that will need continued support to recover following an emergency or natural disaster.

Important Notes on SVI Databases

- SVI 2014, 2016, 2018, and 2020 are available for download in shapefile format from https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. SVI 2014, 2016, 2018, and 2020 are also available via ArcGIS Online. Search for "CDC's Social Vulnerability Index."

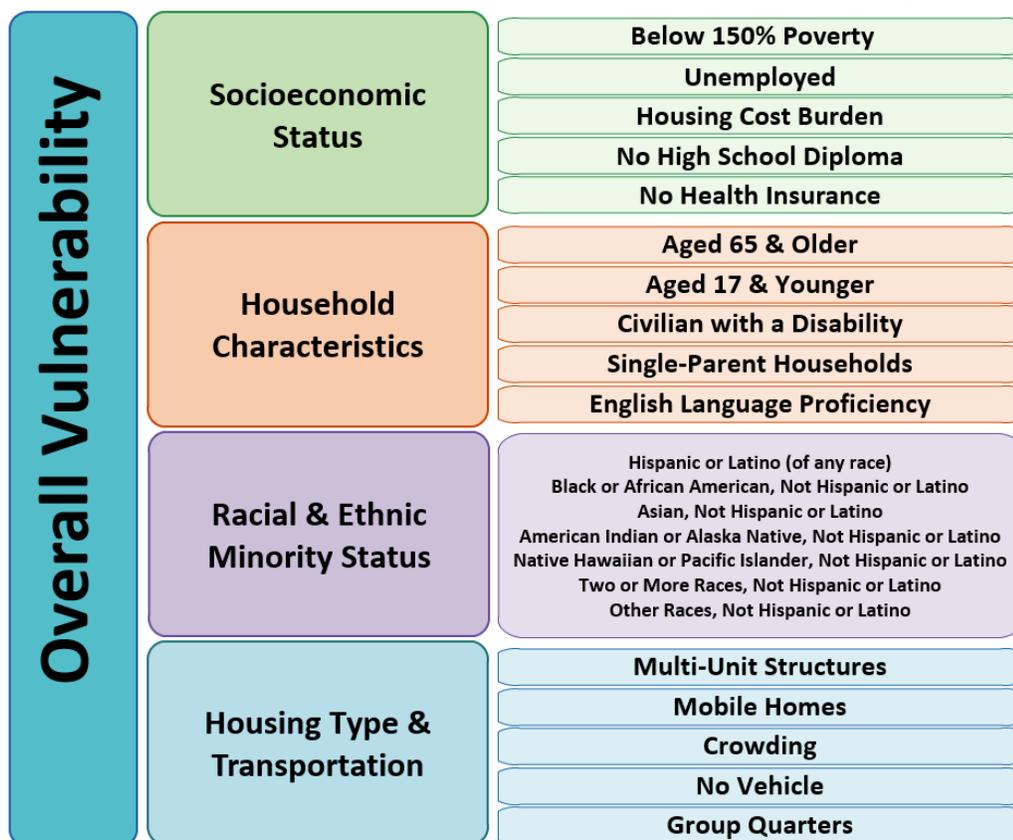
- For SVI 2000 and 2010, keep the data in geodatabase format when downloading from https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. Converting to shapefile changes the field names.
- ACS field names changed between SVI 2018 and 2020. Name changes are noted in the Data Dictionary below.
- For US-wide or multi-state mapping and analysis, use the US database, in which all tracts are ranked against one another. For individual state mapping and analysis, use the state-specific database, in which tracts are ranked only against other tracts in the specified state.
- Starting with SVI 2014, we've added a stand-alone, state-specific Commonwealth of Puerto Rico database. Puerto Rico is not included in the US-wide ranking.
- Starting with SVI 2014, we've added a database of [Tribal Census Tracts](https://www.census.gov/newsroom/blogs/random-samplings/2012/07/decoding-state-county-census-tracts-versus-tribal-census-tracts.html) (<https://www.census.gov/newsroom/blogs/random-samplings/2012/07/decoding-state-county-census-tracts-versus-tribal-census-tracts.html>). Tribal tracts are defined independently of, and in addition to, standard county-based tracts. The tribal tract database contains only estimates, percentages, and their respective margins of error (MOEs), along with the adjunct variables described in the data dictionary below. Because of geographic separation and cultural diversity, tribal tracts are not ranked against each other nor against standard census tracts.
- Tracts with zero estimates for total population (N = 645 for the U.S.) were removed during the ranking process. These tracts were added back to the SVI databases after ranking. The TOTPOP field value is 0, but the percentile ranking fields (RPL_THEME1, RPL_THEME2, RPL_THEME3, RPL_THEME4, and RPL_THEMES) were set to -999.
- For tracts with > 0 TOTPOP, a value of -999 in any field either means the value was unavailable from the original census data or we could not calculate a derived value because of unavailable census data.
- Any cells with a -999 were not used for further calculations. For example, total flags do not include fields with a -999 value.
- Whenever available, we use Census-calculated MOEs. If Census MOEs are unavailable, for instance when aggregating variables within a table, we use approximation formulas provided by the Census in Appendix A (pages A-14 through A-17) of *A Compass for Understanding and Using American Community Survey Data* here: <https://www.census.gov/content/dam/Census/library/publications/2008/acs/ACSGeneralHandbook.pdf> If more precise MOEs are required, see Census methods and data regarding Variance Replicate Tables here: <https://www.census.gov/programs-surveys/acs/data/variance-tables.html>. For selected ACS 5-year Detailed Tables, "Users can calculate margins of error for aggregated data by using the variance replicates. Unlike available approximation formulas, this method results in an exact margin of error by using the covariance term."
- FIPS codes are generally defined as text to preserve leading zeros (0s). While working with csv files, leading 0s are required to properly join or merge tables. ArcGIS maintains leading 0s in the FIPS code fields of csv files. To preserve leading 0s and create an Excel file in Excel for Office 365, follow these steps:
 - Open a blank worksheet in Excel.
 - Click Data in the menu bar and choose the icon From Text/CSV
 - Navigate to the csv file and choose to Import
 - In the dialog box that opens, choose to Transform Data
 - In the Power Query Editor dialog box, for each of the FIPS columns (ST, STCNTY, FIPS for tracts and ST, FIPS for counties), right click the column name and choose to Change Type to Text.
 - As prompted in the Change Column Type dialog box, choose to Replace current. Click Close and Load.
 - Save As an Excel xlsx file.
- See the **Methods** section below for further details.

- Questions? Please visit the SVI website at <http://svi.cdc.gov> for additional information or email the SVI Coordinator at svi_coordinator@cdc.gov.

Methods

Variables Used

American Community Survey (ACS), 2016-2020 (5-year) data for the following estimates:



Text version of overall vulnerability image:

- Socioeconomic Status
 - Below 150% Poverty
 - Unemployed
 - Housing Cost Burden
 - No High School Diploma
 - No Health Insurance
- Household Characteristics
 - Aged 65 & Older
 - Aged 17 & Younger
 - Civilian with a Disability
 - Single-Parent Households
 - English Language Proficiency
- Racial & Ethnic Minority Status
 - Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino

- Housing Type & Transportation
 - Multi-Unit Structures
 - Mobile Homes
 - Crowding
 - No Vehicle
 - Group Quarters

For SVI 2020, adjunct variables were included:

- 1) An estimate of daytime population derived from LandScan 2020 estimates
- 2) 2016-2020 ACS estimates for households without a computer with a broadband Internet subscription
- 3) 2016-2020 ACS estimates for Hispanic/Latino persons, Not Hispanic or Latino Black/African American persons, Not Hispanic or Latino Asian persons, Not Hispanic or Latino American Indian and Alaska Native persons, Not Hispanic or Latino Native Hawaiian and Other Pacific Islander persons, Not Hispanic or Latino persons of two or more races, and Not Hispanic or Latino persons of some other race

These adjunct variables are excluded from SVI rankings. We include these variables as adjunct variables because they can be helpful to explain more about the local areas in certain circumstances, and we want to make them easily accessible.

Raw data estimates and percentages for each variable, for each tract, are included in the database. In addition, the margins of error (MOEs) for each estimate, at the Census Bureau standard of 90%, are also included.

Confidence intervals can be calculated by subtracting the MOE from the estimate (lower limit) and adding the MOE to the estimate (upper limit). Because of relatively small sample sizes, some of the MOEs are high. It is important to identify the amount of error acceptable in any analysis.

Rankings

We ranked Census tracts within each state and the District of Columbia, to enable mapping and analysis of relative vulnerability in individual states. We also ranked tracts for the entire United States against one another, for mapping and analysis of relative vulnerability in multiple states, or across the U.S. as a whole. Tract rankings are based on percentiles. Percentile ranking values range from 0 to 1, with higher values indicating greater vulnerability.

For each tract, we generated its percentile rank among all tracts for 1) the 16 individual variables, 2) the four themes, and 3) its overall position.

Theme rankings: For each of the four themes, we summed the percentiles for the variables comprising each theme. We ordered the summed percentiles for each theme to determine theme-specific percentile rankings.

The four summary theme ranking variables, detailed in the Data Dictionary below, are:

- **Socioeconomic Status - RPL_THEME1**
- **Household Characteristics - RPL_THEME2**
- **Racial & Ethnic Minority Status - RPL_THEME3**
- **Housing Type & Transportation - RPL_THEME4**

Overall tract rankings: We summed the sums for each theme, ordered the tracts, and then calculated overall percentile rankings. Please note taking the sum of the sums for each theme is the same as summing individual variable rankings. **The overall summary ranking variable is RPL_THEMES.**

Flags

Tracts in the top 10%, i.e., at the 90th percentile of values, are given a flag value of 1 to indicate high vulnerability. Tracts below the 90th percentile are given a flag value of 0.

For a theme, the flag value is the number of flags for variables comprising the theme. We calculated the overall flag value for each tract as the number of all variable flags.

For a detailed description of SVI variable selection rationale and methods, see [A Social Vulnerability Index for Disaster Management](https://www.atsdr.cdc.gov/placeandhealth/svi/img/pdf/Flanagan_2011_SVIforDisasterManagement-508.pdf) (https://www.atsdr.cdc.gov/placeandhealth/svi/img/pdf/Flanagan_2011_SVIforDisasterManagement-508.pdf).

Caveat for SVI State Databases

The order of overall SVI rankings and SVI theme rankings of census tracts and counties may differ between the U.S. and state SVI databases. A detailed explanation follows.

Overall and theme rankings are based on cumulative values that are relative to the number of census tracts or counties being compared. Thus, differences between the order of overall and theme rankings in the U.S. database and that of state databases may arise from the accumulation of differences in summing the percentile ranks for the individual SVI variables.

For example, using the 2018 Georgia SVI database, Fulton County has an overall SVI score of 0.2658 with a ranking of 117 out of 159 Georgia counties. However, using the 2018 U.S. SVI database, Fulton County has an overall SVI score of 0.5268, giving Fulton County a ranking of 125 out of the 159 Georgia counties. The ranking differences between the two databases are due to differences in summed percentile ranks caused, in turn, by differences in the number of counties being compared in the U.S. database versus Georgia database.

In short, because Georgia (or any state) has far fewer census tracts and counties than does the nation, differences in one or more variable percentages from one census tract or county to another are more pronounced at the state level than at the national level. Such differences, when summed across all variables, will in some cases result in a rank order change between the two databases.

If there are any questions, please contact the SVI Coordinator at svi_coordinator@cdc.gov.

SVI 2020 Updates

As our understanding of social vulnerability evolves over time, SVI must evolve as well. Beginning with SVI 2020, we made modifications to SVI theme names, individual SVI indicators, and adjunct data. We modified the name of Theme 2 from Household Composition & Disability to Household Characteristics, and we modified the name of Theme 3 from Minority Status & Language to Racial & Ethnic Minority Status. Within Theme 1 Socioeconomic Status, we modified the Below Poverty variable from the 100% federal poverty level to the 150% federal poverty level, considering the federal poverty line thresholds established for several federal health coverage policies.¹ Similarly, we included a No Health Insurance variable in Theme 1 Socioeconomic Status as a lack of health insurance coverage is increasingly considered a marker of lower socioeconomic status and a barrier to healthcare access.² Also, within Theme 1 Socioeconomic Status, we exchanged the Per Capita Income variable for Housing Cost Burden, which are households that spend 30% or more of annual income on housing costs. Recent studies have emphasized the importance of examining housing cost burden as opposed to per capita income as a better indicator of insufficient disposable income among households.^{3,4} Further, we moved the English Language Proficiency variable from Theme 3 Racial & Ethnic Minority Status to Theme 2 Household Characteristics because the ACS variables are based on language spoken at home and are better suited in the Household Characteristics theme. Additionally, although people in racial and ethnic minority groups are overall more likely to have limited English language proficiency than non-Hispanic whites, most (90.9%) are English language proficient.⁵ Thus, we moved the English Language Proficiency out of the Minority theme because it may have adversely affected the vulnerability ranking of communities in high minority areas of the country. Lastly, we included new adjunct variables: households without a computer with a broadband Internet subscription, and breakdowns of racial and ethnic minority populations. The coronavirus disease 2019 pandemic has underscored the importance of broadband Internet access as a social determinant of health, justifying the inclusion of data on the lack of broadband Internet access as an adjunct variable.⁶ While we aggregate all racial

and ethnic minority persons in Theme 3 Racial & Ethnic Minority Status, we recognize that SVI users may be interested in its component populations. A thorough literature review and internal validation were conducted to finalize the construction of SVI 2020.

1. <https://www.healthcare.gov/glossary/federal-poverty-level-fpl/>
2. McMaughan DJ, Oloruntopa O, Smith ML. Socioeconomic status and access to healthcare: Interrelated drivers for healthy aging. *Front Public Health*. 2020;8:231. doi:10.3389/fpubh.2020.00231
3. Hernández D, Swope CB. Housing as a platform for health and equity: Evidence and future directions. *Am J Public Health*. 2019;109(10):1363-1366. doi:10.2105/AJPH.2019.305210
4. Swope CB, Hernández D. Housing as a determinant of health equity: A conceptual model. *Soc Sci Med*. 2019;243:112571. doi:10.1016/j.socscimed.2019.112571
5. U.S. Census Bureau; American Community Survey (ACS), Five-Year Public Use Microdata Sample (PUMS), 2016-2020; accessed via MDAT; ; (27 July 2022).
6. Benda NC, Veinot TC, Sieck CJ, Ancker JS. Broadband Internet Access Is a Social Determinant of Health! *Am J Public Health*. 2020;110(8):1123-1125. doi:10.2105/AJPH.2020.305784

CDC SVI 2020 Data Dictionary – American Community Survey field names that changed between 2018 and 2020 are noted in **RED and marked ‘Yes’ or ‘No’ in the ‘Field Name Changed Since 2018?’ column.**

Themes
1. Socioeconomic Status
2. Household Characteristics
3. Racial & Ethnic Minority Status
4. Housing Type/Transportation

Variables beginning with “E_” are estimates. Variables beginning with “M_” are margins of error for those estimates. Values of -999 represent “null” or “no data.”

The four summary theme ranking variables, detailed in the Data Dictionary below, are:

- **Socioeconomic Status - RPL_THEME1**
- **Household Characteristics - RPL_THEME2**
- **Racial & Ethnic Minority Status - RPL_THEME3**
- **Housing Type & Transportation - RPL_THEME4**

The overall summary ranking variable is RPL_THEMES.

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
ST	State-level FIPS code		SVI	No	FIPS	In Excel, from Tract-level FIPS code, LEFT (FIPS, 2)		
STATE	State name		S0601	No	NAME	In Excel, use DATA Text to Columns to extract state name		
ST_ABBR	State abbreviation		N/A	No	N/A	Joined from Esri state boundary shapefile		
STCNTY	County-level FIPS code		SVI	No	FIPS	In Excel, from Tract-level FIPS code, LEFT (FIPS, 5)	In the county-level SVI database, the 5-digit STCNTY field is the FIPS field, used for joins.	
COUNTY	County name		S0601	No	NAME	In Excel, use DATA Text to Columns to extract county name		
FIPS	Tract-level FIPS code		S0601	No	GEO_ID	In Excel, RIGHT (GEO.id, 11)		
LOCATION	Text description of tract, county, state		S0601	No	NAME			
AREA_SQMI	Tract area in square miles		Census Cartographic Boundary File - U.S. Tracts 2020 500K	No	ALAND * 3.86102e-7	Conversion from square meters to square miles		

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
E_TOTPOP	Population estimate, 2016-2020 ACS		S0601	No	S0601_C01_001E			
M_TOTPOP	Population estimate MOE, 2016-2020 ACS		S0601	No	S0601_C01_001M			
E_HU	Housing units estimate, 2016-2020 ACS		DP04	No	DP04_0001E			
M_HU	Housing units estimate MOE, 2016-2020 ACS		DP04	No	DP04_0001M			
E_HH	Households estimate, 2016-2020 ACS		DP02	No	DP02_0001E			
M_HH	Households estimate MOE, 2016-2020 ACS		DP02	No	DP02_0001M			
E_POV150	Persons below 150% poverty estimate, 2016-2020 ACS	1	S1701	Yes	S1701_C01_040E		Replaces E_POV	B17001_002E
M_POV150	Persons below 150% poverty estimate MOE, 2016-2020 ACS	1	S1701	Yes	S1701_C01_040M		Replaces E_POV	B17001_002M
E_UNEMP	Civilian (age 16+) unemployed estimate, 2016-2020 ACS	1	DP03	No	DP03_0005E			
M_UNEMP	Civilian (age 16+) unemployed estimate MOE, 2016-2020 ACS	1	DP03	No	DP03_0005M			
E_HBURD	Housing cost-burdened occupied housing units with annual income less than \$75,000	1	S2503	Yes	S2503_C01_028E + S2503_C01_032E + S2503_C01_036E + S2503_C01_040E	Estimate; Occupied housing units with annual income of less than \$20,000 with monthly housing costs of 30 percent or more of annual income + Estimate; Occupied housing units with annual income of \$20,000 to \$34,999	Replaces E_PCI	B19301_001E

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	(30%+ of income spent on housing costs) estimate, 2016-2020 ACS					with monthly housing costs of 30 percent or more of annual income + Estimate; Occupied housing units with annual income of \$35,000 to \$49,999 with monthly housing costs of 30 percent or more of annual income + Estimate; Occupied housing units with annual income of \$50,000 to \$74,999 with monthly housing costs of 30 percent or more of annual income		
M_HBURD	Housing cost-burdened occupied housing units with annual income less than \$75,000 (30%+ of income spent on housing costs) estimate MOE, 2016-2020 ACS	1	S2503	Yes	SQRT (S2503_C01_028M ^2 + S2503_C01_032M ^2 + S2503_C01_036M ^2 + S2503_C01_040M ^2)	SQRT(MOE Occupied housing units with annual income of less than \$20,000 with monthly housing costs of 30 percent or more of annual income^2 + MOE Occupied housing units with annual income of \$20,000 to \$34,999 with monthly housing costs of 30 percent or more of annual income^2 + MOE Occupied housing units with annual income of \$35,000 to \$49,999 with monthly housing costs of 30 percent or more of annual income^2 + MOE Occupied housing units with annual income of \$50,000 to \$74,999 with monthly housing costs of 30 percent or more of annual income^2	Replaces E_PCI	B19301_001M
E_NOHSDP	Persons (age 25+) with no high school diploma estimate, 2016-2020 ACS	1	B06009	No	B06009_002E			
M_NOHSDP	Persons (age 25+) with no high school diploma estimate MOE, 2016-2020 ACS	1	B06009	No	B06009_002M			
E_UNINSUR	Uninsured in the total civilian noninstitutionalized population estimate, 2016-2020 ACS	1	S2701	No	S2701_C04_001E		Newly included in Theme 1, was previously an adjunct variable	
M_UNINSUR	Uninsured in the total civilian noninstitutionalized	1	S2701	No	S2701_C04_001M		Newly included in Theme 1, was	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	population estimate MOE, 2016-2020 ACS						previously an adjunct variable	
E_AGE65	Persons aged 65 and older estimate, 2016-2020 ACS	2	S0101	No	S0101_C01_030E			
M_AGE65	Persons aged 65 and older estimate MOE, 2016-2020 ACS	2	S0101	No	S0101_C01_030M			
E_AGE17	Persons aged 17 and younger estimate, 2016-2020 ACS	2	B09001	No	B09001_001E			
M_AGE17	Persons aged 17 and younger estimate MOE, 2016-2020 ACS	2	B09001	No	B09001_001M			
E_DISABL	Civilian noninstitutionalized population with a disability estimate, 2016-2020 ACS	2	DP02	Yes	DP02_0072E			DP02_0071E
M_DISABL	Civilian noninstitutionalized population with a disability estimate MOE, 2016-2020 ACS	2	DP02	Yes	DP02_0072M			DP02_0071M
E_SNGPNT	Single-parent household with children under 18 estimate, 2016-2020 ACS	2	B11012	Yes	B11012_010E + B11012_015E	Estimate; Male householder, no spouse or partner present, with own children under 18 years + Estimate; Female householder, no spouse or partner present, with own children under 18 years		DP02_0007E + DP02_0009E
M_SNGPNT	Single-parent household with children under 18 estimate MOE, 2016-2020 ACS	2	B11012	Yes	SQRT (B11012_010M ^2 + B11012_015M ^2)	SQRT (MOE Male householder, no spouse or partner present, with own children under 18 years^2 + MOE Female householder, no spouse or partner present, with own children under 18 years^2)		SQRT (DP02_0007M ^2 + DP02_0009M ^2)

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
					B16005_034M ^2 + B16005_035M ^2 + B16005_039M ^2 + B16005_040M ^2 + B16005_044M ^2 + B16005_045M ^2)	languages: - Speak English "not at all"^2 + MOE Native: - Speak other languages: - Speak English "not well"^2 + MOE Native: - Speak other languages: - Speak English "not at all"^2 + MOE Foreign born: - Speak Spanish: - Speak English "not well"^2 + MOE Foreign born: - Speak Spanish: - Speak English "not at all"^2 + MOE Foreign born: - Speak other Indo-European languages: - Speak English "not well"^2 + MOE Foreign born: - Speak other Indo-European languages: - Speak English "not at all"^2 + MOE Foreign born: - Speak Asian and Pacific Island languages: - Speak English "not well"^2 + MOE Foreign born: - Speak Asian and Pacific Island languages: - Speak English "not at all"^2 + MOE Foreign born: - Speak other languages: - Speak English "not well"^2 + MOE Foreign born: - Speak other languages: - Speak English "not at all"^2)		
E_MINRTY	Minority (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino) estimate, 2016-2020 ACS	3	DP05	No	DP05_0071E + DP05_0078E + DP05_0079E + DP05_0080E + DP05_0081E + DP05_0082E + DP05_0083E	Estimate; Hispanic or Latino, Total Population + Estimate; Black and African American Not Hispanic or Latino + Estimate; American Indian and Alaska Native Not Hispanic or Latino + Estimate; Asian Not Hispanic or Latino + Estimate; Native Hawaiian and Other Pacific Islander Not Hispanic or Latino + Estimate; Two or More Races Not Hispanic or Latino + Estimate; Other Races Not Hispanic or Latino	Replaces Estimate total population – white, non-Hispanic population	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
M_MINRTY	Minority (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino) estimate MOE, 2016-2020 ACS	3	DP05	No	$\text{SQRT}(\text{DP05_0071M}^2 + \text{DP05_0078M}^2 + \text{DP05_0079M}^2 + \text{DP05_0080M}^2 + \text{DP05_0081M}^2 + \text{DP05_0082M}^2 + \text{DP05_0083M}^2)$	<p> $\text{SQRT}(\text{MOE; Hispanic or Latino, Total Population}^2 + \text{MOE; Black and African American Not Hispanic or Latino}^2 + \text{MOE; American Indian and Alaska Native Not Hispanic or Latino}^2 + \text{MOE; Asian Not Hispanic or Latino}^2 + \text{MOE; Native Hawaiian and Other Pacific Islander Not Hispanic or Latino}^2 + \text{MOE; Two or More Races Not Hispanic or Latino}^2 + \text{MOE; Other Races Not Hispanic or Latino}^2)$ </p>	Replaces SQRT (MOE total population ² + MOE white, non-Hispanic ²)	
E_MUNIT	Housing in structures with 10 or more units estimate, 2016-2020 ACS	4	DP04	No	$\text{DP04_0012E} + \text{DP04_0013E}$	Estimate; Units in structure - total housing units - 10 to 19 units + Estimate; Units in structure - total housing units - 20 or more units		
M_MUNIT	Housing in structures with 10 or more units estimate MOE, 2016-2020 ACS	4	DP04	No	$\text{SQRT}(\text{DP04_0012M}^2 + \text{DP04_0013M}^2)$	$\text{SQRT}(\text{MOE Units in structure - total housing units - 10 to 19 units}^2 + \text{MOE Units in structure - total housing units - 20 or more units}^2)$		
E_MOBILE	Mobile homes estimate, 2016-2020 ACS	4	DP04	No	DP04_0014E			
M_MOBILE	Mobile homes estimate MOE, 2016-2020 ACS	4	DP04	No	DP04_0014M			
E_CROWD	At household level (occupied housing units), more people	4	DP04	No	$\text{DP04_0078E} + \text{DP04_0079E}$	Estimate; Occupants per room, occupied housing units, 1.01 to 1.50 + Estimate;		

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	than rooms estimate, 2016-2020 ACS					Occupants per room, occupied housing units, 1.51 or more		
M_CROWD	At household level (occupied housing units), more people than rooms estimate MOE, 2016-2020 ACS	4	DP04	No	$\text{SQRT}(\text{DP04_0078M}^2 + \text{DP04_0079M}^2)$	$\text{SQRT}(\text{MOE Occupants per room, occupied housing units, 1.01 to 1.50}^2 + \text{MOE Occupants per room, occupied housing units, 1.51 or more}^2)$		
E_NOVEH	Households with no vehicle available estimate, 2016-2020 ACS	4	DP04	No	DP04_0058E			
M_NOVEH	Households with no vehicle available estimate MOE, 2016-2020 ACS	4	DP04	No	DP04_0058M			
E_GROUPQ	Persons in group quarters estimate, 2016-2020 ACS	4	B26001	No	B26001_001E			
M_GROUPQ	Persons in group quarters estimate MOE, 2016-2020 ACS	4	B26001	No	B26001_001M			
EP_POV150	Percentage of persons below 150% poverty estimate	1	SVI and S1701	Yes	$(\text{E_POV150} / \text{S1701_C01_001E}) * 100$	(Persons below 150% poverty estimate / Population for whom poverty status is determined estimate) * 100		S0601_C01_049E
MP_POV150	Percentage of persons below 150% poverty estimate MOE	1	SVI and S1701	Yes	$((\text{SQRT}(\text{M_POV150}^2 - ((\text{EP_POV150} / 100)^2 * \text{S1701_C01_001M}^2))) / \text{S1701_C01_001E}) * 100$	$((\text{SQRT}(\text{MOE Persons below 150\% poverty}^2 - ((\text{Estimated proportion of persons below 150\% poverty})^2 * \text{MOE Population for whom poverty status is determined}^2))) / \text{Population for whom poverty status is determined estimate}) * 100$		S0601_C01_049M
EP_UNEMP	Unemployment Rate estimate	1	DP03	No	DP03_0009PE		The ACS calculated Unemployment Rate = E_UNEMP/civilian	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
							population age 16+ in the labor force	
MP_UNEMP	Unemployment Rate estimate MOE	1	DP03	No	DP03_0009PM			
EP_HBURD	Percentage of housing cost-burdened occupied housing units with annual income less than \$75,000 (30%+ of income spent on housing costs) estimate, 2016-2020 ACS estimate, 2016-2020 ACS	1	SVI and S2503	Yes	$(E_HBURD / S2503_C01_001E) * 100$	(Housing cost-burdened occupied housing units with annual income less than \$75,000 estimate / Occupied housing units estimate) * 100		B19301_001E
MP_HBURD	Percentage of housing cost-burdened occupied housing units with annual income less than \$75,000 (30%+ of income spent on housing costs) estimate MOE, 2016-2020 ACS	1	SVI and S2503	Yes	$((SQRT(M_HBURD^2 - ((EP_HBURD / 100)^2 * S2503_C01_001M^2))) / S2503_C01_001E) * 100$	$((SQRT(MOE Housing cost-burdened occupied housing units with annual income less than $75,000^2 - ((Estimated proportion of housing cost-burdened occupied housing units with annual income less than $75,000)^2 * MOE Occupied housing units^2))) / Occupied housing units estimate) * 100$		B19301_001M
EP_NOHSDP	Percentage of persons with no high school diploma (age 25+) estimate	1	S0601	No	S0601_C01_033E			
MP_NOHSDP	Percentage of persons with no high school diploma (25+) estimate MOE	1	S0601	No	S0601_C01_033M			
EP_UNINSUR	Percentage uninsured in the	1	S2701	No	S2701_C05_001E		Newly included in Theme 1, was	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	total civilian noninstitutionalized population estimate, 2016-2020 ACS						previously an adjunct variable	
MP_UNINSUR	Percentage uninsured in the total civilian noninstitutionalized population estimate MOE, 2016-2020 ACS	1	S2701	No	S2701_C05_001M		Newly included in Theme 1, was previously an adjunct variable	
EP_AGE65	Percentage of persons aged 65 and older estimate, 2016-2020 ACS	2	S0101	No	S0101_C02_030E			
MP_AGE65	Percentage of persons aged 65 and older estimate MOE, 2016-2020 ACS	2	S0101	No	S0101_C02_030M			
EP_AGE17	Percentage of persons aged 17 and younger estimate, 2016-2020 ACS	2	SVI	No	$(E_AGE17 / E_TOTPOP) * 100$	(Persons aged 17 and younger estimate / Total population estimate) * 100		
MP_AGE17	Percentage of persons aged 17 and younger estimate MOE, 2016-2020 ACS	2	SVI	No	$((SQRT(M_AGE17^2 - ((EP_AGE17 / 100)^2 * M_TOTPOP^2))) / E_TOTPOP) * 100$	$((SQRT(MOE\ Population\ under\ 18\ years^2 - (Estimated\ proportion\ of\ persons\ aged\ 17\ and\ younger^2 * MOE\ Total\ Population^2))) / Total\ population\ estimate) * 100$		
EP_DISABL	Percentage of civilian noninstitutionalized population with a disability estimate, 2016-2020 ACS	2	DP02	Yes	DP02_0072PE			DP02_0071PE
MP_DISABL	Percentage of civilian noninstitutionalized	2	DP02	Yes	DP02_0072PM			DP02_0071PM

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	population with a disability estimate MOE, 2016-2020 ACS							
EP_SNGPNT	Percentage of single-parent households with children under 18 estimate, 2016-2020 ACS	2	SVI	No	$(E_SNGPNT / E_HH) * 100$	(Single-parent household with children under 18 estimate / Households estimate) * 100		
MP_SNGPNT	Percentage of single-parent households with children under 18 estimate MOE, 2016-2020 ACS	2	SVI	No	$((\sqrt{M_SNGPNT^2 - ((EP_SNGPNT / 100)^2 * M_HH^2)}) / E_HH) * 100$	$((\sqrt{MOE \text{ Single-parent households}^2 - (Estimated \text{ proportion of single-parent households}^2 * MOE \text{ Households}^2)}) / \text{Households estimate}) * 100$		
EP_LIMENG	Percentage of persons (age 5+) who speak English "less than well" estimate, 2016-2020 ACS	2	SVI and B16005	No	$(E_LIMENG / B16005_001E) * 100$	(Persons who speak English "less than well" estimate / Population age 5 and over estimate) * 100	Newly included in Theme 2, removed from Theme 3	
MP_LIMENG	Percentage of persons (age 5+) who speak English "less than well" estimate MOE, 2016-2020 ACS	2	SVI and B16005	No	$((\sqrt{M_LIMENG^2 - ((EP_LIMENG / 100)^2 * B16005_001M^2)}) / B16005_001E) * 100$	$((\sqrt{MOE \text{ Persons who speak English "less than well"}^2 - (Estimated \text{ proportion of persons who speak English "less than well"}^2 * MOE \text{ population age 5 and over}^2)}) / \text{Population age 5 and over estimate}) * 100$	Newly included in Theme 2, removed from Theme 3	
EP_MINRTY	Percentage minority (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native	3	SVI	No	$(E_MINRTY / E_TOTPOP) * 100$	(Minority estimate / Total population estimate) * 100		

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino) estimate, 2016-2020 ACS							
MP_MINRTY	Percentage minority (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino) estimate MOE, 2016-2020 ACS	3	SVI	No	$\frac{((\text{SQRT}(M_MINRTY^2 - ((EP_MINRTY / 100)^2 * M_TOTPOP^2))) / E_TOTPOP) * 100}$	$((\text{SQRT}(\text{MOE Minority}^2 - (\text{Estimated proportion of minority}^2 * \text{MOE Total population}^2))) / \text{Total population estimate}) * 100$		
EP_MUNIT	Percentage of housing in structures with 10 or more units estimate	4	SVI	No	$(E_MUNIT / E_HU) * 100$	$(\text{Housing in structures with 10 or more units estimate} / \text{Housing units estimate}) * 100$		
MP_MUNIT	Percentage of housing in structures with 10	4	SVI	No	$\frac{((\text{SQRT}(M_MUNIT^2 - ((EP_MUNIT / 100)^2 * M_HU^2))) / E_HU) * 100}$	$((\text{SQRT}(\text{MOE Housing in structures with 10 or more units}^2 - (\text{Estimated proportion of housing in structures with 10 or more units}^2$		

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	or more units estimate MOE					* MOE Housing units^2))) / Housing units estimate) * 100		
EP_MOBILE	Percentage of mobile homes estimate	4	DP04	No	DP04_0014PE			
MP_MOBILE	Percentage of mobile homes estimate MOE	4	DP04	No	DP04_0014PM			
EP_CROWD	Percentage of occupied housing units with more people than rooms estimate	4	SVI and DP04	No	(E_CROWD / DP04_0002E) * 100	(Occupied housing units with more people than rooms estimate / Occupied housing units estimate) * 100		
MP_CROWD	Percentage of occupied housing units with more people than rooms estimate MOE	4	SVI and DP04	No	((SQRT (M_CROWD^2 - ((EP_CROWD / 100)^2 * DP04_0002M ^2))) / DP04_0002E) * 100	((SQRT(MOE Occupied housing units with more people than rooms^2 - (Estimated proportion of occupied housing units with more people than rooms^2 * MOE Occupied housing units^2))) / Occupied housing units estimate) * 100		
EP_NOVEH	Percentage of households with no vehicle available estimate	4	DP04	No	DP04_0058PE			
MP_NOVEH	Percentage of households with no vehicle available estimate MOE	4	DP04	No	DP04_0058PM			
EP_GROUPQ	Percentage of persons in group quarters estimate, 2016-2020 ACS	4	SVI	No	(E_GROUPQ / E_TOTPOP) * 100	(Persons in group quarters estimate / Total population estimate) * 100		
MP_GROUPQ	Percentage of persons in group quarters estimate MOE, 2016-2020 ACS	4	SVI	No	((SQRT (M_GROUPQ^2 - ((EP_GROUPQ / 100)^2 * M_TOTPOP^2))) / E_TOTPOP) * 100	((SQRT(MOE Persons in group quarters^2 - (Estimated proportion of persons in group quarters^2 * MOE Total population^2))) / Total population estimate) * 100		
EPL_POV150	Percentile percentage of	1	SVI	Yes	In Excel: PERCENTRANK.INC on			In Excel: PERCENTRANK.INC

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	persons below 150% poverty estimate				EP_POV150 array with 4 significant digits			on EP_POV array with 4 significant digits
EPL_UNEMP	Percentile percentage of civilian (age 16+) unemployed estimate	1	SVI	No	In Excel: PERCENTRANK.INC on EP_UNEMP array with 4 significant digits			
EPL_HBURD	Percentile percentage of housing cost-burdened occupied housing units estimate	1	SVI	Yes	In Excel: PERCENTRANK.INC on EP_HBURD array with 4 significant digits			In Excel: 1-(PERCENTRANK.INC on EP_PCI array with 4 significant digits)
EPL_NOHSDP	Percentile percentage of persons with no high school diploma (age 25+) estimate	1	SVI	No	In Excel: PERCENTRANK.INC on EP_NOHSDP array with 4 significant digits			
EPL_UNINSUR	Percentile percentage of uninsured estimate	1	SVI	Yes	In Excel: PERCENTRANK.INC on EP_UNINSUR array with 4 significant digits		Newly included in Theme 1	
SPL_THEME1	Sum of series for Socioeconomic Status theme	1	SVI	Yes	EPL_POV150 + EPL_UNEMP + EPL_HBURD + EPL_NOHSDP + EPL_UNINSUR			EPL_POV + EPL_UNEMP + EPL_PCI + EPL_NOHSDP
RPL_THEME1	Percentile ranking for Socioeconomic Status theme summary	1	SVI	No	In Excel: PERCENTRANK.INC on SPL_THEME1 array with 4 significant digits			
EPL_AGE65	Percentile percentage of persons aged 65 and older estimate	2	SVI	No	In Excel: PERCENTRANK.INC on EP_AGE65 array with 4 significant digits			
EPL_AGE17	Percentile percentage of persons aged 17	2	SVI	No	In Excel: PERCENTRANK.INC on			

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	and younger estimate				EP_AGE17 array with 4 significant digits			
EPL_DISABL	Percentile percentage of civilian noninstitutionalized population with a disability estimate	2	SVI	No	In Excel: PERCENTRANK.INC on EP_DISABL array with 4 significant digits			
EPL_SNGPNT	Percentile percentage of single-parent households with children under 18 estimate	2	SVI	No	In Excel: PERCENTRANK.INC on EP_SNGPNT array with 4 significant digits			
EPL_LIMENG	Percentile percentage of persons (age 5+) who speak English "less than well" estimate	2	SVI	No	In Excel: PERCENTRANK.INC on EP_LIMENG array with 4 significant digits		Newly included in Theme 2, removed from Theme 3	
SPL_THEME2	Sum of series for Household Characteristics theme	2	SVI	Yes	EPL_AGE65 + EPL_AGE17 + EPL_DISABL + EPL_SNGPNT + EPL_LIMENG			EPL_AGE65 + EPL_AGE17 + EPL_DISABL + EPL_SNGPNT
RPL_THEME2	Percentile ranking for Household Characteristics theme summary	2	SVI	No	In Excel: PERCENTRANK.INC on SPL_THEME2 array with 4 significant digits			
EPL_MINRTY	Percentile percentage minority (Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino;	3	SVI	No	In Excel: PERCENTRANK.INC on EP_MINRTY array with 4 significant digits			

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino) estimate							
SPL_THEME3	Sum of series for Racial and Ethnic Minority Status theme	3	SVI	Yes	EPL_MINRTY			EPL_MINRTY + EPL_LIMENG
RPL_THEME3	Percentile ranking for Racial and Ethnic Minority Status theme	3	SVI	No	In Excel: PERCENTRANK.INC on SPL_THEME3 array with 4 significant digits			
EPL_MUNIT	Percentile percentage housing in structures with 10 or more units estimate	4	SVI	No	In Excel: PERCENTRANK.INC on EP_MUNIT array with 4 significant digits			
EPL_MOBILE	Percentile percentage mobile homes estimate	4	SVI	No	In Excel: PERCENTRANK.INC on EP_MOBILE array with 4 significant digits			
EPL_CROWD	Percentile percentage households with more people than rooms estimate	4	SVI	No	In Excel: PERCENTRANK.INC on EP_CROWD array with 4 significant digits			
EPL_NOVEH	Percentile percentage households with no vehicle available estimate	4	SVI	No	In Excel: PERCENTRANK.INC on EP_NOVEH array with 4 significant digits			
EPL_GROUPQ	Percentile percentage of	4	SVI	No	In Excel: PERCENTRANK.INC on			

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	persons in group quarters estimate				EP_GROUPQ array with 4 significant digits			
SPL_THEME4	Sum of series for Housing Type/ Transportation theme	4	SVI	No	EPL_MUNIT + EPL_MOBIL + EPL_CROWD + EPL_NOVEH + EPL_GROUPQ			
RPL_THEME4	Percentile ranking for Housing Type/ Transportation theme	4	SVI	No	In Excel: PERCENTRANK.INC on SPL_THEME4 array with 4 significant digits			
SPL_THEMES	Sum of series themes		SVI	No	SPL_THEME1 + SPL_THEME2 + SPL_THEME3 + SPL_THEME4			
RPL_THEMES	Overall percentile ranking		SVI	No	In Excel: PERCENTRANK.INC on SPL_THEMES array with 4 significant digits			
F_POV150	Flag - the percentage of persons below 150% poverty is in the 90th percentile (1 = yes, 0 = no)	1	SVI	Yes	EPL_POV150 >= 0.90			EPL_POV >= 0.90
F_UNEMP	Flag - the percentage of civilian unemployed is in the 90th percentile (1 = yes, 0 = no)	1	SVI	No	EPL_UNEMP >= 0.90			
F_HBURD	Flag - the percentage of housing cost-burdened occupied housing units is in the 90th percentile (1 = yes, 0 = no)	1	SVI	Yes	EPL_HBURD >= 0.90			EPL_PCI >= 0.90
F_NOHSDP	Flag - the percentage of	1	SVI	No	EPL_NOHSDP >= 0.90			

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	persons with no high school diploma is in the 90th percentile (1 = yes, 0 = no)							
F_UNINSUR	Flag - the percentage of uninsured is in the 90th percentile (1 = yes, 0 = no)	1	SVI	Yes	EPL_UNINSUR >= 0.90		Newly included in Theme 1	
F_THEME1	Sum of flags for Socioeconomic Status theme	1	SVI	Yes	F_POV150 + F_UNEMP + F_HBURD + F_NOHSDP + F_UNINSUR			F_POV + F_UNEMP + F_PCI + F_NOHSDP
F_AGE65	Flag - the percentage of persons aged 65 and older is in the 90th percentile (1 = yes, 0 = no)	2	SVI	No	EPL_AGE65 >= 0.90			
F_AGE17	Flag - the percentage of persons aged 17 and younger is in the 90th percentile (1 = yes, 0 = no)	2	SVI	No	EPL_AGE17 >= 0.90			
F_DISABL	Flag - the percentage of persons with a disability is in the 90th percentile (1 = yes, 0 = no)	2	SVI	No	EPL_DISABL >= 0.90			
F_SNGPNT	Flag - the percentage of single-parent households is in the 90th percentile (1 = yes, 0 = no)	2	SVI	No	EPL_SNGPNT >= 0.90			
F_LIMENG	Flag - the percentage those	2	SVI	No	EPL_LIMENG >= 0.90		Newly included in Theme 2,	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	with limited English is in the 90th percentile (1 = yes, 0 = no)						removed from Theme 3	
F_THEME2	Sum of flags for Household Characteristics theme	2	SVI	Yes	F_AGE65 + F_AGE17 + F_DISABL + F_SNGPNT + F_LIMENG			F_AGE65 + F_AGE17 + F_DISABL + F_SNGPNT
F_MINRTY	Flag - the percentage of minority is in the 90th percentile (1 = yes, 0 = no)	3	SVI	No	EPL_MINRTY >= 0.90			
F_THEME3	Sum of flags for Racial and Ethnic Minority Status theme	3	SVI	Yes	F_MINRTY			F_MINRTY + F_LIMENG
F_MUNIT	Flag - the percentage of households in multi-unit housing is in the 90th percentile (1 = yes, 0 = no)	4	SVI	No	EPL_MUNIT >= 0.90			
F_MOBILE	Flag - the percentage of mobile homes is in the 90th percentile (1 = yes, 0 = no)	4	SVI	No	EPL_MOBILE >= 0.90			
F_CROWD	Flag - the percentage of crowded households is in the 90th percentile (1 = yes, 0 = no)	4	SVI	No	EPL_CROWD >= 0.90			
F_NOVEH	Flag - the percentage of households with no vehicles is in the	4	SVI	No	EPL_NOVEH >= 0.90			

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	90th percentile (1 = yes, 0 = no)							
F_GROUPQ	Flag - the percentage of persons in group quarters is in the 90th percentile (1 = yes, 0 = no)	4	SVI	No	EPL_GROUPQ >= 0.90			
F_THEME4	Sum of flags for Housing Type/ Transportation theme	4	SVI	No	F_MUNIT + F_MOBILE + F_CROWD + F_NOVEH + F_GROUPQ			
F_TOTAL	Sum of flags for the four themes	4	SVI	No	F_THEME1 + F_THEME2 + F_THEME3 + F_THEME4			
E_DAYPOP	Adjunct variable - Estimated daytime population, LandScan 2020		N/A	No		Derived from LandScan 2020 - http://web.ornl.gov/sci/landscan/index.shtml . We followed ORNL's instructions for processing in ArcGIS, loading the LandScan grid first and maintaining WGS84 projection parameters. Using Spatial Analyst, we ran the Zonal Statistics as Table function to sum estimated daytime population for each LandScan raster cell to obtain an estimated daytime population for each SVI 2020 census tract.	Tracts having no LandScan cells that overlay have been assigned null values (i.e. -999).	
E_NOINT	Adjunct variable - Households without a computer with a broadband Internet subscription estimate, 2016-2020 ACS		S2802	N/A	S2802_C01_001E - S2802_C02_001E	Total population in households estimate – Total population in households with a computer with a broadband Internet subscription estimate	Newly included adjunct data	
M_NOINT	Adjunct variable - Households without a computer with a broadband Internet		S2802	N/A	SQRT (S2802_C01_001M ^2 - S2802_C02_001M ^2)	SQRT(MOE Total population in households^2 - MOE Total population in households with a computer with a broadband Internet subscription^2)	Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	subscription estimate MOE, 2016-2020 ACS							
E_AFAM	Adjunct variable - Black/African American, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0078E		Newly included adjunct data	
M_AFAM	Adjunct variable - Black/African American, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0078M		Newly included adjunct data	
E_HISP	Adjunct variable – Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0071E		Newly included adjunct data	
M_HISP	Adjunct variable – Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0071M		Newly included adjunct data	
E_ASIAN	Adjunct variable – Asian, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0080E		Newly included adjunct data	
M_ASIAN	Adjunct variable – Asian, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0080M		Newly included adjunct data	
E_AIAN	Adjunct variable - American Indian or Alaska Native, not Hispanic or Latino		DP05	N/A	DP05_0079E		Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	persons estimate, 2016-2020 ACS							
M_AIAN	Adjunct variable - American Indian or Alaska Native, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0079M		Newly included adjunct data	
E_NHPI	Adjunct variable - Native Hawaiian or Other Pacific Islander, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0081E		Newly included adjunct data	
M_NHPI	Adjunct variable - Native Hawaiian or Other Pacific Islander, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0081M		Newly included adjunct data	
E_TWOMORE	Adjunct variable - Two or more races, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0083E		Newly included adjunct data	
M_TWOMORE	Adjunct variable - Two or more races, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0083M		Newly included adjunct data	
E_OTHERRACE	Adjunct variable - Some other race, not Hispanic or Latino persons		DP05	N/A	DP05_0082E		Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	estimate, 2016-2020 ACS							
M_OTHERRACE	Adjunct variable - Some other race, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0082M		Newly included adjunct data	
EP_NOINT	Adjunct variable - Percentage of households without a computer with a broadband Internet subscription estimate, 2016-2020 ACS		S2802	N/A	$(E_NOINT / S2802_C01_001E) * 100$	(Households without a computer with a broadband Internet subscription estimate / Households estimate) * 100	Newly included adjunct data	
MP_NOINT	Adjunct variable - Percentage of households without a computer with a broadband Internet subscription estimate MOE, 2016-2020 ACS		S2802	N/A	$((SQRT(M_NOINT^2 - ((EP_NOINT / 100)^2 * S2802_C01_001M^2))) / S2802_C01_001M) * 100$	$((SQRT(MOE Households without a computer with a broadband Internet subscription^2 - ((Estimated proportion of households without a computer with a broadband Internet subscription estimate^2 * MOE Households^2))) / Households estimate) * 100$	Newly included adjunct data	
EP_AFAM	Adjunct variable - Percentage of Black/African American, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0078PE		Newly included adjunct data	
MP_AFAM	Adjunct variable - Percentage of Black/African American, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0078PM		Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
EP_HISP	Adjunct variable - Percentage of Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0071PE		Newly included adjunct data	
MP_HISP	Adjunct variable - Percentage of Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0071PM		Newly included adjunct data	
EP_ASIAN	Adjunct variable - Percentage of Asian, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0080PE		Newly included adjunct data	
MP_ASIAN	Adjunct variable - Percentage of Asian, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0080PM		Newly included adjunct data	
EP_AIAN	Adjunct variable - Percentage of American Indian or Alaska Native, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0079PE		Newly included adjunct data	
MP_AIAN	Adjunct variable - Percentage of American Indian or Alaska Native, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0079PM		Newly included adjunct data	
EP_NHPI	Adjunct variable - Percentage of		DP05	N/A	DP05_0081PE		Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	Native Hawaiian or Other Pacific Islander, not Hispanic or Latino persons estimate, 2016-2020 ACS							
MP_NHPI	Adjunct variable - Percentage of Native Hawaiian or Other Pacific Islander, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0081PM		Newly included adjunct data	
EP_TWOMORE	Adjunct variable - Percentage of two or more races, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0083PE		Newly included adjunct data	
MP_TWOMORE	Adjunct variable - Percentage of two or more races, not Hispanic or Latino persons estimate MOE, 2016-2020 ACS		DP05	N/A	DP05_0083PM		Newly included adjunct data	
EP_OTHERRACE	Adjunct variable - Percentage of some other race, not Hispanic or Latino persons estimate, 2016-2020 ACS		DP05	N/A	DP05_0082PE		Newly included adjunct data	
MP_OTHERRACE	Adjunct variable - Percentage of some other race, not Hispanic or Latino persons estimate		DP05	N/A	DP05_0082PM		Newly included adjunct data	

2020 VARIABLE NAME	2020 DESCRIPTION	THEME	CENSUS or SVI TABLE(S)	FIELD NAME CHANGED SINCE 2018?	2020 TABLE FIELD CALCULATION	CALCULATION DESCRIPTION	NOTES	2018 TABLE FIELD CALCULATION if changed
	MOE, 2016-2020 ACS							

Appendix E
Vulnerable Populations
Workshop



Georgia Emergency Management Agency

“Understanding Georgia’s Vulnerable Populations Risk To Disasters”

WELCOME



Georgia Emergency Management Agency

“Understanding Georgia’s Vulnerable Populations Risk To Disasters”

INTRODUCTIONS

Hazard Mitigation - Contact Information

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Supervisor

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alicia.schoening@gema.ga.gov

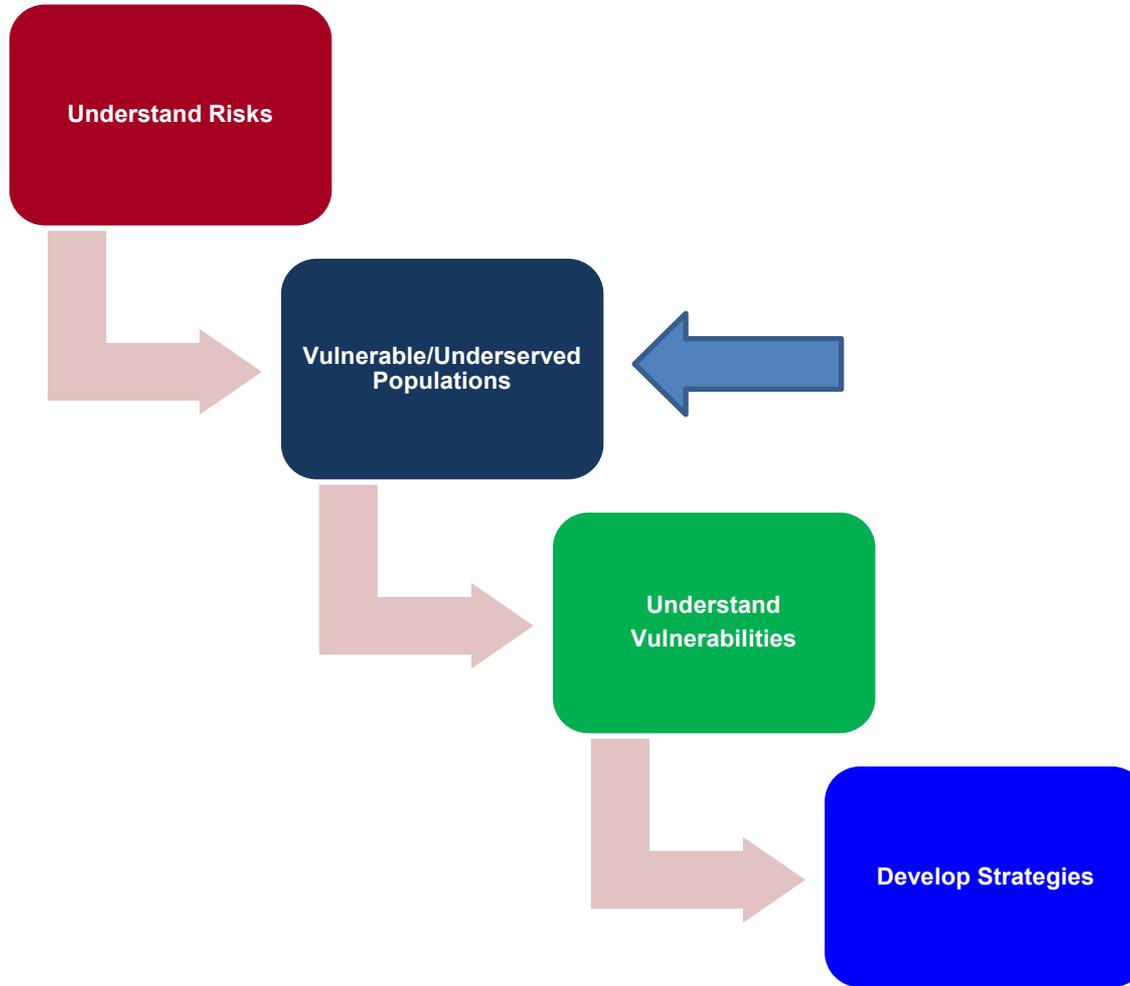


Workshop Process

- Goal is to bring together stakeholders to share information and develop risk reduction strategies
- 4 Workshops
- Open to all stakeholders
- Designed to engage and inform
- Each builds off the previous



Workshop Process



Today's Workshop

- **Understand the vulnerability of Georgia's underserved and socially vulnerable populations**
 - **Who are our socially vulnerable / underserved populations?**
 - **How are they vulnerable?**
 - **What changes are occurring that might make them more vulnerable?**
 - **Are there gaps or unmet needs in mitigation efforts?**
 - **What steps can we take to address these gaps?**



What is Hazard Mitigation?

Hazard Mitigation is “any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazard events”.



Natural Hazards In Georgia

- **Tornado**
- **Inland Flooding**
- **Hurricane Wind (Tropical Cyclone)**
- **Severe Weather (Thunderstorms, lightning, hail)**
- **Coastal Hazards (Storm Surge, coastal flooding)**
- **Drought**
- **Severe Winter Weather**
- **Wildfire**
- **Wind**
- **Extreme Heat**
- **Dam Failure**
- **Seismic Hazards**
- **Geologic Hazards (Sinkholes, landslides, debris flows)**



Non-Natural Hazards In Georgia

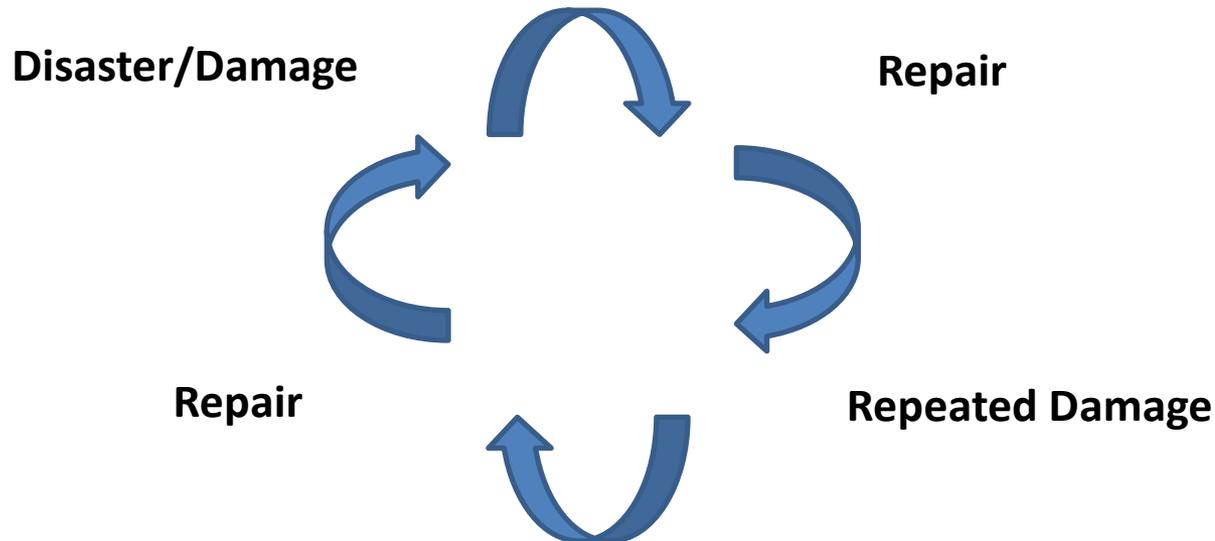
- **Infrastructure Failure**
- **Cyber Attack**
- **Hazardous Materials Spills / Release**
- **Active Shooter**
- **Infectious Disease**
- **Radiological Release**



Hazard Mitigation Concepts

Hazard Mitigation is the phase of emergency management that is dedicated to breaking the cycle of damage, reconstruction, and repeated damage.

Hazard Mitigation measures reduce the potential for loss of life, property damage, interruption of business, commerce, and public services.



Preventative Measures

Brantley County Disaster Recovery and Redevelopment Plan

BASE PLAN



- **Actions to address future development**
 - **Planning and zoning regulations**
 - **Land use regulations**
 - **Storm water management**
 - **Capital Improvements Plan**
 - **Updating and enforcing building codes**
 - **Post-Disaster Redevelopment Plan**



**STORMWATER
DIVISION**



Property Protection

- **Actions to modify existing buildings to reduce risk**

- **Acquisition**
- **Relocation**
- **Retrofitting**
- **Floodproofing**
- **Elevation**
- **Generators**



Structural Projects

- **Actions to construct man made structures to control hazards**
 - **Detention/retention structures**
 - **Bridge upgrades**
 - **Culvert resizing/replacement**
 - **Channel modifications**
 - **Flood walls**
 - **Safe rooms**
 - **Dam rehabilitations**



–Before

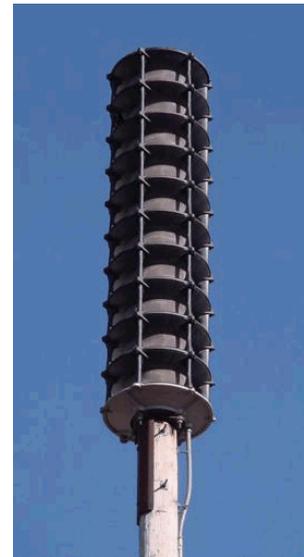


–After



Education and Awareness

- **Actions to inform public about hazards and mitigation**
 - **Website**
 - **Publicity through media**
 - **Presentations to interested groups and NGO's**
 - **Warning Systems**



Types of Mitigation Projects

- Eligible Project Types
 - Voluntary property acquisition and structure demolition or relocation
 - Structure Elevation
 - Mitigation Reconstruction
 - Dry Floodproofing
 - Generators for Critical Facilities
 - Flood Risk Reduction Projects
 - Structural and non-structural retrofitting of existing buildings and facilities
 - Community safe room construction
 - Infrastructure Retrofit
 - Soil Stabilization
 - Wildfire Mitigation, including reforestation
 - Initiative Projects (HMGP Only)
 - State and local plan updates



Hazard Mitigation Assistance



FEMA Hazard Mitigation Grants

Post-disaster

- **Hazard Mitigation Grant Program (HMGP)**

Pre-disaster

- **Building Resilient Infrastructure and Communities (BRIC)**
- **Flood Mitigation Assistance (FMA)**



Mitigation through the HMGP (Section 404)

The Hazard Mitigation Grant Program is a post-disaster grant program that:

- is 75% federal/25% non-federal cost share;
- can fund mitigation measures that protect both public and private property;
- must be cost effective (*benefit-cost ratio greater than 1.0*), and comply with all Federal and State program guidelines; and
- may use 7% of allocation for planning, up to 5% for initiative, and the remainder for projects.
- GEMA/HS currently accepting pre-applications



Pre-Disaster Grants

Building Resilient Infrastructure & Communities (BRIC)

- BRIC is a new FEMA pre-disaster hazard mitigation program that replaces the legacy Pre-Disaster Mitigation (PDM) program.
- Awarded via annual nationwide competition
- GEMA/HS currently accepting pre-applications
- BRIC Principles
 - supporting communities through capability- and capacity-building
 - encouraging and enabling innovation; promoting partnerships
 - enabling large projects
 - maintaining flexibility
 - and providing consistency



Pre-Disaster Grants

Flood Mitigation Assistance (FMA)

- Awarded via annual nationwide competition
- GEMA/HS currently accepting pre-applications
- Reduce claims against Flood Insurance Fund
- Severe Repetitive Loss Properties (100% federal funding)
- Repetitive Loss Properties (90% federal funding)



Eligible Applicants

<u>Entity</u>	<u>HMGP</u>	<u>BRIC</u>	<u>FMA</u>
State Government	✓	✓	✓
Tribal Government	✓	✓	✓
Local Government	✓	✓	✓
Private Nonprofits	✓		



Group Discussion

GROUP DISCUSSION



Today's Workshop

- **Understand the vulnerability of Georgia's underserved and socially vulnerable populations**
 - **Who are our socially vulnerable / underserved populations?**
 - **How are they vulnerable?**
 - **What changes are occurring that might make them more vulnerable?**
 - **Are there gaps or unmet needs in mitigation efforts?**
 - **What steps can we take to address these gaps?**



Support to vulnerable populations Questionnaire

Name Kathy Shemwell

Organization Southwest Georgia COAD
(SWGACOAD)

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

State of Georgia (GEMA Area 2 specified)

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income Individuals Experiencing Homelessness Elderly
 Minorities Non-English Speaking Other (Please Provide Below)

Under educated
precariously housed
Low Wages
Hearing Impaired
Mental Health Disorders

Q4: How does your organization provide support to vulnerable populations?

Advocacy / linkage to Resources / Communication
Community of local liaison / Build trust to
accept help

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

More support of local COAD's to support + advocate
for their vulnerable populations
As they trust their local community
& are skeptical of outsiders even
when those "outsiders" have good
intent.

Thank you for sharing with us!

Support to vulnerable populations Questionnaire

Name Kelly Shannon Preparedness and Partnerships 404.922.8725
Kelly.Shannon@redcross.org
Organization American Red Cross

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

Nationally, but I cover the state.

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income Individuals Experiencing Homelessness Elderly
(if they are impacted by a disaster, yes.)
 Minorities Non-English Speaking Other (Please Provide Below)

ANYONE impacted by a disaster.

Q3: Does your organization support before or after any of these Hazards identified below?

If yes place an X in the corresponding hazard.

Natural Hazards		
	Pre-Disaster	Post Disaster
Tornado	X	X
Inland Flooding	X	X
Trop Cyclone Wind		X
Severe Weather	X	X
Coastal Hazards		X
Drought		X
Severe Winter Weather	X	X
Wildfire	X	X
Wind	X	X
Extreme Heat	X	X
Dam Failure		X
Seismic Hazards	X	X
Geologic Hazards	X	X
Others:		
home fires	X	X

X

Non-Natural Hazards		
	Pre-Disaster	Post Disaster
Infrastructure Failure		} properly all of these, in some capacity.
Cyber Attack		
HazMat Spills/Release		
Active Shooters		
Infectious Diseases		
Radiological Release		
Others:		

Q4: How does your organization provide support to vulnerable populations?

◦ preparedness training for natural disasters, but mainly focusing on personal preparedness, not as much on mitigation.

◦ On the partnerships side, I'm continuously building up our reach to address mitigation concerns (not yet but soon) and build the network to funnel info both ways. Building the feedback loop.

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

I would love to help everyone connect more on a local level by rallying the local leaders and representatives and working on a plan for training and support.

Let's use the leaders as a force multiplier!

Thank you for sharing with us!

Support to vulnerable populations Questionnaire

Name Travis Stone

Organization FODAL (Friends of Disabled Adults & Children)

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

Both, as our missions focus on a by-case basis depending upon level of damage & availability of connections in affected area

Q2: What types of vulnerable populations do you support?

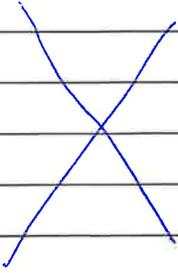
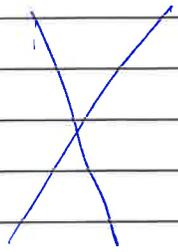
- Indigent/Low Income Individuals Experiencing Homelessness Elderly
 Minorities Non-English Speaking Other (Please Provide Below)

X • People with Disabilities (Physical, Physcosocial, Mental)

Q3: Does your organization support before or after any of these Hazards identified below?

If yes place an X in the corresponding hazard.

Natural Hazards		
	Pre-Disaster	Post Disaster
Tornado	✓ *	✓
Inland Flooding	✓ *	✓
Trop Cyclone Wind	✓ *	✓
Severe Weather	✓ *	✓
Coastal Hazards		
Drought		
Severe Winter Weather		
Wildfire		
Wind		
Extreme Heat		
Dam Failure		
Seismic Hazards		
Geologic Hazards	✓ *	
Others:		
	* = Through Relief Missions ✓ Donations	

Non-Natural Hazards		
	Pre-Disaster	Post Disaster
Infrastructure Failure		
Cyber Attack		
HazMat Spills/Release		
Active Shooters		
Infectious Diseases		
Radiological Release		
Others:		

Q4: How does your organization provide support to vulnerable populations?

• Through missions FOPAL sends out a pre-determined amount of items to a disaster area. Depending on the level of knowledge & connection that FOPAL has on the situation, we will attempt to provide delivery/service for people who have disabilities.

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

For my part, with a "boots-on-the-ground" point of view, I can recommend the following ideas.

• Build Trust: as mentioned in the meeting, certain communities think themselves semi-independent through right of neglect. An effort should be made to put "face time" in those communities to show compassion/willingness to understanding.

• Vanguard Approach: For the pre-disaster phase, there should be an effort made to have material for any/all needs housed in resistant buildings in areas in disaster prone areas & impoverished regions.

• Scouting: For FEMA, it would be pertinent to have a reporting system in place to identify any area with a sizable disabled population and what disability and they are afflicted with.

Thank you for sharing with us!

Support to vulnerable populations Questionnaire

Name Jennifer Hilburn

Organization One Hundred Miles

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

Coastal Georgia

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income
- Individuals Experiencing Homelessness
- Elderly
- Minorities
- Non-English Speaking
- Other (Please Provide Below)

Communities facing development, threat
planning, zoning, sea-level rising
septic/sewage issues
fractured populations divided by development
racist & biased zoning & ordinances

Q3: Does your organization support before or after any of these Hazards identified below?

If yes place an X in the corresponding hazard.

Natural Hazards		
	Pre-Disaster	Post Disaster
Tornado		
Inland Flooding	X	
Trop Cyclone Wind		
Severe Weather	X	
Coastal Hazards	X	
Drought	X	
Severe Winter Weather		
Wildfire		
Wind		
Extreme Heat	X	
Dam Failure		
Seismic Hazards		
Geologic Hazards		
Others:		
environmental	destruction	
	planning	
	advocacy	

Support to vulnerable populations Questionnaire

Name Save Our Legacy Ourself ↘
Organization Maurico Bailey

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

Sapelo Island Georgia

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income Individuals Experiencing Homelessness Elderly
 Minorities Non-English Speaking Other (Please Provide Below)

**Q3: Does your organization support before or after any of these Hazards identified below?
 If yes place an X in the corresponding hazard.**

Natural Hazards		
	Pre-Disaster	Post Disaster
Tornado		
Inland Flooding	X	
Trop Cyclone Wind		
Severe Weather	X	
Coastal Hazards	X	
Drought		
Severe Winter Weather		
Wildfire		
Wind	X	
Extreme Heat		
Dam Failure		
Seismic Hazards		
Geologic Hazards		
Others:		
Sea level rise		
Erosion		
Development		
septic / improper soils		
Water quality		

Non-Natural Hazards		
	Pre-Disaster	Post Disaster
Infrastructure Failure	X	
Cyber Attack		
HazMat Spills/Release		
Active Shooters		
Infectious Diseases		
Radiological Release		
Others:		
food		
etc		food
		clean water
		power / generators

Q4: How does your organization provide support to vulnerable populations?

- providing food resiliency
- providing resources to community members
- living shorelines / mitigation
- home security
- advocacy
- communications
-

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

- provide a technical assistance for
- grant application
 - ~~B~~ of costs
 - flooding
 - ditch cleaning

Thank you for sharing with us!

1/15/18
M. J. ...
E43
...

Support to vulnerable populations Questionnaire

Name SKipper Stipe Maas

Organization Ga Heins Property Law Center, Inc.

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

Georgia only

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income Individuals Experiencing Homelessness Elderly
 Minorities Non-English Speaking Other (Please Provide Below)

Individuals on the verge of homelessness, and
who are housing vulnerable due to heirs property
Law to moderate income up no-cost
services; and a sliding fee-scale for others.

Q4: How does your organization provide support to vulnerable populations?

Heirs Property Resolution:
Legal Support to Clear Title

Heirs Property Prevention:
Estate Planning to prevent heirs Property

Outreach & Education
Emergency planning for disasters &
how & why heirs property is important

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

Funding for direct legal services
to resolve, prevent, & educate heirs property

Thank you for sharing with us!

Support to vulnerable populations Questionnaire

Name Tiffany Reed

Organization Georgia Heirs Property Law Center

Questions:

Directions: Please answer the following questions about your organizations support:

Q1: Does your organization support vulnerable populations nationally or just in the State of Georgia.

State of Georgia

Q2: What types of vulnerable populations do you support?

- Indigent/Low Income Individuals Experiencing Homelessness Elderly
 Minorities Non-English Speaking Other (Please Provide Below)

individuals with heirs property / tangled title

Q4: How does your organization provide support to vulnerable populations?

Legal support - clearing title
Land loss prevention services (estate planning)
Asset Education + outreach

Q5: What could the State do to help fill the gaps in support to vulnerable populations?

funding for direct legal services

Thank you for sharing with us!

Appendix F
Mitigation Strategy Workshop
Results

Coastal Hazards

Planning + Reg

- Reevaluate current regulations to take into account of climate change and sea level rise.
- State minimum of elevation of structures due to sea level rise.

Structure and Infrastructure

- Elevate flood prone ^{or damaged} roadways.
- Sea level sensors / tide gauges.

Natural System

- Remediation and seawalls to protect island communities.

Education and Awareness

Dam Failure

Planning + Regulation

- ^{Planning} Zoning requirement to show inundation zones for dam failure.

Structure and Infrastructure

- Warning sirens downstream

Special tax districts

- Requirement to disclose dams in real estate purchases.

National Systems

sp

Education and Awareness

- Collecting inundation maps.

Dam Failure

Planning + Regulation

- ^{Planning} Zoning requirement to show inundation zones for dam failure.

Structure and Infrastructure

- Warning sirens downstream.

Special tax districts

- Requirement to disclose dams in real estate purchases.

National Systems

sp

Education and Awareness

- Collecting inundation maps.

DROUGHT

Local planning: regs.

structure/infra:

nat system protection:

edu. + awareness:

- regional ^{water councils} planning: identify vulnerability utilize r.p.c. studies to communicate vulnerabilities to communities.
 - ↳ mostly water shortages in particular counties, funded by DNR during planning updates

- water restrictions (locally)

- educate communities of r.p.c. findings
- edu. needs to protect water resources

- water preparedness education

HEAT

Local planning + **regs.** - partner w/ DCA in regard to grants for emergency solution grants for homeless. ●●●●●●

Structure / infra. - microgrid type projects ~ resiliency centers ~ GIEFA providing solar / battery to critical infra. in communities ●●●●

nat system protection -

edu. / aware - cont. working w/ outreach agencies that serve homeless, aging ●●●●
- annual servicing of AC / equipment edu. / new technologies (Smart thermostats, peak-hours) ●

Hurricane Wind

Local Planning + Regulation

- Code Enforcement ●
- Building Codes ●
- Land Use Regulations ●
- Signage ●
- Cabinet Improvement Plans ●
- Manufactured Housing Tie-Downs ●
- Evacuation Routes ●●●

Structure + Infrastructure Projects

- Power Supply + Backup ●
- Storm Shutters ●
- Outdoor Warning Siren ●
- Reverse Notification System ●
- Signage ●

Natural Systems Protection

- Open Space Preservation ●●●●

Education + Awareness Programs

- Signage ●
- Evacuation Routes ●●●●
- Storm Shutters ●

WIND

Flood

Planning and Reg.

- State legislation to have required codes at state and local levels. enforced across all entities ●●●●●●
- Reevaluation of existing flood plans due to climate change and increased development ●●●●●●

Structure and Infrastructure

- GDOT elevation of existing generators in flood prone areas ●
- Program to regularly clear culverts ●●●
- Elevation of generators at lift stations. ●●●●

Natural System Protection

- Remediation and tidal walls to protect natural waterways. ●●●●●

Education and Awareness

- Increase education to broaden awareness of 100 year flood and that it is not just once in 100 years. ●●●●●●
- Develop public outreach initiative through State Park System for all hazards ●●●●●●

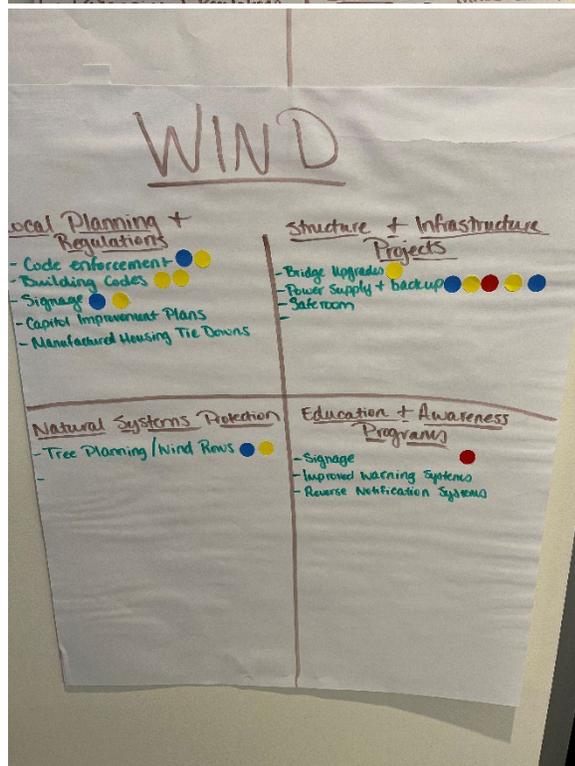
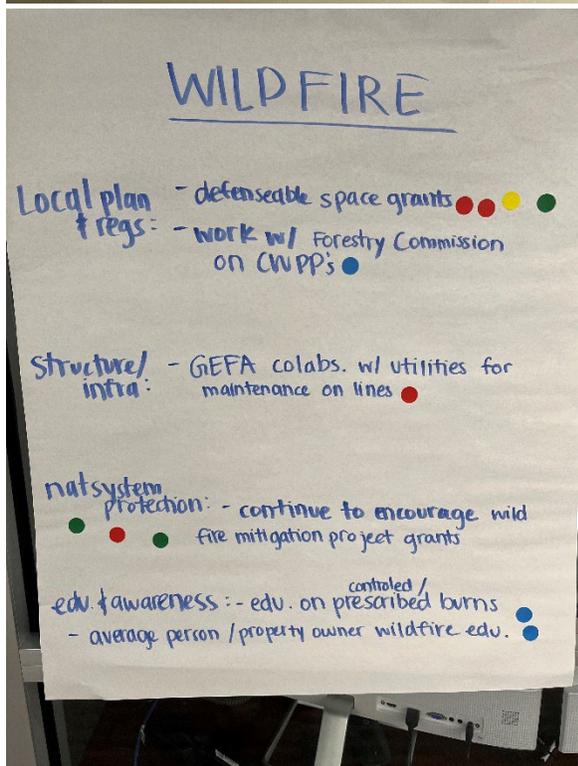
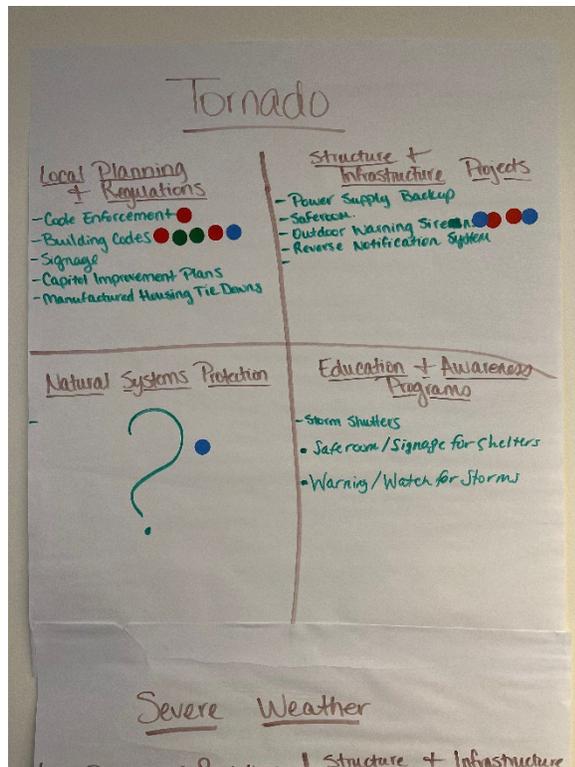
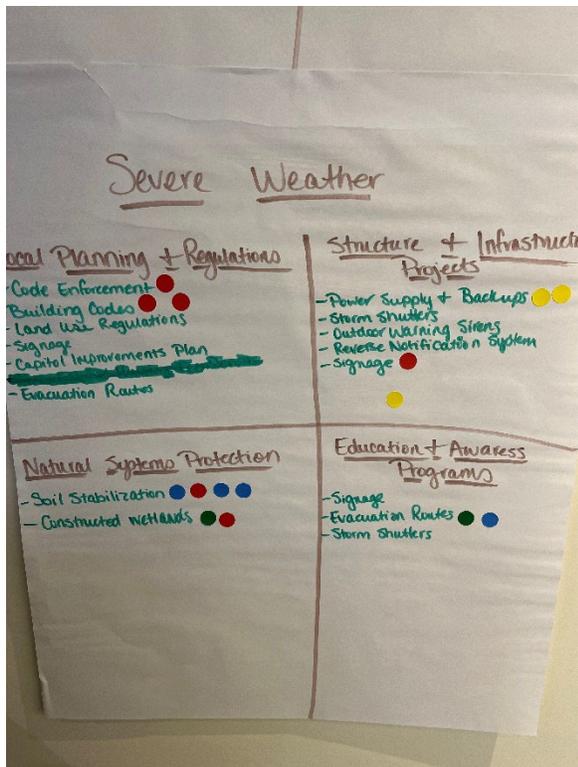
SEISMIC / GEOLOGIC

Local plans: regulations

Structure / infra - building code / permit minimums ~ encourage local govt to adopt + implement ●●●●

nat system protection - consider geological hazard maps in development regulations ●●●●●●

edu. + aware - support "shake out" outreach program - edu. about codes + development regulations - landslides, sinkholes, slopes etc. ●●●●





Winter Weather

Planning + Reg

- Encourage EMCs to bury power line systems.



Structure and Infrastructure

- Increase roadway sensors to detect roadway temperatures.



- Increase number of soft barns.

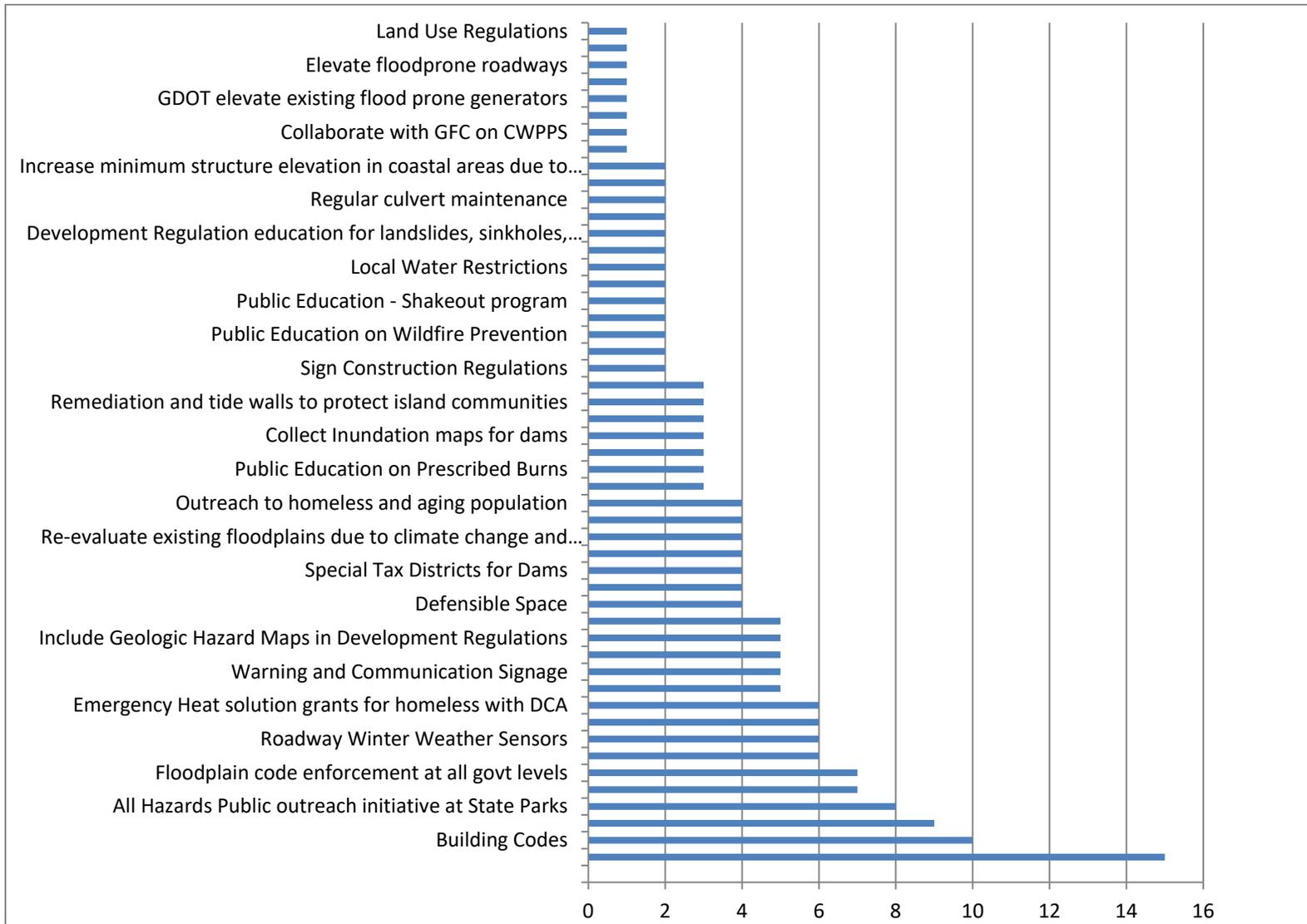
- Increasing the number of generator systems and identifying sites.



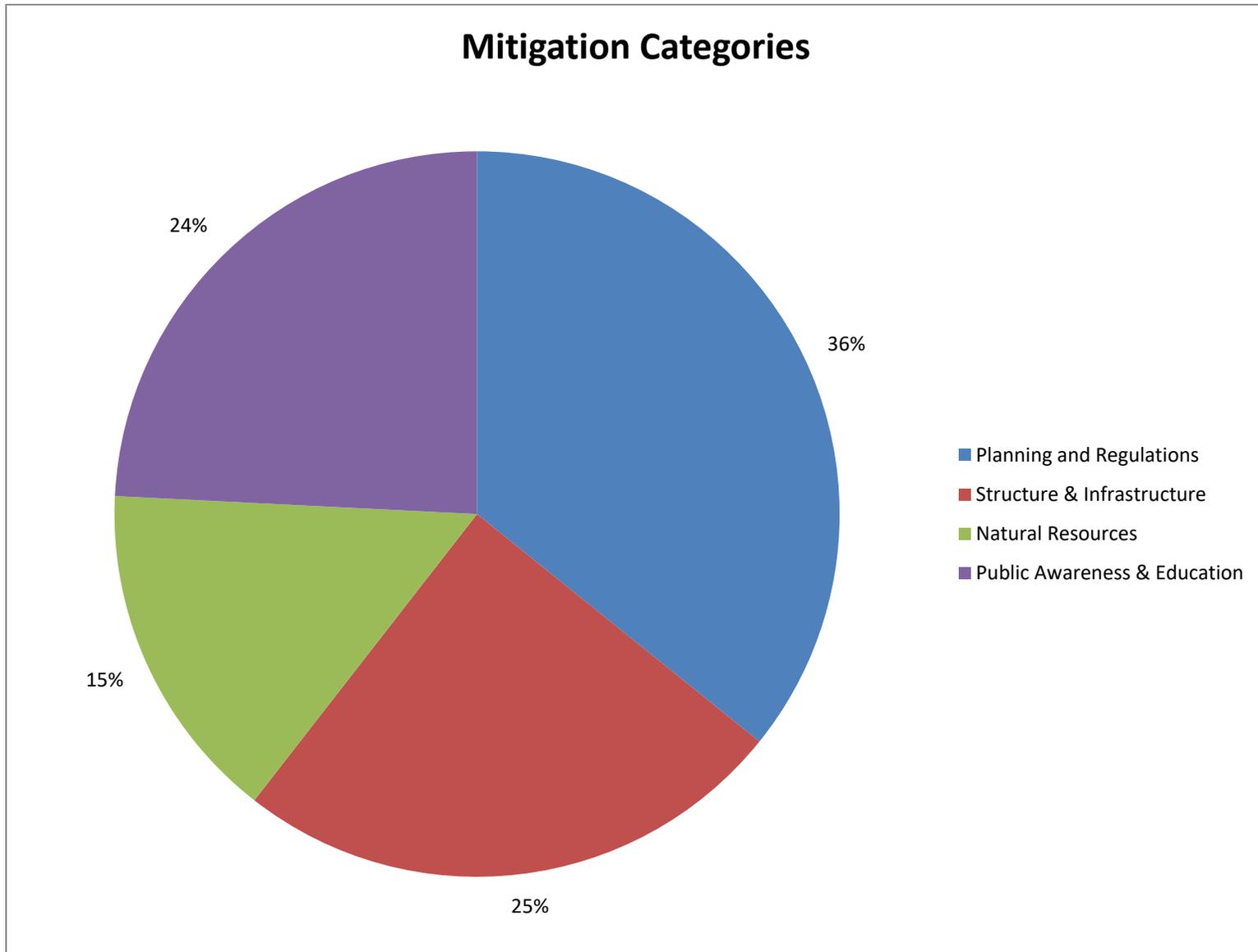
Natural System Protection

Education + Awareness

MITIGATION ACTIONS VOTED ON BY WORKSHOP PARTICIPANTS



MITIGATION ACTION CATEGORIES VOTED ON BY WORKSHOP PARTICIPANTS



Appendix G
Coordination of Mitigation Funding

Hazard Mitigation Assistance (HMA) Score Sheet

Overall Score _____

Applicant: _____

Project Title/ID #: _____

Overall Priority _____

Natural Hazard Exposure (Average for all Properties) 25

Flood	Wind (Miles from Coast)	Tornado (History) _____
Floodway (25)	0-10 Miles (25)	1.09/tornado
AE (20)	10-25 Miles (20)	
A (15)	25-50 Miles (15)	
B,X (shaded) (10)	50-100 Miles (10)	
C, X (unshaded) (0)	>100 Miles (0)	

History of Damage in Project Area (Average for all Properties) 25

5 points per event of documented history (up to 5 events) _____

or BC Module Predicts an Average of

<5 year Hazard Return Interval	25	
>5 and <10 Hazard Return Interval	20	
>10 and <25 Hazard Return Interval	15	
>25 and <50 Hazard Return Interval	10	
>50 and <100 Hazard Return Interval	5	
>100 Hazard Return Interval	0	

Type of Mitigation 5

Non-structural (e.g., floodproofing, retrofitting, elevation, acquisition, development/implementation of codes and standards, etc.) 5

Structural (e.g., flood wall, storm water drainage improvements) 0 _____

Potential Impact on Community 15

Severe (failure to implement project results in loss of life or essential services) 15

Moderate (failure to implement project results

in economic hardship)	7.5	
None (project has minimal or no impact)	0	—
Estimated Environmental Impacts	5	
Insignificant (CATEX)	5	
Moderate (EA required)	2.5	
Major (EIS required)	0	—
Intangible Factors	10	
(Community Commitment to mitigation)		
Storm Ready	1	
CRS Rating (6-10) 1 point for each class	5	
Cost Share arrangements (>25%)	2	
History of mitigation projects	2	
		—
Benefits	15	
1 point per \$500,000 (cap at 15 points)		—
		—
TOTAL POINTS	100	—
Bonus Point Section (for top 5 scoring apps)	10	
Quality of data in the application	10	
Hazard Data (Zone)	2.5	
Damage History	2.5	
Cost Data	2.5	
Environmental (Completeness)	2.5	
(Confidence in source data to validate application information)		—

**Georgia Emergency Management Agency / Homeland Security
Property Acquisition Projects**

Assistance Requesting:

- FMA (Flood Mitigation Assistance)
- BRIC (Building Resilient and Infrastructure Communities)
- HMGP (Hazard Mitigation Grant Program)

If HMGP: FEMA-DR-# _____

Primary Community Lifeline Utilized:

- Safety and Security Energy (power grid, fuel)
- Food, Water, Shelter Communications
- Health and Medical Transportation
- Hazardous Material (HAZMAT)

Community Information:

- Conforms to State Mitigation Plan
- Conforms to Local Mitigation Plan
- State or Local Government Private Non-Profit
- Project Pre-Identified in Local Plan
- Declared County (HMGP only)

Community NFIP/CRS Status:

- NFIP Participating In Good Standing
 - Non-Participating CRS Community
- CRS Community Score: _____

Building Codes:

- Adopted the building codes consistent with the international codes?
Year of Building Code: _____
Building Code Name: _____

- Building codes been assessed on the Building Code Effectiveness Grading Schedule?
BCEGS Score: _____

For state use only:

Date Pre-Application Received _____

State Reviewer _____ Signed _____ Date _____

This worksheet is for all Hazard Mitigation Assistance grant programs “property acquisition” proposals. Please complete ALL sections and provide the documents requested. If you require technical assistance with this worksheet, please contact the Hazard Mitigation Division at (404)-635-7522, gema-hazmitpoc@gema.ga.gov, or at 1-800-TRY-GEMA to have a Risk Reduction Specialist assigned to you. If you have more than one structure, complete a Property Acquisition Worksheet (pages 1-5) for each structure. A Notice of Voluntary Interest form is required from each property owner.

A. Applicant Information

1. **Name of Applicant:** _____

2. **Applicant Type**

- State Government**
- Local Government**
- Private Non-Profit**

3. Worksheet Prepared by:

Ms. Mr. Mrs. **First Name** _____ **Last Name** _____
Title _____ **Telephone** _____
Address (City, State, Zip): _____
E-mail address: _____

4. Authorized Applicant Agent (An individual authorized to sign financial and legal documents on behalf of the local government (e.g., the Chairperson, Board of County Commissioners or the County Manager, etc.).

Ms. Mr. Mrs. **First Name** _____ **Last Name** _____
Title _____ **Telephone** _____
Address (City, State, Zip): _____
E-mail address: _____
Signature: _____ **Date Submitted:** _____

B. Project Information/Mitigation Plan

1. Project Title: _____

2. Project Summary: (Describe in detail what you are proposing to do.)

3. Date of Hazard Mitigation Plan approval by FEMA: _____
This project must be identified in your Hazard Mitigation Plan. Provide a copy of the goal, objective, and action step that supports your project application. Please attach a letter of endorsement for the project from your County's Emergency Management Agency (EMA) Director

NOTE: Participation in an acquisition project must be voluntary on the part of the property owner. Complete a worksheet for each individual property.

Required items to include for property:

- Include color photographs showing a front view, a side views, and a back view of each structure to be acquired. Attach photographs to the worksheet for that property.
- Include the tax parcel map.
- Include a copy of the current tax card.
- Provide a map with the physical location of the building clearly marked.
- Include signed statement of homeowner willingness to voluntarily participate.
- Floodplain certification from the local flood plain administrator
- Attach a substantial damage certificate from local flood plain administrator if damage is >50% property value

I. Property Information

1. **Property Owner:** _____

2. **Physical Address** (including city, and zip code): _____

3. **Digital Latitude:** _____ **Digital Longitude:** _____
***Digital Latitude and Digital Longitude coordinates need to be in Decimal Degrees.**

4. **Tax Parcel Identification Number** (include tax card): _____

5. **Year Built** (include tax assessor verification) _____

6. **Flood Zone Designation** (include FIRM map): **check all zones applicable for the property**
 VE A (no base flood elevation given) C or X (unshaded)
 AE B or X (shaded)
 CBRA Zone Other (describe)

7. **Is the property in the Special Flood Hazard Area?** _____

8. **FIRM Panel Number**

FIRM Panel Number and Map can be generated at this address- <http://map.georgiadfirm.com/>. Follow the steps below after accessing the website.

- Locate by **Coordinate Search**
- Zoom to Point
- (Click on Red Dot) Flood Risk Snapshot
- Click Aerial View (Found on top right of viewer)
- Click Generate Report and Save As
- Once saved, open Adobe Acrobat Pro
- In Adobe select the Comment tab then add annotation with name of building, latitude and longitude
- Save and export into Pre-Application.

9. Name of Flood Source:

10. Base Flood or 100 Year Flood Elevation of Property: _____

(Not applicable if structure is in Flood Zone A, B, C, X)

10. Lowest (Finished) Floor Elevation of Living Area of Principal Structure: _____

Provide documentation such as elevation certificate, letter from registered surveyor, or etc.

(Not required if structure is in Flood Zone A, B, C, X)

II. Structure Information

***Note: You will need to provide the property tax cards for all structures and vacant lots (if applicable) ***

1. Building Type: (check one) Please include color photos of all four sides of the property and structure.

- 1-story w/o basement 2-story w/o basement Split-level w/o basement Split level with basement
 1-story with basement 2-story with basement Mobile Home Other _____

2. Building Use: (check all that apply)

- Primary Residence Rental Property Secondary Residence Commercial Property
 Public Building House of Worship Multi-Family Other _____

3. Does the building have a basement? _____

4. Other Data to Complete BCA

- a. Total Square Footage of Principal Structure (heated or cooled areas only): _____
b. Estimated Cost to Replace Contents: _____
c. Are there accessory or outbuildings on the property? Yes No If Yes, Attached
 Detached
Please describe general properties (location, type of structure – e.g. pole barn, age, value)

d. Number of people in Household: _____

5. Foundation Type

- Slab on Grade Crawl Space Basement Other _____

6. Project Area square feet: _____

III. Project Cost

Project Cost Information	Costs
Pre-Award Costs*	\$
Pre-Event Fair Market Value** (Identify Source):	\$
Estimated Appraisal Costs	\$
Estimated Closing Costs	\$
Estimated Asbestos testing and Abatement Costs	\$
Estimated cost of demolition of structure to slab and debris removal	\$
Estimated property clearance costs to return property to open space	\$
Estimated URA Relocation Assistance	\$
Other Costs for Other Contractual Items	\$

Total Cost to Acquire Property	\$
---------------------------------------	-----------

***Pre-Award Costs:** Costs incurred prior to the date of the grant award. Such costs may be to gather EHP data, for preparing design specifications, or for attending application workshops or meetings related to development and submission of HMGP applications.

1. Is the property currently occupied by renter(s)? Yes No--If No, skip # 3
2. Rental Relocation Assistance \$7,200 x _____ (number of families occupying property) = \$ _____
 - Place the total in Project Cost Information Chart for Estimated URA Relocation Assistance

IV. History of Hazards/Damages to the Property being Acquired

List all current and past damages to the property (including damages to the structure, its contents, and any displacement costs).

Note regarding damage estimates: The date, depth of flooding inside structure, description of damages and cost of repairs/replacement (Amount of Damages) must be specific to ONLY the building under consideration. Additionally, vague information is not useful or acceptable in lieu of specific building damage estimates. The property damages may be a contractor's itemized repair estimate.

Date of Event	Event	Depth of Flooding Inside Structure (Above finished floor)	Description of Damage	Amount of Damages	Insurance Claim File? (Yes / No)

1. Is structure currently insured through the National Flood Insurance Program? Yes No
2. If yes, provide flood copy of flood declarations page
3. Is structure on FEMA's repetitive loss list? Yes No
4. If yes, provide repetitive loss number: _____

Note: The accompanying pages-Declaration and Release, and Voluntary Interest Forms need to be filled out for each household

DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
DECLARATION AND RELEASE

O.M.B. No. 1660-0002
Expires July 31, 2017

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this data collection is estimated to average 2 minutes per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting this form. This collection of information is required to obtain or retain benefits. You are not required to respond to this collection of information unless a valid OMB control number is displayed on this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472-3100, Paperwork Reduction Project (1660-0002)
NOTE: Do not send your completed form to this address.

PRIVACY ACT STATEMENT

AUTHORITY: The Robert T. Stafford Disaster Relief and Emergency Assistance Act as amended, 42 U.S.C. § 5121 -5207 and Reorganization Plan No. 3 of 1978; 4 U.S.C. §§ 2904 and 2906; 4 C.F.R. § 206.2(a)(27); the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (Pub. L. 104-193) and Executive Order 13411. DHS asks for your SSN pursuant to the Debt Collection Improvement Act of 1996, 31 U.S.C. § 3325(d) and § 7701(c) (1).
PRINCIPAL PURPOSE(S): This information is being collected for the primary purpose of determining eligibility and administering financial assistance under a Presidentially-declared disaster. Additionally, information may be reviewed within FEMA for quality assurance purposes and used to assess FEMA's customer service to disaster assistance applicants.
ROUTINE USE(S): The information on this form may be shared outside of FEMA as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes sharing this information with state, tribal, local, and voluntary organizations to enable you to receive additional disaster assistance and as necessary and authorized by other routine uses published in DHS/FEMA-008 Disaster Recovery Assistance Files System of Records, 78 Fed. Reg. 25,282 (April 30, 2013), and upon written request, by agreement, or as required by law.
DISCLOSURE: The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent the individual from receiving disaster assistance.

DECLARATION AND RELEASE

In order to be eligible to receive FEMA Disaster Assistance, a member of the household must be a citizen, non-citizen national or qualified alien of the United States. Please read the form carefully, sign the sheet and return it to the Inspector, and show him/her a current form of photo identification. Please feel free to consult with an attorney or other immigration expert if you have any questions.

I hereby declare, under penalty of perjury that (check one):

- I am a citizen or non-citizen national of the United States.
- I am a qualified alien of the United States.
- I am the parent or guardian of a minor child who resides with me and who is a citizen, non-citizen national or qualified alien of the United States. Print full name and age of minor child: _____

By my signature I certify that:

- * Only one application has been submitted for my household.
- * All information I have provided regarding my application for FEMA disaster assistance is true and correct to the best of my knowledge.
- * I will return any disaster aid money I received from FEMA or the State if I receive insurance or other money for the same loss, or if I do not use FEMA disaster aid money for the purpose for which it was intended.

I understand that, if I intentionally make false statements or conceal any information in an attempt to obtain disaster aid, it is a violation of federal and State laws, which carry severe criminal and civil penalties, including a fine up to \$250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, and 3571).

I understand that the information provided regarding my application for FEMA disaster assistance may be subject to sharing within the Department of Homeland Security (DHS) including, but not limited to, the Bureau of Immigration and Customs Enforcement.

I authorize FEMA to verify all information given by me about my property/place of residence, income, employment and dependents in order to determine my eligibility for disaster assistance; and

I authorize all custodians of records of my insurance, employer, any public or private entity, bank financial or credit data service to release information to FEMA and/or the State upon request.

NAME (print)	SIGNATURE	DATE OF BIRTH	DATE SIGNED
INSPECTOR ID #	FEMA APPLICATION #	DISASTER #	
ADDRESS OF DAMAGED PROPERTY	CITY	STATE	ZIP CODE

FEMA FORM 009-0-3

REPLACES ALL PREVIOUS EDITIONS

National Environmental Policy Act (NEPA) Documents

All projects that receive Federal funding must comply with NEPA and associated Federal, State, and local statutes.

NO WORK can be done on proposed projects before the NEPA review is complete.

Attach the following NEPA documents for the proposed project:

- Erosion and Sediment Control Permit, a Stormwater Management Permit, a Water Quality Permit, and an Air Quality Permit from your community if applicable.
- A letter from the Georgia Department of Transportation (DOT) to ensure that no future, planned improvements or enhancements to the Federal aid systems, or other State transportation projects, are under consideration that will affect the proposed project area (See sample coordination letter enclosed).
- A letter from the Wildlife Resources Division of the Georgia Department of Natural Resources regarding State-listed Threatened or Endangered plant and animal species, their habitat, and if applicable, actions required to mitigate the project's adverse effects.
- A letter from the US Army Corps of Engineers regarding the potential future use of these lands for the construction of flood damage reduction levees, and has chosen to proceed with acquisition of permanent open space. (See sample coordination letter enclosed)
- A letter from the Environmental Protection Division of the Georgia Department of Natural Resources regarding hazardous waste and toxic materials in the project area, and if applicable, actions required to properly handle, transport and dispose the waste/materials.
- A letter from the U.S. Fish and Wildlife Service regarding fish and wildlife, Federal-listed Threatened or Endangered plant or animal species, their habitat, and if applicable, actions required to mitigate (offset) the project's adverse effects.

In addition to the above,

If the project involves disturbing five or more acres of land, attach the following NEPA document:

- A NPDES permit from the U.S Environmental Protection Agency.

E. SAMPLE GA DEPARTMENT OF TRANSPORTATION (DOT) COORDINATION LETTER

DATE

District Engineer
Georgia Department of Transportation

(Check GDOT website for appropriate District Engineer in the Area Office that corresponds with your location)

Follow these steps:

- 1. <http://www.dot.ga.gov/AboutGDOT/Districts>*
- 2. Select your county*
- 3. Contact appropriate Area Office*
- 4. Confirm your District Engineer*

Dear **(Mr. /Mrs.)**:

(Your jurisdiction here) has applied to the Georgia Emergency Management and Homeland Security Agency for a Hazard Mitigation Assistance grant. The HMA program requires a letter from the Georgia Department of Transportation, (GDOT) that states that our proposed project will not adversely impact any future GDOT projects.

This project is located in **(Your jurisdiction here)** at **(address of project)**. The intent of this project is to **(enter description of project here)**. Maps and photographs of the proposed project area are enclosed for your use.

The approximate date of initiation of activities on this project is approximately 18 months from the date of this letter. If you have any questions or comments, please do not hesitate to contact me at **(enter telephone and email address here)**.

Sincerely,

(Name and Title)

Enclosure

cc. Kelsey Goodman
Hazard Mitigation Division
Georgia Emergency Management Agency / Homeland Security

**F. SAMPLE GA DEPARTMENT OF NATURAL RESOURCES (DNR), WILDLIFE RESOURCES DIVISION
COORDINATION LETTER**

DATE

Mrs. Katrina Morris, Environmental Review Coordinator
Nongame Conservation Section
Georgia Department of Natural Resources, Wildlife Resources Division
2065 U.S. Highway 278, Southeast
Social Circle, Georgia 30025

Dear Mrs. Morris:

(Your jurisdiction here) has applied to the Georgia Emergency Management and Homeland Security Agency for a Hazard Mitigation Assistance grant. The Hazard Mitigation Assistance program requires a review and coordination letter State-listed threatened or endangered plant and animal species.

This project is located in **(Your jurisdiction here)** at **(address of project)**. The intent of this project is to **(enter description of project here)**. Maps and photographs of the proposed project area are enclosed for your use.

The approximate date of initiation of activities on this project is approximately 18 months from the date of this letter. If you have any questions or comments, please do not hesitate to contact me at **(enter telephone and email address here)**.

Sincerely,

(Name and Title)

Enclosure

cc. Kelsey Goodman
Hazard Mitigation Division
Georgia Emergency Management Agency/Office of Homeland Security

G. SAMPLE US ARMY CORPS OF ENGINEERS COORDINATION LETTER

DATE

Mr. Jeff Morris
US Army Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

Dear Mr. Morris:

(Your jurisdiction here) has applied to the Georgia Emergency Management and Homeland Security Agency for a Hazard Mitigation Assistance grant. The HMA program requires a coordination letter from the USACE.

This project is located in **(Your jurisdiction here)** at **(address of project)**. The intent of this project is to **(enter description of project here)**. Maps and photographs of the proposed project area are enclosed for your use.

The approximate date of initiation of activities on this project is approximately 18 months from the date of this letter. We need your review to ensure that this project will not impact any potential future use for the construction of a flood levee system (including berms, floodwalls, or dikes). If you have any questions or comments, please do not hesitate to contact me at **(enter telephone and email address here)**.

Sincerely,

(Name and Title)

Enclosure

cc. Kelsey Goodman
Hazard Mitigation Division
Georgia Emergency Management Agency/Office of Homeland Security

**H. SAMPLE GA DEPARTMENT OF NATURAL RESOURCES (DNR), ENVIRONMENTAL PROTECTION DIVISION
COORDINATION LETTER**

DATE

Mr. Jeff Cown, Branch Chief
Environmental Protection Division
Hazardous Waste Management Branch
Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive Southeast
Atlanta, Georgia 30334

Dear Mr. Cown:

(Your jurisdiction here) has applied to the Georgia Emergency Management and Homeland Security Agency for a Hazard Mitigation Assistance grant. The Hazard Mitigation Assistance program requires a review and coordination letter for hazardous waste and toxic materials in the project area.

This project is located in **(Your jurisdiction here)** at **(address of project)**. The intent of this project is to **(enter description of project here)**. Maps and photographs of the proposed project area are enclosed for your use.

The approximate date of initiation of activities on this project is approximately 18 months from the date of this letter. If you have any questions or comments, please do not hesitate to contact me at **(enter telephone and email address here)**.

Sincerely,

(Name and Title)

Enclosure

cc. **Risk Reduction Specialist for the Area**
Hazard Mitigation Division
Georgia Emergency Management Agency/Office of Homeland Security

I. SAMPLE US FISH AND WILDLIFE SERVICE COORDINATION LETTER

DATE

Donald W. Imm, Field Supervisor
RG Stephens, Jr. Federal Building
355 E. Hancock Ave., Rm 320, Box 7
Athens, GA 30601

Dear Mr. Imm:

(Your jurisdiction here) has applied to the Georgia Emergency Management and Homeland Security Agency for a Hazard Mitigation Assistance grant. The Hazard Mitigation Assistance program requires a review and coordination letter regarding fish and wildlife, Federal-listed threatened or endangered plant or animal species, and their habitat in the project area.

This project is located in **(Your jurisdiction here)** at **(address of project)**. The intent of this project is to **(enter description of project here)**. Maps and photographs of the proposed project area are enclosed for your use.

The approximate date of initiation of activities on this project is approximately 18 months from the date of this letter. If you have any questions or comments, please do not hesitate to contact me at **(enter telephone and email address here)**.

Sincerely,

(Name and Title)

Enclosure

cc. **Risk Reduction Specialist for the Area**
Hazard Mitigation Division
Georgia Emergency Management Agency/Office of Homeland Security

THIS SECTION FOR STATE USE ONLY

FEMA- GA -DR / BRIC- _____

Application Complete

In Declared Area

Statewide

Planning

Eligible Applicant

State or Local Government

Private Non-Profit (Tax ID Received)

Community NFIP Status:

Participating Community ID #: _____

State Application ID _____

In Good Standing Non-Participating CRS

Date Application Received _____

State Reviewer _____

Signed _____ Date _____

FEMA Application Hardcopy Submittal Date: _____

FEMA Application Completed NEMIS Entry Date: _____

**** Please submit one signed copy of the application ****

This application is for all Hazard Mitigation Assistance (HMA) programs for a plan update proposal administered by the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). Please complete all sections and provide all information as requested. **Incomplete applications will not be forwarded to FEMA for their review.** If you require assistance with this application, contact Name, Planner at (111) 222-3333.

Applicant Information

1. **Project Title:** HAZARD MITIGATION PLAN UPDATE

2. **Applicant (Organization):** Xyz County

3. **Applicant Type:**

State or Local Government

Recognized Indian Tribe

Private Non-Profit

State Legislative District(s) _____ Congressional District(s) _____

Federal Tax I.D. Number _____ - _____ UEI Number _____

FIPS Code: _____ 99### _____

4. **National Flood Insurance Program CID #:** _____

5. **NFIP Community Rating System Class Number:** _____

6. **Point of Contact:** (Individual responsible for the grant)

Ms. Mr. Mrs. Dr. First Name _____ Last Name _____

Title _____ Telephone _____ Fax _____

Street Address _____

City _____ State GA Zip Code _____

E-mail address _____

7. **Application prepared by** (if different from Point of Contact):

Name _____ Telephone _____ E-mail address _____

8. **Authorized Applicant Agent:** (An individual authorized to sign financial and legal documents on behalf of the local government (e.g., the Chairperson, Board of County Commissioners or the County Manager, etc.)

Ms. Mr. Mrs. Dr. First Name _____ Last Name _____

Title _____ Telephone _____ Fax _____

Street Address _____

City _____ State GA Zip Code _____

E-mail address _____

Signature: _____ Date: _____

I. Project Description – Narrative Statement

A. Mitigation Activity

1. Please describe the strategy for completing this planning activity, including the review process, adoption and FEMA's approval.

XYZ County will form a planning committee comprised of representatives of various county departments, as well as other interested parties, such as outside state and regional agencies, local businesses, residents, the City/Cities of 123, public etc. The committee will be lead by the EMA Director and will meet on a regular basis in order to accomplish the items set forth in the Scope of Work below, including addressing any recommended revisions from the previous plan's review tool. The EMA Director will coordinate the planning process including the meetings, write the plan based on committee findings and work through the State and Federal review and approval process. The EMA Director will coordinate the process of meeting the objectives outlined in the Scope of Work below with the assistance and input of the appropriate committee members and local staff resources as necessary. Outside interested parties will be invited to participate by direct invitation and by public postings and meeting notices. A minimum of two public hearings will be held in order to provide the public an opportunity to comment during the drafting phase and prior to final adoption.

2. Please describe how the applicant will manage the costs and schedule and how successful performance will be ensured.

A budget will be set according to the budget figures in this application to allow for labor on the part of committee members and other staff members and the purchase of necessary materials. Expenses will be incurred according to the budget items and will not exceed the total grant award. This will be tracked by the county as well as the State's grants management system which tracks expenses to date and remaining grant figures. Also, the county will track each budget allocation as expenses are incurred under those allocations to ensure that expenses remain within the allowed budget.

3. Please describe the staff and resources needed to implement this mitigation activity and the applicant's ability to provide these resources.

This planning process involves a variety of staff and expertise, which will be used as necessary. Specifically, expertise will be needed from the Fire Department, Tax Assessor, Building Inspections, Public Health, etc. XYZ County is able to provide the staff resources to meet these needs.

4. Please explain how this mitigation activity will leverage involvement of partners to enhance its outcome.

The planning process will involve the opportunity for outside agencies and public to be a part. This will be done by a combination of direct invitation, public notice and individual meetings with the various agencies as necessary.

5. Please describe the outreach activities that are planned relative to this mitigation activity (signs, press releases, success stories, etc) and/or how this mitigation activity will serve as a model for other communities.

At the outset of the process, the EMA Director will invite various outside State agencies, local businesses, The City/Cities of 123 and others to be a part of the process. In addition, the public will be notified and invited to attend through public notices and a minimum of two public meetings with opportunity for public comment.

6. Please describe how this planning activity will benefit the applicant's constituents.

This activity will benefit the local citizens of XYZ County by providing a current and up to date hazard mitigation plan for XYZ County and the City/Cities of 123, thereby ensuring the County and City's/Cities' eligibility to participate in future mitigation grants.

7. Does your County plan to update your Hazard Mitigation Plan In-House or with the assistance of an outside contractor?
[X] In-House [] Contractor

(If outside contractor selected please describe the duties they will perform to meet the Scope of Work below)

XYZ County intends to complete the plan update in house with the EMA Director to act as the facilitator of the planning process as well as to develop and write the plan update. The EMA Director will attend GEMA/HS Mitigation planning workshops as they are offered.

The EMA Director will meet with GEMA/HS as necessary to discuss the plan development process and construct an invitation list for the larger planning committee.

The County EMA Director will pull together existing data, plans, and EMA capabilities together in a draft report to be discussed by the planning committee. This will include the base HRV analysis provided by GEMA/HS and added to by local data and EMA Director's efforts.

The County EMA Director will Review all hazards to address any newly identified hazards that pose a more significant threat than was apparent when the previously approved plan was prepared and discuss new occurrences of hazard events and update the probability of future occurrences.

The County EMA Director will work with the planning committee to update the current inventory of existing and proposed buildings, infrastructure, and critical facilities in hazard areas.

The County EMA Director will update the loss estimate to reflect any changes to the hazard profile and/or the inventory of structures.

The County EMA Director will analyze, update, and continue development of Goals, Objectives, and Action Steps with the assistance of the planning committee.

The County EMA Director will update the Plan Maintenance and Implementation Section to include an analysis of whether the previously approved plan's method and schedule for monitoring, evaluating, and updating the plan worked, and what elements or processes, if any, were changed; and discuss the method and schedule to be used over the next five years.

The County EMA Director will describe how the community was kept involved during the plan maintenance process over the previous five years, within the planning process section of the plan update and how they will continue public involvement during the planning period.

The County EMA Director will work with the planning committee and GEMA/HS staff throughout the State and Federal plan review process to ensure that, in the end, XYZ County has a federally approved updated hazard mitigation plan.

B. Scope of Work

Xyz County will update its existing Multi-jurisdictional Hazard Mitigation Plan according to the requirements of the Disaster Mitigation Act of 2000. This Scope of Work was designed in conformance to FEMA Plan Guidance requirements.

Xyz County agrees to have representatives attend and participate in all GEMA/HS and local level mitigation planning meetings and workshops. The county will coordinate as needed with the GEMA/HS representative to utilize the tools necessary and to ensure that the plan meets the most current Federal regulations. Each county will be required to complete the following: Critical Facility Inventory and basic mapping will be established in the Georgia Mitigation Information System (GMIS), including running reports by jurisdiction for each identified hazard; GEMA/HS Worksheets 3A for each participating jurisdiction for each identified hazard; high level detail for all mitigation action steps as required by FEMA and GEMA/HS; insure all “recommended revisions” from their previous FEMA Plan review are addressed in the plan update.

Additionally, Xyz County will insure the plan update is consistent with the most current requirements from FEMA, including:

- **Identify all changes to the plan within each section, including revisions to the planning process, risk assessment, goals and objectives, plan maintenance process, etc.**
- **Update the Planning Process**
 - List jurisdictions participating in the plan that seek approval.
 - Describe the process used to review and analyze each section of the plan, as well as the process used to determine if a section warranted an update.
- **Improve the risk assessment**
 - Address any newly identified hazards that pose a more significant threat than was apparent when the previously approved plan was prepared.
 - Discuss new occurrences of hazard events and update the probability of future occurrences.
 - Incorporate new information where data deficiencies were identified in the previous plan, or if the data deficiencies remain unresolved, explain why they remain unresolved and include a schedule to resolve the issue.
 - Include current inventory of existing and proposed buildings, infrastructure, and critical facilities in hazard areas, including existing NFIP Repetitive Loss structures. The community will determine how far into the future they wish to go in considering proposed buildings and Critical Facilities based on and timed with the data gathering phase of their comprehensive plan or land use plan update.
 - Update the loss estimate to reflect any changes to the hazard profile and/or the inventory of structures. Any changes to analysis methodologies must be noted. Any previously noted data deficiencies should be updated or explained.
 - Include a general overview of land uses and types of development occurring within the community and highlight any new and/or relevant information.
 - If there are changes in the risk assessment or the vulnerability of the community to the hazards, the information must be attributed to the appropriate jurisdiction(s) or to the whole planning area, whichever applies.
- **Analyze, update, and continue development of Goals, Objectives, and Action Steps**
 - Use this update as an opportunity for jurisdictions to reconsider the goals and objectives. For goals and actions that remain, the plan must document that they were re-evaluated and deemed valid and effective.
 - Goals and objectives shall include the community’s strategy for new or continued NFIP participation.
 - Continue to use the “STAPLEE Criteria” (Social, Technical, Administrative, Political, Legal, Economic, and Environmental), or incorporate the STAPLEE Criteria if not previously used to assess the value of and develop an understanding of the cost effectiveness of mitigation action steps.
 - Update Action Items. If actions remain unchanged, the updated plan must indicate why changes are not necessary.
 - Shall include evaluation and prioritization for any new mitigation action steps.
- **Update the Plan Maintenance and Implementation**
 - Must include an analysis of whether the previously approved plan’s method and schedule for monitoring, evaluating, and updating the plan worked, and what elements or processes, if any, were changed; and discuss the method and schedule to be used over the next five years.
 - Describe other planning mechanisms or ordinances that this plan will be incorporated into, such as Comprehensive Plans.
- **Information Dissemination**
 - Describe how the community was kept involved during the plan maintenance process over the previous five years, within the planning process section of the plan update.
 - The plan maintenance section shall describe how the community will involve the public during the plan maintenance process over the next five years.
- **Adoption and Review**
 - The plan will be submitted for State review and recommendation prior to adoption.
 - Upon recommendation from GEMA/HS, the county and participating municipalities will adopt the plan.
 - The adopted plan will be submitted for FEMA review and approval.

B. Evaluation Information

1. Current **XYZ** County Hazard Mitigation Plan Approval Date: _____
2. Current **XYZ** County Hazard Mitigation Plan Expiration Date: _____
3. Previous grant award number utilized to perform the current XYZ County Hazard Mitigation Plan: _____
4. Does XYZ County participate in the Community Rating System (CRS)? Yes No If yes, what is your CRS rating? 1 2 3 4 5 6 7 8 9 10
5. Is XYZ County a Cooperating Technical Partner (CTP)? Yes No
6. Has XYZ County adopted building codes consistent with the International Codes? Yes No
7. Have XYZ County's building codes been assessed on the Building Code Effectiveness Grading Schedule (BCEGS)? Yes No If yes, BCEGS rating? 1 2 3 4 5 6 7 8 9 10
8. Is XYZ County a Firewise Community? Yes No If yes, Firewise Community number? _____
9. Has XYZ County adopted the National Fire Protection Association (NFPA) 5000 code? Yes No
10. Has this subapplication been previously submitted under any other FEMA program? Yes No If yes, identify the Project name and number. _____
11. Has this subapplication been previously funded under any other FEMA program? Yes No
12. Does any other Federal entity have primary funding authority for this project? Yes No
13. Has work begun on this plan update? Yes No
14. Is XYZ County delinquent on any Federal debt? Yes No If yes, please describe in the space below.

C. Project Milestones

List the major milestones in this project:

<u>Milestone</u>	<u>Number of Days to Complete</u>
Issuance of Recipient/Subrecipient Agreement	90 days
Hire Planning Consultant	60 days
Establish and Form Planning Committee	60 days
Gather Critical Facilities Data	60 days
Upload Critical Facilities to GMIS	30 days
Hazard Identification and Risk Assessment Update	120 days
Analyze, update, and continue development of Goals, Objectives, and Action Steps	90 days
Mitigation Strategy Update	90 days
Update Plan Maintenance and Implementation	60 days
Update the Planning Process	60 days
Submit Plan for GEMA Review and Approval	30 days
Submit Plan for FEMA Review and Approval	60 days
Plan Adoption and implementation	60 days
Financial Reconciliation and Closeout	<u>90 days</u>
Total	960 days

D. Location

Please provide a county map and give a brief description of the county and list the municipalities that will be covered by this plan update along with a description of each. (Example: Date founded, population, major industries, special events, etc.)

E. History of Hazards

Please provide an assessment of the frequency and severity of each of the following hazards that have affected the County in the past.

Coastal Storms:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Earthquake:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Windstorms:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Fire:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Flood:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Freezing:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Hurricane:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Mud/Landslide:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Severe Ice Storms:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Severe Storms:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Snow:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Tornado:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Tsunami:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Typhoon:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

Volcano:

Frequency: Not Applicable Very Low Low Moderate High
Severity: Minor Serious Extensive Catastrophic

II. Budget

In this section, with regard to the Scope of Work [Section I(B) above], please provide details of all costs in relation to this project. Reasonable cost estimates are essential. **Do not** include contingency costs in the budget. (See example below)

A. Materials

Item	Dimension	Quantity	Cost per Unit	Total Cost	Source
Printing and publication		XX	\$XX	\$XXXX	Grant
Equipment	XXXXX	XX	XXXX	\$XXXXX	Grant

The budget includes \$X,XXX for printing and publication of the plan, which, at an average cost of \$XX per copy, would provide up to approximately XX copies to be distributed as needed among the various public safety agencies, city and county departments, public locations, etc. The budget also includes \$X,XXX for equipment, to be used for research and development of the plan update.

B. Labor

Description	Hours	Rate	Cost	Source
County Staff	XXX	\$25.00/hr	\$XX,XXX	County Budget

The budget includes \$X,XXX for county staff to be utilized as part of the non-Federal share. The cost for the county staff was determined based upon an average salary for the staff anticipated to participate in the planning process multiplied by the estimated hours to oversee the process, research hazard histories, inventory building and infrastructure assets, identify goals and objectives and get the updated plan adopted and approved.

C. Hazus Level 2 Analysis Include any other costs associated with the project, engineering, permits, inspections, etc.

Description of Task	Cost	Source
Hazus Level 2 Analysis	\$6,000.00	Grant

Total Estimated Project Cost \$ XXXXX

D. Funding Sources (round figures to the nearest dollar) The maximum FEMA share for HMA projects is 75%. The other 25% can be made up of State and Local funds as well as in-kind services. HMGP funds may be packaged with other Federal funds, but other Federal funds (except for Federal funds which lose their Federal identity at the State level – such as CDBG, ARS, HOME) may not be used for the State or Local match.

E. Project Management Costs Include project management costs, not to exceed 5% of Total Estimated Project Cost.

Description of Task	Hours	Rate	Cost	Source
Project Management	52	\$25	\$1,300.00	Grant

The budget includes \$1,300 for county staff to manage the project, including completion of the Recipient-Subrecipient Agreement, securing a contractor, quarterly reports, financial reconciliation and project closeout.

Estimated Cost Summary				
	FEMA	State	Local	Total
Total Estimated Labor and Materials Cost	\$XXXXX.XX (75% Labor and Materials Cost)		\$XXXX.XX (25% Labor and Materials Cost)	\$XXXXX.XX
Hazus Level 2 Analysis	\$XXXX.XX (75% Hazus Cost)	\$XXXX.XX (25% Hazus Cost)		\$XXXX.XX
Total Estimated Project Costs	XXXX.XX	\$XXXX.XX	\$XXXX.XX	\$XXXXX.XX
Project Management Costs (100% FEMA Funds)	\$XXXX (5% Total Estimated Project Cost)			

Estimated FEMA Share	\$ <u>XXXXX.XX</u>	<u>75</u> % of Total
Non-Federal Share		
Estimated Local Share	\$ <u>XXXX.XX</u>	<u>20</u> % of Total (Cash)
Estimated State Share	\$ <u>XXXX.XX</u>	<u>5</u> % of Total (Cash)
Total Project Costs	\$ <u>XXXXX.XX</u>	<u>100</u> % of Total

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681- 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood

hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

19. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED APPLICANT AGENT	TITLE Chairman
APPLICANT ORGANIZATION Xyz County Board of Commissioners	DATE SUBMITTED

Example: Letter of Availability of Matching Funds

(Please prepare the following letter on county letterhead and after securing the proper signatures, attach the letter to the hardcopy of this application)

Xyz County Letterhead

County Official with signatory authority

January 25, 2008

Mr. Stephen A. Clark
Manager
Hazard Mitigation Department
Georgia Emergency Management and Homeland Security Agency
Post Office Box 18055
Atlanta, Georgia 30316

RE: **Xyz** County Five Year Hazard Mitigation Plan Update Grant Application for FEMA Grant Funding

Dear Mr. Clark:

I have been well informed of the County staff's preparation of the Hazard Mitigation Assistance (HMA) Application Worksheet. If accepted, we understand that the county may be eligible for federal grant funding to assist with the update of our Hazard Mitigation Plan.

I am writing to assure you that **Xyz** County has funding to meet the required **25%** Local Match for this project. We appreciate your assistance and the assistance of your staff in the preparation of this application.

Sincerely,

Authorized Applicant Agent
Official Title

Example: Municipal Letter of Intent to Participate

(Please distribute the following letter to your municipalities and, after securing the proper signatures, attach the letter(s) to the hardcopy of this application)

June 17, 2009

Name

Emergency Management Director

Xyz County Emergency Management Agency

Address

City, Georgia Zip

Dear Mr. Name:

It is our understanding that Xyz County has applied for a grant from the Federal Emergency Management Agency through the Georgia Emergency Management and Homeland Security Agency to fund the cost of updating the county's Multi-Jurisdictional Hazard Mitigation Plan. We recognize that participation in this plan update process and adoption of this multi-jurisdictional plan is important, not only to the Xyz County, but to the City of 123 as well, in order to be eligible to future Federal money for mitigation related projects. We also understand that there is a local match requirement which can be met in part by participation of our staff in the plan update process.

It is our intention to participate fully with the county in this process, providing input into the plan update, providing available staff resources to assist with the local match requirement and adopting the plan in order for the City of 123 to remain eligible for mitigation funding. We look forward to hearing from you on this process soon. If you have any questions, please contact Name at (223) 456-7890.

Sincerely,

Name Here

Title of Local Official Here

Appendix H
Local and State Capabilities

Appendix H-I
Georgia Disaster Resilient Construction Codes



Georgia State International Building Code

Appendix N Disaster Resilient Construction (2012 Edition)



Georgia Department of Community Affairs
Local Government Assistance Division
60 Executive Park South, N.E.
Atlanta, Georgia 30329-2231
(404) 679-3118
www.dca.ga.gov

January 1, 2013

GEORGIA STATE INTERNATIONAL BUILDING CODE
APPENDIX N
DISASTER RESILIENT CONSTRUCTION

The INTERNATIONAL BUILDING CODE, 2012 Edition, published by the International Code Council, when used in conjunction with the Georgia State Amendments to the INTERNATIONAL BUILDING CODE, 2012 Edition and Appendix N Disaster Resilient Construction, shall constitute the official *Georgia State Minimum Standard Building Code*.

FORWARD

Introduction

The Department of Community Affairs (DCA) was awarded a grant through the U.S. Department of Housing and Urban Development (HUD) to develop Disaster Resilient Building Code (DRBC) Appendices for the International Building Code (IBC) and the International Residential Code (IRC). The DRBC Appendices are optional regulations that local jurisdictions may adopt, in whole or in part, through local ordinance. A task force of stakeholders was appointed to look for opportunities to improve any code provisions relating to damage from hurricane, flood, and tornado disasters. In addition to the approved recommendations from the task force, the state has developed and will conduct a comprehensive training program for code enforcement officials on the importance, implementation and enforcement of the Disaster Resilient Construction Appendices.

The meetings for the Disaster Resilient Building Code Appendices Task Force were open to the public, interested individuals and organizations that desired participation. The technical content of currently published documents on flooding, high-wind construction, and storm shelters, were used and referenced. Those publications included documents of the International Code Council (ICC), American Society of Civil Engineers (ASCE), the Federal Emergency Management Agency (FEMA), Mitigation Assessment Team (MAT) Program, Georgia Emergency Management Agency/Homeland Security (GEMA), APA – The Engineered Wood Association, National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), The State of Florida, American Forest & Paper Association’s American Wood Council, Southern Forest Products Association, NAHB Research Center, Insurance Institute for Business & Home Safety, and the Federal Alliance for Safe Homes.

Adoption

Local jurisdictions may adopt this entire appendix with chosen options or specific sections that apply to their communities through a local ordinance. The adopting ordinance must also be filed on record with DCA. A sample ordinance has been included in this document to assist the local jurisdictions with the adoption process. Recommended training is being offered to assist code enforcement officials in the implementation and enforcement of the appendices documents. Contact DCA at (404) 679-3118 or www.dca.ga.gov for more information.

Neither The Disaster Resilient Building Code Appendices Task Force, its members nor those participating in the development of Appendix N Disaster Resilient Construction accept any liability resulting from compliance or noncompliance with the provisions of Appendix N Disaster Resilient Construction.

The 2012 Disaster Resilient Building Code (DRBC) Appendices Task Force was charged with the development of two appendices. One appendix is for the International Residential Code and the other appendix is for the International Building Code. These two appendices look for opportunities to improve any provisions relating to hurricane, flood, and tornado disasters. In addition to improving existing provisions in the codes, the task force also developed new provisions to be included in the appendices that address these issues. These appendices contain increased construction requirements for disaster resilience and are intended to be made available for adoption by local jurisdictions in the State of Georgia.

These appendices have reasonable and substantial connection with the public health, safety, and general welfare. In addition, the financial impact and costs associated with these appendices have been taken into consideration.

Members:

Mr. Gregori Anderson, Chairman, States Codes Advisory Committee (SCAC)
Mr. David L. Adams, , Vice Chairman, States Codes Advisory Committee (SCAC)
Mr. Bill Abballe, AIA, American Institute of Architects (AIA) – Georgia Chapter
Mr. John Hutton, P.E., S.E., American Council of Engineering Companies of Georgia (ACEC/G)
Mr. Ron Anderson, Code Consultant
Mr. Lamar Smith, Home Builders Association of Georgia (HBAG)
Mr. Thomas Harper, Georgia State Inspectors Association (GSIA)
Mr. Tom Buttram, Building Officials Association of Georgia (BOAG)
Capt. Zane Newman, Georgia State Fire Marshal’s Office (Local Fire Official)
Mr. Terry Lunn, Georgia Emergency Management Agency (GEMA)
Mr. Alan Giles, , CFM, Georgia Department of Natural Resources (EPD / Floodplain Management Unit)
Mr. Tony Hebert, HUD Georgia State Representative (Region IV Office)
Mr. Jim C. Beck, Sr., Georgia Underwriting Association
Mr. Tim Thornton, Georgia Association of Realtors (GAR)
Mr. Steve Harrison, Building Owners and Managers Association – Georgia (BOMA)
Mr. Tom Aderhold, Georgia Apartment Association (GAA)
Mr. Tim Bromley, Accessibility Consultant – Georgia State ADA Coordinator’s Office
Mayor Mark Mathews, Georgia Municipal Association (GMA)
Commissioner Jeff Long, Association of County Commissioners of Georgia (ACCG)

Ad Hoc Subcommittee:

Mr. Tom Buttram, Chairman, DRBC Task Force Liaison (BOAG)
Mr. Ron Anderson, Vice Chairman, Code Consultant
Mr. Stephen V. Skalko, Concrete Industry
Mr. Jeffrey B. Stone, Wood Industry (AWC)
Mr. Robert Wills, Steel Industry (AISC)
Mr. Tom Cunningham, PhD., Residential Building Design
Mr. Duncan J. Hastie, P.E., Disaster Mitigation

DCA Staff:

Mr. Ted Miltiades, Director of Construction Codes & Industrialized Buildings
Mrs. Deirdre “Dee” Leclair, DRBC Grant Project Manager
Mr. Max Rietschier, Lead Codes Consultant
Mr. Bill Towson, 2012 International Residential Code Task Force Liaison, Code Consultant
Mr. Calvin Jordan, 2012 International Building Code Task Force Liaison, Code Consultant

How to Use Appendix N Disaster Resilient Construction

The appendix may be adopted in whole or in part by Local Jurisdictions to fit the needs of their community. The following sample ordinance has been provided to aid in the process of indentifying Chapters and Sections of the appendix that may be adopted. The format easily allows for choosing to adopt, revise or delete individual Chapters and Sections. Download the MS Word (.doc) version from the DCA website to take advantage of the dropdown menu choices and edit ability features of the document. Note that in Chapter 3, choose one of three options for flood elevation. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by the jurisdiction. Also note that in Chapter 4, choose one of three options for increased wind load. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by the jurisdiction. The Sample Ordinance document takes into account the flood elevation option in Chapter 3 and the wind load option in Chapter 4 of this appendix.

**SAMPLE ORDINANCE FOR ADOPTION OF
GEORGIA STATE INTERNATIONAL BUILDING CODE**

**APPENDIX N
DISASTER RESILIENT CONSTRUCTION**

ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the latest edition as adopted and amended by the Georgia Department of Community Affairs of *Appendix N Disaster Resilient Construction* regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefore; repealing Ordinance No. ____ of the [JURISDICTION] and all other ordinances or parts of the laws in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as *Appendix N Disaster Resilient Construction* to the International Building Code, the latest edition as adopted and amended by the Georgia Department of Community Affairs, be and is adopted as the *Appendix N Disaster Resilient Construction* of the [JURISDICTION], in the State of Georgia for regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said *Appendix N Disaster Resilient Construction* on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any prescribed in Section 2 of this ordinance.

Section 2. [NAME OF JURISDICTION] hereby:

Choose an item. CHAPTER AN1 SCOPE AND ADMINISTRATION Choose an item.

Choose an item. SECTION AN101 ADMINISTRATION Choose an item.

Choose an item. AN101.1 Purpose Choose an item.

Choose an item. AN101.2 Objectives Choose an item.

Choose an item. AN101.3 Scope Choose an item.

AN101.3.1 Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AN101.4 Violations Choose an item.

Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. SECTION AN102 APPLICABILITY Choose an item.

Choose an item. AN102.1 General Choose an item.

Choose an item. AN102.2 Other laws Choose an item.

Choose an item. AN102.3 Referenced codes and standards Choose an item.

Choose an item. SECTION AN103 POST DISASTER EVENT INSPECTIONS GUIDELINES Choose an item.

Choose an item. AN103.1 Inspections Choose an item.

Choose an item. AN103.1.1 Right of entry Choose an item.

Choose an item. AN103.2 Types of inspections Choose an item.

Choose an item. AN103.3 Post disaster building safety evaluation chart Choose an item.

Choose an item. Figure AN103.3 Post Disaster Building Safety Evaluation Chart Choose an item.

Choose an item. AN103.4 Evaluation Forms Choose an item.

Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AN103.5 Placement and remove of placards Choose an item.

Choose an item. CHAPTER AN2 DEFINITIONS Choose an item.

Choose an item. SECTION AN201 GENERAL Choose an item.

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Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].
Insert [Date of Issuance] for [DATE OF ISSUANCE].
Choose an item. SECTION AN302 SCOPE Choose an item.
Choose an item. AN301.1 Flood Loads Choose an item.
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Choose an item. AN303.1 Flood damage-resistant materials Choose an item.
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Choose an item. AN403.4 Continuous operation of Risk Category IV buildings Choose an item.
Choose an item. SECTION Choose an item. Choose an item.
Choose an item. CHAPTER AN5 STORM SHELTERS, SAFE ROOMS AND BEST AVAILABLE
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Choose an item. SECTION AN504 APPLICABILITY Choose an item.
Choose an item. AN504.1 Required storm shelters or safe rooms Choose an item.

Section 3. That Ordinance No. ____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in *Appendix N Disaster Resilient Construction* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby repealed as cited in Section 3 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

Section 8. Chapter AN6 Resources, of this document is intended to be used by the building officials as a resource guide.

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APPENDIX N DISASTER RESILIENT CONSTRUCTION

CHAPTER AN1 SCOPE AND ADMINISTRATION

SECTION AN101 ADMINISTRATION

AN101.1 Purpose. The scope of this appendix is to promote enhanced public health, safety and general welfare and to reduce public and private property losses due to hazards and natural disasters associated with flooding, high-winds, and windborne debris above that which is provided in the general provisions of this appendix.

AN101.2 Objectives. The objectives of this appendix are to:

1. Protect human life, to minimize property loss and to minimize the expenditures of public money associated with natural weather related disasters, including flooding, tornadoes and other high-wind events.
2. Establish enhanced design and construction regulations consistent with nationally recognized good practices for the safeguarding of life and property.

AN101.3 Scope.

AN101.3.1 The provisions of this appendix are not mandatory unless specifically referenced in an adopting ordinance of [NAME OF JURISDICTION]. If adopted, the provisions shall apply to all new development and to substantial improvements to existing development.

AN101.3.2 The provisions of this appendix supplement the jurisdiction's building and fire codes to provide for enhanced provisions to mitigate the hazard to life and property from natural weather related disasters, including flooding, tornadoes and other high-wind events.

AN101.3.3 The provisions of this appendix establish design and construction standards for storm shelters.

AN101.4 Violations. Any violation of a provision of this appendix or failure to comply with a permit of variance issued pursuant to this appendix or any requirement of this appendix shall be handled in accordance with the ordinances of [NAME OF JURISDICTION].

SECTION AN102 APPLICABILITY

AN102.1 General. This appendix provides enhanced minimum requirements for development of new construction and substantial improvement of existing development above that contained in the *International Building Code (IBC)*.

AN102.1.1 The provisions of this appendix shall apply to all new construction and additions, and shall apply to substantial alterations in flood hazard areas unless it is technically infeasible or otherwise exempted in Section 3403.2 of the *International Building Code*.

AN102.1.2 Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this appendix or to any previously approved alternative arrangements than it was before the work was undertaken.

AN102.1.3 Where there is a conflict between a requirement of the *International Building Code* and a requirement of this appendix, the requirement of this appendix shall govern. Where there is a conflict between a general requirement of this appendix and a specific requirement of this appendix, the specific requirement shall govern. Where, in any specific case, different sections of this appendix specify different materials, methods of construction or other requirements, the most restrictive shall govern.

AN102.2 Other laws. The provisions of this appendix shall not be deemed to nullify any provisions of local, state or federal law.

AN102.3 Referenced codes and standards. The codes and standards referenced in this appendix shall be those that are listed in Chapter AN7 and such codes and standards shall be considered as part of the requirements of this appendix to the prescribed extent of each such reference. Where differences occur between provisions

this appendix and referenced codes and standards, the provisions of this appendix shall apply.

SECTION AN103 POST DISASTER EVENT INSPECTIONS GUIDELINES

AN103.1 Inspections. The building official or agents shall inspect buildings and structures to determine the habitability of each with the goal of getting the community back into their residences quickly and safely. Inspections shall always be performed by teams of at least two individuals, also known as disaster assessment teams.

AN103.1.1 Right of entry. Unless permitted under the exigent circumstances provisions or from an order from State or Federal Authorities, disaster assessment teams shall confirm the right of entry requirements with the incident commander. Upon approval, the assessment teams shall be authorized to enter the structure or premises at reasonable times to inspect or perform duties as provided by this code, provided that the structure or premises be occupied, that credentials are presented, that entry is requested, and that entry is granted by the owner or person having charge over the structure or premises.

AN103.2 Types of inspections.

AN103.2.1 Rapid evaluation. Rapid evaluation is performed after a disaster event to determine if a building is apparently safe or obviously unsafe. The evaluation should last 10 to 30 minutes per building and shall be performed by the building official and/or their designated responders. Evaluation shall determine if a detailed evaluation is necessary. Placards are posted on buildings indicating status as one of the following:

1. INSPECTED
2. RESTRICTED USE
3. UNSAFE

See Section AN605 for Placards that may be reproduced for use in the field during evaluations. The jurisdiction shall alter placards to meet the jurisdiction and building department's requirements.

AN103.2.2 Detailed evaluation. Detailed evaluation is a thorough visual examination of a damaged building performed by a team of two, including an inspector and a design professional. Evaluation should last 30 minutes to 4 hours per building. Evaluation shall determine necessary restrictions on a damaged building's use, the need for an engineering evaluation or to evaluate postings.

AN103.2.3 Engineering evaluation. When indicated by the building official as necessary, engineering evaluations shall be completed by a registered design professional hired by the building owner.

AN103.3 Post disaster building safety evaluation chart. See Figure AN103.3 for Post Disaster Building Safety Evaluation Chart.

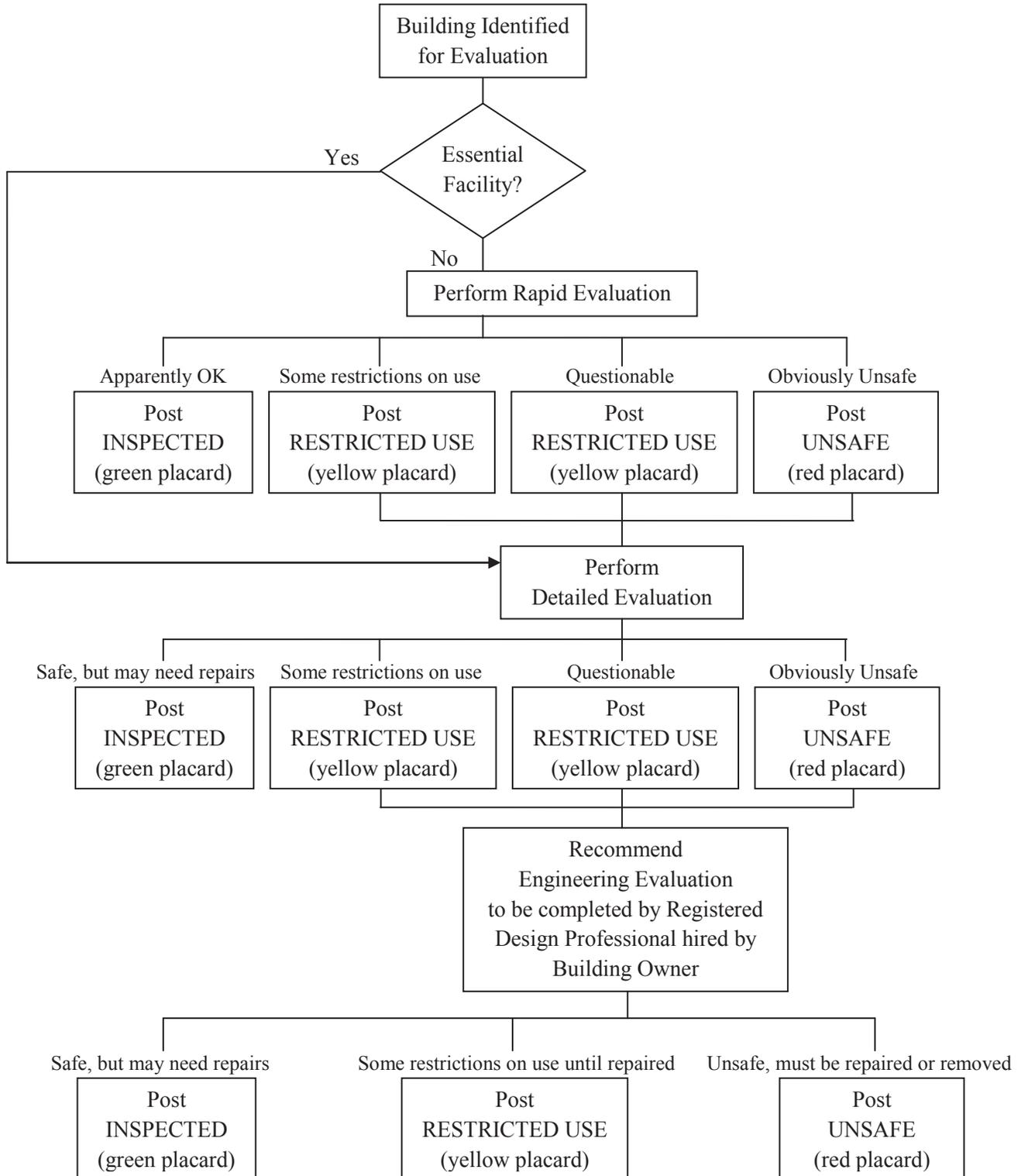
AN103.4 Evaluation Forms. *ATC-45 Rapid Evaluation Safety Assessment Form* and *ATC-45 Detailed Evaluation Safety Assessment Form* shall be used by [Name of Jurisdiction]'s Building Official for post disaster inspections. See Section AN605 for copies of the Safety Assessment Forms.

AN103.5 Placement and removal of placards.

AN103.5.1 Placement. Placards are to be posted in a clearly visible location near the main entrance and shall be visible from the public right-of-way. RESTRICTED USE or UNSAFE placards shall be placed at all entrances.

AN103.5.2 Removal. Placards shall not be removed or replaced, except by the authorized representatives of the local jurisdiction.

Figure AN103.3 Post Disaster Building Safety Evaluation Chart ^a



^(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

CHAPTER AN2 DEFINITIONS

SECTION AN201 GENERAL

AN201.1 Scope. Unless otherwise expressly stated the following words and terms shall, for the purposes of this appendix, have the meanings shown in this chapter.

AN201.2 Terms defined in other codes. Where terms are not defined in this appendix and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

AN201.3 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION AN202 DEFINITIONS

500-YEAR FLOOD. Flood having a 0.2% annual probability of being equaled or exceeded.

ADVISORY BASE FLOOD ELEVATION (ABFE). An advisory base flood elevation (BFE) issued by the Federal Emergency Management Agency (FEMA) that reflects post-storm conditions and vulnerability to damages from future flooding.

BASE FLOOD. Flood having a 1% chance of being equaled or exceeded in any given year, also referred to as the 100-year flood.

BASE FLOOD ELEVATION (BFE). The elevation of flooding, including wave height, having a 1% chance of being equaled or exceeded in any given year established relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the *Flood Insurance Rate Map (FIRM)*.

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Building Code*, or the building official's duly authorized representative.

DESIGN FLOOD. The greater of the following two flood events:

- (1) The *base flood*, affecting those areas identified as *special flood hazard areas* on the community's FIRM;

- (2) The flood corresponding to the area designated as a *flood hazard area* on a community's *flood hazard map* or otherwise legally designated.

DESIGN FLOOD ELEVATION (DFE). The elevation of the *design flood*, including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the *design flood elevation* shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map.

FLOOD [DAMAGE]-RESISTANT MATERIAL. Any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage.

FLOOD HAZARD AREA. The area subject to flooding during the *design flood*.

FLOOD HAZARD MAP. Map delineating *flood hazard areas* adopted by the authority having jurisdiction.

FLOOD INSURANCE RATE MAP (FIRM). An official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated both the *special flood hazard areas* and the risk premium zones applicable to the community.

FREEBOARD. A factor of safety expressed in feet above a flood level for purposes of floodplain management.

FUTURE-CONDITIONS FLOOD. The flood having a 1% chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

FUTURE-CONDITIONS FLOOD ELEVATION. The flood standard equal to or higher than the Base Flood Elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

CHAPTER AN3 FLOOD-RESISTANT CONSTRUCTION

Forward: This appendix provides three different options for increased freeboard. The jurisdiction may pick only one option that is higher than previously adopted and enforced by the jurisdiction. The National Flood Insurance Program (NFIP) minimum standards reference Base Flood Elevation without any freeboard in high risk flood hazard areas. Due to the flood damage prevention updates performed during the Map Modernization initiative that led to flood risks being digitally identified in all 159 Georgia counties, all Georgia NFIP participating communities have freeboard standards that meet or exceed the 1 foot standard used in the State model ordinances for areas where BFEs have been established.

SECTION AN301 HAZARD IDENTIFICATION

AN301.1 Identification of flood hazard areas. To establish flood hazard areas:

- (a) flood hazard map adopted by jurisdiction based on areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled “The Flood Insurance Study of [INSERT NAME OF JURISDICTION],” dated [INSERT DATE ISSUANCE], and amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto.
- (b) FIRM maps provided by the Federal Emergency Management Agency.

SECTION AN302 SCOPE

AN302.1 Flood loads. Buildings designed and constructed in flood hazard areas defined in IBC Section 1612.2 shall comply with the following:

AN302.1.1 Flood hazard areas without base flood elevations. In flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade to the building foundation.

OPTION A – FLOOD ELEVATION

AN302.1.2 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus one (1) foot, or
- (b) Base flood elevation plus one (1) foot, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or

- (e) 500-year flood, if known

OPTION B– FLOOD ELEVATION

AN302.1.3 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus two (2) feet, or
- (b) Base flood elevation plus two (2) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

OPTION C – FLOOD ELEVATION

AN302.1.4 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus three (3) feet, or
- (b) Base flood elevation plus three (3) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

SECTION AN303 FLOOD DAMAGE-RESISTANT MATERIALS

AN303.1 Flood damage-resistant materials. Flood damage-resistant materials comply with FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials.

AN303.2 Location of flood damage-resistant materials. Building components and materials located below the increase to base flood elevation as determined by the local jurisdiction in accordance with AN302.1 shall be flood damage-resistant as defined by Section AN303.1.

AN303.3 Fasteners and connectors used for flood damage-resistant materials. Fasteners and connectors used for flood damage-resistant materials to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

CHAPTER AN4 HIGH-WIND RESISTIVE CONSTRUCTION

SECTION AN401 GENERAL

AN401.1 Applications. Buildings, and parts thereof shall be designed to withstand the minimum wind loads and meet the opening protection requirements of IBC Section 1609 as modified in this chapter. **Wind Load Option A, B or C shall be selected. Table AN401.1 may be used to assist in the selection of an appropriate Wind Load Option.**

AN401.2 Limitations. The following limitations shall apply to the design and construction of buildings with respect to winds.

AN401.2.1 Empirical masonry. The empirical masonry provisions in IBC Section 2109 or Chapter 5 of TMS 402/ACI 530/ASCE 5 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

AN401.2.2 Unreinforced (plain) masonry. The unreinforced masonry provisions in IBC Section 2109 or sections 2.2, 3.2 or 8.2 of TMS 402/ACI 530/ASCE 5 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

AN401.2.3 Conventional light-frame construction. The *conventional light-frame construction* provisions in IBC Section 2308 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

Exception: Compliance with AF&PA WFCM shall be permitted subject to the limitations therein and the limitations of this appendix.

SECTION AN402 DEFINITIONS AND NOTATIONS

AN402.1 General. The following terms are defined in Chapter 2 of the International Building Code:

CONVENTIONAL LIGHT-FRAME CONSTRUCTION.

MASONRY.

Unreinforced (plain) masonry.

WIND-BORNE DEBRIS REGION.

WIND SPEED, V_{ult} .

SECTION AN403 WIND LOADS

AN403.1 Wind Directionality Factor. The directionality factor for Wind Option B and C shall be taken as 1.0.

AN403.2 Exposure. Wind pressures for Wind Option B and C shall be based on exposure category C or D in accordance with IBC Section 1609.4 or ASCE 7.

AN403.3 Enclosure classification. The enclosure classification shall be determined in accordance with ASCE 7 with the largest door or window on a wall that receives positive external pressure considered as an opening.

AN403.4 Continuous operation of Risk Category IV buildings. When a building or an internal area within a building in Risk Category IV is required to remain operational during a design wind event (target performance level OB), that building or that internal area shall be designed in accordance with ICC-500 or FEMA-361.

SECTION AN404 WIND LOAD OPTION A

AN404.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of buildings and structures shall be obtained from IBC Section 1609.3.

AN404.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with IBC Section 1609.1.2 or ASCE 7.

Exception:

1. For Risk Category III buildings with a Life Safety target performance level for the entire building, the exterior glazing shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996.
2. For Risk Category IV buildings with an Immediate Occupancy target performance level for the entire building, the exterior glazing shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**SECTION AN405
WIND LOAD OPTION B**

AN405.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category I buildings and structures shall be obtained from IBC Section 1609.3. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category II buildings and structures shall be obtained from IBC Figure 1609B. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category III and IV buildings and structures shall be obtained from IBC Figure 1609B or 135 mph, whichever is greater.

AN405.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with this Section in addition to IBC Section 1609.1.2 or ASCE 7.

Exception:

- For Risk Category IV buildings, all components of the exterior envelope shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**SECTION AN406
WIND LOAD OPTION C**

AN406.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category I buildings and structures shall be obtained from IBC Section 1609.3. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category II buildings and structures shall be obtained from IBC Figure 1609B. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category III and IV buildings and structures shall be obtained from IBC Figure 1609B or 170 mph, whichever is greater.

AN406.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with this Section in addition to IBC Section 1609.1.2 or ASCE 7.

Exception:

- For Risk Category IV buildings, all components of the exterior envelope shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**Table AN401.1
WIND LOAD OPTIONS:**

TARGET PERFORMANCE LEVELS AND DESIGN CRITERIA⁴

OPTION	DESIGN WIND EVENT	Risk Category II ¹			Risk Category III ¹			Risk Category IV ¹		
		Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris	Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris	Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris
A	EF0 & 1 Tornado – IBC level Hurricane	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7
					LS		Glazing	IO ⁵		Glazing
B	EF2 Tornado – Cat 3 Hurricane	CP ³ for EF0-EF1-IBC Hurricane for Risk Cat. III/IV	IBC 1609.3 for Risk Cat. III/IV	IBC 1609.1.2 or ASCE 7	LS	145 mph	Req'd for glazing per IBC 1609.1.2 and ASCE 7	IO ⁵	145 mph	Exterior Envelope
C	EF3 Tornado – Cat 4 Hurricane	CP ³ for EF0-EF1-IBC Hurricane for Risk Cat. III/IV	IBC 1609.3 for Risk Cat. III/IV	IBC 1609.1.2 or ASCE 7	LS	170 mph	Req'd for glazing per IBC 1609.1.2 and ASCE 7	IO ⁵	170 mph	Exterior Envelope

Notes:

- Risk Category per IBC Section 1604.5
- Performance Levels:
 CP: Collapse Prevention
 LS: Life Safety
 IO: Immediate Occupancy
 OB: Operational Building
- LS for occupants away from exterior envelope. IO for storm shelters or safe rooms.
- See Section AN401 and Section AN403 for additional limitations and criteria.
- OB for building or an internal area within a building designed to ICC-500 or FEMA 361.

CHAPTER AN5
STORM SHELTERS, SAFE ROOMS AND BEST AVAILABLE REFUGE AREAS

SECTION AN501
GENERAL

AN501.1 General. This section applies to the location and construction of storm shelters and safe rooms when constructed as separate detached buildings or as internal areas within buildings for the purpose of providing safe refuge for storms that produce high winds, such as tornados and hurricanes, and to the selection of best available refuge areas. Storm shelters shall be designed and constructed in accordance with IBC Section 423. Safe rooms shall be designed and constructed in accordance with FEMA 361. Storm shelters, safe rooms, and best available refuge areas shall be located on an accessible route.

Exception: *Residential Safe Rooms* and safe rooms serving a Business Group B Occupancy and having an *occupant load* not exceeding 16 persons may be constructed in accordance with FEMA 320.

AN501.2 Occupant load. The occupant load for storm shelters and safe rooms shall be determined by ICC 500 and FEMA 361 respectively.

AN501.3 Construction documents. Construction documents for buildings containing a storm shelter or safe room shall include the information required in ICC 500 or FEMA 361 respectively. Construction documents for buildings with access to a remote community storm shelter or safe room shall indicate the location of and access to the community storm shelter or safe room. Construction documents for buildings not containing or without access to a remote storm shelter or safe room, shall indicate the best available refuge area.

AN501.4 Signage. The location(s) of storm shelters, safe rooms or the best available refuge area(s) shall be clearly marked with a permanent sign.

SECTION AN502
DEFINITIONS AND NOTATIONS

AN502.1 Definitions. The following terms are defined in Chapter 2 of the International Building Code:

DWELLING UNITS.

OCCUPANT LOAD.

STORM SHELTER.

Community Storm Shelter.

Residential Storm Shelter.

AN502.2 Additional definitions.

BEST AVAILABLE REFUGE AREAS. Areas in a building that have been deemed by a registered design professional to likely offer the greatest safety for building occupants during a tornado or hurricane. Because these areas were not specifically designed as storm shelters or safe rooms, their occupants may be injured or killed during a tornado or hurricane. However, people in the best available refuge areas are less likely to be injured or killed than people in other areas of a building.

SAFE ROOM. A building, structure or portions thereof, constructed in accordance with FEMA 361 and designed for use during a severe wind storm event, such as a hurricane or tornado.

Community Safe Room. A safe room not defined as a “Residential Safe Room”

Residential Safe Room. A safe room serving occupants of *dwelling units* and having an *occupant load* not exceeding 16 persons.

SECTION AN503
BEST AVAILABLE REFUGE AREAS

AN503.1 General. Best available refuge area occupants may be injured or killed during a tornado or hurricane. However, people in the best available refuge areas are less likely to be injured or killed than people in other areas of a building.

AN503.2 Occupant Density. The minimum required floor area per occupant for best available refuge area(s) shall be determined in accordance with ICC 500 Table 501.1.1.

AN503.3 Identification of best available refuge areas. Best available refuge areas shall be identified by a registered design professional in accordance with the Wind Hazard Checklist of FEMA 361, Appendix B and FEMA P-431.

SECTION AN504
APPLICABILITY

AN504.1 Required storm shelters or safe rooms.

1. All new kindergarten through 12th grade schools with 50 or more occupants in total, per school, shall have a storm shelter or safe room.
2. All new 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations shall have a storm shelter or safe room.

CHAPTER AN6 RESOURCES

SECTION AN601 CONTACTS

Georgia Department of Community Affairs (DCA) Construction Codes

Georgia State Amendments to the State Minimum
Standard Codes

<http://www.dca.ga.gov/development/constructioncodes/programs/codeAmendments.asp>

Phone: 404-679-3118

Georgia Department of Natural Resources (DNR) Floodplain Management

4220 International Parkway, Ste. 101
Atlanta, GA 30354-3902

www.georgiadfirm.com

Phone: 404-675-1757

Federal Emergency Management Agency (FEMA)

www.fema.gov; www.floodsmart.gov

www.fema.gov/rebuild/buildingscience/

FEMA Publications and Technical Bulletins:

www.fema.gov/library/index.jsp

www.fema.gov/plan/prevent/floodplain/techbul.shtm

Georgia Emergency Management Agency (GEMA)

Georgia Office of Homeland Security

P.O. Box 18055

Atlanta, GA 30316-0055

www.gema.ga.gov

www.ready.ga.gov

Phone: 404-635-7000

Georgia Association of Regional Commissions (GARC)

www.garc.ga.gov

<http://garc.ga.gov/main.php?Regional-Commissions-2>

(for assistance in identifying Flood Hazard Areas)

International Code Council (ICC)

www.iccsafe.org

National Weather Service

www.srh.weather.gov

State Fire Marshal's Office

2 Martin Luther King Jr. Drive

Suite 920 / West Tower

Atlanta, Georgia 30334

www.oci.ga.gov

Phone: 404-656-7087

SECTION AN602 EMERGENCY INSPECTION KIT^b

- | | | |
|--|---|---|
| <input type="checkbox"/> Staff's disaster response management plan | <input type="checkbox"/> Safety glasses | <input type="checkbox"/> Duct tape |
| <input type="checkbox"/> Team contact list | <input type="checkbox"/> Sunglasses | <input type="checkbox"/> Staples & stapler |
| <input type="checkbox"/> Area maps | <input type="checkbox"/> Pocket knife | <input type="checkbox"/> Staple gun |
| <input type="checkbox"/> Official identification | <input type="checkbox"/> Matches | <input type="checkbox"/> Calculator |
| <input type="checkbox"/> Personal identification | <input type="checkbox"/> Antibacterial hand wipes or alcohol-based hand sanitizer | <input type="checkbox"/> Tire repair kit |
| <input type="checkbox"/> Inspection forms and placards | <input type="checkbox"/> Insect repellent (w/ Deet or Picaridin) | <i>Remember to grab:</i> |
| <input type="checkbox"/> Communication equipment | <input type="checkbox"/> Sunscreen (SPF 15 or greater) | <input type="checkbox"/> Personal identification |
| <input type="checkbox"/> Clipboard | <input type="checkbox"/> Camera | <input type="checkbox"/> Rain gear, extra clothing |
| <input type="checkbox"/> Hard hat | <input type="checkbox"/> Black markers | <input type="checkbox"/> Water bottle |
| <input type="checkbox"/> Orange safety vest | <input type="checkbox"/> Pens & pencils | <input type="checkbox"/> Prescription medication |
| <input type="checkbox"/> Dust mask | <input type="checkbox"/> Envelope for expense receipts | <input type="checkbox"/> Cell phone and charger |
| <input type="checkbox"/> Work gloves | <input type="checkbox"/> Compass, GPS unit | <input type="checkbox"/> Cash for personal expenses |
| <input type="checkbox"/> Steel toe and waterproof boots | <input type="checkbox"/> Backpack, waistpack | <input type="checkbox"/> Toiletries |
| <input type="checkbox"/> Whistle | <input type="checkbox"/> Flashlight and extra batteries | |
| <input type="checkbox"/> First aid kit | <input type="checkbox"/> Battery-operated radio | |
| <input type="checkbox"/> Latex gloves | | |

(b) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

SECTION AN603

SAFETY TIPS ^a

1. Always travel in teams of at least two people.
2. Always wear a hard hat, gloves, goggles, safety vest, and dust masks.
3. Always wear safety shoes capable of protecting the toes and bottom of the foot.
4. Survey the building exterior completely before entering.
5. Enter building only if authorized and if deemed safe to do so.
6. Be alert for falling objects.
7. In case of fire, injuries or victims, evacuate the area and alert the fire department immediately.
8. Avoid downed power lines and buildings under them or water surrounding them.
9. In case of gas leaks, shut off the gas (if possible) and report the leak.
10. In a flood situation, have a “walking stick.”

(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

SECTION AN604

MAJOR DISASTER PROCESS

(from link <http://www.fema.gov/hazard/dproc.shtm>)

A Major Disaster Declaration usually follows these steps:

- **Incident occurs and local government responds**, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;

Generally the local government will issue a local state of emergency

- **The State responds** with state resources, such as the National Guard and state agencies;

Prior to committing state resources, the Governor will declare a state of emergency in the counties impacted by the event for which assistance is needed.

- **Damage assessment** by local, state, federal, and volunteer organizations determine losses and recovery needs;

Generally the locals will submit a preliminary damage assessment to the state and the state will review and determine if state and/or federal assistance is needed. If federal assistance is needed, the state will request FEMA perform a preliminary joint damage assessment. If the Governor determines that the incident is of such severity and magnitude that effective response is beyond the capabilities of the state and the affected local governments then supplementary Federal assistance is requested (next step).

- **A Major Disaster Declaration** is requested by the Governor, based on the damage assessment, and agreement to commit state funds and resources to the long-term recovery;
- **FEMA evaluates** the request and recommends action to the White House based on the disaster, the local community and the state’s ability to recover;
- **The President approves** the request or FEMA informs the Governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

SECTION AN605

SAMPLE EVALUATION FORMS AND INSPECTION PLACARDS ^b (following pages)

Figure AN605.1^b

ATC-45 Rapid Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Areas inspected: Exterior only Exterior and interior

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or high-rise Pre-fabricated

Low-rise multi-family One- or two-family dwelling

Low-rise commercial

Primary Occupancy

Dwelling Commercial Government

Other residential Offices Historic

Public assembly Industrial School

Emergency services Other: _____

Evaluation

Investigate the building for the conditions below and check the appropriate column. **Estimated Building Damage (excluding contents)**

Observed Conditions:	Minor/None	Moderate	Severe	Estimated Building Damage (excluding contents)
Collapse, partial collapse, or building off foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> None
Building significantly out of plumb or in danger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 0 to < 1%
Damage to primary structural members, racking of walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1 to < 10%
Falling hazard due to nonstructural damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 10 to < 30%
Geotechnical hazard, scour, erosion, slope failure, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 30 to < 70%
Electrical lines / fixtures submerged / leaning trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 70 to < 100%
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 100%

See back of form for further comments.

Posting

Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting.

INSPECTED (Green placard) **RESTRICTED USE** (Yellow placard) **UNSAFE** (Red placard)

Record any use and entry restrictions exactly as written on placard: _____

Number of residential units vacated: _____

Further Actions Check the boxes below only if further actions are needed.

Barricades needed in the following areas: _____

Detailed Evaluation recommended: Structural Geotechnical Other: _____

Substantial Damage determination recommended

Other recommendations: _____

See back of form for further comments.

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Figure AN605.2^b

ATC-45 Detailed Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Final Posting
from page 2

Inspected

Restricted Use

Unsafe

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or High-rise

Low-rise multi-family

Low-rise commercial

Pre-fabricated

One- or two-family dwelling

Other: _____

Primary Occupancy

Dwelling

Other residential

Public assembly

Emergency services

Commercial

Offices

Industrial

Other: _____

Government

Historic

School

Evaluation

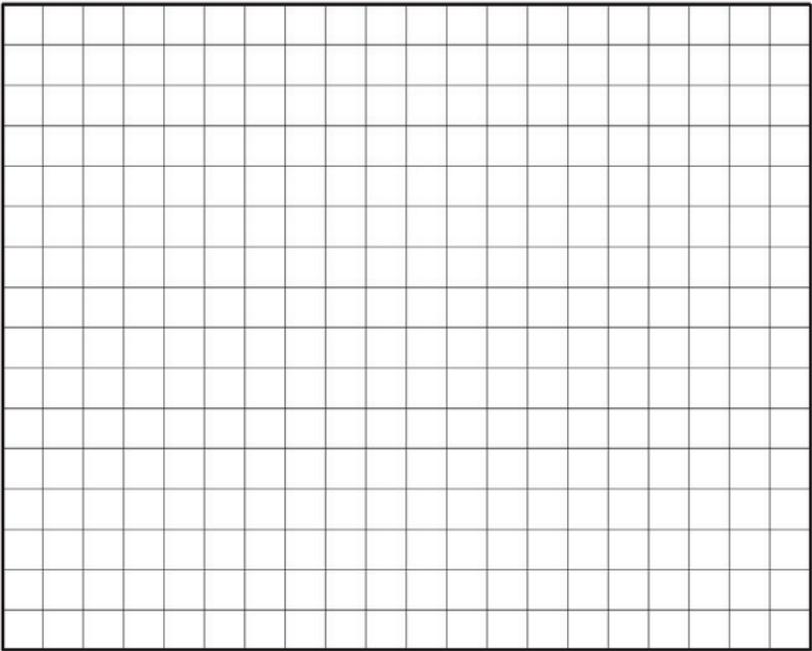
Investigate the building for the conditions below and check the appropriate column. There is room on the second page for a sketch.

	Minor/None	Moderate	Severe	Comments
Overall hazards:				
Collapse or partial collapse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building or story lean or drift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fractured or displaced foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural hazards:				
Failure of significant element/connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Column, pier, or bearing wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Roof/floor framing or connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Superstructure/foundation connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Moment frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Diaphragm/horizontal bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vertical bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Shear wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Nonstructural hazards:				
Parapets, ornamentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Canopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cladding, glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ceilings, light fixtures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stairs, exits, access walkways, gratings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interior walls, partitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Mechanical & electrical equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building contents, other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Geotechnical hazards:				
Slope failure, debris impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ground movement, erosion, sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Differential settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Continue on page 2

<<H-11-19

Figure AN605.2^b (Continued)

ATC-45 Detailed Evaluation Safety Assessment Form		Page 2
Building name: _____		Inspector ID: _____
<p>Sketch Make a sketch of the damaged building in the space provided. Indicate damage points.</p>		
<p>Estimated Building Damage (excluding contents)</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> > 0 to < 1%</p> <p><input type="checkbox"/> 1 to < 10%</p> <p><input type="checkbox"/> 10 to < 30%</p> <p><input type="checkbox"/> 30 to < 70%</p> <p><input type="checkbox"/> 70 to < 100%</p> <p><input type="checkbox"/> 100%</p>		
<p>Posting If there is an existing posting from a previous evaluation, check the appropriate box.</p> <p>Previous posting: <input type="checkbox"/> INSPECTED <input type="checkbox"/> RESTRICTED USE <input type="checkbox"/> UNSAFE Inspector ID: _____ Date: _____</p> <p>If necessary, revise the posting based on the new evaluation and team judgment. <i>Severe</i> conditions endangering the overall building are grounds for an Unsafe posting. Local <i>Severe</i> and overall <i>Moderate</i> conditions may allow a Restricted Use posting. Indicate the current posting below and at the top of page one, whether the posting has been revised or not.</p> <p><input type="checkbox"/> INSPECTED (Green placard) <input type="checkbox"/> RESTRICTED USE (Yellow placard) <input type="checkbox"/> UNSAFE (Red placard)</p> <p>Record any use and entry restrictions exactly as written on placard: _____</p> <p>_____</p> <p>Number of residential units vacated: _____</p>		
<p>Further Actions Check the boxes below only if further actions are needed.</p> <p><input type="checkbox"/> Barricades needed in the following areas: _____</p> <p>_____</p> <p><input type="checkbox"/> Engineering Evaluation recommended: <input type="checkbox"/> Structural <input type="checkbox"/> Geotechnical <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Substantial Damage determination recommended</p> <p><input type="checkbox"/> Other recommendations: _____</p> <p>_____</p>		

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Figure AN605.3^b

INSPECTED

LAWFUL OCCUPANCY PERMITTED

This structure has been inspected (as indicated below) and no apparent structural hazard has been found.

Date _____
Time _____

Inspected Exterior Only

Inspected Exterior and Interior

Report any unsafe condition to local authorities; reinspection may be required.

This facility was inspected under emergency conditions for:

Inspector Comments:

(Jurisdiction)

Inspector ID / Agency

Facility Name and Address:

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

Figure AN605.4^b

RESTRICTED USE

Caution: This structure has been inspected and found to be damaged as described below:

Date _____
Time _____

Entry, occupancy, and lawful use are restricted as indicated below:

- Do not enter the following areas: _____
- Brief entry allowed for access to contents: _____
- Other restrictions: _____

Facility name and address:

This facility was inspected under emergency conditions for:

_____ (Jurisdiction)

Inspector ID / Agency

Do Not Remove, Alter, or Cover this Placard until Authorized by Governing Authority

Figure AN605.5^b

UNSAFE

**DO NOT ENTER OR OCCUPY
(THIS PLACARD IS NOT A DEMOLITION ORDER)**

This structure has been inspected, found to be seriously damaged and is unsafe to occupy, as described below:

Do not enter, except as specifically authorized in writing by jurisdiction. Entry may result in death or injury.

Facility Name and Address:

Date _____
Time _____

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

CHAPTER AN7 REFERENCES

REFERENCED STANDARDS

ASCE Standards ASCE/SEI 24-05 Flood Resistant Design and Construction
 FEMA P-320, Third Edition / August 2008 Taking Shelter From the Storm: Building a Safe Room For Your Home or Small Business, Includes Construction Plans and Cost Estimates
 FEMA 361, Second Edition / August 2008 Design and Construction Guidance for Community Safe Rooms
 FEMA P-431, Second Edition/October 2009 Tornado Protection: Selecting Refuge Areas in Buildings
 FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials

REFERENCED RESOURCES

- (a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007
- (b) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

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Georgia State
International Residential Code

Appendix R
Disaster Resilient Construction
(2012 Edition)



Georgia Department of Community Affairs
Local Government Assistance Division
60 Executive Park South, N.E.
Atlanta, Georgia 30329-2231
(404) 679-3118
www.dca.ga.gov

January 1, 2013

GEORGIA STATE INTERNATIONAL RESIDENTIAL CODE
APPENDIX R
DISASTER RESILIENT CONSTRUCTION

The INTERNATIONAL RESIDENTIAL CODE, 2012 Edition, published by the International Code Council, when used in conjunction with the Georgia State Amendments to the INTERNATIONAL RESIDENTIAL CODE, 2012 Edition and Appendix R Disaster Resilient Construction , shall constitute the official *Georgia State Minimum Standard Residential Code*.

FORWARD

Introduction

The Department of Community Affairs (DCA) was awarded a grant through the U.S. Department of Housing and Urban Development (HUD) to develop Disaster Resilient Building Code (DRBC) Appendices for the International Building Code (IBC) and the International Residential Code (IRC). The DRBC Appendices are optional regulations that local jurisdictions may adopt, in whole or in part, through local ordinance. A task force of stakeholders was appointed to look for opportunities to improve any code provisions relating to damage from hurricane, flood, and tornado disasters. In addition to the approved recommendations from the task force, the state has developed and will conduct a comprehensive training program for code enforcement officials on the importance, implementation and enforcement of the Disaster Resilient Construction Appendices.

The meetings for the Disaster Resilient Building Code Appendices Task Force were open to the public, interested individuals and organizations that desired participation. The technical content of currently published documents on flooding, high-wind construction, and storm shelters, were used and referenced. Those publications included documents of the International Code Council (ICC), American Society of Civil Engineers (ASCE), the Federal Emergency Management Agency (FEMA), Mitigation Assessment Team (MAT) Program, Georgia Emergency Management Agency/Homeland Security (GEMA), APA – The Engineered Wood Association, National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), The State of Florida, American Forest & Paper Association’s American Wood Council, Southern Forest Products Association, NAHB Research Center, Insurance Institute for Business & Home Safety, and the Federal Alliance for Safe Homes.

Adoption

Local jurisdictions may adopt this entire appendix with chosen options or specific sections that apply to their communities through a local ordinance. The adopting ordinance must also be filed on record with DCA. A sample ordinance has been included in this document to assist the local jurisdictions with the adoption process. Recommended training is being offered to assist code enforcement officials in the implementation and enforcement of the appendices documents. Contact DCA at (404) 679-3118 or www.dca.ga.gov for more information.

Neither The Disaster Resilient Building Code Appendices Task Force, its members nor those participating in the development of Appendix R Disaster Resilient Construction accept any liability resulting from compliance or noncompliance with the provisions of Appendix R Disaster Resilient Construction.

The 2012 Disaster Resilient Building Code (DRBC) Appendices Task Force was charged with the development of two appendices. One appendix is for the International Residential Code and the other appendix is for the International Building Code. These two appendices look for opportunities to improve any provisions relating to hurricane, flood, and tornado disasters. In addition to improving existing provisions in the codes, the task force also developed new provisions to be included in the appendices that address these issues. These appendices contain increased construction requirements for disaster resilience and are intended to be made available for adoption by local jurisdictions in the State of Georgia.

These appendices have reasonable and substantial connection with the public health, safety, and general welfare. In addition, the financial impact and costs associated with these appendices have been taken into consideration.

Members:

Mr. Gregori Anderson, Chairman, States Codes Advisory Committee (SCAC)
Mr. David L. Adams, , Vice Chairman, States Codes Advisory Committee (SCAC)
Mr. Bill Abballe, AIA, American Institute of Architects (AIA) – Georgia Chapter
Mr. John Hutton, P.E., S.E., American Council of Engineering Companies of Georgia (ACEC/G)
Mr. Ron Anderson, Code Consultant
Mr. Lamar Smith, Home Builders Association of Georgia (HBAG)
Mr. Thomas Harper, Georgia State Inspectors Association (GSIA)
Mr. Tom Buttram, Building Officials Association of Georgia (BOAG)
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Mr. Terry Lunn, Georgia Emergency Management Agency (GEMA)
Mr. Alan Giles, CFM, Georgia Department of Natural Resources (EPD / Floodplain Management Unit)
Mr. Tony Hebert, HUD Georgia State Representative (Region IV Office)
Mr. Jim C. Beck, Sr., Georgia Underwriting Association
Mr. Tim Thornton, Georgia Association of Realtors (GAR)
Mr. Steve Harrison, Building Owners and Managers Association – Georgia (BOMA)
Mr. Tom Aderhold, Georgia Apartment Association (GAA)
Mr. Tim Bromley, Accessibility Consultant – Georgia State ADA Coordinator’s Office
Mayor Mark Mathews, Georgia Municipal Association (GMA)
Commissioner Jeff Long, Association of County Commissioners of Georgia (ACCG)

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Mr. Calvin Jordan, 2012 International Building Code Task Force Liaison, Code Consultant

How to Use Appendix R Disaster Resilient Construction

The appendix may be adopted in whole or in part by Local Jurisdictions to fit the needs of their community. The following sample ordinance has been provided to aid in the process of indentifying Chapters and Sections of the appendix that may be adopted. The format easily allows for choosing to adopt, revise or delete individual Chapters and Sections. Download the MS Word (.doc) version from the DCA website to take advantage of the dropdown menu choices and edit ability features of the document. Note that in Chapter 3, choose one of three options for flood elevation. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by your jurisdiction. Also note that in Chapter 4, choose one of four options for increased wind speed. Only one option may be chosen and that option must be higher than the mapped wind speed shown in the International Residential Code. The Sample Ordinance document takes into account the flood elevation option in Chapter 3 and the wind speed option in Chapter 4 of this appendix.

**SAMPLE ORDINANCE FOR ADOPTION OF
GEORGIA STATE INTERNATIONAL RESIDENTIAL CODE**

APPENDIX R

DISASTER RESILIENT CONSTRUCTION

ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the latest edition as adopted and amended by the Georgia Department of Community Affairs of *Appendix R Disaster Resilient Construction* regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefore; repealing Ordinance No. ____ of the [JURISDICTION] and all other ordinances or parts of the laws in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as *Appendix R Disaster Resilient Construction* to the International Residential Code, the latest edition as adopted and amended by the Georgia Department of Community Affairs, be and is adopted as the *Appendix R Disaster Resilient Construction* of the [JURISDICTION], in the State of Georgia for regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said *Appendix R Disaster Resilient Construction* on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any prescribed in Section 2 of this ordinance.

Section 2. [NAME OF JURISDICTION] hereby:

Choose an item. CHAPTER AR1 SCOPE AND ADMINISTRATION Choose an item.

Choose an item. SECTION AR101 ADMINISTRATION Choose an item.

Choose an item. AR101.1 Purpose Choose an item.

Choose an item. AR101.2 Objectives Choose an item.

Choose an item. AR101.3 Scope Choose an item.

AR101.3.1 Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AR101.4 Violations Choose an item.

Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. SECTION AR102 APPLICABILITY Choose an item.

Choose an item. AR102.1 General Choose an item.

Choose an item. AR102.2 Other laws Choose an item.

Choose an item. AR102.3 Referenced codes and standards Choose an item.

Choose an item. SECTION AR103 POST DISASTER EVENT INSPECTIONS GUIDLINES Choose an item.

Choose an item. AR103.1 Inspections Choose an item.

Choose an item. AR103.1.1 Right of entry Choose an item.

Choose an item. AR103.2 Types of inspections Choose an item.

Choose an item. AR103.3 Post disaster building safety evaluation chart Choose an item.

Choose an item. Figure AR103.3 Post Disaster Building Safety Evaluation Chart Choose an item.

Choose an item. AR103.4 Evaluation forms Choose an item.

Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AR103.5 Placement and remove of placards Choose an item.

Choose an item. CHAPTER AR2 DEFINITIONS Choose an item.

Choose an item. SECTION AR201 GENERAL Choose an item.

Choose an item. AR201.1 Scope Choose an item.

Choose an item. AR201.2 Terms defined in other codes Choose an item.
Choose an item. AR201.3 Terms not defined Choose an item.
Choose an item. SECTION AR202 DEFINITIONS Choose an item.
Choose an item. CHAPTER AR3 FLOOD-RESISTANT CONSTRUCTION Choose an item.
Choose an item. SECTION AR301 HAZARD IDENTIFICATION Choose an item.
Choose an item. AR301.1 Identification of flood hazard areas Choose an item.
Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].
Insert [Date] for [INSERT DATE ISSUANCE].
Choose an item. SECTION AR302 SCOPE Choose an item.
Choose an item. AR302.1 Flood loads Choose an item.
Choose an item. FLOOD ELEVATION OPTION Choose an item. Choose an item.
Choose an item. SECTION AR303 FLOOD DAMAGE-RESISTANT MATERIALS Choose an item.
Choose an item. AR303.1 Flood damage-resistant materials Choose an item.
Choose an item. AR303.2 Location of flood damage-resistant materials Choose an item.
Choose an item. AR303.3 Fasteners and connectors used for flood-resistant materials Choose an item.
Choose an item. CHAPTER AR4 HIGH-WIND RESISTIVE CONSTRUCTION Choose an item.
Choose an item. SECTION AR401 GENERAL Choose an item.
Choose an item. AR401.1 Scope Choose an item.
Choose an item. AR401.2 Continuous load path Choose an item.
Choose an item. AR401.3 Adoption of wind speed Choose an item.
[Name Of Jurisdiction] adopts Option Choose an item.
Choose an item. SECTION Choose an item. Choose an item.
Choose an item. SECTION AR406 FASTENERS AND CONNECTIONS FOR CLADDING Choose an item.
Choose an item. AR406.1 Fasteners and connectors for cladding Choose an item.
Choose an item. SECTION AR407 FENESTRATION Choose an item.
Choose an item. AR407.1 Design pressure Choose an item.
Choose an item. AR407.2 Anchorage methods Choose an item.
Choose an item. SECTION AR408 ROOFING Choose an item.
Choose an item. AR408.1 Secondary water barrier Choose an item.
Choose an item. AR408.2 Fasteners Choose an item.
Choose an item. AR408.3 Attachment Choose an item.
Choose an item. CHAPTER AR5 RESIDENTIAL STORM SHELTERS AND SAFE ROOMS Choose an item.
Choose an item. SECTION AR501 GENERAL Choose an item.
Choose an item. AR501.1 General Choose an item.
Choose an item. SECTION AR502 RESIDENTIAL STORM SHELTERS AND SAFE ROOMS Choose an item.
Choose an item. AR502.1 Residential storm shelters Choose an item.
Choose an item. AR502.2 Residential safe rooms Choose an item.

Section 3. That Ordinance No. ____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in *Appendix R Disaster Resilient Construction* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of

action acquired or existing under any act or ordinance hereby repealed as cited in Section 3 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

Section 8. Chapter AR6 Resources of this document is intended to be used by the building officials as a resource guide.

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APPENDIX R DISASTER RESILIENT CONSTRUCTION

CHAPTER AR1 SCOPE AND ADMINISTRATION

SECTION AR101 ADMINISTRATION

AR101.1 Purpose. The scope of this appendix is to promote enhanced public health, safety and general welfare and to reduce public and private property losses due to hazards and natural disasters associated with flooding, high-winds, and windborne debris above that which is provided in the general provisions of this appendix.

AR101.2 Objectives. The objectives of this appendix are to:

1. Protect human life, to minimize property loss and to minimize the expenditures of public money associated with natural weather related disasters, including flooding, tornadoes and other high-wind events.
2. Establish enhanced design and construction regulations consistent with nationally recognized good practices for the safeguarding of life and property.

AR101.3 Scope.

AR101.3.1 The provisions of this appendix are not mandatory unless specifically referenced in an adopting ordinance of [NAME OF JURISDICTION]. If adopted, the provisions shall apply to all new development and to substantial improvements to existing development.

AR101.3.2 The provisions of this appendix supplement the jurisdiction's building codes to provide for enhanced provisions to mitigate the hazard to life and property from natural weather related disasters, including flooding, tornadoes and other high-wind events.

AR101.3.3 The provisions of this appendix establish design and construction standards for storm shelters.

AR101.4 Violations. Any violation of a provision of this appendix or failure to comply with a permit of variance issued pursuant to this appendix or any requirement of this appendix shall be handled in accordance with the ordinances of [NAME OF JURISDICTION].

SECTION AR102 APPLICABILITY

AR102.1 General. This appendix provides enhanced minimum requirements for development of new construction and substantial improvement of existing development above that contained in the *International Residential Code* (IRC).

AR102.1.1 Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this appendix or to any previously approved alternative arrangements than it was before the work was undertaken.

AR102.1.2 Where there is a conflict between a requirement of the *International Residential Code* and a requirement of this appendix, the requirement of this appendix shall govern. Where there is a conflict between a general requirement of this appendix and a specific requirement of this appendix, the specific requirement shall govern. Where, in any specific case, different sections of this appendix specify different materials, methods of construction or other requirements, the most restrictive shall govern.

AR102.2 Other laws. The provisions of this appendix shall not be deemed to nullify any provisions of local, state or federal law.

AR102.3 Referenced codes and standards. The codes and standards referenced in this appendix shall be those that are listed in Chapter AR7 and such codes and standards shall be considered as part of the requirements of this appendix to the prescribed extent of each such reference. Where differences occur between provisions this appendix and references and standards, the provisions of this appendix shall apply.

**SECTION AR103
POST DISASTER EVENT INSPECTIONS
GUIDELINES**

AR103.1 Inspections. The building official or agents shall inspect residential buildings and structures to determine the habitability of each with the goal of getting the community back into their residences quickly and safely. Inspections shall always be performed by teams of at least two individuals, also known as disaster assessment teams.

AR103.1.1 Right of entry. Unless permitted under the exigent circumstances provisions or from an order from State or Federal Authorities, disaster assessment teams shall confirm the right of entry requirements with the incident commander. Upon approval, the assessment teams shall be authorized to enter the structure or premises at reasonable times to inspect or perform duties as provided by this code, provided that the structure or premises be occupied, that credentials are presented, that entry is requested, and that entry is granted by the owner or person having charge over the structure or premises.

AR103.2 Types of inspections.

AR103.2.1 Rapid evaluation. Rapid evaluation is performed after a disaster event to determine if a building is apparently safe or obviously unsafe. The evaluation should last 10 to 30 minutes per building and shall be performed by the building official and/or their designated responders. Evaluation shall determine if a detailed evaluation is necessary. Placards are posted on buildings indicating status as one of the following:

1. INSPECTED
2. RESTRICTED USE
3. UNSAFE

See Section AR605 for Placards that may be reproduced for use in the field during evaluations. The jurisdiction shall alter placards to meet the jurisdiction and building department's requirements.

AR103.2.2 Detailed evaluation. Detailed evaluation is a thorough visual examination of a damaged building performed by a team of two, including an inspector and a design professional. Evaluation should last 30 minutes to 4 hours per building. Evaluation shall determine necessary restrictions on a damaged building's use, the need for an engineering evaluation or to evaluate postings.

AR103.2.3 Engineering evaluation. When indicated by the building official as necessary, engineering evaluations shall be completed by a registered design professional hired by the building owner.

AR103.3 Post disaster building safety evaluation Chart. See Figure AR103.3 for Post Disaster Building Safety Evaluation Chart.

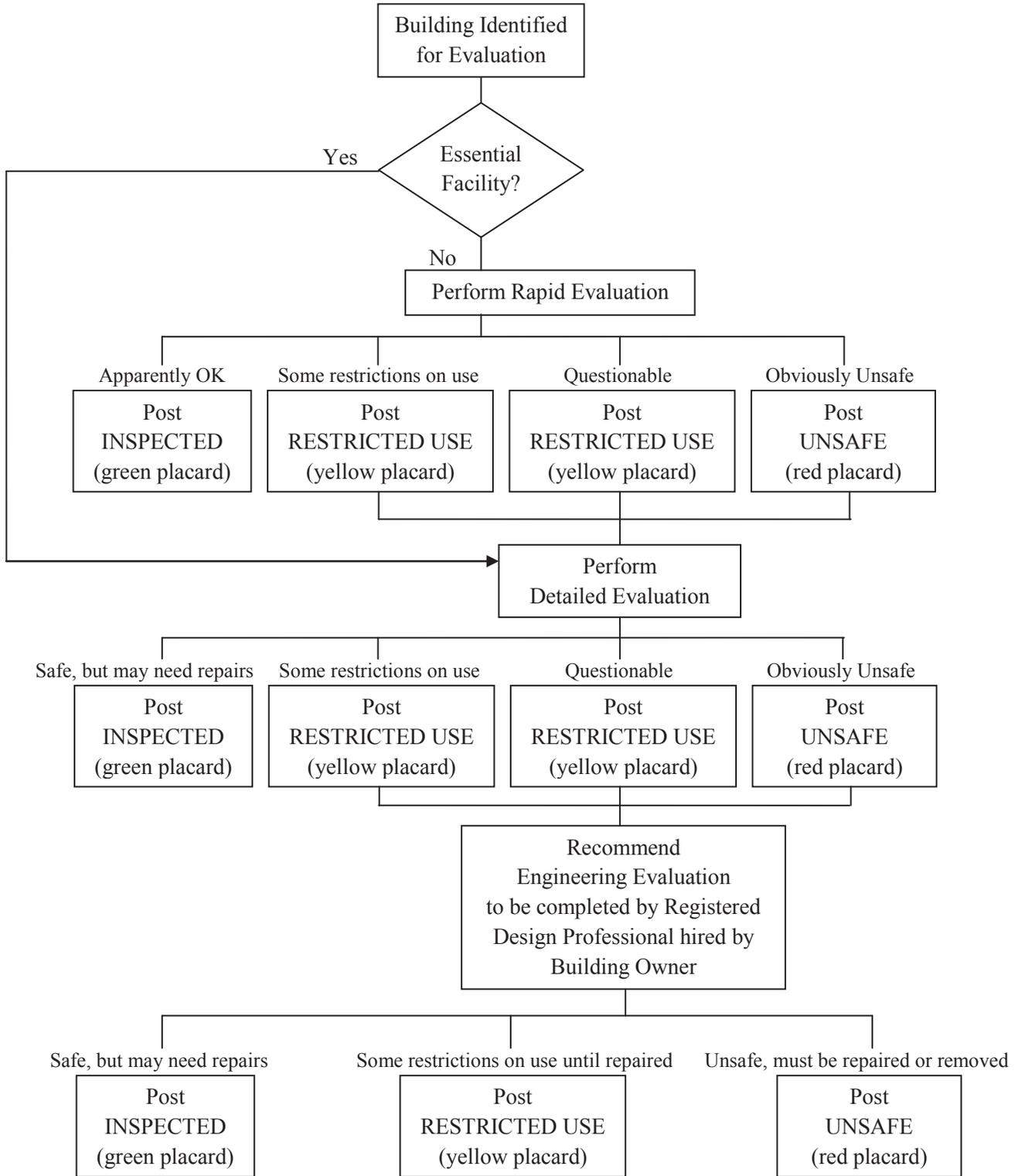
AR103.4 Evaluation forms. *ATC-45 Rapid Evaluation Safety Assessment Form* and *ATC-45 Detailed Evaluation Safety Assessment Form* shall be used by [NAME OF JURISDICTION]'s Building Official for post disaster inspections. See Section AR605 for copies of the Safety Assessment Forms.

AR103.5 Placement and removal of placards.

AR103.5.1 Placement. Placards are to be posted in a clearly visible location near the main entrance and shall be visible from the public right-of-way. In addition RESTRICTED USE or UNSAFE placards shall be placed at all entrances.

AR103.5.2 Removal. Placards shall not be removed or replaced, except by the authorized representatives of the local jurisdiction.

Figure AR103.3 Post Disaster Building Safety Evaluation Chart ^a



^(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

CHAPTER AR2 DEFINITIONS

SECTION AR201 GENERAL

AR201.1 Scope. Unless otherwise expressly stated the following words and terms shall, for the purposes of this appendix, have the meanings shown in this chapter.

AR201.2 Terms defined in other codes. Where terms are not defined in this appendix and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

AR201.3 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION AR202 DEFINITIONS

500-YEAR FLOOD. Flood having a 0.2% annual probability of being equaled or exceeded.

ADVISORY BASE FLOOD ELEVATION (ABFE). An advisory base flood elevation (BFE) issued by the Federal Emergency Management Agency (FEMA) that reflects post-storm conditions and vulnerability to damages from future flooding.

BASE FLOOD. Flood having a 1% chance of being equaled or exceeded in any given year, also referred to as the 100-year flood.

BASE FLOOD ELEVATION (BFE). The elevation of flooding, including wave height, having a 1% chance of being equaled or exceeded in any given year established relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the *Flood Insurance Rate Map* (FIRM).

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Residential Code*, or the building official's duly authorized representative.

DESIGN FLOOD. The greater of the following two flood events:

- (1) The *base flood*, affecting those areas identified as *special flood hazard areas* on the community's FIRM;

- (2) The flood corresponding to the area designated as a *flood hazard area* on a community's *flood hazard map* or otherwise legally designated.

DESIGN FLOOD ELEVATION (DFE). The elevation of the *design flood*, including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the *design flood elevation* shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map.

FLOOD [DAMAGE]-RESISTANT MATERIAL. Any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage.

FLOOD HAZARD AREA. The area subject to flooding during the *design flood*.

FLOOD HAZARD MAP. Map delineating *flood hazard areas* adopted by the authority having jurisdiction.

FLOOD INSURANCE RATE MAP (FIRM). An official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated both the *special flood hazard areas* and the risk premium zones applicable to the community.

FREEBOARD. A factor of safety expressed in feet above a flood level for purposes of floodplain management.

FUTURE-CONDITIONS FLOOD. The flood having a 1% chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

FUTURE-CONDITIONS FLOOD ELEVATION. The flood standard equal to or higher than the Base Flood Elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

**CHAPTER AR3
FLOOD-RESISTANT CONSTRUCTION**

Forward: This appendix provides three different options for increased freeboard. The jurisdiction may pick only one option that is higher than previously adopted and enforced by the jurisdiction. The National Flood Insurance Program (NFIP) minimum standards reference Base Flood Elevation without any freeboard in high risk flood hazard areas. Due to the flood damage prevention updates performed during the Map Modernization initiative that led to flood risks being digitally identified in all 159 Georgia counties, all Georgia NFIP participating communities have freeboard standards that meet or exceed the 1 foot standard used in the State model ordinances for areas where BFEs have been established.

**SECTION AR301
HAZARD IDENTIFICATION**

AR301.1 Identification of flood hazard areas. To establish flood hazard areas:

- (a) flood hazard map adopted by jurisdiction based on areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled “The Flood Insurance Study of [INSERT NAME OF JURISDICTION],” dated [INSERT DATE ISSUANCE], and amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto.
- (b) FIRM maps provided by the Federal Emergency Management Agency.

**SECTION AR302
SCOPE**

AR302.1 Flood loads. Buildings designed and constructed in flood hazard areas defined in Table R301.2(1) of the *International Residential Code* shall comply with the following:

AR302.1.1 Flood hazard areas without base flood elevations. In flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade to the building foundation.

OPTION A – FLOOD ELEVATION

AR302.1.2 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus one (1) foot, or
- (b) Base flood elevation plus one (1) foot, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or

- (e) 500-year flood, if known

OPTION B– FLOOD ELEVATION

AR302.1.3 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus two (2) feet, or
- (b) Base flood elevation plus two (2) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

OPTION C – FLOOD ELEVATION

AR302.1.4 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus three (3) feet, or
- (b) Base flood elevation plus three (3) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

**SECTION AR303
FLOOD DAMAGE-RESISTANT MATERIALS**

AR303.1 Flood damage-resistant materials. Flood damage-resistant materials comply with FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials.

AR303.2 Location of flood damage-resistant materials. Building components and materials located below the increase to base flood elevation as determined by the local jurisdiction in accordance with AR302.1 shall be flood damage-resistant as defined by Section AR303.1.

AR303.3 Fasteners and connectors used for flood damage-resistant materials. Fasteners and connectors used for flood damage-resistant materials to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

CHAPTER AR4 HIGH-WIND RESISTIVE CONSTRUCTION

Forward: This appendix provides four different options for increased wind speed. The jurisdiction may pick only one option that is higher than the mapped wind speed shown in the International Residential Code.

SECTION AR401 GENERAL

AR401.1 Scope. The provisions of this appendix shall govern the structural design of one- and two-family dwellings (townhouses) not more than three stories in height with separate means of egress and their accessory structures. The building or structure shall comply with all aspects of the International Residential Code in addition to the requirements of this appendix.

AR401.2 Continuous load path. A continuous load path shall be provided to transmit the applicable forces from the roof assembly to the foundation.

AR401.3 Adoption of wind speed. [INSERT NAME OF JURISDICTION] adopts Option [PICK A, B, C, or D] MINIMUM WIND SPEED [INSERT WIND SPEED].

AR401.4 Alternative materials, design and methods of construction and equipment. The provisions of this appendix are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this appendix, provided such material is listed and tested for such application intended. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this appendix, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this appendix. Compliance with the specific performance-based provisions of the International Codes in lieu of specific requirements of this appendix shall also be permitted as an alternate.

AR401.4.1 Tests. Whenever there is insufficient evidence of compliance with the provisions of this appendix, or evidence that a material or method does not conform to the requirements of this appendix, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this appendix or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an

approved agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

SECTION AR402 OPTION A – MINIMUM WIND SPEED 100 MPH

AR402.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 100 mph Exposure B in accordance with AR402.1.1 or in accordance with Prescriptive Method AR402.2. Buildings with minimum wind speed of 100 mph Exposure C shall be in accordance with AR402.1.1.

AR402.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. *AF&PA Wood Frame Construction Manual (WFCM)*, or
2. *AF&PA Wood Frame Construction Manual Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings: 100 MPH Exposure B (WFCM)*; or
3. *ICC Standard for Residential Construction in High-Wind Regions (ICC 600)*; or
4. *ASCE Minimum Design Loads for Buildings and Other Structures (ASCE 7)*; or
5. *AISI Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings (AISI S230)*; or
6. *International Building Code*; or
7. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
8. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

AR402.2 Prescriptive wood frame construction method deemed to comply with 100 MPH Exposure B. Prescriptive construction method for wood frame structures shall be in accordance with IRC requirements for 100 mph Exposure B construction as modified in this section. A continuous load path shall be provided to transmit uplift forces from the roof assembly to the ground as follows:

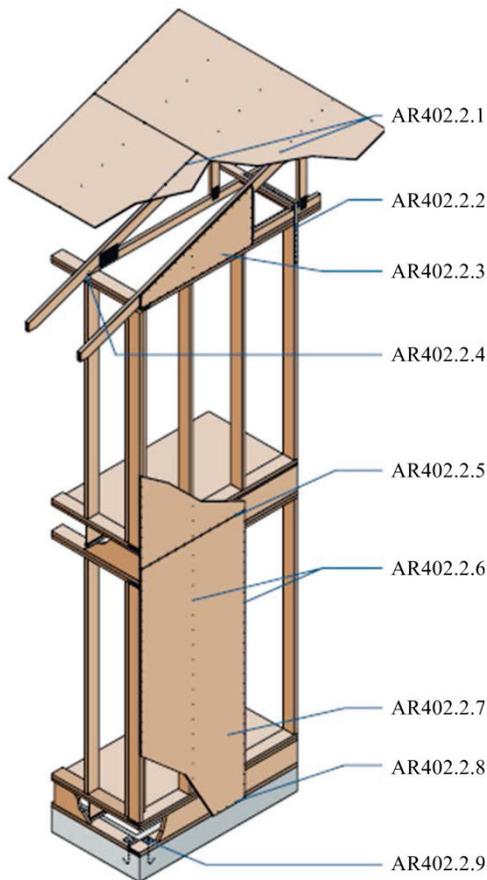


Figure AR402.2^b

(b) Form No. M310B © 2011 APA – The Engineered Wood Association.

AR402.2.1 Roof sheathing attachment. Nail roof sheathing with 8d ring shank (or deformed shank) (0.131" x 2-1/2") nails at 4 inches on center along the ends of the sheathing and gable end framing 6 inches on center along intermediate framing. See Figure AR402.2.1.

AR402.2.2 Gable end wall connection. Tie gable end walls back to the structure. See Figure AR402.2.2.

AR402.2.3 Gable end wall sheathing. Continuously sheath gable end walls with wood structural panels or equivalent approved material meeting loading requirements. See Figure AR402.2.3.

AR402.2.4 Roof framing to wall connection. Connect roof framing to wall using an approved connector or connectors having allowable loads when attached to Southern Pine or Douglas Fir lumber of 585 pounds in the upward direction, 485 pounds in the direction parallel to the wall and 165 pounds in the direction perpendicular to the wall. Attachment to be

on exterior face of the exterior walls. See Figure AR402.2.4.

AR402.2.5 Sheathing attachment at elevated floor level. Nail upper story sheathing and lower story sheathing into common wood structural panel or engineered rim board. See Figure AR402.2.5.

AR402.2.6 Wall sheathing attachment. Attach wall sheathing with 8d common (0.131" x 2-1/2") nails at 4 inches on center at end and edges of wood structural panels and 6 inches on center in the intermediate framing. See Figure AR402.2.6a. Adjacent edges in wood structural panel wall sheathing that do not occur over common framing members shall be attached to flat wise blocking as illustrated in Figure AR402.2.6b.

AR402.2.7 Continuous wall sheathing. Continuously sheath all walls with wood structural panels or equivalent approved material meeting loading requirements. Continuously sheath areas around openings for windows and doors. Minimum wall bracing requirements shall be in accordance with IRC Section R602.10 or R602.12 continuous sheathing methods as modified in Section AR402.2.

AR402.2.8 Wall sheathing to sill plate connection. Extend sheathing material to lap the sill plate. See Figure AR402.2.8.

AR402.2.9 Anchor bolt connection. Space 1/2" anchor bolts with 7 inches of embedment 48 inches on center with 0.229" x 3" x 3" square plate washers with slotted holes. See Figure AR402.2.9. There shall be a minimum of 2 bolts per plate section with one bolt located not more than 12" or less than 3.5" from each end of the plate section.

AR402.2.10 Top plate intersection detail. Double top plates shall be provided at the top of all exterior stud walls. The double plates shall overlap at corners and at intersections with other exterior or interior load bearing walls. Double top plates shall be lap-spliced with end joints offset in accordance with the minimum requirements given in the *WFCM Guides to Wood Construction in High Wind Areas for One- and Two-Family Dwellings: 100 MPH Exposure B*. See Figure AR402.2.10.

AR402.3 Wall openings. Uplift load path connections at wall openings shall be in accordance with IRC Section R602.3.5.

NAIL ROOF SHEATHING WITH 8d RING SHANK (0.131" X 2-1/2") OR DEFORMED SHANK NAILS AT 4" ON CENTER ALONG THE ENDS OF THE SHEATHING AND GABLE END FRAMING 6 INCHES ON CENTER ALONG INTERMEDIATE FRAMING

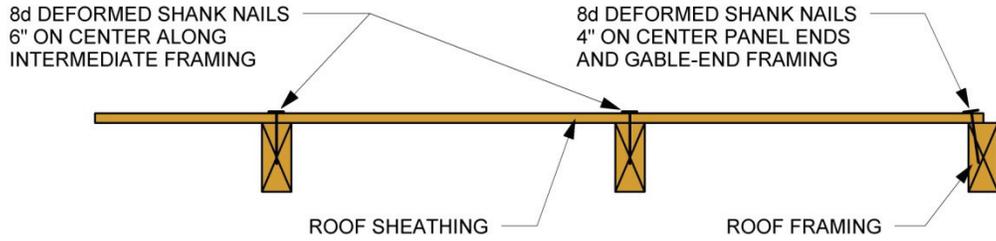


Figure AR402.2.1^b
Roof Sheathing Attachment Detail

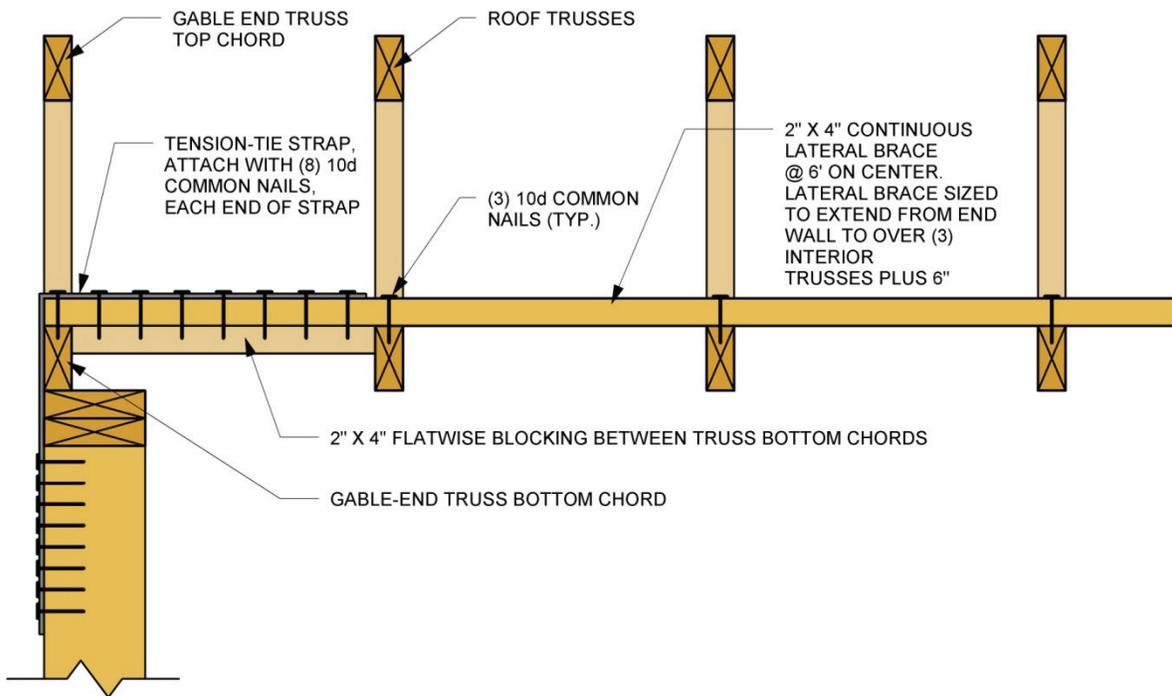


Figure AR402.2.2^b
Gable End Wall Connection Detail

SHEATH GABLE END WALLS WITH WOOD STRUCTURAL PANELS OR EQUIVALENT APPROVED MATERIAL MEETING LOADING REQUIREMENTS

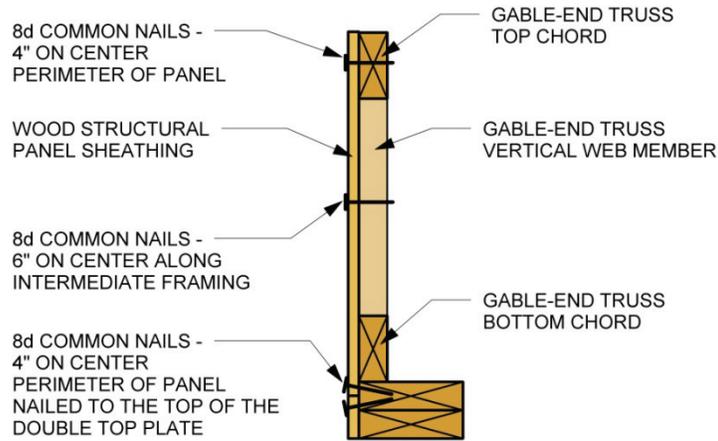


Figure AR402.2.3^b
Gable End Wall Sheathing Detail

ROOF FRAMING TO WALL CONNECTION WITH FRAMING ANCHOR TO MEET UPLIFT AND SHEAR CAPACITY ATTACHED ON SHEATHING SIDE OF THE EXTERIOR WALLS

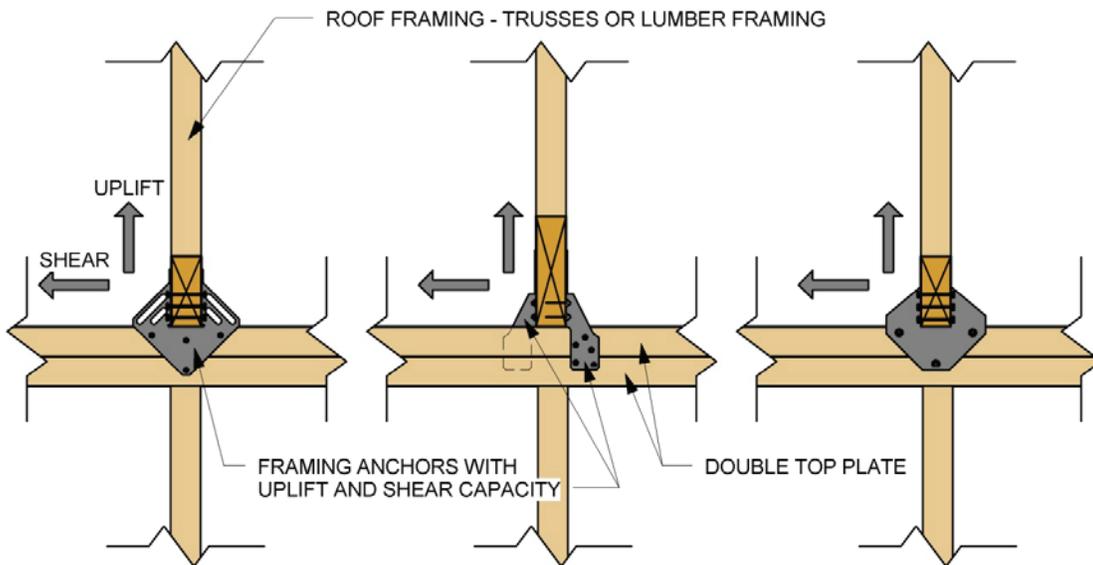


Figure AR402.2.4^b
Roof Framing to Wall Connection Detail

NAIL OFF UPPER STORY AND LOWER STORY SHEATHING INTO COMMON WOOD STRUCTURAL PANEL RIM BOARD

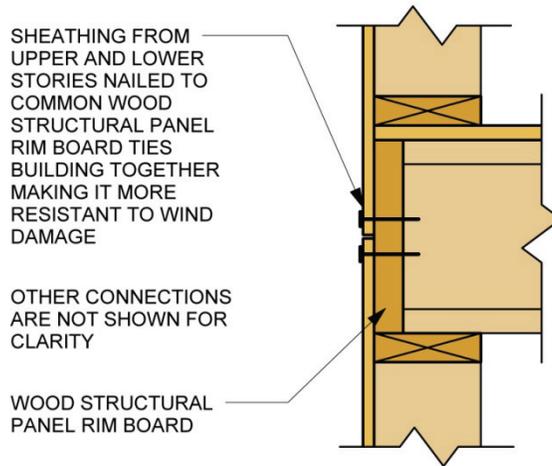


Figure AR402.2.5^b
Sheathing Attachment at Elevated Floor Level Detail

NAIL WALL SHEATHING WITH 8d COMMON (0.131" X 2-1/2") NAILS AT 4" ON CENTER IN THE BOUNDARY OF WOOD STRUCTURAL PANEL WALLSHEATHING AND 6" ON CENTER IN THE INTERMEDIATE STUDS

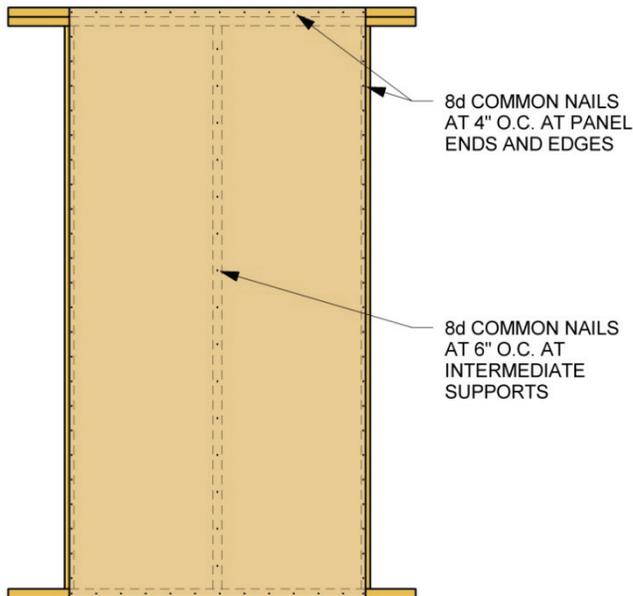


Figure AR402.2.6a^b
Wall Sheathing Attachment Detail

WOOD STRUCTURAL PANEL FLAT-WISE BLOCKING DETAIL

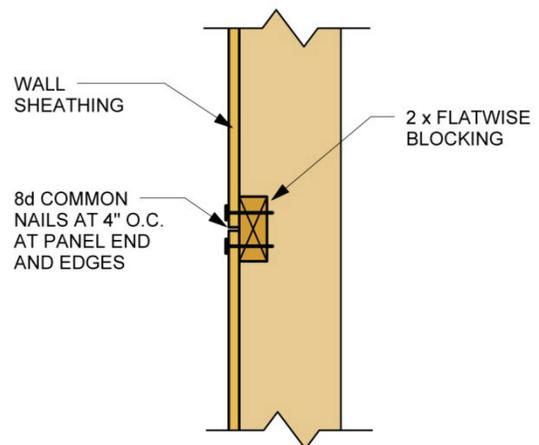


Figure AR402.2.6b
Panel Splice Detail

EXTEND WOOD STRUCTURAL PANEL SHEATHING AT BOTTOM WALL TO SILL PLATE INTERSECTION

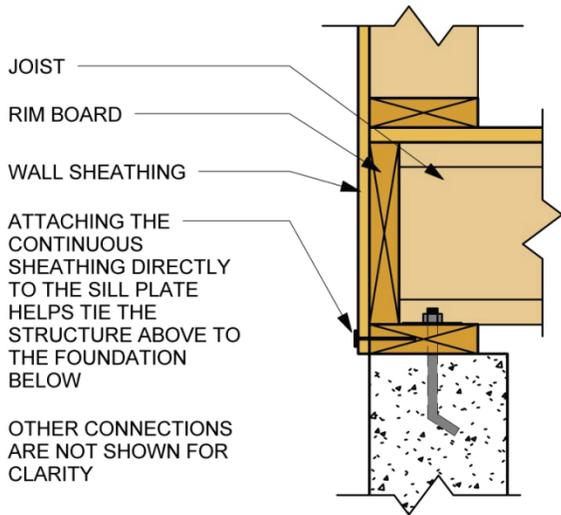


Figure AR402.2.8^b

Wall Sheathing to Sill Plate Connection Detail

SPACE 1/2" ANCHOR BOLTS 48" ON CENTER WITH 0.229" X 3" X 3" SLOTTED SQUARE PLATE WASHERS AT THE WALL TO SILL PLATE INTERSECTION

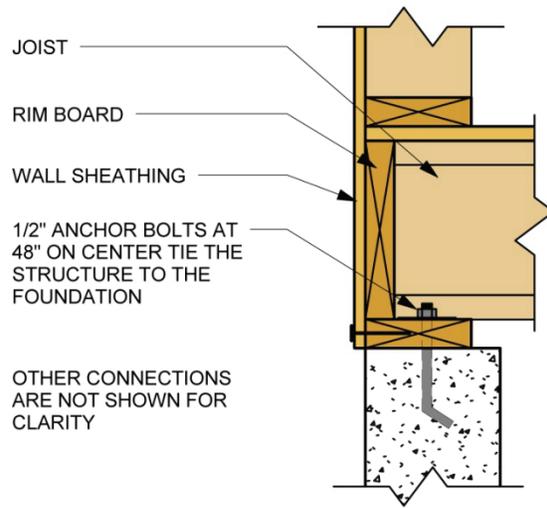


Figure AR402.2.9^b

Anchor Bolt Connection Detail

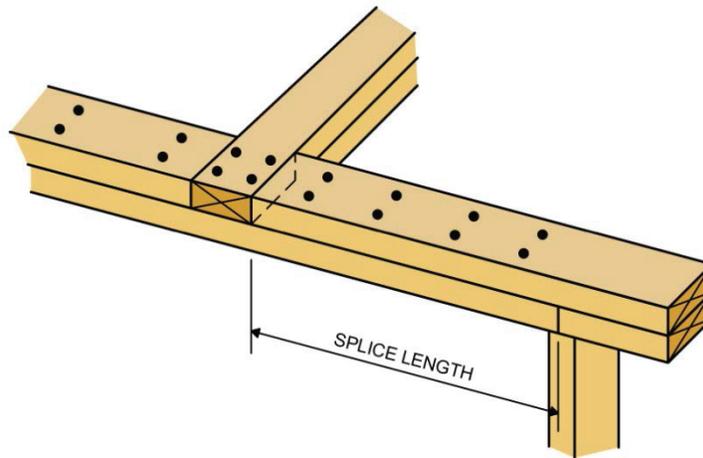


Figure AR402.2.10^c

Top Plate Intersection Detail

(b) *Form No. M310B* August 2011 APA – The Engineered Wood Association

(c) *WFCM Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings* – American Forest & Paper Association and the American Wood Council

SECTION AR403

OPTION B –MINIMUM WIND SPEED 110 MPH

AR403.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 110 mph Exposure B.

AR403.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
7. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

SECTION AR404

OPTION C –MINIMUM WIND SPEED 120 MPH

AR404.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 120 mph Exposure B.

AR404.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
7. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

SECTION AR405

OPTION D – MINIMUM WIND SPEED 130 MPH

AR405.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 130 mph Exposure B.

AR405.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*.

SECTION AR406

FASTENERS AND CONNECTORS FOR CLADDING

AR406.1 Fasteners and connectors for cladding. Fasteners and connectors to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

SECTION AR407

FENESTRATION

AR407.1 Design pressure. Exterior windows and doors shall be designed to resist the design wind loads specified in *International Residential Code* Table R301.2(2) adjusted for height and exposure per *International Residential Code* Table R301.2(3) based on the minimum wind speed specified in this appendix by the local jurisdiction.

AR407.2 Anchorage methods. Window and door assembly anchoring systems shall be in accordance with the manufacturer's published recommendations to achieve the design pressure specified per Section AR407.1. Substitute anchoring systems shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice. Anchorage shall not exceed the spacing for the tested rated performance.

SECTION AR408
ROOFING

AR408.1 Secondary water barrier. Underlayment shall be two layers applied in the following manner:

- (a) **Self-adhering tape as first layer.** Install minimum 4 inch wide self-adhering modified bitumen tape over sheathing joints. Seal deck penetrations with self-adhering modified bitumen tape. **ASTM D 226 Type I, ASTM D 4869 Type I or ASTM D 6757** as second layer. Apply a 19-inch strip of underlayment felt parallel to and starting at eaves, secure with low-profile, capped-head nails or thin metal disks attached with roofing nails. Fasten at approximately 6 inches on center along the laps and at approximately 12 inches on center along a row in the field of the sheet between the side laps. All laps shall be a minimum of 4 inches. Starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches, fasten as before. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.
- (b) **Two layers of ASTM D 226 Type I, ASTM D 4869 Type I or ASTM D 6757.** For each layer, apply a 19-inch strip of underlayment felt parallel to and starting at eaves, secure with low-profile, capped-head nails or thin metal disks attached with roofing nails. Fasten at approximately 6 inches on center along the laps and at approximately 12 inches on center along a row in the field of the sheet between the side laps. All laps shall be a minimum of 4 inches. Starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches, fasten as before. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.

Exception: As an alternative, adhered underlayment complying with ASTM D 1970 shall be permitted.

AR408.2 Fasteners.

AR408.2.1 Underlayment fasteners. Underlayment shall be attached using metal or plastic cap corrosion-resistant nails with a head diameter of not less than 1 inch with a thickness of at least 32-gauge sheet metal. The cap-nail shank shall be a minimum of 12 gauge with a sufficient length to penetrate through the roof sheathing or a minimum of 3/4 inch into the roof sheathing.

AR408.2.2 Asphalt shingles fasteners. Where asphalt shingles shall be applied with corrosion-resistant nails with shanks made of minimum 12 gauge wire and a minimum head diameter of 3/8 inch. Nails shall be long enough to penetrate 3/4 inch into the roof deck. Where the deck is less than 3/4 inch thick, the nails shall be long enough to penetrate completely through plywood decking and extend at least 1/8 inch through the roof deck.

AR408.3 Attachment. Where asphalt shingles shall have a minimum number of fasteners required by the manufacturer, but not less than six fasteners per strip shingle or three fasteners per individual shingle. Drive nail head flush with the shingle surface per figure AR408.2.

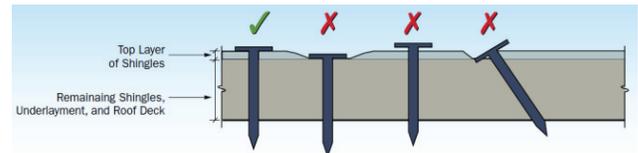


Figure AR408.2^d

(d) FEMA Home Builder's Guide to Coastal Construction Technical Fact Sheet No. 7.3 Asphalt Shingle Roofing for High Wind Regions.

**CHAPTER AR5
RESIDENTIAL STORM SHELTERS AND SAFE ROOMS**

**SECTION AR501
GENERAL**

AR501.1 General. This section applies to the construction of residential storm shelters and safe rooms when constructed as separate detached buildings or as internal areas within buildings for the purpose of providing safe refuge for storms that produce high winds, such as tornados and hurricanes. Residential storm shelters or safe rooms shall be offered as an optional package.

**SECTION AR502
RESIDENTIAL STORM SHELTERS AND SAFE
ROOMS**

AR502.1 Residential storm shelters. Residential storm shelters when constructed shall be in compliance with the following:

1. *ICC/NSSA-500* per IRC Section R323.

AR502.2 Residential safe rooms. Residential safe rooms when constructed shall be in compliance with the following:

1. *FEMA 361 Design and Construction Guidance for Community Safe Rooms*; or
2. *FEMA 320 Taking Shelter from the Storm: Building a Safe Room For Your Home and Small Business*

CHAPTER AR6 RESOURCES

SECTION AR601 CONTACTS

Georgia Department of Community Affairs (DCA) Construction Codes

Georgia State Amendments to the State Minimum
Standard Codes

<http://www.dca.ga.gov/development/constructioncodes/programs/codeAmendments.asp>

Phone: 404-679-3118

Georgia Department of Natural Resources (DNR) Floodplain Management

4220 International Parkway, Ste. 101

Atlanta, GA 30354-3902

www.georgiadfirm.com

Phone: 404-675-1757

Federal Emergency Management Agency (FEMA)

www.fema.gov; www.floodsmart.gov

www.fema.gov/rebuild/buildingscience/

FEMA Publications and Technical Bulletins:

www.fema.gov/library/index.jsp

www.fema.gov/plan/prevent/floodplain/techbul.shtm

Georgia Emergency Management Agency (GEMA)

Georgia Office of Homeland Security

P.O. Box 18055

Atlanta, GA 30316-0055

www.gema.ga.gov

www.ready.ga.gov

Phone: 404-635-7000

Georgia Association of Regional Commissions (GARC)

www.garc.ga.gov

<http://garc.ga.gov/main.php?Regional-Commissions-2>

(for assistance in identifying Flood Hazard Areas)

International Code Council (ICC)

www.iccsafe.org

National Weather Service

www.srh.weather.gov

State Fire Marshal's Office

2 Martin Luther King Jr. Drive

Suite 920 / West Tower

Atlanta, Georgia 30334

www.oci.ga.gov

Phone: 404-656-7087

SECTION AR602

EMERGENCY INSPECTION KIT^e

- | | | |
|--|---|---|
| <input type="checkbox"/> Staff's disaster response management plan | <input type="checkbox"/> Safety glasses | <input type="checkbox"/> Duct tape |
| <input type="checkbox"/> Team contact list | <input type="checkbox"/> Sunglasses | <input type="checkbox"/> Staples & stapler |
| <input type="checkbox"/> Area maps | <input type="checkbox"/> Pocket knife | <input type="checkbox"/> Staple gun |
| <input type="checkbox"/> Official identification | <input type="checkbox"/> Matches | <input type="checkbox"/> Calculator |
| <input type="checkbox"/> Personal identification | <input type="checkbox"/> Antibacterial hand wipes or alcohol-based hand sanitizer | <input type="checkbox"/> Tire repair kit |
| <input type="checkbox"/> Inspection forms and placards | <input type="checkbox"/> Insect repellent (w/ Deet or Picaridin) | <i>Remember to grab:</i> |
| <input type="checkbox"/> Communication equipment | <input type="checkbox"/> Sunscreen (SPF 15 or greater) | <input type="checkbox"/> Personal identification |
| <input type="checkbox"/> Clipboard | <input type="checkbox"/> Camera | <input type="checkbox"/> Rain gear, extra clothing |
| <input type="checkbox"/> Hard hat | <input type="checkbox"/> Black markers | <input type="checkbox"/> Water bottle |
| <input type="checkbox"/> Orange safety vest | <input type="checkbox"/> Pens & pencils | <input type="checkbox"/> Prescription medication |
| <input type="checkbox"/> Dust mask | <input type="checkbox"/> Envelope for expense receipts | <input type="checkbox"/> Cell phone and charger |
| <input type="checkbox"/> Work gloves | <input type="checkbox"/> Compass, GPS unit | <input type="checkbox"/> Cash for personal expenses |
| <input type="checkbox"/> Steel toe and waterproof boots | <input type="checkbox"/> Backpack, waistpack | <input type="checkbox"/> Toiletries |
| <input type="checkbox"/> Whistle | <input type="checkbox"/> Flashlight and extra batteries | |
| <input type="checkbox"/> First aid kit | <input type="checkbox"/> Battery-operated radio | |
| <input type="checkbox"/> Latex gloves | | |

(e) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

**SECTION AR603
SAFETY TIPS ^a**

1. Always travel in teams of at least two people.
2. Always wear a hard hat, gloves, goggles, safety vest, and dust masks.
3. Always wear safety shoes capable of protecting the toes and bottom of the foot.
4. Survey the building exterior completely before entering.
5. Enter building only if authorized and if deemed safe to do so.
6. Be alert for falling objects.
7. In case of fire, injuries or victims, evacuate the area and alert the fire department immediately.
8. Avoid downed power lines and buildings under them or water surrounding them.
9. In case of gas leaks, shut off the gas (if possible) and report the leak.
10. In a flood situation, have a “walking stick.”

(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

**SECTION AR604
MAJOR DISASTER PROCESS**
(from link <http://www.fema.gov/hazard/dproc.shtm>)

A Major Disaster Declaration usually follows these steps:

- **Incident occurs and local government responds**, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;

Generally the local government will issue a local state of emergency

- **The State responds** with state resources, such as the National Guard and state agencies;

Prior to committing state resources, the Governor will declare a state of emergency in the counties impacted by the event for which assistance is needed.

- **Damage assessment** by local, state, federal, and volunteer organizations determine losses and recovery needs;

Generally the locals will submit a preliminary damage assessment to the State and the State will review and determine if state and/or federal assistance is needed. If federal assistance is needed, the state will request FEMA perform a preliminary joint damage assessment. If the Governor determines that the incident is of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments then supplementary Federal assistance is requested (next step).

- **A Major Disaster Declaration** is requested by the Governor, based on the damage assessment, and agreement to commit state funds and resources to the long-term recovery;
- **FEMA evaluates** the request and recommends action to the White House based on the disaster, the local community and the state’s ability to recover;
- **The President approves** the request or FEMA informs the Governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

**SECTION AR605
SAMPLE EVALUATION FORMS AND INSPECTION PLACARDS ^e (following pages)**

Figure AR605.1 °

ATC-45 Rapid Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Areas inspected: Exterior only Exterior and interior

Building Description

Building name: _____ Type of Building

Address: _____ Mid-rise or high-rise Pre-fabricated

_____ Low-rise multi-family One- or two-family dwelling

_____ Low-rise commercial

Building contact/phone: _____ Primary Occupancy

Number of stories: _____ Dwelling Commercial Government

"Footprint area" (square feet): _____ Other residential Offices Historic

Number of residential units: _____ Public assembly Industrial School

_____ Emergency services Other: _____

Evaluation

Investigate the building for the conditions below and check the appropriate column. **Estimated Building Damage (excluding contents)**

Observed Conditions:	Minor/None	Moderate	Severe	Estimated Building Damage (excluding contents)
Collapse, partial collapse, or building off foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> None
Building significantly out of plumb or in danger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 0 to < 1%
Damage to primary structural members, racking of walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1 to < 10%
Falling hazard due to nonstructural damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 10 to < 30%
Geotechnical hazard, scour, erosion, slope failure, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 30 to < 70%
Electrical lines / fixtures submerged / leaning trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 70 to < 100%
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 100%

See back of form for further comments.

Posting

Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting.

INSPECTED (Green placard) **RESTRICTED USE** (Yellow placard) **UNSAFE** (Red placard)

Record any use and entry restrictions exactly as written on placard: _____

Number of residential units vacated: _____

Further Actions Check the boxes below only if further actions are needed.

Barricades needed in the following areas: _____

Detailed Evaluation recommended: Structural Geotechnical Other: _____

Substantial Damage determination recommended

Other recommendations: _____

See back of form for further comments.

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 Permission is granted for unlimited, non-exclusive, non-commercial use and distribution of ATC evaluation forms, provided that this Copyright Notice appears on all copies and the Applied Technology Council name shall not be used in any advertising or publicity of Licensee product. Permission is further subject to the following conditions: (1) Licensee does not reprint, repackage or offer this form for sale or license; and (2) no material gain or financial profit is to be made from any sale or license of this form. Placards may be used without restrictions for their intended use as building postings. All rights not specifically granted to Licensee are herein reserved by ATC.

Figure AR605.2^e

ATC-45 Detailed Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Final Posting
from page 2

Inspected
 Restricted Use
 Unsafe

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or High-rise
 Low-rise multi-family
 Low-rise commercial

Pre-fabricated
 One- or two-family dwelling
 Other: _____

Primary Occupancy

Dwelling
 Other residential
 Public assembly
 Emergency services

Commercial
 Offices
 Industrial
 Other: _____

Government
 Historic
 School

Evaluation

Investigate the building for the conditions below and check the appropriate column. There is room on the second page for a sketch.

	Minor/None	Moderate	Severe	Comments
Overall hazards:				
Collapse or partial collapse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building or story lean or drift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fractured or displaced foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural hazards:				
Failure of significant element/connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Column, pier, or bearing wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Roof/floor framing or connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Superstructure/foundation connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Moment frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Diaphragm/horizontal bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vertical bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Shear wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Nonstructural hazards:				
Parapets, ornamentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Canopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cladding, glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ceilings, light fixtures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stairs, exits, access walkways, gratings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interior walls, partitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Mechanical & electrical equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building contents, other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Geotechnical hazards:				
Slope failure, debris impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ground movement, erosion, sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Differential settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Continue on page 2

<<H-149

INSPECTED

LAWFUL OCCUPANCY PERMITTED

This structure has been inspected (as indicated below) and no apparent structural hazard has been found.

Inspected Exterior Only

Inspected Exterior and Interior

Report any unsafe condition to local authorities; reinspection may be required.

Inspector Comments:

Facility Name and Address:

Date _____
Time _____

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

RESTRICTED USE

Caution: This structure has been inspected and found to be damaged as described below:

Date _____
Time _____

Entry, occupancy, and lawful use are restricted as indicated below:

- Do not enter the following areas: _____
- Brief entry allowed for access to contents: _____
- Other restrictions: _____

Facility name and address:

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

UNSAFE

**DO NOT ENTER OR OCCUPY
(THIS PLACARD IS NOT A DEMOLITION ORDER)**

This structure has been inspected, found to be seriously damaged and is unsafe to occupy, as described below:

Date _____
Time _____

This facility was inspected under emergency conditions for:

(Jurisdiction)

Do not enter, except as specifically authorized in writing by jurisdiction. Entry may result in death or injury.

Facility Name and Address:

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

CHAPTER AR7 REFERENCES

REFERENCED STANDARDS

ASCE Standards ASCE/SEI 24-05 Flood Resistant Design and Construction
FEMA P-320, Third Edition / August 2008 Taking Shelter From the Storm: Building a Safe Room For Your Home or Small Business, Includes Construction Plans and Cost Estimates
FEMA 361, Second Edition / August 2008 Design and Construction Guidance for Community Safe Rooms
FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials

REFERENCED RESOURCES

- (a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007
- (b) *Form No. M310B* August 2011 APA – The Engineered Wood Association; www.apawood.org
- (c) *WFCM Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings* – American Forest & Paper Association and the American Wood Council; www.awc.org
- (d) *FEMA Home Builder's Guide to Coastal Construction Technical Fact Sheet No. 7.3 Asphalt Shingle Roofing for High Wind Regions*.
- (e) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

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Appendix H-II
Georgia 2022 County Government Information
Catalogue

County Government Information Catalog



2022 Government Management Indicators Survey
GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

2022 Government Management Indicators Survey



County Government Information Catalog

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS
Office of Research and Surveys
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

September 2022

COUNTY GOVERNMENT INFORMATION CATALOG: 2022

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Note: Page numbering is based on the tables contained within each chapter. Each chapter has separate page numbers.

Acknowledgement

The Department of Community Affairs acknowledges and thanks the local government officials who responded to the Government Management Indicators (GOMI) survey that result in this report.

COUNTY GOVERNMENT INFORMATION CATALOG: 2022

What Information is Included in the Catalog?

The *Government Information Catalog* is a comprehensive guide to the organization and operations of Georgia's local governments. The Catalog is unique in that it provides the data collected directly from local governments including:

- Management functions
- Services provided
- Financial management practices
- Planning, zoning and development procedures
- Public facilities
- Economic development activities
- Public safety
- Form of government
- E-Government

What is the Purpose of the Catalog?

Local elected officials, administrators, state agencies and academics are among those who find the Catalog a useful source of comprehensive information on local government operations in the State. While providing information on specific subjects such as public safety or services provided, the primary purpose of the Catalog is identifying general patterns of government management and operations.

How is the Data Collected?

The data was collected through the Government Management Indicators (GOMI) survey prepared by the Department of Community Affairs (DCA) and administered to all 159 counties in Georgia with a response rate of 92 percent. Due to the large variety of local conditions and characteristics of the governments participating in the mandated survey and the turnover of local government employees, individual responses to specific survey questions may not be consistent from year to year. In addition, data is self-reported and not verified by an outside source. The data presented is best used in summary form to reflect general management practices and services among governments of a similar size.

How Do I Use the Catalog?

1. Determine the population group of the county for which you want information and whether the government responded to the survey. In each of the tables, counties are grouped by population and listed alphabetically within in each group to aid comparisons of similarly sized counties.
2. Use the “Table of Contents” to determine which tables are most likely to have the information you need.
3. Note that each chapter is paginated separately. Some chapters have several sets of tables with pages numbered accordingly. Example: Page 2.b – 1 is the first page of the second table (Table B) in Chapter Two (Services Provided).
4. Each set of tables is preceded by a summary of totals and averages for each population group. The summary tables are useful for comparing an individual county to an aggregate of governments in its population group, and provide an overview of the data in each table.

Index to County Governments

County	2021 Population	Population group	Responded to survey	County	2021 Population	Population group	Responded to survey
1 Appling	18,488	D	Yes	28 Cherokee	274,615	A	Yes
2 Athens-Clarke *	128,711	A	Yes	29 Clay	2,882	F	Yes
3 Atkinson	8,391	F	Yes	30 Clayton	297,100	A	Yes
4 Augusta/Richmond *	205,673	A	Yes	31 Clinch	6,725	F	Yes
5 Bacon	11,079	E	Yes	32 Cobb	766,802	A	Yes
6 Baker	2,819	F	Yes	33 Coffee	43,386	C	Yes
7 Baldwin	43,781	C	Yes	34 Colquitt	45,812	C	Yes
8 Banks	18,562	D	Yes	35 Columbia	159,639	A	Yes
9 Barrow	86,658	B	Yes	36 Columbus/Muscogee *	205,617	A	Yes
10 Bartow	110,843	A	Yes	37 Cook	17,225	D	Yes
11 Ben Hill	17,158	D	Yes	38 Coweta	149,956	A	Yes
12 Berrien	18,147	D	Yes	39 Crawford	12,153	E	Yes
13 Bleckley	12,607	E	Yes	40 Crisp	19,879	D	Yes
14 Brantley	18,101	D	Yes	41 Cusseta-Chattahoochee *	9,048	F	Yes
15 Brooks	16,270	D	Yes	42 Dade	16,326	D	Yes
16 Bryan	46,938	C	Yes	43 Dawson	28,497	C	Yes
17 Bulloch	82,442	B	Yes	44 Decatur	29,038	C	Yes
18 Burke	24,310	D	Yes	45 DeKalb	757,718	A	No
19 Butts	25,781	C	Yes	46 Dodge	19,759	D	Yes
20 Calhoun	5,509	F	Yes	47 Dooly	10,885	E	Yes
21 Camden	55,664	B	Yes	48 Dougherty	84,844	B	Yes
22 Candler	11,037	E	Yes	49 Douglas	145,814	A	Yes
23 Carroll	121,968	A	Yes	50 Early	10,619	E	Yes
24 Catoosa	68,397	B	Yes	51 Echols *	3,699	F	Yes
25 Charlton	12,766	E	Yes	52 Effingham	66,741	B	Yes
26 Chatham	296,329	A	Yes	53 Elbert	19,579	D	Yes
27 Chattooga	24,932	D	Yes	54 Emanuel	22,716	D	Yes

* - Consolidated county/city government.

Index to County Governments

County	2021 Population	Population group	Responded to survey	County	2021 Population	Population group	Responded to survey
55 Evans	10,672	E	Yes	82 Jeff Davis	14,872	E	Yes
56 Fannin	25,817	C	Yes	83 Jefferson	15,524	D	Yes
57 Fayette	120,574	A	Yes	84 Jenkins	8,639	F	Yes
58 Floyd	98,771	B	Yes	85 Johnson	9,160	F	Yes
59 Forsyth	260,206	A	Yes	86 Jones	28,400	C	No
60 Franklin	23,785	D	Yes	87 Lamar	19,080	D	Yes
61 Fulton	1,065,334	A	No	88 Lanier	9,907	F	Yes
62 Georgetown-Quitman *	2,243	F	No	89 Laurens	49,547	C	Yes
63 Gilmer	32,026	C	Yes	90 Lee	33,411	C	Yes
64 Glascock	2,919	F	Yes	91 Liberty	65,711	B	Yes
65 Glynn	84,739	B	No	92 Lincoln	7,749	F	Yes
66 Gordon	58,237	B	Yes	93 Long	17,152	D	Yes
67 Grady	25,918	C	Yes	94 Lowndes	119,276	A	Yes
68 Greene	19,536	D	Yes	95 Lumpkin	34,278	C	Yes
69 Gwinnett	964,546	A	Yes	96 Macon	12,004	E	Yes
70 Habersham	46,774	C	Yes	97 Macon-Bibb *	156,762	A	No
71 Hall	207,369	A	Yes	98 Madison	30,885	C	Yes
72 Hancock	8,630	F	Yes	99 Marion	7,440	F	No
73 Haralson	30,572	C	Yes	100 McDuffie	21,633	D	Yes
74 Harris	35,626	C	Yes	101 McIntosh	11,123	E	Yes
75 Hart	26,409	C	Yes	102 Meriwether	20,793	D	Yes
76 Heard	11,565	E	No	103 Miller	5,919	F	Yes
77 Henry	245,235	A	Yes	104 Mitchell	21,521	D	Yes
78 Houston	166,829	A	Yes	105 Monroe	28,712	C	Yes
79 Irwin	9,618	F	Yes	106 Montgomery	8,653	F	Yes
80 Jackson	80,286	B	Yes	107 Morgan	20,635	D	Yes
81 Jasper	15,278	D	Yes	108 Murray	39,951	C	Yes

* - Consolidated county/city government.

Index to County Governments

County	2021 Population	Population group	Responded to survey	County	2021 Population	Population group	Responded to survey
109 Newton	115,355	A	Yes	136 Thomas	45,842	C	Yes
110 Oconee	43,023	C	Yes	137 Tift	41,212	C	Yes
111 Oglethorpe	15,140	D	Yes	138 Toombs	26,911	C	No
112 Paulding	173,780	A	Yes	139 Towns	12,875	E	No
113 Peach	28,417	C	Yes	140 Treutlen	6,306	F	Yes
114 Pickens	34,024	C	Yes	141 Troup	69,720	B	Yes
115 Pierce	19,976	D	Yes	142 Turner	8,966	F	Yes
116 Pike	19,477	D	Yes	143 Twiggs	7,856	F	Yes
117 Polk	43,496	C	Yes	144 Union	25,521	C	Yes
118 Pulaski	9,917	F	Yes	145 Upson	27,720	C	Yes
119 Putnam	22,585	D	Yes	146 Walker	68,510	B	Yes
120 Rabun	17,119	D	No	147 Walton	99,853	B	Yes
121 Randolph	6,287	F	Yes	148 Ware	36,033	C	Yes
122 Rockdale	94,082	B	Yes	149 Warren	5,240	F	Yes
123 Schley	4,478	F	Yes	150 Washington	19,785	D	Yes
124 Screven	14,105	E	No	151 Wayne	30,380	C	Yes
125 Seminole	9,197	F	Yes	152 Webster Unified *	2,367	F	Yes
126 Spalding	67,909	B	Yes	153 Wheeler	7,471	F	Yes
127 Stephens	26,865	C	Yes	154 White	28,442	C	Yes
128 Stewart	5,341	F	No	155 Whitfield	102,848	A	Yes
129 Sumter	29,283	C	Yes	156 Wilcox	8,739	F	Yes
130 Talbot	5,742	F	Yes	157 Wilkes	9,513	F	Yes
131 Taliaferro	1,558	F	Yes	158 Wilkinson	8,831	F	Yes
132 Tattnall	23,052	D	Yes	159 Worth	20,554	D	Yes
133 Taylor	7,799	F	Yes				
134 Telfair	12,414	E	Yes				
135 Terrell	8,964	F	Yes				

* - Consolidated county/city government.

CHAPTER 1 ♦ Management Functions

This chapter covers the provision of certain management functions that can be performed by local governments.

Ways a government may provide a management function:

- A. Own-government – provided directly by the government
- B. Other government – agreement with other local government(s)
- C. RC – contracted with Regional Commissions
- D. Private – contracted with a private provider
- E. Combination – combination of one or more of the above functions
- F. NP – function not provided

Types of management functions include:

- Accounts Payable/Receivable
- Archiving & Historical Data
- Collecting & Maintaining Land Use Data
- Geographic Information System
- Issuing Occupation Tax Certificates
- Law Enforcement Records
- Maintaining Court Records
- Payroll Preparation
- Tax Assessment
- Tax Billing
- Tax Digest
- Utility Bill Preparation
- Voter Registration
- Elections (how held)

Department of Community Affairs

Section 1: Management Functions - Summary of Data

Number performing management functions in-house

Group	Number reporting	Accounts payable/receivable		Archiving and historical data		Collecting and maintaining land use data		Geographic information systems		Issuing occupation tax certificates		Law enforcement records		Maintaining court records	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	22	100.0%	17	77.3%	20	90.9%	19	86.4%	21	95.5%	20	90.9%	21	95.5%
B	15	15	100.0%	9	60.0%	8	53.3%	9	60.0%	12	80.0%	15	100.0%	14	93.3%
C	31	31	100.0%	13	41.9%	17	54.8%	17	54.8%	20	64.5%	31	100.0%	29	93.5%
D	34	33	97.1%	20	58.8%	17	50.0%	8	23.5%	23	67.6%	32	94.1%	31	91.2%
E	14	14	100.0%	7	50.0%	7	50.0%	2	14.3%	9	64.3%	14	100.0%	12	85.7%
F	30	29	96.7%	20	66.7%	11	36.7%	1	3.3%	14	46.7%	29	96.7%	27	90.0%
Total	146	144	98.6%	86	58.9%	80	54.8%	56	38.4%	99	67.8%	141	96.6%	134	91.8%

Number performing management functions in-house

Group	Number reporting	Payroll preparation		Tax assessment		Tax billing		Tax digest		Utility bill preparation		Voter registration		Elections (how held)	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	20	90.9%	20	90.9%	17	77.3%	21	95.5%	5	22.7%	22	100.0%	21	95.5%
B	15	14	93.3%	14	93.3%	10	66.7%	14	93.3%	2	13.3%	15	100.0%	14	93.3%
C	31	29	93.5%	28	90.3%	12	38.7%	26	83.9%	8	25.8%	31	100.0%	29	93.5%
D	34	29	85.3%	26	76.5%	18	52.9%	28	82.4%	5	14.7%	34	100.0%	31	91.2%
E	14	13	92.9%	12	85.7%	7	50.0%	10	71.4%	6	42.9%	13	92.9%	13	92.9%
F	30	27	90.0%	24	80.0%	17	56.7%	24	80.0%	11	36.7%	30	100.0%	26	86.7%
Total	146	132	90.4%	124	84.9%	81	55.5%	123	84.2%	37	25.3%	145	99.3%	134	91.8%

Department of Community Affairs

Section 1: Management Functions

How does the government manage the following functions?

County	Accounts payable/receivable	Archiving and historical data	Collecting/maintaining land use data	Geographic information system	Issuing occupation tax certificates	Law enforcement records	Maintaining court records	Payroll preparation	Tax assessment	Tax billing	Tax digest	Utility bill preparation	Voter registration	Elect-ions
Population Group A														
Athens-Clarke CG	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Augusta/Richmond CG	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Bartow County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Private	Own govt.	Own govt.
Carroll County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Chatham County	Own gov	Own govt.	Other govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Cherokee County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Clayton County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Cobb County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Columbia County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Private	Own govt.	Own govt.
Columbus/Muscogee CG	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Coweta County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Douglas County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.
Fayette County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Forsyth County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Gwinnett County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Hall County	Own gov	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Henry County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.
Houston County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Lowndes County	Own gov	Comb.	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Newton County	Own gov	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Other govt.	Other govt.	NP	Own govt.	Own govt.
Paulding County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.
Whitfield County	Own gov	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Population Group B														
Barrow County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Comb.	Own govt.	Comb.
Bulloch County	Own gov	Private	Other govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Camden County	Own gov	Own govt.	Comb.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Catoosa County	Own gov	Own govt.	RDC	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Dougherty County	Own gov	Private	Other govt.	Other govt.	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Effingham County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Floyd County	Own gov	Other govt.	Other govt.	Other govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Gordon County	Own gov	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Comb.	Comb.	Own govt.	NP	Own govt.	Own govt.
Jackson County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Liberty County	Own gov	Own govt.	Other govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Rockdale County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Comb.	Comb.	Comb.	Own govt.	Own govt.

Department of Community Affairs

Section 1: Management Functions

How does the government manage the following functions?

County	Accounts payable/receivable	Archiving and historical data	Collecting/maintaining land use data	Geographic information system	Issuing occupation tax certificates	Law enforcement records	Maintaining court records	Payroll preparation	Tax assessment	Tax billing	Tax digest	Utility bill preparation	Voter registration	Elect-ions
Population Group B														
Spalding County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.	Own govt.	Own govt.
Troup County	Own gov	Comb.	Own govt.	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Walker County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Walton County	Own gov	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Population Group C														
Baldwin County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Bryan County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Coffee County	Own gov	Comb.	Own govt.	Comb.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Comb.	Comb.	Comb.	Own govt.	Own govt.
Colquitt County	Own gov	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.
Dawson County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.
Decatur County	Own gov	Private	Other govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Comb.	Private	Comb.	Other govt.	Own govt.	Own govt.
Fannin County	Own gov	Comb.	Comb.	Comb.	NP	Own govt.	Comb.	Private	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Gilmer County	Own gov	Comb.	Own govt.	Comb.	NP	Own govt.	Own govt.	Comb.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Habersham County	Own gov	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Other govt.
Haralson County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Harris County	Own gov	NP	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Hart County	Own gov	NP	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Laurens County	Own gov	Own govt.	RDC	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Lee County	Own gov	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Lumpkin County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Madison County	Own gov	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.	Own govt.	Own govt.
Monroe County	Own gov	Comb.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Comb.	Comb.	Own govt.	Own govt.	Own govt.
Murray County	Own gov	Own govt.	Comb.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	NP	Own govt.	Own govt.
Oconee County	Own gov	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.
Peach County	Own gov	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	NP	Own govt.	Own govt.
Pickens County	Own gov	Comb.	Comb.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Polk County	Own gov	NP	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Stephens County	Own gov	Own govt.	Own govt.	Private	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Sumter County	Own gov	Comb.	Own govt.	Other govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	NP	Own govt.	Own govt.
Tattnell County	Own gov	Private	NP	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Thomas County	Own gov	Comb.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Private	NP	Own govt.	Own govt.
Tift County	Own gov	Comb.	Comb.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Comb.	Own govt.	Own govt.
Upson County	Own gov	Other govt.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Private	Comb.	Own govt.	Own govt.	Own govt.
Ware County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Other govt.

Department of Community Affairs

Section 1: Management Functions

How does the government manage the following functions?

County	Accounts payable/receivable	Archiving and historical data	Collecting/maintaining land use data	Geographic information system	Issuing occupation tax certificates	Law enforcement records	Maintaining court records	Payroll preparation	Tax assessment	Tax billing	Tax digest	Utility bill preparation	Voter registration	Elect-ions
Population Group C														
Wayne County	Own gov	Own govt.	NP	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
White County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Population Group D														
Appling County	Own gov	Comb.	Own govt.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Banks County	Own gov	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Private	Own govt.	Own govt.
Ben Hill County	Own gov	Comb.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Berrien County	Own gov	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Private	NP	Own govt.	Other govt.
Brantley County	Own gov	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Brooks County	Own gov	Own govt.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Burke County	Own gov	Own govt.	Own govt.	Private	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Butts County	Own gov	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Other govt.
Chattooga County	Own gov	NP	RDC	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Cook County	Own gov	Comb.	Own govt.	RDC	Own govt.	Comb.	Comb.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Crisp County	Own gov	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Private	Private	Own govt.	Own govt.	Own govt.
Dade County	Own gov	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Comb.	NP	Own govt.	Own govt.
Dodge County	Own gov	Own govt.	RDC	RDC	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	NP	Own govt.	Own govt.
Elbert County	Own gov	NP	Own govt.	Other govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Emanuel County	Own gov	Own govt.	Own govt.	Private	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Franklin County	Own gov	Comb.	Comb.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.
Grady County	Own gov	Comb.	Comb.	Comb.	Own govt.	Comb.	Comb.	Own govt.	Comb.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Greene County	Own gov	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Jeff Davis County	Own gov	RDC	Other govt.	Other govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Jefferson County	Own gov	NP	RDC	Private	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Lamar County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Long County	Own gov	Own govt.	RDC	Comb.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Private	Comb.	NP	Own govt.	Own govt.
McDuffie County	Own gov	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Private	Comb.	NP	Own govt.	Own govt.
Meriwether County	Own gov	Own govt.	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.	Own govt.	Own govt.
Mitchell County	Own gov	NP	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Morgan County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Oglethorpe County	Own gov	Own govt.	Own govt.	Comb.	NP	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Pierce County	Comb.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Comb.	Comb.	Private	Own govt.	NP	Own govt.	Own govt.
Pike County	Own gov	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Putnam County	Own gov	Comb.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.	Own govt.	Own govt.
Telfair County	Own gov	Own govt.	Own govt.	Private	NP	Own govt.	Own govt.	Private	Comb.	Private	Comb.	Own govt.	Own govt.	Own govt.

Department of Community Affairs

Section 1: Management Functions

How does the government manage the following functions?

County	Accounts payable/receivable	Archiving and historical data	Collecting/maintaining land use data	Geographic information system	Issuing occupation tax certificates	Law enforcement records	Maintaining court records	Payroll preparation	Tax assessment	Tax billing	Tax digest	Utility bill preparation	Voter registration	Elect-ions
Population Group D														
Union County	Own gov	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Private	Own govt.	NP	Own govt.	Own govt.
Washington County	Own gov	Own govt.	RDC	Private	NP	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Worth County	Own gov	Comb.	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Population Group E														
Bacon County	Own gov	Own govt.	NP	NP	NP	Own govt.	Own govt.	Private	Own govt.	Private	Own govt.	Private	Own govt.	Own govt.
Bleckley County	Own gov	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Candler County	Own gov	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Charlton County	Own gov	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Comb.	NP	Own govt.	Own govt.
Crawford County	Own gov	Comb.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Cusseta-Chattahoochee CG	Own gov	Comb.	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Dooly County	Own gov	Comb.	Comb.	Comb.	NP	Own govt.	Comb.	Own govt.	Own govt.	Comb.	Comb.	Own govt.	Own govt.	Own govt.
Early County	Own gov	Own govt.	Own govt.	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	NP	Other govt.
Evans County	Own gov	Comb.	Comb.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Comb.	Comb.	Own govt.	NP	Own govt.	Own govt.
Jasper County	Own gov	Own govt.	Other govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Lanier County	Own gov	Own govt.	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Macon County	Own gov	NP	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Private	Own govt.	Own govt.	Own govt.
McIntosh County	Own gov	Comb.	RDC	RDC	Own govt.	Own govt.	Comb.	Own govt.	Comb.	Private	Comb.	Own govt.	Own govt.	Own govt.
Pulaski County	Own gov	Own govt.	RDC	Other govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	NP	Own govt.	Own govt.
Population Group F														
Atkinson County	Own gov	NP	NP	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Baker County	Own gov	NP	NP	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Calhoun County	Own gov	Comb.	Own govt.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Clay County	Own gov	Own govt.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.
Clinch County	Own gov	RDC	Own govt.	Private	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Echols County CG	Private	NP	NP	RDC	Own govt.	Own govt.	Own govt.	Private	Comb.	Private	Private	NP	Own govt.	Own govt.
Glascok County	Own gov	Own govt.	NP	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Hancock County	Own gov	Comb.	Comb.	Comb.	NP	Own govt.	Own govt.	Comb.	Comb.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.
Irwin County	Own gov	NP	NP	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.
Jenkins County	Own gov	Comb.	NP	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Johnson County	Own gov	Own govt.	Comb.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Lincoln County	Own gov	Own govt.	RDC	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Private	Own govt.	Own govt.	Own govt.
Miller County	Own gov	Own govt.	RDC	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Montgomery County	Own gov	Own govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Other govt.

Department of Community Affairs

Section 1: Management Functions

How does the government manage the following functions?

County	Accounts payable/receivable	Archiving and historical data	Collecting/maintaining land use data	Geographic information system	Issuing occupation tax certificates	Law enforcement records	Maintaining court records	Payroll preparation	Tax assessment	Tax billing	Tax digest	Utility bill preparation	Voter registration	Elect-ions
Population Group F														
Randolph County	Own gov	Own govt.	RDC	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Schley County	Own gov	Own govt.	Own govt.	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Seminole County	Own gov	Own govt.	Own govt.	Comb.	NP	Own govt.	Own govt.	Own govt.	Comb.	Private	Own govt.	NP	Own govt.	Own govt.
Talbot County	Own gov	Own govt.	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Taliaferro County	Own gov	Own govt.	Own govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Taylor County	Own gov	Own govt.	RDC	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Terrell County	Own gov	Comb.	Comb.	Private	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.	Comb.	Comb.	NP	Own govt.	Own govt.
Treutlen County	Own gov	Own govt.	RDC	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.
Turner County	Own gov	NP	Own govt.	RDC	Own govt.	Comb.	Comb.	Own govt.	Comb.	Comb.	Comb.	Comb.	Own govt.	Other govt.
Twiggs County	Own gov	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Warren County	Own gov	Own govt.	Own govt.	Comb.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.
Webster County Unified	Own gov	Own govt.	Own govt.	RDC	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Comb.	Own govt.	Own govt.	Own govt.	Own govt.
Wheeler County	Own gov	Own govt.	RDC	RDC	NP	Own govt.	Own govt.	Own govt.	Comb.	Comb.	Comb.	NP	Own govt.	Own govt.
Wilcox County	Own gov	Own govt.	Own govt.	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	NP	Own govt.	Own govt.
Wilkes County	Own gov	Own govt.	Comb.	Comb.	NP	Own govt.	Own govt.	Own govt.	Comb.	Private	Private	NP	Own govt.	Own govt.
Wilkinson County	Own gov	Own govt.	RDC	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.	Own govt.

CHAPTER 2 ♦ Services Provided

This chapter covers the delivery of local government services and the types of services provided.

Ways of providing a service include:

- A. Own-government – provided directly by the government
- B. Authority – provided through a local government authority
- C. Other government – agreement with other local government(s)
- D. Private – contracted with private provider
- E. Available – service available but not through local government
- F. NP – service not available

Types of services provided include:

- Animal Control
- Building Inspection
- Building Permits
- Construction and Code Enforcement
- Emergency Medical Services
- Emergency 911
- Fire Protection
- Health Screening Services
- Jail
- Law Enforcement
- Planning
- Public Hospital
- Public Transit
- Senior Citizen Program
- Wastewater Collection
- Wastewater Treatment
- Water Distribution
- Water Supply
- Water Treatment
- Storm Water
- Telecommunications

Department of Community Affairs

Section 2.a: Services Provided - Summary of Data

Number providing services directly

Group	Number reporting	Animal control		Building inspection		Building permits		Construction and code enforcement		Emergency medical services		Emergency 911 service		Fire protection		Health screening services		Jail	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	22	100.0%	20	90.9%	21	95.5%	22	100.0%	10	45.5%	21	95.5%	21	95.5%	3	13.6%	22	100.0%
B	15	15	100.0%	10	66.7%	12	80.0%	12	80.0%	8	53.3%	14	93.3%	12	80.0%	1	6.7%	15	100.0%
C	31	27	87.1%	26	83.9%	29	93.5%	29	93.5%	19	61.3%	29	93.5%	26	83.9%	6	19.4%	30	96.8%
D	34	20	58.8%	22	64.7%	28	82.4%	29	85.3%	18	52.9%	31	91.2%	28	82.4%	6	17.6%	32	94.1%
E	14	5	35.7%	7	50.0%	11	78.6%	11	78.6%	8	57.1%	7	50.0%	12	85.7%	3	21.4%	10	71.4%
F	30	3	10.0%	14	46.7%	23	76.7%	19	63.3%	18	60.0%	16	53.3%	23	76.7%	3	10.0%	21	70.0%
Total	146	92	63.0%	99	67.8%	124	84.9%	122	83.6%	81	55.5%	118	80.8%	122	83.6%	22	15.1%	130	89.0%

Section 2.a: Governmental Services Provided

County	Method of providing services								
	Animal control	Building inspection	Building permits	Construction and code enforcement	Emergency medical services	Emergency 911	Fire protection	Health screening services	Jail
Population Group A									
Athens-Clarke CG	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.
Augusta/Richmond CG	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.
Bartow County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Private	Own govt.
Carroll County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Chatham County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Private	Authority	Own govt.
Cherokee County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Clayton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.
Cobb County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Columbia County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Columbus/Muscogee CG	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Coweta County	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Douglas County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Fayette County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Forsyth County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Gwinnett County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Hall County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Henry County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Houston County	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.
Lowndes County	Own govt.	Other govt.	Other govt.	Own govt.	Authority	Own govt.	Own govt.	Other govt.	Own govt.
Newton County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Other govt.	Own govt.	Available	Own govt.
Paulding County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.
Whitfield County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.
Population Group B									
Barrow County	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Bulloch County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Camden County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Catoosa County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Private	Own govt.
Dougherty County	Own govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	Other govt.	Available	Own govt.
Effingham County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.
Floyd County	Own govt.	Other govt.	Other govt.	Other govt.	Available	Own govt.	Other govt.	Private	Own govt.
Gordon County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Other govt.	Own govt.
Jackson County	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Available	Own govt.
Liberty County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Rockdale County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.

Section 2.a: Governmental Services Provided

County	Method of providing services								
	Animal control	Building inspection	Building permits	Construction and code enforcement	Emergency medical services	Emergency 911	Fire protection	Health screening services	Jail
Population Group B									
Spalding County	Own govt.	Private	Private	Private	Available	Own govt.	Own govt.	Available	Own govt.
Troup County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Private	Own govt.
Walker County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Private	Own govt.
Walton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Population Group C									
Baldwin County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Bryan County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Coffee County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Colquitt County	Private	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Private	Authority	Own govt.
Dawson County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Decatur County	Other govt.	Other govt.	Other govt.	Other govt.	Private	Own govt.	Own govt.	Available	Own govt.
Fannin County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.
Gilmer County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Habersham County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Haralson County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Harris County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Own govt.
Hart County	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Laurens County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.
Lee County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Lumpkin County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Madison County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Available	Own govt.
Monroe County	Own govt.	Private	Private	Own govt.	Own govt.	Other govt.	Other govt.	Available	Own govt.
Murray County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Private	Own govt.
Oconee County	Own govt.	Private	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Peach County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Pickens County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.
Polk County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Stephens County	Own govt.	Private	Own govt.	Private	Authority	Own govt.	Own govt.	Available	Own govt.
Sumter County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Authority	Own govt.	Other govt.	Own govt.
Tattall County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Thomas County	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Tift County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Upson County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Available	Own govt.	Own govt.
Ware County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Private

Section 2.a: Governmental Services Provided

County	Method of providing services								
	Animal control	Building inspection	Building permits	Construction and code enforcement	Emergency medical services	Emergency 911	Fire protection	Health screening services	Jail
Population Group C									
Wayne County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.
White County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Population Group D									
Appling County	NP	NP	NP	NP	Available	Own govt.	Own govt.	Private	Own govt.
Banks County	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Ben Hill County	Other govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Available	Available	Own govt.
Berrien County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.
Brantley County	NP	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.
Brooks County	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	NP	Own govt.
Burke County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Butts County	Own govt.	Private	Private	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Chattooga County	Own govt.	NP	NP	Own govt.	Private	Own govt.	Available	Available	Own govt.
Cook County	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	NP	Own govt.
Crisp County	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Authority	Own govt.
Dade County	Other govt.	NP	NP	Own govt.	Private	Own govt.	Private	Available	Own govt.
Dodge County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Own govt.
Elbert County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Emanuel County	Other govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.
Franklin County	Authority	Private	Own govt.	Private	Own govt.	Own govt.	Available	Available	Own govt.
Grady County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Private	Own govt.
Greene County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Jeff Davis County	Other govt.	NP	NP	NP	Own govt.	Own govt.	Own govt.	Authority	Own govt.
Jefferson County	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	NP	Own govt.
Lamar County	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.
Long County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Other govt.	Own govt.	Private	Available
McDuffie County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Meriwether County	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Mitchell County	Private	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Morgan County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Oglethorpe County	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Private	Authority	Other govt.
Pierce County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Pike County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Private	Own govt.
Putnam County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Telfair County	NP	NP	NP	NP	Own govt.	Authority	Own govt.	Own govt.	Own govt.

Section 2.a: Governmental Services Provided

County	Method of providing services								
	Animal control	Building inspection	Building permits	Construction and code enforcement	Emergency medical services	Emergency 911	Fire protection	Health screening services	Jail
Population Group D									
Union County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.
Washington County	Other govt.	NP	Own govt.	Own govt.	Authority	Own govt.	Other govt.	Available	Own govt.
Worth County	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Population Group E									
Bacon County	NP	NP	NP	NP	Own govt.	Own govt.	Own govt.	NP	Own govt.
Bleckley County	Other govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Candler County	Other govt.	NP	NP	NP	Own govt.	Other govt.	Other govt.	NP	Own govt.
Charlton County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Other govt.
Crawford County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Cusseta-Chattahoochee CG	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Other govt.
Dooly County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Available	Own govt.
Early County	NP	NP	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Available	Own govt.
Evans County	Own govt.	NP	Own govt.	Own govt.	Own govt.	Private	Own govt.	Available	Other govt.
Jasper County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Other govt.	Own govt.
Lanier County	NP	Private	Own govt.	Own govt.	Private	Authority	Own govt.	Private	Other govt.
Macon County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Other govt.	Available	Own govt.
McIntosh County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Authority	Own govt.
Pulaski County	Other govt.	Other govt.	Other govt.	Other govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.
Population Group F									
Atkinson County	Private	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Available	Own govt.
Baker County	NP	NP	Private	NP	Private	Other govt.	Own govt.	Available	Other govt.
Calhoun County	NP	NP	Own govt.	NP	Own govt.	Own govt.	Own govt.	Available	Own govt.
Clay County	NP	NP	Own govt.	Own govt.	Private	Authority	Own govt.	Other govt.	Private
Clinch County	Private	Own govt.	Own govt.	Own govt.	Authority	Authority	Other govt.	Authority	Own govt.
Echols County CG	Private	Private	Own govt.	Private	Private	Other govt.	Own govt.	Other govt.	Other govt.
Glascocock County	NP	NP	NP	NP	Other govt.	Other govt.	Own govt.	Other govt.	Other govt.
Hancock County	NP	Available	Available	Available	Private	Own govt.	Own govt.	Available	Own govt.
Irwin County	Authority	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	NP	Private
Jenkins County	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Available	Own govt.
Johnson County	NP	NP	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.
Lincoln County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Own govt.
Miller County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Other govt.	Own govt.
Montgomery County	NP	NP	Own govt.	Own govt.	Private	Own govt.	Other govt.	NP	Private

Section 2.a: Governmental Services Provided

County	Method of providing services								
	Animal control	Building inspection	Building permits	Construction and code enforcement	Emergency medical services	Emergency 911	Fire protection	Health screening services	Jail
Population Group F									
Randolph County	NP	Own govt.	Own govt.	Own govt.	Private	Authority	Own govt.	Available	Own govt.
Schley County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Available	Own govt.
Seminole County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Other govt.	Available	Own govt.
Talbot County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Available	Own govt.
Taliaferro County	NP	NP	NP	NP	Other govt.	Own govt.	Own govt.	Own govt.	Other govt.
Taylor County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.	Own govt.
Terrell County	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.
Treutlen County	Authority	NP	NP	Own govt.	Private	Own govt.	Own govt.	Available	Own govt.
Turner County	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.
Twiggs County	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.
Warren County	NP	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Available	Other govt.
Webster County Unified	Other govt.	NP	Own govt.	Available	Own govt.	Authority	Own govt.	Authority	Available
Wheeler County	NP	NP	Own govt.	NP	Own govt.	Authority	Own govt.	NP	Own govt.
Wilcox County	NP	NP	NP	NP	Own govt.	Other govt.	Available	Available	Own govt.
Wilkes County	Private	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Other govt.	Own govt.
Wilkinson County	NP	NP	Own govt.	NP	Private	Own govt.	Own govt.	Available	Own govt.

Department of Community Affairs

Section 2.b: Services Provided - Summary of Data

Group	Number reporting	Law enforcement		Planning		Public hospital		Public transit		Senior citizen program		Wastewater collection		Wastewater treatment		Water distribution		Water supply		Water treatment		Storm Water		Telecom-munications		Number providing services on a regional basis	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	22	100.0%	21	95.5%	2	9.1%	10	45.5%	15	68.2%	9	40.9%	6	27.3%	11	50.0%	9	40.9%	10	45.5%	21	95.5%	3	13.6%	15	68.2%
B	15	15	100.0%	12	80.0%	0	0.0%	4	26.7%	9	60.0%	1	6.7%	1	6.7%	6	40.0%	3	20.0%	2	13.3%	14	93.3%	2	13.3%	10	66.7%
C	31	31	100.0%	27	87.1%	0	0.0%	9	29.0%	14	45.2%	3	9.7%	3	9.7%	8	25.8%	6	19.4%	5	16.1%	23	74.2%	2	6.5%	12	38.7%
D	34	34	100.0%	25	73.5%	0	0.0%	11	32.4%	20	58.8%	4	11.8%	4	11.8%	5	14.7%	4	11.8%	3	8.8%	25	73.5%	2	5.9%	17	50.0%
E	14	14	100.0%	11	78.6%	0	0.0%	1	7.1%	4	28.6%	2	14.3%	1	7.1%	3	21.4%	3	21.4%	3	21.4%	11	78.6%	0	0.0%	7	50.0%
F	30	30	100.0%	16	53.3%	1	3.3%	12	40.0%	19	63.3%	2	6.7%	2	6.7%	7	23.3%	6	20.0%	4	13.3%	25	83.3%	2	6.7%	17	56.7%
Total	146	146	100.0%	112	76.7%	3	2.1%	47	32.2%	81	55.5%	21	14.4%	17	11.6%	40	27.4%	31	21.2%	27	18.5%	119	81.5%	11	7.5%	78	18.5%

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecommunications	
Population Group A													
Athens-Clarke CG	Own govt.	Own govt.	Available	Own govt.	Available	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Augusta/Richmond CG	Own govt.	Own govt.	Available	Private	Own govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Bartow County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Carroll County	Own govt.	Own govt.	Authority	Private	Other govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	No
Chatham County	Own govt.	Other govt.	Available	Authority	Own govt.	Own govt.	Other govt.	NP	NP	NP	Own govt.	NP	No
Cherokee County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Clayton County	Own govt.	Own govt.	Available	Available	Own govt.	Authority	Authority	Authority	Authority	Authority	Authority	Own govt.	No
Cobb County	Own govt.	Own govt.	Available	Private	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Own govt.	---	Yes
Columbia County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Columbus/Muscogee CG	Own govt.	Own govt.	Private	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Coweta County	Own govt.	Own govt.	Available	Private	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Douglas County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Fayette County	Own govt.	Own govt.	Own govt.	NP	Private	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	---	No
Forsyth County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Authority	Authority	Other govt.	Authority	Own govt.	Authority	Yes
Gwinnett County	Own govt.	Own govt.	Authority	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Yes
Hall County	Own govt.	Own govt.	Authority	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Henry County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Houston County	Own govt.	Own govt.	Authority	Available	Available	Other govt.	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	No
Lowndes County	Own govt.	Own govt.	Authority	Private	Authority	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Newton County	Own govt.	Own govt.	Available	NP	Own govt.	Available	Available	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Paulding County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Whitfield County	Own govt.	Own govt.	Available	Own govt.	Available	Available	Available	Available	Available	Available	Own govt.	Own govt.	Yes
Population Group B													
Barrow County	Own govt.	Own govt.	Available	NP	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Authority	Own govt.	Authority	Yes
Bulloch County	Own govt.	Own govt.	Available	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Camden County	Own govt.	Own govt.	Available	Available	Authority	Available	Available	Available	Available	Available	Own govt.	Available	Yes
Catoosa County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Other govt.	Other govt.	Authority	Authority	Authority	Own govt.	Authority	No

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecommunications	
Population Group B													
Dougherty County	Own govt.	Other govt.	Authority	Available	Available	Available	Available	Available	Available	Available	Own govt.	Available	Yes
Effingham County	Own govt.	Own govt.	Authority	Authority	Own govt.	Private	Private	Own govt.	Other govt.	Private	Private	Private	Yes
Floyd County	Own govt.	Other govt.	Authority	Available	Private	Other govt.	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Gordon County	Own govt.	Own govt.	Available	Private	Own govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Jackson County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Liberty County	Own govt.	Other govt.	Authority	Private	Private	NP	NP	Own govt.	Own govt.	NP	Own govt.	NP	No
Rockdale County	Own govt.	Own govt.	Available	Available	Own govt.	Private	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	No
Spalding County	Own govt.	Own govt.	Available	Private	Own govt.	Authority	Authority	Authority	Other govt.	Other govt.	Own govt.	Own govt.	Yes
Troup County	Own govt.	Own govt.	Available	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Walker County	Own govt.	Own govt.	Available	Own govt.	Other govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Walton County	Own govt.	Own govt.	Available	Authority	Available	Available	Available	Own govt.	Authority	Authority	Own govt.	Authority	Yes
Population Group C													
Baldwin County	Own govt.	Own govt.	Available	Own govt.	Private	Own govt.	Other govt.	Own govt.	Authority	Authority	Own govt.	Authority	Yes
Bryan County	Own govt.	Own govt.	NP	Other govt.	Own govt.	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Coffee County	Own govt.	Own govt.	Available	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Colquitt County	Own govt.	Authority	Authority	Other govt.	Available	Available	Available	Available	Available	Available	Available	Own govt.	Yes
Dawson County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	No
Decatur County	Own govt.	Other govt.	Authority	Available	Available	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	---	Yes
Fannin County	Own govt.	Own govt.	Available	Private	Private	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Gilmer County	Own govt.	Own govt.	Available	Authority	Other govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Habersham County	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	Yes
Haralson County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Authority	Authority	Authority	Authority	Authority	Authority	Authority	No
Harris County	Own govt.	Own govt.	NP	NP	Available	NP	NP	Own govt.	Own govt.	Own govt.	---	---	Yes
Hart County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Authority	Other govt.	Authority	Other govt.	Other govt.	Own govt.	Other govt.	Yes
Laurens County	Own govt.	NP	NP	NP	Own govt.	NP	NP	NP	NP	NP	NP	NP	No
Lee County	Own govt.	Own govt.	Available	Other govt.	Available	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Lumpkin County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Available	Authority	Other govt.	Available	Own govt.	Available	No

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecommunications	
Population Group C													
Madison County	Own govt.	Own govt.	NP	NP	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	No
Monroe County	Own govt.	Own govt.	Authority	NP	Private	Other govt.	Other govt.	Own govt.	Other govt.	Own govt.	Own govt.	---	Yes
Murray County	Own govt.	Own govt.	Private	Authority	Own govt.	NP	NP	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Oconee County	Own govt.	Own govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Other govt.	Yes
Peach County	Own govt.	Own govt.	Available	Private	Available	NP	NP	NP	NP	NP	Own govt.	NP	No
Pickens County	Own govt.	Own govt.	Available	Private	Other govt.	NP	NP	Own govt.	Own govt.	Authority	Authority	Authority	No
Polk County	Own govt.	Own govt.	Available	NP	Other govt.	Available	Available	Available	Available	Available	Available	Available	No
Stephens County	Own govt.	Own govt.	Authority	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Sumter County	Own govt.	Own govt.	Private	NP	Other govt.	NP	NP	Available	Available	NP	Own govt.	NP	Yes
Tattnall County	Own govt.	NP	Available	NP	Available	NP	NP	NP	NP	NP	Own govt.	NP	No
Thomas County	Own govt.	Own govt.	Available	Own govt.	Available	Available	Available	Available	Available	Available	Own govt.	Available	No
Tift County	Own govt.	Own govt.	Other govt.	Own govt.	Available	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	No
Upson County	Own govt.	Own govt.	Authority	Private	Own govt.	Other govt.	Other govt.	Own govt.	Own govt.	Own govt.	---	---	No
Ware County	Own govt.	Own govt.	Authority	Private	Private	Authority	Other govt.	Authority	Authority	Authority	Own govt.	Own govt.	No
Wayne County	Own govt.	Own govt.	Authority	Own govt.	Available	Available	Available	Available	Available	Available	Own govt.	Available	No
White County	Own govt.	Own govt.	NP	NP	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	No
Population Group D													
Appling County	Own govt.	Authority	Available	NP	Private	NP	NP	NP	NP	NP	Own govt.	NP	No
Banks County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Ben Hill County	Own govt.	Own govt.	Authority	Private	Own govt.	NP	NP	NP	NP	NP	Own govt.	Own govt.	No
Berrien County	Own govt.	Own govt.	Available	Private	Own govt.	NP	NP	NP	NP	NP	NP	NP	No
Brantley County	Own govt.	Own govt.	NP	Private	Own govt.	NP	NP	NP	NP	NP	NP	NP	Yes
Brooks County	Own govt.	Authority	Available	Private	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Burke County	Own govt.	Own govt.	Authority	Own govt.	Private	Available	Available	Available	Available	Available	Own govt.	Available	No
Butts County	Own govt.	Own govt.	Authority	Available	Own govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Chattooga County	Own govt.	Private	NP	Own govt.	Available	NP	NP	Own govt.	Own govt.	Available	Own govt.	Available	Yes
Cook County	Own govt.	Own govt.	Available	Private	Authority	NP	NP	NP	NP	NP	Own govt.	NP	Yes

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecommunications	
Population Group D													
Crisp County	Own govt.	Own govt.	Authority	Private	Available	NP	NP	Own govt.	Own govt.	NP	Own govt.	NP	Yes
Dade County	Own govt.	Other govt.	Available	Own govt.	Other govt.	Private	Other govt.	Authority	Authority	Authority	Own govt.	Own govt.	Yes
Dodge County	Own govt.	Authority	Authority	Other govt.	Own govt.	NP	NP	NP	NP	NP	NP	NP	Yes
Elbert County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	No
Emanuel County	Own govt.	Own govt.	Authority	Available	Own govt.	NP	NP	NP	NP	NP	NP	NP	No
Franklin County	Own govt.	Own govt.	Available	NP	Own govt.	Own govt.	Own govt.	Own govt.	Other govt.	Own govt.	Own govt.	---	No
Grady County	Own govt.	Own govt.	Private	Private	Available	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Greene County	Own govt.	Own govt.	Available	Private	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	No
Jeff Davis County	Own govt.	NP	Authority	NP	Own govt.	NP	NP	Available	Available	Available	Own govt.	Available	No
Jefferson County	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	No
Lamar County	Own govt.	Own govt.	NP	Private	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	Yes
Long County	Own govt.	Own govt.	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	Yes
McDuffie County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	Yes
Meriwether County	Own govt.	Own govt.	Authority	Other govt.	Other govt.	Authority	Authority	Authority	Authority	Authority	Own govt.	Authority	Yes
Mitchell County	Own govt.	Authority	Private	Available	Available	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	No
Morgan County	Own govt.	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Available	Own govt.	Available	No
Oglethorpe County	Own govt.	Own govt.	NP	NP	Own govt.	Available	Available	Available	Available	Available	Own govt.	Available	No
Pierce County	Own govt.	Own govt.	NP	Available	Private	NP	NP	Other govt.	Other govt.	NP	NP	NP	Yes
Pike County	Own govt.	Own govt.	NP	Other govt.	Own govt.	NP	NP	Authority	Authority	Authority	Authority	Authority	Yes
Putnam County	Own govt.	Own govt.	Authority	Own govt.	Available	Authority	Authority	Authority	Authority	Authority	Authority	Authority	No
Telfair County	Own govt.	NP	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	NP	NP	No
Union County	Own govt.	NP	Available	Own govt.	Available	Available	Available	NP	Available	Available	Own govt.	Available	No
Washington County	Own govt.	Own govt.	Authority	Available	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Worth County	Own govt.	Own govt.	Available	Private	NP	NP	NP	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	Yes
Population Group E													
Bacon County	Own govt.	Other govt.	Authority	Private	Private	NP	NP	NP	NP	NP	NP	NP	No
Bleckley County	Own govt.	Own govt.	Private	Other govt.	Other govt.	NP	NP	NP	NP	NP	Own govt.	NP	No

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecommunications	
Population Group E													
Candler County	Own govt.	Own govt.	Authority	Available	Available	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Charlton County	Own govt.	Own govt.	NP	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Crawford County	Own govt.	Own govt.	NP	Own govt.	Own govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	---	No
Cusseta-Chattahoochee CG	Own govt.	Own govt.	NP	Authority	Other govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Dooly County	Own govt.	Own govt.	NP	Private	Available	NP	NP	NP	NP	NP	Own govt.	NP	No
Early County	Own govt.	Own govt.	Authority	Private	NP	NP	NP	NP	NP	NP	Own govt.	NP	No
Evans County	Own govt.	Own govt.	Authority	NP	Authority	NP	NP	NP	NP	NP	NP	NP	Yes
Jasper County	Own govt.	Own govt.	Available	NP	Own govt.	NP	NP	Available	Available	Available	Own govt.	Available	No
Lanier County	Own govt.	Own govt.	Private	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Macon County	Own govt.	Own govt.	NP	Private	Available	NP	NP	NP	NP	NP	Own govt.	NP	Yes
McIntosh County	Own govt.	Other govt.	Available	Available	Other govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Pulaski County	Own govt.	Other govt.	Available	Private	Private	NP	NP	NP	NP	NP	NP	NP	No
Population Group F													
Atkinson County	Own govt.	NP	NP	NP	Own govt.	NP	NP	NP	NP	NP	NP	NP	Yes
Baker County	Own govt.	Own govt.	NP	Private	Available	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Calhoun County	Own govt.	NP	Authority	Available	Available	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Clay County	Own govt.	Own govt.	NP	Private	Own govt.	NP	NP	Own govt.	Own govt.	NP	Own govt.	NP	Yes
Clinch County	Own govt.	Other govt.	Authority	NP	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Echols County CG	Own govt.	NP	NP	NP	Own govt.	NP	NP	Available	Available	Available	Own govt.	Available	Yes
Glascocock County	Own govt.	NP	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Hancock County	Own govt.	Available	NP	Available	Available	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	No
Irwin County	Own govt.	Own govt.	Own govt.	NP	Own govt.	NP	NP	Own govt.	NP	NP	Own govt.	NP	No
Jenkins County	Own govt.	Authority	Authority	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Johnson County	Own govt.	Private	NP	NP	Own govt.	NP	NP	NP	NP	NP	NP	NP	No
Lincoln County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Other govt.	Other govt.	Own govt.	Other govt.	Other govt.	Other govt.	Own govt.	No
Miller County	Own govt.	NP	Authority	Available	NP	Available	Available	Available	Available	Other govt.	Own govt.	Other govt.	No
Montgomery County	Own govt.	Own govt.	NP	NP	Private	NP	NP	NP	NP	NP	Own govt.	NP	No

Department of Community Affairs

Section 2.b: Governmental Services Provided

County	Method of providing services												Does the government provide any of these services on a regional basis?
	Law enforcement	Planning	Public hospital	Public transit	Senior citizen program	Wastewater collection	Wastewater treatment	Water distribution	Water supply	Water treatment	Storm Water	Telecom-munications	
Population Group F													
Randolph County	Own govt.	Own govt.	Authority	Authority	Available	NP	NP	Authority	Authority	Authority	Own govt.	Authority	Yes
Schley County	Own govt.	Other govt.	NP	NP	Other govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Seminole County	Own govt.	Own govt.	Available	Other govt.	NP	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Talbot County	Own govt.	Own govt.	NP	Own govt.	Own govt.	NP	NP	NP	Own govt.	Other govt.	Own govt.	Other govt.	No
Taliaferro County	Own govt.	Own govt.	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Taylor County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	---	Yes
Terrell County	Own govt.	Own govt.	NP	Available	NP	NP	NP	Available	Available	NP	Own govt.	NP	Yes
Treutlen County	Own govt.	NP	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Turner County	Own govt.	Authority	NP	Own govt.	NP	NP	NP	NP	NP	NP	Own govt.	NP	No
Twiggs County	Own govt.	Own govt.	NP	Private	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Warren County	Own govt.	Own govt.	NP	Own govt.	Own govt.	Other govt.	Other govt.	Other govt.	Other govt.	Other govt.	Own govt.	Other govt.	Yes
Webster County Unified	Own govt.	Own govt.	NP	NP	Own govt.	NP	NP	Own govt.	Own govt.	Own govt.	Own govt.	---	Yes
Wheeler County	Own govt.	Authority	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Wilcox County	Own govt.	Own govt.	NP	Private	Private	NP	NP	NP	NP	NP	Own govt.	NP	Yes
Wilkes County	Own govt.	Own govt.	Authority	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No
Wilkinson County	Own govt.	NP	NP	Own govt.	Own govt.	NP	NP	NP	NP	NP	Own govt.	NP	No

CHAPTER 3 ♦ Public Facilities Provided

This chapter covers the types of facilities that a local government may provide to citizens, and methods of managing them.

Ways of providing public facilities include:

- A. Own-government – provided directly by the government
- B. Authority – provided through a local government authority
- C. Agreement – agreement with other local government(s)
- D. Private – contracted with private provider
- E. Available – facility available but not through local government
- F. Not available – facility not available

Types of public facilities provided include:

- Airport
- Bicycle, hiking, and/or jogging trails
- Cemeteries
- Civic center
- Correctional institute
- Golf courses
- Health clinic
- Libraries
- Multi-purpose center/Community center
- Neighborhood playgrounds/Playground equipment
- Outdoor courts (basketball, tennis, volleyball, etc)
- Outdoor fields (baseball, football, soccer, etc.)
- Parks
- Recreation center and/or gym
- Senior citizens center
- Stadium
- Swimming pools

Department of Community Affairs

Section 3.a: Public Facilities Provided - Summary of Data

Number providing facility directly

Group	Number reporting	Airport		Bicycle, hiking, and/or jogging trails		Cemeteries		Civic center		Correctional institute		Golf courses		Health clinic		Libraries		Community center		Neighborhood playgrounds/equipment	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	5	22.7%	19	86.4%	2	9.1%	5	22.7%	12	54.5%	3	13.6%	2	9.1%	10	45.5%	18	81.8%	18	81.8%
B	15	2	13.3%	12	80.0%	1	6.7%	3	20.0%	8	53.3%	1	6.7%	1	6.7%	4	26.7%	12	80.0%	12	80.0%
C	31	8	25.8%	19	61.3%	0	0.0%	5	16.1%	8	25.8%	2	6.5%	2	6.5%	8	25.8%	10	32.3%	18	58.1%
D	34	5	14.7%	13	38.2%	0	0.0%	5	14.7%	2	5.9%	3	8.8%	6	17.6%	8	23.5%	9	26.5%	17	50.0%
E	14	3	21.4%	5	35.7%	1	7.1%	1	7.1%	1	7.1%	0	0.0%	1	7.1%	4	28.6%	3	21.4%	5	35.7%
F	30	5	16.7%	5	16.7%	1	3.3%	0	0.0%	3	10.0%	1	3.3%	7	23.3%	10	33.3%	11	36.7%	12	40.0%
Total	146	28	19.2%	73	50.0%	5	3.4%	19	13.0%	34	23.3%	10	6.8%	19	13.0%	44	30.1%	63	43.2%	82	56.2%

Section 3.a: Public Facilities Provided

County	Airport	Biking, hiking, and/or jogging trails	Cemeteries	Civic center	Correctional institute	Golf courses	Health clinic	Libraries	Community center	Neighborhood playgrounds/ playground equipment
Population Group A										
Athens-Clarke CG	Own govt.	Own govt.	Available	Authority	Own govt.	Available	Private	Private	Own govt.	Own govt.
Augusta/Richmond CG	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Private	Available	Own govt.	Own govt.	Own govt.
Bartow County	Authority	Own govt.	Available	Agreement	Not avail.	Available	Available	Agreement	Own govt.	Own govt.
Carroll County	Authority	Own govt.	Available	Available	Own govt.	Available	Available	Agreement	Own govt.	Own govt.
Chatham County	Available	Own govt.	Available	Available	Available	Own govt.	Authority	Agreement	Own govt.	Own govt.
Cherokee County	Authority	Own govt.	Available	Own govt.	Not avail.	Available	Available	Authority	Own govt.	Own govt.
Clayton County	Available	Own govt.	Available	Not avail.	Own govt.	Not avail.	Authority	Own govt.	Own govt.	Own govt.
Cobb County	Own govt.	Own govt.	Available	Own govt.	Not avail.	Private	Authority	Own govt.	Own govt.	Own govt.
Columbia County	Not avail.	Own govt.	Available	Own govt.	Not avail.	Available	Authority	Own govt.	Own govt.	Own govt.
Columbus/Muscogee CG	Authority	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Available	Own govt.	Own govt.
Coweta County	Authority	Own govt.	Available	Available	Own govt.	Available	Available	Own govt.	Own govt.	Own govt.
Douglas County	Available	Own govt.	Available	Not avail.	Own govt.	Available	Agreement	Own govt.	Own govt.	Own govt.
Fayette County	Available	Own govt.	Available	Not avail.	Own govt.	Available	Available	Own govt.	Not avail.	Own govt.
Forsyth County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Available	Available	Authority	Not avail.	Own govt.
Gwinnett County	Own govt.	Own govt.	Available	Private	Own govt.	Private	Available	Authority	Own govt.	Own govt.
Hall County	Available	Own govt.	Available	Available	Own govt.	Authority	Own govt.	Own govt.	Own govt.	Own govt.
Henry County	Own govt.	Own govt.	Available	Not avail.	Not avail.	Own govt.	Not avail.	Authority	Own govt.	Not avail.
Houston County	Authority	Agreement	Available	Agreement	Not avail.	Available	Own govt.	Own govt.	Available	Available
Lowndes County	Authority	Authority	Available	Own govt.	Own govt.	Available	Agreement	Agreement	Authority	Authority
Newton County	Available	Agreement	Available	Agreement	Not avail.	Available	Available	Authority	Own govt.	Own govt.
Paulding County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Own govt.	Own govt.
Whitfield County	Available	Own govt.	Available	Available	Own govt.	Available	Available	Agreement	Own govt.	Available
Population Group B										
Barrow County	Authority	Own govt.	Available	Available	Not avail.	Available	Available	Agreement	Available	Own govt.
Bulloch County	Agreement	Own govt.	Available	Not avail.	Own govt.	Available	Authority	Authority	Own govt.	Own govt.
Camden County	Not avail.	Authority	Available	Not avail.	Not avail.	Available	Available	Private	Authority	Authority
Catoosa County	Not avail.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.	Own govt.	Own govt.	Own govt.
Dougherty County	Available	Available	Available	Available	Available	Available	Available	Own govt.	Agreement	Agreement
Effingham County	Not avail.	Own govt.	Available	Available	Own govt.	Available	Private	Private	Own govt.	Own govt.
Floyd County	Own govt.	Agreement	Available	Own govt.	Own govt.	Available	Private	Own govt.	Own govt.	Agreement
Gordon County	Authority	Own govt.	Available	Available	Not avail.	Available	Agreement	Authority	Own govt.	Own govt.
Jackson County	Authority	Own govt.	Available	Available	Own govt.	Available	Agreement	Agreement	Own govt.	Own govt.
Liberty County	Agreement	Own govt.	Available	Not avail.	Not avail.	Available	Available	Agreement	Own govt.	Own govt.
Rockdale County	Not avail.	Own govt.	Available	Available	Own govt.	Available	Available	Own govt.	Own govt.	Own govt.
Spalding County	Authority	Own govt.	Available	Available	Own govt.	Available	Available	Agreement	Own govt.	Own govt.

Section 3.a: Public Facilities Provided

County	Airport	Biking, hiking, and/or jogging trails	Cemeteries	Civic center	Correctional institute	Golf courses	Health clinic	Libraries	Community center	Neighborhood playgrounds/ playground equipment
Population Group B										
Troup County	Own govt.	Own govt.	Available	Not avail.	Not avail.	Own govt.	Private	Agreement	Own govt.	Own govt.
Walker County	Available	Own govt.	Available	Own govt.	Available	Available	Available	Authority	Own govt.	Own govt.
Walton County	Available	Own govt.	Own govt.	Not avail.	Own govt.	Available	Authority	Authority	Own govt.	Own govt.
Population Group C										
Baldwin County	Private	Available	Available	Not avail.	Available	Own govt.	Own govt.	Agreement	Not avail.	Own govt.
Bryan County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Not avail.	Available
Coffee County	Available	Available	Available	Available	Available	Available	Agreement	Agreement	Available	Available
Colquitt County	Authority	Authority	Available	Available	Own govt.	Available	Authority	Agreement	Available	Authority
Dawson County	Not avail.	Own govt.	Available	Available	Not avail.	Available	Authority	Authority	Own govt.	Own govt.
Decatur County	Own govt.	Agreement	Available	Not avail.	Own govt.	Not avail.	Available	Available	Not avail.	Not avail.
Fannin County	Not avail.	Own govt.	Available	Not avail.	Own govt.	Not avail.	Available	Agreement	Not avail.	Agreement
Gilmer County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Own govt.	Available	Agreement	Own govt.	Own govt.
Habersham County	Own govt.	Available	Available	Not avail.	Available	Available	Authority	Available	Available	Available
Haralson County	Not avail.	Own govt.	Available	Not avail.	Own govt.	Not avail.	Available	Own govt.	Not avail.	Own govt.
Harris County	Own govt.	Own govt.	Available	Not avail.	Own govt.	Available	Authority	Authority	Own govt.	Own govt.
Hart County	Authority	Private	Available	Available	Available	Available	Available	Own govt.	Available	Own govt.
Laurens County	Own govt.	Not avail.	Available	Not avail.	Not avail.	Available	Own govt.	Own govt.	Available	Authority
Lee County	Not avail.	Own govt.	Available	Not avail.	Available	Not avail.	Agreement	Own govt.	Available	Own govt.
Lumpkin County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Available	Agreement	Own govt.	Own govt.
Madison County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Not avail.	Authority	Authority	Available	Own govt.
Monroe County	Not avail.	Own govt.	Available	Own govt.	Available	Available	Available	Agreement	Not avail.	Own govt.
Murray County	Not avail.	Agreement	Available	Not avail.	Not avail.	Available	Authority	Agreement	Own govt.	Agreement
Oconee County	Not avail.	Own govt.	Available	Own govt.	Not avail.	Available	Agreement	Agreement	Own govt.	Own govt.
Peach County	Available	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Not avail.	Available
Pickens County	Authority	Own govt.	Available	Own govt.	Own govt.	Available	Agreement	Authority	Own govt.	Own govt.
Polk County	Own govt.	Available	Available	Available	Not avail.	Available	Private	Agreement	Available	Agreement
Stephens County	Agreement	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Not avail.	Own govt.
Sumter County	Authority	Own govt.	Not avail.	Not avail.	Own govt.	Available	Available	Authority	Not avail.	Own govt.
Tattnall County	Available	Not avail.	Available	Not avail.	Available	Available	Available	Agreement	Not avail.	Available
Thomas County	Agreement	Agreement	Available	Not avail.	Not avail.	Agreement	Available	Agreement	Available	Agreement
Tift County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Authority	Agreement	Own govt.	Own govt.
Upson County	Authority	Own govt.	Available	Own govt.	Not avail.	Available	Available	Agreement	Not avail.	Own govt.
Ware County	Own govt.	Agreement	Available	Available	Available	Available	Available	Authority	Not avail.	Available
Wayne County	Own govt.	Own govt.	Available	Not avail.	Available	Available	Available	Agreement	Own govt.	Own govt.
White County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Own govt.	Own govt.

Section 3.a: Public Facilities Provided

County	Airport	Biking, hiking, and/or jogging trails	Cemeteries	Civic center	Correctional institute	Golf courses	Health clinic	Libraries	Community center	Neighborhood playgrounds/ playground equipment
Population Group C										
Population Group D										
Appling County	Available	Not avail.	Available	Not avail.	Not avail.	Not avail.	Own govt.	Own govt.	Own govt.	Own govt.
Banks County	Not avail.	Own govt.	Available	Available	Not avail.	Available	Available	Agreement	Not avail.	Own govt.
Ben Hill County	Authority	Not avail.	Available	Not avail.	Not avail.	Not avail.	Authority	Agreement	Agreement	Agreement
Berrien County	Authority	Not avail.	Available	Not avail.	Not avail.	Not avail.	Own govt.	Own govt.	Available	Available
Brantley County	Own govt.	Own govt.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Own govt.	Not avail.	Own govt.
Brooks County	Authority	Available	Available	Not avail.	Not avail.	Available	Agreement	Authority	Not avail.	Available
Burke County	Own govt.	Available	Available	Own govt.	Not avail.	Available	Authority	Authority	Own govt.	Own govt.
Butts County	Not avail.	Own govt.	Available	Available	Available	Available	Own govt.	Own govt.	Own govt.	Own govt.
Chattooga County	Not avail.	Available	Available	Own govt.	Available	Available	Available	Authority	Own govt.	Available
Cook County	Authority	Not avail.	Not avail.	Not avail.	Not avail.	Available	Available	Authority	Not avail.	Not avail.
Crisp County	Own govt.	Available	Available	Not avail.	Available	Available	Authority	Agreement	Agreement	Own govt.
Dade County	Not avail.	Own govt.	Available	Available	Available	Available	Agreement	Agreement	Available	Own govt.
Dodge County	Authority	Available	Not avail.	Available	Not avail.	Available	Authority	Authority	Available	Agreement
Elbert County	Own govt.	Agreement	Available	Own govt.	Not avail.	Available	Agreement	Agreement	Own govt.	Own govt.
Emanuel County	Agreement	Authority	Available	Authority	Available	Available	Own govt.	Agreement	Authority	Authority
Franklin County	Authority	Available	Available	Not avail.	Not avail.	Available	Available	Available	Available	Available
Grady County	Available	Not avail.	Not avail.	Not avail.	Not avail.	Available	Authority	Authority	Not avail.	Available
Greene County	Own govt.	Available	Available	Not avail.	Not avail.	Available	Available	Private	Not avail.	Available
Jeff Davis County	Authority	Own govt.	Authority	Available	Not avail.	Agreement	Own govt.	Own govt.	Own govt.	Own govt.
Jefferson County	Available	Own govt.	Available	Own govt.	Own govt.	Available	Authority	Agreement	Not avail.	Available
Lamar County	Not avail.	Own govt.	Available	Agreement	Available	Available	Authority	Authority	Available	Own govt.
Long County	Not avail.	Available	Available	Not avail.	Private	Not avail.	Own govt.	Own govt.	Not avail.	Own govt.
McDuffie County	Agreement	Not avail.	Available	Not avail.	Not avail.	Available	Authority	Agreement	Agreement	Agreement
Meriwether County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Authority	Agreement	Not avail.	Not avail.
Mitchell County	Available	Not avail.	Available	Not avail.	Own govt.	Available	Available	Agreement	Not avail.	Agreement
Morgan County	Available	Own govt.	Available	Not avail.	Not avail.	Available	Available	Agreement	Not avail.	Own govt.
Oglethorpe County	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Agreement	Agreement	Not avail.	Own govt.
Pierce County	Not avail.	Not avail.	Available	Not avail.	Not avail.	Not avail.	Available	Private	Not avail.	Available
Pike County	Available	Own govt.	Available	Not avail.	Available	Not avail.	Authority	Own govt.	Not avail.	Authority
Putnam County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Own govt.	Available	Agreement	Available	Own govt.
Telfair County	Agreement	Not avail.	Not avail.	Not avail.	Available	Not avail.	Available	Own govt.	Own govt.	Not avail.
Union County	Available	Own govt.	Available	Own govt.	Available	Own govt.	Available	Available	Own govt.	Own govt.
Washington County	Authority	Available	Available	Not avail.	Available	Available	Authority	Authority	Available	Own govt.
Worth County	Agreement	Own govt.	Available	Not avail.	Not avail.	Own govt.	Available	Authority	Own govt.	Own govt.

Section 3.a: Public Facilities Provided

County	Airport	Biking, hiking, and/or jogging trails	Cemeteries	Civic center	Correctional institute	Golf courses	Health clinic	Libraries	Community center	Neighborhood playgrounds/ playground equipment
Population Group D										
Population Group E										
Bacon County	Own govt.	Not avail.	Not avail.	Not avail.	Available	Available	Available	Agreement	Not avail.	Not avail.
Bleckley County	Agreement	Agreement	Available	Not avail.	Own govt.	Available	Authority	Authority	Available	Not avail.
Candler County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Authority	Agreement	Not avail.	Own govt.
Charlton County	Own govt.	Not avail.	Available	Not avail.	Available	Available	Available	Available	Not avail.	Own govt.
Crawford County	Available	Not avail.	Not avail.	Available	Not avail.	Not avail.	Own govt.	Own govt.	Not avail.	Own govt.
Cusseta-Chattahoochee CG	Not avail.	Own govt.	Own govt.	Not avail.	Not avail.	Not avail.	Authority	Authority	Own govt.	Own govt.
Dooly County	Not avail.	Not avail.	Available	Not avail.	Available	Not avail.	Available	Own govt.	Not avail.	Not avail.
Early County	Own govt.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Agreement	Not avail.	Agreement
Evans County	Authority	Available	Available	Not avail.	Available	Available	Authority	Authority	Authority	Authority
Jasper County	Not avail.	Available	Available	Available	Not avail.	Available	Available	Available	Available	Authority
Lanier County	Not avail.	Own govt.	Not avail.	Not avail.	Available	Not avail.	Agreement	Own govt.	Not avail.	Own govt.
Macon County	Authority	Own govt.	Available	Own govt.	Available	Available	Available	Available	Available	Available
McIntosh County	Available	Own govt.	Available	Not avail.	Not avail.	Available	Authority	Authority	Own govt.	Authority
Pulaski County	Agreement	Available	Available	Not avail.	Available	Available	Available	Own govt.	Own govt.	Available
Population Group F										
Atkinson County	Not avail.	Not avail.	Not avail.	Available	Not avail.	Not avail.	Authority	Agreement	Not avail.	Not avail.
Baker County	Not avail.	Not avail.	Available	Not avail.	Not avail.	Not avail.	Available	Own govt.	Not avail.	Available
Calhoun County	Not avail.	Not avail.	Available	Not avail.	Available	Not avail.	Available	Available	Available	Not avail.
Clay County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Available	Available	Own govt.	Not avail.	Available
Clinch County	Available	Not avail.	Available	Not avail.	Not avail.	Available	Authority	Agreement	Not avail.	Agreement
Echols County CG	Not avail.	Not avail.	Available	Not avail.	Not avail.	Not avail.	Agreement	Agreement	Own govt.	Own govt.
Glascocock County	Not avail.	Not avail.	Available	Not avail.	Not avail.	Not avail.	Own govt.	Agreement	Own govt.	Own govt.
Hancock County	Not avail.	Not avail.	Not avail.	Not avail.	Available	Not avail.	Agreement	Agreement	Own govt.	Own govt.
Irwin County	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Own govt.	Own govt.	Agreement	Not avail.
Jenkins County	Own govt.	Available	Available	Authority	Available	Available	Available	Own govt.	Available	Available
Johnson County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Not avail.	Own govt.	Authority	Own govt.	Available
Lincoln County	Not avail.	Available	Available	Not avail.	Own govt.	Available	Authority	Own govt.	Own govt.	Own govt.
Miller County	Not avail.	Not avail.	Available	Not avail.	Own govt.	Own govt.	Agreement	Available	Available	Own govt.
Montgomery County	Not avail.	Agreement	Available	Not avail.	Available	Available	Own govt.	Own govt.	Own govt.	Available
Randolph County	Authority	Not avail.	Available	Not avail.	Not avail.	Available	Available	Authority	Not avail.	Not avail.
Schley County	Not avail.	Not avail.	Available	Not avail.	Not avail.	Available	Agreement	Agreement	Not avail.	Available
Seminole County	Authority	Own govt.	Available	Not avail.	Not avail.	Available	Available	Available	Own govt.	Own govt.
Talbot County	Not avail.	Own govt.	Not avail.	Not avail.	Not avail.	Not avail.	Available	Agreement	Not avail.	Own govt.

Section 3.a: Public Facilities Provided

County	Airport	Biking, hiking, and/or jogging trails	Cemeteries	Civic center	Correctional institute	Golf courses	Health clinic	Libraries	Community center	Neighborhood playgrounds/ playground equipment
Population Group F										
Taliaferro County	Not avail.	Available	Available	Not avail.	Not avail.	Not avail.	Own govt.	Own govt.	Not avail.	Not avail.
Taylor County	Own govt.	Not avail.	Available	Not avail.	Not avail.	Available	Own govt.	Own govt.	Not avail.	Own govt.
Terrell County	Authority	Not avail.	Available	Not avail.	Own govt.	Available	Authority	Authority	Available	Available
Treutlen County	Own govt.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Available	Agreement	Not avail.	Not avail.
Turner County	Own govt.	Not avail.	Not avail.	Available	Not avail.	Not avail.	Available	Authority	Not avail.	Available
Twiggs County	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Own govt.	Agreement	Not avail.	Own govt.
Warren County	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Available	Own govt.	Own govt.	Not avail.
Webster County Unified	Not avail.	Not avail.	Own govt.	Not avail.	Not avail.	Not avail.	Agreement	Agreement	Own govt.	Own govt.
Wheeler County	Authority	Available	Available	Not avail.	Available	Available	Available	Own govt.	Own govt.	Available
Wilcox County	Not avail.	Not avail.	Not avail.	Not avail.	Available	Not avail.	Available	Agreement	Own govt.	Own govt.
Wilkes County	Own govt.	Authority	Available	Not avail.	Available	Available	Agreement	Authority	Available	Authority
Wilkinson County	Not avail.	Own govt.	Available	Not avail.	Not avail.	Not avail.	Authority	Authority	Not avail.	Own govt.

Department of Community Affairs

Section 3.b: Public Facilities Provided - Summary of Data

Group	Number reporting	Number providing facility directly														Number operating facilities on a regional basis	
		Outdoor courts (basketball, tennis)		Outdoor fields (baseball, football)		Parks		Recreation center/gym		Senior citizens' center		Stadium		Swimming pools			
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	20	90.9%	20	90.9%	20	90.9%	20	90.9%	15	68.2%	2	9.1%	9	40.9%	9	40.9%
B	15	12	80.0%	11	73.3%	13	86.7%	10	66.7%	12	80.0%	3	20.0%	5	33.3%	7	46.7%
C	31	18	58.1%	24	77.4%	23	74.2%	22	71.0%	17	54.8%	0	0.0%	11	35.5%	15	48.4%
D	34	22	64.7%	23	67.6%	23	67.6%	19	55.9%	24	70.6%	0	0.0%	6	17.6%	13	38.2%
E	14	6	42.9%	9	64.3%	9	64.3%	8	57.1%	9	64.3%	0	0.0%	0	0.0%	4	28.6%
F	30	12	40.0%	16	53.3%	12	40.0%	7	23.3%	21	70.0%	0	0.0%	0	0.0%	9	30.0%
Total	146	90	61.6%	103	70.5%	100	68.5%	86	58.9%	98	67.1%	5	3.4%	31	21.2%	57	39.0%

Section 3.b: Public Facilities Provided

County	Outdoor courts	Outdoor fields	Parks	Recreation center/gym	Senior citizens center	Stadium	Swimming pools	Does the government provide any of these facilities on a regional basis?
Population Group A								
Athens-Clarke CG	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Own govt.	Yes
Augusta/Richmond CG	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	No
Bartow County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Carroll County	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Available	Available	No
Chatham County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Yes
Cherokee County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Yes
Clayton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Yes
Cobb County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Own govt.	Yes
Columbia County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Columbus/Muscogee CG	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	No
Coweta County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Douglas County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	No
Fayette County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Not avail.	Agreement	No
Forsyth County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Agreement	Yes
Gwinnett County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Private	Own govt.	Yes
Hall County	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Available	Available	No
Henry County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Houston County	Agreement	Agreement	Agreement	Agreement	Agreement	Agreement	Agreement	No
Lowndes County	Authority	Authority	Authority	Authority	Authority	Available	Authority	Yes
Newton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Paulding County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Whitfield County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Not avail.	Yes
Population Group B								
Barrow County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Yes
Bulloch County	Own govt.	Own govt.	Own govt.	Agreement	Own govt.	Available	Own govt.	Yes
Camden County	Authority	Authority	Authority	Authority	Authority	Authority	Authority	Yes
Catoosa County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Dougherty County	Own govt.	Agreement	Own govt.	Agreement	Agreement	Available	Own govt.	No
Effingham County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Yes
Floyd County	Agreement	Agreement	Agreement	Agreement	Agreement	Agreement	Agreement	No
Gordon County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Jackson County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Agreement	Yes
Liberty County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Yes
Rockdale County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	No
Spalding County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Yes

Section 3.b: Public Facilities Provided

County	Outdoor courts	Outdoor fields	Parks	Recreation center/gym	Senior citizens center	Stadium	Swimming pools	Does the government provide any of these facilities on a regional basis?
Population Group B								
Troup County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	No
Walker County	Available	Available	Own govt.	Available	Own govt.	Available	Available	No
Walton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	No
Population Group C								
Baldwin County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Bryan County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Available	No
Coffee County	Agreement	Agreement	Own govt.	Agreement	Own govt.	Available	Agreement	Yes
Colquitt County	Authority	Authority	Authority	Authority	Agreement	Available	Authority	No
Dawson County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Yes
Decatur County	Not avail.	Not avail.	Own govt.	Authority	Not avail.	Available	Not avail.	No
Fannin County	Agreement	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Agreement	No
Gilmer County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Yes
Habersham County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Available	Own govt.	Yes
Haralson County	Not avail.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Harris County	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Available	Own govt.	Yes
Hart County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Yes
Laurens County	Authority	Authority	Authority	Authority	Own govt.	Not avail.	Not avail.	No
Lee County	Available	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	Not avail.	Yes
Lumpkin County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Yes
Madison County	Own govt.	Own govt.	Own govt.	Available	Own govt.	Available	Not avail.	Yes
Monroe County	Own govt.	Own govt.	Own govt.	Own govt.	Private	Available	Not avail.	No
Murray County	Agreement	Own govt.	Agreement	Own govt.	Own govt.	Not avail.	Available	Yes
Oconee County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Yes
Peach County	Own govt.	Own govt.	Own govt.	Available	Available	Available	Available	Yes
Pickens County	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Agreement	Own govt.	Yes
Polk County	Agreement	Agreement	Agreement	Agreement	Available	Not avail.	Not avail.	Yes
Stephens County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	No
Sumter County	Own govt.	Own govt.	Own govt.	Own govt.	Authority	Not avail.	Own govt.	No
Tattnall County	Available	Available	Available	Available	Available	Not avail.	Not avail.	No
Thomas County	Agreement	Agreement	Agreement	Agreement	Not avail.	Available	Agreement	No
Tift County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Own govt.	No
Upson County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Own govt.	Yes
Ware County	Available	Own govt.	Available	Own govt.	Private	Available	Own govt.	No
Wayne County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Not avail.	No
White County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	No

Section 3.b: Public Facilities Provided

County	Outdoor courts	Outdoor fields	Parks	Recreation center/gym	Senior citizens center	Stadium	Swimming pools	Does the government provide any of these facilities on a regional basis?
Population Group C								
Population Group D								
Appling County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Yes
Banks County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	No
Ben Hill County	Agreement	Agreement	Agreement	Agreement	Own govt.	Available	Agreement	No
Berrien County	Available	Own govt.	Own govt.	Available	Own govt.	Not avail.	Not avail.	No
Brantley County	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	No
Brooks County	Available	Agreement	Own govt.	Agreement	Own govt.	Not avail.	Available	No
Burke County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Private	No
Butts County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	No
Chattooga County	Available	Available	Available	Available	Own govt.	Available	Not avail.	No
Cook County	Authority	Authority	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	Yes
Crisp County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Yes
Dade County	Own govt.	Own govt.	Own govt.	Available	Own govt.	Available	Available	Yes
Dodge County	Agreement	Authority	Agreement	Authority	Agreement	Authority	Not avail.	Yes
Elbert County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	No
Emanuel County	Authority	Authority	Authority	Authority	Own govt.	Available	Not avail.	No
Franklin County	Available	Agreement	Own govt.	Own govt.	Own govt.	Not avail.	Available	Yes
Grady County	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	Not avail.	Not avail.	No
Greene County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Not avail.	Available	Yes
Jeff Davis County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	No
Jefferson County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Lamar County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	No
Long County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Not avail.	No
McDuffie County	Agreement	Agreement	Agreement	Agreement	Agreement	Available	Available	No
Meriwether County	Agreement	Agreement	Agreement	Agreement	Agreement	Not avail.	Not avail.	Yes
Mitchell County	Own govt.	Agreement	Agreement	Agreement	Available	Agreement	Not avail.	No
Morgan County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Own govt.	Yes
Oglethorpe County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Available	Yes
Pierce County	Own govt.	Own govt.	Agreement	Own govt.	Private	Not avail.	Not avail.	Yes
Pike County	Not avail.	Authority	Authority	Authority	Own govt.	Not avail.	Not avail.	No
Putnam County	Own govt.	Own govt.	Own govt.	Own govt.	Agreement	Available	Own govt.	No
Telfair County	Own govt.	Own govt.	Not avail.	Own govt.	Own govt.	Not avail.	Not avail.	No
Union County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Own govt.	Yes
Washington County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Yes
Worth County	Own govt.	Own govt.	Own govt.	Agreement	Not avail.	Agreement	Not avail.	No

Section 3.b: Public Facilities Provided

County	Outdoor courts	Outdoor fields	Parks	Recreation center/gym	Senior citizens center	Stadium	Swimming pools	Does the government provide any of these facilities on a regional basis?
Population Group D								
Population Group E								
Bacon County	Own govt.	Own govt.	Not avail.	Own govt.	Own govt.	Not avail.	Not avail.	Yes
Bleckley County	Not avail.	Available	Own govt.	Agreement	Own govt.	Not avail.	Not avail.	No
Candler County	Own govt.	Own govt.	Own govt.	Own govt.	Available	Available	Not avail.	Yes
Charlton County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Yes
Crawford County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Cusseta-Chattahoochee CG	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Dooly County	Available	Own govt.	Available	Own govt.	Available	Not avail.	Not avail.	No
Early County	Agreement	Agreement	Agreement	Agreement	Not avail.	Not avail.	Agreement	No
Evans County	Authority	Authority	Authority	Authority	Authority	Not avail.	Not avail.	Yes
Jasper County	Authority	Own govt.	Own govt.	Authority	Own govt.	Authority	Not avail.	No
Lanier County	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	No
Macon County	Not avail.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Not avail.	No
McIntosh County	Authority	Authority	Own govt.	Authority	Own govt.	Not avail.	Not avail.	No
Pulaski County	Available	Available	Available	Own govt.	Own govt.	Available	Not avail.	No
Population Group F								
Atkinson County	Not avail.	Not avail.	Not avail.	Not avail.	Available	Not avail.	Not avail.	Yes
Baker County	Available	Available	Available	Not avail.	Not avail.	Not avail.	Not avail.	No
Calhoun County	Available	Available	Not avail.	Available	Available	Not avail.	Not avail.	No
Clay County	Available	Available	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	No
Clinch County	Agreement	Agreement	Agreement	Not avail.	Own govt.	Not avail.	Not avail.	No
Echols County CG	Own govt.	Own govt.	Not avail.	Not avail.	Own govt.	Not avail.	Not avail.	Yes
Glascocock County	Not avail.	Own govt.	Not avail.	Not avail.	Own govt.	Not avail.	Not avail.	No
Hancock County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Irwin County	Not avail.	Own govt.	Not avail.	Not avail.	Own govt.	Not avail.	Not avail.	No
Jenkins County	Own govt.	Own govt.	Available	Own govt.	Own govt.	Not avail.	Not avail.	No
Johnson County	Own govt.	Own govt.	Own govt.	Available	Own govt.	Not avail.	Not avail.	Yes
Lincoln County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Yes
Miller County	Own govt.	Own govt.	Own govt.	Available	Not avail.	Not avail.	Not avail.	No
Montgomery County	Own govt.	Own govt.	Available	Agreement	Own govt.	Not avail.	Not avail.	No
Randolph County	Not avail.	Agreement	Not avail.	Not avail.	Available	Not avail.	Not avail.	Yes
Schley County	Available	Agreement	Not avail.	Agreement	Agreement	Not avail.	Not avail.	No
Seminole County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Available	Not avail.	Yes
Talbot County	Own govt.	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No

Section 3.b: Public Facilities Provided

County	Outdoor courts	Outdoor fields	Parks	Recreation center/gym	Senior citizens center	Stadium	Swimming pools	Does the government provide any of these facilities on a regional basis?
Population Group F								
Taliaferro County	Own govt.	Not avail.	Available	Not avail.	Own govt.	Not avail.	Not avail.	No
Taylor County	Available	Own govt.	Own govt.	Own govt.	Own govt.	Not avail.	Not avail.	No
Terrell County	Not avail.	Authority	Available	Authority	Not avail.	Not avail.	Not avail.	Yes
Treutlen County	Not avail.	Not avail.	Not avail.	Not avail.	Own govt.	Not avail.	Not avail.	No
Turner County	Available	Own govt.	Own govt.	Available	Not avail.	Not avail.	Not avail.	No
Twiggs County	Own govt.	Own govt.	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	No
Warren County	Agreement	Agreement	Not avail.	Agreement	Own govt.	Agreement	Not avail.	No
Webster County Unified	Own govt.	Not avail.	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	Yes
Wheeler County	Not avail.	Authority	Available	Authority	Own govt.	Not avail.	Not avail.	Yes
Wilcox County	Not avail.	Own govt.	Available	Own govt.	Agreement	Not avail.	Not avail.	No
Wilkes County	Authority	Authority	Authority	Authority	Own govt.	Authority	Not avail.	No
Wilkinson County	Agreement	Own govt.	Own govt.	Not avail.	Own govt.	Not avail.	Not avail.	No

CHAPTER 4 ♦ Planning, Zoning and Development Procedures

Governments use planning and zoning mainly to control growth in an area, protect the character of neighborhoods, and ensure efficient and effective service delivery.

Specific items covered in this chapter:

- Presence of a planning commission
- Zoning ordinance – Including official responsible for the zoning ordinance
- Comprehensive Plan – Review and amendments to comprehensive plan
- Variance and special exceptions – When government policymakers grant a property owner a use for their property other than that for which it is zoned.
- Use of codes and ordinances – Local governments pass regulatory codes for the purposes of managing growth, protecting the environment, and promoting public safety and welfare.
- Use of impact fees – Impact fees are intended as a mechanism for growth to pay for itself. Local governments charge developers these fees, and the funds are earmarked for specific purposes based on the assessment method.

Department of Community Affairs

Section 4.a: Planning, Zoning and Development Procedures - Summary of Data

Group	Number reporting	Number with planning commission		Number with zoning ordinance		Number with zoning administrator having primary responsibility for administering zoning ordinance		Number with zoning board having final decision on variances in zoning process		Number with planning director maintaining comprehensive plan		Number reviewing comprehensive plan in rezoning process		Number amending comprehensive plan for changes in zoning	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	21	95.5%	22	100.0%	6	27.3%	7	31.8%	12	54.5%	21	95.5%	8	36.4%
B	15	15	100.0%	15	100.0%	2	13.3%	3	20.0%	7	46.7%	15	100.0%	3	20.0%
C	31	25	80.6%	25	80.6%	9	29.0%	3	9.7%	7	22.6%	21	67.7%	4	12.9%
D	34	24	70.6%	24	70.6%	10	29.4%	1	2.9%	5	14.7%	24	70.6%	6	17.6%
E	14	9	64.3%	8	57.1%	3	21.4%	1	7.1%	0	0.0%	6	42.9%	1	7.1%
F	30	14	46.7%	17	56.7%	8	26.7%	2	6.7%	1	3.3%	16	53.3%	7	23.3%
Total	146	108	74.0%	111	76.0%	38	26.0%	17	11.6%	32	21.9%	103	70.5%	29	19.9%

Section 4.a: Planning, Development and Zoning Procedures

County	Does government have a planning commission?	Does government have a zoning ordinance?	Entity with primary responsibility for zoning ordinance?	Entity with final decision on variances in zoning process?	Entity with responsibility for maintaining and revising comprehensive plan?	Comprehensive plan reviewed in rezoning process?	Comprehensive plan amended for changes in zoning?
Population Group A							
Athens-Clarke CG	Yes	Yes	Plan Director	Other	Plan Director	Yes	Always
Augusta/Richmond CG	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Bartow County	Yes	Yes	Zoning Adm	Council/chair	C.D. Director	Yes	Always
Carroll County	Yes	Yes	Other	Board zoning appeal	Other	No	---
Chatham County	Yes	Yes	Zoning Adm	Board zoning appeal	Plan Director	Yes	Always
Cherokee County	Yes	Yes	C.D. Director	Board zoning appeal	C.D. Director	Yes	No
Clayton County	Yes	Yes	Zoning Adm	Other	Zoning Adm	Yes	Always
Cobb County	Yes	Yes	Zoning Adm	Other	Plan Director	Yes	No
Columbia County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Columbus/Muscogee CG	Yes	Yes	Bldg. Insp.	Council/chair	Plan Director	Yes	Some cases
Coweta County	No	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Douglas County	Yes	Yes	Other	Plan commission	Other	Yes	Some cases
Fayette County	Yes	Yes	Zoning Adm	Board zoning appeal	Plan Director	Yes	No
Forsyth County	Yes	Yes	Plan Director	Council/chair	Other	Yes	No
Gwinnett County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Hall County	Yes	Yes	Plan Director	Plan commission	Plan Director	Yes	No
Henry County	Yes	Yes	Plan Director	Plan commission	Plan Director	Yes	Always
Houston County	Yes	Yes	Bldg. Insp.	Board zoning appeal	Mgr/Adm	Yes	Some cases
Lowndes County	Yes	Yes	Plan Director	Council/chair	RDC	Yes	Always
Newton County	Yes	Yes	Plan Director	Other	Plan Director	Yes	Always
Paulding County	Yes	Yes	C.D. Director	Board zoning appeal	C.D. Director	Yes	No
Whitfield County	Yes	Yes	Zoning Adm	Board zoning appeal	RDC	Yes	Some cases
Population Group B							
Barrow County	Yes	Yes	Plan Director	Board zoning appeal	Plan Director	Yes	Always
Bulloch County	Yes	Yes	Plan Director	Other	Other	Yes	No
Camden County	Yes	Yes	Plan Director	Plan commission	RDC	Yes	No
Catoosa County	Yes	Yes	Zoning Adm	Plan commission	Mgr/Adm	Yes	No
Dougherty County	Yes	Yes	Plan Director	Plan commission	Plan Director	Yes	Some cases
Effingham County	Yes	Yes	Zoning Adm	Council/chair	Zoning Adm	Yes	No
Floyd County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Gordon County	Yes	Yes	Bldg. Insp.	Plan commission	Mgr/Adm	Yes	Some cases
Jackson County	Yes	Yes	Plan Director	Board zoning appeal	Plan Director	Yes	Some cases

Section 4.a: Planning, Development and Zoning Procedures

County	Does government have a planning commission?	Does government have a zoning ordinance?	Entity with primary responsibility for zoning ordinance?	Entity with final decision on variances in zoning process?	Entity with responsibility for maintaining and revising comprehensive plan?	Comprehensive plan reviewed in rezoning process?	Comprehensive plan amended for changes in zoning?
Population Group B							
Liberty County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Some cases
Rockdale County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Spalding County	Yes	Yes	C.D. Director	Council/chair	C.D. Director	Yes	Always
Troup County	Yes	Yes	Bldg. Insp.	Board zoning appeal	Plan Director	Yes	Some cases
Walker County	Yes	Yes	Plan Director	Council/chair	Mgr/Adm	Yes	Some cases
Walton County	Yes	Yes	Plan Director	Council/chair	RDC	Yes	Some cases
Population Group C							
Baldwin County	Yes	No	---	Council/chair	Mgr/Adm	No	---
Bryan County	Yes	Yes	C.D. Director	Other	C.D. Director	Yes	Always
Coffee County	Yes	Yes	Bldg. Insp.	Council/chair	Mgr/Adm	Yes	Some cases
Colquitt County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Dawson County	Yes	Yes	Plan Director	Plan commission	Plan Director	Yes	Some cases
Decatur County	No	No	---	---	RDC	No	---
Fannin County	Yes	No	---	---	RDC	No	---
Gilmer County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	No
Habersham County	Yes	Yes	Plan Director	Other	Plan Director	Yes	No
Haralson County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Some cases
Harris County	Yes	Yes	C.D. Director	Council/chair	RDC	Yes	Some cases
Hart County	No	No	---	---	Mgr/Adm	No	---
Laurens County	No	No	---	---	RDC	No	---
Lee County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Some cases
Lumpkin County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Madison County	Yes	Yes	Zoning Adm	Council/chair	Zoning Adm	Yes	Some cases
Monroe County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Murray County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Oconee County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Some cases
Peach County	Yes	Yes	Zoning Adm	Board zoning appeal	RDC	Yes	Some cases
Pickens County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	No
Polk County	Yes	Yes	Zoning Adm	Council/chair	RDC	No	---
Stephens County	Yes	Yes	Plan Director	Council/chair	RDC	No	---
Sumter County	Yes	Yes	Zoning Adm	Board zoning appeal	RDC	Yes	Some cases
Tattall County	No	Yes	Other	Other	RDC	No	---

Section 4.a: Planning, Development and Zoning Procedures

County	Does government have a planning commission?	Does government have a zoning ordinance?	Entity with primary responsibility for zoning ordinance?	Entity with final decision on variances in zoning process?	Entity with responsibility for maintaining and revising comprehensive plan?	Comprehensive plan reviewed in rezoning process?	Comprehensive plan amended for changes in zoning?
Population Group C							
Thomas County	No	Yes	Plan Director	Council/chair	RDC	Yes	Always
Tift County	Yes	Yes	Plan Director	Board zoning appeal	RDC	Yes	Some cases
Upson County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	No
Ware County	Yes	Yes	Plan Director	Council/chair	Plan Director	No	---
Wayne County	No	No	---	---	RDC	No	---
White County	Yes	Yes	C.D. Director	Other	C.D. Director	Yes	Always
Population Group D							
Appling County	No	No	---	---	RDC	No	---
Banks County	Yes	Yes	Zoning Adm	Council/chair	Zoning Adm	Yes	Some cases
Ben Hill County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Berrien County	Yes	Yes	Zoning Adm	Council/chair	Mgr/Adm	Yes	Some cases
Brantley County	Yes	Yes	Mgr/Adm	Council/chair	Other	Yes	No
Brooks County	Yes	Yes	Other	Council/chair	RDC	Yes	Always
Burke County	Yes	Yes	Bldg. Insp.	Council/chair	Bldg. Insp.	Yes	No
Butts County	Yes	Yes	Plan Director	Other	RDC	Yes	Some cases
Chattooga County	No	No	---	---	RDC	No	---
Cook County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Crisp County	No	Yes	Plan Director	Board zoning appeal	RDC	Yes	Some cases
Dade County	No	No	---	---	RDC	No	---
Dodge County	No	No	---	---	RDC	No	---
Elbert County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Always
Emanuel County	No	No	---	---	RDC	No	---
Franklin County	Yes	Yes	Plan Director	Council/chair	RDC	Yes	Some cases
Grady County	Yes	No	---	---	RDC	No	---
Greene County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Jeff Davis County	No	No	---	---	RDC	No	---
Jefferson County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Some cases
Lamar County	Yes	Yes	C.D. Director	Council/chair	C.D. Director	Yes	No
Long County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
McDuffie County	Yes	Yes	Zoning Adm	Council/chair	Plan Director	Yes	Some cases
Meriwether County	Yes	Yes	Plan Director	Other	Plan Director	Yes	Some cases
Mitchell County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	No

Section 4.a: Planning, Development and Zoning Procedures

County	Does government have a planning commission?	Does government have a zoning ordinance?	Entity with primary responsibility for zoning ordinance?	Entity with final decision on variances in zoning process?	Entity with responsibility for maintaining and revising comprehensive plan?	Comprehensive plan reviewed in rezoning process?	Comprehensive plan amended for changes in zoning?
Population Group D							
Morgan County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Oglethorpe County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Pierce County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Pike County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Putnam County	Yes	Yes	Plan Director	Council/chair	RDC	Yes	Some cases
Telfair County	No	No	---	---	RDC	No	---
Union County	No	No	---	---	RDC	No	---
Washington County	No	No	---	---	RDC	No	---
Worth County	Yes	Yes	Zoning Adm	Council/chair	Mgr/Adm	Yes	No
Population Group E							
Bacon County	Yes	No	---	---	RDC	No	---
Bleckley County	No	No	---	---	RDC	No	---
Candler County	No	No	---	---	RDC	No	---
Charlton County	No	No	---	---	Mgr/Adm	No	---
Crawford County	Yes	Yes	Zoning Adm	Council/chair	RDC	No	---
Cusseta-Chattahoochee CG	Yes	Yes	Mgr/Adm	Council/chair	RDC	Yes	Some cases
Dooly County	Yes	Yes	Zoning Adm	Plan commission	RDC	Yes	No
Early County	Yes	No	---	---	Mgr/Adm	No	---
Evans County	No	No	Other	Other	RDC	No	---
Jasper County	Yes	Yes	Plan Director	Board zoning appeal	Mgr/Adm	Yes	No
Lanier County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Macon County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	No
McIntosh County	Yes	Yes	Bldg. Insp.	Plan commission	Mgr/Adm	Yes	Some cases
Pulaski County	No	Yes	Bldg. Insp.	Council/chair	RDC	No	---
Population Group F							
Atkinson County	No	No	---	Plan commission	RDC	No	---
Baker County	No	No	---	---	RDC	No	---
Calhoun County	No	No	---	---	RDC	No	---
Clay County	Yes	Yes	Other	Council/chair	RDC	Yes	Some cases
Clinch County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Some cases
Echols County CG	No	No	---	---	RDC	No	---

Section 4.a: Planning, Development and Zoning Procedures

County	Does government have a planning commission?	Does government have a zoning ordinance?	Entity with primary responsibility for zoning ordinance?	Entity with final decision on variances in zoning process?	Entity with responsibility for maintaining and revising comprehensive plan?	Comprehensive plan reviewed in rezoning process?	Comprehensive plan amended for changes in zoning?
Population Group F							
Glascocock County	No	No	---	---	RDC	No	---
Hancock County	Yes	Yes	Zoning Adm	Board zoning appeal	Other	Yes	No
Irwin County	Yes	Yes	Zoning Adm	Board zoning appeal	Zoning Adm	Yes	Always
Jenkins County	No	No	---	---	RDC	No	---
Johnson County	No	No	---	---	RDC	No	---
Lincoln County	Yes	Yes	Plan Director	Council/chair	Plan Director	Yes	Always
Miller County	No	Yes	Bldg. Insp.	Council/chair	Mgr/Adm	No	No
Montgomery County	No	No	---	---	RDC	No	---
Randolph County	No	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Always
Schley County	No	Yes	Mgr/Adm	Council/chair	RDC	Yes	Always
Seminole County	Yes	Yes	Bldg. Insp.	Council/chair	RDC	Yes	Some cases
Talbot County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	No
Taliaferro County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Taylor County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Terrell County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Some cases
Treutlen County	No	No	---	---	RDC	No	---
Turner County	Yes	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Twiggs County	No	Yes	Zoning Adm	Council/chair	RDC	Yes	Always
Warren County	Yes	Yes	Plan Director	Council/chair	RDC	Yes	No
Webster County Unified	No	No	---	---	Other	No	---
Wheeler County	Yes	No	---	---	RDC	No	---
Wilcox County	No	No	---	---	RDC	No	---
Wilkes County	Yes	Yes	Other	Plan commission	RDC	Yes	Some cases
Wilkinson County	No	No	Mgr/Adm	---	RDC	No	No

Department of Community Affairs

Section 4.b: Planning, Zoning and Development Procedures - Summary of Data

Number of governments adopting the following codes:

Group	Number reporting	Building Code		Residential Code		Electrical Code		Fire Code		Mechanical Code		Gas Code		Plumbing Code		Energy Code		Property Maint. Code		Existing Bldg Code		Residential Green Code		Number not adopting any of the named codes	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	22	100.0%	22	100.0%	22	100.0%	22	100.0%	22	100.0%	20	90.9%	22	100.0%	22	100.0%	15	68.2%	14	63.6%	5	22.7%	0	0.0%
B	15	15	100.0%	14	93.3%	15	100.0%	15	100.0%	15	100.0%	12	80.0%	15	100.0%	14	93.3%	10	66.7%	8	53.3%	4	26.7%	0	0.0%
C	31	29	93.5%	26	83.9%	29	93.5%	25	80.6%	26	83.9%	21	67.7%	29	93.5%	23	74.2%	13	41.9%	18	58.1%	5	16.1%	2	6.5%
D	34	28	82.4%	27	79.4%	29	85.3%	25	73.5%	27	79.4%	20	58.8%	29	85.3%	19	55.9%	14	41.2%	12	35.3%	6	17.6%	3	8.8%
E	14	11	78.6%	10	71.4%	11	78.6%	9	64.3%	10	71.4%	8	57.1%	10	71.4%	7	50.0%	6	42.9%	5	35.7%	0	0.0%	3	21.4%
F	30	19	63.3%	14	46.7%	16	53.3%	12	40.0%	13	43.3%	10	33.3%	15	50.0%	9	30.0%	7	23.3%	8	26.7%	3	10.0%	10	33.3%
Total	146	124	84.9%	113	77.4%	122	83.6%	108	74.0%	113	77.4%	91	62.3%	120	82.2%	94	64.4%	65	44.5%	65	44.5%	23	15.8%	18	12.3%

Section 4.b: Planning, Development and Zoning Procedures

Which of the following codes has the jurisdiction adopted?

County	New construction code	Existing building code	Electrical code	Fire prevention code	Flood damage prevention code	Housing code	Plumbing code	Unsafe building abatement	Other (specified)	Government has not adopted any of the preceding codes
Population Group A										
Athens-Clarke CG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Augusta/Richmond CG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Bartow County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Carroll County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Chatham County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Cherokee County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Clayton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Cobb County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Columbia County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Columbus/Muscogee CG	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Coweta County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Douglas County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Fayette County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Forsyth County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Gwinnett County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Hall County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Henry County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Houston County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Lowndes County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Newton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Paulding County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Whitfield County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Population Group B										
Barrow County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Bulloch County	Yes	---	Yes	Yes	Yes	---	Yes	Yes	---	---
Camden County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Catoosa County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Dougherty County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Effingham County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Floyd County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Gordon County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Jackson County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---

Section 4.b: Planning, Development and Zoning Procedures

Which of the following codes has the jurisdiction adopted?

County	New construction code	Existing building code	Electrical code	Fire prevention code	Flood damage prevention code	Housing code	Plumbing code	Unsafe building abatement	Other (specified)	Government has not adopted any of the preceding codes
Population Group B										
Liberty County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Rockdale County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Spalding County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Troup County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Walker County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Walton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Population Group C										
Baldwin County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Bryan County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Coffee County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Colquitt County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Dawson County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Decatur County	Yes	Yes	Yes	---	Yes	Yes	Yes	---	---	---
Fannin County	Yes	---	Yes	Yes	Yes	---	Yes	Yes	---	---
Gilmer County	Yes	Yes	Yes	Yes	---	---	Yes	---	---	---
Habersham County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Haralson County	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---	---
Harris County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Hart County	---	---	---	---	---	---	---	---	---	Yes
Laurens County	Yes	---	Yes	---	Yes	---	Yes	---	---	---
Lee County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Lumpkin County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Madison County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Monroe County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Murray County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Oconee County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Peach County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Pickens County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Polk County	Yes	---	Yes	---	Yes	---	Yes	---	---	---
Stephens County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Sumter County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Tattnall County	---	---	---	---	---	---	---	---	---	Yes

Section 4.b: Planning, Development and Zoning Procedures

Which of the following codes has the jurisdiction adopted?

County	New construction code	Existing building code	Electrical code	Fire prevention code	Flood damage prevention code	Housing code	Plumbing code	Unsafe building abatement	Other (specified)	Government has not adopted any of the preceding codes
Population Group C										
Thomas County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Tift County	Yes	Yes	Yes	Yes	Yes	---	Yes	---	---	---
Upton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Ware County	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---	---
Wayne County	Yes	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---
White County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Population Group D										
Appling County	---	---	---	Yes	Yes	---	---	---	---	---
Banks County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Ben Hill County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Berrien County	Yes	Yes	Yes	Yes	---	---	Yes	---	---	---
Brantley County	Yes	Yes	Yes	---	Yes	---	Yes	Yes	---	---
Brooks County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Burke County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Butts County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Chattooga County	---	---	---	---	---	---	---	---	---	Yes
Cook County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Crisp County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	Yes	---
Dade County	---	---	Yes	---	---	---	Yes	---	---	---
Dodge County	Yes	---	Yes	Yes	Yes	Yes	Yes	---	---	---
Elbert County	Yes	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---
Emanuel County	Yes	Yes	Yes	---	---	---	Yes	---	---	---
Franklin County	Yes	Yes	Yes	---	Yes	---	Yes	Yes	---	---
Grady County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Greene County	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Jeff Davis County	---	---	---	---	---	---	---	---	---	Yes
Jefferson County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Lamar County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Long County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
McDuffie County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Meriwether County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Mitchell County	Yes	Yes	Yes	Yes	Yes	---	Yes	---	---	---

Section 4.b: Planning, Development and Zoning Procedures

Which of the following codes has the jurisdiction adopted?

County	New construction code	Existing building code	Electrical code	Fire prevention code	Flood damage prevention code	Housing code	Plumbing code	Unsafe building abatement	Other (specified)	Government has not adopted any of the preceding codes
Population Group D										
Morgan County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Oglethorpe County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Pierce County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Pike County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Putnam County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Telfair County	---	---	---	---	---	---	---	---	---	Yes
Union County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Washington County	---	---	---	---	---	---	---	---	Yes	---
Worth County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Population Group E										
Bacon County	---	---	---	---	---	---	---	---	---	Yes
Bleckley County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Candler County	---	---	---	---	---	---	---	---	---	Yes
Charlton County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Crawford County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Cusseta-Chattahoochee CG	Yes	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---
Dooly County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Early County	Yes	---	Yes	---	---	---	---	---	---	---
Evans County	---	---	---	---	---	---	---	---	---	Yes
Jasper County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Lanier County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Macon County	Yes	Yes	Yes	---	Yes	---	Yes	---	---	---
McIntosh County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Pulaski County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Population Group F										
Atkinson County	Yes	---	Yes	Yes	Yes	Yes	Yes	---	---	---
Baker County	---	---	---	---	---	---	---	---	---	Yes
Calhoun County	---	---	---	---	---	---	---	---	---	Yes
Clay County	Yes	---	---	---	Yes	Yes	---	Yes	---	---
Clinch County	Yes	Yes	Yes	Yes	---	---	Yes	---	---	---
Echols County CG	Yes	---	Yes	---	Yes	Yes	Yes	---	---	---
Glascocock County	---	Yes	---	---	---	---	---	---	---	---

Section 4.b: Planning, Development and Zoning Procedures

Which of the following codes has the jurisdiction adopted?

County	New construction code	Existing building code	Electrical code	Fire prevention code	Flood damage prevention code	Housing code	Plumbing code	Unsafe building abatement	Other (specified)	Government has not adopted any of the preceding codes
Population Group F										
Hancock County	Yes	Yes	Yes	Yes	---	Yes	Yes	Yes	---	---
Irwin County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Jenkins County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	---
Johnson County	---	---	---	---	---	---	---	---	---	Yes
Lincoln County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Miller County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Montgomery County	---	---	---	---	---	---	---	---	---	Yes
Randolph County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---
Schley County	Yes	Yes	Yes	Yes	Yes	---	Yes	---	---	---
Seminole County	Yes	Yes	Yes	Yes	Yes	---	Yes	---	---	---
Talbot County	Yes	Yes	Yes	---	Yes	---	Yes	---	---	---
Taliaferro County	---	---	---	---	---	---	---	---	---	Yes
Taylor County	Yes	---	Yes	---	---	---	---	---	---	---
Terrell County	Yes	Yes	---	---	---	---	---	---	---	---
Treutlen County	---	---	---	---	---	---	---	---	---	Yes
Turner County	Yes	---	Yes	Yes	Yes	---	Yes	Yes	---	---
Twiggs County	Yes	Yes	Yes	Yes	---	Yes	Yes	Yes	---	---
Warren County	---	---	---	---	---	---	---	---	---	Yes
Webster County Unified	Yes	---	---	---	---	---	---	Yes	---	---
Wheeler County	---	---	---	---	---	---	---	---	---	Yes
Wilcox County	---	---	---	---	---	---	---	---	---	Yes
Wilkes County	Yes	Yes	Yes	---	Yes	---	Yes	---	---	---
Wilkinson County	---	---	---	---	---	---	---	---	---	Yes

Section 4.c: Planning, Zoning and Development Procedures - Summary of Data

Number of governments adopting the following ordinances

Group	Number reporting	Historic preservation ordinance		Landscape ordinance		Sign control ordinance		Subdivision regulations		Tree ordinances		Environ. Protection Ordinance		Water Conservation Ordinance		Storm Water Management Ordinance		Architectural Design Guidelines		None of the preceding ordinances have been adopted	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	14	63.6%	19	86.4%	22	100.0%	22	100.0%	20	90.9%	0	0.0%	0	0.0%	15	68.2%	20	90.9%	0	0.0%
B	15	10	66.7%	15	100.0%	14	93.3%	15	100.0%	12	80.0%	0	0.0%	0	0.0%	7	46.7%	10	66.7%	0	0.0%
C	31	15	48.4%	13	41.9%	28	90.3%	31	100.0%	8	25.8%	0	0.0%	0	0.0%	4	12.9%	12	38.7%	0	0.0%
D	34	14	41.2%	18	52.9%	25	73.5%	31	91.2%	9	26.5%	0	0.0%	0	0.0%	15	44.1%	12	35.3%	1	2.9%
E	14	3	21.4%	6	42.9%	11	78.6%	11	78.6%	2	14.3%	0	0.0%	0	0.0%	3	21.4%	4	28.6%	0	0.0%
F	30	8	26.7%	6	20.0%	16	53.3%	19	63.3%	8	26.7%	0	0.0%	0	0.0%	6	20.0%	4	13.3%	3	10.0%
Total	146	64	43.8%	77	52.7%	116	79.5%	129	88.4%	59	40.4%	0	0.0%	0	0.0%	50	34.2%	62	42.5%	4	2.7%

Section 4.c: Planning, Development and Zoning Procedures

County	Which of the following ordinances has the local government adopted?									
	Historic preservation ordinance	Landscape ordinance	Sign control ordinance	Subdivision regulations	Tree ordinance	Environ. Protection Ordinance	Water Conservation Ordinance	Storm Water Management Ordinance	Architectural Design Guidelines	None of the preceding ordinances have been adopted
Population Group A										
Athens-Clarke CG	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Augusta/Richmond CG	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Bartow County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Carroll County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Chatham County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Cherokee County	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Clayton County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Cobb County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Columbia County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Columbus/Muscogee CG	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Coweta County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Douglas County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Fayette County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Forsyth County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Gwinnett County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Hall County	---	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Henry County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Houston County	---	---	Yes	Yes	Yes	---	---	Yes	Yes	---
Lowndes County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Newton County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Paulding County	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Whitfield County	Yes	---	Yes	Yes	---	---	---	---	Yes	---
Population Group B										
Barrow County	---	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Bulloch County	Yes	Yes	Yes	Yes	---	---	---	---	---	---
Camden County	---	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Catoosa County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Dougherty County	Yes	Yes	---	Yes	Yes	---	---	---	---	---
Effingham County	---	Yes	Yes	Yes	---	---	---	Yes	Yes	---
Floyd County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Gordon County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Jackson County	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---

Section 4.c: Planning, Development and Zoning Procedures

County	Which of the following ordinances has the local government adopted?									
	Historic preservation ordinance	Landscape ordinance	Sign control ordinance	Subdivision regulations	Tree ordinance	Environ. Protection Ordinance	Water Conservation Ordinance	Storm Water Management Ordinance	Architectural Design Guidelines	None of the preceding ordinances have been adopted
Population Group B										
Liberty County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Rockdale County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Spalding County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Troup County	---	Yes	Yes	Yes	---	---	---	---	---	---
Walker County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	---	---
Walton County	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Population Group C										
Baldwin County	---	---	Yes	Yes	---	---	---	Yes	---	---
Bryan County	---	Yes	Yes	Yes	Yes	---	---	---	---	---
Coffee County	---	---	Yes	Yes	---	---	---	---	---	---
Colquitt County	Yes	Yes	---	Yes	---	---	---	---	---	---
Dawson County	Yes	Yes	Yes	Yes	Yes	---	---	---	Yes	---
Decatur County	Yes	---	Yes	Yes	---	---	---	---	Yes	---
Fannin County	Yes	---	Yes	Yes	---	---	---	---	---	---
Gilmer County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Habersham County	---	Yes	Yes	Yes	---	---	---	---	Yes	---
Haralson County	Yes	---	Yes	Yes	Yes	---	---	---	---	---
Harris County	Yes	---	Yes	Yes	---	---	---	---	---	---
Hart County	---	Yes	Yes	Yes	---	---	---	---	---	---
Laurens County	---	---	---	Yes	---	---	---	---	---	---
Lee County	Yes	Yes	Yes	Yes	---	---	---	---	---	---
Lumpkin County	Yes	Yes	Yes	Yes	---	---	---	---	Yes	---
Madison County	---	---	Yes	Yes	---	---	---	---	Yes	---
Monroe County	---	Yes	Yes	Yes	---	---	---	Yes	Yes	---
Murray County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Oconee County	Yes	Yes	Yes	Yes	---	---	---	Yes	Yes	---
Peach County	---	---	Yes	Yes	---	---	---	---	Yes	---
Pickens County	---	Yes	Yes	Yes	---	---	---	---	---	---
Polk County	---	---	Yes	Yes	---	---	---	---	---	---
Stephens County	---	---	Yes	Yes	---	---	---	---	Yes	---
Sumter County	Yes	---	Yes	Yes	Yes	---	---	---	---	---
Tattnall County	---	---	---	Yes	---	---	---	---	---	---

Section 4.c: Planning, Development and Zoning Procedures

County	Which of the following ordinances has the local government adopted?									
	Historic preservation ordinance	Landscape ordinance	Sign control ordinance	Subdivision regulations	Tree ordinance	Environ. Protection Ordinance	Water Conservation Ordinance	Storm Water Management Ordinance	Architectural Design Guidelines	None of the preceding ordinances have been adopted
Population Group C										
Thomas County	---	Yes	Yes	Yes	---	---	---	---	Yes	---
Tift County	Yes	---	Yes	Yes	Yes	---	---	---	Yes	---
Upson County	Yes	---	Yes	Yes	---	---	---	---	---	---
Ware County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Wayne County	Yes	---	Yes	Yes	---	---	---	---	---	---
White County	---	---	Yes	Yes	Yes	---	---	---	---	---
Population Group D										
Appling County	---	Yes	---	Yes	Yes	---	---	---	---	---
Banks County	Yes	---	Yes	Yes	---	---	---	Yes	Yes	---
Ben Hill County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Berrien County	---	---	---	Yes	---	---	---	---	---	---
Brantley County	---	Yes	Yes	Yes	---	---	---	Yes	---	---
Brooks County	---	---	Yes	Yes	Yes	---	---	---	---	---
Burke County	---	---	Yes	Yes	---	---	---	---	---	---
Butts County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Chattooga County	---	Yes	Yes	Yes	---	---	---	---	---	---
Cook County	---	Yes	Yes	---	Yes	---	---	---	---	---
Crisp County	Yes	Yes	---	Yes	---	---	---	---	---	---
Dade County	Yes	---	Yes	Yes	---	---	---	Yes	---	---
Dodge County	---	---	---	---	---	---	---	---	---	---
Elbert County	Yes	---	---	Yes	---	---	---	---	---	---
Emanuel County	---	Yes	Yes	Yes	---	---	---	Yes	---	---
Franklin County	Yes	Yes	Yes	Yes	---	---	---	---	---	---
Grady County	Yes	---	Yes	Yes	---	---	---	Yes	Yes	---
Greene County	Yes	Yes	Yes	Yes	---	---	---	---	---	---
Jeff Davis County	---	---	---	---	---	---	---	---	---	Yes
Jefferson County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Lamar County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Long County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
McDuffie County	Yes	Yes	Yes	Yes	---	---	---	Yes	Yes	---
Meriwether County	---	---	Yes	Yes	---	---	---	---	---	---
Mitchell County	---	Yes	Yes	Yes	---	---	---	---	---	---

Section 4.c: Planning, Development and Zoning Procedures

County	Which of the following ordinances has the local government adopted?									
	Historic preservation ordinance	Landscape ordinance	Sign control ordinance	Subdivision regulations	Tree ordinance	Environ. Protection Ordinance	Water Conservation Ordinance	Storm Water Management Ordinance	Architectural Design Guidelines	None of the preceding ordinances have been adopted
Population Group D										
Morgan County	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Oglethorpe County	---	Yes	Yes	Yes	---	---	---	---	Yes	---
Pierce County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Pike County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	---
Putnam County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Telfair County	---	---	---	Yes	---	---	---	---	---	---
Union County	---	---	Yes	Yes	---	---	---	---	---	---
Washington County	---	---	---	Yes	---	---	---	Yes	Yes	---
Worth County	---	---	---	Yes	---	---	---	---	---	---
Population Group E										
Bacon County	---	---	Yes	---	---	---	---	---	---	---
Bleckley County	---	---	---	---	---	---	---	Yes	Yes	---
Candler County	---	---	Yes	Yes	---	---	---	---	Yes	---
Charlton County	---	---	Yes	Yes	---	---	---	Yes	---	---
Crawford County	---	---	Yes	Yes	---	---	---	---	---	---
Cusseta-Chattahoochee CG	---	Yes	Yes	Yes	---	---	---	---	---	---
Dooly County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Early County	---	---	Yes	---	---	---	---	---	---	---
Evans County	---	---	---	Yes	---	---	---	---	---	---
Jasper County	---	Yes	Yes	Yes	---	---	---	---	Yes	---
Lanier County	---	---	---	Yes	---	---	---	---	---	---
Macon County	---	Yes	Yes	Yes	---	---	---	---	---	---
McIntosh County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Pulaski County	Yes	Yes	Yes	Yes	---	---	---	---	---	---
Population Group F										
Atkinson County	Yes	---	---	---	---	---	---	---	---	---
Baker County	---	---	---	---	---	---	---	---	---	Yes
Calhoun County	---	---	---	---	Yes	---	---	---	---	---
Clay County	Yes	---	Yes	Yes	Yes	---	---	---	---	---
Clinch County	---	---	---	---	---	---	---	---	---	---
Echols County CG	---	---	---	---	---	---	---	Yes	---	---

Section 4.c: Planning, Development and Zoning Procedures

County	Which of the following ordinances has the local government adopted?									
	Historic preservation ordinance	Landscape ordinance	Sign control ordinance	Subdivision regulations	Tree ordinance	Environ. Protection Ordinance	Water Conservation Ordinance	Storm Water Management Ordinance	Architectural Design Guidelines	None of the preceding ordinances have been adopted
Population Group F										
Glascocock County	---	---	---	---	---	---	---	---	---	Yes
Hancock County	Yes	---	---	Yes	---	---	---	---	---	---
Irwin County	---	---	Yes	Yes	Yes	---	---	---	---	---
Jenkins County	---	---	---	Yes	---	---	---	---	---	---
Johnson County	---	---	---	Yes	---	---	---	---	---	---
Lincoln County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Miller County	---	---	---	---	---	---	---	---	---	---
Montgomery County	Yes	---	Yes	Yes	---	---	---	---	---	---
Randolph County	---	---	Yes	Yes	---	---	---	---	---	---
Schley County	---	---	Yes	Yes	---	---	---	---	Yes	---
Seminole County	Yes	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
Talbot County	---	Yes	Yes	Yes	---	---	---	---	---	---
Taliaferro County	---	---	Yes	Yes	---	---	---	---	---	---
Taylor County	Yes	---	Yes	Yes	Yes	---	---	---	---	---
Terrell County	---	---	Yes	Yes	---	---	---	Yes	Yes	---
Treutlen County	---	Yes	Yes	---	---	---	---	---	---	---
Turner County	---	Yes	Yes	Yes	Yes	---	---	---	---	---
Twiggs County	Yes	Yes	Yes	Yes	Yes	---	---	---	---	---
Warren County	---	---	Yes	Yes	Yes	---	---	---	---	---
Webster County Unified	Yes	---	---	---	---	---	---	Yes	---	---
Wheeler County	---	---	---	---	---	---	---	Yes	---	---
Wilcox County	---	---	---	---	---	---	---	---	---	Yes
Wilkes County	---	Yes	Yes	Yes	---	---	---	---	---	---
Wilkinson County	---	---	---	Yes	---	---	---	---	---	---

Section 4.d: Planning, Zoning and Development Procedures - Summary of Data

Group	Number reporting	Number applying impact fees to the following services:																			
		Number requiring developers to pay impact fees		Libraries and related facilities		Public safety, including police, fire, and EMS		Parks, open space, recreation areas		Water supply production, treatment and distribution		Wastewater collection, treatment and distribution		Storm-water; flood control; bank and shore protection and enhancement		Roads, streets and bridges		Number taking action to implement impact fees in near future		Number with capital improvement program for five years or longer	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	7	31.8%	5	71.4%	5	71.4%	6	85.7%	2	28.6%	1	14.3%	1	14.3%	3	42.9%	2	9.1%	20	90.9%
B	15	4	26.7%	5	125.0%	5	125.0%	5	125.0%	1	25.0%	1	25.0%	0	0.0%	1	25.0%	4	26.7%	13	86.7%
C	31	5	16.1%	3	60.0%	3	60.0%	3	60.0%	1	20.0%	1	20.0%	0	0.0%	2	40.0%	5	16.1%	25	80.6%
D	34	3	8.8%	3	100.0%	3	100.0%	3	100.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%	4	11.8%	21	61.8%
E	14	1	7.1%	1	100.0%	1	100.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%	3	21.4%	8	57.1%
F	30	1	3.3%	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	100.0%	1	3.3%	14	46.7%
Total	146	21	14.4%	18	85.7%	18	85.7%	19	90.5%	5	23.8%	4	19.0%	2	9.5%	11	52.4%	19	13.0%	101	69.2%

Section 4.d: Planning, Development and Zoning Procedures

County	Are developers required to pay impact fees	If impact fees are paid, toward which services are the impact fees applied?							Has government taken any action towards implementing impact fees in the near future?	Does government have a capital improvement program or schedule of construction planned for five years or longer?
		Libraries and related facilities	Public safety services	Parks and recreation services	Water supply production/treatment	Wastewater collection treatment distribution	Storm water; flood control	Roads, streets, and bridges		
Population Group A										
Athens-Clarke CG	No	---	---	---	---	---	---	---	No	Yes
Augusta/Richmond CG	No	---	---	---	---	---	---	---	No	Yes
Bartow County	No	---	---	Yes	Yes	Yes	---	---	No	Yes
Carroll County	No	---	---	---	---	---	---	---	No	Yes
Chatham County	No	---	---	---	---	---	---	---	No	Yes
Cherokee County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Clayton County	No	---	---	---	---	---	---	---	No	Yes
Cobb County	No	---	---	---	---	---	---	---	No	Yes
Columbia County	No	---	---	---	---	---	---	---	No	Yes
Columbus/Muscogee CG	Yes	---	---	---	Yes	---	---	---	---	Yes
Coweta County	No	---	---	---	---	---	---	---	No	Yes
Douglas County	No	---	---	---	---	---	---	---	No	Yes
Fayette County	Yes	---	---	---	---	---	---	---	---	Yes
Forsyth County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Gwinnett County	No	---	---	---	---	---	---	---	No	Yes
Hall County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Henry County	Yes	Yes	Yes	Yes	---	---	Yes	---	---	Yes
Houston County	No	---	---	---	---	---	---	---	No	No
Lowndes County	No	---	---	---	---	---	---	---	No	Yes
Newton County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Paulding County	No	---	---	---	---	---	---	---	No	Yes
Whitfield County	No	---	---	---	---	---	---	---	No	No
Population Group B										
Barrow County	No	---	---	---	---	---	---	---	No	Yes
Bulloch County	No	---	---	---	---	---	---	---	No	Yes
Camden County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Catoosa County	No	---	---	---	---	---	---	---	No	Yes
Dougherty County	No	---	---	---	---	---	---	---	No	Yes
Effingham County	No	Yes	Yes	Yes	Yes	Yes	---	---	No	Yes
Floyd County	No	---	---	---	---	---	---	---	No	Yes
Gordon County	No	---	---	---	---	---	---	---	No	Yes
Jackson County	No	---	---	---	---	---	---	---	Yes	Yes

Section 4.d: Planning, Development and Zoning Procedures

County	If impact fees are paid, toward which services are the impact fees applied?								Has government taken any action towards implementing impact fees in the near future?	Does government have a capital improvement program or schedule of construction planned for five years or longer?
	Are developers required to pay impact fees	Libraries and related facilities	Public safety services	Parks and recreation services	Water supply production/treatment	Wastewater collection treatment distribution	Storm water; flood control	Roads, streets, and bridges		
Population Group B										
Liberty County	No	---	---	---	---	---	---	---	Yes	Yes
Rockdale County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Spalding County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Troup County	No	---	---	---	---	---	---	---	Yes	No
Walker County	No	---	---	---	---	---	---	---	No	No
Walton County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Population Group C										
Baldwin County	Yes	---	---	---	Yes	Yes	---	---	---	Yes
Bryan County	Yes	---	---	---	---	---	---	Yes	---	Yes
Coffee County	No	---	---	---	---	---	---	---	No	No
Colquitt County	No	---	---	---	---	---	---	---	Yes	Yes
Dawson County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Decatur County	No	---	---	---	---	---	---	---	No	Yes
Fannin County	No	---	---	---	---	---	---	---	No	Yes
Gilmer County	No	---	---	---	---	---	---	---	No	Yes
Habersham County	No	---	---	---	---	---	---	---	No	Yes
Haralson County	No	---	---	---	---	---	---	---	No	Yes
Harris County	No	---	---	---	---	---	---	---	Yes	Yes
Hart County	No	---	---	---	---	---	---	---	No	Yes
Laurens County	No	---	---	---	---	---	---	---	No	Yes
Lee County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Lumpkin County	No	---	---	---	---	---	---	---	No	Yes
Madison County	No	---	---	---	---	---	---	---	No	No
Monroe County	No	---	---	---	---	---	---	---	Yes	Yes
Murray County	No	---	---	---	---	---	---	---	No	No
Oconee County	No	---	---	---	---	---	---	---	No	Yes
Peach County	No	---	---	---	---	---	---	---	No	Yes
Pickens County	No	---	---	---	---	---	---	---	No	No
Polk County	No	---	---	---	---	---	---	---	No	Yes
Stephens County	No	---	---	---	---	---	---	---	No	Yes
Sumter County	No	---	---	---	---	---	---	---	No	Yes
Tattnall County	No	---	---	---	---	---	---	---	No	Yes

Section 4.d: Planning, Development and Zoning Procedures

County	If impact fees are paid, toward which services are the impact fees applied?								Has government taken any action towards implementing impact fees in the near future?	Does government have a capital improvement program or schedule of construction planned for five years or longer?
	Are developers required to pay impact fees	Libraries and related facilities	Public safety services	Parks and recreation services	Water supply production/treatment	Wastewater collection treatment distribution	Storm water; flood control	Roads, streets, and bridges		
Population Group C										
Thomas County	Yes	Yes	Yes	Yes	---	---	---	---	---	Yes
Tift County	No	---	---	---	---	---	---	---	No	Yes
Upson County	No	---	---	---	---	---	---	---	No	Yes
Ware County	No	---	---	---	---	---	---	---	No	No
Wayne County	No	---	---	---	---	---	---	---	No	Yes
White County	No	---	---	---	---	---	---	---	No	No
Population Group D										
Appling County	No	---	---	---	---	---	---	---	No	No
Banks County	No	---	---	---	---	---	---	---	No	Yes
Ben Hill County	No	---	---	---	---	---	---	---	No	Yes
Berrien County	No	---	---	---	---	---	---	---	No	Yes
Brantley County	No	---	---	---	---	---	---	---	No	No
Brooks County	No	---	---	---	---	---	---	---	No	No
Burke County	No	---	---	---	---	---	---	---	No	Yes
Butts County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Chattooga County	No	---	---	---	---	---	---	---	No	No
Cook County	No	---	---	---	---	---	---	---	No	No
Crisp County	No	---	---	---	---	---	---	---	No	Yes
Dade County	No	---	---	---	---	---	---	---	No	Yes
Dodge County	No	---	---	---	---	---	---	---	No	No
Elbert County	No	---	---	---	---	---	---	---	No	Yes
Emanuel County	No	---	---	---	---	---	---	---	No	Yes
Franklin County	No	---	---	---	---	---	---	---	Yes	Yes
Grady County	No	---	---	---	---	---	---	---	No	Yes
Greene County	No	---	---	---	---	---	---	---	No	No
Jeff Davis County	No	---	---	---	---	---	---	---	No	No
Jefferson County	No	---	---	---	---	---	---	---	No	Yes
Lamar County	No	---	---	---	---	---	---	---	Yes	Yes
Long County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
McDuffie County	No	---	---	---	---	---	---	---	No	Yes
Meriwether County	No	---	---	---	---	---	---	---	No	Yes
Mitchell County	No	---	---	---	---	---	---	---	No	Yes

Section 4.d: Planning, Development and Zoning Procedures

County	If impact fees are paid, toward which services are the impact fees applied?								Has government taken any action towards implementing impact fees in the near future?	Does government have a capital improvement program or schedule of construction planned for five years or longer?
	Are developers required to pay impact fees	Libraries and related facilities	Public safety services	Parks and recreation services	Water supply production/treatment	Wastewater collection treatment distribution	Storm water; flood control	Roads, streets, and bridges		
Population Group D										
Morgan County	No	---	---	---	---	---	---	---	No	No
Oglethorpe County	No	---	---	---	---	---	---	---	No	No
Pierce County	No	---	---	---	---	---	---	---	No	Yes
Pike County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Putnam County	No	---	---	---	---	---	---	---	No	No
Telfair County	No	---	---	---	---	---	---	---	No	No
Union County	No	---	---	---	---	---	---	---	No	Yes
Washington County	No	---	---	---	---	---	---	---	No	Yes
Worth County	No	---	---	---	---	---	---	---	No	No
Population Group E										
Bacon County	No	---	---	---	---	---	---	---	No	No
Bleckley County	No	---	---	---	---	---	---	---	No	No
Candler County	No	---	---	---	---	---	---	---	No	Yes
Charlton County	No	---	---	---	---	---	---	---	No	No
Crawford County	No	---	---	---	---	---	---	---	No	No
Cusseta-Chattahoochee CG	No	---	---	---	---	---	---	---	Yes	Yes
Dooly County	No	---	---	---	---	---	---	---	No	No
Early County	No	---	---	---	---	---	---	---	No	Yes
Evans County	No	---	---	---	---	---	---	---	Yes	Yes
Jasper County	Yes	Yes	Yes	Yes	---	---	---	Yes	---	Yes
Lanier County	No	---	---	---	---	---	---	---	No	Yes
Macon County	No	---	---	---	---	---	---	---	No	Yes
McIntosh County	No	---	---	---	---	---	---	---	Yes	Yes
Pulaski County	No	---	---	---	---	---	---	---	No	No
Population Group F										
Atkinson County	No	---	---	---	---	---	---	---	No	Yes
Baker County	No	---	---	---	---	---	---	---	No	No
Calhoun County	No	---	---	---	---	---	---	---	No	No
Clay County	No	---	---	---	---	---	---	---	No	Yes
Clinch County	No	---	---	---	---	---	---	---	No	No
Echols County CG	No	---	---	---	---	---	---	---	No	No
Glascock County	No	---	---	---	---	---	---	---	No	No

Section 4.d: Planning, Development and Zoning Procedures

County	If impact fees are paid, toward which services are the impact fees applied?								Has government taken any action towards implementing impact fees in the near future?	Does government have a capital improvement program or schedule of construction planned for five years or longer?
	Are developers required to pay impact fees	Libraries and related facilities	Public safety services	Parks and recreation services	Water supply production/ treatment	Wastewater collection treatment distribution	Storm water; flood control	Roads, streets, and bridges		
Population Group F										
Hancock County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	No
Irwin County	No	---	---	---	---	---	---	---	No	No
Jenkins County	No	---	---	---	---	---	---	---	No	No
Johnson County	No	---	---	---	---	---	---	---	No	Yes
Lincoln County	No	---	---	---	---	---	---	---	No	Yes
Miller County	No	---	---	---	---	---	---	---	No	Yes
Montgomery County	No	---	---	---	---	---	---	---	No	No
Randolph County	No	---	---	---	---	---	---	---	No	No
Schley County	No	---	---	---	---	---	---	---	No	No
Seminole County	No	---	---	---	---	---	---	---	No	Yes
Talbot County	No	---	---	---	---	---	---	---	No	Yes
Taliaferro County	No	---	---	---	---	---	---	---	No	No
Taylor County	No	---	---	---	---	---	---	---	No	No
Terrell County	No	---	---	---	---	---	---	---	No	Yes
Treutlen County	No	---	---	---	---	---	---	---	No	No
Turner County	No	---	---	---	---	---	---	---	No	Yes
Twiggs County	No	---	---	---	---	---	---	---	No	No
Warren County	No	---	---	---	---	---	---	---	No	Yes
Webster County Unified	No	---	---	---	---	---	---	---	No	No
Wheeler County	No	---	---	---	---	---	---	---	No	Yes
Wilcox County	No	---	---	---	---	---	---	---	No	Yes
Wilkes County	No	---	---	---	---	---	---	---	No	Yes
Wilkinson County	No	---	---	---	---	---	---	---	No	Yes

CHAPTER 5 ♦ Financial Management Practices

This chapter covers aspects of a local government's finances including financial administration, budgeting, and use of revenue options.

Specific items covered in this chapter:

- Preparation and approval of annual operating budget – For governments with an annual operating budget, either the finance officer, elected or appointed executive, city/county clerk, or a combination is responsible for preparing the budget.
- Presence of a full-time finance director
- Type of finance software used
- Existence of capital budget – This budget is prepared by some governments to account for the acquisition of equipment and construction of facilities over a period of time, separate from the annual operating budget.
- Financial policies – For some governments there are written policies to govern investment activities and interfund transfers.
- Types of special tax districts – Special tax districts allow cities to collect a tax for services directly benefiting the district such as sanitation, drainage and storm water, sewerage, street lighting, street construction, police and fire.
- Distribution of local option sales tax (LOST) – State law allows a county and cities within the county jointly to levy a 1 percent sales and use tax. There are several ways of distributing the tax proceeds among cities within a county.
- Collection and use of special purpose local option sales tax (SPLOST) – State law also allows adoption of a special local option sales tax for any of the specified purposes in statute.
- Assessment and collection of occupation tax, regulatory fees and user fees – Governments may levy taxes on occupations according to state law. The allowable assessment methods include a fixed fee, or an assessment based on number of employees, gross receipts, and profitability ratios.

Section 5.a: Financial Management Practices - Summary of Data

Group	Number reporting	Number with finance director as the designated budget officer for the government		Number with finance director having responsibility for preparing annual operating budget		Number with position of full-time finance director		Number with capital budget for the acquisition of major fixed assets		Number with capital budget plan of two years or less		Number with written investment policy to govern investment activities	
		#	%	#	%	#	%	#	%	#	%	#	%
A	22	10	45.5%	7	31.8%	21	95.5%	19	86.4%	0	0.0%	20	90.9%
B	15	5	33.3%	5	33.3%	15	100.0%	14	93.3%	1	6.7%	11	73.3%
C	31	8	25.8%	13	41.9%	25	80.6%	19	61.3%	1	3.2%	14	45.2%
D	34	6	17.6%	9	26.5%	19	55.9%	16	47.1%	0	0.0%	14	41.2%
E	14	1	7.1%	0	0.0%	6	42.9%	8	57.1%	0	0.0%	4	28.6%
F	30	4	13.3%	7	23.3%	8	26.7%	9	30.0%	1	3.3%	3	10.0%
Total	146	34	23.3%	41	28.1%	94	64.4%	85	58.2%	3	2.1%	66	45.2%

Department of Community Affairs

Section 5.a: Financial Management Practices

County	By law, what entity serves as the budget officer for the government?	What entity has responsibility for preparing annual operating budget?	Does government have full-time finance director?	Does government have comprehensive capital budget for major fixed assets?	What is the time frame of the capital budget plan?	Does government have written investment plan to govern investment activities?
Population Group A						
Athens-Clarke CG	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Augusta/Richmond CG	Mgr/admin	Mgr/admin	Yes	Yes	Other	Yes
Bartow County	Finance director	Finance director	Yes	Yes	Five years	Yes
Carroll County	CEO	Finance director	Yes	Yes	Five years	No
Chatham County	Finance director	Mgr/admin	Yes	Yes	Five years	Yes
Cherokee County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Clayton County	Other	Other	No	No	---	Yes
Cobb County	Finance director	CEO	Yes	Yes	Five years	Yes
Columbia County	Mgr/admin	Mgr/admin	Yes	Yes	Other	Yes
Columbus/Muscogee CG	CEO	Finance director	Yes	Yes	Five years	Yes
Coweta County	Finance director	Finance director	Yes	Yes	Five years	No
Douglas County	Finance director	Mgr/admin	Yes	Yes	Five years	Yes
Fayette County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Forsyth County	Mgr/admin	Staff committee	Yes	Yes	Five years	Yes
Gwinnett County	Finance director	Finance director	Yes	Yes	Other	Yes
Hall County	Finance director	Mgr/admin	Yes	Yes	Five years	Yes
Henry County	Budget director	Budget director	Yes	Yes	Five years	Yes
Houston County	CEO	CEO	Yes	Yes	Five years	Yes
Lowndes County	Finance director	Mgr/admin	Yes	No	---	Yes
Newton County	Finance director	Finance director	Yes	Yes	Five years	Yes
Paulding County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Whitfield County	Finance director	Budget director	Yes	No	---	Yes
Population Group B						
Barrow County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	No
Bulloch County	Mgr/admin	Mgr/admin	Yes	Yes	Other	Yes
Camden County	Mgr/admin	Other	Yes	Yes	Five years	Yes
Catoosa County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Dougherty County	Mgr/admin	Mgr/admin	Yes	Yes	Other	No
Effingham County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Floyd County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Gordon County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes

Department of Community Affairs

Section 5.a: Financial Management Practices

County	By law, what entity serves as the budget officer for the government?	What entity has responsibility for preparing annual operating budget?	Does government have full-time finance director?	Does government have comprehensive capital budget for major fixed assets?	What is the time frame of the capital budget plan?	Does government have written investment plan to govern investment activities?
Population Group B						
Jackson County	Mgr/admin	Mgr/admin	Yes	Yes	Two years	Yes
Liberty County	Finance director	Finance director	Yes	Yes	Five years	Yes
Rockdale County	Finance director	Finance director	Yes	Yes	Five years	No
Spalding County	Mgr/admin	Mgr/admin	Yes	Yes	Other	Yes
Troup County	Finance director	Finance director	Yes	Yes	Four years	Yes
Walker County	Finance director	CEO	Yes	No	---	No
Walton County	Finance director	Budget committee	Yes	Yes	Five years	Yes
Population Group C						
Baldwin County	Mgr/admin	Staff committee	Yes	Yes	Five years	Yes
Bryan County	Finance director	Mgr/admin	Yes	Yes	Five years	No
Coffee County	Mgr/admin	Mgr/admin	No	No	---	Yes
Colquitt County	Mgr/admin	Finance director	Yes	No	---	No
Dawson County	CEO	CEO	Yes	Yes	Five years	Yes
Decatur County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	No
Fannin County	Finance director	Finance director	Yes	Yes	Other	Yes
Gilmer County	Finance director	Finance director	Yes	No	---	No
Habersham County	Mgr/admin	Staff committee	Yes	Yes	Five years	Yes
Haralson County	Finance director	Finance director	Yes	Yes	Other	No
Harris County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	No
Hart County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Laurens County	Mgr/admin	Mgr/admin	Yes	Yes	Other	No
Lee County	Mgr/admin	Mgr/admin	Yes	Yes	Two years	Yes
Lumpkin County	Mgr/admin	Finance director	Yes	No	---	Yes
Madison County	Finance director	Finance director	Yes	No	---	No
Monroe County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Murray County	Mgr/admin	Mgr/admin	Yes	No	---	No
Oconee County	Finance director	Finance director	Yes	Yes	Five years	Yes
Peach County	Mgr/admin	Mgr/admin	No	Yes	Five years	Yes
Pickens County	CEO	CEO	Yes	No	---	No
Polk County	Mgr/admin	Finance director	Yes	No	---	Yes
Stephens County	Finance director	Finance director	Yes	Yes	Three years	No

Department of Community Affairs

Section 5.a: Financial Management Practices

County	By law, what entity serves as the budget officer for the government?	What entity has responsibility for preparing annual operating budget?	Does government have full-time finance director?	Does government have comprehensive capital budget for major fixed assets?	What is the time frame of the capital budget plan?	Does government have written investment plan to govern investment activities?
Population Group C						
Sumter County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Tattnall County	Mgr/admin	Mgr/admin	No	No	---	No
Thomas County	Mgr/admin	Mgr/admin	Yes	Yes	Other	Yes
Tift County	Finance director	Finance director	Yes	No	---	No
Upson County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	No
Ware County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Wayne County	Mgr/admin	Mgr/admin	No	No	---	No
White County	Mgr/admin	Finance director	Yes	No	---	Yes
Population Group D						
Appling County	Mgr/admin	Mgr/admin	No	No	Five years	No
Banks County	Finance director	Finance director	Yes	Yes	Five years	No
Ben Hill County	Finance director	Mgr/admin	Yes	Yes	Five years	No
Berrien County	Mgr/admin	Mgr/admin	No	No	---	No
Brantley County	Mgr/admin	Mgr/admin	No	No	---	No
Brooks County	Mgr/admin	Mgr/admin	No	No	---	No
Burke County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Butts County	Mgr/admin	Finance director	Yes	Yes	Five years	Yes
Chattooga County	CEO	CEO	No	No	---	No
Cook County	Mgr/admin	Mgr/admin	No	No	---	No
Crisp County	Finance director	Finance director	Yes	Yes	Five years	Yes
Dade County	CEO	Finance director	Yes	Yes	Five years	Yes
Dodge County	Mgr/admin	Mgr/admin	No	No	---	No
Elbert County	Finance director	Budget committee	Yes	No	---	No
Emanuel County	Mgr/admin	Mgr/admin	No	Yes	Three years	Yes
Franklin County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Grady County	Mgr/admin	Mgr/admin	Yes	No	---	Yes
Greene County	Mgr/admin	Mgr/admin	Yes	No	---	No
Jeff Davis County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Jefferson County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Lamar County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Long County	Finance director	Finance director	Yes	No	---	No

Department of Community Affairs

Section 5.a: Financial Management Practices

County	By law, what entity serves as the budget officer for the government?	What entity has responsibility for preparing annual operating budget?	Does government have full-time finance director?	Does government have comprehensive capital budget for major fixed assets?	What is the time frame of the capital budget plan?	Does government have written investment plan to govern investment activities?
Population Group D						
McDuffie County	Mgr/admin	Mgr/admin	Yes	Yes	Three years	Yes
Meriwether County	Finance director	Finance director	Yes	No	---	Yes
Mitchell County	Mgr/admin	Mgr/admin	No	No	---	Yes
Morgan County	Mgr/admin	Finance director	Yes	No	---	No
Oglethorpe County	CEO	Finance director	Yes	No	---	No
Pierce County	Mgr/admin	Mgr/admin	No	No	---	No
Pike County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
Putnam County	Mgr/admin	Mgr/admin	Yes	Yes	Three years	Yes
Telfair County	Budget committee	Budget committee	No	No	---	Yes
Union County	CEO	Finance director	Yes	No	---	No
Washington County	Mgr/admin	Mgr/admin	No	Yes	Five years	Yes
Worth County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	No
Population Group E						
Bacon County	CEO	Budget committee	No	No	---	No
Bleckley County	CEO	CEO	Yes	Yes	Five years	No
Candler County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Charlton County	Mgr/admin	Mgr/admin	No	No	---	Yes
Crawford County	Mgr/admin	Mgr/admin	Yes	No	---	No
Cusseta-Chattahoochee CG	Mgr/admin	Mgr/admin	No	Yes	Five years	Yes
Dooly County	Mgr/admin	Mgr/admin	No	No	---	No
Early County	Clerk	Clerk	No	Yes	Five years	Yes
Evans County	Mgr/admin	Budget committee	Yes	Yes	Five years	No
Jasper County	Finance director	Mgr/admin	Yes	Yes	Five years	No
Lanier County	Mgr/admin	Mgr/admin	No	No	---	No
Macon County	Mgr/admin	Mgr/admin	Yes	Yes	Five years	Yes
McIntosh County	Mgr/admin	Mgr/admin	Yes	Yes	Other	No
Pulaski County	Clerk	CEO	No	No	---	No
Population Group F						
Atkinson County	CEO	Finance director	Yes	No	---	No
Baker County	Budget committee	Budget committee	No	No	---	No

Department of Community Affairs

Section 5.a: Financial Management Practices

County	By law, what entity serves as the budget officer for the government?	What entity has responsibility for preparing annual operating budget?	Does government have full-time finance director?	Does government have comprehensive capital budget for major fixed assets?	What is the time frame of the capital budget plan?	Does government have written investment plan to govern investment activities?
Population Group F						
Calhoun County	Clerk	Clerk	No	No	---	No
Clay County	Mgr/admin	Mgr/admin	No	Yes	Five years	Yes
Clinch County	Mgr/admin	Mgr/admin	No	No	---	No
Echols County CG	Clerk	Mgr/admin	No	No	---	No
Glascocock County	Clerk	Budget committee	No	No	---	No
Hancock County	Finance director	Finance director	Yes	No	---	No
Irwin County	CEO	CEO	No	No	---	No
Jenkins County	Mgr/admin	Mgr/admin	No	No	---	No
Johnson County	Mgr/admin	Mgr/admin	No	Yes	Two years	Yes
Lincoln County	CEO	Finance director	Yes	No	---	No
Miller County	Budget committee	Finance director	Yes	Yes	Five years	No
Montgomery County	Mgr/admin	Mgr/admin	No	No	---	No
Randolph County	Finance director	Finance director	Yes	No	---	No
Schley County	Mgr/admin	Mgr/admin	No	No	---	No
Seminole County	Mgr/admin	Mgr/admin	No	Yes	Five years	No
Talbot County	Mgr/admin	Mgr/admin	Yes	No	---	No
Taliaferro County	CEO	CEO	No	No	---	No
Taylor County	Mgr/admin	Mgr/admin	No	No	---	No
Terrell County	Mgr/admin	Mgr/admin	No	No	---	No
Treutlen County	Clerk	Clerk	No	Yes	Five years	No
Turner County	Mgr/admin	Mgr/admin	No	No	---	Yes
Twiggs County	Finance director	Finance director	Yes	No	---	No
Warren County	CEO	Other	No	Yes	Five years	No
Webster County Unified	CEO	CEO	No	No	---	No
Wheeler County	CEO	Clerk	No	No	---	No
Wilcox County	Mgr/admin	Mgr/admin	No	Yes	Other	No
Wilkes County	Clerk	Clerk	No	Yes	Five years	No
Wilkinson County	Finance director	Finance director	Yes	Yes	Five years	No

Section 5.b: Financial Management Practices - Summary of Data

Group	Number reporting	Number with written interfund transfer policy		Number applying transfer policy to following types of interfund transfers:													
		#	%	water and sewer fund		solid waste fund		electric utility fund		gas utility fund		capital project fund		special revenue fund		other	
				#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	19	86.4%	13	68.4%	15	78.9%	0	0.0%	0	0.0%	17	89.5%	17	89.5%	6	31.6%
B	15	6	40.0%	3	50.0%	4	66.7%	1	16.7%	1	16.7%	6	100.0%	6	100.0%	5	83.3%
C	31	10	32.3%	3	30.0%	9	90.0%	0	0.0%	1	10.0%	8	80.0%	9	90.0%	2	20.0%
D	34	9	26.5%	2	22.2%	4	44.4%	0	0.0%	0	0.0%	8	88.9%	8	88.9%	2	22.2%
E	14	4	28.6%	2	50.0%	2	50.0%	0	0.0%	0	0.0%	2	50.0%	3	75.0%	1	25.0%
F	30	5	16.7%	2	40.0%	3	60.0%	0	0.0%	0	0.0%	3	60.0%	5	100.0%	1	20.0%
Total	146	53	36.3%	25	47.2%	37	69.8%	1	1.9%	2	3.8%	44	3.8%	48	90.6%	17	32.1%

Section 5.b: Financial Management Practices

County	Government have written transfer policy to govern interfund transfers?	If the government has a written transfer policy, does it apply to the following funds?						
		Water and sewer fund	Solid waste fund	Electric utility fund	Gas utility fund	Capital project fund	Special revenue fund	Other funds
Population Group A								
Athens-Clarke CG	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Augusta/Richmond CG	Yes	Yes	Yes	---	---	Yes	Yes	---
Bartow County	Yes	Yes	Yes	---	---	---	Yes	---
Carroll County	Yes	---	Yes	---	---	Yes	Yes	---
Chatham County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Cherokee County	Yes	---	---	---	---	Yes	Yes	Yes
Clayton County	Yes	---	---	---	---	---	---	Yes
Cobb County	Yes	Yes	Yes	---	---	Yes	Yes	---
Columbia County	Yes	Yes	Yes	---	---	Yes	Yes	---
Columbus/Muscogee CG	Yes	Yes	Yes	---	---	Yes	Yes	---
Coweta County	No	---	---	---	---	---	---	---
Douglas County	Yes	---	Yes	---	---	Yes	Yes	---
Fayette County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Forsyth County	No	---	---	---	---	---	---	---
Gwinnett County	No	---	---	---	---	---	---	---
Hall County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Henry County	Yes	---	---	---	---	Yes	Yes	---
Houston County	Yes	Yes	Yes	---	---	Yes	Yes	---
Lowndes County	Yes	Yes	Yes	---	---	Yes	Yes	---
Newton County	Yes	Yes	Yes	---	---	Yes	Yes	---
Paulding County	Yes	Yes	Yes	---	---	Yes	Yes	---
Whitfield County	Yes	---	---	---	---	Yes	---	---
Population Group B								
Barrow County	No	---	---	---	---	---	---	---
Bulloch County	Yes	---	---	---	---	Yes	Yes	Yes
Camden County	Yes	---	Yes	---	---	Yes	Yes	Yes
Catoosa County	Yes	---	---	---	---	Yes	Yes	Yes
Dougherty County	No	---	---	---	---	---	---	---
Effingham County	Yes	Yes	Yes	---	---	Yes	Yes	---
Floyd County	No	---	---	---	---	---	---	---
Gordon County	No	---	---	---	---	---	---	---
Jackson County	No	---	---	---	---	---	---	---
Liberty County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Section 5.b: Financial Management Practices

County	Government have written transfer policy to govern interfund transfers?	If the government has a written transfer policy, does it apply to the following funds?						
		Water and sewer fund	Solid waste fund	Electric utility fund	Gas utility fund	Capital project fund	Special revenue fund	Other funds
Population Group B								
Rockdale County	No	---	---	---	---	---	---	---
Spalding County	No	---	---	---	---	---	---	---
Troup County	No	---	---	---	---	---	---	---
Walker County	No	---	---	---	---	---	---	---
Walton County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Population Group C								
Baldwin County	No	---	---	---	---	---	---	---
Bryan County	No	---	---	---	---	---	---	---
Coffee County	No	---	---	---	---	---	---	---
Colquitt County	No	---	---	---	---	---	---	---
Dawson County	Yes	---	Yes	---	---	Yes	Yes	---
Decatur County	Yes	Yes	Yes	---	Yes	Yes	Yes	---
Fannin County	No	---	---	---	---	---	---	---
Gilmer County	No	---	---	---	---	---	---	---
Habersham County	No	---	---	---	---	---	---	---
Haralson County	No	---	---	---	---	---	---	---
Harris County	No	---	---	---	---	---	---	---
Hart County	Yes	---	Yes	---	---	Yes	Yes	---
Laurens County	No	---	---	---	---	---	---	---
Lee County	No	---	---	---	---	---	---	---
Lumpkin County	Yes	---	Yes	---	---	Yes	Yes	---
Madison County	Yes	---	Yes	---	---	---	---	---
Monroe County	No	---	---	---	---	---	---	---
Murray County	No	---	---	---	---	---	---	---
Oconee County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Peach County	No	---	---	---	---	---	---	---
Pickens County	No	---	---	---	---	---	---	---
Polk County	Yes	---	Yes	---	---	Yes	Yes	---
Stephens County	No	---	---	---	---	---	---	---
Sumter County	Yes	---	Yes	---	---	Yes	Yes	---
Tattnall County	No	---	---	---	---	---	---	---
Thomas County	No	---	---	---	---	---	---	---
Tift County	Yes	---	---	---	---	Yes	Yes	Yes

Section 5.b: Financial Management Practices

County	Government have written transfer policy to govern interfund transfers?	If the government has a written transfer policy, does it apply to the following funds?						
		Water and sewer fund	Solid waste fund	Electric utility fund	Gas utility fund	Capital project fund	Special revenue fund	Other funds
Population Group C								
Upson County	Yes	Yes	Yes	---	---	---	Yes	---
Ware County	No	---	---	---	---	---	---	---
Wayne County	No	---	---	---	---	---	---	---
White County	No	---	---	---	---	---	---	---
Population Group D								
Appling County	No	---	---	---	---	---	---	---
Banks County	No	---	---	---	---	---	---	---
Ben Hill County	No	---	---	---	---	---	---	---
Berrien County	Yes	---	Yes	---	---	Yes	Yes	---
Brantley County	No	---	---	---	---	---	---	---
Brooks County	Yes	---	Yes	---	---	Yes	Yes	---
Burke County	No	---	---	---	---	---	---	---
Butts County	Yes	---	---	---	---	---	---	Yes
Chattooga County	No	---	---	---	---	---	---	---
Cook County	No	---	---	---	---	---	---	---
Crisp County	Yes	Yes	Yes	---	---	Yes	Yes	Yes
Dade County	Yes	---	---	---	---	Yes	Yes	---
Dodge County	No	---	---	---	---	---	---	---
Elbert County	No	---	---	---	---	---	---	---
Emanuel County	Yes	---	---	---	---	Yes	Yes	---
Franklin County	No	---	---	---	---	---	---	---
Grady County	No	---	---	---	---	---	---	---
Greene County	No	---	---	---	---	---	---	---
Jeff Davis County	No	---	---	---	---	---	---	---
Jefferson County	No	---	---	---	---	---	---	---
Lamar County	Yes	---	---	---	---	Yes	Yes	---
Long County	No	---	---	---	---	---	---	---
McDuffie County	Yes	Yes	Yes	---	---	Yes	Yes	---
Meriwether County	No	---	---	---	---	---	---	---
Mitchell County	No	---	---	---	---	---	---	---
Morgan County	No	---	---	---	---	---	---	---
Oglethorpe County	No	---	---	---	---	---	---	---
Pierce County	No	---	---	---	---	---	---	---

Section 5.b: Financial Management Practices

County	Government have written transfer policy to govern interfund transfers?	If the government has a written transfer policy, does it apply to the following funds?						
		Water and sewer fund	Solid waste fund	Electric utility fund	Gas utility fund	Capital project fund	Special revenue fund	Other funds
Population Group D								
Pike County	Yes	---	---	---	---	Yes	Yes	---
Putnam County	No	---	---	---	---	---	---	---
Telfair County	No	---	---	---	---	---	---	---
Union County	No	---	---	---	---	---	---	---
Washington County	No	---	---	---	---	---	---	---
Worth County	No	---	---	---	---	---	---	---
Population Group E								
Bacon County	No	---	---	---	---	---	---	---
Bleckley County	No	---	---	---	---	---	---	---
Candler County	No	---	---	---	---	---	---	---
Charlton County	Yes	---	---	---	---	Yes	Yes	---
Crawford County	No	---	---	---	---	---	---	---
Cusseta-Chattahoochee CG	Yes	Yes	---	---	---	---	---	Yes
Dooly County	No	---	---	---	---	---	---	---
Early County	Yes	---	Yes	---	---	Yes	Yes	---
Evans County	No	---	---	---	---	---	---	---
Jasper County	No	---	---	---	---	---	---	---
Lanier County	No	---	---	---	---	---	---	---
Macon County	No	---	---	---	---	---	---	---
McIntosh County	Yes	Yes	Yes	---	---	---	Yes	---
Pulaski County	No	---	---	---	---	---	---	---
Population Group F								
Atkinson County	No	---	---	---	---	---	---	---
Baker County	No	---	---	---	---	---	---	---
Calhoun County	No	---	---	---	---	---	---	---
Clay County	Yes	Yes	Yes	---	---	Yes	Yes	---
Clinch County	No	---	---	---	---	---	---	---
Echols County CG	No	---	---	---	---	---	---	---
Glascocock County	No	---	---	---	---	---	---	---
Hancock County	No	---	---	---	---	---	---	---
Irwin County	No	---	---	---	---	---	---	---
Jenkins County	No	---	---	---	---	---	---	---
Johnson County	Yes	---	---	---	---	Yes	Yes	---

Section 5.b: Financial Management Practices

County	Government have written transfer policy to govern interfund transfers?	If the government has a written transfer policy, does it apply to the following funds?						
		Water and sewer fund	Solid waste fund	Electric utility fund	Gas utility fund	Capital project fund	Special revenue fund	Other funds
Population Group F								
Lincoln County	No	---	---	---	---	---	---	---
Miller County	No	---	---	---	---	---	---	---
Montgomery County	No	---	---	---	---	---	---	---
Randolph County	No	---	---	---	---	---	---	---
Schley County	Yes	Yes	Yes	---	---	---	Yes	---
Seminole County	Yes	---	Yes	---	---	Yes	Yes	Yes
Talbot County	No	---	---	---	---	---	---	---
Taliaferro County	No	---	---	---	---	---	---	---
Taylor County	No	---	---	---	---	---	---	---
Terrell County	Yes	---	---	---	---	---	Yes	---
Treutlen County	No	---	---	---	---	---	---	---
Turner County	No	---	---	---	---	---	---	---
Twiggs County	No	---	---	---	---	---	---	---
Warren County	No	---	---	---	---	---	---	---
Webster County Unified	No	---	---	---	---	---	---	---
Wheeler County	No	---	---	---	---	---	---	---
Wilcox County	No	---	---	---	---	---	---	---
Wilkes County	No	---	---	---	---	---	---	---
Wilkinson County	No	---	---	---	---	---	---	---

Section 5.c: Financial Management Practices - Summary of Data

If special tax districts are available, how are these taxes used?

Group	Number reporting	Number with special tax districts		business improvement districts		community improvement districts		downtown improvement		drainage and sewage		fire		police	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	20	90.9%	2	10.0%	5	25.0%	2	10.0%	1	5.0%	17	85.0%	3	15.0%
B	15	11	73.3%	1	9.1%	0	0.0%	1	9.1%	0	0.0%	9	81.8%	1	9.1%
C	31	14	45.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6	42.9%	0	0.0%
D	34	12	35.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9	75.0%	0	0.0%
E	14	5	35.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	80.0%	0	0.0%
F	30	5	16.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	60.0%	1	20.0%
Total	146	67	45.9%	3	4.5%	5	7.5%	3	4.5%	1	1.5%	48	71.6%	5	7.5%

If special tax districts are available, how are the taxes used?

Group	Number reporting	sanitation		sewerage		street lighting		tax increment financing		other	
		#	%	#	%	#	%	#	%	#	%
A	22	0	0.0%	0	0.0%	12	60.0%	4	20.0%	6	30.0%
B	15	3	27.3%	1	9.1%	8	72.7%	2	18.2%	6	54.5%
C	31	4	28.6%	0	0.0%	3	21.4%	0	0.0%	12	85.7%
D	34	5	41.7%	0	0.0%	1	8.3%	0	0.0%	3	25.0%
E	14	3	60.0%	0	0.0%	0	0.0%	0	0.0%	2	40.0%
F	30	3	60.0%	0	0.0%	0	0.0%	0	0.0%	2	40.0%
Total	146	18	26.9%	1	1.5%	24	35.8%	6	9.0%	31	46.3%

Section 5.c: Financial Management Practices

County	Government have special tax districts?	If the government has special tax districts, how are the taxes used?										
		business improvement district	community improvement districts	downtown improvement	drainage and sewage	fire	police	sanitation	sewerage	street lighting	tax increment financing	other
Population Group A												
Athens-Clarke CG	Yes	---	---	Yes	---	---	---	---	---	---	---	---
Augusta/Richmond CG	Yes	---	---	---	---	Yes	---	---	---	Yes	Yes	---
Bartow County	No	---	---	---	---	---	---	---	---	---	---	---
Carroll County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Chatham County	Yes	---	---	---	Yes	---	Yes	---	---	Yes	Yes	---
Cherokee County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Clayton County	Yes	Yes	Yes	---	---	Yes	---	---	---	Yes	---	---
Cobb County	Yes	---	Yes	---	---	Yes	---	---	---	Yes	---	Yes
Columbia County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Columbus/Muscogee CG	Yes	Yes	---	Yes	---	---	---	---	---	---	Yes	---
Coweta County	Yes	---	Yes	---	---	Yes	---	---	---	---	---	---
Douglas County	No	---	---	---	---	---	---	---	---	Yes	---	---
Fayette County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	Yes
Forsyth County	Yes	---	Yes	---	---	Yes	---	---	---	---	---	---
Gwinnett County	Yes	---	Yes	---	---	Yes	Yes	---	---	Yes	Yes	Yes
Hall County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	Yes
Henry County	Yes	---	---	---	---	Yes	Yes	---	---	Yes	---	Yes
Houston County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Lowndes County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Newton County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Paulding County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Whitfield County	Yes	---	---	---	---	Yes	---	---	---	---	---	Yes
Population Group B												
Barrow County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Bulloch County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Camden County	Yes	---	---	---	---	Yes	---	---	---	---	---	Yes
Catoosa County	No	---	---	---	---	---	---	---	---	---	---	---
Dougherty County	Yes	---	---	---	---	Yes	Yes	---	---	Yes	---	Yes
Effingham County	Yes	---	---	---	---	Yes	---	Yes	Yes	---	---	Yes
Floyd County	Yes	Yes	---	---	---	Yes	---	Yes	---	Yes	---	Yes
Gordon County	No	---	---	---	---	---	---	---	---	---	---	---
Jackson County	Yes	---	---	---	---	Yes	---	---	---	Yes	Yes	Yes
Liberty County	No	---	---	---	---	---	---	---	---	---	---	---

Section 5.c: Financial Management Practices

County	Government have special tax districts?	If the government has special tax districts, how are the taxes used?										
		business improvement district	community improvement districts	downtown improvement	drainage and sewage	fire	police	sanitation	sewerage	street lighting	tax increment financing	other
Population Group B												
Rockdale County	Yes	---	---	---	---	---	---	---	---	Yes	---	---
Spalding County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	---
Troup County	Yes	---	---	Yes	---	---	---	Yes	---	---	Yes	---
Walker County	No	---	---	---	---	---	---	---	---	---	---	---
Walton County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	Yes
Population Group C												
Baldwin County	Yes	---	---	---	---	---	---	Yes	---	---	---	Yes
Bryan County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Coffee County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
Colquitt County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Dawson County	No	---	---	---	---	---	---	---	---	---	---	---
Decatur County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Fannin County	No	---	---	---	---	---	---	---	---	---	---	---
Gilmer County	No	---	---	---	---	---	---	---	---	---	---	---
Habersham County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
Haralson County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Harris County	No	---	---	---	---	---	---	---	---	---	---	---
Hart County	No	---	---	---	---	---	---	---	---	---	---	---
Laurens County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
Lee County	Yes	---	---	---	---	---	---	---	---	Yes	---	---
Lumpkin County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
Madison County	No	---	---	---	---	---	---	---	---	---	---	---
Monroe County	No	---	---	---	---	---	---	---	---	---	---	---
Murray County	No	---	---	---	---	---	---	---	---	---	---	---
Oconee County	Yes	---	---	---	---	---	---	---	---	Yes	---	Yes
Peach County	No	---	---	---	---	---	---	---	---	---	---	---
Pickens County	No	---	---	---	---	---	---	---	---	---	---	---
Polk County	No	---	---	---	---	---	---	---	---	---	---	---
Stephens County	No	---	---	---	---	---	---	---	---	---	---	---
Sumter County	No	---	---	---	---	---	---	---	---	---	---	---
Tattnall County	No	---	---	---	---	---	---	---	---	---	---	---
Thomas County	Yes	---	---	---	---	Yes	---	---	---	---	---	Yes
Tift County	Yes	---	---	---	---	Yes	---	---	---	Yes	---	Yes

Section 5.c: Financial Management Practices

County	Government have special tax districts?	If the government has special tax districts, how are the taxes used?										
		business improvement district	community improvement districts	downtown improvement	drainage and sewage	fire	police	sanitation	sewerage	street lighting	tax increment financing	other
Population Group C												
Upson County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
Ware County	No	---	---	---	---	---	---	---	---	---	---	---
Wayne County	No	---	---	---	---	---	---	---	---	---	---	---
White County	No	---	---	---	---	---	---	---	---	---	---	---
Population Group D												
Appling County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Banks County	No	---	---	---	---	---	---	---	---	---	---	---
Ben Hill County	No	---	---	---	---	---	---	---	---	---	---	---
Berrien County	No	---	---	---	---	---	---	---	---	---	---	---
Brantley County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Brooks County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Burke County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Butts County	No	---	---	---	---	---	---	---	---	---	---	---
Chattooga County	No	---	---	---	---	---	---	---	---	---	---	---
Cook County	No	---	---	---	---	---	---	---	---	---	---	---
Crisp County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Dade County	No	---	---	---	---	---	---	---	---	---	---	---
Dodge County	No	---	---	---	---	---	---	---	---	---	---	---
Elbert County	No	---	---	---	---	---	---	---	---	---	---	---
Emanuel County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Franklin County	No	---	---	---	---	---	---	---	---	---	---	---
Grady County	No	---	---	---	---	---	---	---	---	---	---	---
Greene County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Jeff Davis County	No	---	---	---	---	---	---	---	---	---	---	---
Jefferson County	No	---	---	---	---	---	---	---	---	---	---	---
Lamar County	No	---	---	---	---	---	---	---	---	---	---	---
Long County	No	---	---	---	---	---	---	---	---	---	---	---
McDuffie County	Yes	---	---	---	---	---	---	---	---	Yes	---	---
Meriwether County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Mitchell County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Morgan County	No	---	---	---	---	---	---	---	---	---	---	---
Oglethorpe County	No	---	---	---	---	---	---	---	---	---	---	---
Pierce County	No	---	---	---	---	---	---	---	---	---	---	---

Section 5.c: Financial Management Practices

County	Government have special tax districts?	If the government has special tax districts, how are the taxes used?										
		business improvement district	community improvement districts	downtown improvement	drainage and sewage	fire	police	sanitation	sewerage	street lighting	tax increment financing	other
Population Group D												
Pike County	No	---	---	---	---	---	---	---	---	---	---	---
Putnam County	Yes	---	---	---	---	---	---	Yes	---	---	---	---
Telfair County	No	---	---	---	---	---	---	---	---	---	---	---
Union County	No	---	---	---	---	---	---	---	---	---	---	---
Washington County	No	---	---	---	---	---	---	---	---	---	---	---
Worth County	Yes	---	---	---	---	---	---	Yes	---	---	---	---
Population Group E												
Bacon County	No	---	---	---	---	---	---	---	---	---	---	---
Bleckley County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Candler County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	---
Charlton County	No	---	---	---	---	---	---	---	---	---	---	---
Crawford County	No	---	---	---	---	---	---	---	---	---	---	---
Cusseta-Chattahoochee CG	No	---	---	---	---	---	---	---	---	---	---	---
Dooly County	No	---	---	---	---	---	---	---	---	---	---	---
Early County	No	---	---	---	---	---	---	---	---	---	---	---
Evans County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	Yes
Jasper County	Yes	---	---	---	---	Yes	---	Yes	---	---	---	---
Lanier County	No	---	---	---	---	---	---	---	---	---	---	---
Macon County	Yes	---	---	---	---	---	---	---	---	---	---	Yes
McIntosh County	No	---	---	---	---	---	---	---	---	---	---	---
Pulaski County	No	---	---	---	---	---	---	---	---	---	---	---
Population Group F												
Atkinson County	No	---	---	---	---	---	---	---	---	---	---	---
Baker County	No	---	---	---	---	---	---	---	---	---	---	---
Calhoun County	No	---	---	---	---	---	---	---	---	---	---	---
Clay County	Yes	---	---	---	---	---	---	Yes	---	---	---	---
Clinch County	No	---	---	---	---	---	---	---	---	---	---	---
Echols County CG	No	---	---	---	---	---	---	---	---	---	---	---
Glascok County	No	---	---	---	---	---	---	---	---	---	---	---
Hancock County	No	---	---	---	---	---	---	---	---	---	---	---
Irwin County	No	---	---	---	---	---	---	---	---	---	---	---
Jenkins County	Yes	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes

Section 5.c: Financial Management Practices

County	Government have special tax districts?	If the government has special tax districts, how are the taxes used?										
		business improvement district	community improvement districts	downtown improvement	drainage and sewage	fire	police	sanitation	sewerage	street lighting	tax increment financing	other
Population Group F												
Johnson County	No	---	---	---	---	---	---	---	---	---	---	---
Lincoln County	No	---	---	---	---	---	---	---	---	---	---	---
Miller County	No	---	---	---	---	---	---	---	---	---	---	---
Montgomery County	No	---	---	---	---	---	---	---	---	---	---	---
Randolph County	Yes	---	---	---	---	Yes	---	---	---	---	---	Yes
Schley County	No	---	---	---	---	---	---	---	---	---	---	---
Seminole County	No	---	---	---	---	---	---	---	---	---	---	---
Talbot County	No	---	---	---	---	---	---	---	---	---	---	---
Taliaferro County	No	---	---	---	---	---	---	---	---	---	---	---
Taylor County	No	---	---	---	---	---	---	---	---	---	---	---
Terrell County	No	---	---	---	---	---	---	---	---	---	---	---
Treutlen County	No	---	---	---	---	---	---	---	---	---	---	---
Turner County	Yes	---	---	---	---	---	---	Yes	---	---	---	---
Twiggs County	No	---	---	---	---	---	---	---	---	---	---	---
Warren County	No	---	---	---	---	---	---	---	---	---	---	---
Webster County Unified	No	---	---	---	---	---	---	---	---	---	---	---
Wheeler County	No	---	---	---	---	---	---	---	---	---	---	---
Wilcox County	Yes	---	---	---	---	Yes	---	---	---	---	---	---
Wilkes County	No	---	---	---	---	---	---	---	---	---	---	---
Wilkinson County	No	---	---	---	---	---	---	---	---	---	---	---

Section 5.d: Financial Management Practices - Summary of Data

How was the government's share of the local option sales tax determined?

Group	Number reporting	Number receiving revenues from local option sales tax		service delivery responsibilities		intergovernmental responsibilities		use of revenues as a subsidy		any coordinated agreement of service delivery and financing		point of sale		population		other method	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	18	81.8%	3	16.7%	15	83.3%	0	0.0%	2	11.1%	1	5.6%	3	16.7%	2	11.1%
B	15	13	86.7%	6	46.2%	10	76.9%	0	0.0%	2	15.4%	0	0.0%	5	38.5%	1	7.7%
C	31	29	93.5%	11	37.9%	28	96.6%	0	0.0%	3	10.3%	1	3.4%	4	13.8%	1	3.4%
D	34	32	94.1%	18	56.3%	24	75.0%	3	9.4%	6	18.8%	4	12.5%	9	28.1%	1	3.1%
E	14	14	100.0%	5	35.7%	12	85.7%	1	7.1%	3	21.4%	1	7.1%	3	21.4%	1	7.1%
F	30	30	100.0%	5	16.7%	24	80.0%	0	0.0%	4	13.3%	1	3.3%	5	16.7%	3	10.0%
Total	146	136	93.2%	136	100.0%	113	83.1%	4	2.9%	20	14.7%	8	5.9%	29	21.3%	9	6.6%

Section 5.d: Financial Management Practices

County	Does the government receive revenues from a local option sales tax authorized in state law?	How was the government's share of the local option sales tax determined?						
		service delivery responsibility	intergovt. agreements	use of revenues as a subsidy	coordinated agreement	point of sale	population	other
Population Group A								
Athens-Clarke CG	Yes	---	---	---	---	---	Yes	---
Augusta/Richmond CG	Yes	---	Yes	---	---	---	---	---
Bartow County	Yes	---	Yes	---	---	---	Yes	---
Carroll County	Yes	---	Yes	---	---	---	---	---
Chatham County	Yes	---	Yes	---	---	---	---	---
Cherokee County	No	---	---	---	---	---	---	---
Clayton County	Yes	---	Yes	---	---	---	---	---
Cobb County	No	---	---	---	---	---	---	---
Columbia County	Yes	---	Yes	---	---	---	---	---
Columbus/Muscogee CG	Yes	---	---	---	---	---	---	Yes
Coweta County	Yes	Yes	Yes	---	Yes	Yes	Yes	---
Douglas County	Yes	Yes	Yes	---	---	---	---	---
Fayette County	Yes	---	Yes	---	---	---	---	---
Forsyth County	Yes	---	Yes	---	---	---	---	---
Gwinnett County	No	---	---	---	---	---	---	---
Hall County	Yes	---	Yes	---	---	---	---	---
Henry County	Yes	---	Yes	---	---	---	---	---
Houston County	No	---	---	---	---	---	---	---
Lowndes County	Yes	Yes	Yes	---	Yes	---	---	---
Newton County	Yes	---	Yes	---	---	---	---	---
Paulding County	Yes	---	---	---	---	---	---	Yes
Whitfield County	Yes	---	Yes	---	---	---	---	---
Population Group B								
Barrow County	Yes	Yes	Yes	---	---	---	Yes	---
Bulloch County	No	---	---	---	---	---	---	---
Camden County	Yes	---	Yes	---	---	---	---	---
Catoosa County	Yes	Yes	Yes	---	Yes	---	Yes	---
Dougherty County	Yes	---	---	---	---	---	---	Yes
Effingham County	Yes	Yes	Yes	---	---	---	Yes	---
Floyd County	Yes	---	---	---	Yes	---	---	---
Gordon County	Yes	Yes	---	---	---	---	Yes	---
Jackson County	Yes	---	Yes	---	---	---	---	---
Liberty County	Yes	---	Yes	---	---	---	Yes	---

Section 5.d: Financial Management Practices

County	Does the government receive revenues from a local option sales tax authorized in state law?	How was the government's share of the local option sales tax determined?						
		service delivery responsibility	intergovt. agreements	use of revenues as a subsidy	coordinated agreement	point of sale	population	other
Population Group B								
Rockdale County	No	---	---	---	---	---	---	---
Spalding County	Yes	Yes	Yes	---	---	---	---	---
Troup County	Yes	Yes	Yes	---	---	---	---	---
Walker County	Yes	---	Yes	---	---	---	---	---
Walton County	Yes	---	Yes	---	---	---	---	---
Population Group C								
Baldwin County	Yes	---	Yes	---	---	---	---	---
Bryan County	Yes	---	Yes	---	---	---	---	---
Coffee County	Yes	---	Yes	---	---	---	---	---
Colquitt County	No	---	---	---	---	---	---	---
Dawson County	Yes	Yes	Yes	---	---	---	---	---
Decatur County	Yes	---	Yes	---	---	---	---	---
Fannin County	Yes	Yes	Yes	---	---	Yes	---	---
Gilmer County	Yes	---	Yes	---	---	---	---	---
Habersham County	No	---	---	---	---	---	---	---
Haralson County	Yes	Yes	Yes	---	---	---	---	---
Harris County	Yes	---	Yes	---	---	---	---	---
Hart County	Yes	---	---	---	---	---	---	Yes
Laurens County	Yes	Yes	Yes	---	---	---	---	---
Lee County	Yes	---	Yes	---	---	---	Yes	---
Lumpkin County	Yes	---	Yes	---	---	---	---	---
Madison County	Yes	Yes	Yes	---	---	---	---	---
Monroe County	Yes	---	Yes	---	---	---	---	---
Murray County	Yes	---	Yes	---	---	---	---	---
Oconee County	Yes	Yes	Yes	---	---	---	---	---
Peach County	Yes	Yes	Yes	---	Yes	---	Yes	---
Pickens County	Yes	---	Yes	---	---	---	---	---
Polk County	Yes	---	Yes	---	---	---	---	---
Stephens County	Yes	---	Yes	---	---	---	---	---
Sumter County	Yes	---	Yes	---	---	---	---	---
Tattnall County	Yes	---	Yes	---	---	---	Yes	---
Thomas County	Yes	Yes	Yes	---	---	---	Yes	---
Tift County	Yes	---	Yes	---	---	---	---	---

Section 5.d: Financial Management Practices

County	Does the government receive revenues from a local option sales tax authorized in state law?	How was the government's share of the local option sales tax determined?						
		service delivery responsibility	intergovt. agreements	use of revenues as a subsidy	coordinated agreement	point of sale	population	other
Population Group C								
Upson County	Yes	---	Yes	---	---	---	---	---
Ware County	Yes	Yes	Yes	---	Yes	---	---	---
Wayne County	Yes	Yes	Yes	---	---	---	---	---
White County	Yes	Yes	Yes	---	Yes	---	---	---
Population Group D								
Appling County	Yes	Yes	Yes	---	Yes	---	---	---
Banks County	Yes	---	Yes	---	---	---	---	---
Ben Hill County	Yes	Yes	Yes	---	---	---	---	---
Berrien County	Yes	---	Yes	---	---	---	---	---
Brantley County	Yes	Yes	---	---	---	---	---	---
Brooks County	Yes	---	---	---	---	---	Yes	---
Burke County	Yes	Yes	Yes	---	Yes	---	Yes	---
Butts County	Yes	Yes	Yes	---	Yes	---	Yes	---
Chattooga County	No	---	---	---	---	---	---	---
Cook County	Yes	---	Yes	---	---	---	---	---
Crisp County	Yes	---	Yes	---	---	---	---	---
Dade County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Dodge County	Yes	Yes	Yes	---	---	---	---	---
Elbert County	Yes	Yes	Yes	---	---	---	---	---
Emanuel County	Yes	---	Yes	---	---	---	---	---
Franklin County	Yes	Yes	Yes	---	---	---	Yes	---
Grady County	Yes	---	Yes	---	---	---	---	---
Greene County	Yes	---	Yes	---	---	---	---	---
Jeff Davis County	Yes	---	Yes	---	---	---	---	---
Jefferson County	Yes	Yes	---	---	---	---	---	---
Lamar County	Yes	Yes	Yes	Yes	Yes	---	---	---
Long County	Yes	Yes	Yes	---	---	Yes	---	---
McDuffie County	Yes	---	Yes	---	---	---	---	---
Meriwether County	Yes	Yes	Yes	---	---	---	---	---
Mitchell County	No	---	---	---	---	---	---	---
Morgan County	Yes	Yes	---	---	---	---	---	---
Oglethorpe County	Yes	---	---	---	---	---	Yes	---
Pierce County	Yes	Yes	Yes	---	---	---	Yes	---

Section 5.d: Financial Management Practices

County	Does the government receive revenues from a local option sales tax authorized in state law?	How was the government's share of the local option sales tax determined?						
		service delivery responsibility	intergovt. agreements	use of revenues as a subsidy	coordinated agreement	point of sale	population	other
Population Group D								
Pike County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Putnam County	Yes	---	Yes	---	---	---	---	Yes
Telfair County	Yes	Yes	Yes	---	---	---	---	---
Union County	Yes	---	---	---	---	Yes	---	---
Washington County	Yes	Yes	---	---	---	---	---	---
Worth County	Yes	---	---	---	---	---	Yes	---
Population Group E								
Bacon County	Yes	---	Yes	---	---	---	---	---
Bleckley County	Yes	Yes	Yes	Yes	Yes	---	---	---
Candler County	Yes	Yes	Yes	---	Yes	---	Yes	---
Charlton County	Yes	---	Yes	---	---	---	---	---
Crawford County	Yes	Yes	---	---	---	Yes	---	---
Cusseta-Chattahoochee CG	Yes	---	Yes	---	---	---	---	Yes
Dooly County	Yes	---	Yes	---	---	---	---	---
Early County	Yes	---	Yes	---	---	---	---	---
Evans County	Yes	---	Yes	---	---	---	---	---
Jasper County	Yes	---	Yes	---	---	---	---	---
Lanier County	Yes	Yes	Yes	---	---	---	---	---
Macon County	Yes	---	---	---	---	---	Yes	---
McIntosh County	Yes	Yes	Yes	---	Yes	---	Yes	---
Pulaski County	Yes	---	Yes	---	---	---	---	---
Population Group F								
Atkinson County	Yes	---	Yes	---	---	---	---	---
Baker County	Yes	Yes	---	---	---	---	---	---
Calhoun County	Yes	---	Yes	---	---	---	---	---
Clay County	Yes	Yes	Yes	---	Yes	---	---	---
Clinch County	Yes	---	Yes	---	---	---	---	---
Echols County CG	Yes	---	---	---	---	---	---	Yes
Glascok County	Yes	---	Yes	---	---	---	Yes	---
Hancock County	Yes	---	Yes	---	---	---	---	---
Irwin County	Yes	---	Yes	---	---	---	---	---
Jenkins County	Yes	---	Yes	---	---	---	---	---

Section 5.d: Financial Management Practices

County	Does the government receive revenues from a local option sales tax authorized in state law?	How was the government's share of the local option sales tax determined?						
		service delivery responsibility	intergovt. agreements	use of revenues as a subsidy	coordinated agreement	point of sale	population	other
Population Group F								
Johnson County	Yes	---	Yes	---	---	---	---	---
Lincoln County	Yes	---	Yes	---	---	---	Yes	---
Miller County	Yes	---	Yes	---	---	---	---	---
Montgomery County	Yes	---	Yes	---	---	---	---	---
Randolph County	Yes	---	Yes	---	---	---	---	---
Schley County	Yes	---	Yes	---	---	---	---	---
Seminole County	Yes	---	Yes	---	---	---	Yes	---
Talbot County	Yes	Yes	---	---	---	Yes	---	---
Taliaferro County	Yes	---	Yes	---	---	---	---	---
Taylor County	Yes	---	Yes	---	---	---	---	---
Terrell County	Yes	---	Yes	---	---	---	Yes	---
Treutlen County	Yes	---	Yes	---	---	---	---	---
Turner County	Yes	Yes	Yes	---	Yes	---	---	---
Twiggs County	Yes	---	---	---	Yes	---	---	---
Warren County	Yes	---	---	---	Yes	---	---	---
Webster County Unified	Yes	---	---	---	---	---	---	Yes
Wheeler County	Yes	---	Yes	---	---	---	---	---
Wilcox County	Yes	---	Yes	---	---	---	Yes	---
Wilkes County	Yes	---	Yes	---	---	---	---	Yes
Wilkinson County	Yes	Yes	Yes	---	---	---	---	---

Section 5.e: Financial Management Practices - Summary of Data

Group	Number reporting	Number of governments receiving revenues from special purpose local option sales tax		Number adopting special purpose local option sales tax in 2003 or 2004?	Number using proceeds from special purpose local option sales taxes for the following authorized uses:																	
		#	%		airport facilities and equipment		business improvement district		civic center or coliseum		courthouse or administrative building		community improvement district		cultural, recreational or historic facility		hospital		jail, correction or detention facility		landfill or solid waste facility	
					#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	22	100.0%	0	7	31.8%	2	9.1%	5	22.7%	0	0.0%	0	0.0%	20	90.9%	0	0.0%	12	54.5%	5	22.7%
B	15	15	100.0%	0	3	20.0%	3	20.0%	4	26.7%	0	0.0%	3	20.0%	15	100.0%	1	6.7%	8	53.3%	6	40.0%
C	31	31	100.0%	0	7	22.6%	3	9.7%	2	6.5%	0	0.0%	1	3.2%	24	77.4%	4	12.9%	9	29.0%	6	19.4%
D	34	34	100.0%	0	12	35.3%	3	8.8%	2	5.9%	0	0.0%	2	5.9%	30	88.2%	10	29.4%	17	50.0%	10	29.4%
E	14	14	100.0%	0	3	21.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9	64.3%	2	14.3%	6	42.9%	3	21.4%
F	30	30	100.0%	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.3%	15	50.0%	1	3.3%	12	40.0%	8	26.7%
Total	146	146	100.0%	0	32	21.9%	11	7.5%	13	8.9%	0	0.0%	7	4.8%	113	77.4%	18	12.3%	64	43.8%	38	26.0%

Section 5.e: Financial Management Practices

County	Does the government receive revenues from a special purpose local option sales tax authorized in state law?	Year in which most recent SPLOST tax was imposed?	What are the authorized uses for the special purpose local option sales tax?								
			airport facilities and equipment	business improvement district	civic center or coliseum	courthouse or admin. building	community improvement district	cultural, recreational or historic facility	hospital	jail, correctional, or detention facility	landfill or solid waste facility
Population Group A											
Augusta/Richmond CG	Yes	2022	Yes	---	Yes	Yes	---	Yes	---	Yes	Yes
Athens-Clarke CG	Yes	2020	Yes	Yes	Yes	Yes	---	Yes	---	Yes	Yes
Bartow County	Yes	2020	Yes	---	---	Yes	---	Yes	---	---	Yes
Carroll County	Yes	2021	---	Yes	---	Yes	---	Yes	---	Yes	---
Columbia County	Yes	2016	---	---	---	Yes	---	Yes	---	Yes	---
Cobb County	Yes	2022	---	---	---	---	---	Yes	---	Yes	---
Clayton County	Yes	2020	---	---	---	Yes	---	Yes	---	Yes	---
Cherokee County	Yes	2018	Yes	---	---	Yes	---	Yes	---	Yes	---
Chatham County	Yes	2020	---	---	Yes	Yes	---	Yes	---	---	---
Coweta County	Yes	2019	---	---	---	---	---	Yes	---	---	---
Columbus/Muscogee CG	Yes	1999	---	---	---	Yes	---	Yes	---	---	---
Douglas County	Yes	2016	---	---	---	---	---	Yes	---	---	---
Forsyth County	Yes	2019	---	---	---	---	---	Yes	---	---	---
Fayette County	Yes	2017	---	---	---	---	---	---	---	---	---
Gwinnett County	Yes	2017	---	---	Yes	---	---	Yes	---	---	---
Hall County	Yes	2019	---	---	---	Yes	---	Yes	---	---	Yes
Houston County	Yes	2018	Yes	---	---	Yes	---	---	---	Yes	---
Henry County	Yes	2020	Yes	---	Yes	Yes	---	Yes	---	Yes	---
Lowndes County	Yes	2020	Yes	---	---	Yes	---	Yes	---	Yes	---
Newton County	Yes	2017	---	---	---	---	---	Yes	---	Yes	Yes
Paulding County	Yes	2017	---	---	---	---	---	Yes	---	---	---
Whitfield County	Yes	2020	---	---	---	Yes	---	Yes	---	Yes	---
Population Group B											
Barrow County	Yes	2018	---	---	---	Yes	---	Yes	---	---	---
Bulloch County	Yes	2019	Yes	---	---	Yes	---	Yes	---	Yes	Yes
Catoosa County	Yes	2019	---	Yes	Yes	Yes	---	Yes	---	Yes	Yes
Camden County	Yes	2019	---	---	---	Yes	---	Yes	---	---	---
Dougherty County	Yes	2017	---	Yes	---	Yes	---	Yes	---	Yes	Yes
Effingham County	Yes	2021	---	---	---	Yes	---	Yes	---	Yes	---
Floyd County	Yes	2017	Yes	---	Yes	Yes	---	Yes	---	Yes	Yes
Gordon County	Yes	2018	---	---	---	Yes	---	Yes	---	---	---
Jackson County	Yes	2017	---	---	---	---	---	Yes	---	---	---
Liberty County	Yes	2016	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rockdale County	Yes	2017	---	---	---	---	Yes	Yes	---	Yes	---

Section 5.e: Financial Management Practices

County	Does the government receive revenues from a special purpose local option sales tax authorized in state law?	Year in which most recent SPLOST tax was imposed?	What are the authorized uses for the special purpose local option sales tax?									
			airport facilities and equipment	business improvement district	civic center or coliseum	courthouse or admin. building	community improvement district	cultural, recreational or historic facility	hospital	jail, correctional, or detention facility	landfill or solid waste facility	
Population Group B												
Spalding County	Yes	2016	---	---	---	---	Yes	Yes	---	---	---	
Troup County	Yes	2019	---	---	---	---	---	Yes	---	---	---	
Walker County	Yes	2020	---	---	Yes	Yes	---	Yes	---	Yes	Yes	
Walton County	Yes	2018	---	---	---	Yes	---	Yes	---	---	---	
Population Group C												
Bryan County	Yes	2017	---	---	---	Yes	---	Yes	---	---	---	
Baldwin County	Yes	2018	Yes	---	---	Yes	---	Yes	---	Yes	---	
Coffee County	Yes	2018	---	---	---	Yes	---	---	---	---	---	
Colquitt County	Yes	2019	Yes	Yes	---	Yes	Yes	Yes	Yes	Yes	Yes	
Dawson County	Yes	2021	---	---	---	Yes	---	Yes	---	---	---	
Decatur County	Yes	2020	---	---	---	---	---	Yes	---	Yes	Yes	
Fannin County	Yes	2017	---	---	---	Yes	---	Yes	---	---	---	
Gilmer County	Yes	2013	---	---	---	---	---	Yes	---	---	Yes	
Haralson County	Yes	2021	---	---	---	Yes	---	Yes	---	Yes	---	
Habersham County	Yes	2021	---	---	---	---	---	---	Yes	---	Yes	
Hart County	Yes	2018	---	---	---	---	---	Yes	---	---	---	
Harris County	Yes	2019	---	Yes	---	Yes	---	Yes	---	---	---	
Lee County	Yes	2019	---	---	---	Yes	---	Yes	---	Yes	---	
Laurens County	Yes	2018	Yes	---	---	Yes	---	Yes	---	Yes	---	
Lumpkin County	Yes	2018	---	---	---	---	---	---	---	---	---	
Madison County	Yes	2020	---	---	---	Yes	---	Yes	---	Yes	Yes	
Murray County	Yes	2019	---	---	---	Yes	---	Yes	Yes	Yes	Yes	
Monroe County	Yes	2020	---	---	Yes	---	---	Yes	---	---	---	
Oconee County	Yes	2021	---	---	---	Yes	---	Yes	---	---	---	
Polk County	Yes	2020	---	---	---	---	---	Yes	---	---	---	
Peach County	Yes	2022	---	---	---	Yes	---	Yes	---	---	---	
Pickens County	Yes	2020	Yes	---	---	---	---	---	---	---	---	
Stephens County	Yes	2019	---	---	---	---	---	Yes	---	---	---	
Sumter County	Yes	2014	---	---	---	Yes	---	Yes	---	---	---	
Tift County	Yes	2018	Yes	---	---	Yes	---	Yes	---	---	---	
Tattnall County	Yes	2020	---	---	---	---	---	---	---	---	---	
Thomas County	Yes	2019	---	---	---	---	---	---	---	---	---	
Upson County	Yes	2022	Yes	---	Yes	Yes	---	Yes	---	---	---	
White County	Yes	2020	---	---	---	Yes	---	Yes	---	---	---	

Section 5.e: Financial Management Practices

County	Does the government receive revenues from a special purpose local option sales tax authorized in state law?	Year in which most recent SPLOST tax was imposed?	What are the authorized uses for the special purpose local option sales tax?									
			airport facilities and equipment	business improvement district	civic center or coliseum	courthouse or admin. building	community improvement district	cultural, recreational or historic facility	hospital	jail, correctional, or detention facility	landfill or solid waste facility	
Population Group C												
Wayne County	Yes	2018	---	---	---	---	---	---	---	Yes	---	---
Ware County	Yes	2014	Yes	Yes	---	Yes	---	---	Yes	---	Yes	---
Population Group D												
Appling County	Yes	2018	---	---	---	---	---	---	Yes	Yes	---	---
Berrien County	Yes	2018	Yes	---	---	Yes	---	---	---	---	---	---
Ben Hill County	Yes	2017	Yes	Yes	Yes	---	Yes	---	Yes	Yes	Yes	---
Banks County	Yes	2022	---	---	---	---	---	---	Yes	---	---	---
Brooks County	Yes	2015	---	---	---	Yes	---	---	Yes	---	Yes	---
Brantley County	Yes	2019	---	---	---	---	---	---	Yes	---	Yes	---
Burke County	Yes	2018	Yes	---	---	Yes	---	---	Yes	Yes	Yes	---
Butts County	Yes	2019	---	---	---	Yes	---	---	Yes	Yes	Yes	---
Cook County	Yes	2017	Yes	---	---	Yes	---	---	Yes	---	---	Yes
Chattooga County	Yes	2020	---	---	---	---	---	---	---	---	---	---
Crisp County	Yes	2018	Yes	Yes	---	Yes	Yes	---	Yes	---	Yes	Yes
Dodge County	Yes	2019	Yes	---	---	Yes	---	---	Yes	Yes	Yes	---
Dade County	Yes	2015	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Emanuel County	Yes	2018	Yes	Yes	---	Yes	---	---	Yes	Yes	---	Yes
Elbert County	Yes	2017	---	---	Yes	Yes	---	---	Yes	---	---	---
Franklin County	Yes	2017	Yes	---	---	Yes	---	---	Yes	---	Yes	---
Grady County	Yes	2019	---	---	---	---	---	---	---	---	---	---
Greene County	Yes	2019	Yes	---	---	Yes	---	---	Yes	---	---	---
Jefferson County	Yes	2022	---	---	---	Yes	---	---	Yes	Yes	---	Yes
Jeff Davis County	Yes	2018	Yes	---	---	Yes	---	---	Yes	Yes	Yes	---
Long County	Yes	2018	---	---	---	---	---	---	Yes	---	---	---
Lamar County	Yes	2017	---	---	---	Yes	---	---	Yes	---	---	---
Morgan County	Yes	2019	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Mitchell County	Yes	2018	---	---	---	Yes	---	---	Yes	---	Yes	---
Meriwether County	Yes	2020	---	---	---	Yes	---	---	Yes	---	---	---
McDuffie County	Yes	2021	Yes	---	---	Yes	---	---	Yes	---	Yes	Yes
Oglethorpe County	Yes	2017	---	---	---	---	---	---	Yes	---	---	---
Pierce County	Yes	2020	---	---	---	Yes	---	---	Yes	---	Yes	---
Putnam County	Yes	2016	---	---	---	---	---	---	Yes	Yes	Yes	---
Pike County	Yes	2016	---	---	---	---	---	---	---	---	---	---
Telfair County	Yes	2019	---	---	---	---	---	---	Yes	---	Yes	Yes

Section 5.e: Financial Management Practices

County	Does the government receive revenues from a special purpose local option sales tax authorized in state law?	Year in which most recent SPLOST tax was imposed?	What are the authorized uses for the special purpose local option sales tax?									
			airport facilities and equipment	business improvement district	civic center or coliseum	courthouse or admin. building	community improvement district	cultural, recreational or historic facility	hospital	jail, correctional, or detention facility	landfill or solid waste facility	
Population Group D												
Union County	Yes	2021	---	---	---	---	---	---	Yes	---	---	Yes
Worth County	Yes	2021	---	---	---	Yes	---	---	Yes	---	---	---
Washington County	Yes	2020	Yes	---	---	Yes	---	---	Yes	Yes	Yes	Yes
Population Group E												
Bleckley County	Yes	2022	---	---	---	---	---	---	Yes	---	Yes	---
Bacon County	Yes	2018	Yes	---	---	---	---	---	Yes	Yes	---	---
Charlton County	Yes	2020	---	---	---	Yes	---	---	Yes	---	---	---
Cusseta-Chattahoochee CG	Yes	2020	---	---	---	Yes	---	---	Yes	---	---	---
Crawford County	Yes	2015	---	---	---	Yes	---	---	---	---	Yes	---
Candler County	Yes	2018	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Dooly County	Yes	2019	---	---	---	Yes	---	---	---	---	Yes	---
Evans County	Yes	2017	Yes	---	---	Yes	---	---	Yes	Yes	---	Yes
Early County	Yes	2018	Yes	---	---	Yes	---	---	---	---	---	---
Jasper County	Yes	2018	---	---	---	---	---	---	Yes	---	Yes	---
Lanier County	Yes	2017	---	---	---	---	---	---	---	---	---	---
Macon County	Yes	2016	---	---	---	Yes	---	---	Yes	---	---	---
McIntosh County	Yes	2022	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Pulaski County	Yes	2017	---	---	---	Yes	---	---	---	---	---	---
Population Group F												
Atkinson County	Yes	2017	---	---	---	Yes	---	---	---	---	Yes	---
Baker County	Yes	2020	---	---	---	---	---	---	---	---	---	---
Clinch County	Yes	2016	---	---	---	---	---	---	---	---	---	---
Clay County	Yes	2018	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Calhoun County	Yes	2007	---	---	---	Yes	---	---	---	---	---	Yes
Echols County CG	Yes	2019	---	---	---	---	---	---	---	---	---	---
Glascok County	Yes	2021	---	---	---	---	---	Yes	Yes	---	---	---
Hancock County	Yes	2014	---	---	---	---	---	---	---	---	Yes	---
Irwin County	Yes	2018	---	---	---	---	---	---	---	---	---	---
Jenkins County	Yes	2020	---	---	---	Yes	---	---	Yes	---	Yes	Yes
Johnson County	Yes	2019	---	---	---	Yes	---	---	Yes	---	---	---
Lincoln County	Yes	2017	---	---	---	Yes	---	---	Yes	---	---	---
Miller County	Yes	2019	---	---	---	Yes	---	---	---	---	Yes	---
Montgomery County	Yes	2021	---	---	---	Yes	---	---	Yes	---	---	Yes

Section 5.e: Financial Management Practices

County	Does the government receive revenues from a special purpose local option sales tax authorized in state law?	Year in which most recent SPLOST tax was imposed?	What are the authorized uses for the special purpose local option sales tax?								
			airport facilities and equipment	business improvement district	civic center or coliseum	courthouse or admin. building	community improvement district	cultural, recreational or historic facility	hospital	jail, correctional, or detention facility	landfill or solid waste facility
Population Group F											
Randolph County	Yes	2018	---	---	---	Yes	---	Yes	---	Yes	---
Seminole County	Yes	2021	---	---	---	Yes	---	Yes	---	Yes	---
Schley County	Yes	2019	---	---	---	Yes	---	Yes	---	Yes	---
Taylor County	Yes	2017	---	---	---	Yes	---	Yes	---	---	---
Turner County	Yes	2018	---	---	---	Yes	---	Yes	---	---	---
Treutlen County	Yes	2019	---	---	---	Yes	---	---	---	Yes	---
Terrell County	Yes	2017	---	---	---	---	---	---	---	---	Yes
Twiggs County	Yes	2019	---	---	---	---	---	---	---	---	---
Talbot County	Yes	2021	---	---	---	---	---	Yes	---	---	---
Taliaferro County	Yes	2017	---	---	---	Yes	---	---	---	---	---
Webster County Unified	Yes	2020	---	---	---	Yes	---	---	---	---	---
Wilkes County	Yes	2017	---	---	---	Yes	---	---	Yes	Yes	Yes
Wilcox County	Yes	2018	---	---	---	Yes	---	Yes	---	Yes	---
Wheeler County	Yes	2017	---	---	---	Yes	---	---	---	Yes	---
Warren County	Yes	2017	---	---	---	---	---	Yes	---	---	Yes
Wilkinson County	Yes	2019	---	---	---	Yes	---	Yes	---	---	Yes

Department of Community Affairs

Section 5.f: Financial Management Practices - Summary of Data

Number using proceeds from special purpose local option sales taxes for the following authorized uses: (Cont.)

Group	Number reporting	library		retirement of previously incurred G.O. debt for roads and streets		roads, streets and bridges		public safety facilities and capital equipment		tax increment financing		water or sewer		other purposes	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	16	72.7%	0	0.0%	22	100.0%	22	100.0%	0	0.0%	12	54.5%	14	63.6%
B	15	8	53.3%	1	6.7%	15	100.0%	15	100.0%	2	13.3%	10	66.7%	9	60.0%
C	31	13	41.9%	4	12.9%	31	100.0%	29	93.5%	0	0.0%	17	54.8%	22	71.0%
D	34	4	11.8%	3	8.8%	34	100.0%	29	85.3%	0	0.0%	10	29.4%	13	38.2%
E	14	4	28.6%	0	0.0%	14	100.0%	11	78.6%	0	0.0%	2	14.3%	7	50.0%
F	30	6	20.0%	2	6.7%	29	96.7%	23	76.7%	0	0.0%	4	13.3%	16	53.3%
Total	146	51	34.9%	10	6.8%	145	99.3%	129	88.4%	2	1.4%	55	37.7%	81	55.5%

Group	Number reporting	Number receiving revenues from occupation tax authorized by state law		Number using following methods to assess occupation tax:								Number amending occupation tax in either 2003 or 2004?		Number of governments with regulatory fees		Number of governments with user fees	
		#	%	flat fee	number of employees	gross receipts	profitability ratios	#	%	#	%	#	%	#	%	#	%
A	22	20	90.9%	4	20.0%	11	55.0%	11	55.0%	6	30.0%	1	5.0%	0	0.0%	20	90.9%
B	15	12	80.0%	3	25.0%	10	83.3%	0	0.0%	1	8.3%	2	16.7%	0	0.0%	14	93.3%
C	31	20	64.5%	13	65.0%	13	65.0%	5	25.0%	1	5.0%	1	5.0%	0	0.0%	25	80.6%
D	34	24	70.6%	9	37.5%	17	70.8%	3	12.5%	0	0.0%	0	0.0%	0	0.0%	26	76.5%
E	14	8	57.1%	5	62.5%	4	50.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	8	57.1%
F	30	12	40.0%	5	41.7%	9	75.0%	0	0.0%	0	0.0%	3	25.0%	0	0.0%	10	33.3%
Total	146	96	65.8%	39	40.6%	64	66.7%	19	19.8%	8	8.3%	8	8.3%	0	0.0%	103	70.5%

Department of Community Affairs

Section 5.f. Financial Management Practices

County	What are the authorized uses for the special purpose local option sales tax?							Does the government collect occupation tax?	If so, what method is used to assess the occupation tax?				Year in which occupation tax was last amended?	Does government have regulatory fees?	Does government have user fees?
	library	retirement of previously incurred G.O. debt (1)	roads, streets and bridges	public safety facilities and capital equipment	tax increment financing	water or sewer	flat fee		number of employees	gross receipts	profitability ratios				
Population Group A															
Augusta/Richmond CG	Yes	---	Yes	Yes	---	---	Yes	Yes	---	Yes	Yes	2019	Yes	No	
Athens-Clarke CG	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2016	Yes	Yes	
Bartow County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2018	Yes	Yes	
Carroll County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	Yes	---	2015	Yes	Yes	
Columbia County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2018	No	No	
Cobb County	Yes	---	Yes	Yes	---	---	Yes	---	---	Yes	---	2022	Yes	Yes	
Clayton County	Yes	---	Yes	Yes	---	---	Yes	Yes	Yes	Yes	Yes	2017	Yes	Yes	
Cherokee County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2016	Yes	Yes	
Chatham County	Yes	---	Yes	Yes	---	Yes	Yes	---	---	Yes	Yes	2020	Yes	Yes	
Coweta County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2021	Yes	Yes	
Columbus/Muscogee CG	Yes	---	Yes	Yes	---	Yes	Yes	---	---	Yes	Yes	1995	Yes	Yes	
Douglas County	---	---	Yes	Yes	---	---	Yes	---	---	Yes	---	2003	No	Yes	
Forsyth County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	Yes	---	2008	No	Yes	
Fayette County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2010	Yes	Yes	
Gwinnett County	Yes	---	Yes	Yes	---	---	Yes	---	---	Yes	Yes	2019	Yes	Yes	
Hall County	Yes	---	Yes	Yes	---	Yes	No	---	---	---	---	0	Yes	Yes	
Houston County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2011	No	Yes	
Henry County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	Yes	Yes	1996	Yes	Yes	
Lowndes County	Yes	---	Yes	Yes	---	Yes	Yes	---	---	Yes	---	2020	Yes	Yes	
Newton County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	1978	No	Yes	
Paulding County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	1995	Yes	Yes	
Whitfield County	Yes	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Population Group B															
Barrow County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Bulloch County	Yes	---	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	---	2012	Yes	Yes	
Catoosa County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2012	No	No	
Camden County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2006	Yes	Yes	
Dougherty County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	1995	No	Yes	
Effingham County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	1995	Yes	Yes	
Floyd County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Gordon County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	Yes	Yes	
Jackson County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	---	Yes	2004	Yes	Yes	
Liberty County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---	Yes	---	---	1993	No	Yes	

(1) - Retirement of previously incurred G.O. debt for roads, streets and bridges.

Department of Community Affairs

Section 5.f. Financial Management Practices

County	What are the authorized uses for the special purpose local option sales tax?							Does the government collect occupation tax?	If so, what method is used to assess the occupation tax?				Year in which occupation tax was last amended?	Does government have regulatory fees?	Does government have user fees?
	library	retirement of previously incurred G.O. debt (1)	roads, streets and bridges	public safety facilities and capital equipment	tax increment financing	water or sewer									
							flat fee		number of employees	gross receipts	profitability ratios				
Population Group B															
Rockdale County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2016	Yes	Yes	
Spalding County	Yes	---	Yes	Yes	---	---	Yes	Yes	---	---	---	1994	No	Yes	
Troup County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	1987	Yes	Yes	
Walker County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2019	No	Yes	
Walton County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2003	Yes	Yes	
Population Group C															
Bryan County	Yes	Yes	Yes	Yes	---	Yes	Yes	---	Yes	---	---	1996	No	Yes	
Baldwin County	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	2016	No	Yes	
Coffee County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	---	---	2005	No	Yes	
Colquitt County	Yes	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2018	No	No	
Dawson County	Yes	---	Yes	Yes	---	---	Yes	Yes	Yes	Yes	---	2019	No	Yes	
Decatur County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	Yes	Yes	
Fannin County	---	---	Yes	---	---	Yes	No	---	---	---	---	0	No	No	
Gilmer County	---	Yes	Yes	Yes	---	Yes	No	Yes	Yes	---	---	0	No	Yes	
Haralson County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2006	No	No	
Habersham County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2015	Yes	Yes	
Hart County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Harris County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2005	No	Yes	
Lee County	Yes	Yes	Yes	Yes	---	Yes	Yes	---	---	Yes	---	1998	Yes	Yes	
Laurens County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Lumpkin County	Yes	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2018	Yes	Yes	
Madison County	Yes	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Murray County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Monroe County	Yes	---	Yes	---	---	Yes	No	Yes	---	---	---	0	No	Yes	
Oconee County	Yes	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	1994	Yes	Yes	
Polk County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2011	No	No	
Peach County	Yes	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	2015	No	Yes	
Pickens County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	Yes	Yes	
Stephens County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Sumter County	---	Yes	Yes	Yes	---	---	No	---	---	Yes	---	0	No	Yes	
Tift County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2019	No	Yes	
Tattnall County	---	---	Yes	Yes	---	---	Yes	---	---	Yes	---	0	No	Yes	
Thomas County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	---	---	2005	Yes	Yes	

(1) - Retirement of previously incurred G.O. debt for roads, streets and bridges.

Department of Community Affairs

Section 5.f. Financial Management Practices

County	What are the authorized uses for the special purpose local option sales tax?							Does the government collect occupation tax?	If so, what method is used to assess the occupation tax?				Year in which occupation tax was last amended?	Does government have regulatory fees?	Does government have user fees?
	library	retirement of previously incurred G.O. debt (1)	roads, streets and bridges	public safety facilities and capital equipment	tax increment financing	water or sewer	flat fee		number of employees	gross receipts	profitability ratios				
Population Group C															
Upson County	Yes	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	2016	No	Yes	
White County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2003	No	Yes	
Wayne County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2006	No	No	
Ware County	Yes	---	Yes	Yes	---	---	Yes	Yes	---	Yes	Yes	2006	Yes	Yes	
Population Group D															
Appling County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	Yes	
Berrien County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Ben Hill County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	1995	No	Yes	
Banks County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2010	No	Yes	
Brooks County	---	---	Yes	Yes	---	---	Yes	Yes	Yes	---	---	1999	No	Yes	
Brantley County	---	---	Yes	---	---	---	Yes	---	Yes	---	---	2009	Yes	Yes	
Burke County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	Yes	
Butts County	Yes	Yes	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2012	Yes	Yes	
Cook County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2000	Yes	Yes	
Chattooga County	---	---	Yes	---	---	Yes	No	---	---	---	---	0	No	Yes	
Crisp County	---	---	Yes	Yes	---	Yes	Yes	---	---	Yes	---	2006	No	Yes	
Dodge County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Dade County	Yes	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	2015	No	Yes	
Emanuel County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Elbert County	---	Yes	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Franklin County	---	---	Yes	Yes	---	Yes	Yes	Yes	---	---	---	2001	No	No	
Grady County	---	Yes	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Greene County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	1995	Yes	Yes	
Jefferson County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2018	No	Yes	
Jeff Davis County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Long County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	1995	No	Yes	
Lamar County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2019	No	No	
Morgan County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2007	Yes	Yes	
Mitchell County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2021	No	No	
Meriwether County	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	1995	No	Yes	
McDuffie County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2006	Yes	Yes	
Oglethorpe County	---	---	Yes	Yes	---	Yes	No	---	Yes	---	---	0	No	Yes	
Pierce County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2014	No	No	

(1) - Retirement of previously incurred G.O. debt for roads, streets and bridges.

Department of Community Affairs

Section 5.f. Financial Management Practices

County	What are the authorized uses for the special purpose local option sales tax?							Does the government collect occupation tax?	If so, what method is used to assess the occupation tax?				Year in which occupation tax was last amended?	Does government have regulatory fees?	Does government have user fees?
	library	retirement of previously incurred G.O. debt (1)	roads, streets and bridges	public safety facilities and capital equipment	tax increment financing	water or sewer	flat fee		number of employees	gross receipts	profitability ratios				
Population Group D															
Putnam County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2013	No	Yes	
Pike County	---	---	Yes	---	---	---	Yes	---	Yes	---	---	2010	No	No	
Telfair County	---	---	Yes	---	---	---	Yes	---	---	Yes	---	0	No	No	
Union County	Yes	---	Yes	Yes	---	---	Yes	---	---	Yes	---	2013	No	Yes	
Worth County	---	---	Yes	Yes	---	---	Yes	Yes	Yes	---	---	2018	Yes	Yes	
Washington County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	1999	No	Yes	
Population Group E															
Bleckley County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Bacon County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Charlton County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2011	No	Yes	
Cusseta-Chattahoochee CG	---	---	Yes	Yes	---	Yes	Yes	Yes	---	---	---	2004	No	No	
Crawford County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2011	No	Yes	
Candler County	Yes	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2018	No	Yes	
Dooly County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Evans County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Early County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	No	
Jasper County	---	---	Yes	---	---	---	Yes	---	Yes	---	---	1999	No	No	
Lanier County	---	---	Yes	---	---	---	Yes	Yes	Yes	---	---	2017	No	No	
Macon County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2007	No	Yes	
McIntosh County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2011	No	Yes	
Pulaski County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Population Group F															
Atkinson County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2010	No	No	
Baker County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	No	
Clinch County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Clay County	Yes	---	Yes	---	---	---	Yes	---	Yes	---	---	2006	No	No	
Calhoun County	---	Yes	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Echols County CG	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2019	No	No	
Glascok County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2022	No	No	
Hancock County	---	---	---	Yes	---	---	No	---	---	---	---	0	No	No	
Irwin County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	No	
Jenkins County	Yes	---	Yes	Yes	---	---	Yes	Yes	Yes	---	---	2012	Yes	Yes	

(1) - Retirement of previously incurred G.O. debt for roads, streets and bridges.

Department of Community Affairs

Section 5.f. Financial Management Practices

County	What are the authorized uses for the special purpose local option sales tax?							Does the government collect occupation tax?	If so, what method is used to assess the occupation tax?				Year in which occupation tax was last amended?	Does government have regulatory fees?	Does government have user fees?
	library	retirement of previously incurred G.O. debt (1)	roads, streets and bridges	public safety facilities and capital equipment	tax increment financing	water or sewer									
							flat fee		number of employees	gross receipts	profitability ratios				
Population Group F															
Johnson County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Lincoln County	---	---	Yes	Yes	---	Yes	Yes	---	Yes	---	---	2003	No	Yes	
Miller County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Montgomery County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Randolph County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	Yes	
Seminole County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Schley County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Taylor County	---	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2005	No	No	
Turner County	Yes	---	Yes	Yes	---	---	Yes	---	Yes	---	---	2004	No	No	
Treutlen County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	No	
Terrell County	---	---	Yes	Yes	---	---	Yes	Yes	Yes	---	---	1997	Yes	No	
Twiggs County	---	---	Yes	---	---	---	Yes	---	Yes	---	---	2007	No	Yes	
Talbot County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Taliaferro County	---	---	Yes	---	---	---	No	---	---	---	---	0	No	No	
Webster County Unified	Yes	---	Yes	Yes	---	Yes	Yes	Yes	---	---	---	2004	No	No	
Wilkes County	Yes	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Wilcox County	---	Yes	Yes	Yes	---	---	No	---	---	---	---	0	No	No	
Wheeler County	---	---	Yes	Yes	---	---	No	---	---	---	---	0	No	Yes	
Warren County	---	---	Yes	Yes	---	Yes	No	---	---	---	---	0	No	No	
Wilkinson County	---	---	Yes	Yes	---	---	Yes	Yes	---	---	---	2011	No	No	

(1) - Retirement of previously incurred G.O. debt for roads, streets and bridges.

CHAPTER 6 ♦ Economic Development Activities

This chapter covers the administration and conduct of economic development activities sponsored by a government to attract new business and retain business.

Specific items covered in this chapter:

- Initiatives for economic development activities
- Presence of a full-time economic developer – Some governments employ a full-time staff person dedicated to economic development activities.
- Financial incentives used to attract and retain business – Incentives may include land, grants or loans, and tax incentives, among others.
- Presence of a constitutional development authority, and percent of ad valorem taxes dedicated thereto.

Department of Community Affairs

Section 6.a: Economic Development Activities - Summary of Data

Number of entities taking initiative for economic development activities by type:

Group	Number reporting	local chamber		multi-jurisdictional chamber		development authority		joint development authority		local government		no economic development activities	
		#	%	#	%	#	%	#	%	#	%	#	%
A	22	12	54.5%	2	9.1%	17	77.3%	11	50.0%	13	59.1%	0	0.0%
B	15	7	46.7%	0	0.0%	12	80.0%	10	66.7%	6	40.0%	0	0.0%
C	31	17	54.8%	0	0.0%	27	87.1%	17	54.8%	14	45.2%	0	0.0%
D	34	17	50.0%	1	2.9%	31	91.2%	22	64.7%	17	50.0%	0	0.0%
E	14	7	50.0%	0	0.0%	13	92.9%	6	42.9%	6	42.9%	0	0.0%
F	30	13	43.3%	0	0.0%	27	90.0%	9	30.0%	13	43.3%	1	3.3%
Total	146	73	50.0%	3	2.1%	127	87.0%	75	51.4%	69	47.3%	1	0.7%

Number of governments using the following incentives in attracting new industry all of the time:

Group	Number reporting	Number of governments with full-time economic developer		land (at little or no cost)		local or regional low-interest or deferred payment loans		state grants and loans		federal grants and loans		QuickStart		subsidies	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	13	59.1%	0	0.0%	1	4.5%	1	4.5%	1	4.5%	2	9.1%	0	0.0%
B	15	7	46.7%	0	0.0%	0	0.0%	1	6.7%	0	0.0%	3	20.0%	0	0.0%
C	31	14	45.2%	1	3.2%	0	0.0%	2	6.5%	2	6.5%	8	25.8%	1	3.2%
D	34	18	52.9%	4	11.8%	3	8.8%	7	20.6%	5	14.7%	10	29.4%	4	11.8%
E	14	5	35.7%	0	0.0%	0	0.0%	1	7.1%	1	7.1%	1	7.1%	1	7.1%
F	30	5	16.7%	2	6.7%	1	3.3%	3	10.0%	0	0.0%	4	13.3%	0	0.0%
Total	146	62	42.5%	7	4.8%	5	3.4%	15	10.3%	9	6.2%	28	19.2%	6	4.1%

Department of Community Affairs

Section 6.a: Economic Development Activities

County	Which of the following entities takes the initiative for economic development activities in the jurisdiction?						Does the government employ a full-time economic developer?	How often does the government use the following incentives in attracting new industry to your community?					
	local chamber	multi-jurisdictional chamber	development authority	joint development authority	local government	no economic development activities undertaken		land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program	subsidies
Population Group A													
Athens-Clarke CG	---	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Sometimes	Sometimes	Never
Augusta/Richmond CG	---	---	Yes	---	---	---	Yes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never
Bartow County	---	---	Yes	Yes	---	---	Yes	Sometimes	Never	Most of time	Sometimes	Most of time	Never
Carroll County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never
Chatham County	---	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Never
Cherokee County	---	---	Yes	---	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes
Clayton County	Yes	---	---	Yes	Yes	---	Yes	Most of time	Sometimes	Always	Always	Sometimes	Sometimes
Cobb County	Yes	---	Yes	---	Yes	---	Yes	Never	Sometimes	Never	Sometimes	Sometimes	Never
Columbia County	---	---	Yes	---	---	---	Yes	Never	Sometimes	Sometimes	Sometimes	Most of time	Sometimes
Columbus/Muscogee CG	Yes	Yes	Yes	Yes	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Coweta County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Never	Sometimes	Sometimes
Douglas County	---	---	---	Yes	---	---	Yes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes
Fayette County	---	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Never
Forsyth County	Yes	---	---	---	Yes	---	Yes	Never	Never	Never	Never	Sometimes	Sometimes
Gwinnett County	Yes	---	---	---	Yes	---	Yes	Never	Never	Most of time	Never	Most of time	Never
Hall County	Yes	---	Yes	Yes	---	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Henry County	Yes	---	Yes	---	Yes	---	Yes	Never	Never	Sometimes	Never	Most of time	Never
Houston County	---	---	Yes	---	---	---	Yes	Sometimes	Never	Sometimes	Sometimes	Always	Sometimes
Lowndes County	Yes	---	Yes	---	Yes	---	No	Most of time	Sometimes	Most of time	Most of time	Always	Sometimes
Newton County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Paulding County	Yes	Yes	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Whitfield County	---	---	---	Yes	Yes	---	No	Sometimes	Never	Sometimes	Sometimes	Never	Sometimes
Population Group B													
Barrow County	---	---	Yes	Yes	Yes	---	No	Sometimes	Never	Sometimes	Never	Most of time	Never
Bulloch County	---	---	Yes	---	---	---	Yes	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Camden County	---	---	---	Yes	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Catoosa County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Never	Sometimes	Never	Never	Never
Dougherty County	---	---	---	Yes	---	---	No	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Never
Effingham County	Yes	---	Yes	Yes	---	---	No	Never	Never	Never	Never	Always	Never
Floyd County	---	---	Yes	---	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Gordon County	Yes	---	Yes	---	---	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Jackson County	Yes	---	Yes	---	---	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Liberty County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Always	Sometimes	Always	Sometimes

Department of Community Affairs

Section 6.a: Economic Development Activities

County	Which of the following entities takes the initiative for economic development activities in the jurisdiction?						Does the government employ a full-time economic developer?	How often does the government use the following incentives in attracting new industry to your community?					
	local chamber	multi-jurisdictional chamber	development authority	joint development authority	local government	no economic development activities undertaken		land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program	subsidies
Population Group B													
Rockdale County	Yes	---	Yes	Yes	Yes	---	No	Never	Never	Sometimes	Never	Sometimes	Never
Spalding County	---	---	---	Yes	---	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Troup County	Yes	---	Yes	Yes	Yes	---	No	Never	Never	Most of time	Never	Sometimes	Sometimes
Walker County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Walton County	---	---	Yes	Yes	---	---	Yes	Never	Never	Sometimes	Never	Always	Never
Population Group C													
Baldwin County	---	---	Yes	Yes	---	---	No	Sometimes	Sometimes	Most of time	Sometimes	Never	Sometimes
Bryan County	---	---	Yes	---	---	---	Yes	Sometimes	Most of time	Most of time	Sometimes	Most of time	Most of time
Coffee County	---	---	Yes	---	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Always	Sometimes
Colquitt County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Dawson County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Sometimes	Sometimes	Never
Decatur County	---	---	Yes	---	Yes	---	No	Sometimes	Never	Most of time	Sometimes	Never	Sometimes
Fannin County	Yes	---	Yes	---	Yes	---	Yes	Never	Most of time	Sometimes	Sometimes	Most of time	Sometimes
Gilmer County	Yes	---	---	Yes	---	---	No	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never
Habersham County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Haralson County	---	---	Yes	Yes	---	---	Yes	Sometimes	Sometimes	Always	Always	Always	Never
Harris County	---	---	---	---	Yes	---	No	Most of time	Never	Sometimes	Sometimes	Sometimes	Sometimes
Hart County	Yes	---	Yes	Yes	Yes	---	No	Most of time	Sometimes	Most of time	Sometimes	Always	Always
Laurens County	---	---	---	Yes	---	---	No	Sometimes	Sometimes	Always	Always	Always	Never
Lee County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Sometimes	Never	Never
Lumpkin County	Yes	---	Yes	Yes	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never
Madison County	Yes	---	Yes	Yes	---	---	Yes	Sometimes	Never	Sometimes	Sometimes	Never	Never
Monroe County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Murray County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Sometimes	Always	Never
Oconee County	Yes	---	Yes	---	---	---	No	Sometimes	Never	Sometimes	Sometimes	Most of time	Never
Peach County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Pickens County	Yes	---	Yes	Yes	---	---	Yes	Sometimes	Never	Never	Never	Never	Never
Polk County	---	---	Yes	---	---	---	No	Sometimes	Never	Sometimes	Sometimes	Never	Sometimes
Stephens County	---	---	Yes	---	---	---	Yes	Always	Never	Sometimes	Never	Sometimes	Sometimes
Sumter County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Most of time	Sometimes	Always	Sometimes
Tattnall County	---	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Sometimes
Thomas County	---	---	Yes	---	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Tift County	Yes	---	Yes	---	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never

Department of Community Affairs

Section 6.a: Economic Development Activities

County	Which of the following entities takes the initiative for economic development activities in the jurisdiction?						Does the government employ a full-time economic developer?	How often does the government use the following incentives in attracting new industry to your community?					
	local chamber	multi-jurisdictional chamber	development authority	joint development authority	local government	no economic development activities undertaken		land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program	subsidies
Population Group C													
Upson County	Yes	---	---	Yes	Yes	---	Yes	Most of time	Never	Most of time	Sometimes	Always	Sometimes
Ware County	---	---	Yes	---	---	---	No	Sometimes	Most of time	Most of time	Most of time	Most of time	Sometimes
Wayne County	---	---	Yes	---	---	---	No	Sometimes	Sometimes	Never	Never	Always	Never
White County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Sometimes	Sometimes	Most of time	Never
Population Group D													
Appling County	---	---	Yes	---	---	---	No	Most of time	Never	Never	Never	Never	Never
Banks County	---	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Ben Hill County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Most of time	Most of time	Most of time	Sometimes
Berrien County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Always	Always	Sometimes	Never
Brantley County	---	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Brooks County	---	---	Yes	Yes	---	---	Yes	Sometimes	Always	Always	Always	Always	Always
Burke County	Yes	---	Yes	---	---	---	Yes	Always	Sometimes	Always	Sometimes	Always	Sometimes
Butts County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never
Chattooga County	Yes	---	Yes	Yes	Yes	---	No	Never	Never	Sometimes	Sometimes	Sometimes	Never
Cook County	---	---	---	Yes	---	---	No	Sometimes	Sometimes	Most of time	Sometimes	Most of time	Sometimes
Crisp County	---	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Never	Never	Never
Dade County	Yes	---	Yes	Yes	Yes	---	Yes	Always	Most of time	Always	Always	Always	Always
Dodge County	---	---	Yes	Yes	---	---	No	Sometimes	Most of time	Most of time	Sometimes	Sometimes	Never
Elbert County	---	---	Yes	Yes	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Emanuel County	---	---	Yes	---	---	---	Yes	Always	Always	Always	Always	Always	Always
Franklin County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Never	Always	Always	Sometimes	Sometimes
Grady County	Yes	---	---	Yes	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never
Greene County	---	---	---	Yes	Yes	---	No	Sometimes	Never	Sometimes	Sometimes	Never	Never
Jeff Davis County	Yes	---	Yes	Yes	Yes	---	Yes	Most of time	Most of time	Sometimes	Sometimes	Always	Sometimes
Jefferson County	Yes	---	Yes	---	---	---	Yes	Never	Never	Always	Most of time	Always	Never
Lamar County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Long County	---	---	Yes	---	---	---	No	Sometimes	Never	Never	Never	Never	Never
McDuffie County	---	---	Yes	Yes	Yes	---	Yes	Most of time	Sometimes	Most of time	Sometimes	Most of time	Sometimes
Meriwether County	Yes	---	Yes	---	---	---	Yes	Most of time	Sometimes	Most of time	Sometimes	Most of time	Most of time
Mitchell County	---	---	Yes	---	---	---	Yes	Sometimes	Never	Most of time	Sometimes	Always	Never
Morgan County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Always	Never
Oglethorpe County	---	---	Yes	Yes	Yes	---	No	Sometimes	Never	Never	Never	Never	Never
Pierce County	Yes	---	Yes	Yes	Yes	---	Yes	Most of time	Never	Sometimes	Sometimes	Most of time	Sometimes

Department of Community Affairs

Section 6.a: Economic Development Activities

County	Which of the following entities takes the initiative for economic development activities in the jurisdiction?						Does the government employ a full-time economic developer?	How often does the government use the following incentives in attracting new industry to your community?					
	local chamber	multi-jurisdictional chamber	development authority	joint development authority	local government	no economic development activities undertaken		land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program	subsidies
Population Group D													
Pike County	Yes	Yes	Yes	Yes	---	---	No	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes
Putnam County	---	---	Yes	---	---	---	No	Never	Never	Sometimes	Sometimes	Sometimes	Never
Telfair County	Yes	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Never
Union County	Yes	---	Yes	Yes	Yes	---	Yes	Sometimes	Always	Most of time	Most of time	Always	Never
Washington County	Yes	---	Yes	---	---	---	Yes	Always	Sometimes	Most of time	Most of time	Always	Never
Worth County	---	---	Yes	---	---	---	Yes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Always
Population Group E													
Bacon County	---	---	Yes	---	---	---	Yes	Most of time	Most of time	Sometimes	Sometimes	Sometimes	Sometimes
Bleckley County	---	---	Yes	---	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Candler County	Yes	---	Yes	---	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never
Charlton County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Never	Most of time	Never
Crawford County	---	---	Yes	---	---	---	No	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Cusseta-Chattahoochee CG	---	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never
Dooley County	Yes	---	Yes	Yes	Yes	---	Yes	Never	Never	Most of time	Most of time	Most of time	Never
Early County	Yes	---	Yes	Yes	Yes	---	No	Most of time	Sometimes	Most of time	Most of time	Always	Always
Evans County	---	---	Yes	---	---	---	Yes	Most of time	Sometimes	Sometimes	Sometimes	Never	Never
Jasper County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Lanier County	Yes	---	Yes	---	---	---	No	Never	Sometimes	Always	Always	Never	Sometimes
Macon County	---	---	Yes	---	---	---	Yes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Never
McIntosh County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never
Pulaski County	Yes	---	---	Yes	---	---	No	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never
Population Group F													
Atkinson County	---	---	---	---	Yes	---	No	Never	Sometimes	Always	Most of time	Never	Never
Baker County	---	---	Yes	---	Yes	---	No	Most of time	Never	Sometimes	Sometimes	Never	Never
Calhoun County	---	---	---	---	Yes	---	No	Never	Never	Never	Never	Never	Never
Clay County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Sometimes	Most of time	Most of time	Sometimes	Never
Clinch County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Most of time	Most of time	Always	Sometimes
Echols County CG	---	---	---	---	---	Yes	---	---	---	---	---	---	---
Glascok County	---	---	Yes	---	Yes	---	No	Most of time	Sometimes	Sometimes	Sometimes	Always	Sometimes
Hancock County	---	---	Yes	---	Yes	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Irwin County	Yes	---	Yes	Yes	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes
Jenkins County	Yes	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Johnson County	Yes	---	Yes	---	Yes	---	No	Most of time	Never	Most of time	Sometimes	Always	Never

Department of Community Affairs

Section 6.a: Economic Development Activities

County	Which of the following entities takes the initiative for economic development activities in the jurisdiction?						Does the government employ a full-time economic developer?	How often does the government use the following incentives in attracting new industry to your community?					
	local chamber	multi-jurisdictional chamber	development authority	joint development authority	local government	no economic development activities undertaken		land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program	subsidies
Population Group F													
Lincoln County	---	---	Yes	---	---	---	Yes	Always	Always	Always	Sometimes	Sometimes	Never
Miller County	Yes	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Never
Montgomery County	---	---	Yes	---	---	---	Yes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Randolph County	Yes	---	Yes	---	---	---	No	Sometimes	Most of time	Sometimes	Sometimes	Never	Never
Schley County	---	---	Yes	Yes	---	---	No	Sometimes	Sometimes	Never	Never	Never	Sometimes
Seminole County	Yes	---	Yes	Yes	Yes	---	No	Sometimes	Most of time	Sometimes	Never	Never	Sometimes
Talbot County	Yes	---	Yes	Yes	---	---	No	Never	Never	Most of time	Most of time	Never	Never
Taliaferro County	---	---	Yes	---	---	---	No	Never	Never	Never	Never	Never	Never
Taylor County	---	---	Yes	Yes	---	---	No	Sometimes	Never	Most of time	Most of time	Most of time	Sometimes
Terrell County	Yes	---	Yes	---	Yes	---	No	Always	Never	Never	Never	Never	Never
Treutlen County	Yes	---	Yes	Yes	---	---	No	Sometimes	Never	Never	Never	Never	Never
Turner County	Yes	---	Yes	---	Yes	---	No	Never	Never	Never	Never	Never	Never
Twiggs County	Yes	---	Yes	---	Yes	---	No	Sometimes	Never	Always	Sometimes	Most of time	Sometimes
Warren County	---	---	Yes	---	---	---	No	Most of time	Most of time	Most of time	Most of time	Always	Sometimes
Webster County Unified	---	---	Yes	Yes	Yes	---	No	Never	Sometimes	Sometimes	Sometimes	Never	Never
Wheeler County	Yes	---	Yes	---	Yes	---	No	Sometimes	Never	Sometimes	Sometimes	Never	Never
Wilcox County	---	---	Yes	---	---	---	No	Sometimes	Never	Never	Sometimes	Never	Never
Wilkes County	---	---	Yes	---	---	---	No	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Wilkinson County	---	---	Yes	Yes	---	---	No	Sometimes	Sometimes	Most of time	Sometimes	Most of time	Never

Department of Community Affairs

Section 6.b: Economic Development Activities - Summary of Data

Number of governments using the following incentives to attract new industry all of the time: (Cont.)

Group	Number reporting	tax incentives		utilities at little or no cost		commitment of additional local government services		industrial development bonds		expedited permitting		waiver of regulations		waiver or reduction of required fees or assessments		other	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	0	0.0%	0	0.0%	0	0.0%	3	13.6%	5	22.7%	0	0.0%	1	4.5%	0	0.0%
B	15	0	0.0%	1	6.7%	0	0.0%	2	13.3%	2	13.3%	0	0.0%	0	0.0%	0	0.0%
C	31	0	0.0%	0	0.0%	1	3.2%	2	6.5%	5	16.1%	0	0.0%	0	0.0%	1	3.2%
D	34	0	0.0%	1	2.9%	1	2.9%	3	8.8%	9	26.5%	0	0.0%	1	2.9%	0	0.0%
E	14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	21.4%	0	0.0%	0	0.0%	0	0.0%
F	30	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.3%	0	0.0%	0	0.0%	0	0.0%
Total	146	0	0.0%	2	1.4%	2	1.4%	10	6.8%	25	17.1%	0	0.0%	2	1.4%	1	0.7%

Number of governments using the following incentives to encourage the retention and expansion of existing industry all of the time:

Group	Number reporting	land (at little or no cost)		local or regional low-interest or deferred		state grants and loans		federal grants and loans		QuickStart	
		#	%	#	%	#	%	#	%	#	%
A	22	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	9.1%
B	15	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	13.3%
C	31	0	0.0%	0	0.0%	2	6.5%	2	6.5%	6	19.4%
D	34	1	2.9%	3	8.8%	6	17.6%	5	14.7%	9	26.5%
E	14	0	0.0%	0	0.0%	1	7.1%	1	7.1%	1	7.1%
F	30	1	3.3%	0	0.0%	1	3.3%	1	3.3%	3	10.0%
Total	146	2	1.4%	3	2.1%	10	6.8%	9	6.2%	23	15.8%

Section 6.b: Economic Development Activities

How often does the government use the following incentives in attracting new industry to the community? (Cont.)

How often does the government use the following incentives in encouraging the retention and expansion of existing industry?

County	How often does the government use the following incentives in attracting new industry to the community? (Cont.)							How often does the government use the following incentives in encouraging the retention and expansion of existing industry?				
	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program
Population Group A												
Athens-Clarke CG	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes
Augusta/Richmond CG	Most of tim	Never	Sometimes	Most of time	Most of time	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes
Bartow County	Most of tim	Never	Sometimes	Most of time	Most of time	Never	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes
Carroll County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Never
Chatham County	Sometimes	Never	Never	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Never	Never
Cherokee County	Most of tim	Sometimes	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Clayton County	Always	Never	Sometimes	Always	Always	Never	Never	Sometimes	Sometimes	Most of time	Most of time	Most of time
Cobb County	Sometimes	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	Never	Never	Never	Sometimes	Never
Columbia County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	Never	Sometimes	Sometimes	Sometimes	Most of time
Columbus/Muscogee CG	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Coweta County	Sometimes	Never	Never	Sometimes	Most of time	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes
Douglas County	Most of tim	Never	Sometimes	Most of time	Always	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes
Fayette County	Sometimes	Never	Sometimes	Never	Sometimes	Never	Sometimes	Never	Never	Never	Never	Never
Forsyth County	Sometimes	Never	Most of time	Never	Most of time	Most of time	Always	Never	Never	Sometimes	Never	Sometimes
Gwinnett County	Sometimes	Sometimes	Sometimes	Most of time	Most of time	Never	Sometimes	Never	Never	Most of time	Never	Most of time
Hall County	Most of tim	Never	Sometimes	Most of time	Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes
Henry County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	Never	Never	Sometimes	Sometimes	Most of time
Houston County	Sometimes	Never	Sometimes	Always	Most of time	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Always
Lowndes County	Most of tim	Sometimes	Sometimes	Always	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always
Newton County	Most of tim	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Paulding County	Most of tim	Sometimes	Most of time	Sometimes	Always	Sometimes	Sometimes	Sometimes	Never	Never	Never	Never
Whitfield County	Sometimes	Sometimes	Sometimes	Never	Never	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never
Population Group B												
Barrow County	Most of tim	Never	Sometimes	Most of time	Most of time	Never	Never	Never	Never	Never	Never	Sometimes
Bulloch County	Most of tim	Never	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time
Camden County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Catoosa County	Most of tim	Never	Never	Always	Sometimes	Never	Never	Sometimes	Never	Sometimes	Never	Never
Dougherty County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes
Effingham County	Sometimes	Always	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Always
Floyd County	Most of tim	Sometimes	Sometimes	Most of time	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Gordon County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	Never	Sometimes	Never	Sometimes	Sometimes	Most of time
Jackson County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time
Liberty County	Sometimes	Never	Sometimes	Sometimes	Always	Never	Sometimes	Sometimes	Sometimes	Sometimes	Never	Always

Section 6.b: Economic Development Activities

How often does the government use the following incentives in attracting new industry to the community? (Cont.)

How often does the government use the following incentives in encouraging the retention and expansion of existing industry?

County	How often does the government use the following incentives in attracting new industry to the community? (Cont.)							How often does the government use the following incentives in encouraging the retention and expansion of existing industry?				
	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program
Population Group B												
Rockdale County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Never	Never	Never	Never	Sometimes
Spalding County	Most of tim	Most of time	Most of time	Most of time	Most of time	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time
Troup County	Sometimes	Sometimes	Sometimes	Always	Sometimes	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes
Walker County	Sometimes	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time
Walton County	Sometimes	Never	Sometimes	Most of time	Most of time	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes
Population Group C												
Baldwin County	Sometimes	Sometimes	Sometimes	Most of time	Always	Never	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Never
Bryan County	Most of tim	Sometimes	Sometimes	Most of time	Most of time	Never	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes
Coffee County	Sometimes	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always
Colquitt County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Dawson County	Never	Never	Never	Always	Sometimes	Never	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes
Decatur County	Most of tim	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Never	Sometimes	Sometimes	Never
Fannin County	Sometimes	Never	Always	Sometimes	Always	Most of time	Sometimes	Never	Most of time	Most of time	Most of time	Most of time
Gilmer County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Habersham County	Most of tim	Sometimes	Sometimes	Most of time	Most of time	Never	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes
Haralson County	Most of tim	Sometimes	Most of time	Always	Sometimes	Sometimes	Sometimes	Never	Sometimes	Always	Always	Always
Harris County	Most of tim	Never	Never	Sometimes	Most of time	Never	Sometimes	Most of time	Never	Sometimes	Sometimes	Sometimes
Hart County	Most of tim	Never	Sometimes	Most of time	Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Laurens County	Sometimes	Never	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes	Always	Always	Always
Lee County	Sometimes	Never	Never	Sometimes	Sometimes	Never	Never	Never	Never	Sometimes	Sometimes	Never
Lumpkin County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Madison County	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never
Monroe County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Murray County	Most of tim	Never	Sometimes	Most of time	Sometimes	Never	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes
Oconee County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time
Peach County	Sometimes	Sometimes	Sometimes	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always
Pickens County	Never	Never	Never	Never	Sometimes	Never	Sometimes	Never	Never	Never	Never	Never
Polk County	Most of tim	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never
Stephens County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	---	Never	Never	Sometimes	Sometimes	Never
Sumter County	Always	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Tattnall County	Sometimes	Never	Never	Sometimes	Sometimes	Never	Sometimes	Never	Never	Never	Never	Never
Thomas County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Tift County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes

Section 6.b: Economic Development Activities

How often does the government use the following incentives in attracting new industry to the community? (Cont.)

How often does the government use the following incentives in encouraging the retention and expansion of existing industry?

County	How often does the government use the following incentives in attracting new industry to the community? (Cont.)							How often does the government use the following incentives in encouraging the retention and expansion of existing industry?				
	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program
Population Group C												
Upson County	Most of tim	Sometimes	Most of time	Most of time	Never	Sometimes	Sometimes	Sometimes	Never	Most of time	Never	Always
Ware County	Most of tim	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time	Most of time	Most of time	Sometimes
Wayne County	Sometimes	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always
White County	Sometimes	Never	Sometimes	Never	Most of time	Never	Never	Never	Never	Sometimes	Sometimes	Most of time
Population Group D												
Appling County	Never	Never	Never	Never	Never	Never	Never	Most of time	Never	Never	Never	Always
Banks County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Ben Hill County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes
Berrien County	Most of tim	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Most of time	Sometimes	Always	Always	Sometimes
Brantley County	Sometimes	Never	Sometimes	Sometimes	Always	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Brooks County	Always	Never	Sometimes	Always	Sometimes	Sometimes	Sometimes	Sometimes	Always	Always	Always	Always
Burke County	Most of tim	Sometimes	Sometimes	Most of time	Sometimes	Never	Never	Most of time	Most of time	Always	Never	Sometimes
Butts County	Sometimes	Never	Sometimes	Sometimes	Always	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Most of time
Chattooga County	Sometimes	Never	Most of time	Sometimes	Most of time	Never	Never	Never	Never	Sometimes	Sometimes	Sometimes
Cook County	Most of tim	---	Sometimes	Most of time	Most of time	Never	Never	Never	Sometimes	Sometimes	---	Sometimes
Crisp County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never
Dade County	Always	Sometimes	Most of time	Sometimes	Always	Most of time	Always	Sometimes	Sometimes	Most of time	Most of time	Always
Dodge County	Most of tim	Never	Sometimes	Never	Sometimes	Never	Never	Sometimes	Most of time	Most of time	Sometimes	Sometimes
Elbert County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Emanuel County	Always	Never	Sometimes	Sometimes	Always	Never	Sometimes	Always	Always	Always	Always	Always
Franklin County	Sometimes	Sometimes	Always	Sometimes	Always	Never	Sometimes	Sometimes	Never	Always	Always	Sometimes
Grady County	Never	Never	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Greene County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Never
Jeff Davis County	Sometimes	Always	Most of time	Sometimes	Sometimes	Never	Sometimes	Most of time	Most of time	Sometimes	Sometimes	Always
Jefferson County	Always	Sometimes	Never	Always	Always	Sometimes	Sometimes	Never	Never	Most of time	Most of time	Always
Lamar County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Long County	Never	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	Never	Never
McDuffie County	Most of tim	Never	Sometimes	Sometimes	Always	Never	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes
Meriwether County	Most of tim	Most of time	Most of time	Sometimes	Most of time	Never	Never	Most of time	Sometimes	Sometimes	Sometimes	Most of time
Mitchell County	Most of tim	Never	Sometimes	Most of time	Most of time	Never	Sometimes	Sometimes	Never	Most of time	Sometimes	Most of time
Morgan County	Sometimes	Sometimes	Sometimes	Most of time	Most of time	Never	Sometimes	Sometimes	Never	Most of time	Sometimes	Always
Oglethorpe County	Sometimes	Never	Never	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes	Never	Never
Pierce County	Most of tim	Never	Never	Sometimes	Most of time	Never	Never	Sometimes	Never	Sometimes	Sometimes	Most of time

Section 6.b: Economic Development Activities

How often does the government use the following incentives in attracting new industry to the community? (Cont.)

How often does the government use the following incentives in encouraging the retention and expansion of existing industry?

County	How often does the government use the following incentives in attracting new industry to the community? (Cont.)							How often does the government use the following incentives in encouraging the retention and expansion of existing industry?				
	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program
Population Group D												
Pike County	Always	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Always	Always	Always
Putnam County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	Never	Never	Sometimes	Sometimes	Never	Never
Telfair County	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Union County	Sometimes	Never	Never	Always	Always	Never	Never	Sometimes	Always	Most of time	Most of time	Always
Washington County	Most of tim	Sometimes	Sometimes	Most of time	Always	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Most of time
Worth County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Most of time
Population Group E												
Bacon County	Most of tim	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	Most of time	Sometimes	Sometimes	Sometimes	Sometimes
Bleckley County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Candler County	Sometimes	Never	Sometimes	Sometimes	Most of time	Never	Never	Never	Most of time	Sometimes	Never	Most of time
Charlton County	Never	Never	Never	Sometimes	Most of time	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Crawford County	Most of tim	Never	Sometimes	Sometimes	Always	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Cusseta-Chattahoochee CG	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Dooly County	Never	Never	Sometimes	Most of time	Sometimes	Never	Never	Never	Never	Most of time	Most of time	Most of time
Early County	Always	Never	Most of time	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Most of time	Most of time	Always
Evans County	Sometimes	Never	Never	Never	Always	Never	Never	Never	Never	Never	Never	Never
Jasper County	Sometimes	Never	Never	Sometimes	Never	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Lanier County	Never	Never	Sometimes	Never	Most of time	Never	Never	Never	Most of time	Always	Always	Never
Macon County	Sometimes	Never	Never	Sometimes	Always	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
McIntosh County	Sometimes	Sometimes	Sometimes	Never	Sometimes	Never	Never	Never	Sometimes	Sometimes	Sometimes	Never
Pulaski County	Never	Never	Sometimes	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Population Group F												
Atkinson County	Sometimes	Never	Sometimes	Never	Never	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Always
Baker County	Sometimes	Never	Sometimes	Never	Never	Never	Never	Sometimes	Never	Sometimes	Sometimes	Never
Calhoun County	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Clay County	Most of tim	Never	Never	Sometimes	Sometimes	Never	Never	Never	Sometimes	Most of time	Most of time	Never
Clinch County	Never	Never	Never	Never	Never	Never	Never	Sometimes	Sometimes	Most of time	Most of time	Always
Echols County CG	---	---	---	---	---	---	---	---	---	---	---	---
Glascocock County	Most of tim	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never	Sometimes	Never	Sometimes
Hancock County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Irwin County	Sometimes	Never	Never	Never	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Never
Jenkins County	Sometimes	Never	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never

Section 6.b: Economic Development Activities

County	How often does the government use the following incentives in attracting new industry to the community? (Cont.)							How often does the government use the following incentives in encouraging the retention and expansion of existing industry?				
	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	land (at little or no cost)	low-interest or deferred payment loans	state grants and loans	federal grants and loans	QuickStart Program
Population Group F												
Johnson County	Sometimes	Never	Sometimes	Sometimes	Never	Never	Never	Sometimes	Never	Most of time	Sometimes	Always
Lincoln County	Always	Never	Never	Sometimes	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Miller County	Sometimes	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Montgomery County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Randolph County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Schley County	Always	Sometimes	Most of time	Sometimes	Sometimes	Never	Sometimes	Never	Never	Never	Never	Never
Seminole County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time	Sometimes	Never	Never
Talbot County	Never	Never	Never	Never	Never	Sometimes	Never	Always	Never	Always	Always	Never
Taliaferro County	Never	Never	Never	Never	Never	Never	Never	Never	Never	Sometimes	Never	Never
Taylor County	Most of tim	Most of time	Most of time	Most of time	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Terrell County	Sometimes	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Treutlen County	Sometimes	Never	Sometimes	Never	Never	Never	Never	Never	Never	Never	Never	Never
Turner County	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Twiggs County	Always	Never	Most of time	Sometimes	Always	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes
Warren County	Most of tim	Most of time	Sometimes	Most of time	Most of time	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time
Webster County Unified	Never	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never
Wheeler County	Sometimes	Never	Sometimes	Never	Never	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never
Wilcox County	Sometimes	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never	Never
Wilkes County	Most of tim	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes
Wilkinson County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes

Department of Community Affairs

Section 6.c: Economic Development Activities - Summary of Data

Number of governments using the following incentives to encourage the retention and expansion of existing industry all of the time: (Cont.)

Group	Number reporting	subsidies		tax incentives		utilities at little or no cost		commitment of additional local government services		industrial development bonds		expedited permitting		waiver or regulations		waiver or reduction of required fees of assessments		other	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	22	0	0.0%	1	4.5%	0	0.0%	0	0.0%	3	13.6%	5	22.7%	0	0.0%	0	0.0%	0	0.0%
B	15	0	0.0%	0	0.0%	1	6.7%	0	0.0%	1	6.7%	2	13.3%	0	0.0%	0	0.0%	0	0.0%
C	31	0	0.0%	0	0.0%	0	0.0%	2	6.5%	3	9.7%	6	19.4%	1	3.2%	0	0.0%	1	3.2%
D	34	3	8.8%	3	8.8%	1	2.9%	0	0.0%	3	8.8%	10	29.4%	0	0.0%	0	0.0%	0	0.0%
E	14	1	7.1%	1	7.1%	0	0.0%	0	0.0%	0	0.0%	1	7.1%	0	0.0%	0	0.0%	0	0.0%
F	30	0	0.0%	0	0.0%	1	3.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	146	4	2.7%	5	3.4%	3	2.1%	2	1.4%	10	6.8%	24	16.4%	1	0.7%	0	0.0%	1	0.7%

Group	Number reporting	Number of counties collecting the additional mill of ad valorem tax for economic development		Number collecting the additional mill for the following purpose:					
		#	%	county development authority		Multi-jurisdictional development authority		Other	
		#	%	#	%	#	%	#	%
A	22	3	13.6%	2	66.7%	1	33.3%	0	0.0%
B	15	2	13.3%	3	150.0%	0	0.0%	0	0.0%
C	31	2	6.5%	4	200.0%	0	0.0%	0	0.0%
D	34	7	20.6%	8	114.3%	0	0.0%	0	0.0%
E	14	1	7.1%	2	200.0%	0	0.0%	0	0.0%
F	30	6	20.0%	7	116.7%	1	16.7%	0	0.0%
Total	146	21	14.4%	26	123.8%	2	9.5%	0	0.0%

Department of Community Affairs

Section 6.c: Economic Development Activities

County	How often does the government use the following incentives in encouraging the retention and expansion of existing industry?										Reported Millage Rate	Does the county collect the one mill for economic development?	For what purpose is the mill of ad valorem taxes used?
	subsidies	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	other				
Population Group A													
Athens-Clarke CG	Never	Sometimes	Never	Sometimes	Sometimes	Never	Never	Sometimes	---	0.000	No	---	
Augusta/Richmond CG	Never	Most of time	Never	Sometimes	Most of time	Most of time	Never	Sometimes	---	0.000	No	---	
Bartow County	Never	Most of time	Never	Sometimes	Most of time	Most of time	Never	Sometimes	Sometimes	0.000	No	---	
Carroll County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	No	---	
Chatham County	Sometimes	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Cherokee County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always	Sometimes	Most of time	---	0.000	No	---	
Clayton County	Never	Always	Never	Most of time	Always	Always	Never	Sometimes	Sometimes	0.000	No	---	
Cobb County	Never	Most of time	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	---	0.000	No	---	
Columbia County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	No	---	
Columbus/Muscogee CG	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	Yes	County DA	
Coweta County	Never	Sometimes	Never	Never	Sometimes	Most of time	Never	Sometimes	---	0.000	No	---	
Douglas County	Sometimes	Sometimes	Never	Never	Sometimes	Always	Sometimes	Sometimes	---	0.000	No	---	
Fayette County	Never	Sometimes	Never	Never	Never	Sometimes	Never	Sometimes	---	0.000	No	---	
Forsyth County	Never	Sometimes	Never	Never	Sometimes	Most of time	Never	Never	Never	0.000	No	---	
Gwinnett County	Never	Sometimes	Sometimes	Sometimes	Most of time	Most of time	Never	Sometimes	---	0.000	Yes	County DA	
Hall County	Never	Sometimes	Never	Sometimes	Most of time	Always	Sometimes	Sometimes	---	0.000	No	---	
Henry County	Never	Sometimes	Never	Sometimes	Sometimes	Always	Sometimes	Sometimes	Never	0.000	No	---	
Houston County	Sometimes	Sometimes	Never	Sometimes	Always	Most of time	Never	Sometimes	---	0.000	No	---	
Lowndes County	Sometimes	Sometimes	Sometimes	Most of time	Always	Most of time	Sometimes	Sometimes	---	0.000	Yes	Multi-juris DA	
Newton County	Never	Sometimes	Never	Never	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Paulding County	Never	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Whitfield County	Sometimes	Sometimes	Sometimes	Sometimes	Never	Never	Never	Sometimes	---	0.000	No	---	
Population Group B													
Barrow County	Never	Sometimes	Never	Sometimes	Sometimes	Most of time	Never	Never	---	0.000	No	County DA	
Bulloch County	Never	Most of time	Never	Sometimes	Sometimes	Always	Sometimes	Sometimes	Never	0.000	No	---	
Camden County	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	Yes	County DA	
Catoosa County	Never	Most of time	Never	Never	Most of time	Sometimes	Never	Never	---	0.000	No	---	
Dougherty County	Never	Most of time	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	---	0.000	No	---	
Effingham County	Never	Sometimes	Always	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	No	---	
Floyd County	Never	Most of time	Sometimes	Sometimes	Most of time	Most of time	Sometimes	Sometimes	---	0.000	No	---	
Gordon County	Never	Most of time	Never	Sometimes	Sometimes	Most of time	Never	Never	---	0.000	No	---	
Jackson County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Liberty County	Sometimes	Sometimes	Never	Sometimes	Sometimes	Always	Never	Sometimes	---	0.000	No	---	

Department of Community Affairs

Section 6.c: Economic Development Activities

County	How often does the government use the following incentives in encouraging the retention and expansion of existing industry?										Reported Millage Rate	Does the county collect the one mill for economic development?	For what purpose is the mill of ad valorem taxes used?
	subsidies	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	other				
Population Group B													
Rockdale County	Never	Sometimes	Never	Never	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Spalding County	Never	Most of time	Most of time	Sometimes	Most of time	Most of time	Sometimes	Sometimes	Never	0.000	No	---	
Troup County	Never	Sometimes	Never	Never	Always	Never	Never	Sometimes	Never	0.000	No	---	
Walker County	Never	Most of time	Never	Sometimes	Sometimes	Most of time	Never	Sometimes	---	0.000	Yes	County DA	
Walton County	Never	Never	Never	Never	Sometimes	Most of time	Never	Never	---	0.000	No	---	
Population Group C													
Baldwin County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Always	Never	Sometimes	---	0.000	No	---	
Bryan County	Sometimes	Never	Never	Never	Sometimes	Most of time	Never	Never	---	0.000	No	---	
Coffee County	Sometimes	Sometimes	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---	
Colquitt County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Dawson County	Never	Never	Never	Never	Always	Sometimes	Never	Sometimes	---	0.000	No	---	
Decatur County	Sometimes	Sometimes	Never	Sometimes	Most of time	Sometimes	Never	Never	---	0.000	Yes	County DA	
Fannin County	Sometimes	Sometimes	Sometimes	Always	Sometimes	Always	Most of time	Sometimes	---	0.000	No	---	
Gilmer County	Sometimes	Sometimes	Never	Sometimes	Never	Sometimes	Never	Never	---	0.000	No	---	
Habersham County	Never	Most of time	Sometimes	Sometimes	Most of time	Most of time	Never	Sometimes	Never	0.000	No	---	
Haralson County	Sometimes	Most of time	Sometimes	Sometimes	Always	Sometimes	Always	Sometimes	---	0.000	No	---	
Harris County	Sometimes	Most of time	Never	Never	Sometimes	Most of time	Never	Most of time	Never	0.000	No	---	
Hart County	Most of time	Most of time	Never	Sometimes	Most of time	Always	Sometimes	Sometimes	Never	0.000	No	---	
Laurens County	Never	Sometimes	Never	Always	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Lee County	Never	Sometimes	Never	Never	Sometimes	Sometimes	Never	Never	---	0.000	No	---	
Lumpkin County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never	Never	---	0.000	No	---	
Madison County	Never	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	0.000	No	---	
Monroe County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Murray County	Never	Most of time	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Oconee County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Peach County	Sometimes	Sometimes	Sometimes	Sometimes	Always	Always	Sometimes	Sometimes	Sometimes	0.000	Yes	County DA	
Pickens County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---	
Polk County	Sometimes	Most of time	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---	
Stephens County	Never	Most of time	Never	Never	Sometimes	Always	Sometimes	Sometimes	---	0.000	No	---	
Sumter County	Most of time	Sometimes	Never	Most of time	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Tattnall County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	County DA	
Thomas County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	Always	0.000	No	---	
Tift County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	No	---	

Department of Community Affairs

Section 6.c: Economic Development Activities

County	How often does the government use the following incentives in encouraging the retention and expansion of existing industry?										Reported Millage Rate	Does the county collect the one mill for economic development?	For what purpose is the mill of ad valorem taxes used?
	subsidies	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	other				
Population Group C													
Upson County	Never	Sometimes	Never	Most of time	Most of time	Always	Sometimes	Sometimes	---	0.000	No	---	
Ware County	Never	Sometimes	Never	Most of time	Most of time	Sometimes	Never	Sometimes	Never	0.000	No	---	
Wayne County	Never	Never	Never	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---	
White County	Never	Sometimes	Never	Sometimes	Never	Most of time	Never	Never	---	0.000	No	County DA	
Population Group D													
Appling County	Always	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---	
Banks County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Ben Hill County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---	
Berrien County	Never	Always	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Brantley County	Never	Sometimes	Never	Sometimes	Sometimes	Always	Sometimes	Never	---	0.000	No	---	
Brooks County	Always	Always	Never	Sometimes	Always	Sometimes	Sometimes	Sometimes	---	0.000	Yes	County DA	
Burke County	Sometimes	Most of time	Never	Sometimes	Most of time	Sometimes	Never	Never	---	0.000	No	---	
Butts County	Never	Never	Never	Sometimes	Never	Always	Sometimes	Sometimes	---	0.000	No	---	
Chattooga County	Never	Sometimes	Never	Most of time	Never	Most of time	Never	Never	---	0.000	No	---	
Cook County	Never	Never	Never	Sometimes	Most of time	Most of time	Never	Sometimes	---	0.000	No	---	
Crisp County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	0.000	No	---	
Dade County	Most of time	Always	Sometimes	Sometimes	Sometimes	Always	Most of time	Most of time	---	0.000	No	---	
Dodge County	Never	Most of time	Never	Sometimes	Never	Sometimes	Never	Never	---	0.000	No	---	
Elbert County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Emanuel County	Sometimes	Most of time	Never	Sometimes	Sometimes	Always	Never	Sometimes	---	0.000	Yes	County DA	
Franklin County	Sometimes	Never	Sometimes	Sometimes	Sometimes	Always	Never	Sometimes	---	0.000	Yes	County DA	
Grady County	Never	Never	Never	Never	Never	Sometimes	Sometimes	Sometimes	---	0.000	No	---	
Greene County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---	
Jeff Davis County	Sometimes	Sometimes	Always	Most of time	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---	
Jefferson County	Never	Most of time	Sometimes	Never	Always	Always	Sometimes	Most of time	---	0.000	Yes	County DA	
Lamar County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	Yes	County DA	
Long County	Never	Never	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	---	0.000	No	County DA	
McDuffie County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Always	Never	Never	---	0.000	No	---	
Meriwether County	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	Most of time	Never	Never	---	0.000	No	---	
Mitchell County	Never	Sometimes	Never	Never	Sometimes	Always	Never	Never	---	0.000	No	---	
Morgan County	Never	Sometimes	Sometimes	Never	Most of time	Most of time	Never	Sometimes	---	0.000	No	---	
Oglethorpe County	Never	Never	Never	Never	Never	Sometimes	Never	Never	---	0.000	No	---	
Pierce County	Sometimes	Most of time	Never	Never	Sometimes	Most of time	Never	Never	---	0.000	No	---	

Department of Community Affairs

Section 6.c: Economic Development Activities

County	How often does the government use the following incentives in encouraging the retention and expansion of existing industry?									Reported Millage Rate	Does the county collect the one mill for economic development?	For what purpose is the mill of ad valorem taxes used?
	subsidies	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	other			
Population Group D												
Pike County	Always	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---
Putnam County	Never	Sometimes	Never	Never	Sometimes	Most of time	Never	Never	---	0.000	No	---
Telfair County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---
Union County	Never	Sometimes	Never	Never	Always	Always	Never	Never	Never	0.000	No	---
Washington County	Never	Sometimes	Sometimes	Sometimes	Sometimes	Always	Sometimes	Sometimes	---	0.000	Yes	County DA
Worth County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	Yes	County DA
Population Group E												
Bacon County	Sometimes	Sometimes	Never	Most of time	Sometimes	Always	Never	Sometimes	---	0.000	No	---
Bleckley County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	0.000	No	County DA
Candler County	Never	Never	Never	Sometimes	Sometimes	Most of time	Never	Never	---	0.000	No	---
Charlton County	Never	Never	Never	Never	Sometimes	Most of time	Never	Never	---	0.000	No	---
Crawford County	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---
Cusseta-Chattahoochee CG	Never	Sometimes	Never	Never	Sometimes	Never	Sometimes	Sometimes	Never	0.000	No	---
Dooly County	Never	Never	Never	Sometimes	Most of time	Sometimes	Never	Never	---	0.000	No	---
Early County	Always	Always	Never	Most of time	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---
Evans County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---
Jasper County	Sometimes	Sometimes	Never	Never	Sometimes	Never	Never	Never	---	0.000	No	---
Lanier County	Never	Never	Never	Sometimes	Never	Most of time	Never	Never	---	0.000	No	---
Macon County	Never	Sometimes	Never	Never	Sometimes	Sometimes	Never	Never	---	0.000	No	---
McIntosh County	Never	Never	Never	Sometimes	Never	Sometimes	Never	Sometimes	---	0.000	Yes	County DA
Pulaski County	Never	Never	Never	Sometimes	Sometimes	Sometimes	Never	Never	---	0.000	No	---
Population Group F												
Atkinson County	Never	Sometimes	Never	Sometimes	Sometimes	Never	Never	Sometimes	---	0.000	No	---
Baker County	Never	Never	Never	Sometimes	Never	Never	Never	Never	---	0.000	No	---
Calhoun County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---
Clay County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---
Clinch County	Sometimes	Never	Never	Never	Never	Never	Never	Never	---	0.000	Yes	County DA
Echols County CG	---	---	---	---	---	---	---	---	---	0.000	---	---
Glascocock County	Never	Sometimes	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	---	0.000	No	---
Hancock County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---
Irwin County	Sometimes	Never	Never	Never	Never	Never	Sometimes	Never	---	0.000	Yes	County DA
Jenkins County	Never	Never	Never	Sometimes	Never	Never	Never	Never	---	0.000	No	County DA

Department of Community Affairs

Section 6.c: Economic Development Activities

County	How often does the government use the following incentives in encouraging the retention and expansion of existing industry?									Reported Millage Rate	Does the county collect the one mill for economic development?	For what purpose is the mill of ad valorem taxes used?
	subsidies	tax incentives	utilities at little or no cost	commitment of additional local government services	industrial development bonds	expedited permitting	waiver of regulations	waiver or reduction of required fees or assessments	other			
Population Group F												
Johnson County	Never	Never	Never	Most of time	Never	Never	Never	Never	Never	0.000	No	---
Lincoln County	Never	Sometimes	Never	Never	Sometimes	Sometimes	Never	Never	---	0.000	Yes	County DA
Miller County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---
Montgomery County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	Yes	County DA
Randolph County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Never	0.000	No	County DA
Schley County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---
Seminole County	Sometimes	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	Yes	Multi-juris DA
Talbot County	Never	Never	Never	Never	Never	Never	Sometimes	Never	---	0.000	No	---
Taliaferro County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---
Taylor County	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Never	Sometimes	Sometimes	---	0.000	No	---
Terrell County	Never	Never	Never	Never	Never	Never	Never	Never	Never	0.000	No	---
Treutlen County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---
Turner County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	Yes	County DA
Twiggs County	Sometimes	Most of time	Always	Sometimes	Never	Sometimes	Sometimes	Never	---	0.000	No	---
Warren County	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	Most of time	Sometimes	Sometimes	---	0.000	No	---
Webster County Unified	Never	Never	Never	Sometimes	Never	Sometimes	Never	Sometimes	---	0.000	No	---
Wheeler County	Never	Sometimes	Never	Sometimes	Never	Never	Never	Sometimes	---	0.000	No	---
Wilcox County	Never	Never	Never	Never	Never	Never	Never	Never	---	0.000	No	---
Wilkes County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Sometimes	Sometimes	---	0.000	No	---
Wilkinson County	Never	Sometimes	Never	Sometimes	Sometimes	Sometimes	Never	Sometimes	---	0.000	No	---

Section 6.d: Economic Development Activities - Summary of Data

Group	Number reporting	Number with constitutional development authority		Number and percentage dedicating by amount										Of those governments not dedicating additional mill of ad valorem tax, number supporting economic development through the normal budgeting process		Number providing more than \$50,000 support to economic development	
				three mills		two mills		one mill		other amount		none					
				#	%	#	%	#	%	#	%	#	%				
A	22	13	59.1%	0	0.0%	0	0.0%	1	7.7%	1	7.7%	14	107.7%	21	95.5%	21	100.0%
B	15	10	66.7%	0	0.0%	2	20.0%	1	10.0%	0	0.0%	8	80.0%	13	86.7%	11	84.6%
C	31	22	71.0%	0	0.0%	0	0.0%	1	4.5%	5	22.7%	20	90.9%	29	93.5%	22	75.9%
D	34	21	61.8%	0	0.0%	0	0.0%	1	4.8%	6	28.6%	18	85.7%	30	88.2%	26	86.7%
E	14	12	85.7%	0	0.0%	0	0.0%	1	8.3%	2	16.7%	9	75.0%	13	92.9%	10	76.9%
F	30	14	46.7%	0	0.0%	0	0.0%	2	14.3%	4	28.6%	11	78.6%	23	76.7%	6	26.1%
Total	146	92	63.0%	0	0.0%	2	2.2%	7	7.6%	18	19.6%	80	87.0%	129	65.8%	96	74.4%

Section 6.d: Economic Development Activities

County	Does government have a constitutional development authority?	If government has a constitutional development authority, what amount of ad valorem tax is dedicated to the authority?	If additional mills are not dedicated, does government support economic development through the budget process?	What is the range of the government's level of financial support?
Population Group A				
Augusta/Richmond CG	No	None	Yes	Greater than \$100,000
Athens-Clarke CG	Yes	None	Yes	Greater than \$100,000
Bartow County	Yes	None	Yes	Greater than \$100,000
Carroll County	No	---	Yes	Greater than \$100,000
Columbia County	No	---	Yes	Greater than \$100,000
Cobb County	Yes	None	Yes	Greater than \$100,000
Clayton County	Yes	None	Yes	Greater than \$100,000
Cherokee County	Yes	None	Yes	Greater than \$100,000
Chatham County	No	---	Yes	Greater than \$100,000
Coweta County	Yes	None	Yes	Greater than \$100,000
Columbus/Muscogee CG	Yes	Other	Yes	Greater than \$100,000
Douglas County	Yes	None	Yes	Greater than \$100,000
Forsyth County	No	None	Yes	Greater than \$100,000
Fayette County	No	---	Yes	Greater than \$100,000
Gwinnett County	No	---	Yes	Greater than \$100,000
Hall County	No	---	Yes	Greater than \$100,000
Houston County	Yes	None	Yes	Greater than \$100,000
Henry County	Yes	None	Yes	Greater than \$100,000
Lowndes County	Yes	One mill	No	---
Newton County	Yes	None	Yes	Greater than \$100,000
Paulding County	Yes	None	Yes	Greater than \$100,000
Whitfield County	No	None	Yes	Greater than \$100,000
Population Group B				
Barrow County	Yes	None	Yes	Greater than \$100,000
Bulloch County	No	---	Yes	Greater than \$100,000
Catoosa County	Yes	None	Yes	Greater than \$100,000
Camden County	No	None	Yes	Greater than \$100,000
Dougherty County	Yes	None	Yes	Greater than \$100,000
Effingham County	Yes	Two mills	No	---
Floyd County	Yes	None	Yes	Greater than \$100,000
Gordon County	No	---	Yes	Greater than \$100,000
Jackson County	Yes	None	Yes	Greater than \$100,000
Liberty County	Yes	Two mills	Yes	\$11,000 - \$25,000
Rockdale County	No	---	Yes	Greater than \$100,000
Spalding County	Yes	None	Yes	Greater than \$100,000
Troup County	Yes	None	No	---
Walker County	Yes	One mill	Yes	\$26,000 - \$50,000
Walton County	No	---	Yes	Greater than \$100,000

Section 6.d: Economic Development Activities

County	Does government have a constitutional development authority?	If government has a constitutional development authority, what amount of ad valorem tax is dedicated to the authority?	If additional mills are not dedicated, does government support economic development through the budget process?	What is the range of the government's level of financial support?
Population Group B				
Population Group C				
Bryan County	No	Other	Yes	Greater than \$100,000
Baldwin County	Yes	None	Yes	Greater than \$100,000
Coffee County	Yes	Other	Yes	Greater than \$100,000
Colquitt County	Yes	Other	No	---
Dawson County	Yes	Other	Yes	Greater than \$100,000
Decatur County	No	None	No	---
Fannin County	Yes	None	Yes	Greater than \$100,000
Gilmer County	Yes	None	Yes	Greater than \$100,000
Haralson County	Yes	None	Yes	\$11,000 - \$25,000
Habersham County	No	None	Yes	\$26,000 - \$50,000
Hart County	Yes	None	Yes	Greater than \$100,000
Harris County	No	---	Yes	Less than \$10,000
Lee County	No	None	Yes	Greater than \$100,000
Laurens County	Yes	None	Yes	Greater than \$100,000
Lumpkin County	No	---	Yes	\$11,000 - \$25,000
Madison County	Yes	One mill	Yes	Less than \$10,000
Murray County	Yes	None	Yes	Greater than \$100,000
Monroe County	Yes	None	Yes	Greater than \$100,000
Oconee County	Yes	None	Yes	Greater than \$100,000
Polk County	Yes	None	Yes	Greater than \$100,000
Peach County	No	---	Yes	Greater than \$100,000
Pickens County	No	---	Yes	\$51,000 - \$100,000
Stephens County	Yes	None	Yes	Greater than \$100,000
Sumter County	Yes	None	Yes	Greater than \$100,000
Tift County	Yes	None	Yes	Greater than \$100,000
Tattnall County	Yes	Other	Yes	Greater than \$100,000
Thomas County	No	---	Yes	Less than \$10,000
Upton County	Yes	None	Yes	Greater than \$100,000
White County	Yes	None	Yes	\$26,000 - \$50,000
Wayne County	Yes	None	Yes	Greater than \$100,000
Ware County	Yes	None	Yes	\$51,000 - \$100,000
Population Group D				
Appling County	No	None	Yes	\$51,000 - \$100,000
Berrien County	No	---	Yes	Greater than \$100,000
Ben Hill County	Yes	None	Yes	Greater than \$100,000
Banks County	Yes	None	Yes	Greater than \$100,000

Section 6.d: Economic Development Activities

County	Does government have a constitutional development authority?	If government has a constitutional development authority, what amount of ad valorem tax is dedicated to the authority?	If additional mills are not dedicated, does government support economic development through the budget process?	What is the range of the government's level of financial support?
Population Group D				
Brooks County	Yes	Other	No	---
Brantley County	Yes	None	Yes	\$51,000 - \$100,000
Burke County	No	---	Yes	Greater than \$100,000
Butts County	Yes	None	Yes	Greater than \$100,000
Cook County	No	---	Yes	\$51,000 - \$100,000
Chattooga County	No	---	Yes	\$51,000 - \$100,000
Crisp County	Yes	Other	Yes	Greater than \$100,000
Dodge County	Yes	None	Yes	\$26,000 - \$50,000
Dade County	Yes	None	Yes	Greater than \$100,000
Emanuel County	Yes	One mill	Yes	Greater than \$100,000
Elbert County	Yes	None	Yes	Greater than \$100,000
Franklin County	Yes	None	No	---
Grady County	No	---	Yes	\$26,000 - \$50,000
Greene County	Yes	None	Yes	Greater than \$100,000
Jefferson County	No	Other	Yes	Greater than \$100,000
Jeff Davis County	Yes	None	Yes	\$51,000 - \$100,000
Long County	No	---	Yes	\$51,000 - \$100,000
Lamar County	No	---	Yes	\$51,000 - \$100,000
Morgan County	No	---	Yes	\$26,000 - \$50,000
Mitchell County	Yes	None	Yes	Greater than \$100,000
Meriwether County	Yes	None	Yes	Greater than \$100,000
McDuffie County	Yes	None	Yes	Greater than \$100,000
Oglethorpe County	No	None	No	---
Pierce County	Yes	None	Yes	Greater than \$100,000
Putnam County	Yes	Other	Yes	Greater than \$100,000
Pike County	No	None	Yes	\$51,000 - \$100,000
Telfair County	Yes	None	Yes	\$51,000 - \$100,000
Union County	No	---	Yes	Greater than \$100,000
Worth County	Yes	Other	No	---
Washington County	Yes	Other	Yes	\$26,000 - \$50,000
Population Group E				
Bleckley County	Yes	None	Yes	Greater than \$100,000
Bacon County	Yes	Other	Yes	Greater than \$100,000
Charlton County	Yes	None	Yes	\$11,000 - \$25,000
Cusseta-Chattahoochee CG	Yes	None	Yes	\$11,000 - \$25,000
Crawford County	Yes	None	Yes	Greater than \$100,000
Candler County	Yes	None	Yes	Greater than \$100,000
Dooly County	Yes	None	Yes	Greater than \$100,000

Section 6.d: Economic Development Activities

County	Does government have a constitutional development authority?	If government has a constitutional development authority, what amount of ad valorem tax is dedicated to the authority?	If additional mills are not dedicated, does government support economic development through the budget process?	What is the range of the government's level of financial support?
Population Group E				
Evans County	Yes	None	Yes	\$11,000 - \$25,000
Early County	Yes	None	Yes	Greater than \$100,000
Jasper County	No	---	Yes	Greater than \$100,000
Lanier County	Yes	Other	Yes	\$51,000 - \$100,000
Macon County	No	---	Yes	\$51,000 - \$100,000
McIntosh County	Yes	One mill	No	Greater than \$100,000
Pulaski County	Yes	None	Yes	\$11,000 - \$25,000
Population Group F				
Atkinson County	No	---	No	---
Baker County	No	---	Yes	Less than \$10,000
Clinch County	Yes	Other	No	---
Clay County	No	---	Yes	Less than \$10,000
Calhoun County	No	---	Yes	Less than \$10,000
Echols County CG	---	---	---	---
Glascocock County	Yes	None	Yes	Less than \$10,000
Hancock County	Yes	None	Yes	\$26,000 - \$50,000
Irwin County	Yes	One mill	No	---
Jenkins County	Yes	None	Yes	\$51,000 - \$100,000
Johnson County	Yes	None	Yes	\$26,000 - \$50,000
Lincoln County	Yes	One mill	No	---
Miller County	No	---	Yes	Less than \$10,000
Montgomery County	Yes	Other	Yes	\$51,000 - \$100,000
Randolph County	No	---	Yes	Less than \$10,000
Seminole County	Yes	Other	Yes	\$26,000 - \$50,000
Schley County	No	None	Yes	Less than \$10,000
Taylor County	Yes	None	Yes	Greater than \$100,000
Turner County	Yes	None	Yes	Greater than \$100,000
Treutlen County	No	None	Yes	\$26,000 - \$50,000
Terrell County	No	---	Yes	\$26,000 - \$50,000
Twiggs County	No	None	Yes	Greater than \$100,000
Talbot County	No	---	Yes	\$11,000 - \$25,000
Taliaferro County	No	---	No	---
Webster County Unified	Yes	None	No	---
Wilkes County	No	---	Yes	\$26,000 - \$50,000
Wilcox County	Yes	None	Yes	Greater than \$100,000
Wheeler County	Yes	Other	Yes	Less than \$10,000
Warren County	No	---	Yes	\$26,000 - \$50,000
Wilkinson County	No	---	Yes	\$26,000 - \$50,000

Section 6.d: Economic Development Activities

County	Does government have a constitutional development authority?	If government has a constitutional development authority, what amount of ad valorem tax is dedicated to the authority?	If additional mills are not dedicated, does government support economic development through the budget process?	What is the range of the government's level of financial support?
Population Group F				

CHAPTER 7 ♦ Public Safety

This chapter covers provisions of a government's public safety functions, encompassing both fire and police services.

Specific items covered in this chapter:

Law Enforcement

- Existence of police department
- Issuance of handguns
- Use of law enforcement vehicles
- Assigned patrol shift hours
- Number of police vehicles in use for specific operations
- Number of certified officers with arrest powers normally employed
- Jail operations

Fire Services

- Fire classification rating – The Insurance Services Office (ISO) issues a fire protection scale on a range of 1 to 10, with “one” being the highest response and “ten” being the lowest response.
- Number of fire stations
- Use of volunteers for firefighting – Fire departments can include volunteer fire fighters in their force, or consist of all volunteers.
- Number of fire fighters on duty per shift

Section 7.a: Public Safety - Summary of Data

Questions refer to the operation of a county police department

Group	Number reporting	Number of counties operating police department		Number with county government providing handguns to officers		Number assigning patrol shifts by number of hours										Number with "One Car, One Driver rule"		If more than one driver per car, maximum number of drivers
		#	%	#	%	8 hours		9 hours		10 hours		12 hours		other		#	%	
						#	%	#	%	#	%	#	%	#	%			
A	22	7	31.8%	7	100.0%	1	14.3%	1	14.3%	3	42.9%	2	28.6%	0	0.0%	5	71.4%	8
B	15	3	20.0%	3	100.0%	1	33.3%	0	0.0%	1	33.3%	1	33.3%	0	0.0%	2	66.7%	3
C	31	1	3.2%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1
D	34	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
E	14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
F	30	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Total	146	11	7.5%	11	100.0%	2	18.2%	1	9.1%	4	36.4%	4	36.4%	0	0.0%	8	72.7%	8

Section 7.a: Public Safety

Questions refer to the operation of a county police department ...

Jurisdiction	Does the county operate a police department?	Method of providing handguns	For the majority of the police patrol officers, for what shift hours are they primarily assigned?	Does the police department have "One Car, One Driver rule"?	If not, what is the typical number of drivers per vehicle?
Population Group A					
Augusta/Richmond CG	No	---	---	---	---
Athens-Clarke CG	Yes	Govt. provides	10 Hours	No	1
Bartow County	No	---	---	---	---
Carroll County	No	---	---	---	---
Columbia County	No	---	---	---	---
Cobb County	Yes	Govt. provides	10 Hours	Yes	1
Clayton County	Yes	Govt. provides	8 Hours	No	2
Cherokee County	No	---	---	---	---
Chatham County	Yes	Govt. provides	12 Hours	Yes	1
Coweta County	No	---	---	---	---
Columbus/Muscogee CG	Yes	Govt. provides	9 Hours	Yes	1
Douglas County	No	---	---	---	---
Forsyth County	No	---	---	---	---
Fayette County	No	---	---	---	---
Gwinnett County	Yes	Govt. provides	12 Hours	Yes	1
Hall County	No	---	---	---	---
Houston County	No	---	---	---	---
Henry County	Yes	Govt. provides	10 Hours	Yes	1
Lowndes County	No	---	---	---	---
Newton County	No	---	---	---	---
Paulding County	No	---	---	---	---
Whitfield County	No	---	---	---	---
Population Group B					
Barrow County	No	---	---	---	---
Bulloch County	No	---	---	---	---
Catoosa County	No	---	---	---	---
Camden County	No	---	---	---	---
Dougherty County	Yes	Govt. provides	12 Hours	No	1
Effingham County	No	---	---	---	---
Floyd County	Yes	Govt. provides	10 Hours	Yes	1
Gordon County	No	---	---	---	---
Jackson County	No	---	---	---	---
Liberty County	No	---	---	---	---

Section 7.a: Public Safety

Questions refer to the operation of a county police department ...

Jurisdiction	Does the county operate a police department?	Method of providing handguns	For the majority of the police patrol officers, for what shift hours are they primarily assigned?	Does the police department have "One Car, One Driver rule"?	If not, what is the typical number of drivers per vehicle?
Rockdale County	No	---	---	---	---
Spalding County	No	---	---	---	---
Troup County	No	---	---	---	---
Walker County	Yes	Govt. provides	8 Hours	Yes	1
Walton County	No	---	---	---	---
Population Group C					
Bryan County	No	---	---	---	---
Baldwin County	No	---	---	---	---
Coffee County	No	---	---	---	---
Colquitt County	No	---	---	---	---
Dawson County	No	---	---	---	---
Decatur County	No	---	---	---	---
Fannin County	No	---	---	---	---
Gilmer County	No	---	---	---	---
Haralson County	No	---	---	---	---
Habersham County	No	---	---	---	---
Hart County	No	---	---	---	---
Harris County	No	---	---	---	---
Lee County	No	---	---	---	---
Laurens County	No	---	---	---	---
Lumpkin County	No	---	---	---	---
Madison County	No	---	---	---	---
Murray County	No	---	---	---	---
Monroe County	No	---	---	---	---
Oconee County	No	---	---	---	---
Polk County	Yes	Govt. provides	12 Hours	Yes	1
Peach County	No	---	---	---	---
Pickens County	No	---	---	---	---
Stephens County	No	---	---	---	---
Sumter County	No	---	---	---	---
Tift County	No	---	---	---	---
Tattnall County	No	---	---	---	---
Thomas County	No	---	---	---	---
Upson County	No	---	---	---	---

Section 7.a: Public Safety

Questions refer to the operation of a county police department ...

Jurisdiction	Does the county operate a police department?	Method of providing handguns	For the majority of the police patrol officers, for what shift hours are they primarily assigned?	Does the police department have "One Car, One Driver rule"?	If not, what is the typical number of drivers per vehicle?
White County	No	---	---	---	---
Wayne County	No	---	---	---	---
Ware County	No	---	---	---	---
Population Group D					
Appling County	No	---	---	---	---
Berrien County	No	---	---	---	---
Ben Hill County	No	---	---	---	---
Banks County	No	---	---	---	---
Brooks County	No	---	---	---	---
Brantley County	No	---	---	---	---
Burke County	No	---	---	---	---
Butts County	No	---	---	---	---
Cook County	No	---	---	---	---
Chattooga County	No	---	---	---	---
Crisp County	No	---	---	---	---
Dodge County	No	---	---	---	---
Dade County	No	---	---	---	---
Emanuel County	No	---	---	---	---
Elbert County	No	---	---	---	---
Franklin County	No	---	---	---	---
Grady County	No	---	---	---	---
Greene County	No	---	---	---	---
Jefferson County	No	---	---	---	---
Jeff Davis County	No	---	---	---	---
Long County	No	---	---	---	---
Lamar County	No	---	---	---	---
Morgan County	No	---	---	---	---
Mitchell County	No	---	---	---	---
Meriwether County	No	---	---	---	---
McDuffie County	No	---	---	---	---
Oglethorpe County	No	---	---	---	---
Pierce County	No	---	---	---	---
Putnam County	No	---	---	---	---
Pike County	No	---	---	---	---

Section 7.a: Public Safety

Questions refer to the operation of a county police department ...

Jurisdiction	Does the county operate a police department?	Method of providing handguns	For the majority of the police patrol officers, for what shift hours are they primarily assigned?	Does the police department have "One Car, One Driver rule"?	If not, what is the typical number of drivers per vehicle?
Telfair County	No	---	---	---	---
Union County	No	---	---	---	---
Worth County	No	---	---	---	---
Washington County	No	---	---	---	---
Population Group E					
Bleckley County	No	---	---	---	---
Bacon County	No	---	---	---	---
Charlton County	No	---	---	---	---
Cusseta-Chattahoochee CG	No	---	---	---	---
Crawford County	No	---	---	---	---
Candler County	No	---	---	---	---
Dooly County	No	---	---	---	---
Evans County	No	---	---	---	---
Early County	No	---	---	---	---
Jasper County	No	---	---	---	---
Lanier County	No	---	---	---	---
Macon County	No	---	---	---	---
McIntosh County	No	---	---	---	---
Pulaski County	No	---	---	---	---
Population Group F					
Atkinson County	No	---	---	---	---
Baker County	No	---	---	---	---
Clinch County	No	---	---	---	---
Clay County	No	---	---	---	---
Calhoun County	No	---	---	---	---
Echols County CG	No	---	---	---	---
Glascock County	No	---	---	---	---
Hancock County	No	---	---	---	---
Irwin County	No	---	---	---	---
Jenkins County	No	---	---	---	---
Johnson County	No	---	---	---	---
Lincoln County	No	---	---	---	---
Miller County	No	---	---	---	---
Montgomery County	No	---	---	---	---

Section 7.a: Public Safety

Questions refer to the operation of a county police department ...

Jurisdiction	Does the county operate a police department?	Method of providing handguns	For the majority of the police patrol officers, for what shift hours are they primarily assigned?	Does the police department have "One Car, One Driver rule"?	If not, what is the typical number of drivers per vehicle?
Randolph County	No	---	---	---	---
Seminole County	No	---	---	---	---
Schley County	No	---	---	---	---
Taylor County	No	---	---	---	---
Turner County	No	---	---	---	---
Treutlen County	No	---	---	---	---
Terrell County	No	---	---	---	---
Twiggs County	No	---	---	---	---
Talbot County	No	---	---	---	---
Taliaferro County	No	---	---	---	---
Webster County Unified	No	---	---	---	---
Wilkes County	No	---	---	---	---
Wilcox County	No	---	---	---	---
Wheeler County	No	---	---	---	---
Warren County	No	---	---	---	---
Wilkinson County	No	---	---	---	---

Section 7.b: Public Safety - Summary of Data

Questions refer to the operating of a county sheriff's department

Group	Number reporting	Number of departments providing handguns to sworn law enforcement personnel		----- Number having following shifts in hours: -----										Number of governments with "One Car, One Driver Rule"		If more than one driver per car, maximum number of drivers	SEE Footnote*
		#	%	8 hours		9 hours		10 hours		12 hours		other		#	%		
A	22	21	95.5%	2	9.1%	1	4.5%	0	0.0%	19	86.4%	0	0.0%	18	81.8%	12	
B	15	14	93.3%	2	13.3%	0	0.0%	1	6.7%	12	80.0%	0	0.0%	14	93.3%	3	
C	31	29	93.5%	0	0.0%	1	3.2%	0	0.0%	30	96.8%	0	0.0%	29	93.5%	4	
D	34	32	94.1%	0	0.0%	0	0.0%	0	0.0%	34	100.0%	0	0.0%	29	85.3%	7	
E	14	13	92.9%	0	0.0%	1	7.1%	0	0.0%	13	92.9%	0	0.0%	14	100.0%	0	
F	30	23	76.7%	2	6.7%	0	0.0%	2	6.7%	26	86.7%	0	0.0%	29	96.7%	1	
Total	146	132	90.4%	6	4.1%	3	2.1%	3	2.1%	134	91.8%	0	0.0%	133	91.1%	12	

* For Reported Number of Law Enforcement Vehicles or Officers, see govmt pages 7.b-1 - 7.b-5

Section 7.b: Public Safety

Questions refer to the operation of a county sheriff's department ...

Jurisdiction	Method of providing handguns to sworn deputies to sworn personnel?	For the majority of the sheriff's deputies, for what shift hours are they primarily assigned?	Does sheriff's department have "One car, One driver rule"?	If not, what is the typical number of drivers per vehicle?	Number of Sheriff Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?	
					For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis
Population Group A								
Augusta/Richmond CG	Govt. provides	12 Hours	Yes	---	516	7	437	---
Athens-Clarke CG	Govt. provides	12 Hours	No	2	21		90	
Bartow County	Govt. provides	12 Hours	Yes	---	121	4	---	---
Carroll County	Govt. provides	12 Hours	Yes	---	130	10	120	---
Columbia County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Cobb County	Govt. provides	12 Hours	No	2	184	17	470	19
Clayton County	Govt. provides	8 Hours	Yes	1	160	5	139	7
Cherokee County	Govt. provides	12 Hours	Yes	---	50	4	353	5
Chatham County	Govt. provides	12 Hours	Yes	---	163	4	253	
Coweta County	Govt. provides	12 Hours	Yes	---	170	17	168	---
Columbus/Muscogee CG	Govt. provides	9 Hours	Yes	1	127	9	325	42
Douglas County	Govt. provides	12 Hours	No	2	146	2	229	---
Forsyth County	Govt. provides	12 Hours	Yes	---	353	7	304	---
Fayette County	Other	12 Hours	Yes	---	141	1	148	---
Gwinnett County	Govt. provides	12 Hours	Yes	1	265		643	37
Hall County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Houston County	Govt. provides	12 Hours	Yes	---	95	2	131	---
Henry County	Govt. provides	8 Hours	Yes	1	124	22	142	
Lowndes County	Govt. provides	12 Hours	Yes	---	108	16	132	11
Newton County	Govt. provides	12 Hours	Yes	---	120	19	155	5
Paulding County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Whitfield County	Govt. provides	12 Hours	No	2	152	---	127	---
Population Group B								
Barrow County	Govt. provides	12 Hours	Yes	---	117	2	116	2
Bulloch County	Officer provides	12 Hours	Yes	---	---	---	---	---
Catoosa County	Govt. provides	12 Hours	Yes	---	70	---	70	---
Camden County	Govt. provides	12 Hours	Yes	---	85	14	69	14
Dougherty County	Govt. provides	8 Hours	No	2	40	1	101	8
Effingham County	Govt. provides	12 Hours	Yes	---	130	---	163	67
Floyd County	Govt. provides	10 Hours	Yes	1	31		81	8
Gordon County	Govt. provides	12 Hours	Yes	---	60	---	43	7
Jackson County	Govt. provides	12 Hours	Yes	---	70	10	---	---
Liberty County	Govt. provides	12 Hours	Yes	---	5	---	72	---

Section 7.b: Public Safety

Questions refer to the operation of a county sheriff's department ...

Jurisdiction	Method of providing handguns to sworn deputies to sworn personnel?	For the majority of the sheriff's deputies, for what shift hours are they primarily assigned?	Does sheriff's department have "One car, One driver rule"?	If not, what is the typical number of drivers per vehicle?	Number of Sheriff Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?	
					For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis
Rockdale County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Spalding County	Govt. provides	12 Hours	Yes	---	75	3	107	---
Troup County	Govt. provides	8 Hours	Yes	---	73	3	74	---
Walker County	Govt. provides	12 Hours	Yes	---	79	4	68	5
Walton County	Govt. provides	12 Hours	Yes	---	158	6	150	---
Population Group C								
Bryan County	Govt. provides	12 Hours	Yes	---	50	---	45	---
Baldwin County	Govt. provides	12 Hours	Yes	---	56	1	47	---
Coffee County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Colquitt County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Dawson County	Govt. provides	12 Hours	No	1	48	2	72	---
Decatur County	Govt. provides	12 Hours	Yes	---	36	5	25	10
Fannin County	Govt. provides	12 Hours	Yes	---	35	1	5	1
Gilmer County	Govt. provides	12 Hours	Yes	---	67	---	60	2
Haralson County	Officer provides	12 Hours	No	2	16	6	33	---
Habersham County	Govt. provides	12 Hours	Yes	---	53	2	61	8
Hart County	Govt. provides	9 Hours	Yes	---	41	---	32	2
Harris County	Govt. provides	12 Hours	Yes	---	55	---	---	---
Lee County	Govt. provides	12 Hours	Yes	---	100	1	---	---
Laurens County	Govt. provides	12 Hours	Yes	---	82	---	70	5
Lumpkin County	Govt. provides	12 Hours	Yes	---	46	1	53	5
Madison County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Murray County	Govt. provides	12 Hours	Yes	---	56	---	---	---
Monroe County	Govt. provides	12 Hours	Yes	---	55	1	70	6
Oconee County	Govt. provides	12 Hours	Yes	---	66	1	62	---
Polk County	Govt. provides	12 Hours	Yes	1	---	---	28	---
Peach County	Other	12 Hours	Yes	---	---	---	---	---
Pickens County	Govt. provides	12 Hours	Yes	---	30	2	75	2
Stephens County	Govt. provides	12 Hours	Yes	---	40	---	35	1
Sumter County	Govt. provides	12 Hours	Yes	---	61	---	---	---
Tift County	Govt. provides	12 Hours	Yes	---	70	---	65	---
Tattnall County	Govt. provides	12 Hours	Yes	---	29	---	25	1
Thomas County	Govt. provides	12 Hours	Yes	---	50	5	---	---
Upson County	Govt. provides	12 Hours	Yes	---	35	---	33	2

Section 7.b: Public Safety

Questions refer to the operation of a county sheriff's department ...

Jurisdiction	Method of providing handguns to sworn deputies to sworn personnel?	For the majority of the sheriff's deputies, for what shift hours are they primarily assigned?	Does sheriff's department have "One car, One driver rule"?	If not, what is the typical number of drivers per vehicle?	Number of Sheriff Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?	
					For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis
White County	Govt. provides	12 Hours	Yes	---	51	1	48	---
Wayne County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Ware County	Govt. provides	12 Hours	Yes	---	30	10	---	---
Population Group D								
Appling County	Govt. provides	12 Hours	Yes	---	23	---	23	3
Berrien County	Govt. provides	12 Hours	Yes	---	23	1	23	2
Ben Hill County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Banks County	Govt. provides	12 Hours	Yes	---	60	7	48	1
Brooks County	Govt. provides	12 Hours	Yes	---	25	---	25	---
Brantley County	Govt. provides	12 Hours	Yes	---	21	---	20	---
Burke County	Govt. provides	12 Hours	Yes	---	85	1	70	---
Butts County	Govt. provides	12 Hours	Yes	---	50	2	47	4
Cook County	Govt. provides	12 Hours	Yes	---	10	---	24	---
Chattooga County	Govt. provides	12 Hours	Yes	---	38	1	28	11
Crisp County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Dodge County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Dade County	Govt. provides	12 Hours	Yes	---	28	---	28	---
Emanuel County	Govt. provides	12 Hours	No	1	---	---	---	---
Elbert County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Franklin County	Govt. provides	12 Hours	Yes	---	37	3	36	3
Grady County	Govt. provides	12 Hours	No	2	17	---	22	8
Greene County	Govt. provides	12 Hours	Yes	---	40	---	35	---
Jefferson County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Jeff Davis County	Officer provides	12 Hours	Yes	---	20	---	16	2
Long County	Govt. provides	12 Hours	No	1	31	2	28	---
Lamar County	Govt. provides	12 Hours	Yes	---	15	---	30	4
Morgan County	Govt. provides	12 Hours	Yes	---	35	4	31	8
Mitchell County	Govt. provides	12 Hours	Yes	---	38	---	25	---
Meriwether County	Govt. provides	12 Hours	Yes	---	43	---	30	1
McDuffie County	Govt. provides	12 Hours	Yes	---	26	---	21	---
Oglethorpe County	Govt. provides	12 Hours	Yes	---	26	---	19	2
Pierce County	Govt. provides	12 Hours	Yes	---	20	4	---	---
Putnam County	Govt. provides	12 Hours	No	1	40	---	38	3
Pike County	Govt. provides	12 Hours	Yes	---	---	---	---	---

Section 7.b: Public Safety

Questions refer to the operation of a county sheriff's department ...

Jurisdiction	Method of providing handguns to sworn deputies to sworn personnel?	For the majority of the sheriff's deputies, for what shift hours are they primarily assigned?	Does sheriff's department have "One car, One driver rule"?	If not, what is the typical number of drivers per vehicle?	Number of Sheriff Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?	
					For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis
Telfair County	Other	12 Hours	No	2	14	---	12	6
Union County	Govt. provides	12 Hours	Yes	---	---	---	47	8
Worth County	Govt. provides	12 Hours	Yes	---	34	3	28	---
Washington County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Population Group E								
Bleckley County	Govt. provides	12 Hours	Yes	---	13	---	---	---
Bacon County	Officer provides	12 Hours	Yes	---	---	---	---	---
Charlton County	Govt. provides	12 Hours	Yes	---	19	---	---	---
Cusseta-Chattahoochee CG	Govt. provides	12 Hours	Yes	---	7	---	7	---
Crawford County	Govt. provides	12 Hours	Yes	---	18	---	17	---
Candler County	Govt. provides	12 Hours	Yes	---	18	---	15	---
Dooly County	Govt. provides	12 Hours	Yes	---	38	3	33	2
Evans County	Govt. provides	12 Hours	Yes	---	11	---	14	2
Early County	Govt. provides	12 Hours	Yes	---	19	---	19	1
Jasper County	Govt. provides	12 Hours	Yes	---	40	2	33	8
Lanier County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Macon County	Govt. provides	9 Hours	Yes	---	8	---	9	---
McIntosh County	Govt. provides	12 Hours	Yes	---	20	5	46	2
Pulaski County	Govt. provides	12 Hours	Yes	---	28	---	23	---
Population Group F								
Atkinson County	Govt. provides	12 Hours	Yes	---	8	---	12	1
Baker County	Govt. provides	12 Hours	Yes	---	9	---	7	1
Clinch County	Officer provides	8 Hours	Yes	---	---	---	---	---
Clay County	Officer provides	10 Hours	Yes	---	6	---	4	2
Calhoun County	Other	12 Hours	Yes	---	6	---	6	---
Echols County CG	Officer provides	12 Hours	Yes	---	8	---	8	---
Glascok County	Govt. provides	10 Hours	Yes	---	5	---	---	---
Hancock County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Irwin County	Officer provides	12 Hours	Yes	---	---	---	---	---
Jenkins County	Govt. provides	12 Hours	Yes	---	15	---	11	---
Johnson County	Govt. provides	12 Hours	Yes	---	16	---	9	4
Lincoln County	Govt. provides	12 Hours	Yes	---	17	---	15	3
Miller County	Govt. provides	12 Hours	Yes	---	3	---	---	---

Section 7.b: Public Safety

Questions refer to the operation of a county sheriff's department ...

Jurisdiction	Method of providing handguns to sworn deputies to sworn personnel?	For the majority of the sheriff's deputies, for what shift hours are they primarily assigned?	Does sheriff's department have "One car, One driver rule"?	If not, what is the typical number of drivers per vehicle?	Number of Sheriff Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?	
					For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis
Montgomery County	Govt. provides	12 Hours	No	1	---	---	---	---
Randolph County	Govt. provides	12 Hours	Yes	---	16	---	15	2
Seminole County	Govt. provides	12 Hours	Yes	---	16	---	16	2
Schley County	Govt. provides	12 Hours	Yes	---	5	---	5	3
Taylor County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Turner County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Treutlen County	Govt. provides	12 Hours	Yes	---	12	---	8	5
Terrell County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Twiggs County	Govt. provides	12 Hours	Yes	---	24	---	24	---
Talbot County	Govt. provides	12 Hours	Yes	---	20	---	14	1
Taliaferro County	Govt. provides	12 Hours	Yes	---	20	---	10	---
Webster County Unified	Officer provides	8 Hours	Yes	---	1	---	4	---
Wilkes County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Wilcox County	Officer provides	12 Hours	Yes	---	---	---	---	---
Wheeler County	Govt. provides	12 Hours	Yes	---	---	---	---	---
Warren County	Govt. provides	12 Hours	Yes	---	9	---	6	2
Wilkinson County	Govt. provides	12 Hours	Yes	---	20	3	16	10

Section 7.c: Public Safety - Summary of Data

SEE Footnote*

Group	Number reporting	Number of governments operating a jail facility		Number of these governments owning the facility they operate		Number of governments adding the 10% fee to court fines (1)		Number with ISO rating of 4 or better		Number of fire stations that the government supports:		Number of governments using volunteers for fire fighting duties		Number of these departments as all-volunteers departments		Number of departments with fire fighting personnel working on scheduled shifts		Number of fire fighting personnel on duty on any shift:	
		#	%	#	%	#	%	#	%	minimum	maximum	#	%	#	%	#	%	minimum	maximum
A	22	22	100.0%	22	100.0%	22	100.0%	21	95.5%	0	30	4	18.2%	0	0.0%	21	95.5%	2	221
B	15	15	100.0%	15	100.0%	14	93.3%	14	93.3%	5	19	9	60.0%	1	11.1%	13	86.7%	3	51
C	31	31	100.0%	31	100.0%	30	96.8%	14	45.2%	0	19	30	96.8%	9	30.0%	22	71.0%	0	21
D	34	33	97.1%	33	97.1%	33	97.1%	11	32.4%	5	18	33	97.1%	13	39.4%	18	52.9%	1	30
E	14	12	85.7%	11	78.6%	11	78.6%	2	14.3%	2	12	14	100.0%	9	64.3%	5	35.7%	2	4
F	30	22	73.3%	22	73.3%	29	96.7%	4	13.3%	1	14	29	96.7%	26	89.7%	4	13.3%	1	50
Total	146	135	92.5%	134	91.8%	139	95.2%	66	45.2%	0	30	119	81.5%	58	48.7%	83	56.8%	0	221

* For Reported Number of Law Enforcement Vehicles or Officers, see govmt pages 7.b-1 - 7.b-5;

Department of Community Affairs

Section 7.c: Public Safety

Jurisdiction	See Footnote*		Normal Number of Certified Officers with arrest powers?		Does the government operate a jail?	What entity owns this jail?	Government add the 10% fee onto court fines? (1)	What is the govts. fire classification rating (ISO)?	Number of fire stations supported by the govt.?	Does fire dept. use volunteers for fire fighting duties?	Is the fire department all-volunteer?	Do fire fighting personnel work scheduled shifts?	What is the typical number of personnel on duty on any shift?
	Number of Police Vehicles normally in use?	For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis									
Population Group A													
Augusta/Richmond CG	---	---	---	---	Yes	Own govt.	Yes	1	19	No	No	Yes	78
Athens-Clarke CG	---	---	---	---	Yes	Own govt.	Yes	1	9	No	No	Yes	57
Bartow County	---	---	---	---	Yes	Own govt.	Yes	3	14	No	No	Yes	37
Carroll County	---	---	---	---	Yes	Own govt.	Yes	3	19	No	No	Yes	36
Columbia County	---	---	---	---	Yes	Own govt.	Yes	1	17	Yes	No	Yes	54
Cobb County	---	---	---	---	Yes	Own govt.	Yes	1	29	No	No	Yes	192
Clayton County	---	---	---	---	Yes	Own govt.	Yes	1	14	No	No	Yes	89
Cherokee County	---	---	---	---	Yes	Own govt.	Yes	2	27	Yes	No	Yes	105
Chatham County	---	---	---	---	Yes	Own govt.	Yes	3	0	No	---	---	---
Coweta County	---	---	---	---	Yes	Own govt.	Yes	3	15	No	No	Yes	62
Columbus/Muscogee CG	---	---	---	---	Yes	Own govt.	Yes	1	14	No	No	Yes	108
Douglas County	---	---	---	---	Yes	Own govt.	Yes	3	10	No	No	Yes	40
Forsyth County	---	---	---	---	Yes	Own govt.	Yes	3	13	No	No	Yes	60
Fayette County	---	---	---	---	Yes	Own govt.	Yes	3	9	No	No	Yes	43
Gwinnett County	---	---	---	---	Yes	Own govt.	Yes	2	30	No	---	Yes	221
Hall County	---	---	---	---	Yes	Own govt.	Yes	2	16	No	No	Yes	111
Houston County	---	---	---	---	Yes	Own govt.	Yes	6	8	Yes	No	Yes	2
Henry County	---	---	---	---	Yes	Own govt.	Yes	2	16	No	No	Yes	88
Lowndes County	---	---	---	---	Yes	Own govt.	Yes	4	18	Yes	No	Yes	14
Newton County	---	---	---	---	Yes	Own govt.	Yes	4	7	No	No	Yes	22
Paulding County	---	---	---	---	Yes	Own govt.	Yes	3	13	No	No	Yes	50
Whitfield County	---	---	---	---	Yes	Own govt.	Yes	3	12	No	No	Yes	31
Population Group B													
Barrow County	---	---	---	---	Yes	Own govt.	Yes	3	6	No	No	Yes	27
Bulloch County	---	---	---	---	Yes	Own govt.	Yes	5	14	Yes	Yes	No	---
Catoosa County	---	---	---	---	Yes	Own govt.	Yes	3	9	Yes	No	Yes	23
Camden County	---	---	---	---	Yes	Own govt.	Yes	4	7	No	No	Yes	31
Dougherty County	---	---	---	---	Yes	Own govt.	No	2	5	No	No	Yes	51
Effingham County	---	---	---	---	Yes	Own govt.	Yes	3	14	Yes	No	Yes	3
Floyd County	---	---	---	---	Yes	Own govt.	Yes	2	10	No	No	Yes	45
Gordon County	---	---	---	---	Yes	Own govt.	Yes	4	11	Yes	No	Yes	14

*Vehicle and Officer Counts shown are for City Police Departments only; not County "Police" Depts. Figures reported for County "Sheriff's" Office appear in the County Catalog.

Department of Community Affairs

Section 7.c: Public Safety

Jurisdiction	See Footnote*		Normal Number of Certified Officers with arrest powers?		Does the government operate a jail?	What entity owns this jail?	Government add the 10% fee onto court fines? (1)	What is the govts. fire classification rating (ISO)?	Number of fire stations supported by the govt.?	Does fire dept. use volunteers for fire fighting duties?	Is the fire department all-volunteer?	Do fire fighting personnel work scheduled shifts?	What is the typical number of personnel on duty on any shift?
	Number of Police Vehicles normally in use?	For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis									
Population Group B													
Jackson County	---	---	---	---	Yes	Own govt.	Yes	4	9	Yes	No	No	---
Liberty County	---	---	---	---	Yes	Own govt.	Yes	4	7	Yes	No	Yes	9
Rockdale County	---	---	---	---	Yes	Own govt.	Yes	3	9	No	No	Yes	36
Spalding County	---	---	---	---	Yes	Own govt.	Yes	3	7	No	No	Yes	25
Troup County	---	---	---	---	Yes	Own govt.	Yes	4	13	Yes	No	Yes	17
Walker County	---	---	---	---	Yes	Own govt.	Yes	3	19	Yes	No	Yes	14
Walton County	---	---	---	---	Yes	Own govt.	Yes	4	12	Yes	No	Yes	21
Population Group C													
Bryan County	---	---	---	---	Yes	Own govt.	Yes	5	10	Yes	No	Yes	6
Baldwin County	---	---	---	---	Yes	Own govt.	Yes	3	8	Yes	No	Yes	10
Coffee County	---	---	---	---	Yes	Own govt.	Yes	5	19	Yes	No	Yes	3
Colquitt County	---	---	---	---	Yes	Own govt.	Yes	5	0	Yes	Yes	No	---
Dawson County	---	---	---	---	Yes	Own govt.	Yes	3	8	Yes	No	Yes	18
Decatur County	---	---	---	---	Yes	Own govt.	Yes	5	11	Yes	No	Yes	4
Fannin County	---	---	---	---	Yes	Own govt.	Yes	5	14	Yes	No	Yes	10
Gilmer County	---	---	---	---	Yes	Own govt.	Yes	6	16	Yes	No	Yes	9
Haralson County	---	---	---	---	Yes	Own govt.	Yes	4	11	No	No	Yes	16
Habersham County	---	---	---	---	Yes	Own govt.	Yes	5	9	Yes	No	Yes	21
Hart County	---	---	---	---	Yes	Own govt.	Yes	4	10	Yes	No	Yes	3
Harris County	---	---	---	---	Yes	Own govt.	Yes	6	10	Yes	Yes	No	---
Lee County	---	---	---	---	Yes	Own govt.	Yes	2	6	Yes	No	Yes	20
Laurens County	---	---	---	---	Yes	Own govt.	Yes	5	18	Yes	No	Yes	5
Lumpkin County	---	---	---	---	Yes	Own govt.	Yes	4	9	Yes	No	Yes	14
Madison County	---	---	---	---	Yes	Own govt.	Yes	6	11	Yes	Yes	No	---
Murray County	---	---	---	---	Yes	Own govt.	Yes	4	8	Yes	No	Yes	10
Monroe County	---	---	---	---	Yes	Own govt.	Yes	5	13	Yes	No	Yes	20
Oconee County	---	---	---	---	Yes	Own govt.	Yes	4	7	Yes	Yes	No	---
Polk County	---	---	---	---	Yes	Own govt.	Yes	6	9	Yes	Yes	No	0
Peach County	---	---	---	---	Yes	Own govt.	Yes	4	6	Yes	No	Yes	6
Pickens County	---	---	---	---	Yes	Own govt.	No	4	9	Yes	No	Yes	17
Stephens County	---	---	---	---	Yes	Own govt.	Yes	4	10	Yes	Yes	No	---

*Vehicle and Officer Counts shown are for City Police Departments only; not County "Police" Depts. Figures reported for County "Sheriff's" Office appear in the County Catalog.

Department of Community Affairs

Section 7.c: Public Safety

Jurisdiction	See Footnote*		Normal Number of Certified Officers with arrest powers?		Does the government operate a jail?	What entity owns this jail?	Government add the 10% fee onto court fines? (1)	What is the govts. fire classification rating (ISO)?	Number of fire stations supported by the govt.?	Does fire dept. use volunteers for fire fighting duties?	Is the fire department all-volunteer?	Do fire fighting personnel work scheduled shifts?	What is the typical number of personnel on duty on any shift?
	Number of Police Vehicles normally in use?	For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis									
Population Group C													
Sumter County	---	---	---	---	Yes	Own govt.	Yes	4	0	Yes	No	Yes	5
Tift County	---	---	---	---	Yes	Own govt.	Yes	4	11	Yes	No	Yes	7
Tattnall County	---	---	---	---	Yes	Own govt.	Yes	5	19	Yes	Yes	No	---
Thomas County	---	---	---	---	Yes	Own govt.	Yes	6	15	Yes	No	Yes	12
Upson County	---	---	---	---	Yes	Own govt.	Yes	8	6	Yes	Yes	No	---
White County	---	---	---	---	Yes	Own govt.	Yes	4	8	Yes	No	Yes	6
Wayne County	---	---	---	---	Yes	Own govt.	Yes	5	7	Yes	Yes	No	---
Ware County	---	---	---	---	Yes	Own govt.	Yes	6	11	Yes	No	Yes	4
Population Group D													
Appling County	---	---	---	---	Yes	Own govt.	Yes	---	9	Yes	Yes	No	---
Berrien County	---	---	---	---	Yes	Own govt.	Yes	9	11	Yes	Yes	No	---
Ben Hill County	---	---	---	---	Yes	Own govt.	Yes	6	6	Yes	Yes	No	---
Banks County	---	---	---	---	Yes	Own govt.	Yes	3	12	Yes	No	Yes	14
Brooks County	---	---	---	---	Yes	Own govt.	Yes	5	10	Yes	No	Yes	3
Brantley County	---	---	---	---	Yes	Own govt.	Yes	6	13	Yes	Yes	No	---
Burke County	---	---	---	---	Yes	Own govt.	Yes	4	12	No	No	Yes	30
Butts County	---	---	---	---	Yes	Own govt.	Yes	4	6	Yes	No	Yes	16
Cook County	---	---	---	---	Yes	Own govt.	Yes	---	7	Yes	Yes	No	---
Chattooga County	---	---	---	---	Yes	Own govt.	Yes	8	10	Yes	No	No	---
Crisp County	---	---	---	---	Yes	Own govt.	Yes	5	6	Yes	No	Yes	5
Dodge County	---	---	---	---	Yes	Own govt.	Yes	9	9	Yes	Yes	No	---
Dade County	---	---	---	---	Yes	Own govt.	Yes	4	7	Yes	Yes	No	---
Emanuel County	---	---	---	---	Yes	Own govt.	Yes	9	13	Yes	No	No	2
Elbert County	---	---	---	---	Yes	Own govt.	Yes	4	12	Yes	No	Yes	2
Franklin County	---	---	---	---	Yes	Own govt.	Yes	5	12	Yes	Yes	No	---
Grady County	---	---	---	---	Yes	Own govt.	Yes	5	10	Yes	No	No	---
Greene County	---	---	---	---	Yes	Own govt.	Yes	4	13	Yes	No	Yes	10
Jefferson County	---	---	---	---	Yes	Own govt.	Yes	6	8	Yes	Yes	No	---
Jeff Davis County	---	---	---	---	Yes	Own govt.	Yes	4	5	Yes	No	Yes	2
Long County	---	---	---	---	No	---	Yes	4	6	Yes	No	Yes	2
Lamar County	---	---	---	---	Yes	Own govt.	Yes	7	7	Yes	No	Yes	2

*Vehicle and Officer Counts shown are for City Police Departments only; not County "Police" Depts. Figures reported for County "Sheriff's" Office appear in the County Catalog.

Department of Community Affairs

Section 7.c: Public Safety

Jurisdiction	See Footnote*		Normal Number of Certified Officers with arrest powers?		Does the government operate a jail?	What entity owns this jail?	Government add the 10% fee onto court fines? (1)	What is the govts. fire classification rating (ISO)?	Number of fire stations supported by the govt.?	Does fire dept. use volunteers for fire fighting duties?	Is the fire department all-volunteer?	Do fire fighting personnel work scheduled shifts?	What is the typical number of personnel on duty on any shift?
	Number of Police Vehicles normally in use?	For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis									
Population Group D													
Morgan County	---	---	---	---	Yes	Own govt.	Yes	5	16	Yes	No	Yes	4
Mitchell County	---	---	---	---	Yes	Own govt.	Yes	4	18	Yes	No	Yes	1
Meriwether County	---	---	---	---	Yes	Own govt.	Yes	6	17	Yes	No	Yes	10
McDuffie County	---	---	---	---	Yes	Own govt.	Yes	4	7	Yes	No	Yes	4
Oglethorpe County	---	---	---	---	Yes	Own govt.	Yes	6	14	Yes	Yes	No	---
Pierce County	---	---	---	---	Yes	Own govt.	Yes	5	8	Yes	Yes	No	---
Putnam County	---	---	---	---	Yes	Own govt.	Yes	5	9	Yes	No	Yes	6
Pike County	---	---	---	---	Yes	Own govt.	Yes	5	7	Yes	No	Yes	2
Telfair County	---	---	---	---	Yes	Own govt.	Yes	9	6	Yes	Yes	No	---
Union County	---	---	---	---	Yes	Own govt.	No	4	13	Yes	No	Yes	4
Worth County	---	---	---	---	Yes	Own govt.	Yes	5	14	Yes	No	Yes	9
Washington County	---	---	---	---	Yes	Own govt.	Yes	7	9	Yes	Yes	No	---
Population Group E													
Bleckley County	---	---	---	---	Yes	Own govt.	Yes	7	7	Yes	Yes	No	---
Bacon County	---	---	---	---	Yes	Own govt.	Yes	8	8	Yes	No	Yes	3
Charlton County	---	---	---	---	Yes	Own govt.	Yes	9	5	Yes	Yes	No	---
Cusseta-Chattahoochee CG	---	---	---	---	No	---	No	4	2	Yes	Yes	Yes	2
Crawford County	---	---	---	---	Yes	Own govt.	No	6	9	Yes	Yes	No	---
Candler County	---	---	---	---	Yes	Own govt.	Yes	4	2	Yes	No	Yes	2
Dooly County	---	---	---	---	Yes	Own govt.	Yes	9	7	Yes	Yes	No	---
Evans County	---	---	---	---	Yes	Other govt.	Yes	5	6	Yes	No	No	---
Early County	---	---	---	---	Yes	Own govt.	No	9	12	Yes	Yes	No	---
Jasper County	---	---	---	---	Yes	Own govt.	Yes	5	7	Yes	No	Yes	4
Lanier County	---	---	---	---	No	---	Yes	6	8	Yes	Yes	No	---
Macon County	---	---	---	---	Yes	Own govt.	Yes	5	7	Yes	Yes	No	---
McIntosh County	---	---	---	---	Yes	Own govt.	Yes	5	11	Yes	Yes	No	---
Pulaski County	---	---	---	---	Yes	Own govt.	Yes	9	7	Yes	No	Yes	2
Population Group F													
Atkinson County	---	---	---	---	Yes	Own govt.	Yes	5	8	Yes	No	Yes	1
Baker County	---	---	---	---	No	---	Yes	7	2	Yes	Yes	No	---
Clinch County	---	---	---	---	Yes	Own govt.	Yes	4	4	Yes	Yes	No	---

*Vehicle and Officer Counts shown are for City Police Departments only; not County "Police" Depts. Figures reported for County "Sheriff's" Office appear in the County Catalog.

Department of Community Affairs

Section 7.c: Public Safety

See Footnote*

Jurisdiction	Number of Police Vehicles normally in use?		Normal Number of Certified Officers with arrest powers?		Does the government operate a jail?	What entity owns this jail?	Government add the 10% fee onto court fines? (1)	What is the govts. fire classification rating (ISO)?	Number of fire stations supported by the govt.?	Does fire dept. use volunteers for fire fighting duties?	Is the fire department all-volunteer?	Do fire fighting personnel work scheduled shifts?	What is the typical number of personnel on duty on any shift?
	For Gen. Law Enforcement	For Special Tactics Only	On Full time Basis	On Part time Basis									
Population Group F													
Clay County	---	---	---	---	No	---	Yes	---	4	Yes	Yes	No	---
Calhoun County	---	---	---	---	Yes	Own govt.	Yes	5	2	Yes	Yes	No	---
Echols County CG	---	---	---	---	No	---	Yes	6	3	Yes	Yes	No	---
Glascock County	---	---	---	---	No	Other govt.	Yes	5	3	Yes	Yes	No	---
Hancock County	---	---	---	---	Yes	Own govt.	Yes	9	5	Yes	Yes	No	50
Irwin County	---	---	---	---	Yes	Own govt.	No	6	5	Yes	Yes	No	---
Jenkins County	---	---	---	---	Yes	Own govt.	Yes	5	6	Yes	Yes	No	---
Johnson County	---	---	---	---	Yes	Own govt.	Yes	9	10	Yes	Yes	No	---
Lincoln County	---	---	---	---	Yes	Own govt.	Yes	9	8	Yes	Yes	No	---
Miller County	---	---	---	---	Yes	Own govt.	Yes	4	6	Yes	Yes	No	---
Montgomery County	---	---	---	---	No	---	Yes	5	6	Yes	Yes	No	---
Randolph County	---	---	---	---	Yes	Own govt.	Yes	---	8	Yes	Yes	No	---
Seminole County	---	---	---	---	Yes	Own govt.	Yes	---	3	Yes	Yes	No	---
Schley County	---	---	---	---	Yes	Own govt.	Yes	4	1	Yes	Yes	No	---
Taylor County	---	---	---	---	Yes	Own govt.	Yes	9	6	Yes	Yes	No	---
Turner County	---	---	---	---	Yes	Own govt.	Yes	9	6	Yes	No	Yes	1
Treutlen County	---	---	---	---	Yes	Own govt.	Yes	4	6	Yes	Yes	No	---
Terrell County	---	---	---	---	Yes	Own govt.	Yes	5	1	Yes	No	Yes	1
Twiggs County	---	---	---	---	Yes	Own govt.	Yes	7	5	Yes	No	Yes	4
Talbot County	---	---	---	---	Yes	Own govt.	Yes	6	7	Yes	Yes	No	---
Taliaferro County	---	---	---	---	No	---	Yes	9	2	No	Yes	No	---
Webster County Unified	---	---	---	---	No	---	Yes	6	5	Yes	Yes	No	---
Wilkes County	---	---	---	---	Yes	Own govt.	Yes	5	14	Yes	Yes	No	---
Wilcox County	---	---	---	---	Yes	Own govt.	Yes	---	1	Yes	Yes	No	---
Wheeler County	---	---	---	---	Yes	Own govt.	Yes	9	3	Yes	Yes	No	---
Warren County	---	---	---	---	No	---	Yes	5	6	Yes	Yes	No	---
Wilkinson County	---	---	---	---	Yes	Own govt.	Yes	9	10	Yes	Yes	No	---

*Vehicle and Officer Counts shown are for City Police Departments only; not County "Police" Depts. Figures reported for County "Sheriff's" Office appear in the County Catalog.

CHAPTER 8 ♦ Form of Government

This chapter briefly summarizes how governments elect or appoint their commissioners/mayors and board/council members.

Electing/appointing the chief elected official

- Popular vote
- Vote of council (municipality)
- Vote of commission (county)

Excluding the chief elected official:

- The methods of electing members of the board/council
- The number of seats on the board/council

Department of Community Affairs

Section 8. Form of Government

Group	Number reporting	Number electing/appointing the chief executive/commission chair by the following methods:						Number electing members of the commission by the following methods:								Excluding the CEO or chair, what are the minimum and maximum number of seats on the board? (1)	
		popular vote		vote of commission		no CEO/chair		by district		at-large		some by district and some by at-large		not applicable			
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	minimum	maximum
A	22	19	86.4%	3	13.6%	0	0.0%	17	77.3%	1	4.5%	3	13.6%	1	4.5%	4	10
B	15	11	73.3%	4	26.7%	0	0.0%	12	80.0%	3	20.0%	0	0.0%	0	0.0%	2	6
C	31	16	51.6%	14	45.2%	1	3.2%	21	67.7%	8	25.8%	1	3.2%	1	3.2%	2	7
D	34	19	55.9%	14	41.2%	1	2.9%	29	85.3%	3	8.8%	0	0.0%	2	5.9%	4	5
E	14	6	42.9%	8	57.1%	0	0.0%	11	78.6%	1	7.1%	0	0.0%	2	14.3%	4	5
F	30	13	43.3%	17	56.7%	0	0.0%	26	86.7%	4	13.3%	0	0.0%	0	0.0%	2	5
Total	146	84	57.5%	60	41.1%	2	1.4%	116	79.5%	20	13.7%	4	2.7%	6	4.1%	2	10

(1) - May show a '0' for those counties having a sole commissioner.

Section 8: Form of Government

County	How is the chief executive or commission chair elected/appointed?	Excluding the chief executive or commission chair, how are members of the board elected?	Excluding the chief executive or commission chair, how many seats are there on the board of commissioners?
Population Group A			
Athens-Clarke CG	Popular vote	By district	10
Augusta/Richmond CG	Popular vote	District/at-large	10
Bartow County	Popular vote	not applicable	---
Carroll County	Popular vote	By district	6
Chatham County	Popular vote	By district	8
Cherokee County	Popular vote	By district	4
Clayton County	Popular vote	By district	4
Cobb County	Popular vote	By district	4
Columbia County	Popular vote	By district	4
Columbus/Muscogee CG	Popular vote	District/at-large	10
Coweta County	Vote of commission	By district	4
Douglas County	Popular vote	By district	4
Fayette County	Vote of commission	District/at-large	4
Forsyth County	Vote of commission	By district	5
Gwinnett County	Popular vote	By district	4
Hall County	Popular vote	By district	4
Henry County	Popular vote	By district	5
Houston County	Popular vote	At-large	4
Lowndes County	Popular vote	By district	5
Newton County	Popular vote	By district	5
Paulding County	Popular vote	By district	4
Whitfield County	Popular vote	By district	4
Population Group B			
Barrow County	Popular vote	By district	6
Bulloch County	Popular vote	By district	6
Camden County	Vote of commission	By district	4
Catoosa County	Popular vote	By district	4
Dougherty County	Popular vote	By district	6
Effingham County	Popular vote	By district	5
Floyd County	Vote of commission	At-large	4
Gordon County	Vote of commission	At-large	4
Jackson County	Popular vote	By district	4
Liberty County	Popular vote	By district	6
Rockdale County	Popular vote	At-large	2

Section 8: Form of Government

County	How is the chief executive or commission chair elected/appointed?	Excluding the chief executive or commission chair, how are members of the board elected?	Excluding the chief executive or commission chair, how many seats are there on the board of commissioners?
Population Group B			
Spalding County	Vote of commission	By district	4
Troup County	Popular vote	By district	4
Walker County	Popular vote	By district	4
Walton County	Popular vote	By district	6
Population Group C			
Baldwin County	Vote of commission	By district	4
Bryan County	Popular vote	By district	5
Coffee County	Vote of commission	By district	4
Colquitt County	Popular vote	By district	6
Dawson County	Popular vote	At-large	4
Decatur County	Vote of commission	By district	5
Fannin County	Popular vote	At-large	2
Gilmer County	Popular vote	At-large	2
Habersham County	Vote of commission	At-large	4
Haralson County	Popular vote	By district	4
Harris County	Vote of commission	By district	4
Hart County	Vote of commission	By district	4
Laurens County	Vote of commission	By district	5
Lee County	Vote of commission	By district	4
Lumpkin County	Popular vote	At-large	4
Madison County	Popular vote	By district	5
Monroe County	Popular vote	By district	4
Murray County	No CEO	not applicable	---
Oconee County	Popular vote	At-large	4
Peach County	Vote of commission	District/at-large	4
Pickens County	Popular vote	By district	2
Polk County	Vote of commission	At-large	5
Stephens County	Vote of commission	At-large	4
Sumter County	Vote of commission	By district	4
Tattnall County	Popular vote	By district	5
Thomas County	Vote of commission	By district	7
Tift County	Popular vote	By district	6
Upson County	Popular vote	By district	4
Ware County	Popular vote	By district	4

Section 8: Form of Government

County	How is the chief executive or commission chair elected/appointed?	Excluding the chief executive or commission chair, how are members of the board elected?	Excluding the chief executive or commission chair, how many seats are there on the board of commissioners?
Population Group C			
Wayne County	Vote of commission	By district	4
White County	Popular vote	By district	4
Population Group D			
Appling County	Popular vote	By district	5
Banks County	Popular vote	At-large	4
Ben Hill County	Popular vote	By district	4
Berrien County	Vote of commission	By district	4
Brantley County	Popular vote	At-large	4
Brooks County	Vote of commission	By district	4
Burke County	Vote of commission	By district	4
Butts County	Vote of commission	By district	4
Chattooga County	Popular vote	not applicable	---
Cook County	Vote of commission	By district	4
Crisp County	Vote of commission	By district	4
Dade County	Popular vote	At-large	4
Dodge County	Popular vote	By district	4
Elbert County	Popular vote	By district	5
Emanuel County	Vote of commission	By district	4
Franklin County	Popular vote	By district	4
Grady County	Vote of commission	By district	4
Greene County	Popular vote	By district	4
Jeff Davis County	Vote of commission	By district	4
Jefferson County	Popular vote	By district	4
Lamar County	Popular vote	By district	4
Long County	Vote of commission	By district	4
McDuffie County	Popular vote	By district	4
Meriwether County	Vote of commission	By district	4
Mitchell County	Vote of commission	By district	4
Morgan County	Vote of commission	By district	4
Oglethorpe County	Popular vote	By district	5
Pierce County	Popular vote	By district	4
Pike County	Popular vote	By district	4
Putnam County	Popular vote	By district	4
Telfair County	Vote of commission	By district	4

Section 8: Form of Government

County	How is the chief executive or commission chair elected/appointed?	Excluding the chief executive or commission chair, how are members of the board elected?	Excluding the chief executive or commission chair, how many seats are there on the board of commissioners?
Population Group D			
Union County	No CEO	not applicable	---
Washington County	Popular vote	By district	4
Worth County	Popular vote	By district	4
Population Group E			
Bacon County	Popular vote	By district	5
Bleckley County	Popular vote	not applicable	---
Candler County	Popular vote	By district	4
Charlton County	Vote of commission	By district	4
Crawford County	Vote of commission	By district	4
Cusseta-Chattahoochee CG	Vote of commission	At-large	4
Dooly County	Vote of commission	By district	4
Early County	Popular vote	By district	4
Evans County	Vote of commission	By district	5
Jasper County	Vote of commission	By district	4
Lanier County	Popular vote	By district	4
Macon County	Vote of commission	By district	4
McIntosh County	Vote of commission	By district	4
Pulaski County	Popular vote	not applicable	---
Population Group F			
Atkinson County	Popular vote	By district	5
Baker County	Vote of commission	At-large	4
Calhoun County	Vote of commission	By district	4
Clay County	Vote of commission	By district	4
Clinch County	Vote of commission	By district	4
Echols County CG	Vote of commission	At-large	2
Glascok County	Popular vote	At-large	2
Hancock County	Popular vote	By district	4
Irwin County	Popular vote	By district	4
Jenkins County	Vote of commission	By district	4
Johnson County	Vote of commission	By district	4
Lincoln County	Popular vote	By district	4
Miller County	Vote of commission	By district	5
Montgomery County	Vote of commission	By district	4
Randolph County	Vote of commission	By district	4

Section 8: Form of Government

County	How is the chief executive or commission chair elected/appointed?	Excluding the chief executive or commission chair, how are members of the board elected?	Excluding the chief executive or commission chair, how many seats are there on the board of commissioners?
Population Group F			
Schley County	Popular vote	By district	4
Seminole County	Vote of commission	By district	5
Talbot County	Vote of commission	By district	4
Taliaferro County	Popular vote	At-large	2
Taylor County	Vote of commission	By district	4
Terrell County	Popular vote	By district	4
Treutlen County	Vote of commission	By district	4
Turner County	Vote of commission	By district	5
Twiggs County	Popular vote	By district	4
Warren County	Popular vote	By district	2
Webster County Unified	Popular vote	By district	4
Wheeler County	Vote of commission	By district	2
Wilcox County	Vote of commission	By district	4
Wilkes County	Popular vote	By district	4
Wilkinson County	Popular vote	By district	4

CHAPTER 9 ♦ E-Government

This chapter gives a brief overview of those governments that use the Internet to conduct government business, specifically:

- Whether the government maintains an official website
- Types of services offered on the government website
- Whether government maintains a general email address

Section 9. E-Government

Group	Number reporting	Number of governments maintaining an official web site:		Number of government's providing the following online services on the official web site:														Number of governments maintaining general email address for broad-spectrum concerns or information from the public	
				general information		tax payments		utility bill payments		voter registration		car tags and renewals		payment of court fines		other			
				#	%	#	%	#	%	#	%	#	%	#	%	#	%		
A	22	22	100.0%	22	100.0%	22	100.0%	12	54.5%	15	68.2%	19	86.4%	20	90.9%	15	68.2%	18	81.8%
B	15	15	100.0%	15	100.0%	15	100.0%	7	46.7%	9	60.0%	14	93.3%	10	66.7%	12	80.0%	9	60.0%
C	31	31	100.0%	31	100.0%	25	80.6%	11	35.5%	15	48.4%	18	58.1%	19	61.3%	13	41.9%	18	58.1%
D	34	33	97.1%	33	100.0%	23	69.7%	2	6.1%	15	45.5%	18	54.5%	16	48.5%	10	30.3%	23	67.6%
E	14	13	92.9%	13	100.0%	6	46.2%	2	15.4%	1	7.7%	3	23.1%	2	15.4%	6	46.2%	6	42.9%
F	30	26	86.7%	26	100.0%	4	15.4%	0	0.0%	2	7.7%	3	11.5%	3	11.5%	6	23.1%	17	56.7%
Total	146	140	95.9%	140	100.0%	95	67.9%	95	67.9%	57	40.7%	75	53.6%	70	50.0%	62	44.3%	91	62.3%

Department of Community Affairs

Section 9: E-Government

County	Does county maintain an official website where vital activities of county are presented?		What online services does the county's website offer?						Does county maintain a general email address for broad-spectrum concerns or information from the public?	
	Yes/No	Web address	General information	Tax payments	Utility bill payments	Voter registration	Car tags and renewals	Other	Yes/No	Email address
Population Group A										
Athens-Clarke CG	Yes	www.accgov.com	Yes	Yes	Yes	Yes	Yes	Yes	Yes	info@accgov.com
Augusta/Richmond CG	Yes	www.augustaga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	311@augustaga.gov
Bartow County	Yes	www.bartowcountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	commissionerpublic@bartowcountyga.gov
Carroll County	Yes	www.carrollcountyga.com	Yes	Yes	---	Yes	Yes	---	Yes	info@carrollcountyga.com
Chatham County	Yes	www.chathamcountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	chathamcountyga.gov - click on the "contact " fill in blanks or call number listed at bottom
Cherokee County	Yes	www.cherokeega.com	Yes	Yes	---	Yes	Yes	Yes	No	
Clayton County	Yes	www.claytoncountyga.gov	Yes	Yes	---	---	Yes	Yes	No	
Cobb County	Yes	www.cobbcounty.org	Yes	Yes	Yes	Yes	Yes	---	Yes	information@cobbcounty.org
Columbia County	Yes	www.columbiacountyga.gov	Yes	Yes	Yes	---	---	Yes	Yes	commissioners@columbiacountyga.gov
Columbus/Muscogee CG	Yes	www.columbusga.gov	Yes	Yes	---	Yes	Yes	Yes	Yes	webmaster@columbusga.org
Coweta County	Yes	www.coweta.ga.us	Yes	Yes	Yes	---	Yes	---	Yes	cowetainfo@coweta.ga.us
Douglas County	Yes	www.CelebrateDouglasCounty.com	Yes	Yes	---	Yes	Yes	---	Yes	webmaster@co.douglas.ga.us
Fayette County	Yes	www.fayettecountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	administration@fayettecountyga.gov
Forsyth County	Yes	www.forsythco.com	Yes	Yes	Yes	Yes	Yes	Yes	Yes	forsythpr@forsythco.com
Gwinnett County	Yes	www.gwinnettcounty.com	Yes	Yes	Yes	Yes	Yes	Yes	Yes	info@gwinnettcounty.com
Hall County	Yes	www.http://www.hallcounty.org/	Yes	Yes	---	---	---	Yes	No	
Henry County	Yes	www.co.henry.ga.us	Yes	Yes	---	Yes	Yes	Yes	Yes	http://www.co.henry.ga.us/CountyManager/ContactUs.shtml (Web link to general e-mail address)
Houston County	Yes	www.houstoncountyga.org	Yes	Yes	---	---	Yes	---	Yes	chairman@houstoncountyga.org
Lowndes County	Yes	www.lowndescounty.com	Yes	Yes	Yes	---	---	---	Yes	www.lowndescounty.com then click on hyper link that says "contact us"; there is a form to fill in and the inquirer may hit a "submit" button.
Newton County	Yes	www.co.newton.ga.us	Yes	Yes	---	Yes	Yes	Yes	No	
Paulding County	Yes	www.paulding.gov	Yes	Yes	Yes	---	Yes	Yes	Yes	commissioners@paulding.gov
Whitfield County	Yes	www.whitfieldcountyga.com	Yes	Yes	---	Yes	Yes	---	Yes	webmaster@whitfieldcountyga.com
Population Group B										
Barrow County	Yes	www.barrowga.org	Yes	Yes	Yes	---	Yes	Yes	No	
Bulloch County	Yes	www.bullochcounty.net	Yes	Yes	---	Yes	Yes	---	Yes	info@bullochcounty.net
Camden County	Yes	www.camdencountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	No	

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County	Does county maintain an official website where vital activities of county are presented?		What online services does the county's website offer?						Does county maintain a general email address for broad-spectrum concerns or information from the public?	
	Yes/No	Web address	General information	Tax payments	Utility bill payments	Voter registration	Car tags and renewals	Other	Yes/No	Email address
Population Group B										
Catoosa County	Yes	www.catoosa.com	Yes	Yes	---	Yes	Yes	---	Yes	commissioners@catoosa.com
Dougherty County	Yes	www.dougherty.ga.us	Yes	Yes	---	Yes	Yes	Yes	Yes	www.dougherty.ga.us and can call 311
Effingham County	Yes	www.effinghamcounty.org	Yes	Yes	Yes	---	Yes	Yes	Yes	effinghamclerk@effinghamcounty.org
Floyd County	Yes	www.floydcountyga.gov	Yes	Yes	Yes	---	---	Yes	No	An email address isn't provided, but there is a contact us form that can be completed on the website and is answered within 24 hours.
Gordon County	Yes	www.gordoncounty.org	Yes	Yes	---	Yes	Yes	Yes	No	
Jackson County	Yes	www.jacksoncountygov.com	Yes	Yes	---	Yes	Yes	Yes	Yes	citizen_feedback@jacksoncountygov.com
Liberty County	Yes	www.libertycountyga.com	Yes	Yes	Yes	Yes	Yes	Yes	No	
Rockdale County	Yes	www.rockdalecountyga.gov	Yes	Yes	Yes	Yes	Yes	---	Yes	customersatisfaction@rockdalecountyga.gov
Spalding County	Yes	www.SpaldingCounty.com	Yes	Yes	---	---	Yes	Yes	Yes	Info@SpaldingCounty.com
Troup County	Yes	www.troupcountyga.org	Yes	Yes	---	---	Yes	Yes	Yes	commission@troupcountyga.gov
Walker County	Yes	www.walkercountyga.gov	Yes	Yes	---	---	Yes	Yes	No	
Walton County	Yes	www.waltoncountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	ltalbird@co.walton.ga.us
Population Group C										
Baldwin County	Yes	www.baldwincountyga.com	Yes	Yes	Yes	Yes	Yes	Yes	No	General contact / concerns made through link from website.
Bryan County	Yes	www.bryancountyga.org	Yes	Yes	Yes	Yes	Yes	---	Yes	help@bryan-county.org
Coffee County	Yes	www.coffeecountygov.com	Yes	Yes	Yes	Yes	Yes	---	No	
Colquitt County	Yes	www.ccboc.com	Yes	Yes	---	Yes	Yes	Yes	No	
Dawson County	Yes	www.dawsoncounty.org	Yes	Yes	---	Yes	Yes	---	Yes	publicrelations@dawsoncounty.org
Decatur County	Yes	www.decaturcountyga.gov	Yes	---	---	---	---	Yes	Yes	michelle@decaturcountyga.gov
Fannin County	Yes	www.fannincountyga.com	Yes	---	---	Yes	---	---	No	
Gilmer County	Yes	www.gilmercounty-ga.gov	Yes	Yes	---	---	---	Yes	No	
Habersham County	Yes	www.habershamga.com	Yes	Yes	---	Yes	Yes	Yes	Yes	commoffice@habershamga.com
Haralson County	Yes	www.haralsoncountyga.gov	Yes	Yes	---	---	---	---	No	
Harris County	Yes	www.harriscountyga.gov	Yes	Yes	Yes	---	---	---	No	
Hart County	Yes	www.hartcountyga.gov	Yes	Yes	---	---	---	---	No	
Laurens County	Yes	www.laurensco.ga.org	Yes	Yes	---	Yes	Yes	---	No	
Lee County	Yes	www.lee.ga.us	Yes	Yes	Yes	Yes	Yes	Yes	No	
Lumpkin County	Yes	www.lumpkincounty.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	boardofcommissioners@lumpkincounty.gov

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County	Does county maintain an official website where vital activities of county are presented?		What online services does the county's website offer?						Does county maintain a general email address for broad-spectrum concerns or information from the public?	
	Yes/No	Web address	General information	Tax payments	Utility bill payments	Voter registration	Car tags and renewals	Other	Yes/No	Email address
Population Group C										
Madison County	Yes	www.madisoncountyga.us	Yes	Yes	---	Yes	Yes	---	Yes	webmaster@madisonco.us
Monroe County	Yes	www.monroecoga.org	Yes	Yes	Yes	---	Yes	---	Yes	info@monroecoga.org
Murray County	Yes	www.murraycountyga.org	Yes	Yes	---	---	Yes	Yes	Yes	mcgovt@windstream.net
Oconee County	Yes	www.oconeecounty.com	Yes	Yes	Yes	Yes	Yes	Yes	Yes	contact@oconee.ga.us
Peach County	Yes	www.peachcounty.net	Yes	Yes	---	Yes	Yes	Yes	Yes	webmaster@peachcounty.net
Pickens County	Yes	www.pickenscountyga.gov	Yes	Yes	Yes	---	---	---	Yes	reception@pickenscountyga.gov
Polk County	Yes	www.polkga.org	Yes	Yes	---	---	Yes	---	No	
Stephens County	Yes	www.stephenscountyga.gov	Yes	---	---	---	---	---	Yes	www.stephenscountyga.gov
Sumter County	Yes	www.sumtercountyga.us	Yes	---	---	---	---	Yes	Yes	Rvolley@sumtercountyga.us
Tattall County	Yes	www.tattallcountyga.com	Yes	Yes	Yes	Yes	---	---	Yes	tattallcountyga.com contact us link
Thomas County	Yes	www.thomascountybo.com	Yes	Yes	---	---	---	---	Yes	tboc@rose.net
Tift County	Yes	www.tiftcounty.org	Yes	Yes	---	---	Yes	---	No	
Upson County	Yes	www.upsoncountyga.org	Yes	---	Yes	Yes	---	Yes	No	
Ware County	Yes	www.warecounty.com	Yes	Yes	---	---	Yes	Yes	Yes	you may contact the different departments on the website.
Wayne County	Yes	www.waynecountyga.us	Yes	---	---	---	---	---	Yes	wayneinfo@waynecountyga.us
White County	Yes	whitecountyga.gov	Yes	Yes	---	---	Yes	---	Yes	info@whitecounty.net
Population Group D										
Appling County	Yes	WWW.BAXLEY.ORG	Yes	---	---	---	---	---	Yes	manager@applingco.com
Banks County	Yes	www.bankscountyga.org	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Visit bankscountyga.org and follow the "Contact Us" link
Ben Hill County	Yes	WWW.BENHILLCOUNTY-GA.GOV	Yes	Yes	---	Yes	Yes	---	Yes	DONNA.PRATHER@BENHILLCOUNTY-GA.GOV
Berrien County	Yes	www.berriencountygeorgia.com	Yes	---	---	---	---	Yes	No	
Brantley County	Yes	www.https://brantleycountyga.com/	Yes	Yes	---	---	---	Yes	No	
Brooks County	Yes	www.http://www.brookscountyga.gov	Yes	Yes	---	Yes	Yes	---	No	lovebrooksc@brookscountyga.gov
Burke County	Yes	www.burkecounty-ga.gov	Yes	Yes	---	Yes	Yes	Yes	Yes	county@burkecounty-ga.gov
Butts County	Yes	www.buttscountyga.com	Yes	---	---	---	---	---	No	
Chattooga County	Yes	www.chattoogacounty.org	Yes	Yes	---	---	---	---	Yes	chattcom@windstream.net
Cook County	Yes	www.cookcountyga.us	Yes	---	---	---	---	---	Yes	cookgov@windstream.net
Crisp County	Yes	www.crispcounty.com	Yes	Yes	---	Yes	Yes	Yes	Yes	info@crispcounty.com
Dade County	Yes	www.http://www.dadecounty-ga.gov	Yes	Yes	---	Yes	Yes	---	Yes	info@dadecounty-ga.gov
Dodge County	Yes	www.dodgecountyga.com	Yes	---	---	---	---	---	Yes	kim.parkerson@dodgecounty-ga.com
Elbert County	Yes	www.elbertga.us	Yes	---	---	---	---	Yes	No	
Emanuel County	Yes	www.emanuelco-ga.gov	Yes	Yes	---	Yes	Yes	Yes	Yes	lgsingletary@emanuelco-ga.gov

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County	Does county maintain an official website where vital activities of county are presented?		What online services does the county's website offer?						Does county maintain a general email address for broad-spectrum concerns or information from the public?	
	Yes/No	Web address	General information	Tax payments	Utility bill payments	Voter registration	Car tags and renewals	Other	Yes/No	Email address
Population Group D										
Franklin County	Yes	www.franklincountyga.gov	Yes	Yes	Yes	Yes	Yes	Yes	Yes	comments@franklincountyga.gov
Grady County	Yes	www.gradycountyga.gov	Yes	---	---	---	---	---	Yes	gcboe@gradycoco.org
Greene County	Yes	www.greenecountyga.gov	Yes	Yes	---	Yes	Yes	---	Yes	info@greencountyga.gov
Jeff Davis County	Yes	www.Jeff Davis County.org	Yes	---	---	---	---	---	No	
Jefferson County	Yes	www.http://www.jeffersoncountyga.gov/	Yes	Yes	---	---	---	---	Yes	bwells@jeffersoncountyga.gov
Lamar County	Yes	www.lamarcountyga.com	Yes	Yes	---	Yes	Yes	---	Yes	commissionersoffice@lamarcountyga.com
Long County	Yes	www.longcountyga.gov	Yes	Yes	---	Yes	---	---	No	
McDuffie County	Yes	www.thomson-mcduffie.gov	Yes	Yes	---	---	Yes	Yes	Yes	david.crawley@thomson-mcduffie.gov
Meriwether County	Yes	www.http://meriwethercountyga.gov	Yes	---	---	---	---	---	No	
Mitchell County	Yes	www.mitchellcountyga.gov	Yes	Yes	---	---	Yes	---	Yes	mitchellcountyga.net
Morgan County	Yes	www.morgancountyga.gov	Yes	Yes	---	---	---	---	No	
Oglethorpe County	Yes	www.oglethorpecountyga.gov	Yes	Yes	---	Yes	Yes	---	Yes	BOC@oglethorpecountyga.gov
Pierce County	Yes	www.https://piercecountyga.gov	Yes	Yes	---	Yes	Yes	Yes	No	
Pike County	Yes	www.pikecoga.com	Yes	---	---	---	Yes	---	Yes	info@pikecoga.com
Putnam County	Yes	www.putnamcountyga.us	Yes	Yes	---	Yes	Yes	---	Yes	putnamboe@putnamcountyga.us
Telfair County	No	www.	---	---	---	---	---	---	Yes	telfairco@gmail.com
Union County	Yes	www.unioncountyga.gov	Yes	Yes	---	---	Yes	---	Yes	commissioner@uniongov.com
Washington County	Yes	www.washingtoncountyga.gov	Yes	Yes	---	Yes	Yes	---	Yes	boe@washingtoncountyga.gov
Worth County	Yes	www.worthcountyboe.com	Yes	Yes	---	---	---	---	No	
Population Group E										
Bacon County	No	www.	---	---	---	---	---	---	No	
Bleckley County	Yes	www.bleckley.org	Yes	---	---	---	---	---	Yes	bleckley.org
Candler County	Yes	www.metter-candler.com	Yes	Yes	---	---	---	---	No	
Charlton County	Yes	www.charltoncountyga.us	Yes	Yes	Yes	---	---	Yes	No	
Crawford County	Yes	www.crawfordcountyga.org	Yes	---	---	---	---	---	No	
Cusseta-Chattahoochee CG	Yes	www.ugoccc.com	Yes	---	---	---	---	---	Yes	admin@ugoccc.com
Dooly County	Yes	www.doolycountyga.com	Yes	Yes	---	---	---	Yes	No	
Early County	Yes	www.earlycountyga.org	Yes	---	---	---	---	Yes	No	
Evans County	Yes	www.evanscounty.org	Yes	---	---	---	---	Yes	Yes	boe.office@evanscounty.org
Jasper County	Yes	www.jaspercountyga.org	Yes	Yes	---	Yes	Yes	---	No	
Lanier County	Yes	www.laniercountyboe.com	Yes	---	---	---	---	---	Yes	boardofcomm@laniercountyboe.com
Macon County	Yes	www.maconcountyga.gov	Yes	---	---	---	---	Yes	Yes	info@maconcountyga.gov
McIntosh County	Yes	www.mcintoshcountyga.com	Yes	Yes	Yes	---	Yes	---	No	

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County	Does county maintain an official website where vital activities of county are presented?		What online services does the county's website offer?						Does county maintain a general email address for broad-spectrum concerns or information from the public?	
	Yes/No	Web address	General information	Tax payments	Utility bill payments	Voter registration	Car tags and renewals	Other	Yes/No	Email address
Population Group E										
Pulaski County	Yes	www.https://hawkinsville-pulaski.org/	Yes	Yes	---	---	Yes	Yes	Yes	pulaskico.com
Population Group F										
Atkinson County	Yes	www.http://www.atkinsoncounty.org	Yes	Yes	---	---	Yes	---	Yes	atkinsoncounty.org n.lott@atkinson-ga.org mjohnson@atkinson-ga.org
Baker County	Yes	www.bakercountyga.com	Yes	---	---	---	---	---	Yes	boardofcomm@bakercountyga.com
Calhoun County	Yes	www.CALHOUNCOGA.COM	Yes	---	---	---	---	---	No	
Clay County	Yes	www.claycountyga.net	Yes	---	---	---	Yes	Yes	No	
Clinch County	Yes	www.clinchcountyga.gov	Yes	---	---	---	---	---	Yes	clinchcounty@clinchcountyga.gov
Echols County CG	Yes	www.echolscountyga.com	Yes	---	---	---	---	---	Yes	ecboc@yahoo.com
Glascock County	Yes	www.glascockcountyga.com	Yes	---	---	---	---	---	No	
Hancock County	Yes	www.hancockcountyga.gov	Yes	---	---	---	---	---	No	
Irwin County	Yes	www.irwincountyga.com	Yes	---	---	---	---	---	No	
Jenkins County	No	www.	---	---	---	---	---	---	No	
Johnson County	Yes	www.johnsonco.org	Yes	---	---	---	---	---	Yes	commissioners@johnsonco.org
Lincoln County	Yes	www.https://www.lincolncountyga.com	Yes	Yes	---	---	---	---	No	
Miller County	Yes	www.millercountyga.gov	Yes	Yes	---	---	---	Yes	Yes	countymanager@millercountyga.gov fwhittaker@millerga.org
Montgomery County	Yes	www.montgomerycountyga.gov	Yes	---	---	---	---	---	No	
Randolph County	Yes	www.randolphcountyga.com	Yes	---	---	---	---	---	Yes	randolphgaclerk@gmail.com
Schley County	Yes	www.schleycountyga.us	Yes	---	---	---	---	---	Yes	schleyclerk@windstream.net
Seminole County	Yes	www.seminolecountyga.com	Yes	Yes	---	---	Yes	Yes	Yes	admin@seminolecountyga.com
Talbot County	Yes	www.talbotcountyga.org	Yes	---	---	---	---	---	No	
Taliaferro County	No	www.	---	---	---	---	---	---	No	
Taylor County	Yes	www.taylorcountyga.us	Yes	---	---	---	---	Yes	Yes	taylor@pstel.net
Terrell County	Yes	www.terrellcountygeorgia.com	Yes	---	---	---	---	---	Yes	sandratebc@windstream.net
Treutlen County	No	www.	---	---	---	---	---	---	No	
Turner County	Yes	www.turnercountygeorgia.com	Yes	---	---	---	---	---	Yes	latricewilson2003@gmail.com (Clerk)
Twiggs County	Yes	www.twiggscounty.us	Yes	---	---	---	---	---	No	
Warren County	Yes	www.warrencountyga.com	Yes	---	---	---	---	---	Yes	info@warrencountyga.gov
Webster County Unified	Yes	webstercounty.ga.org	Yes	---	---	---	---	Yes	Yes	websterco@windstream.net
Wheeler County	No	www.	---	---	---	---	---	---	No	
Wilcox County	Yes	www.wilcoxcountygeorgia.com	Yes	---	---	Yes	---	---	Yes	mpomirko@wilcoxcountygeorgia.com
Wilkes County	Yes	wilkescountyga.org (still a work in progress)	Yes	---	---	---	---	Yes	Yes	wilkescoboc@yahoo.com
Wilkinson County	Yes	www.wilkinsoncounty.net	Yes	---	---	Yes	---	---	Yes	bdofcomm@wilkinsoncounty.net

Appendix I

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Appendix J
Enhanced Plan Documentation

Appendix J-I
HMGP Administrative Plan



GEMA

PROJECT ADMINISTRATION

THE STATE OF GEORGIA

Georgia Emergency Management and Homeland Security
Agency (GEMA/HS)

Administrative Plan
DR-4685-GA: Severe Weather

THE STATE OF GEORGIA

Administrative Plan for the Hazard Mitigation Assistance Program

November 2018

Revised May 2019

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Introduction

Purpose

This plan provides the administrative policies and procedures which will be used by the State of Georgia to develop, request, obtain, and administer awards for hazard mitigation measures under the provisions of the Hazard Mitigation Assistance (HMA) Programs, Section 203 and Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, referred to as the Stafford Act, the Sandy Recovery Improvement Act (SRIA) of 2013, Section 1234 of the Disaster Recovery Reform Act of 2018, and Titles 2 and 44 of the Code of Federal Regulation. This document outlines the basic administrative procedures for all Hazard Mitigation Assistance programs managed by the Georgia Emergency Management and Homeland Security Agency (GEMA/HS).

General

Section 404 of the Stafford Act establishes an independent Hazard Mitigation Grant Program (HMGP) that provides a source of funding for mitigation projects that are cost-effective and are identified in the community's hazard mitigation plan. The program is aimed at mitigating hazards that have repeatedly caused damage in the past.

The total amount of federal funding for the Section 404 HMGP is limited. Approved projects are funded on a cost-sharing basis.

Section 203 of the Stafford Act established an independent Pre-Disaster Mitigation (PDM) program that provided a source of funding for mitigation projects that are cost-effective and are identified in the community's hazard mitigation plan. The program was aimed at mitigating hazards that aligned with the priorities set by FEMA and have repeatedly caused damage in the past. As of 2020, the PDM program will no longer be awarded on an annual basis, except through Congressionally Directed Spending (CDS) requests. GEMA/HS will continue administering legacy awards and awarded CDS PDM grants.

The National Flood Insurance Act of 1968 and Biggert-Waters Flood Insurance Reform Act of 2012, established an independent Flood Mitigation Assistance (FMA) program that provides a source of funding for mitigation of repetitive loss properties and severe repetitive loss properties. The program is aimed at mitigating hazards that align with the priorities set by FEMA and have repeatedly caused damage in the past.

Section 1234 of the Disaster Recovery Reform Act of 2018 authorized the Disaster Relief Fund to set aside six percent of estimated annual disaster grant expenditures in a National Public Infrastructure Pre-Disaster Mitigation fund to promote greater investment in mitigation before a disaster. This new program is named Building Resilient Infrastructure and Communities (BRIC).

Authorities and References

The authorities and references for this administrative plan are found in the following citations:

Federal Laws

- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288)
- Sandy Recovery Improvement Act of 2013 (P.L. 113-2)
- Disaster Recovery Reform Act of 2018 (Division D of P.L. 115-254)
- Single Audit Act of 1984 (PL 98-502)
- 2 CFR, Part 200: “Super Circular” Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
- 44 CFR, Part 9: Floodplain Management and Protection of Wetlands
- 44 CFR, Part 10: Environmental Considerations
- 44 CFR, Part 78: Flood Mitigation Assistance
- 44 CFR, Part 79: Flood Mitigation Grants
- 44 CFR, Part 80, Property Acquisition and Relocation
- 44 CFR, Part 201: Mitigation Planning
- 44 CFR, Part 206, Subpart N Hazard Mitigation Grant Program
- FEMA Policy #104-11-1: Management Costs (Interim)

Office of Management and Budget (OMB) Circulars

- OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

Executive Orders

- President's Executive Order 11988 on Floodplain Management
- President's Executive Order 11990 on Protection of Wetlands
- President's Executive Order 12699 on Seismic Safety
- President's Executive Order 12898 on Economic Justice

State Laws

- Georgia Emergency Management Act of 1981, as amended (OCGA 33-3)

State Regulation

- Georgia Emergency Operations Plan, 2017, with 2019 updates.

Development and Maintenance

The State Administrative Plan (the “administrative plan”) covers all Hazard Mitigation Assistance (HMA) programs: Building Resilient Infrastructure and Communities (BRIC), Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and Flood Mitigation Assistance (FMA). This administrative plan is a support plan to the Georgia Emergency Operations Plan. This administrative plan is maintained by the Hazard Mitigation Department, Georgia Emergency Management and Homeland Security Agency (GEMA/HS) and reflects current state and federal statutes or regulations.

The Hazard Mitigation Grant Program (HMGP) was authorized by The Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, U.S. Code (U.S.C.) 5170c and administered through the Federal Emergency Management Agency (FEMA).

The Governor’s request for a disaster declaration will include a submission for Hazard Mitigation Grant Program assistance. For HMGP Post Fire, the Hazard Mitigation Programmatic Addendum will be submitted to build on the existing Fire Management Assistance Grant (FMAG) FEMA State Agreement and delegate authority of the HMGP Post-Fire Program.

Following each major disaster, the administrative plan will be reviewed by GEMA/HS Hazard Mitigation Staff. If no revisions are necessary, FEMA will be notified within 30 days of the declaration. Plan revisions will be forwarded to the FEMA Regional Administrator for approval within 45 days of the declaration. This administrative plan covers all disasters through the date of submission.

The Hazard Mitigation Manager, designated as the State Hazard Mitigation Officer, is the individual responsible for the day to day management of the Hazard Mitigation Assistance Programs.

Definitions

“Administrative Assistant” is the person responsible for providing administrative and clerical support to the staff of the Hazard Mitigation Department.

“Advance Assistance” under the Sandy Recovery and Improvement Act of 2013 FEMA has the authority to provide up to 25 percent of the amount of estimated Hazard Mitigation Grant Program (HMGP) costs to States to develop mitigation strategies and obtain data to prioritize, select and develop complete HMGP applications in a timely manner.

"Application" is the formal request for Hazard Mitigation Assistance funding.

"Authorized Organization Representative" (formerly "Authorized Applicant's Agent") is the person authorized by the entity’s governing body to act on behalf of the entity to dedicate matching funds and execute the contract for the purpose of obtaining federal financial assistance.

"Award" is monetary funds of financial assistance.

"Benefit-Cost Analysis" means a quantitative procedure that assesses the desirability of a hazard mitigation measure by taking a long-term view of avoided future damages as compared to the cost of a project. The outcome of the analysis is a *benefit-cost ratio*, which demonstrates whether the net present value of benefits exceeds the net present value of costs.

"Building Resilient Infrastructure and Communities" is the Program authorized under Section 1234 of the Disaster Recovery Reform Act of 2018 that supports states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards.

"EM Grants" is a program that allows for the tracking of all aspects of HMGP projects and is used as an internal agency grants management tool. EM Grants replaced our system used to manage grants called "Grants Management System."

"Enhanced State Mitigation Plan" is the hazard mitigation plan approved under 44 CFR part 201 as a condition of receiving increased funding under the HMGP. An Enhanced State Mitigation Plan must include all elements of the Standard State Mitigation Plan identified in 44 CFR 201.4 as well as those identified in 44 CFR 201.5. Georgia's Enhanced Mitigation Plan was approved on March 18, 2019.

"Environmental Assessment" is the document prepared when a project does not qualify as a categorical exclusion and serves to determine whether an Environmental Impact Statement is needed.

"Environmental Impact Statement" is the document prepared for all actions significantly affecting the environment.

"Federal Hazard Mitigation Officer" (FHMO) is the FEMA employee responsible for representing the agency in carrying out the overall responsibilities for post-disaster hazard mitigation.

"Flood Mitigation Assistance" is the program authorized under Biggert-Waters Flood Insurance Reform Act of 2012, to mitigate repetitive loss properties and severe repetitive loss properties.

"Flood Mitigation Technical Assistance Grant" funding that allows GEMA/HS to staff develop, promote and perform technical assistance activities for Flood Mitigation Assistance program to local governments.

"Governor's Authorized Representative" (GAR) is the person empowered by the Governor to execute, on behalf of the State, all necessary documents for disaster assistance.

"Hazard Mitigation Assistance" awards include the current complement of FEMA Mitigation awards. They include HMGP which is the disaster recovery award and three non-disaster grants: Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), and Pre-Disaster Mitigation (PDM).

"Hazard Mitigation Grant Program" is the Program authorized under section 404 of the Stafford Act, 42 and implemented at 44 CFR Part 206, Subpart N, which authorizes funding for certain mitigation measures identified through the evaluation of natural hazards conducted under section 322 of the Stafford Act.

"Hazard Mitigation Grant Program Projects" are projects proposed under Section 404 of the Stafford Act by eligible applicants to the Hazard Mitigation Department for funding following a

Presidential major disaster declaration.

“Hazard Mitigation Plan” is the documentation of a State or local government’s evaluation of natural hazards and the strategy to mitigate such hazards. States and local governments are required by Section 322 of the Stafford Act to undergo the mitigation planning process as a condition of receiving Federal disaster assistance.

“Hazard Mitigation Planning Specialist” is the individual responsible for the management of Hazard Mitigation Planning Projects, Flood Mitigation Assistance Planning Projects, and Pre-Disaster Mitigation Planning Projects.

“Hazard Mitigation Planning Supervisor” is the person who serves as the supervisor of the Hazard Mitigation Planning Specialists.

“Hazard Mitigation Risk Reduction Supervisor” is the person who serves as the supervisor of the Risk Reduction Specialists.

"Hazard Mitigation Risk Reduction Specialist" is the individual responsible for the management of Hazard Mitigation Grant Projects, Building Resilient Infrastructure and Communities Projects, Flood Mitigation Assistance Projects, and Pre-Disaster Mitigation Projects

“Increased Cost of Compliance (ICC)” coverage benefits under the National Flood Insurance Program may be used for elevation, relocation, demolition, and/or floodproofing (non-residential buildings only).

“Local Hazard Mitigation Plan” is the hazard mitigation plan required of a local or Indian tribal government acting as a Subrecipient as a condition of receiving project funds under the HMGP as outlined in 44 CFR 201.6.

“Management Costs” are any indirect costs, any direct administrative expenses, and any other expenses not directly chargeable to a specific project that are reasonably incurred by a Recipient or Subrecipient in administering and managing an award.

"Measure" is any mitigation project, treatment or action proposed to reduce the risk of damage, hardship, loss of life or suffering from a future disaster event. The term measure is used interchangeably with the term “project” in this program.

“National Flood Insurance Program” provides the availability of flood insurance in exchange for the adoption of a minimum local floodplain management ordinance that regulates development, including but not limited to, new and substantially improved structures in identified flood hazard areas.

“Non-Federal Funds” are the financial resources provided by sources other than the Federal Government. The term does not include funds provided to a State or local government through a Federal grant unless the authorizing statute for that grant explicitly allows the funds to be used as cost share for other Federal grants.

"Pre-Application" is the initial request for consideration that indicates interest and assists in evaluating eligibility for Hazard Mitigation Grant Program funding.

"Pre-Award Costs" are costs incurred after the HMA application period has opened, but prior to the date of the grant award or final approval. For HMGP, the opening of the application period is the date when HMGP is authorized, which is generally the date of declaration. The opening of the application period for the PDM and FMA programs are established annually by FEMA. For BRIC only, pre-award costs can be incurred any time prior to award. These costs may include gathering environmental and historic preservation data for preparing design

specifications or for attending application workshops or meetings related to development and submission of HMGP applications.

“Project Administration” is the oversight of an approved project from the award phase to the completion of the approved scope of work.

“Project Scoping” is an eligible activity under the BRIC grant that is designed to produce mitigation strategies and obtain data to prioritize, select, and develop complete applications in a timely manner that result in either an improvement in the capability to identify appropriate mitigation projects or in the development of an application-ready mitigation project for BRIC or another funding opportunity

“Pass-through Entity” is a government or other legal entity that provides a subaward to a subrecipient who is accountable for carrying out part of a federal program. For this program, the state is the pass-through entity.

"Recipient" is the government to which an award is given directly and which is accountable for use of the funds provided. The recipient is the entire legal entity even if only a particular component of the entity is designated in the award document. For the Hazard Mitigation Assistance programs, the state is the recipient.

“Recipient-Subrecipient Agreement” agreement between the state and the subrecipient at local level detailing the award guidelines for the administration, procurement, management, closeout, and records retention for an approved project, in accordance with the 2 CFR 200.

“State Administrative Plan for the Hazard Mitigation Assistance programs” is the document developed by the State to describe the procedures for administration of the HMGP, PDM, BRIC, and FMA.

"State Hazard Mitigation Program" is an ongoing program involving a coordinated effort of state agencies and local governments with the main focus to ensure that critical mitigation measures are taken to reduce the risk of loss of life and property from future disasters.

“Standard Form 424” is the Application for Federal Assistance to be included as part of the State’s overall and local Hazard Mitigation Applications.

“Standard State Mitigation Plan,” referred to the Standard Plan, is the hazard mitigation plan approved under 44 CFR Part 201, as a condition of receiving Stafford Act assistance as outlined in 44 CFR, Part 201.4.

"Subapplicant" is a state agency, local government or eligible private non-profit organization submitting a request to the Recipient for assistance under the Hazard Mitigation Grant Program.

"Subaward" is an award of financial assistance under an award provided to an eligible subrecipient by a pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a federal program. A subaward is initiated through an agreement that the pass-through entity considers a contract.

"Subrecipient" is the government or other legal entity to which a subaward is awarded from a pass-through entity and is accountable to the pass-through entity for the use of the funds provided. Subrecipient may be a state agency, local government or eligible private non-profit organizations.

"Substantial Damage Structures" are structures located in the Special Flood Hazard Area (i.e., the 1% annual chance floodplain) and are determined by the community to be substantially damaged and can be acquired through the HMA programs without benefit-cost analysis.

“TeamWorks Accounting System” offers Accounts Payable, Accounts Receivable, and Asset Management for GEMA/HS. Procurement, routine reconciliations, inventory tracking and records maintenance utilize this system which is administered and governed by the regulations set forth by the Georgia Department of Administrative Services and the State Accounting Office with the coordination of the Office of Planning and Budget. The regulations include 2 CFR 200.302-318.

Responsibilities

State Government

Federal regulation 2 CFR 200.300 (b) and 2 CFR 200.301 requires the State to ensure that Subrecipients know of the requirements imposed on them by Federal awards. GEMA/HS's Hazard Mitigation Department, on behalf of the State, has primary responsibility for project management and accountability of funds. The Hazard Mitigation Department is responsible for ensuring that Subrecipients adhere to all program requirements. The Department is composed of two sections: a Planning Section and a Risk Reduction Section. Each section is headed by a supervisor. The respective supervisor reviews all activities of their staff for program compliance.

Governor's Authorized Representative (GAR) (Director, GEMA/HS)

- Administers and supervises overall state responsibilities in hazard mitigation planning and assistance.
- Designates an Assistant State Coordinating Officer/Alternate GAR to provide oversight of the State's Hazard Mitigation Program.
- Designates a permanent, full-time State Hazard Mitigation Officer responsible for hazard mitigation activities under the Stafford Act. The Hazard Mitigation Manager has the duties of this position and serves as Alternate GAR for hazard mitigation activities. The State Hazard Mitigation Officer is identified in the "FEMA-State Agreement" for this disaster declaration.

Hazard Mitigation Manager

- Serves as the State's primary point of contact with FEMA, other Federal Agencies, and local governments in mitigation planning and implementation of mitigation programs and activities required under the Stafford Act.
- Signs and submits general correspondence for mitigation planning and projects and activities required under the Stafford Act.
- Submits to FEMA the State Mitigation Plan following the criteria established for the "Standard Plan" and/or the "Enhanced Plan" in 44 CFR Parts 201.4 and 201.5 respectively.
- Submits to FEMA the State Administrative Plan for implementing the HMGP.
- Ensures that all project applications submitted to FEMA are complete and meet all program eligibility requirements. Ensures that all approved projects are administered in compliance with federal and state regulations.

Hazard Mitigation Deputy Manager

- Serves as the State's alternate point of contact with FEMA, other Federal Agencies, and local governments in mitigation planning and implementation of mitigation programs and activities required under the Stafford Act.

- Provides additional management support to the Hazard Mitigation Manager and staff in all areas of the HMGP, BRIC, FMA, and PDM to ensure programmatic compliance for plans and projects.
- Responsible for the preparation of the State Administrative Plan.
- Supervises the Hazard Mitigation Risk Reduction Supervisor and the Hazard Mitigation Planning Supervisor.

Hazard Mitigation Risk Reduction Supervisor

- Responsible for project management of the HMGP, BRIC, FMA, AND PDM programs.
- Supervises Hazard Mitigation Risk Reduction Specialists.
- Reports to the Hazard Mitigation Deputy Manager.
- Serves as lead Risk Reduction Specialist in the development of critical, urgent, or high-level projects.
- Prepares HMA program materials for distribution at briefings and training sessions.
- Participates on mitigation team, briefs local officials on mitigation work with community points of contact, as related to HMA programs.
- Ensures that all required reports and correspondence are prepared and distributed.
- Ensures project development and technical assistance is provided to interested communities.
- Ensures proper award management of HMA projects approved by FEMA.

Hazard Mitigation Risk Reduction Specialists

- Support local governments and other applicants in application development and completes project eligibility reviews of submitted applications.
- Support subrecipients with their responsibilities in project management and administration of approved HMGP, BRIC, FMA, and PDM awards.

Hazard Mitigation Planning Supervisor

- Responsible for project management of planning projects under the HMGP, BRIC, FMA, and PDM Programs.
- Prepares the State Mitigation Plan following the criteria established for the “Standard Plan” and/or the “Enhanced Plan” in 44 CFR Parts 201.4 and 201.5 respectively.
- Supervises Hazard Mitigation Planning Specialists.
- Serves as the lead Hazard Mitigation Planning Specialist in the development and maintenance of the State Mitigation Plan.
- Supports the development and maintenance of Local Mitigation Planning efforts.
- Reports to the Hazard Mitigation Deputy Manager.

Hazard Mitigation Planning Specialists

- Support local governments and other qualified applicants in application development and completes project eligibility reviews of submitted planning applications.

- Support subrecipients in awards management and project administration of approved HMGP, BRIC, FMA, and PDM awards.
- Supports the development and maintenance of Local Mitigation Planning efforts.

Administrative Assistant

- Responsible for providing support to the Hazard Mitigation Department.
- Assists in the general operation and management of the Department.
- Reports to the Hazard Mitigation Deputy Manager.

Local Government/Private Non-Profits

Each applicant will designate a Point of Contact and Authorized Agent in the pre-application and application that will be the primary contacts on all matters relating to the project application and award management.

Applicants are responsible for submitting complete, accurate project applications to the State. An applicant becomes a subrecipient if the proposed measure is selected as an approved project by FEMA. The subrecipient is responsible for:

- Managing the implementation of the approved project.
- Complying with HMA requirements and award management procedures stated in the recipient-subrecipient agreement, and other applicable Federal, State, and local laws and standards. Specific regulations outlined in the recipient-subrecipient agreement, include, but are not limited to: Certification Regarding Lobbying, Certification Regarding Drug Free Workplace Requirements, Certification Regarding Debarment and Suspension, and Assurances for Construction and Non-Construction Practices and Procurement Standards.
- Accounting for the appropriate use of award funds to the pass-through entity and recipient.

Funding

Amounts of Assistance

The amount of HMGP funding available to the Applicant is based upon the estimated total of federal assistance, subject to the sliding scale formula outlined in 44 CFR Section 206.432(b) that FEMA provides for disaster recovery under the Presidential major disaster declaration. The formula provides for up to 15 percent of the first \$2 billion of estimated aggregate amounts of disaster assistance, up to 10 percent for amounts between \$2 billion and \$10 billion, and up to 7.5 percent for amounts between \$10 billion and \$35.333 billion. For States with enhanced plans, the eligible assistance is up to 20 percent for estimated aggregate amounts of disaster assistance not to exceed \$35.333 billion.

HMGP Post Fire assistance is provided to States, federally-recognized tribes and territories affected by fires resulting in Fire Management Assistance Grants (FMAG) declarations. FEMA will calculate the amount of HMGP Post Fire funding available to states with FMAG declarations within the federal fiscal year. Funding amounts are based on the 10-year national average of assistance provided under FMAG declarations for States. FEMA will provide two separate calculations: one for Recipients that have standard mitigation plans and a higher calculation for Recipients that have enhanced mitigation plans.

The amount of funding for the BRIC, FMA, and PDM programs varies from year to year. FEMA will post Notices of Funding Opportunities for these HMA programs.

The amount of funding for the FMA Technical Assistance grant is set at \$50,000. The State will request this Technical Assistance Grant from FEMA in the Fiscal Year following an FMA award of \$1 Million or more, as specified in the HMA Guidance.

Cost-Sharing

The approved projects under the state's grant will be the basis for a sub-grant by the state to the applying entity. All approved projects will be subject to the cost-sharing provisions (75 percent federal share / 25 percent local share) established by the Hazard Mitigation Assistance cost-share guide. The non-federal share may exceed the federal share and be combined with other state, local, or private funding sources. It should be noted that Community Development Block Grant (CDBG) funds are eligible to serve as a non-federal source cost share. There are funding considerations for declared and non-declared counties.

- Not one declared subapplicant/subrecipient can exceed 49 percent of the total federal share. The undeclared subapplicant/subrecipient may not exceed more than 30 percent of the total federal share. These provisions can be amended upon request or if a grant is not saturated to a level of 125 percent of available funding with eligible project applications submitted by the state deadline.
- The federal share may only exceed \$10 million if only approved by the SHMO/GAR after a written request.

BRIC, PDM, and FMA funds may be used to pay up to 75 percent of the eligible activity costs. The remaining 25 percent of eligible activity costs are derived from non-Federal sources. FEMA may contribute up to 100 percent Federal cost share for severe repetitive loss properties and up to 90 percent Federal cost share for other repetitive loss properties under the FMA program. Additionally, small and impoverished communities, defined as those with “3,000 or fewer individuals, with residents having an average per capita annual income not exceeding 80 percent of the national per capita income”, are eligible for 90 percent Federal cost share through the BRIC program.

Five Percent Set-Aside

For each Presidential Disaster Declaration, GEMA/HS shall set-aside up to 5 percent of its total HMGP funds available at its discretion for hazard mitigation projects that are difficult to evaluate against traditional program cost effectiveness and eligibility criteria.

To be eligible, the set-aside project must be identified in the State Hazard Mitigation Plan as a priority and meet the HMGP goal of reducing, or preventing, future damage to property, and to reduce or prevent the loss of life or injury. In lieu of the benefit-cost analysis, the State must include in the application a narrative that identifies the hazard mitigation benefits and indicate that there is a reasonable expectation that future damage or loss of life or injury shall be prevented. These projects are reviewed for National Environmental Policy Act and other applicable federal environmental law compliance. The Five Percent Set-Aside program is designed to provide the State discretion along with the responsibility to provide the rationale for cost-effectiveness.

Additional Five Percent Set-Aside

For each Presidential Disaster Declaration, GEMA/HS may choose to set-aside an additional 5 percent of its total HMGP funds available to address all hazards and to promote resilience through the use of disaster-resistant building codes. To qualify for this funding, the recipient or subrecipient must agree to adopt and promote disaster-resistant codes or improve their Building Code Effectiveness Grading Schedule (BCEGS) rating during the period of performance of the award. A third eligible activity is for participating National Flood Insurance Program (NFIP) communities to join or improve their rating in the Community Rating System (CRS).

General

Obligation of project funds will occur when project approval and funds have been received from FEMA. Project funds will go into a non-interest bearing account, operated by the Office of Planning and Budget for the State of Georgia, to be distributed according to the terms in the Recipient-Subrecipient Agreement. A Recipient- Subrecipient Agreement must be executed prior to the commencement of the approved scope of work activities. This agreement will be amended for any award modifications.

GEMA/HS conducts systems' reconciliations between programs and finance at minimum on a quarterly bases through EM Grants and the TeamWorks Accounting System.

Applicant Eligibility

Eligible Applicants

State and local governments.

Private non-profit organizations and institutions that own or operate a private nonprofit facility as defined in 44 CFR Part 206.221(e), (Hazard Mitigation Grant Program only).

Indian tribes or authorized tribal organizations, although Georgia has no federally recognized tribal organizations.

Note

Applicants must participate and be in good standing in the National Flood Insurance Program (NFIP). An exception to this requirement is allowed for planning awards.

Eligible applicants must have an approved hazard mitigation plan at the time of application and award.

Identification and Notification of Potential Applicants

Information on the HMA programs is widely disseminated through multiple sources such as by phone, e-mail, internet, and press releases.

Potential applicants will be directed to the GEMA/HS website at www.gema.ga.gov for information on available HMA programs and pre-application and application deadlines.

The GEMA/HS Field Coordinators, who are the local points of contact for emergency management activities will also disseminate information on the program. Local EMAs (Directors) will be emailed the details on the program briefings and application announcements.

Hazard Mitigation Risk Reduction Specialists and Hazard Mitigation Planning Specialists attend GEMA/HS area meetings to discuss hazard mitigation issues and new opportunities for funding. In addition, coordination with the Association of County Commissioners of Georgia and the Georgia Municipal Association will serve to notify county and city personnel on the availability of mitigation funds.

HMGP applicant workshops are held in-person or virtually within the disaster declaration areas to identify and notify potential applicants within 90 days of the declaration date by State Hazard Mitigation Staff.

FMA Technical Assistance grant enables Hazard Mitigation personnel to conduct one-on-one interest meetings and application development meetings with county and city personnel, prior to the Notice of Funding Opportunity.

Eligible Projects

Projects under HMGP may be of any nature that will result in protection to public or private property. Specific types of eligible projects include, but are not limited to:

- Initiative Projects such as the development or improvement of warning systems with mitigation as an essential component;

- Construction of extreme wind event community safe rooms for public structures that meet the FEMA construction criteria in FEMA 361, “Design and Construction Guidance for Community Shelters;
- Retrofits such as elevation in place, structural reinforcement (wind and seismic), strapping of utilities, installation of storm shutters, tie downs, etc.;
- Acquisition of property and/or relocation of homes, businesses and public facilities from hazard-prone areas;
- Wildfire mitigation such as creating defensible space, application of ignition-resistant construction, hazardous fuel reduction, and reforestation;
- Generators that protect critical infrastructure and essential facilities and meet all other HMGP eligibility criteria. These may include police and fire stations, hospitals, and water and sewer treatment facilities;
- Soil stabilization projects that provide protection from erosion and landslides;
- Structural hazard control or protection measures such as floodwalls, detention basins and other storm drainage upgrades;
- Update of a Local Hazard Mitigation Plan;
- Hazard Mitigation Planning Related Activities

Identification of Projects

Within 60 days of the declaration under HMGP or HMGP Post Fire funding notification, GEMA/HS will submit a request for an Advance Assistance award to FEMA. The award will cover the costs to:

- Determine appropriate mitigation actions in response to the declaration event;
- Collect data for benefit-cost analyses, environmental compliance, and other program requirements;
- Scope and prioritize hazard mitigation projects;
- Provide technical assistance to local communities to develop hazard mitigation projects;
- Conduct meetings, outreach, and coordination with potential subapplicants; and
- Submit eligible and complete applications to FEMA.

Projects identified in Local Hazard Mitigation plans will be the initial source for identifying potential projects. All mitigation projects must be identified or support goals and objectives in federally approved local mitigation plans. Hazard Mitigation Planning Specialists will review all FEMA approved plans to identify mitigation projects.

Information acquired during the Preliminary Damage Assessment (PDA) in response to a disaster event is another source for identification of mitigation issues and potential projects. PDA teams will be briefed as to the availability and requirements of the Hazard Mitigation Grant Program so potential projects can be identified for follow-up by the State Hazard Mitigation Staff.

The FMA Technical Assistance grant will allow Hazard Mitigation personnel to work throughout the fiscal year to identify and work directly with potential applicants who have repetitive loss properties and severe repetitive loss properties.

Submission of Pre-Applications/Applications

Pre-applications will be disseminated within 90 days of the disaster declaration or HMGP Post Fire Funding Notification. The deadline for subapplicants' submission of completed pre-applications will be set by the Hazard Mitigation Manager. The pre-application will address, at a minimum, the following:

- Name of applicant
- Description of Project, location and the hazard that will be mitigated
- Identify coordination with local Multi-Jurisdictional Plan
- Estimated Project Costs
- Discuss the history/frequency of hazard occurrence in the hazard area
- Information required to perform a preliminary Benefit-Cost Analysis

The deadline for applicants' submission of completed applications will be set by the Hazard Mitigation Manager. All HMGP applications will be submitted within the regulatory time frame of 12 months following the disaster date or six months for HMGP Post Fire notification. Under extenuating circumstances, the state may request up to a six-month extension to this deadline in 90 day increments.

The Hazard Mitigation Risk Reduction Supervisor and Hazard Mitigation Planning Supervisor will ensure that potential subapplicants are aware of assistance available, provide technical assistance to all eligible subapplicants, and make timely submission of those documents necessary for the application. Technical assistance will be provided in the development of the HMGP pre-applications and applications by Hazard Mitigation Risk Reduction Specialists and Hazard Mitigation Planning Specialists. For the FMA program, Technical Assistance grants will allow Hazard Mitigation personnel to work with subapplicants to develop quality applications prior to Notice of Funding Opportunity.

Review, Priorities, and Ranking of Pre-Applications/Applications

Hazard Mitigation Risk Reduction Specialists and Hazard Mitigation Planning Specialists will complete an initial review of their respective pre-applications and score the projects. Each respective Manager will present the review to the Hazard Mitigation Manager who will make recommendations to the GAR.

Completed pre-applications received by the deadline will be scored using the Project Selection Scoring Sheet. Pre-applications will be prioritized under two categories- within the declared area and outside of the declared area. Projects in the declared areas are the highest priority for the State of Georgia. Applicants whose pre-applications receive the highest score and meet minimum project criteria will be invited to complete and submit a full application.

Hazard Mitigation Risk Reduction Specialists and Hazard Mitigation Planning Specialists will assist subapplicants in completing their applications and will conduct an initial review in accordance with the “General Review Criteria,” and score the applications when received. The Hazard Mitigation Manager will review the results of the staff review and scoring of the projects, prioritize the projects, and make recommendations to the GAR.

Following the HMGP program compliance review, applications will be submitted to FEMA within 90 days following receipt of the completed application.

General Review Criteria

Applications for funding under the Hazard Mitigation Grant Program received by the State Hazard Mitigation Department will be reviewed for the following criteria (from 44 CFR 206.434)

- Be in conformance with the State Mitigation Plan and Local Mitigation Plan approved under 44 CFR part 201;
- Have a beneficial impact upon the designated disaster area, whether or not located in the designated area;
- Be in conformance with 44 CFR part 9, Floodplain Management and Protection of Wetlands, and FEMA Directive 108-1, Environmental Considerations;
- Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. Projects that merely identify or analyze hazards or problems are not eligible;
- Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. The subapplicant must demonstrate this by documenting that the project:
 - Addresses a problem that has been repetitive, or a problem that poses a significant risk to public health and safety if left unsolved,
 - Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur.
- Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options,
- Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address.
- Considers long-term changes to the areas and entities it protects and has manageable future maintenance and modification requirements.

Special Consideration

FEMA award program funds cannot be used as a substitute or replacement to fund projects or programs for which funding is available under other federal authorities.

Hazard Mitigation Grant Program funds may be packaged or used in combination with other federal, state, local or private funding sources, when appropriate, to develop a comprehensive mitigation solution; however, they may not be used as a match for other federal funds.

Submission of Selected Projects to FEMA

The GAR serves as the Grant Administrator for all funds provided by the Hazard Mitigation Grant Program. Within 12 months of the disaster declaration or a mutually agreeable date of up to 18 months or within six months of the HMGP Post Fire Notification or a mutually agreeable date of up to 12 months, all Hazard Mitigation applications will be submitted that will identify one or more hazard mitigation measures for which funding is requested. The application will include a Standard Form 424, Application for Federal Assistance; Standard Form 424B, Assurance - Non-Construction or Standard Form 424D, Assurances - Construction; and a narrative statement which will identify the specific mitigation measures for which funding is requested. The following information will be included for each hazard mitigation measure:

- Name of Applicant;
- State or local contact for the measure;
- Location of Project (including decimal latitude and longitude coordinates);
- Maps of Site Location (Street, Plat, flood, topographic) with site clearly marked;
- Narrative Description of the mitigation measure (describe how the measure solves the problem);
- Cost estimate of the measure;
- Analysis of the measure's cost-effectiveness and substantial risk reduction;
- Work schedule (milestones, start/completion dates and any other limitations);
- Justification for selection;
- Alternatives considered;
- Environmental information consistent with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and FEMA Directive 108-1, Environmental Considerations; and
- Pictures and building construction date if applicable.

A Benefit-Cost Analysis (BCA) is completed on each project submitted except for Planning, Initiative, Advanced Assistance, State Management Costs, and the acquisition of substantially damaged properties in the special flood hazard area. Pre-calculated benefits may be used for certain acquisition, elevation, safe room, residential wind retrofit, soil stabilization, flood diversion, and reforestation projects to satisfy the cost-effectiveness requirements per FEMA policy. The State will utilize FEMA approved benefit–cost modules for all analysis or utilize greatest savings to the fund data, or pre-calculated benefits. The State will use FEMA's National Emergency Management Information System (NEMIS) to submit HMGP applications to FEMA. For non-disaster applications the state will submit its applications using FEMA's Grants Outcomes (GO) grants system or other designated grant management system.

Notification of Project Approval

Within two weeks of FEMA's award letter, the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist will prepare and send to the applicant an approval package, consisting of an approval letter their recipient-subrecipient agreement. The subrecipient is instructed to sign and return the agreement to GEMA/HS for signature by GAR. Upon receipt of the signed agreements, the Hazard Mitigation Manager will obtain the GAR's signature. The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist will retain one signed and executed copy for the project file and forward the other signed and executed copy to the subrecipient with instructions to start the project.

Notification of Project Denial

Within two weeks of FEMA's denial letter, the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist will prepare a transmittal for the GAR's signature to advise the applicant of award disapproval. The letter will advise the applicant of its right to appeal and include guidance on the appeal process.

Appeals

A subrecipient or recipient may appeal any FEMA determination regarding applications submitted for funding. FEMA will only consider written appeals that justify the request for reconsideration. The appeal should specify the monetary figure in dispute and the provisions in Federal law, regulation, or policy with which the appellant believes the initial action was inconsistent.

Whether the appeal originated with the recipient or subrecipient, the appeal must be submitted in writing to the Regional Administrator (RA) by the Recipient. The Regional Administrator is the decision-maker on first appeals. An appeal of the Regional Administrator's decision on any first appeal (the second appeal) is decided by the Deputy Associate Administrator for Mitigation.

To begin the appeal process (including second appeals), appellants must submit documentation within 60 days after receiving the initial notice of the action on the first appeal. The Recipient will forward all appeals from a subrecipient with a written recommendation to the Regional Administrator within 60 days of receipt. The Region will forward second appeals with a recommendation and associated documentation to FEMA Headquarters. Within 90 days following the receipt of an appeal, FEMA will notify the Recipient in writing of the disposition of the appeal or of the need for additional information.

If additional information is needed, FEMA will determine a date by which the information must be provided. Within 90 days following the receipt of the requested additional information (or 90 days after the information was due), FEMA will notify the Recipient in writing of the disposition of the appeal.

FEMA will provide its decision to the Recipient in writing. If the decision is to grant the appeal, the Regional Administrator will take the appropriate action.

Within 15 days following the receipt of FEMA's decision, the Recipient will notify the subrecipient in writing of FEMA's decision concerning their appeal.

Program Management

Data Management System

A Hazard Mitigation Grant Program file, Pre-Disaster Mitigation file, Building Resilient Infrastructure and Communities file, and Flood Mitigation Assistance file will be established for each approved project that will include the following sections: Project Application, FEMA Correspondence, GEMA/HS Correspondence, Applicant Correspondence, Quarterly Reports, Payments, Environmental Correspondence, and Financial Documentation. project information will be tracked in GEMA/HS's EMGrants system in-lieu of paper files.

Each Project file will contain the following information:

- Recipient-Subrecipient Agreement
- Trip Reports
- Correspondence between State, Local and FEMA
- Memorandums and Notes to file
- Progress Payments
- Application and Submittal Information
- Application review and recommendations
- Financial records
- Reimbursement Documentation
- Electronic file records, including proper documentation in EMGrants

Reports

Quarterly progress reports will be submitted by the subrecipient to the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist assigned to the project beginning with the first full quarter after receipt of funding. This report should verify that the scope of work is either on schedule or provide a reason that the project will not meet the projected schedule date.

In the report, the subrecipient should indicate work accomplished and remaining, funds expended, including management expenses, and whether there are any issues with the project such as cost overruns or scope changes that were not apparent at the beginning of the award process. Reports are due from the subrecipient no later than 15 days after the calendar quarter. Once the reports are received by the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist, the information is then entered into EM Grants, which is used to track all approved HMGP, PDM, BRIC, and FMA projects. The Hazard Mitigation Planning Supervisor reviews and approves the quarterly reports for all open planning projects and the Hazard Mitigation Risk Reduction Supervisor reviews and approves the quarterly reports for all open projects. The Hazard Mitigation Manager utilizes EM Grants and additional spreadsheets to generate the FEMA quarterly report for all approved open projects

The Hazard Mitigation Manager will submit a quarterly progress report for all approved HMA and HMGP projects to the FEMA RA beginning the first full quarter of funding. Quarterly reports will be submitted within 30 days of the calendar quarter. Due to the State's fiscal year closeout on June 30th of each year, financial reports may not be available on some projects at the time of the quarterly report submission. This will be noted in the quarterly report submission.

NEMIS Progress Reporting

FEMA will provide the State with an excel spreadsheet exported from NEMIS on the projects needing a quarterly report submission. The State will utilize this spreadsheet to update the required fields and will submit an updated version. The required fields updated in the spreadsheet include subrecipient expenditures to date, total recipient drawdown, federal funds disbursed, date final payment made to subrecipient, approved completion date, time extension, percentage of work completed, actual completion date, comments for acquisition projects, and a list of all properties acquired in the quarter.

The State will also submit an excel spreadsheet listing specific information about acquired properties in the quarter for all HMA programs. The required fields updated in the spreadsheet include project number, property address, latitude, longitude, CRS rating, flood zone, finished floor elevation, base flood elevation, mitigation date, and repetitive loss and severe repetitive loss information.

Staffing Requirements

The organizational structure of the Hazard Mitigation Department, which serves as the core of the hazard mitigation team, will be flexible and capable of expansion and contraction as the need dictates. The Hazard Mitigation Department Staff consists of the Hazard Mitigation Manager, Hazard Mitigation Deputy Manager, Hazard Mitigation Risk Reduction Supervisor, Hazard Mitigation Planning Supervisor, Hazard Mitigation Risk Reduction Specialists, Hazard Mitigation Planning Specialists, and an Administrative Assistant. GEMA/HS's Finance Manager will provide necessary administrative support elements for all grant programs. In addition, the Finance Department will provide finance administration support for the financial management of the awards. This support includes Payment Management System management, financial reconciliation, payment processing, and financial closeout of awards.

In an effort to assure that adequate staffing and resources are available following a disaster, the Hazard Mitigation Risk Reduction Supervisor and Hazard Mitigation Planning Supervisor will identify the minimum number of personnel and positions needed to implement and manage the HMA and HMGP programs. These staffing costs will be incorporated into the Advance Assistance and/or Management Cost applications.

Based on the volume of applications for HMA and HMGP, key positions in the hazard mitigation team may be expanded to support the implementation of mitigation activities, to include conducting BCAs and environmental planning. The mitigation team will be augmented, as necessary, to include staff from other State agencies, or temporary staff, or contractors hired to administer HMA and HMGP effectively. GEMA/HS will follow applicable state policies regarding the hiring, training or termination process. The augmented interagency mitigation team include members of the State Hazard Mitigation Planning Team as identified

in the 2019 State Hazard Mitigation Strategy.

Cost of State personnel (regular time salaries only) for continuing management of the Hazard Mitigation awards may be eligible when approved in advance by Regional Administrator. The State shall submit a plan for such staffing in advanced of the requirement process.

Responsibilities

Subrecipients

- Ensure that projects begin within 90 days of approval and are completed within the approved timeframe or three years from the end of the application period or three years from the funding selection date.
- Implement monitoring procedures and submit quarterly reports to the Hazard Mitigation Risk Reduction or Planning Specialist assigned to the project as directed at the time of the award.
- Maintain the financial records and receipts necessary to document all expenditures connected with the project.
- Ensure that construction is in accordance with all applicable federal and state laws and regulations with applicable building and utility codes, and construction standards.
- Maintain a project file that includes copies of the Recipient-Subrecipient Agreement, Meeting Notes, Correspondence, Memorandums and Notes to file, Public Notices, Application and Submittal Information, Financial records, Reimbursement Documentation, and any other important information related to the project.

GAR

- Responsible for overall awards management.
- Provides technical assistance to subrecipients as necessary.
- Notifies subrecipients of actions taken in response to applications.
- Certifies that all claims and costs are eligible and in compliance with provisions of the FEMA-State Agreement and submits claims to FEMA RD for payment.

Hazard Mitigation Manager, State Hazard Mitigation Officer

- Submits reports to FEMA as required.
- Reviews requests for funds and recommends approval or denial to the GAR
- Coordinates hazard mitigation project actions with the GAR and FEMA, as necessary, and provides assistance as required in administering the program.
- Reviews final claims, certification of cost, cost overruns, audits, and appeals
- Responsible for reviewing and transmitting all required information to FEMA in order to complete application determination.

Hazard Mitigation Deputy Manager, Deputy State Hazard Mitigation Officer

- Serves as the State's alternate point of contact with FEMA, other Federal Agencies, and local governments in mitigation planning and implementation of mitigation programs and activities required under the Stafford Act.
- Provides additional management support to the Hazard Mitigation Manager and staff in all areas of the HMGP to ensure programmatic compliance for plans and projects.
- Assists in preparing financial and other reports.

Hazard Mitigation Planning Supervisor

- Supervises team of Hazard Mitigation Planning Specialists.
- Serves as lead Hazard Mitigation Planning Specialist in the development of critical, urgent, or high-level planning projects.
- Reviews all correspondence, activities, and meetings conducted to implement HMGP planning functions.
- Conducts meetings to inform local and state officials about the Hazard Mitigation Planning Programs.

Hazard Mitigation Risk Reduction Supervisor

- Supervises team of Hazard Mitigation Risk Reduction Specialists.
- Serves as lead Risk Reduction Specialist in the development of critical, urgent, or high-level projects.
- Reviews all correspondence, activities, and meetings conducted to implement HMGP project functions.
- Conducts meetings to inform local and state officials about the Hazard Mitigation Project Programs.

Hazard Mitigation Risk Reduction Specialists and Hazard Mitigation Planning Specialists

- Review applicants' quarterly progress reports and monitor and evaluate project accomplishment and adherence to work schedule for their respective awards.
- Serve as liaison and primary support for local Emergency Management Agency representatives in designated areas.
- Monitor the progress of their respective hazard mitigation award projects, inspect completed projects, and verify and recommend award payments.
- Maintain necessary financial documentation to support funds distributed to Subrecipient(s).
- Monitor Project Status by quarterly reports, daily phone/email contact, and by conducting on-site or virtual visits for their respective awards.

Financial Management

General

GEMA/HS is the recipient and pass-through entity for project financial management in accordance with 2 CFR Part 200. Subrecipients will be accountable to the recipient for funds that are awarded.

Payments of Claims

All payments under Hazard Mitigation Assistance Programs (HMGP, FMA, BRIC, and PDM) are subject to cost-sharing, with the exception of recipient and subrecipient management expenses. All processing of HMGP payments is compiled and recorded in EM Grants. The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist reviews documentation submitted by the subrecipient and inspections are made to determine eligible costs under federal guidelines. Payment will be based on eligible expenditures that are properly documented. Subrecipients will be reimbursed for the federal and state, if applicable, shares of the total eligible cost for their project. The final ten percent may be withheld until a final desk review has been completed by the Hazard Mitigation Planning Specialist.

The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist prepares the progress payment request form and gives to their respective supervisor for review. The supervisor will forward the payment recommendation to the Hazard Mitigation Deputy Manager for review. Upon review and approval, the Hazard Mitigation Deputy Manager and/or Hazard Mitigation Manager will send the payment forward for processing by the Finance Department.

The Administrative Assistant receives and logs all checks and distributes them to the assigned Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist. The check and copies of the check and progress payment will be given to the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist to be placed in the subrecipient project file. The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist is responsible for preparing the payment letter and updating the payment information in EM Grants. Specialists will ensure the payment is sent to the applicant via certified mail within ten business days of receipt. In certain instances, checks may be delivered in lieu of mailing.

Special Consideration for Contract Work

If the State performs a contractual agreement in which the State is the subrecipient, the following payment procedures will be followed:

Invoices for payment received by the Risk Reduction Specialist or Hazard Mitigation Planning Specialist are verified and the expenditures are documented in the award file. Payments are handled directly through the GEMA/HS Finance department and the Office of Planning and Budget (OPB).

Allowable Costs and Subrecipient Management Costs

General policies for determining allowable costs are established in 2 CFR 200. For declarations after August 1, 2017, and consistent with the Disaster Recovery Reform Act of 2018, the State will pass through HMGP management costs to the subrecipient up to 5% of the HMGP award for administering awards. FEMA will provide up to 100% federal funding for management costs based on actual costs incurred.

HMGP Management costs are any indirect costs and direct administrative expenses that are reasonably incurred in administering a subrecipient award. Eligible management cost activities may include:

- Solicitation, review, and processing of subapplications and subrecipient awards;
- Managing awards (e.g., quarterly reporting, closeout);
- Purchase of equipment, per diem and travel expenses, and professional development that is directly related to the implementation of HMA programs; and
- Staff salary costs directly related to performing the activities listed above.

Subrecipients may request management costs as part of the application development process. HMA and HMGP subapplicants who choose not to request management costs are documented in the project sub-application and submission letter to FEMA. Subrecipients requesting less than 100% of the available management costs will be documented in the subgrant submission and letter to FEMA.

Subrecipient management costs are available for projects or planning awards in conjunction with the Pre-Disaster Mitigation Program, the Flood Mitigation Assistance Program, the Building Resilient Infrastructure and Communities (BRIC), and the Hazard Mitigation Grant Program for disasters declared after October 5, 2018. Subrecipients may apply for a maximum of five percent of the total funds requested in their award application budget (Federal and non-Federal share) for management costs to support the project and planning as part of their award application.

The following categories of Pre-Award Costs are also allowed: application development activities; finished floor elevation surveys; substantial damage determination surveys; technical assistance; benefit-cost analysis development. If these costs are requested as pre-award, they should be clearly identified by a pre-award line item in each community's application for FEMA award funding. It is understood that pre-award costs may be paid to a community only if the respective FEMA award is granted.

Documentation Requirements

Hazard Mitigation Grant Program awards are reimbursements for approved measures including subrecipient management costs, even when advance funds are received. Each subrecipient must maintain full documentation in order to be paid. Projects that receive

advance funds are not relieved of this requirement. Required subrecipient documentation consists of copies of:

- Summaries of documentation,
- Activity reports for labor, equipment, and materials,
- Proof of payment such as copies of checks or vouchers (for materials purchased and for contract work),
- Contracts awarded,
- Invoices or other billing documents,
- Bid advertisements,
- List of bidders and amounts (for each project),
- Statement of why the low bid was not accepted (if appropriate),
- Progress reports,
- Labor/Equipment Costs

Advance of Funds

A subrecipient may request an advance of funds under certain conditions. The subrecipient must submit a written request for an advance of funds and provide supporting documentation. For acquisition projects, the settlement statement(s), copies of checks relative to each property, and a copy of the Deed with Restrictive Covenant for each property must be submitted prior to receiving the next advance payment. Advances will not exceed 90 percent of the total project cost except for acquisition projects.

The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist will verify that the approved scope of work has been followed and with all supporting documentation provided. The Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist prepares the advance payment request form and gives the request to their respective supervisor for review and recommendation to the Hazard Mitigation Deputy Manager.

The Hazard Mitigation Deputy Manager will review and recommend approval or denial of the advance to the Hazard Mitigation Manager for final approval and denial.

If the request is denied, the Hazard Mitigation Department will inform the applicant in writing that additional documentation is required to support the request. If the request is approved, the Hazard Mitigation Manager authorizes payment by the Finance Department.

Subrecipient Performance

If documentation, inspections, or other reviews reveal problems in performance of work or documentation, the GAR will direct the applicant's agent to correct the deficiencies. Quarterly reports must be current in order to process progress payment requests.

If a subrecipient fails to comply with Federal statutes, regulations or the terms and conditions of a Federal award, the State may impose additional conditions, as described in § 200.207 Specific conditions. If the Federal awarding agency or the State determines that noncompliance cannot be remedied by imposing additional conditions, the state may take one or more of the following actions, as appropriate in the circumstances:

- (a) Temporarily withhold cash payments pending correction of the deficiency by the non-Federal entity or more severe enforcement action by the Federal awarding agency or pass-through entity.
- (b) Disallow (that is, deny both use of funds and any applicable matching credit for) all or part of the cost of the activity or action not in compliance.
- (c) Wholly or partly suspend or terminate the Federal award.
- (d) Initiate suspension or debarment proceedings as authorized under 2 CFR part 180 and Federal awarding agency regulations (or in the case of a pass-through entity, recommend such a proceeding be initiated by a Federal awarding agency).
- (e) Withhold further Federal awards for the project or program.
- (f) Take other remedies that may be legally available.

Award Modifications

Subrecipients are required to request prior approval for award modifications.

Award Modifications include:

- Any revision which would result in the need for additional funding.
- Transfers between budget categories that exceed ten percent of the award.
- Any revision of the scope or objectives of the project (regardless of whether there is an associated budget revision requiring prior approval).
- Need to extend the period of availability of funds. The **maximum** amount of time the State can give to subrecipients to complete projects is three years per FEMA policy guidance.
- Changes in key persons in cases where specified in an application or award. In research projects, a change in the project director or principal investigator shall always require approval.
- Under non-construction projects, contracting out, sub awarding (if authorized by law) or otherwise obtaining the services of a third party to perform activities which are

central to the purposes of the award. This does not apply to the procurement of equipment, supplies, and general support services.

Cost Overruns

The State will no longer reserve any of the initial disaster allocation to cover cost overruns for HMGP awards. If applicants experience cost overruns, they will be met by un-obligated disaster funds not requested within the application period or cost underruns on other approved awards as a result of project withdrawal or award modifications or project closeouts where projects were completed under budget and funds were de-obligated.

Actual cost of approved work may exceed approved cost estimates. In such cases, the applicant may request approval of additional costs which result in the need for additional federal funds. To do so, the applicant must submit a request in writing for additional federal funding and include supporting documentation. The SHMO evaluates each cost overrun and, when justified, submits a request and a recommendation to the FEMA RA for a final determination.

Audit Requirements

- Audits will be conducted in accordance with 2 CFR 200 Subpart F.
- Recipient and subrecipients will fully cooperate and participate in audits as required.
- The Hazard Mitigation Manager with support from the Finance Manager reviews audits completed for the recipient and subrecipients for the Hazard Mitigation Grant Program. If adverse findings are reported, the GAR must take appropriate action and report that action to FEMA.
- The GAR will evaluate any audit findings and corrective action plan and issue a written decision to the auditee as to what corrective action is necessary in accordance with 2 CFR 200.521 and report that action to FEMA.
- FEMA may elect to conduct a federal audit of any of the awards or subawards.

Closeout Procedures

Project Closeout

When a project has been completed the subrecipient must submit a request for closure in writing to the GAR stating that all work is complete and verify the final project cost. Before final payment or reimbursement can be made to the subrecipient, the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist must be in possession of a written request for reimbursement, a copy of the settlement statement for each property (where applicable), copies of all proof of payments relative to project costs, and a copy of the Deed with Restrictive Covenant for each property (where applicable), and as built drawings (where applicable).

After a subrecipient has informed the State that a project is ready for a final inspection, the Hazard Mitigation Risk Reduction Specialist will schedule a meeting to review all of the subrecipient's documentation and perform a site visit (in-person or virtually) to verify the approved scope of work has been completed. The state will collect GPS coordinates and site photographs for each mitigated property. In regard to plan development or update, the Hazard Mitigation Planning Specialist will conduct a desk or virtual review to verify the approved scope of work has been completed.

Once the final inspection/desk review is completed and all documentation is satisfactory, the Hazard Mitigation Risk Reduction Specialist or Hazard Mitigation Planning Specialist will process the final payment to the subrecipient for project costs.

When all eligible project funds have been disbursed, the Hazard Mitigation Department will request in writing from FEMA an initial closeout of the project, indicating in the request any overrun or underrun of eligible costs. The request should specify whether the project meets the eligible scope of work. Equipment purchased with award funding totaling \$5,000.00 or more, will be documented at closeout, stored in the TeamWorks Accounting System and reported using the Standard Form-428-B, Tangible Personal Property Report.

FEMA will make a determination of any overrun or underrun amounts and obligate or deobligate funds as necessary. FEMA will notify GEMA/HS of the final eligible amount, including subrecipient administrative allowances. Upon the State's concurrence with FEMA's final claim figures, GEMA/HS will disburse any remaining funds to the subrecipient with a closure letter that specifies that records must be maintained by the subrecipient for a period of three years from the date of project closeout.

Using a mitigated properties database from GMIS, GEMA/HS will keep an up-to-date listing of all properties that have been mitigated in the state. As property acquisition projects are completed, the properties that have been mitigated are listed in detail under this database.

Project files will be documented to reflect that project closeout has been accomplished and no further disbursements will be made. Project file information will be retained for a minimum of three years after the closeout of the disaster. Closed project acquisition type mitigation projects will be monitored for continued compliance every three years.

Award Program Closeout

When all projects have been completed and all disbursements made, documentation completed and audits performed, the Hazard Mitigation Department will request, through the alternate GAR that the grant program be closed out. The alternate GAR will conduct necessary reviews of project accomplishment and submit necessary documentation to FEMA to support the request for closeout.

APPENDIX A

Sample Recipient-Subrecipient Agreement

HAZARD MITIGATION GRANT PROGRAM Recipient-Subrecipient Agreement

On January 16, 2023, the President declared that a major disaster exists in the State of Georgia. This declaration was based on damage resulting from severe storms, straight-line winds, and tornadoes on January 12, 2023. This document is the Recipient-Subrecipient Hazard Mitigation Assistance Agreement for the major disaster declaration, designated FEMA-4685-DR, under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288 as amended by Public Law 100-707, 42 USC 5121 et seq. ("The Act"), in accordance with 44 CFR 206 Subpart N, Hazard Mitigation Grant Program. Under this Agreement, the interests and responsibilities of the Recipient, herein after referred to as the State, will be executed by the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). The individual designated to represent the State is the GEMA/HS Director, Governor's Authorized Representative. The Subrecipient to this Agreement is XYZ. The interests and responsibilities of the Subrecipient will be executed by XYZ agent, the Subrecipient Authorized Representative.

1. The following Exhibits are attached and made a part of this agreement:

- Exhibit "A": Application for Federal Assistance, Standard Form 424
- Exhibit "B": Assurances- Construction Programs, Standard Form 424-D
- Exhibit "C": Project Administration Guidelines: Financial Assistance, Hazard Mitigation Grant Program
- Exhibit "D": Certification regarding Drug-Free Workplace Requirements
- Exhibit "E": Certification regarding Lobbying
- Exhibit "F": Scope of Work
- Exhibit "G": Progress Payment Request Form
- Exhibit "H": Federal Funding Accountability and Transparency Act Certification

2. Pursuant to Section 404 of the Act, funds are hereby awarded to the Subrecipient on a 75 percent federal cost share and 10 percent state cost share basis for the hazard mitigation project(s) described in Exhibits "A" and "F". The Subrecipient shall be responsible for the remaining 15 percent share of any costs incurred under Section 404 of the Act and this Agreement. For subrecipient management expenses, funds are awarded at 100% federal cost share. Allowable costs will be governed by 2 CFR Part 200.
3. If the Subrecipient violates any of the conditions of disaster relief assistance under the Act, this Agreement, or applicable federal and state regulations; the State shall notify the Subrecipient that additional financial assistance for the project in which the violation occurred will be withheld until such violation has been corrected to the satisfaction of the State. In addition, the State may also withhold all or any portion of financial assistance which has been or is to be made available to the Subrecipient for other disaster relief projects under the Act, this or other agreements, and applicable federal and state regulations until adequate corrective action is taken.

4. The Subrecipient agrees that federal or state officials and auditors, or their duly authorized representatives may conduct required audits and examinations. The Subrecipient further agrees that they shall have access to any books, documents, papers and records of any recipients of federal disaster assistance and of any persons or entities which perform any activity which is reimbursed to any extent with federal or state disaster assistance funds distributed under the authority of the Act and this Agreement.
5. The Subrecipient will establish and maintain an active program of nondiscrimination in disaster assistance as outlined in implementing regulations. This program will encompass all Subrecipient actions pursuant to this Agreement.
6. The Subrecipient agrees that the mitigation project contained in this agreement will be completed by XYZ on or before MONTH-DAY-YEAR. Completion dates may be extended upon justification by the Subrecipient and approval by FEMA and the Governor's Authorized Representative.
7. The written assurances provided by XYZ pertaining to FEMA's post award approval conditions apply to this Award Agreement and are incorporated by reference.
8. The Subrecipient shall follow Uniform Administrative Requirements for awards found in 2 CFR Part 200 and FEMA HMA (Hazard Mitigation Assistance) program guidance to implement this award.
9. There shall be no changes to this Agreement unless mutually agreed upon, in writing, by both parties to the Agreement.

Governor's Authorized
Representative

Subrecipient's Authorized
Representative

Date

Date

**COVER PAGE FOR CURRENT
APPLICATION FOR FEDERAL ASSISTANCE**

**COVER PAGE FOR CURRENT
ASSURANCES- CONSTRUCTION PROGRAMS**

ASSURANCES - CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain federal assistance awarding agencies may require applicants to certify additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.

OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure nondiscrimination during the useful life of the project.

4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.

5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms to the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.

6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of

9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

10. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C.

§§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism;

(g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase Flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91- 190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components

or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE _____
APPLICANT ORGANIZATION _____	DATE SUBMITTED

EXHIBIT “C”
GEORGIA EMERGENCY MANAGEMENT and HOMELAND SECURITY AGENCY
Hazard Mitigation Grant Program
Project Administration Guidelines: Financial Assistance

This fact sheet provides a synopsis of information contained in the Recipient-Subrecipient Agreement and other applicable documents. Its purpose is to provide general guidelines for efficient and timely Hazard Mitigation Grant Program project administration.

1. **Project Identification.** The Federal Emergency Management Agency (FEMA) has assigned project number HMGP 4685-0000 to this project. Please reference this number in all correspondence, as doing so will greatly assist us in processing any actions for this project.
2. **Documentation.** You must keep full documentation to get maximum payment for project related expenditures. Documentation will be required as part of the approved Hazard Mitigation Grant Program project file. Documentation consists of:
 - A. Recipient-Subrecipient Agreement.
 - B. Copies of checks, vouchers or ledger statements.
 - C. Contracts awarded.
 - D. Invoices or other billing documents.
 - E. Progress reports.
 - F. Record of advance or progress payments (where applicable).
3. **Funding.** Cost sharing has been established at 75% federal, 10% state, and 15% applicant.
4. **Debarred and Suspended Parties.** You must not make any award or permit any award (subaward or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, “Debarment and Suspension”.
5. **Procurement Standards.** You may use your own procurement procedures, which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal laws and standards. Below is a summary of key procurement standards that a Subrecipient should incorporate as discussed in 2 CFR Sections 200.318 to 200.326.
 - A. **Conflict of Interest Policy.** The Subrecipient must maintain written standards of conduct covering conflicts of interest and governing the performance of its employees engaged in the selection, award, and administration of contracts as required in 2CFR Section 200.318.
 - B. **Procurement.** Perform procurement transactions in a manner providing full and open completion. Contracts and Procurements must be of reasonable cost, generally must be competitively bid, and must comply with Federal, State, and local procurement standards. FEMA finds five methods of procurement acceptable:

- a) Micro-purchase procedures: an informal method for securing services or supplies that do not cost more than \$3,000. Micro-purchases may be awarded without soliciting competitive quotes if the Subrecipient considers the price to be reasonable.
 - b) Small purchase procedures: an informal method for securing services or supplies that do not cost more than \$100,000 by obtaining several price quotes from different sources
 - c) Sealed bids: a formal method where bids are publicly advertised and solicited, and the contract is awarded to the responsive bidder whose proposal is the lowest in price
 - d) Competitive proposals: a method similar to sealed bid procurement in which contracts are awarded on the basis of contractor qualifications instead of on price
 - e) Non-competitive proposals: a method whereby a proposal is received from only one source, because the item is available only from a single source; there is an emergency requirement that will not permit delay;
- C. Maintain sufficient records to detail the significant history of procurement. These records will include, but are not necessarily limited to, the following: rationale for the method of procurement, selection of contract type, and contractor selection or rejection.
- D. Take affirmative steps to assure the use of small and minority firms, women's business enterprises, and labor surplus area firms when possible.
- E. Include specific provisions in Subrecipient's contracts to allow changes, remedies, changed conditions, access and records retention, suspension of work and other clauses approved by the Office of Federal Procurement Policy.

6. Payments

A. Progress Payments

- (1) When progress payments are desired, you must submit a written request (on provided form at Exhibit "G") and provide supporting documentation, such as an invoice and copies of check.
- (2) The Risk Reduction Specialist reviews the request and supporting documentation. The Hazard Mitigation Manager reviews and approves or denies the request.
- (3) If the request is denied, the Hazard Mitigation Manager will inform you in writing that additional documentation is required to support the request.
- (4) If the request is approved, the Hazard Mitigation Manager will authorize payment of the requested amount.

- (5) Quarterly report submissions must be current in order to receive progress payments.
 - B. Advance Payments - Advance payments will be made on an exception basis only.
7. Subrecipient Performance - The scope of work (see Exhibit F) must be initiated within 90 days of this award notification.
- A. If documentation, inspections or other reviews reveal problems in performance of the scope of work, the Hazard Mitigation Manager will inform you in writing of the deficiencies.
 - B. In addition, the State may also withhold all or any portion of financial assistance which has been made available under this agreement until adequate corrective action is taken.
8. Award Expiration Date
- A. The award expiration date runs through MONTH-DAY-YEAR and has been established based on project milestones established by the applicant in their application. The award expiration date is the time during which the Subrecipient is expected to complete the scope of work. You may not expend FEMA or state funds beyond this date. All costs must be submitted for reimbursement within 60 days of the end of the award expiration date.
 - B. Requests for time extensions to the Award Expiration Date will be considered but will not be granted automatically. A written request must be submitted to the Hazard Mitigation Manager with an explanation of the reason or reasons for the delay. Without justification, extension requests will not be processed. Extensions will not be granted if the Subrecipient has any overdue quarterly progress reports. If an extension is requested, it must be received 90 days prior to the award expiration date. When fully justified, the Hazard Mitigation Manager may extend the award expiration date.
9. Project Termination
- A. The Recipient, Subrecipient, or FEMA may terminate award agreements upon giving written notice to the other party at least seven (7) calendar days prior to the effective date of the termination. All notices are to be transmitted via registered or certified mail.
 - B. The Subrecipient's authority to incur new costs will be terminated upon the date of receipt of the notice or the date set forth in the notice. Any costs incurred prior to the date of the receipt of the notice or the date of termination set forth in the notice will be negotiated for final payment. Close out of the award will commence and be processed as prescribed under final inspection procedures described in this Recipient-Subrecipient Agreement.

10. Environmental and Historic Preservation Conditions

- A. The following Environmental Project Conditions must be followed to ensure the project remains in compliance through implementation:

Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders. This review did not address all federal, state, and local requirements. Acceptance of federal funding requires Recipients to comply with all federal, state, and local laws. Failure to obtain all appropriate federal, state, and local environmental permits and clearances may jeopardize federal funding.

If ground-disturbing activities occur during construction or demolition, Subrecipient will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.

11. Equipment/Supplies

- A. The Subrecipient must comply with the regulations listed in 2 CFR 200.313 Equipment, 200.314 Supplies, and must be in compliance with state laws and procedures.

12. Award Modifications

- A. Any award modifications, including deviation from the approved scope of work or budget, must be submitted in writing for approval prior to implementation. Award Modifications include:

1. Any revision which would result in the need for additional funding.
2. Transfers between budget categories.

- B. The Subrecipient shall follow prior approval requirements for budget revisions found in 2 CFR 200.308. Transfer of funds between total direct cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those direct cost categories exceed ten percent of the total budget.

13. Appeals - You may submit an appeal on any item related to award assistance. Appeals must be submitted to the Hazard Mitigation Manager within 90 days of the action which is being appealed.

14. Progress Reports

- A. Quarterly progress reports are required. The report will be supplied to you by GEMA/HS on a quarterly basis for your completion.

- B. The initial progress report will cover the period through MONTH-DAY-YEAR. It must be submitted no later than MONTH-DAY-YEAR.
 - C. Subsequent reports must be filed by you within fifteen days after the end of each calendar quarter (March 31, June 30, September 30, and December 31).
15. Interim Inspections
- Interim inspections may be conducted by GEMA/HS staff and/or FEMA staff.
16. Project Closeout
- A. When all work has been completed, you must notify your Risk Reduction Specialist in writing to request project closeout.
 - B. A desk review will be conducted by your Risk Reduction Specialist.
17. Audits
- A. If you receive \$750,000 or more in federal assistance from all federal sources, not just this award, during your fiscal year, you are responsible for having an audit conducted as prescribed by the Single Audit Act and sending a copy to the Georgia Department of Audits and Accounts. Mail reports to:
 - Department of Audits and Accounts
 - Non-Profit and Local Government Audits
 - 270 Washington Street, SW, Room 1-156
 - Atlanta, Georgia 30334-8400

If you need additional information or assistance, contact the Hazard Mitigation Department at (404) 635-7522 or 1-800-TRY-GEMA.

EXHIBIT “D”

Certification Regarding Drug Free Workplace Requirements

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 2 CFR Part 3001. The regulations require certification by Subrecipients, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to grant the award. False certification or violation of the certification shall be grounds for suspension of payments,

A. The Subrecipient certifies that it will or will continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Recipient and Subrecipient’s workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about--

- (1) The dangers of drug abuse in the workplace;
- (2) The Recipient’s policy of maintaining a drug-free workplace;
- (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
- (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the award be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the award, the employee will--

- (1) Abide by the terms of the statement; and
- (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position and title, to every award officer or other designee on whose award activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected award;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted—

- (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, 29 U.S.C. § 701 et seq.; or
- (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

EXHIBIT "E"**CERTIFICATION REGARDING LOBBYING**
Certification For Contracts, Awards, Loans, and Cooperative Agreements

This certification is required by the regulations implementing the New Restrictions on Lobbying, 44 CFR Part 18. The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal award, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, award, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, award, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, sub awards, and contracts under awards, loans, and cooperative agreements) and that all Subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Subrecipient's Authorized Representative

Date

EXHIBIT “F”

SCOPE OF WORK

Shown below is the funding level and scope of work for the Hazard Mitigation Grant Program project for XYZ. Any changes to this spreadsheet **MUST RECEIVE PRIOR APPROVAL FROM GEMA/HS** and will be maintained by GEMA/HS and shall supersede all previous versions.

General Description	Item Description	Quantity	Unit Price	Amount	Federal Share	State Share	Local Share
Totals							

The following conditions apply:

Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.

Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize federal funding.

If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State.

This project must adhere to all program guidelines established for the Hazard Mitigation Grant Program. Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.

EXHIBIT "G"

Date: _____

HMGP Progress Payment Request

Instructions: All requests for progress payments must be supported by documentation supporting actual expenditures. Itemize each expenditure below to the fullest detail possible, including a reference to specific sites or elements of work. Attach documentation that supports this progress payment request, such as copies of bills of sale, invoices, receipts, and checks evidencing payment. Do not send originals. Attach a continuation sheet if necessary.

Agreement Number: HMGP-4685-XXXX

FEMA Project Number: HMGP-4685-XXXX

Subrecipient Name: XYZ

GMS ID. Number: HHM400000

<u>Site Reference or Element of Work</u>	<u>Approved Amount</u>	<u>Previous Payment</u>	<u>Current Request</u>	<u>Description of Documentation Attached in Support of this Payment Request</u>
(from continuation sheet attached) SUBTOTAL				
TOTAL				
Less Subrecipients Share (15 or 25%)				
NET AMOUNT REQUESTED				

Under penalty of perjury, I certify that to the best of my knowledge the data above is correct and that all outlays were made in accordance with the award conditions, comply with procurement regulations contained within the 2 CFR, Part 200, and that payment is due and has not been previously requested. I am familiar with Section 317 of Public Law 93-288, as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Signature of Subrecipient's Authorized Representative (and printed name)

EXHIBIT "H"
Federal Funding Accountability and Transparency Act Certification

In order to remain in compliance with The Federal Funding Accountability and Transparency Act of 2006 (FFATA) reporting, complete Items 1-7 and Items 8-10 if necessary, and certify by an authorized agent.

Sub-award Number: HHM579XXX

Federal Agency Name: **Federal Emergency Management Agency**

CFDA Program Number and Program Title: **97.039 Hazard Mitigation Grant Program (HMGP)**

Sub-award Project Description: **XYZ**

1. Sub-awardee DUNS Number _____
2. Sub-awardee Name _____
3. Sub-awardee DBA Name _____
4. Sub-awardee Address _____
5. If DBA, Sub-awardee Parent DUNS Number _____
6. Sub-award Principle Place of Project Performance _____
7. In the preceding fiscal year, did the sub-awardee receive 80% of its annual gross revenues from the Federal government?
 Yes _____ No _____
 If **Yes**, continue to question 8. If **No**, questionnaire is complete.
8. In the preceding fiscal year, were the sub-awardee's annual gross revenues from the Federal government more than \$25 million annual? Yes _____ No _____
 If **Yes**, continue to question 9. If **No**, questionnaire is complete.
9. Does the public have access to the names and total compensation of the sub-awardee's five most highly compensated officers through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?
 Yes _____ No _____
 If **No**, continue to question 10. If **Yes**, questionnaire is complete.

10. Please list the names and compensation of the sub-awardee's five most highly compensated officers.

- 1. _____ \$ _____
- 2. _____ \$ _____
- 3. _____ \$ _____
- 4. _____ \$ _____
- 5. _____ \$ _____

I certify that to the best of my knowledge all of the information on this form is complete and accurate.

Authorized Signature: _____ Date: _____

This section is for use by the Georgia Emergency Management and Homeland Security Agency Only.

Sub-award Obligation/Agency Name: _____

In accordance with The Federal Funding Accountability and Transparency Act of 2006 (FFATA), this document has been processed in the FFATA Sub-award Reporting System (FSRS) by the undersigned:

Signature _____ Date: _____

Sub-award Obligation/Action Date: _____

Appendix J-II

Sample Recipient-Subrecipient Agreement

HAZARD MITIGATION GRANT PROGRAM Recipient-Subrecipient Agreement

On October 14, 2018, the President declared that a major disaster exists in the State of Georgia. This declaration was based on damage resulting from Hurricane Michael. This document is the Recipient-Subrecipient Hazard Mitigation Assistance Agreement for the major disaster, designated FEMA-4400-DR, under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288 as amended by Public Law 100-707, 42 USC 5121 et seq. ("The Act"), in accordance with 44 CFR 206 Subpart N, Hazard Mitigation Grant Program. Under this Agreement, the interests and responsibilities of the Recipient, herein after referred to as the State, will be executed by the Georgia Emergency Management and Homeland Security Agency (GEMA/HS). The individual designated to represent the State is the GEMA/HS Director, the Governor's Authorized Representative. The Subrecipient to this Agreement is XYZ COUNTY. The interests and responsibilities of the Subrecipient will be executed by the XYZ COUNTY's agent, the Subrecipient Authorized Representative.

1. The following Exhibits are attached and made a part of this agreement:

- Exhibit "A": Assurances – Construction Programs
- Exhibit "B": Project Administration Guidelines: Financial Assistance, Hazard Mitigation Grant Program
- Exhibit "C": Certification regarding Drug-Free Workplace Requirements
- Exhibit "D": Certification regarding Lobbying
- Exhibit "E": Certification of Compliance with National Historic Preservation Act, Section 106
- Exhibit "F": Certification Hazardous Substance Compliance
- Exhibit "G": Certification of Safeguarding Duplication of Benefits Information
- Exhibit "H": Sample Contract for Sale of Real Property, with Exhibits
 - Exhibit "1": Bill of Sale
 - Exhibit "2": Subrecipient's Right to Enter and Inspect and Notice of Intent to Take Soil Boring and Ground Water Samples
 - Exhibit "3": Certificate of Removal of Personal Property and Debris
 - Exhibit "4": Disclosure and Certification of Flood Assistance
 - Exhibit "5": Property Inventory
- Exhibit "I": Clear Title
- Exhibit "J": General Warranty Deed
- Exhibit "K": Determination of Fair Market Value
- Exhibit "L": Appraisal Guidelines
- Exhibit "M": Statement of Voluntary Participation
- Exhibit "N": Scope of Work
- Exhibit "O": Progress Payment Request Form
- Exhibit "P": Discrimination Complaints and Verification Form
- Exhibit "Q": Federal Funding Accountability and Transparency Act Certification

2. Pursuant to Section 404 of the Act, funds are hereby awarded to the Subrecipient on a 75 percent federal cost share basis for the hazard mitigation project(s) described in Exhibits "N". The Subrecipient shall be responsible for the remaining 25 percent share of any

costs incurred under Section 404 of the Act and this Agreement. Allowable costs will be governed by 2 CFR Part 200.

3. If the Subrecipient violates any of the conditions of disaster relief assistance under the Act, this Agreement, or applicable federal and state regulations; the State shall notify the Subrecipient that additional financial assistance for the project in which the violation occurred will be withheld until such violation has been corrected to the satisfaction of the State. In addition, the State may also withhold all or any portion of financial assistance which has been or is to be made available to the Subrecipient for other disaster relief projects under the Act, this or other agreements, and applicable federal and state regulations until adequate corrective action is taken.
4. The Subrecipient agrees that federal or state officials and auditors, or their duly authorized representatives may conduct required audits and examinations. The Subrecipient further agrees that they shall have access to any books, documents, papers and records of any recipients of federal disaster assistance and of any persons or entities which perform any activity which is reimbursed to any extent with federal or state disaster assistance funds distributed under the authority of the Act and this Agreement.
5. The Subrecipient will establish and maintain an active program of nondiscrimination in disaster assistance as outlined in implementing regulations. This program will encompass all Subrecipient actions pursuant to this Agreement.
6. The Subrecipient agrees that the mitigation project contained in this agreement will be completed by XYZ COUNTY on or before September 11, 2024. Completion dates may be extended upon justification by the Subrecipient and approval by FEMA and the Governor's Authorized Representative.
7. The written assurances provided by XYZ COUNTY pertaining to FEMA's post award approval conditions apply to this Award Agreement and are incorporated by reference.
8. The Subrecipient shall follow Uniform Administrative Requirements for awards found in 2 CFR Part 200 and FEMA HMA (Hazard Mitigation Assistance) program guidance to implement this award.
9. There shall be no changes to this Agreement unless mutually agreed upon, in writing, by both parties to the Agreement.

Governor's Authorized
Representative

Subrecipient's Authorized
Representative

Date

Date

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EXHIBIT "A"

**COVER PAGE FOR CURRENT
ASSURANCES-CONSTRUCTION PROGRAMS**

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.
20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
APPLICANT ORGANIZATION	DATE SUBMITTED

SF-424D (Rev. 7-97) Back

EXHIBIT “B”
GEORGIA EMERGENCY MANAGEMENT
and HOMELAND SECURITY AGENCY
Hazard Mitigation Grant Program
Project Administration Guidelines: Financial Assistance

This fact sheet provides a synopsis of information contained in the Recipient-Subrecipient Agreement and other applicable documents. Its purpose is to provide general guidelines for efficient and timely Hazard Mitigation Grant Program project administration.

1. Project Identification – The Federal Emergency Management Agency (FEMA) has assigned project number HMGP 4400-00## to this project. Please reference this number in all correspondence, as doing so will greatly assist us in processing any actions for this project.
2. Documentation – You must keep full documentation to get maximum payment for project related expenditures. Documentation will be required as part of the approved Hazard Mitigation Grant Program project file. Documentation consists of:
 - A. Recipient-Subrecipient Agreement
 - B. Copies of checks, vouchers or ledger statements
 - C. Contracts awarded
 - D. Invoices or other billing documents
 - E. Progress reports
 - F. Record of advance or progress payments (where applicable)
3. Funding – Cost sharing has been established at 75% federal, and 25% applicant.
4. Debarred and Suspended Parties – You must not make any award or permit any award (subaward or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs under Executive Order 12549, “Debarment and Suspension”.
5. Procurement Standards – You may use your own procurement procedures, which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal laws and standards. Below is a summary of key procurement standards that a Subrecipient should incorporate as discussed in 2 CFR Sections 200.318 to 200.326.
 - A. Conflict of Interest Policy – The Subrecipient must maintain written standards of conduct covering conflicts of interest and governing the performance of its employees engaged in the selection, award, and administration of contracts as required in 2CFR Section 200.318.
 - B. Procurement – Perform procurement transactions in a manner providing full and open completion. Contracts and Procurements must be of reasonable cost, generally

must be competitively bid, and must comply with Federal, State, and local procurement standards. FEMA finds five methods of procurement acceptable:

- 1) Micro-purchase procedures: an informal method for securing services or supplies that do not cost more than \$10,000. Micro-purchases may be awarded without soliciting competitive quotes if the Subrecipient considers the price to be reasonable.
 - 2) Small purchase procedures: an informal method for securing services or supplies that do not cost more than \$250,000 by obtaining several price quotes from different sources.
 - 3) Sealed bids: a formal method where bids are publicly advertised and solicited, and the contract is awarded to the responsive bidder whose proposal is the lowest in price.
 - 4) Competitive proposals: a method similar to sealed bid procurement in which contracts are awarded on the basis of contractor qualifications instead of on price.
 - 5) Non-competitive proposals: a method whereby a proposal is received from only one source, because the item is available only from a single source; there is an emergency requirement that will not permit delay.
- C. Maintain sufficient records to detail the significant history of procurement. These records will include, but are not necessarily limited to, the following: rationale for the method of procurement, selection of contract type, and contractor selection or rejection.
- D. Take affirmative steps to assure the use of small and minority firms, women's business enterprises, and labor surplus area firms when possible.
- E. Include specific provisions in Subrecipient's contracts to allow changes, remedies, changed conditions, access and records retention, suspension of work and other clauses approved by the Office of Federal Procurement Policy.
6. Payments
- A. Progress Payments
- 1) When progress payments are desired, you must submit a written request (on provided form at Exhibit "O") and provide supporting documentation, such as an invoice and copies of check.
 - a. The first expenditure report is due by August 11, 2024, which is within 12 months of the FEMA award date. Subsequent expenditure reports are due annually or more frequently as needed.
 - 2) The Hazard Mitigation Risk Reduction Specialist reviews the request and supporting documentation. The Hazard Mitigation Manager reviews and approves or denies the request.

- 3) If the request is denied, the Hazard Mitigation Manager will inform you in writing that additional documentation is required to support the request.
 - 4) If the request is approved, the Hazard Mitigation Manager will authorize payment of the requested amount.
 - 5) Quarterly report submissions must be current in order to receive progress payments.
 - B. Advance Payments – Advance payments will be made on an exception basis only.
7. Subrecipient Performance – The scope of work (see Exhibit “N”) must be initiated within 90 days of this award notification.
 - A. If documentation, inspections or other reviews reveal problems in performance of the scope of work, the Hazard Mitigation Manager will inform you in writing of the deficiencies.
 - B. In addition, the State may also withhold all or any portion of financial assistance which has been made available under this agreement until adequate corrective action is taken.
8. Award Expiration Date
 - A. The award expiration date runs through September 11, 2024 and has been established based on project milestones established by the applicant in their application. The award expiration date is the time during which the Subrecipient is expected to complete the scope of work. You may not expend FEMA or state funds beyond this date. All costs must be submitted for reimbursement within 60 days of the end of the award expiration date.
 - B. Requests for time extensions to the Award Expiration Date will be considered but will not be granted automatically. A written request must be submitted to the Hazard Mitigation Manager with an explanation of the reason or reasons for the delay. Without justification, extension requests will not be processed. Extensions will not be granted if the Subrecipient has any overdue quarterly progress reports. If an extension is requested, it must be received 90 days prior to the award expiration date. When fully justified, the State Hazard Mitigation Manager may extend the award expiration date.
9. Project Termination
 - A. The Recipient, Subrecipient, or FEMA may terminate award agreements upon giving written notice to the other party at least seven (7) calendar days prior to the effective date of the termination. All notices are to be transmitted via registered or certified mail.

- B. The Subrecipient's authority to incur new costs will be terminated upon the date of receipt of the notice or the date set forth in the notice. Any costs incurred prior to the date of the receipt of the notice or the date of termination set forth in the notice will be negotiated for final payment. Close out of the award will commence and be processed as prescribed under final inspection procedures described in this Recipient-Subrecipient Agreement.
10. Environmental and Historic Preservation Conditions
- A. The following Environmental Project Conditions must be followed to ensure the project remains in compliance through implementation:
 - B. Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders. This review did not address all federal, state, and local requirements. Acceptance of federal funding requires Recipients to comply with all federal, state, and local laws. Failure to obtain all appropriate federal, state, and local environmental permits and clearances may jeopardize federal funding.
 - C. If ground-disturbing activities occur during construction or demolition, Subrecipient will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
11. Equipment/Supplies – The Subrecipient must comply with the regulations listed in 2 CFR 200.313 Equipment, 200.314 Supplies, and must be in compliance with state laws and procedures.
12. Award Modifications
- A. Any award modifications, including deviation from the approved scope of work or budget, must be submitted in writing for approval prior to implementation. Award Modifications include:
 - 1) Any revision which would result in the need for additional funding.
 - 2) Transfers between budget categories.
 - B. The Subrecipient shall follow prior approval requirements for budget revisions found in 2 CFR 200.308. Transfer of funds between total direct cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those direct cost categories exceed ten percent of the total budget.

13. Appeals – You may submit an appeal on any item related to award assistance. Appeals must be submitted to the State Hazard Mitigation Manager within 90 days of the action which is being appealed.
14. Progress Reports
 - A. Quarterly progress reports are required. The report will be supplied to you by GEMA/HS on a quarterly basis for your completion.
 - B. The initial progress report will cover the period through DECEMBER 31, 2023. It must be submitted no later than JANUARY 15, 2024.
 - C. Subsequent reports must be filed by you within fifteen days after the end of each calendar quarter (March 31, June 30, September 30, and December 31).
15. Interim Inspections – Interim inspections may be conducted by GEMA/HS staff and/or FEMA staff.
16. Project Closeout
 - A. When all work has been completed, you must notify your Hazard Mitigation Risk Reduction Specialist in writing to request project closeout.
 - B. A desk review will be conducted by your Hazard Mitigation Risk Reduction Specialist.
17. Audits – If you receive \$750,000 or more in federal assistance from all federal sources, not just this award, during your fiscal year, you are responsible for having an audit conducted as prescribed by the Single Audit Act and sending a copy to the Georgia Department of Audits and Accounts. Mail reports to:

Department of Audits and Accounts
Non-Profit and Local Government Audits
270 Washington Street, SW, Room 1-156
Atlanta, Georgia 30334-8400

If you need additional information or assistance, contact the GEMA/HS Hazard Mitigation Program at (404) 635-7522 or 1-800-TRY-GEMA.

Certification Regarding Drug Free Workplace Requirements

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 2 CFR Part 3001. The regulations require certification by Subrecipients, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to grant the award. False certification or violation of the certification shall be grounds for suspension of payments,

A. The Subrecipient certifies that it will or will continue to provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Recipient and Subrecipient's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about--

- (1) The dangers of drug abuse in the workplace;
- (2) The Recipient's policy of maintaining a drug-free workplace;
- (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
- (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the award be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the award, the employee will--

- (1) Abide by the terms of the statement; and
- (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position and title, to every award officer or other designee on whose award activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected award;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted—

- (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, 29 U.S.C. § 701 et seq.; or
- (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

EXHIBIT "D"

CERTIFICATION REGARDING LOBBYING
Certification For Contracts, Awards, Loans, and Cooperative Agreements

This certification is required by the regulations implementing the New Restrictions on Lobbying, 44 CFR Part 18. The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal award, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, award, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, award, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, sub awards, and contracts under awards, loans, and cooperative agreements) and that all Subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Subrecipient's Authorized Representative

Date

EXHIBIT "E"

Certification of Compliance with the National Historic Preservation Act, Section 106

1. APPLICANT NAME (hereinafter "the subrecipient") warrants that under no circumstances will the subrecipient demolish structures acquired under the Hazard Mitigation Grant Program which are being evaluated for potential historical significance under Section 106 of the National Historic Preservation Act of 1966, as amended, until receiving written notice and authorization to proceed with demolition from FEMA.
2. The subrecipient agrees to consider the recommendations of the State Historic Preservation Officer (SHPO) regarding historic preservation measures prior to demolition. Any extraordinary historic preservation measures conducted after acquisition will be at the expense of the subrecipient.
3. The subrecipient agrees to employ such protective measures as are reasonably necessary to protect acquired properties having potential historic significance from illegal entry and damage. The subrecipient shall be responsible for employing protective measures from the Closing Date until such time as written notice and authorization to proceed with demolition is received by the subrecipient from FEMA. "Protective measures" shall include, at a minimum, locking or otherwise securing all exterior entrances of acquired structures and posting a "NO TRESPASSING" sign.
4. NHPA (National Historic Preservation Act): Foundations of structures to be demolished shall be pushed in below grade within the original footprint and basements shall be backfilled using fill from an existing off-site material borrow source. Slabs, walkways, driveways, concrete stair footings, and similar appurtenances may be removed. Ground disturbance shall be limited to the immediate area of the demolished structures. Construction equipment will be operated within existing driveways and the perimeters of structures to limit ground disturbance. If human remains or intact archaeological deposits are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the findings will be taken. The applicant will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The applicant's contractor will provide immediate notice of such discoveries to the applicant. The applicant will notify GEMA/HS within 24 hours of the discovery and GEMA/HS shall promptly notify FEMA. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with SHPO, Tribes, and other consulting parties as necessary. These conditions shall be included in instructions to the demolition contractor.

EXHIBIT "F"

Certification of Hazardous Substance Compliance

- A. XYZ COUNTY (hereinafter the "Subrecipient") hereby represents and warrants to the State and FEMA that the soil and ground water of all properties acquired using Hazard Mitigation Grant Program funds are free from hazardous substances. "Hazardous Substances" include, but are not limited to, every material, waste, contaminant, chemical, toxic pollutant or other substance listed or described in any of the following sources, as amended: (i) the Resource Conservation and Recovery Act of 1976 (RCRA); (ii) the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); (iii) the Asbestos Hazard Emergency Response Act (AHERA), and any other federal, state, or local statute or ordinance which defines "hazardous waste" or "hazardous substance", or similar terms, and which could create liability; and (iv) any federal, state, or local regulations, rules or orders issued or promulgated under or pursuant to any of the foregoing or otherwise by any department, agency or other administrative, regulatory or judicial body having Subrecipient over the Properties to be acquired using Hazard Mitigation Grant Program funds.
- B. The Subrecipient hereby agrees and warrants the following relative to each property being considered for acquisition under the Hazard Mitigation Grant Program:
- (1) To make reasonable inquiry regarding current or past uses of the properties relative to hazardous substances contamination. Such current or past uses include, but are not limited to, use as a solid waste disposal site, underground storage tank site, or facility for the transport, treatment, storage, generation, installation, or any other uses involving hazardous substances.
 - (2) If, after reasonable inquiry, a property under consideration for acquisition under the Hazard Mitigation Grant Program is found to currently or previously have been used for a purpose or purposes involving hazardous substances, including, but not limited to those uses and purposes described in Subsection 1, the Subrecipient agrees and warrants that soil boring and testing shall be conducted, at the expense of the Subrecipient, for the purpose of determining whether the soil and/or ground water of such property is contaminated with a hazardous substance. If the results of such soil boring and testing show that the soil and/or ground water of such property is not currently contaminated with a hazardous substance, then the Subrecipient may proceed with acquisition of the property under the Hazard Mitigation Grant Program. If the results of such soil boring and testing show that the soil and/or ground water on the property is contaminated with a hazardous substance, then the Subrecipient may not use Hazard Mitigation Grant Program funds to acquire the property without first causing to be done, at the Subrecipient's own expense, such clean-up procedures as will produce negative test results for hazardous substances.
 - (3) All structures scheduled for demolition must be thoroughly inspected for the presence of friable and non-friable asbestos, including Category I & II nonfriable Asbestos Containing Materials (ACM). This should be done prior to the commencement of the demolition activity. If ACMs are found in the structure, asbestos abatement must be completed in accordance with federal and state regulations.

EXHIBIT “G”

Certification of Safeguarding Duplication of Benefits Information

The Subrecipient hereby agrees and warrants this Duplication of Benefits information is to be used for the sole purpose of applying for and administering Hazard Mitigation Grant Program funds. The Subrecipient hereby assures that all Duplication of Benefits information obtained from FEMA will be adequately safeguarded from improper disclosure, and confidentially maintained by the Subrecipient.

HMA funds cannot duplicate nor be duplicated by funds received by or available to Applicants, sub-applicants, or project participants from other sources for the same purpose, such as benefits received from insurance claims, other assistance programs (including HMA programs), legal awards, or other benefits associated with properties or damage that are or could be subject to litigation.

Individuals or entities must notify the Grantee and FEMA of all benefits that they receive or anticipate from other sources for the same purpose, and must seek all such benefits available to them. The total amount of eligible costs will be reduced by the amount of available benefits prior to calculating the required cost share. The cost share is based on the total eligible costs after DOB deductions have been made. Duplications may occur at any time; however FEMA must be reimbursed for benefits identified or received after an award.

EXHIBIT "H"

Sample Contract for Sale of Real Property

XYZ COUNTY
Voluntary Acquisition Program

THIS AGREEMENT made and entered into the __ day of _____, 20__, by and between _____ and _____, herein designated as "Seller," and XYZ COUNTY, Georgia, WITNESSETH:

WHEREAS, the Seller is the owner of certain real property being described as follows:

[Legal Description]

AND WHEREAS, XYZ COUNTY, a local government of the State of Georgia (hereinafter referred to as the "Subrecipient"), acting pursuant to its legal authority in administering its GEMA/HS Hazard Mitigation Grant Program project, wishes to purchase the above described real property (hereinafter referred to as "Property").

NOW THEREFORE, for and in consideration of the covenants and obligations contained herein, the parties agree as follows:

1.

AGREEMENT TO SELL. The Seller agrees to sell the Property to the Subrecipient, together with the entire Seller's right, title, and interest in all Fixtures, Buildings, and Improvements located on the above-described real property, and under any easement and servitude for the benefit of the Seller, free and clear of all liens, encumbrances, reservations, exceptions, and modifications.

2.

PURCHASE PRICE: The Subrecipient agrees to purchase all the Seller's right, title, and interest in the Property for the sum of \$ _____, payable on the Closing Date, which sum shall be reduced by any amounts paid by the Subrecipient on behalf of the Seller for the purposes set forth in paragraph 10A, and shall be reduced by any amounts for required FEMA deductions as set forth in paragraph 10B. The Seller shall receive no other compensation from the Subrecipient for all of Seller's right, title, and interest in the Property.

3.

TITLE: The Subrecipient shall cause to be prepared, at its expense, an Opinion of Title for the Property, continued to a date subsequent to the date of this Contract. The Opinion of Title shall show merchantable title in Seller, subject only to Permitted Exceptions in Paragraph 5. In the event that title curative work is necessary, such work shall be performed by the Subrecipient's title examiner, or an attorney of the Subrecipient's choosing. The Seller shall pay all costs required to perfect its title to the Property prior to Closing, or costs of title curative work shall be deducted from the Purchase Price of the Property at Closing.

4.

DEED: On _____, or other date as shall be mutually agreed upon by Seller and the Jurisdiction hereinafter referred to as the "Closing Date", the Seller shall have completed its obligations under Paragraph 8, and the Seller shall execute to the Subrecipient a General Warranty Deed for Property, in recordable form, conveying fee simple title to the Property to the Subrecipient, subject only to Permitted Exceptions in Paragraph 5. The Seller shall further deliver to the Subrecipient a bill of sale for any personal property included in the sale.

5.

PERMITTED EXCEPTIONS: The Seller agrees to convey good, clear, and marketable title to the Property, subject only to the following "Permitted Exceptions":

1. Zoning and building laws and ordinances;
2. Subject to prior approval of governing body, covenants, restrictions, reservations, and easements of record.

6.

FIXTURES AND PERSONAL PROPERTY: For the purposes of this document, Fixtures include all personal property that integrally belongs to or is part of the above-described real estate, whether attached or detached, such as light fixtures (including fluorescent tubes), shades, rods, blinds, Venetian blinds, awnings, storm windows, storm doors, storm sashes, screens, attached linoleum, plumbing fixtures, water heaters, water softeners, automatic heating equipment, air conditioning or other equipment other than window type, door chimes, built-in items and electrical service cable, fencing, gates and other attached fixtures, trees, bushes, shrubs, and plants.

7.

POSSESSION: On and after the Closing Date, the Subrecipient shall be entitled to immediate possession of the Property and to receipt of all rents and profits from the Property due thereafter.

8.

INSPECTION OF THE PROPERTY: The Subrecipient, at its expense, shall have the right to conduct such investigations, inspections, and inventories of the Property at reasonable times upon reasonable notice, oral or written, from time to time after the date of the making of this Contract for the purposes of investigating, inspecting, and performing inventories of the Property and for other purposes consistent with the Subrecipient's interest under this Contract.

9.

REMOVAL OF PERSONAL PROPERTY AND DEBRIS: Prior to the Closing Date, Seller at its own expense shall remove all personal property, equipment and debris from the Property, including but not limited to vehicles, vehicle parts, appliances, storage containers, household cleaners and solvents, construction materials, firewood, etc. In the event Seller fails to remove any such personal property, equipment, and debris prior to the Closing Date, the Subrecipient may use a portion of the Purchase Price to satisfy Seller's obligations under this paragraph.

10.

NO HOLDOVER PERIOD FOR OCCUPANTS: Seller shall ensure that it and all other current occupants vacate the Property prior to the Closing Date.

11.

APPLICATION OF PURCHASE PRICE, DEDUCTIONS, FOR FLOOD ASSISTANCE RECEIVED.

- A. Prior to disbursing payment to the Seller, the Subrecipient may use a portion of the Purchase Price to satisfy the Seller's obligations under this document to remove personal property and debris and to pay taxes, assessments, liens, acquisition of other parties' outstanding interests in the Property, abstracting, recording fees and other costs incidental to the conveyance by Seller of marketable title to the Subrecipient.
- B. Seller acknowledges that this voluntary acquisition is made pursuant of a program funded by the Federal Emergency Management Agency (FEMA). In order to prevent the duplication of Federal assistance made to flood disaster victims, FEMA requires that certain types of assistance received by Seller for flood-related damage be deducted from the Purchase Price.
- C. The Subrecipient, and the property owner, must identify any potential DOB. FEMA will deduct other available benefits from the purchase offer. Some examples when DOB may occur in a property acquisition and structure demolition or relocation project include the following:
 - The Subrecipient offers full pre-event market value but the property owner has received insurance, loans, repair grants, compensation in compliance with a court order, or other assistance available to them to help address damages to the structure regardless of

whether such benefits were sought or received. This is because payment of full pre-event market value compensates the owner for the loss of value that has occurred;

- The Subrecipient offers full-pre-event value, but legal claims are appropriate or legal obligations arise in connection to the property that may provide a benefit to the property owner. Parties involved in pending legal disputes must take reasonable steps to recover benefits available to them; and
- Relocated tenants receive relocation assistance and rental assistance but have received payments for the same purpose as part of the disaster assistance provided by any agency or payments from any source. Any acquisition-related assistance provided to tenants must be reduced accordingly. However, tenant-related DOB deductions do not affect amounts available to the property owner.

D. Pursuant to the FEMA requirements, the following shall be deducted from the Purchase Price: (Not Applicable when applicants are offering current FMV)

- an amount equal to all flood insurance proceeds received by the Seller after [RELEVANT EVENT MONTH ##, #####].

Prior to the Closing date, Seller shall provide all information requested by the Subrecipient relating to FEMA, flood insurance, and SBA assistance received by the Seller for flood-related damage. At Closing, the Subrecipient shall prepare and deliver to Seller, a document setting forth the deductions from the Purchase Price required by FEMA.

12.

INSURANCE: Seller agrees to maintain and keep in force and affect all existing property and liability insurance until the Closing Date.

13.

MAINTENANCE OF THE PROPERTY: The Seller agrees that the Property shall be preserved in its present condition, and Seller shall deliver it intact at the time possession to the Subrecipient is given. All risk of loss or damage to the Property is on Seller until the Subrecipient takes possession. Prior to possession by the Subrecipient, Seller agrees to promptly give written notice to the Subrecipient of any loss or damage to the Property. In the event of loss, damage or destruction of all or part of the Property, the Subrecipient shall have the option to terminate this Agreement effective immediately. However, in the case of loss, damage or destruction of all or part of the property from causes covered by insurance, the Subrecipient shall have the option to either (1) take possession of the Property and accept an assignment of all Seller's right, title and interest in and to any claims Seller has under the insurance policies covering the Property: or (2) terminate this Agreement.

14.

UTILITIES: The Seller shall be responsible for payment of all utility expenses incurred by it or incurred by any other occupants prior to the Closing Date.

15.

TAXES: Seller shall pay a pro-rata share of taxes on the Property (real and personal) for the year of Closing, and all unpaid taxes for prior years. To determine the pro-rata share of taxes for the current year, payable in the next year, the following procedure shall be used:

- A. The annual tax payment shown on the most recent tax figure for the Property shall be divided by 12 to determine the amount of tax owed for each month.
- B. The total number of months in the current year shall be determined and multiplied by the monthly amount of tax owed. That figure shall be the portion of taxes to be paid by the Seller on the pro-rata basis.
- C. When the Closing Date is on or before the 15th of a month, no taxes will be due for that month. When the Closing Date is after the 15th of the month, a full month's taxes shall be due for that month and shall be added to the Seller's pro-rata share.

16.

TIME IS OF THE ESSENCE: Time is of the essence in this agreement.

17.

LEASES: Seller represents and warrants to the Subrecipient that there are no leases, tenancies, or other rights of occupancy for use of any portion of the Property. The foregoing representation and warranty shall survive Closing Date. Seller shall hold harmless and indemnify the Subrecipient from and against any claims which may arise or be based upon any alleged leasehold interest, tenancy or other right of occupancy or use for any portion of the Property.

18.

APPROVAL OF COURT: If the Property is an asset of any estate, trust or guardianship, this document shall be subject to Court approval prior to payment of Purchase Price, unless declared unnecessary by the Subrecipient. If Court approval is necessary, the appropriate fiduciary shall proceed promptly and diligently to bring the matter to hearing for issuance of a deed.

19.

ENVIRONMENTAL ASSURANCES:

- A. Environmental Representations and Warranties: For the purposes of this Contract, the terms "hazardous substance" shall include every material, waste, contaminant, chemical, toxic pollutant or other substance listed or described in any of the following sources, as

amended: (I) the Resource Conservation and Recovery Act of 1976 (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA); (iii) any other federal, state, or local statute or ordinance which defines “hazardous waste” or “hazardous substance”, or similar terms, and which could create liability in the Subrecipient; and (iv) any federal, state, or local regulations, rules or orders issued or promulgated under or pursuant to any of the foregoing or otherwise by any department, agency or other administrative, regulatory or judicial body having Subrecipient over the Property. Without limiting the foregoing, the terms “hazardous waste” and “hazardous substance” shall also include all substances or materials containing asbestos, PCBs, or hydrocarbons.

The Seller hereby represents and warrants to the Subrecipient that:

- (1) There are no abandoned wells, agricultural drainage wells, solid waste disposal sites, or underground storage tanks located in, on, or about the Property;
- (2) There is not currently and has never been any hazardous waste stored, generated, treated, transported, installed, dumped, handled, or placed in, on, or about the Property;
- (3) At no time have any Federal or State hazardous waste cleanup funds been expended with respect to any of the Property;
- (4) There has never been any solid waste disposal site or underground storage tank located in, on, or about the Property, nor has there been any release from any underground storage tank on real property contiguous to the Property which has resulted in any hazardous substance coming in contact with the Property;
- (5) The Seller has not received any directive, citation, notice, letter, or other communication, whether written or oral, from the Environmental Protection Agency, the Georgia Department of Natural Resources, any other governmental agency with authority under any environmental laws of the federal, state, or local government, or any other person or entity regarding the release, disposal, discharge, or presence of any hazardous waste on the Property, or any violation of any such environmental laws;
- (6) To the best of Seller’s knowledge and good faith inquiry, neither the Property, nor any real property contiguous to the Property, nor any predecessors in title to the Property, are in violation of or subject to any existing, pending or threatened investigation or inquiry by any governmental authority or to any removal or remedial obligations under any environmental laws of the federal, state, or local government.

The foregoing representations and warranties, and the Environmental Indemnifications set forth in the following subparagraph B shall survive the Closing Date. In addition, the foregoing representations and warranties and the indemnification provisions in this Contract shall not be affected by any study, investigation or inspection of the Property by the Subrecipient, or any agent of the Subrecipient.

- B. Environmental Indemnification: The Seller agrees to indemnify and hold harmless the Subrecipient from and against any and all claims, demands, fines, penalties, causes of action, losses, damages, liabilities, expenses, and costs (including court costs and reasonable attorney's fees--which may include the value of services provided by the Subrecipient's attorney incurred by the Subrecipient to enforce this provision) asserted against or incurred by the Subrecipient by reason of or arising out of the breach of any representation or warranty of the Seller set forth above.
- C. Additional Environmental Provisions: The Seller shall not store, generate, treat, transport, install, dump, handle, or place in, on, or about any portion of the Property any hazardous waste or hazardous substance. If the Seller receives any notice from any governmental authority or any other party regarding the release or presence of any hazardous waste or hazardous substance on any portion of the Property, the Seller shall immediately notify the Subrecipient of such fact. In addition, the Subrecipient or its agents shall have the right to enter upon the Property at any time to perform additional environmental studies. If at any time the Subrecipient in its sole and unreviewable discretion determines that hazardous wastes or hazardous substances are present on any portion of the Property, the Subrecipient may terminate this Contract immediately.

20.

CONTRACT BINDING ON SUCCESSORS IN INTEREST: This document shall apply to and bind the heirs, executors, administrators, partners, assigns, and successors in interest of the respective parties.

21.

PARAGRAPH HEADINGS: The paragraph headings contained herein are for convenience in reference and are not intended to define or limit the scope of any provision of this document.

22.

NO BROKERS: Each party hereto represents that no real estate broker commission shall be due on the conveyance of the Property in this Contract.

23.

VOLUNTARY TRANSACTION: The Seller, as owner of the Property acknowledges that the Subrecipient has entered this Contract for purchase of the Property pursuant to the Subrecipient's Voluntary Acquisition Program, and that the Seller's acceptance of the terms of this Contract is voluntary. Seller is under no duress or coercive action by the Subrecipient to accept the terms of this Contract, and the Subrecipient will not pursue acquisition of the Property by eminent domain or other means if the Seller declines to sell the Property under the Voluntary Acquisition Program. Seller further acknowledges that upon the Closing Date, it will be necessary to move permanently from the Property.

24.

COUNCIL/COMMISSION APPROVAL: This Contract is subject to approval of the Subrecipient governing body, and shall become binding and enforceable against the Subrecipient only after approval by the Subrecipient's governing body.

25.

EXHIBITS: Exhibit "1" (Bill of Sale); Exhibit "2" (Subrecipient's Right to Enter and Inspect and Notice of Intent to Take Soil Boring and Ground Water Sample); Exhibit "3" (Certificate of Removal of Personal Property and Debris); Exhibit "4" (Disclosure and Certification of Flood Assistance); Exhibit "5" (Property Inventory).

26.

SEVERABILITY: Any part or provision of this Contract held invalid will be severed from the Contract, without affecting the validity of any other provisions or the entire Contract.

IN WITNESS WHEREOF, this the ____ day of _____, 20__, the parties hereto agree to the terms contained herein.

Seller

Seller

Grantee Official

Witness my hand and official seal this ____ day of _____, 20__.

Notary Public
My commission expires on: _____

Exhibit "1"

BILL OF SALE

I/We, _____ and _____, the hereinafter "Seller," for good and valuable consideration, receipt of which is hereby acknowledged, does hereby sell, convey, assign, transfer and release to XYZ COUNTY, Georgia, all the Seller's right, title, and interest in all Fixtures, improvements, and personal property located on the Property at _____ (Street Address, City, County, State) , and legally described as:

[Legal Description]

free and clear of all liens, encumbrances, reservations, exceptions, and modifications.

For the purposes of this document, said Fixtures, improvements, and personal property include all property that integrally belongs to or is part of the above-described real-estate, whether attached or detached, such as light fixtures (including fluorescent tubes), shades, rods, blinds, Venetian blinds, awnings, storm windows, storm doors, storm sashes, screens, attached linoleum, plumbing fixtures, water heaters, water softeners, automatic heating equipment, air conditioning or other equipment other than window type, door chimes, built-in items and electrical service cable, fencing, gates and other attached fixtures, trees, bushes, shrubs, and plants.

This __ day of _____, 20__.

Owner

Owner

Witness my hand and official seal this _____ day of _____, 20__.

Notary Public
My commission expires on: _____

**SUBRECIPIENT'S RIGHT TO ENTER AND INSPECT AND
NOTICE OF INTENT TO TAKE SOIL BORING AND GROUND WATER SAMPLES**

The undersigned owner(s) of the following described property commonly known as _____
_____ (Street Address, City, County, and State), and legally described as:

[Legal Description]

hereby grant XYZ COUNTY, the right to enter upon and conduct such investigations, inspections, and inventories of the property as the County deems reasonable or necessary prior to closing. The right to enter shall include a temporary easement to allow the XYZ COUNTY, its agents, contractors, or employees a right to enter in, upon, and onto the above described property for the purpose of hauling transporting, and storage of materials and equipment used for the purpose of soil boring or taking ground water samples.

It is understood and agreed that the XYZ COUNTY will remove all of said materials and equipment except marks and location stakes from the premises within 10 days after the above described investigations, inspections, and inventories have been completed.

It is understood and agreed that XYZ COUNTY will restore the test sample areas to original condition where reasonably possible.

It is understood and agreed that XYZ COUNTY will report the test results of the soil and ground water samples to the Federal Emergency Management Agency and the Georgia Department of Natural Resources.

This the _____ day of _____, 20__.

Owner

Owner

Witness my hand and official seal this _____ day of _____, 20__.

Notary Public

My commission expires on: _____

CERTIFICATE OF REMOVAL OF PERSONAL PROPERTY AND DEBRIS

I/We _____ and _____,
owner(s) of the Property commonly referred to as _____
(Street Address, City, County, State), hereby state that we have removed all personal property,
equipment, and debris, including but not limited to, vehicles, vehicle parts, appliances, storage
containers, household cleaners and solvents, construction materials, firewood, etc. from the
Property site. I/We further declare that all personal property remaining on the premises is hereby
abandoned and I/We relinquish any further claim thereto.

This the _____ day of _____, 20__.

Owner

Owner

Witness my hand and official seal this _____ day of _____, 20__.

Notary Public
My commission expires on: _____

DISCLOSURE AND CERTIFICATION OF FLOOD ASSISTANCE
(Not Applicable when applicants are offering current FMV)

I/We _____ and _____ are voluntary participants in XYZ COUNTY Voluntary Acquisition Program.

I/We understand that pursuant to the requirements of the Federal Emergency Management Agency (FEMA), XYZ COUNTY is required to deduct certain types of assistance which we have received for flood-related damage from the purchase price of my property.

I/We hereby certify that the following is a true and complete disclosure of flood-related assistance I/we received in the following categories:

1. FEMA Individual and Family Grant Program assistance for repairs to the Property: \$ _____
2. All flood insurance proceeds received after January 24, 2017: \$ _____
3. FEMA Minimal Repairs Assistance: \$ _____

This the _____ day of _____, 20__.

Owner

Owner

Witness my hand and official seal this _____ day of _____, 20__.

Notary Public
My commission expires on: _____

Exhibit "5"

PROPERTY INVENTORY

I/We _____ are voluntarily participating in XYZ COUNTY Voluntary Acquisition Program.

I/We understand that prior to Closing the _____ must conduct a property inventory for my Property commonly known as _____ (Street Address, City, County, State) for the purpose of inspecting the real property which the _____ will acquire, the personal property which I/We must remove prior to Closing, and any hazardous materials which I/We must remove from the property prior to Closing.

I/We agree to be present with a representative, employee, or agent of the _____ for inspection and inventory of the property at a time to be scheduled within a reasonable time prior to the Closing Date.

This the _____ day of _____, 20__.

Owner

Owner

Witness my hand and official seal this _____ day of _____, 20__.

Notary Public
My commission expires on: _____

Exhibit “I”

Clear Title

The Subrecipient shall conduct a title search for each property it plans to acquire. The purpose of the title search is to ensure that the owner is the sole and actual titleholder to the property, or identify other persons with a property interest, and to ensure that the title is clear. This means that there are no mortgages or liens outstanding upon sale of the property. In addition, there may not be incompatible easements or other encumbrances to the property that would make it either ineligible for acquisition or noncompliant with open space land use restrictions.

Other requirements include:

- A title insurance policy demonstrating that clear title conveys must be obtained for each approved property that will be acquired;
- A physical site inspection for each property verifying no physical encumbrances to the property (where appropriate this may require a site survey to clearly establish property boundaries);
- Title to the property must transfer by a warranty deed in all jurisdictions that recognize warranty deeds;
- All incompatible easements or encumbrances must be extinguished;
- The Subrecipient shall take possession at settlement;
- The Subrecipient must record the deed at the same time as and along with the programmatic deed restrictions;
- The deed transferring title to the property and the programmatic deed restrictions will be recorded according to State law and within 14 days after settlement; and
- All property transfers shall be consistent with 44 CFR Part 80 and FEMA guidance.

Exhibit "J"

"Deed Restrictions"

WITNESSETH

In reference to the property or properties ("Property") conveyed by the Deed between [property owner] participating in the federally-assisted acquisition project ("the Grantor") and XYZ COUNTY, ("the Grantee"), its successors and assigns:

WHEREAS, The Robert T. Stafford Disaster Relief and Emergency Assistance Act, ("The Stafford Act"), 42 U.S.C. § 5121 et seq., identifies the use of disaster relief funds under § 5170c, Hazard Mitigation Grant Program, including the acquisition and relocation of structures in the floodplain;

WHEREAS, the mitigation grant program provides a process for a local government, through the State, to apply for federal funds for mitigation assistance to acquire interests in property, including the purchase of structures in the floodplain, to demolish and/or remove the structures, and to maintain the use of the Property as open space in perpetuity;

WHEREAS, Georgia has applied for and been awarded such funding from the Department of Homeland Security, Federal Emergency Management Agency ("FEMA") and has entered into a mitigation grant program Grant Agreement dated **October 14, 2018** with FEMA and herein incorporated by reference; making it a mitigation grant program grantee.

WHEREAS, the Property is located in XYZ COUNTY, and XYZ COUNTY participates in the National Flood Insurance Program ("NFIP") and is in good standing with NFIP as of the date of the Deed;

WHEREAS, XYZ COUNTY, acting by and through XYZ COUNTY Commission, has applied for and been awarded federal funds pursuant to an agreement with Georgia dated **INSERT EXECUTED RSA DATE**, and herein incorporated by reference, making it a mitigation grant program subrecipient;

WHEREAS, the terms of the mitigation grant program statutory authorities, Federal program requirements consistent with 44 C.F.R. Part 80, the Grant Agreement, and the State-local Agreement require that the Grantee agree to conditions that restrict the use of the land to open space in perpetuity in order to protect and preserve natural floodplain values;

Now, therefore, the grant is made subject to the following terms and conditions:

1. Terms. Pursuant to the terms of the Hazard Mitigation Grant Program statutory authorities, Federal program requirements consistent with 44 C.F.R. Part 80, the Grant Agreement, and the State-local Agreement, the following conditions and restrictions shall apply in perpetuity to the Property described in the attached deed and acquired by the Grantee pursuant to FEMA program requirements concerning the acquisition of property for open space:

- a. Compatible uses. The Property shall be dedicated and maintained in perpetuity as open space for the conservation of natural floodplain functions. Such uses may include: parks for outdoor recreational activities; wetlands management; nature reserves; cultivation; grazing; camping (except where adequate warning time is not available to allow evacuation); unimproved, unpaved parking lots; buffer

zones; and other uses consistent with FEMA guidance for open space acquisition, Hazard Mitigation Assistance, Requirements for Property Acquisition and Relocation for Open Space.

b. Structures. No new structures or improvements shall be erected on the Property other than:

- i. A public facility that is open on all sides and functionally related to a designated open space or recreational use;
- ii. A public rest room; or
- iii. A structure that is compatible with open space and conserves the natural function of the floodplain, including the uses described in Paragraph 1.a., above, and approved by the FEMA Administrator in writing before construction of the structure begins.

Any improvements on the Property shall be in accordance with proper floodplain management policies and practices. Structures built on the Property according to paragraph b. of this section shall be floodproofed or elevated to at least the base flood level plus 1 foot of freeboard, or greater, if required by FEMA, or if required by any State, Tribal, or local ordinance, and in accordance with criteria established by the FEMA Administrator.

c. Disaster Assistance and Flood Insurance. No Federal entity or source may provide disaster assistance for any purpose with respect to the Property, nor may any application for such assistance be made to any Federal entity or source. The Property is not eligible for coverage under the NFIP for damage to structures on the property occurring after the date of the property settlement, except for pre-existing structures being relocated off the property as a result of the project.

d. Transfer. The Grantee, including successors in interest, shall convey any interest in the Property only if the FEMA Regional Administrator, through the State, gives prior written approval of the transferee in accordance with this paragraph.

- i. The request by the Grantee, through the State, to the FEMA Regional Administrator must include a signed statement from the proposed transferee that it acknowledges and agrees to be bound by the terms of this section, and documentation of its status as a qualified conservation organization if applicable.
- ii. The Grantee may convey a property interest only to a public entity or to a qualified conservation organization. However, the Grantee may convey an easement or lease to a private individual or entity for purposes compatible with the uses described in paragraph (a), of this section, with the prior approval of the FEMA Regional Administrator, and so long as the conveyance does not include authority to control and enforce the terms and conditions of this section.
- iii. If title to the Property is transferred to a public entity other than one with a conservation mission, it must be conveyed subject to a conservation easement that shall be recorded with the deed and shall incorporate all terms and conditions set forth in this section, including the easement holder's responsibility to enforce the easement. This shall be accomplished by one of the following means:
 - a) The Grantee shall convey, in accordance with this paragraph, a conservation easement to an entity other than the title holder, which shall be recorded with the deed, or

b) At the time of title transfer, the Grantee shall retain such conservation easement, and record it with the deed.

iv. Conveyance of any property interest must reference and incorporate the original deed restrictions providing notice of the conditions in this section and must incorporate a provision for the property interest to revert to the State, Tribe, or local government in the event that the transferee ceases to exist or loses its eligible status under this section.

2. Inspection. FEMA, its representatives and assigns including the State or Tribe shall have the right to enter upon the Property, at reasonable times and with reasonable notice, for the purpose of inspecting the Property to ensure compliance with the terms of this part, the Property conveyance and of the grant award.

3. Monitoring and Reporting. Every three years on March 31st, the Grantee (mitigation grant program subgrantee), in coordination with any current successor in interest, shall submit through the State to the FEMA Regional Administrator a report certifying that the Grantee has inspected the Property within the month preceding the report, and that the Property continues to be maintained consistent with the provisions of 44 C.F.R. Part 80, the property conveyance, and the grant award.

4. Enforcement. The Grantee (mitigation grant program subgrantee), the State, FEMA, and their respective representatives, successors and assigns, are responsible for taking measures to bring the Property back into compliance if the Property is not maintained according to the terms of 44 C.F.R. Part 80, the property conveyance, and the grant award. The relative rights and responsibilities of FEMA, the State, the Grantee, and subsequent holders of the property interest at the time of enforcement, shall include the following:

a. The State will notify the Grantee and any current holder of the property interest in writing and advise them that they have 60 days to correct the violation.

i. If the Grantee or any current holder of the property interest fails to demonstrate a good faith effort to come into compliance with the terms of the grant within the 60-day period, the State shall enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to bringing an action at law or in equity in a court of competent jurisdiction.

ii. FEMA, its representatives, and assignees may enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to 1 or more of the following:

a) Withholding FEMA mitigation awards or assistance from the State or Tribe, and Grantee; and current holder of the property interest.

b) Requiring transfer of title. The Grantee or the current holder of the property interest shall bear the costs of bringing the Property back into compliance with the terms of the grant; or

c) Bringing an action at law or in equity in a court of competent jurisdiction against any or all of the following parties: the State, the Tribe, the local community, and their respective successors.

5. Amendment. This agreement may be amended upon signatures of FEMA, the State, and the Grantee only to the extent that such amendment does not affect the fundamental and statutory purposes underlying the agreement.

6. Severability. Should any provision of this grant or the application thereof to any person or circumstance be found to be invalid or unenforceable, the rest and remainder of the provisions of this grant and their application shall not be affected and shall remain valid and enforceable.

[Signed by Grantor(s) and Grantee, witnesses and notarization in accordance with local law.]

Grantor's Signature _____

Date _____

Name (printed or typed) _____

Grantee's Signature _____

Date _____

Grantee's Name _____

Grantee's Title _____

Exhibit “K”

Determining the Fair Market Value of Properties for Hazard Mitigation Assistance Projects

Generally, FEMA funded property acquisition projects consist of a community purchasing flood-damaged homes and either demolishing them or physically moving them to a new site outside of the floodplain. The purchased property is then maintained for open-space purposes.

Basic Requirements

- The Subrecipient will inform prospective participants in writing that it will not use its Eminent Domain authority to acquire their property should negotiations fail, and property owners will voluntarily elect to participate in the program. The community may include an expiration date for this limitation in the letter.
- The property will be used in perpetuity for open space without future construction and in compliance with conservation requirements; and
- Existing buildings will be removed within 90 days of settlement.

Pre-event or Post-event Fair Market Value

GEMA/HS’s Hazard Mitigation Division will coordinate with the Subrecipient (community) in their determination of whether the valuation should be based on pre- or post-event market value. The community should ensure that all property owners are treated fairly and are offered an equitable package of benefits. All appraisals in a given community (i.e., project area) should be based on the same terms.

Pre-event

In most cases, communities may offer up to the pre-event market value of the real property. When the pre-event fair market value is used, the Subrecipient must make Duplication of Benefits (DOB) deductions from the established pre-event fair market value before making a purchase offer to the property owner. These deductions are based on benefits the property owner may have received to repair their structure after the disaster. If they can document that the benefits were properly spent, then the deductions will not be made.

Post-event

Post-event (current) market value may be the most efficient method if no damage has occurred to the properties in more than 12 months and they are currently occupied. This option may also be appropriate in instances where property owners have completed repairs on their property.

Methodology for Determining Fair Market Value

For each property identified for acquisition, the Subrecipient should establish and document the fair market value. The value must be derived from a reasonable methodology that is consistently applied throughout the community. Methods may include:

- Independent appraisals by Georgia licensed/certified appraisers
- Value indicated on the tax assessment (tax card)

For a large number of structures, the community may conduct appraisals to establish a statistical sampling of property values, and develop an adjustment factor to apply to tax-assessed values so they reasonably reflect each property's market value.

Appraisals

The Subrecipient may establish the fair market value for eligible properties based on appraisals by a "State Certified General Appraiser." All appraisals must follow the GEMA/HS's Hazard Mitigation Program Guidelines for use of Appraisals in Real Property Valuation (Exhibit M).

Appeals of Fair Market Value

The Subrecipient must provide an appeal or reconsideration process for property owners who dispute the fair market value determination. If the Subrecipient has an established appeal process as part of its own procurement procedures, property owners must be informed of this process.

If the Subrecipient does not have an established appeal process as part of its own procurement procedures, the following process must be utilized. The property owner will obtain an appraisal at their own expense using GEMA/HS's Appraisal Guidelines. This appraisal is subject to appraisal review by the Subrecipient and should be conducted using GEMA/HS Appraisal Guidelines. The value assigned by the certified/licensed appraisal reviewer will become the final offer. This process must be applied consistently for all properties to be acquired under this award.

Purchase Offer and Nationality

The benefit of payment of pre-event value is only available to owners who owned the property during the event is a National of the United States or qualified alien. If the current property owner purchased the disaster damaged property after the disaster declaration, then the community cannot offer the owner more than the post-event fair market value (i.e., the amount paid by the current owner for the damaged property or the current appraised fair market value, whichever is higher, in order to account for any improvements to the property or other reasonable property value increases).

Exhibit “L”

Guidelines for use of Appraisals in Real Property Valuation

Introduction

The HMGP program awards grants to state and local governments to pursue a variety of projects that reduce the loss of life and property due to natural disasters. Among the types of projects funded is for the acquisition and then the demolition of structures that have been damaged in disasters. The property is then converted to an “open space” use. Determining the fair market value of the property is an important aspect of the program. This often requires the use of real property appraisals conducted by qualified appraisers. This document provides guidance to appraisers in conducting appraisals and appraisal reviews of real property.

Definitions

For the purposes of the HMGP program Guidelines in the use of Appraisals in Real Property Valuation, hereinafter referred to as “the Guidelines,” and any other use of the terms relative to the HMGP program, the following definitions shall apply:

Appraisal—the act or process of developing an opinion of value; an opinion of value.

Review Appraisal— review of an opinion of value determined by another appraiser. This review shall include, but not be limited to, an opinion as to whether the data is adequate and relevant, the appraisal methods used are appropriate, and the analyses, opinions, and conclusions are credible.

Uniform Standards of Professional Appraisal Practice (USPAP)—developed by the Appraisal Foundation, the USPAP establishes the current standards of the appraisal profession.

Georgia Real Estate Appraiser Classification and Regulation Act as amended (O.C.G.A. Chapter 43-39A)—the state law governing appraisal activities for the State of Georgia, hereinafter referred to as “the Act.”

“Substantive Regulations” and “Standards for Appraisals,” as amended (Chapter 539-1 and Chapter 539-3 respectively)—the implementing rules and regulations of the Act, hereinafter referred to as “the Rules.”

Applicant—the state agency, local government, or non-profit organization who is eligible for applying for the HMGP PROGRAM projects. Applicants who are awarded grants are interchangeably referred to as “applicants” or “sub-grantees or subapplicants.”

Event—in most cases, refers to the disaster under which an application was made.

“Standards for Appraisals in the HMGP PROGRAM”

General Requirements for HMGP program Appraisals and Appraisal Reviews

All appraisal and appraisal reviews must comply with the USPAP. Compliance with the USPAP must be acknowledged.

All appraisals and appraisal reviews must comply with the provisions of the Act as well as the Rules. Compliance with the Act and the Rules must be acknowledged.

Any appraiser conducting appraisals or review appraisal for the purpose of use in the HMGP program must hold, at a minimum, the classification of “State Certified General Appraiser” as defined in section 539-1-.16 of the Rules. The appraiser must also be qualified according to the provisions of section 533-1-.16 of the Rules to perform appraisals in federally related transactions.

Specific Criteria for HMGP program Appraisal Development and Reporting

In addition to the above-listed general requirements, the following specific criteria must be included in the development and reporting of all appraisals for use in the HMGP PROGRAM:

1. Photographs of the subject property and all comparable properties.
2. Maps that clearly describe the property’s dimensions, street frontages, and location relative to the surrounding area.
3. Reporting of “market value” in strict accordance with the definition of market value found in section 539-3-.01(n) of the Rules.
4. Appraisals used in the HMGP program should follow the guidelines of “federally related transactions” for all purposes described in the Rules.
5. Appraisal valuations may be based on either pre-event or post-event fair market values. This decision is made by the applicant and must be applied fairly and equitably to all participating property owners. The applicant will base its decision on the following considerations:
 - a) Pre-event valuations will be used in most cases where homes have not been repaired and the applicant is buying damaged property.
 - b) Post-event valuations may be used when no damage has occurred to the property in the past 12 months and the structure is currently occupied.
 - c) Post-event valuations must be used for properties where the current owner of the property purchased it after the event (even when other properties are being valued at pre-event valuations).

Appraisal Reviews and Review of Compliance with Hazard Mitigation Assistance Program Appraisal Guidelines

1. All appraisals may be subject to an appraisal review by an independent appraiser selected by the applicant. All review appraisals will comply with these guidelines.
2. Appraisals are subject to review by the Federal Emergency Management Agency and the Georgia Emergency Management Agency/ Homeland Security for compliance with Section III, "Standards for Appraisals."

Exhibit "M"

**Statement of Voluntary Participation for Acquisition of Property for Purpose of
Open Space FEMA's Hazard Mitigation Assistance Programs**

This Agreement is made and entered into this _____ day of _____, _____, between XYZ COUNTY, hereinafter referred to as "Subgrantee," and (property owner) _____, hereinafter referred to as "Seller." The parties agree as follows:

1. Seller affirms that I/we own the property located at (legal address) _____, hereinafter referred to as "property."
2. Subgrantee has notified the Seller that the Sub-grantee may wish to purchase the referenced property and, if Seller agrees to sell, Seller must permanently relocate from property.
3. Subgrantee has identified that the purchase offer valuation of the property, as of (date)_____ is \$_____ determined by valuation procedures implemented by Subgrantee and based on FEMA acquisition requirements provided on 44 C.F.R. part 80, and relevant program guidance as documented below (e.g. Pre-Disaster Mitigation, Hazard Mitigation Grant Program, Flood Mitigation Assistance).

4. Subgrantee has notified Seller that **neither the State nor the Local Government will use its eminent domain authority to acquire the property for open-space purposes if the Seller chooses not to participate, or if negotiations fail.**
5. Subgrantee has notified Seller that if the Seller agrees to sell the property to Subgrantee the transaction is voluntary and Seller is not entitled to relocation benefits provided by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, which are available to property owners who must sell their properties involuntarily.
6. Subgrantee affirms that it has provided the notifications and explained the information described in the preceding paragraphs to the seller, and property identified above is not part of an intended, planned, or designated project area where all or substantially all of the property within the area is to be acquired within specific time limits.

This Agreement shall expire on _____, unless the Seller has voluntarily sold property to the Subgrantee by that date.

Property Owner Signature

Date

Property Owner Signature

Date

Subgrantee's Authorized Agent Signature

Date

EXHIBIT “N”

SCOPE OF WORK

XYZ COUNTY proposes to acquire and demolish five (5) flood prone residential properties with adjacent residential tracts at the site addresses below and return the land to green space. XYZ COUNTY must comply with all Programmatic and Environmental Conditions. Shown below is the funding level and scope of work for the Hazard Mitigation Grant Program project for XYZ COUNTY. Any changes to this spreadsheet MUST RECEIVE PRIOR APPROVAL FROM GEMA/HS and will be maintained by GEMA/HS and shall supersede all previous versions.

Property Address	Acquisition Costs (Tax Digest + 15%)	Estimated Closing Costs	Other Contractual, Env Audit	Asbestos and Abatement Costs	Demolition and Debris Removal Costs	Uniform Relocation Assistance	Total Project Costs	Federal Share (75%)	Local (25%)
Site 1	\$200,000.00	\$2,500.00	\$2,800.00	\$8,500.00	\$20,000.00	\$7,200.00	\$241,000.00	\$180,750	\$60,250
Site 2	\$200,000.00	\$2,500.00	\$2,800.00	\$8,500.00	\$20,000.00	\$7,200.00	\$241,000.00	\$180,750	\$60,250
Site 3	\$200,000.00	\$2,500.00	\$2,800.00	\$8,500.00	\$20,000.00	\$7,200.00	\$241,000.00	\$180,750	\$60,250
Site 4	\$200,000.00	\$2,500.00	\$2,800.00	\$8,500.00	\$20,000.00	\$7,200.00	\$241,000.00	\$180,750	\$60,250
Site 5	\$200,000.00	\$2,500.00	\$2,800.00	\$8,500.00	\$20,000.00	\$7,200.00	\$241,000.00	\$180,750	\$60,250
Total:	\$1,000,000.00	\$12,500.00	\$14,000.00	\$42,500.00	\$100,000.00	\$36,000.00	1,205,000.00	\$903,750.00	\$301,250.00

Site Locations:

- 1) Site 1, City, Georgia 3#### (33.#####, -84.#####)
- 2) Site 2, City, Georgia 3#### (33.#####, -84.#####)
- 3) Site 3, City, Georgia 3#### (33.#####, -84.#####)
- 4) Site 4, City, Georgia 3#### (33.#####, -84.#####)
- 5) Site 5, City, Georgia 3#### (33.#####, -84.#####)

Programmatic Conditions:

Land acquired for open space purposes will be restricted in perpetuity to open space uses and will be unavailable for the construction of flood damage reduction levees, transportation facilities, and other incompatible uses agrees to record Deed Restrictions within 14 days after settlement for each acquired property utilizing the model Deed Restriction shown in Exhibit K of this agreement.

Special Conditions:

EO 11988 Condition: All construction activities must occur within the existing footprint of the property. There will be no staging of equipment in the areas designated as a flood plain.

Executive Order (EO) 11988 – Floodplains Monitoring Required: No

NHPA Condition: If human remains or intact archaeological features or deposits (e.g. arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the applicant. The subrecipient shall contact the Georgia Department of Natural Resources and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with SHPO, Tribes, and other consulting parties as necessary. In the event that unmarked human remains are

encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Georgia Code, Title 31, Section 31-21-6.

National Historic Preservation Act (NHPA) Monitoring Required: No

NHPA Condition: Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106.

National Historic Preservation Act (NHPA) Monitoring Required: No

THE XYZ COUNTY agrees to remove all buildings within 90 days of closing. THE XYZ COUNTY agrees to provide a signed copy of the

Statement of Voluntary Participation shown in Exhibit N of this agreement for each property acquired through this grant.

THE XYZ COUNTY agrees to complete FEMA Form AW-501 for each repetitive loss property acquired through this grant.

Special Environmental Conditions:

NHPA Condition: If human remains or intact archaeological features or deposits (e.g. arrowheads, pottery, glass, metal, etc.) are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The subrecipient will ensure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The subrecipient's contractor will provide immediate notice of such discoveries to the applicant. The subrecipient shall contact the Georgia Department of Natural Resources and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with SHPO,

Tribes, and other consulting parties as necessary. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately, and the proper authorities notified in accordance with Georgia Code, Title 31, Section 31-21-6.

National Historic Preservation Act (NHPA) Monitoring Required: No

NHPA Condition: Any changes to the approved scope of work will require submission to, and evaluation and approval by, the State and FEMA, prior to initiation of any work, for compliance with Section 106. National Historic Preservation Act (NHPA) Monitoring Required: No

NHPA Condition: The applicant shall adhere to the guidelines of the Lower Impact Demolition Stipulations (LIDS) to minimize impacts caused by ground disturbing activities (see attached). National Historic Preservation Act (NHPA) Monitoring Required: No

RCRA CONDITION: Unusable equipment, debris and material shall be disposed of in an approved manner and location. In the event significant items (or evidence thereof) are discovered during implementation of the project, applicant shall handle, manage, and dispose of petroleum products, hazardous materials and toxic waste in accordance to the requirements and to the satisfaction of the governing local, state and federal agencies.

Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) Monitoring Required: No

RCRA CONDITION: If any asbestos containing material, lead based paint, and/or other toxic materials are found during construction activities, the applicant must comply with all federal, state and local abatement and disposal requirements. Upon closeout, the applicant must provide Notice of Demolition or Asbestos Renovation forms and confirmation that any ACM were taken to an authorized landfill for such materials.

Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) Monitoring Required: No

Standard Conditions:

Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.

This review does not address all federal, state, and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state, and local laws. Failure to obtain all appropriate federal, state, and local environmental

permits and clearances may jeopardize federal funding.

If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.

EO 11988: The subrecipient must obtain floodplain permit or approval from the local floodplain administrator before work begins. A copy of the permit or correspondence must be submitted upon closeout.

Subrecipient Management Costs

XYZ COUNTY has been awarded subrecipient management costs in the amount of \$34,496.00.

The subrecipient must provide documentation for reimbursement of management costs that were acquired during the project.

The subrecipient management costs are not part of the total funding of the project and are not subjected to the local match portion.

These funds are separate and federally funded by FEMA.

EXHIBIT "O"
Progress Payment Request Form

Date: _____

HMGP Progress Payment Request

Instructions: All requests for progress payments must be supported by documentation supporting actual expenditures. Itemize each expenditure below to the fullest detail possible, including a reference to specific sites or elements of work. Attach documentation that supports this progress payment request, such as copies of bills of sale, invoices, receipts, and checks evidencing payment. Do not send originals. Attach a continuation sheet if necessary.

Agreement Number: HMGP-4400-00##

FEMA Project Number: HMGP-4400-00##

County: XYZ COUNTY

<i>Site Reference or Element of Work</i>	<i>Approved Amount</i>	<i>Previous Payment</i>	<i>Current Request</i>	<i>Description of Documentation Attached in Support of this Payment Request</i>
(from continuation sheet attached)				
SUBTOTAL				
TOTAL				
Less Subrecipients 25% Share				
NET AMOUNT REQUESTED				

Under penalty of perjury, I certify that to the best of my knowledge the data above is correct and that all outlays were made in accordance with the award conditions, comply with procurement regulations contained within the 2 CFR, Part 200, and that payment is due and has not been previously requested. I am familiar with Section 317 of Public Law 93-288, as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

Signature of Subrecipient's Authorized Representative (and printed name)



THE GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

Language Access Plan 2022

Purpose

The intent of this Language Access Plan (the Plan) is to ensure the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) is prepared to address its responsibilities as a recipient of Federal Financial Assistance as they relate to the needs of individuals with limited English language skills. The Plan has been prepared in accordance with Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 200d, *et seq.*, and Executive Order 13166, to follow when providing services to, or interacting with, individuals who have limited English proficiency (LEP). Following these guidelines is essential to the success of our mission to protect life and property against man-made and natural disasters by directing the State's efforts in the areas of prevention, preparedness, mitigation, response, and recovery.

GEMA/HS is a recipient of federal funds for a portion of its programs and, thus, obligated to reduce language barriers that can preclude Meaningful Access by LEP persons to GEMA/HS programs and GEMA/HS' Subrecipients' programs. GEMA/HS has prepared this Language Access Plan, which defines the actions to be taken to ensure Meaningful Access to Agency services, programs, and activities on the part of persons who have LEP.

Authority

Title VI of the Civil Rights Act of 1964

Section 601 of Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d, provides that no person shall "on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal Financial Assistance."

Section 602 authorizes and directs federal agencies that are empowered to extend Federal Financial Assistance to any program or activity "to effectuate the provisions of [section 601] * * * by issuing rules, regulations, or orders of general applicability." 42 U.S.C. 2000d-1.

Executive Order 13166

Executive Order 13166, entitled "Improving Access to Services for Persons with Limited English Proficiency," authorizes the implementation of regulations afforded by Title VI of the Civil Rights Act of 1964. Executive Order 13166 ensures LEP persons have Meaningful Access to federally conducted and funded programs and activities. This protection requires that LEP persons be provided an equal opportunity to benefit from services that are normally provided in English. Executive Order 13166 requires that federal agencies create plans for ensuring that their own activities also provide Meaningful Access for persons who are LEP.

Definitions

Beneficiary: The ultimate consumer of federally funded programs who receives benefits from a federally funded recipient.

Bilingual: A person competent in two languages in equal aptitude in either oral or written form is considered bilingual.

Customer: Any individual or organization communicating with a GEMA/HS program.

GEMA/HS LAP Coordinator: GEMA/HS employees that collectively work together as the LAP Coordinator.

Federal Financial Assistance: Grants, loans, and advances of federal funds, the grant or donation of federal property and interests in property, or any other assistance as specified in 24 CFR Part I § 1.2(e).

Focus Languages: Languages, specifically Chinese, Korean, Spanish, and Vietnamese, identified through the Four-Factor Analysis as having a sufficient level of prevalence amongst LEP individuals in Georgia to warrant statewide efforts for written translations of vital documents.

Interpretation: The act of listening to a communication in one language (source language) and orally converting it to another language (target language) while retaining the same meaning.

Language Access Plan (LAP): A written implementation plan that addresses identified needs of the LEP persons served.

Language Assistance Services: Oral and written language services needed to assist LEP individuals to communicate effectively with staff, and to provide LEP individuals with Meaningful Access to, and an equal opportunity to participate fully in, the services, activities, or other programs administered by GEMA/HS.

Limited English Proficient (LEP) Individuals: Individuals who do not speak English as their primary language and who have a limited ability to read, write, speak, or understand English because of their national origin. For purposes of Title VI and the LEP Guidance, persons may be entitled to language assistance with respect to a particular service, benefit, or encounter. (HUD LEP Guidance). LEP individuals may be competent in English for certain types of communication (e.g., speaking or understanding), but still demonstrate LEP for other purposes (e.g., reading or writing).

Meaningful Access: LEP individuals' accurate, timely, and effective participation in, or benefit from, federally funded programs that is meaningfully equivalent to that of non-LEP individuals, at no cost to the LEP individual.

Multilingual staff or employee: A staff person or employee who has demonstrated fluency in English and reading, writing, speaking, or understanding at least one other language as authorized by his or her Division.

Primary Language: An individual's primary language is the language in which an individual most effectively communicates.

Recipient: Qualified applicants in compliance with 24 CFR §1.2(f) who are awarded Federal Financial Assistance. The Voluntary Compliance Agreement defines Recipient as "the meaning specified at 24 CFR §1.2(0)." 24 CFR §1.2(f) defines Recipient as "any State, political subdivision of any State, or instrumentality of any State or political subdivision, any public or private agency, institution, organization, or other entity, or any individual, in any State, to whom Federal Financial Assistance is extended, directly or through another recipient, for any program or activity, or who otherwise participates in carrying out such program or activity (such as a redeveloper in the Urban Renewal Program), including any successor, assign, or transferee thereof, but such term does not include any ultimate beneficiary under any such program or activity."

Subrecipient: Any public or private agency, institution, organization, or other entity to whom Federal Financial Assistance is extended, through GEMA/HS for any program or activity, or who otherwise participates in carrying out such program or activity, but such term does not include any Beneficiary under any such program.

Translation: The replacement of written text from one language (source language) into an equivalent written text in another language (target language).

Policy

GEMA/HS complies with all federal statutes and regulations in the administration of federally funded programs. Through the Plan, GEMA/HS will take timely and reasonable steps to provide LEP persons with Meaningful Access to programs and activities conducted by GEMA/HS and its Subrecipients. Access to GEMA/HS programs and services should not be impeded as a result of an individual's inability to speak, read, write, or understand English. GEMA/HS will review and update its LEP Four-Factor Analysis at least every five years.

The Plan requires communication of information contained in vital documents involving emergency services to all people in the state of Georgia. All interpreters, translators, and other aids needed to comply with the Plan shall be provided without cost to the person being served and will be informed of the availability of such assistance free of charge. Language assistance will be provided through the use of competent bilingual interpreters, contracts, or formal arrangements with local organizations providing interpretation or translation services, or technology and telephonic interpretation services. All GEMA/HS employees will be provided notice of the Plan, and GEMA/HS employees that may have direct contact with LEP individuals will be trained in effective communication techniques, including the effective use of an interpreter.

GEMA/HS will train staff, contractors, and Subrecipient administrators (program administrators who are expected to conduct a Four-Factor Analysis and other efforts described within this LAP), and local government officials on procedures to implement and continuously monitor and evaluate the implementation of LAPs in the state of Georgia.

Pursuant to the requirements of Title VI, Subrecipients of federal funds received through an administration grant/award made by GEMA/HS are also required to make reasonable efforts to provide timely, Meaningful Access for LEP persons to programs and activities. In order to do so, Subrecipients should first conduct an assessment to determine the need for language assistance within their service area. This is accomplished by conducting the Four-Factor Analysis, which is described in the Plan. After completion of the Four-Factor Analysis, the Subrecipients will understand the languages spoken by LEP persons in their service area and can determine how to provide needed language assistance.

Based upon the findings of the Four-Factor Analysis, and when deemed necessary, the Sub-Recipients should prepare a Language Access Plan addressing the Subrecipient's plan for ensuring Meaningful Access to programs and activities for LEP persons. A Subrecipient may conclude that different language assistance measures are sufficient for the different types of programs or activities in which it engages. For instance, a Subrecipient may determine that certain activities are more important and/or have greater impact on or contact with LEP persons, and thus such programs or activities require enhanced language assistance.

Subrecipients are also required to select an individual responsible for coordination of LEP compliance, train staff involved in programs and activities on LEP requirements, keep records of assistance provided and actions taken, and update the Four-Factor Analysis and LAP, as needed. GEMA/HS will monitor all Subrecipients to ensure LEP individuals receive Meaningful Access to GEMA/HS federally funded programs.

Four Factor Analysis

In developing the Plan, GEMA/HS used the Four Factor LEP analysis, which considers the following:

1. The number or proportion of LEP persons eligible to be served or likely to be encountered by GEMA/HS programs, activities, or services in the state of Georgia;
2. The frequency with which LEP individuals come in contact with GEMA/HS programs, activities or services;
3. The nature and importance of the program, activity or service provided to the LEP population; and
4. The resources available to GEMA/HS and the overall cost to provide assistance.

Factor 1: Number or proportion of LEP persons eligible to be served or likely to be encountered by GEMA/HS programs, activities, or services.

GEMA/HS used the U.S. Census Bureau’s American Community Survey (ACS), 2020: ACS 5-Year Estimates Data Profile of Georgia to determine the number of LEP persons throughout the State. Based on the data provided, GEMA/HS considers individuals who speak English less than “very well” as LEP persons. According to the ACS data, the state of Georgia has a total population of 9,864,494 persons five years old and older. Of the 9,864,494 persons, the ACS estimates that 536,491 persons or 5.44 percent of the State’s population are LEP.

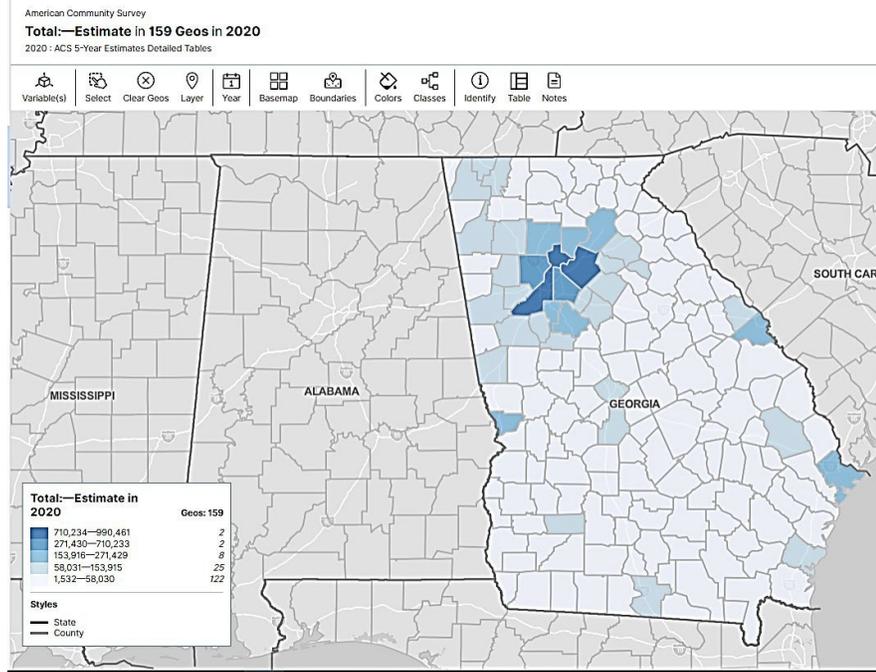
MOST COMMON LANGUAGES SPOKEN AT HOME

	Total Number of speakers	Number who speak English less than “very well”	Percent of total population who speak English less than “very well”
Total population 5 years and over	9,864,494	536,491	5.44%
Spanish	781,103	332,566	3.37%
Korean	47,879	24,252	0.25%
Vietnamese	52,832	32,588	0.33%
Chinese (incl. Mandarin, Cantonese)	51,251	25,814	0.26%
Arabic	20,010	6,025	0.06%
French, Haitian, or Cajun	53,999	11,186	0.11%
German or other West Germanic languages	27,898	3,488	.04%
Russian, Polish, or other Slavic languages	28,301	9,171	

Source: U.S. Census Bureau, 2020 American Community Survey (Table C16001 5 year estimate)

2020 ACS 5-Year Estimates Detailed Tables for 159 Counties in Georgia

Languages Spoken at Home for the Population 5 Years and Over



Source: [U.S. Census Bureau, 2020 American Community Survey \(Table C16001 5 year estimate\)](#)

COUNTIES WITH HIGHEST CONCENTRATION OF LEP PERSONS

	Total population (>age 5)	LEP population (number)	LEP population (percent)
Georgia	9,864,494	536,491	5.44%
Fulton County	990,461	49,465	5.00%
Gwinnett County	865,453	133,239	15.40%
DeKalb County	702,759	58,543	8.33%
Cobb County	710,233	49,527	6.97%
Muscogee County	181,372	4,258	2.35%
Chatham County	271,429	9,517	3.50%
Hall County	188,380	24,750	13.14%
Cherokee County	238,875	11,768	4.93%
Henry County	216,771	8,038	3.71%
Clayton County	265,889	24,413	9.18%
Richmond County	188,446	3,767	2.00%
Bartow County	99,540	3,219	3.23%
Forsyth County	222,422	13,626	6.13%
Floyd County	91,953	4,632	5.04%
Paulding County	153,915	2,823	1.83%

Coweta County	137,185	4,339	3.16%
Douglas County	136,211	6,480	4.76%
Troup County	65,591	1,186	1.81%
Rockdale County	84,942	4,714	5.55%
Walton County	87,651	1,694	1.93%
Jackson County	65,919	2,223	3.37%
Barrow County	75,774	4,407	5.82%
Clarke County	120,443	5,949	4.94%
Fayette County	108,463	3,994	3.68%
Spalding County	61,990	851	1.37%
Newton County	102,864	2,202	2.14%
Carroll County	111,220	3,567	3.21%
Lowndes County	108,509	2,127	1.96%
Dougherty County	82,900	1,076	1.30%
Glynn County	80,176	2,437	3.04%
Bulloch County	73,268	1,306	1.78%
Walker County	65,478	403	0.62%
Whitfield County	97,331	13,367	13.73%
Catoosa County	63,441	939	1.48%
Columbia County	144,458	4,931	3.41%
Bibb County	142,913	2,909	2.03%
Houston County	145,032	4,365	3.01%

Factor 2: Frequency with which LEP individuals come in contact with programs, activities, or services.

GEMA/HS is the lead agency when disasters strike, meaning that GEMA/HS employees are at the front line of responding to emergencies and coordinating preparedness and recovery efforts. GEMA/HS directs the recovery efforts by the State and helps connect locals to the nonprofit organizations that want to offer assistance. Many of these organizations provide emergency housing and shelter, access to transportation, food banks, childcare services, and public health programs, as well as long-term housing and support. Therefore, as the leaders of recovery efforts, our Agency is responsible for properly understanding the needs of the community and making sure the necessary resources are being deployed. To accomplish this function, GEMA/HS employees must have resources available to communicate with the population in need by having interpreter services readily available. Therefore, any information GEMA/HS posts regarding Federal Financial Assistance must be disseminated and accessible to diverse racial, ethnic, and LEP populations.

GEMA/HS encourages all Subrecipients, organizations, and community leaders to regularly engage with the communities they serve, especially those that are LEP. GEMA/HS' goal is to foster relationships with community-based organizations and local service offices, like legal aid,

which have a more established relationship with undeserved communities, like LEP persons, to disseminate resources and information.

GEMA/HS anticipates increased contact with LEP persons as natural disasters become more prevalent, emergency situations more frequently arise, and the minority populations within the state of Georgia continues to grow. Given this likely outcome, GEMA/HS must make all necessary preparations to develop products that non-English speakers can read and understand.

Factor 3: The nature and importance of the program, activity or service provided to the LEP population.

In general, after a disaster the affected constituency relies heavily on GEMA/HS to lead them to resources, programs, and benefits. GEMA/HS must ensure LEP persons have equitable contact with these resources, programs, and benefits. Therefore, during post-disaster recovery GEMA/HS will work with the hired consultant to encourage affected counties to identify language services during the planning process so that LEP persons in concentrated areas of a county are not experiencing denial or delay of access to services.

Factor 4: The resources available to GEMA/HS and the overall cost to provide assistance.

GEMA/HS will take all reasonable steps to ensure Meaningful Access to LEP persons when preparing and planning for disaster events and after such events occur. Reasonable steps include working with local LEP community organizations, key stakeholders, and other government agencies to assist with language assistance. GEMA/HS will also leverage existing relationships with community organizations, including faith-based service groups, community associations, and service nonprofits in GA Voluntary Organizations Active in Disaster.

GEMA/HS will maintain LEP maps so that the Agency is consistently updating language materials that reflect the most prevalent languages spoken in areas affected by disasters. The Agency intends to research ethnic centers and venues diverse communities visit so that recovery and benefit information reaches LEP populations. GMA/HS will utilize its public platforms to post guidance and public service announcements in non-English languages.

Before, during, and after a disaster, GEMA/HS will coordinate with non-English media—in TV, print, and radio, as well as through online platforms and social media—to assist with sharing information to LEP populations.

Complaint Procedures

An employee, client, customer, program participant, or consumer of GEMA/HS or of a GEMA/HS Subrecipient may submit an LEP complaint concerning the implementation or administration of any GEMA/HS program, activity, or service. Any such individual has the right, and is encouraged, to file a written complaint with the Federal Emergency Management Agency’s (FEMA) Office of Equal Rights (OER), the DHS’s Office for Civil Rights and Civil Liberties (CRCL), or GEMA/HS.

1. If the complaint involves FEMA programs and activities, and programs and activities conducted by FEMA grant recipients, the complaint may be sent directly to FEMA OER by calling FEMA at 202-212-3535 and press 1 for Civil Rights, sending an email to FEMACivilRightsOffice@fema.dhs.gov, or by sending a written explanation to the FEMA OER.

The written explanation should be sent to:

FEMA's Office of Equal Rights
Civil Rights Section
500 C Street, SW
Room 4SW-0915
Washington, D.C. 20472

2. LEP complaints can also be sent to the DHS's Office for CRCL. There are three submission methods available. One method for submitting the complaint is via email: CRCLCompliance@hq.dhs.gov. A second available method is fax: 202-401-4708. The complaint may also be sent via mail to the following address:

U.S. Department of Homeland Security
Office for Civil Rights and Civil Liberties
Compliance Branch
245 Murray Lane, SW
Building 410, Mail Stop #0190
Washington, D.C. 20528

3. Additionally, LEP complaints can be sent directly to GEMA/HS. A complaint form can be downloaded from GEMA/HS' website and submitted by email to: language.access.coordinator@gema.ga.gov.

The completed form may also be sent to:

The Georgia Emergency Management and Homeland Security Agency
Language Access Coordinator
935 United Avenue SE
Atlanta, Georgia 30316

Language Assistance and Interpretation Services

GEMA/HS will improve its ability to identify LEP persons needing language assistance by:

1. Posting notice of the Plan and the availability of interpretation or translation services free of charge in languages LEP persons would understand at initial points of contact. GEMA/HS will display the language identification "I SPEAK" cards in all GEMA/HS offices and when traveling to any county or city when responding to an emergency or disaster.

2. All GEMA/HS field coordinators and front-facing staff will also be provided with “I Speak” cards to assist in identifying the language interpretation needed if the occasion arises.
3. All city staff will be informally surveyed periodically on their experience and frequency concerning any contacts with LEP persons during the previous year.

GEMA/HS will provide an opportunity for LEP persons to request an interpreter. Qualified foreign language interpreters will be provided by GEMA/HS, as needed. Whether or not an interpreter is used, there will always be information sheets available at headquarters, incident command centers, and at any point of contact GEMA/HS has with the community. These information sheets should always include questions and answers concerning the need for an interpreter. GEMA/HS will maintain a list of qualified interpreters or companies it contracts with to provide such interpreters. A qualified interpreter, which may include GEMA/HS personnel, means an interpreter who can interpret effectively, accurately, and impartially, using any specialized vocabulary.

Training

1. GEMA/HS will provide periodic training for all employees regarding:
 - a. Implementing the Plan’s procedures;
 - b. Understanding the requirements of Title VI of the Civil Rights Act, Executive Order 13166, and updates to federal guidance on LEP;
 - c. Locating and contacting language assistance services for GEMA/HS programs and Subrecipients’ programs, as needed;
 - d. Using “I Speak” cards and training Subrecipients to use them;
 - e. Preparing and testing communication strategies to ensure evacuation announcements and critical communications reach LEP populations;
 - f. Recording and responding to LEP complaints; and
 - g. Researching and updating population information so that GEMA/HS can best serve the current Georgia population.
2. GEMA/HS will facilitate LEP training for Subrecipients. Such training may be arranged:
 - a. In conjunction with grant management training;

- b. Online through the GEMA/HS website;
- c. At the request of the Subrecipient; or
- d. As a result of a grant program review.

Notification

GEMA/HS will post the Plan on the GEMA/HS website to notify all interested parties of the appropriate procedures for addressing complaints of discrimination concerning the implementation or administration of any program, activity, or service receiving Federal Financial Assistance from FEMA or DHS.

Complaint Procedures

GEMA/HS Procedures for Processing Complaint

1. A group of GEMA/HS employees will collectively act as the Language Access Coordinator for processing complaints made by individuals who believe they have been denied the benefits associated with this Plan.
2. If an employee, client, customer, program participant, or consumer of GEMA/HS or of a GEMA/HS Subrecipient contacts a GEMA/HS employee and wishes to file a complaint against GEMA/HS or a GEMA/HS Subrecipient concerning the implementation or administration of GEMA/HS any program, activity, or service involving the benefits of the Plan, the GEMA/HS employee shall instruct the complainant to file the complaint in writing, in accordance with the procedures above.
3. Any GEMA/HS employee receiving such a complaint submitted directly to GEMA/HS, and any GEMA/HS employee wishing to submit such a complaint directly to GEMA/HS, shall route it to the Language Access Coordinator. If the complaint is against an employee of GEMA/HS, the complaint shall be forwarded to the Language Access Coordinator.
4. For any complaint received by the Language Access Coordinator that is submitted directly to GEMA/HS, the Language Access Coordinator shall provide written acknowledgment of the complaint to the complainant.
5. The Language Access Coordinator shall refer the complaint to the appropriate entity, which may include the Georgia Office of the Attorney General, the OER, or the CRCL. If the Georgia Office of the Attorney General either is the agency about which the complaint is filed or has a conflict, the complaint shall be referred to the OER or CRCL, as appropriate.

6. Notwithstanding paragraph 5, for any LEP complaint concerning the implementation or administration of any program, activity, or service receiving Federal Financial Assistance from FEMA or DHS, GEMA/HS shall notify the OER or CRCL, as appropriate, in writing of the following:
 - a. Name of complainant;
 - b. Entity named in the complaint;
 - c. Description of the LEP complaint;
 - d. Steps being undertaken to investigate and resolve complaint; and
 - e. Interpretation resources to address the information or benefits the LEP person needed but did not receive.

In addition, GEMA/HS shall notify the complainant that they may file a complaint directly with the OER or CRCL, as appropriate, at the following address or using one of the electronic submission methods described above:

FEMA's Office of Equal Rights
Civil Rights Section
500 C Street, SW
Room 4SW-0915
Washington, D.C. 20472

U.S. Department of Homeland Security
Office for Civil Rights and Civil Liberties
Compliance Branch
245 Murray Lane, SW
Building 410, Mail Stop #0190
Washington, D.C. 20528

Monitoring Language Needs and Implementation

GEMA/HS will continuously monitor and track changes in LEP populations, including what regions might require new language training services and what non-English languages are increasing throughout the population of Georgia. As part of a grant program review, GEMA/HS staff will review the Subrecipients' procedures for adequately providing language assistance to LEP persons. If the procedures do not exist, or are found to need improvement, GEMA/HS staff will send those findings to Subrecipient. At a minimum, the Subrecipient's response procedures should include:

- a. Acknowledge complaint receipt to complainant in writing;
- b. Indicate which external agency the complaint is forwarded to for investigation;
- c. Comply with the appropriate timeframe by which to forward complaint;
- d. Notify GEMA/HS of complaint; and

- e. Notify complainant that a complaint of discrimination may be filed directly with the OER, CRCL, or GEMA/HS, and where to locate those procedures.

Additional Resources:

- **Georgia Department of Human Services (DHS)**
Contact the Limited English Proficiency / Sensory Impairment (LEP/SI) Program
Fax: (404) 657-1123
lepsi@dhs.ga.gov
2 Peachtree Street N.W.
Suite 29-103
Atlanta, GA 30303

- **Georgia Department of Community Affairs**
Attn: Christy Barnes, DCA LAP Coordinator
DCA 504 Coordinator
60 Executive Park South, N.E.
Atlanta, Georgia 30329-2231
fairhousing@dca.ga.gov
404-679-5291
https://www.dca.ga.gov/sites/default/files/dca_lap.pdf

- **iSpeak ATL**
<https://www.welcomingatlanta.com/ispeakatl/>
Mayor's Office of Immigrant Affairs
Suite 2400
55 Trinity Ave SE
Atlanta GA 303016
Email: ispeakATL@atlantaga.gov

- Interpreters Unlimited (In person only – 800-726-9891)
- Language Line Services (Telephonic or recording – 800-752-6096)
- LATN, Inc. (In-person or telephonic – 800-943-5286)
- Peach State Health Plan Interpreter & Translation Services
- Contractor Listing for Translation and Interpretation Services
- Contractor Listing for Linguistic Training and Education Services
- American Association of Language Specialists
- American Translators Association
- Federal LEP Website

Appendix 1: I Speak Card

I Speak...

Language Identification Guide

A

Amharic
እኔ አማርኛ ነው ምናገረው.

Arabic
أنا أتحدث اللغة العربية

Armenian
Ես խոսում եմ հայերեն

B

Bengali
আমি বাংলা কথা বলতে পারি

Bosnian
Ja govorim bosanski

Bulgarian
Аз говоря български

Burmese
ကျွန်တော်/ကျွန်းမ ငြိန်မာလို ချဉ်းတတ်တတ် ပြောမိ

C

Cambodian
ខ្ញុំនិយាយភាសាខ្មែរ

Cantonese
我講廣東話 (Traditional)
我讲广东话 (Simplified)

Catalan
Parlo català

Croatian
Govorim hrvatski

Czech
Mluvim česky

D

Danish
Jeg taler dansk

Dari
من دری حرف می زنم

Dutch
Ik spreek het Nederlands

E

Estonian
Ma räägin eesti keelt

F

Finnish
Puhun suomea

French
Je parle français

G

German
Ich spreche Deutsch

Greek
Μιλώ τα ελληνικά

Gujarati
હું ગુજરાતી બોલુ છું

H

Haitian Creole
M pale kreyòl ayisyen

Hebrew
אני מדבר עברית

Hindi
मैं हिंदी बोलता हूँ।

Hmong
Kiv has lug Moob

Hungarian
Beszélök magyarul

I

Icelandic
Ég tala íslensku

Incanso
Agszonak ti Ilokano

Indonesian
saya bisa berbahasa Indonesia

Italian
Parlo italiano

J

Japanese
私は日本語を話す

K

Kacchiquel
Qim chagüic ká chà bal' ruim' n'

Korean
한국어 합니다

Kurdish
min Kurdiî zanim

Kurmanji
min Kurmanjî zanim

L

Laotian
ຂ້ອຍປາກົດພາສາລາວ

Latvian
Es runāju latviski

Lithuanian
Aš kalbu lietuviškai

Q

Qanjobal
Ayin ti chí wá! q' anjob' al

Queche
In tinch'aw' k'un ch'e quiche

R

Romanian
Vorbesc românește

Russian
Я говорю по-русски

S

Serbian
Ja govorim srpski

Sign Language


Slovak
Hovorím po slovensky

Slovenian
Govorim slovensko

Somali
Waxaan ku hadlaa af-Soomaali

Spanish
Yo hablo español

Swahili
Ninaongea Kiswahili

Swedish
Jag talar svenska

T

Tagalog
Mamunong ahong mag-Tagalog

Tamil
நான் தமிழ் பேசுவேன்

Thai
พูดภาษาไทย

Turkish
Türkçe konuşurum

U

Ukrainian
Я розмовляю українською мовою

Urdu
میں اردو بولوں

V

Vietnamese
Tôi nói tiếng Việt

W

Welsh
Dwi'n siarad

X

Xhosa
Ndithetha isiXhosa

Y

Yiddish
איך רעד יידיש

Yoruba
Mo nso Yoruba

Z

Zulu
Ngiyasikhuluma isiZulu

Executive Order 13166 requires DHS to take reasonable steps to provide meaningful access to its programs and activities for persons with limited English proficiency and - as also required by Title VI of the Civil Rights Act of 1964 - to ensure that recipients of federal financial assistance do the same.

I Speak is provided by the Department of Homeland Security Office for Civil Rights and Civil Liberties (CRCL). Other resources at www.lep.gov

Contact the DHS Office for Civil Rights and Civil Liberties' CRCL Institute at CRCLTraining@dhs.gov for digital copies of this poster or a "I Speak" booklet.

Download copies of the DHS LEP plan and guidance to recipients of financial assistance at www.dhs.gov/crcl





Georgia Emergency Management and Homeland Security Agency

LIMITED ENGLISH PROFICIENCY COMPLAINT FORM

The purpose of this document is to help you file a Limited English Proficiency (LEP) complaint concerning the implementation or administration of any program, activity, or service receiving federal financial assistance, whether within the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) or a sub- recipient. This document is not intended to be used for complaints about employment with GEMA/HS. You are not required to use this document to file a complaint; a letter with the same information is sufficient. However, if you file a complaint by letter, you should include the same information that is requested herein.

1. Information about the person who is filing the LEP complaint:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

Email (Optional): _____

2. Information about the person(s) who failed to properly provide information to the LEP person:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

3. Information about the agency or organization involved:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

4. Are there other individuals or organizations involved in this LEP complaint?

- Yes
- No

If yes, please provide their name, telephone number, and address below:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

5. Describe the nature of the interaction and any suspected violations:

6. Explain in detail what happened, when, and how the person(s) or entity denied meaningful access to a GEMA/HS or sub-recipient service, activity, program, or other benefit.

7. What other information do you think might be helpful to an investigation?

8. Please list below any persons (witnesses, people involved, or others) who have direct knowledge of the situation that might be able to provide information to support or clarify the complaint:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

9. Have you or others filed a case or complaint regarding this allegation with any of the following?

- Office of Equal Rights, Federal Emergency Management Agency
- Office for Civil Rights and Civil Liberties, U.S. Department of Homeland Security
- U.S. Equal Employment Opportunity Commission
- Other Federal Agency
- Federal or State Court
- Other State of Georgia Agency, Authority, or Office
- Other: _____

10. Issues with:

- | | |
|--|---|
| <input type="checkbox"/> Spanish (Español) | <input type="checkbox"/> Lack of signs informing the public of interpretation and translation |
| <input type="checkbox"/> Chinese 中国人 | <input type="checkbox"/> Lack of forms/materials/notices in a language I can understand |
| <input type="checkbox"/> Korean 한국어 | <input type="checkbox"/> I was not offered an interpreter |
| <input type="checkbox"/> Vietnamese Tiếng Việt | <input type="checkbox"/> I asked for an interpreter and was denied |
| <input type="checkbox"/> French (Français) | <input type="checkbox"/> Lack of bilingual personnel, so delay in services |
| <input type="checkbox"/> Arabic برء | <input type="checkbox"/> The interpreter's skills were not good |
| | <input type="checkbox"/> I was unable to use the services, programs, or activities |

11. Information about the person filing this complaint, if the complaint is being submitted on behalf of another:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

Email (Optional): _____

Signature: _____ **Date:** _____

You may submit the form by email to language.access.coordinator@gema.ga.gov.

Or send via U.S. Mail to the following address:

Georgia Emergency Management and Homeland Security Agency
Attention: Language Access Coordinator
P.O. Box 18055
Atlanta, Georgia 30316



THE GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

Responding to Discrimination Complaints Relating to Federal Grant Programs

2022

Purpose

The intent of this policy is to ensure that subrecipients which receive grant funds from the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) do not discriminate against any client, customer, program participant, employee, or consumer based on race, color, religion, sex, national origin, age, English proficiency, or physical or mental disability. This policy establishes the procedures for GEMA/HS employees to follow when they receive or wish to make a complaint alleging discrimination concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the U.S. Department of Justice (DOJ) or the U.S. Department of Homeland Security (DHS), whether within GEMA/HS or a subrecipient.

Complying with Laws and Policies that Prohibit Discrimination

GEMA/HS shall comply with all applicable federal and state laws, rules, and regulations prohibiting discrimination. GEMA/HS shall appropriately address all complaints from any person who believes that a GEMA/HS subrecipient has discriminated against them in violation of federal and/or state law or regulation in the delivery of services or benefits.

Policy

All employees, job applicants, clients, customers, program participants, and consumers of GEMA/HS and its subrecipients shall be treated equally regardless of race, color, religion, national origin, age, English proficiency, or physical or mental disability, sexual orientation, or gender identity.

Individuals have the right to participate in programs, activities, and services operated by GEMA/HS and its subrecipients without discrimination. Statutes and regulations that apply include, but are not limited to, the following:

- Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin in the delivery of services (42 U.S.C. § 2000d), and the DOJ implementing regulations at 28 C.F.R. Part 42, Subpart C and D, and DHS implementing regulations at 6 C.F.R. Part 21 and 44 C.F.R. Part 7;
- Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability in the delivery of services and employment practices (29 U.S.C. § 794), and the DOJ implementing regulations at 28 C.F.R. Part 42, Subpart G;
- Titles I, II, and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the delivery of services and employment practices (42 U.S.C. §12101-12213 and §12131-34), and the DOJ implementing regulations at 28 C.F.R. Part 35;
- Title IX of the Education Amendments of 1972, which prohibit discrimination on the basis of sex in educational programs (20 U.S.C. § 1681), the DOJ implementing regulations at 28 C.F.R. Part 42, Subpart D and 28 C.F.R. Part 54, and the DHS implementing regulations at 6 C.F.R. Part 17 and 44 C.F.R. Part 19;
- The Age Discrimination Act of 1975, which prohibits discrimination on the basis of age in the delivery of services (42 U.S.C. § 6102), and the DOJ implementing regulations at 28 C.F.R. Part 42, Subpart I;
- Title VIII of the Civil Rights Act of 1968, which prohibits recipients from discriminating in the sale, rental, financing, and advertising of dwellings, or in the provision of services

in connection therewith, on the basis of race, color, national origin, religion, disability, familial status, and sex (42 U.S.C. §3601);

- The Omnibus Crime Control and Safe Streets Act of 1968, which prohibits discrimination on the basis of race, color, national origin, religion, or sex in the delivery of services and employment practices (34 U.S.C. §10228(c), see also 34 U.S.C. §11182(b)), and the DOJ implementing regulations at 28 C.F.R. Part 42, Subpart D;
- The DOJ regulations on the Equal Treatment for Faith-Based Organizations, which prohibit discrimination on the basis of religion in the delivery of services and prohibit organizations from using DOJ funding on inherently religious activities (28 C.F.R. Part 38);
- The Victims of Crime Act (VOCA) of 1984, which prohibits discrimination based on race, color, religion, national origin, handicap, or sex (34 U.S.C. §20110(e));
- The Violence Against Women Act (VAWA) of 2013, which prohibits discrimination on the basis of actual or perceived race, color, religion, national origin, sex, gender identity, sexual orientation, or disability (34 U.S.C. §12291(b)(13));
- The DHS regulation, which prohibits discrimination based on religion in social service programs (6 C.F.R. Part 19);
- Executive Order 13166, “Improving Access To Services For Persons With Limited English Proficiency”, which requires Federal agencies to develop and implement a plan to provide services to those persons with limited English proficiency (LEP) to ensure meaningful access to programs and activities conducted by those agencies;
- Georgia’s Fair Employment Practices Act of 1978, found at O.C.G.A. § 45-19-29, et seq., which prohibits public employers with 15 or more employees from engaging in discrimination on account of an individual's race, color, religion, sex, age, national origin, or disability;
- Georgia’s Sex Discrimination in Employment Act of 1966, found at O.C.G.A. § 34-5-1, et seq., which mimics the Equal Pay Act of 1963, in that it prohibits discrimination between employees in the same establishment, on the basis of sex, in their compensation for comparable work;
- Georgia’s General Age Discrimination Law of 1971, found at O.C.G.A. § 34-1-2, which makes it a criminal misdemeanor to discriminate against any person between the ages of 40 and 70 years, solely upon the ground of age, when the reasonable demands of the position do not require such an age distinction. The individual must be qualified physically, mentally, and by training and experience to perform satisfactorily the labor assigned to him or her for which he or she applies;

- Georgia’s Equal Employment for Persons with Disabilities Code of 1981, found O.C.G.A. § 34-6A-1, et seq., which mimics the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, as amended, in that it prohibits discrimination because of an individual's disability with respect to wages, rates of pay, hours, or other terms and conditions of employment because of such person's disability unless such disability restricts that individual's ability to engage in the particular job or occupation for which he or she is eligible. The Code has no administrative prerequisites to filing suit; and
- Atlanta Ordinance No. 2000-79, § 1, which applies to employers located within the City of Atlanta with ten or more employees. The Ordinance prohibits employment discrimination based on race, color, creed, religion, sex, domestic relationship status, parental status, familial status, sexual orientation, national origin, gender identity, age, or disability.

Definitions

Complaint Coordinator: A person or persons designated by GEMA/HS to ensure that received complaints are acted upon in a timely manner.

Discrimination: The treatment or consideration of, or making a distinction in favor of or against, a person based on the person’s legally recognized protected category (including race, color, national origin, gender, age, sexual orientation, gender identity, religion, English proficiency, or disability) to which that person belongs rather on individual merit. There are various federal and state laws and rules that further describe the specific types of discrimination.

Retaliation: The act of harassing, threatening, demoting, firing, or otherwise negatively targeting a complainant as a direct result of the complainant opposing unlawful discrimination.

Subrecipient: A non-Federal entity that receives a grant sub-award from GEMA/HS to carry out part of a Federal program. A subrecipient does not include an individual that is a beneficiary of such a program.

Complaint Procedures

An employee, client, customer, program participant, or consumer of GEMA/HS or of a GEMA/HS subrecipient may submit a complaint of discrimination concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the DOJ or DHS on behalf of him/herself or on behalf of another. Any such individual has the right, and is encouraged, to file a written complaint with the Office for Civil Rights in the DOJ (OCR), the DHS’s Office for Civil Rights and Civil Liberties (CRCL), or GEMA/HS.

1. If the relevant federal grant is funded by the DOJ, the complaint may be sent directly to the OCR using the *Complaint Verification Form* and *Identity Release Statement*, which are available at: <https://www.ojp.gov/program/civil-rights/filing-civil-rights-complaint>.

The completed forms should be sent to:

Office for Civil Rights
Office of Justice Programs
U.S. Department of Justice
810 Seventh Street NW
Washington, D.C. 20531

2. If the relevant federal grant is funded by the DHS, the complaint may be sent directly to the DHS's Office for CRCL. There are three submission methods available. One method for submitting the complaint is via email: CRCLCompliance@hq.dhs.gov. A second available method is fax: 202-401-4708. The complaint may also be sent via mail:

U.S. Department of Homeland Security
Office for Civil Rights and Civil Liberties
Compliance Branch
245 Murray Lane, SW
Building 410, Mail Stop #0190
Washington, D.C. 20528

3. For federal grants funded by either DOJ or DHS, the complaint may also be submitted directly to GEMA/HS. A complaint form can be downloaded from GEMA/HS' website and submitted by email to: grants.complaint.coordinator@gema.ga.gov. The completed form may also be sent to:

The Georgia Emergency Management and Homeland Security Agency
Grants Complaint Coordinator
935 United Avenue SE
Atlanta, Georgia 30316

Additional Agencies for Filing Discrimination Complaints

In addition to the option for filing a discrimination complaint with GEMA/HS, the OCR, or the CRCL, discrimination complaints may be filed directly with a court, as well as the following state and federal administrative agencies, whose function is to enforce state and federal laws that prohibit discrimination:

- Equal Employment Opportunity Commission (EEOC)
<http://www.eeoc.gov/employees/charge.cfm>
- Georgia Commission on Equal Opportunity (GCEO)
<https://gceo.georgia.gov/>

GEMA/HS Procedures for Processing Complaint

1. A group of GEMA/HS employees will collectively act as the Complaint Coordinator for processing complaints of discrimination associated with this policy.
2. If an employee, client, customer, program participant, or consumer of GEMA/HS or of a GEMA/HS subrecipient contacts a GEMA/HS employee and wishes to file a complaint against GEMA/HS or a GEMA/HS subrecipient concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the DOJ or DHS, the GEMA/HS employee shall instruct the complainant to file the complaint in writing, in accordance with the procedures above.
3. Any GEMA/HS employee receiving such a complaint submitted directly to GEMA/HS, and any GEMA/HS employee wishing to submit such a complaint directly to GEMA/HS, shall route it to the Complaint Coordinator. If the complaint is against an employee of GEMA/HS, the complaint shall be forwarded to the Complaint Coordinator and that GEMA/HS employee should follow the procedures set out in HR-14, GEMA/HS's Grievance Procedures Policy.
4. For any complaint received by the Complaint Coordinator that is submitted directly to GEMA/HS, the Complaint Coordinator shall provide written acknowledgment of the complaint to the complainant.
5. The Complaint Coordinator shall refer the complaint to the appropriate entity, which may include the Georgia Office of the Attorney General; the GCEO; the EEOC; the OCR; or the CRCL. If the Georgia Office of the Attorney General either is the agency about which the complaint is filed or has a conflict, the complaint shall be referred to the EEOC, OCR, or CRCL, as appropriate.
6. Notwithstanding paragraph 5, for any complaint of discrimination concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the DOJ or DHS, GEMA/HS shall notify the OCR or CRCL, as appropriate, in writing of the following:
 - a. Name of complainant
 - b. Entity named in the complaint
 - c. Description of the complaint of discrimination
 - d. Steps being undertaken to investigate and resolve complaint

In addition, GEMA/HS shall notify the complainant that they may file a complaint directly with the OCR or CRCL, as appropriate, at the following address or using one of the electronic submission methods described above:

Office for Civil Rights
Office of Justice Programs
U.S. Department of Justice
810 Seventh Street NW
Washington, D.C. 20531

U.S. Department of Homeland Security
Office for Civil Rights and Civil Liberties
Compliance Branch
245 Murray Lane, SW
Building 410, Mail Stop #0190
Washington, D.C. 20528

Notification

GEMA/HS will post this policy on the GEMA/HS website to notify all interested parties of the appropriate procedures for addressing complaints of discrimination concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the DOJ or DHS.

Monitoring Subrecipients' Response Procedures

As part of a grant program review, GEMA/HS staff will review the subrecipient's procedures for responding to discrimination complaints that employees, clients, customers, program participants, or consumers of the subrecipients have filed directly with the subrecipient. If the procedures do not exist, or are found to need improvement, the report to the subrecipient will note the findings. At a minimum, the subrecipient's response should:

- a. Acknowledge complaint receipt to complainant in writing;
- b. Indicate which external agency the complaint is forwarded to for investigation;
- c. Comply with the appropriate timeframe by which to forward complaint;
- d. Notify GEMA/HS of complaint; and
- e. Notify complainant that a complaint of discrimination may be filed directly with the OCR, CRCL, EEOC, GCEO, or GEMA/HS, and where to locate those procedures.

Training

1. GEMA/HS will provide periodic training for all employees regarding the discrimination complaint procedures.
2. GEMA/HS will facilitate civil rights requirements training for subrecipients. Such training may be arranged:

- a. In conjunction with grant management training;
- b. Online through the GEMA/HS website;
- c. At the request of the subrecipient; or
- d. As a result of a grant program review.



Georgia Emergency Management and Homeland Security Agency

DISCRIMINATION COMPLAINT FORM

The purpose of this document is to help you file a discrimination complaint concerning the implementation or administration of any program, activity, or service receiving federal financial assistance from the U.S. Department of Justice or the U.S. Department of Homeland Security, whether within the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) or a sub-recipient. This document is not intended to be used for complaints about employment with GEMA/HS. You are not required to use this document to file a complaint; a letter with the same information is sufficient. However, if you file a complaint by letter, you should include the same information that is requested herein.

1. Information about the person who experienced the alleged discrimination:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

Email (Optional): _____

2. Information about the person(s) who is alleged to have discriminated:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

3. Information about the agency or organization involved:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

4. Are there other individuals or organizations involved in this discrimination complaint?

- Yes
- No

If yes, please provide their name, telephone number, and address below:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

5. Describe the nature of the alleged discrimination involved:

6. Explain in detail what happened, when, and how the alleged discrimination occurred. State who was involved and how other persons were treated differently.

7. What other information do you think might be helpful to an investigation?

8. Please list below any persons (witnesses, fellow employees, supervisors, or others) who have direct knowledge of the situation that might be able to provide information to support or clarify the complaint:

Name: _____

Phone #: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

9. Have you or others filed a case or complaint regarding this allegation with any of the following?

- Office for Civil Rights, U.S. Department of Justice
- Office for Civil Rights and Civil Liberties, U.S. Department of Homeland Security
- U.S. Equal Employment Opportunity Commission
- Other Federal Agency
- Federal or State Court
- Georgia Department of Labor
- Other: _____

10. If any of the above were selected, please provide the following information:

Name of Agency: _____

Date Filed: _____

Case or Docket #: _____

Date of Trial/Hearing: _____

Location of Agency/Court: _____

Investigator: _____

Status of Case: _____

11. Information about the person filing this complaint, if the complaint is being submitted on behalf of another:

Name: _____
First and Middle (Given Name) Last (Family Name/Surname)

Phone #: Cell/Mobile: _____ Home: _____ Work: _____

Mailing Address: _____
P.O. Box or Street Address City State Zip Code

Email (Optional): _____

Signature: _____ **Date:** _____

You may submit the form by email to grants.complaint.coordinator@gema.ga.gov.

Or send via U.S. Mail to the following address:

Georgia Emergency Management and Homeland Security Agency
Attention: Grants Complaint Coordinator
P.O. Box 18055
Atlanta, Georgia 30316

EXHIBIT "Q"
Federal Funding Accountability and Transparency Act Certification

In order to remain in compliance with The Federal Funding Accountability and Transparency Act of 2006 (FFATA) reporting, complete Items 1-7 and Items 8-10 if necessary, and certify by an authorized agent.

Sub-award Number: **HMGP 4400-00##**

Federal Agency Name: **Federal Emergency Management Agency**

CFDA Program Number and Program Title: **97.039 Hazard Mitigation Grant Program (HMGP)**

Sub-award Project Description: **XYZ COUNTY Property Acquisition Project**

1. Sub-awardee DUNS Number _____
2. Sub-awardee Name _____
3. Sub-awardee DBA Name _____
4. Sub-awardee Address _____
5. If DBA, Sub-awardee Parent DUNS Number _____
6. Sub-award Principle Place of Project Performance _____
7. In the preceding fiscal year, did the sub-awardee receive 80% of its annual gross revenues from the Federal government?
Yes _____ No _____
If **Yes**, continue to question 8. If **No**, questionnaire is complete.
8. In the preceding fiscal year, were the sub-awardee's annual gross revenues from the Federal government more than \$25 million annual?
Yes _____ No _____
If **Yes**, continue to question 9. If **No**, questionnaire is complete.
9. Does the public have access to the names and total compensation of the sub-awardee's five most highly compensated officers through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §§ 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?
Yes _____ No _____
If **Yes**, continue to question 9. If **No**, questionnaire is complete.

10. Please list the names and compensation of the sub-awardee's five most highly compensated officers.

1. _____ \$ _____
2. _____ \$ _____
3. _____ \$ _____
4. _____ \$ _____
5. _____ \$ _____

I certify that to the best of my knowledge all of the information on this form is complete and accurate.

Authorized Signature: _____ Date: _____

This section is for use by the Georgia Emergency Management and Homeland Security Agency Only.

Sub-award Obligation/Agency Name: _____

In accordance with The Federal Funding Accountability and Transparency Act of 2006 (FFATA), this document has been processed in the FFATA Sub-award Reporting System (FSRS) by the undersigned:

Signature _____ Date: _____

Sub-award Obligation/Action Date: _____

Appendix J-III
HMGP Briefing



Georgia Emergency Management and Homeland Security Agency (GEMA/HS)

Hazard Mitigation Grant Program (HMGP) Applicant's Briefing DR-4685-GA



HMGP Applicant Briefings

- **Tuesday, March 14, 2023 @ 10AM**
Troup County Emergency Operations Center
2495 Hamilton Road
Lagrange, Georgia 30241
- **Thursday, March 16, 2023 @10 AM**
Spalding County Commissioners Office
119 East Solomon Street
Griffin, Georgia
- **Wednesday, March 22, 2023 @ 10:30AM**
WebEX



Briefing Agenda

- **Introduction of Staff**
- **HMGP Application Information**
 - **Program Overview**
 - **Available Funds**
 - **Priority**
 - **Application Process and Schedule**



Let's Get Started

- **Please place the following in the chat:**
 - **Name**
 - **Email**
 - **Community**
 - **Agency**
 - **Project Interest**



GEMA/HS Mission

To facilitate the protection of life and property against man-made and natural disasters by directing the state's efforts in the areas of prevention, preparedness, mitigation, response and recovery.





DR-4685 Application Timeframe

- **January 16, 2023– Disaster Declaration (9 Counties)**
- **March 14 (Troup), March 16 (Spalding)- @10AM Applicant Briefings**
- **March 22, 2023 (Web-EX) @ 1030 AM Virtual Briefing**
- **June 1, 2023 – Pre-Applications due to GEMA/HS**
- **July 1, 2023 – GEMA/HS Notification to Applicants for Full Applications**
- **September 15, 2023 – Full Applications due to GEMA/HS**
- **December 15, 2023 – All Applications submitted to FEMA**
- **FEMA Application Review Process (18-36 months)**



DR-4685

Impacts of Severe Weather

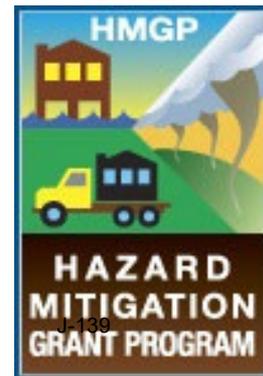


- **12 confirmed tornadoes by the National Weather Service**
- **2 Fatalities**
- **Tornadoes ranging from EF0 (65-85 mph)-EF3 (136-165 mph)**



Hazard Mitigation Grant Program

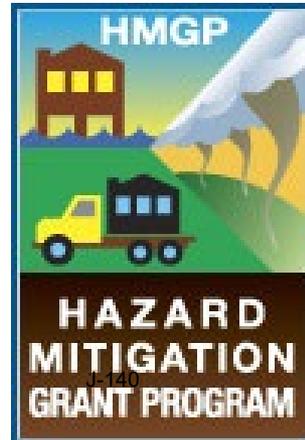
- **The Hazard Mitigation Grant Program (HMGP) provides grants to States and local governments to implement long-term hazard mitigation measures after a major disaster declaration.**
- **The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.**
- **Since 1990, the HMGP has provided funds to Georgia to invest in long-term actions that reduce damages from future natural hazards.**





Objectives of the HMGP

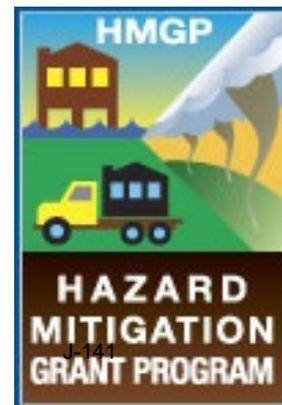
- **Significantly reduce or eliminate future risk to lives and property from severe natural hazards**
- **Provide funds to implement projects identified in State or local hazard mitigation plans**
- **Enable mitigation measures to be implemented during the immediate recovery from a disaster**





404 Hazard Mitigation Funds

- **404 Hazard Mitigation funds are utilized for reducing future damages**
- **406 Public Assistance funds are utilized for repairing damages caused by declared disaster**
- **Any government owned properties or structures damaged during the severe weather cannot be awarded under Hazard Mitigation and should apply for Public Assistance funds.**





How Much Funding is Available for DR 4685?

HMGP funds based on federal funds spent on Public and Individual Assistance programs (less administrative expenses)

- **Georgia receives 20% of the total estimated Stafford Act Disaster Assistance**
 - **State of Georgia Enhanced Mitigation Plan provides for 20% HMGP funding (33% increase)**
- **Cost Share is 75% federal/25% non-federal**
- **Will use up to 7% of allocation for planning, up to 5% for initiative, and remainder for projects.**
- **Initial 30-day estimate at \$7.6 million Federal Share**
 - **Initiative - \$380,107.35**
 - **Planning - \$532,150.29**
- **Projects - \$6.6million**





DR-4685 Funding Priorities

- **Utilize 5% initiative to support warning and communication improvements and statewide generator initiative**
 - **Equipment and systems for the purpose of warning residents of impending severe weather and hazard events**
 - **Priority given to mass alert systems**
- **Utilize planning funds (up to 7% of allocation) to update mitigation plans**
- **Utilize project funds (up to 88% of allocation) for mitigation activities that reduce or eliminate damages from high winds and flooding.**



DR-4685

Counties with approved Hazard Mitigation Plans

- 1. Declared for IA and PA (9 counties)**

Prioritization for Project Grants

- 1. Generators for essential facilities who lost power during storm event (Water and Wastewater systems and medical facilities have priority)**
- 2. Flood and wind mitigation activities to address damaged structures (Substantially damaged structures have priority)**



Georgia Emergency Management Agency/Homeland Security

FEMA-4685-DR, Georgia Disaster Declaration as of 02/10/2023



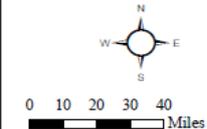
Data Layer/Map Description:
The types of assistance that have been designated for selected areas in the State of Georgia.

All areas in the State of Georgia are eligible to apply for assistance under the Hazard Mitigation Grant Program.

Additional designations may be made at a later date if requested by the state and warranted by the results of further damage assessments.

Designated Counties

-  No Designation
-  Individual Assistance
-  Individual Assistance and Public Assistance (Categories A - G)
-  Public Assistance (Categories A - G)



Data Sources:
FEMA, ESRI;
Initial Declaration: 01/16/2023
Disaster Federal Registry Notice:
Amendment #1: 02/10/2023
Datum: North American 1983
Projection: Transverse Mercator



Project Eligibility Criteria

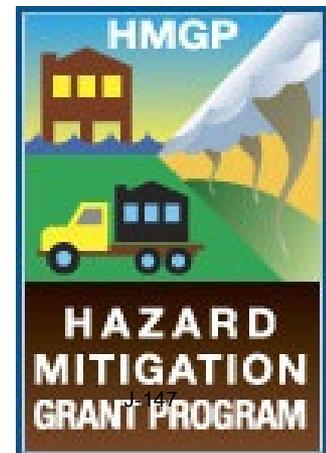
- **Must have a current FEMA approved Local Hazard Mitigation Plan prior to HMGP funds being awarded**
- **Consistent with state mitigation plan**
- **Project(s) must be identified in local mitigation plan**
- **Project must comply with all FEMA program regulations**
- **Conforms with environmental, historical, and economic justice issues**
- **Provides a long-term solution for the community**
- **Applicant must participate in NFIP and be in good standing**
- **Demonstrates cost-effectiveness**
 - **GEMA/HS staff assists with cost-effectiveness**



What Type of Projects Can be Funded?

- **Eligible Project Types**

- **Voluntary property acquisition and structure demolition or relocation***
- **Structure Elevation***
- **Mitigation Reconstruction**
- **Dry Floodproofing (Historic/Non-Residential)**
- **Generators for Critical Facilities***
- **Flood Risk Reduction Projects**
- **Structural and non-structural retrofitting of existing buildings and facilities**
- **Community Safe room construction***
- **Infrastructure Retrofit**
- **Soil Stabilization**
- **Wildfire Mitigation**
- **Initiative Projects***
- **State and Local plan updates***

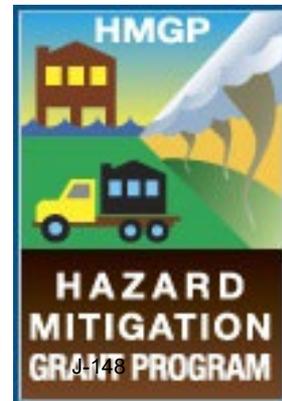


**Indicates projects that are prioritized for DR4685*



Who is Eligible to Apply?

- **Government Entities**
 - **State and local**
- **Private Non-Profit Organizations**
 - **Must have IRS Tax Exemption under sections 501(c), (d), or (e)**
- **Individuals and business may not apply directly, but eligible local governments or private non-profit organizations may apply on their behalf**





HMGP Projects Pre-Application Process

From Applicant (Subrecipient):

- **Determine preferred project type(s)**
 - **Project identified in your Local Hazard Mitigation Plan?**
- **Complete Pre-Application**
 - **Contact Risk Reduction Specialist or visit GEMA/HS Website**
- **Submit COMPLETED Pre-Application to GEMA/HS by June 1, 2023**

From GEMA/HS (Recipient & Pass Through):

- **Conduct Benefit Cost Analysis**
 - **Initiative, planning, and SD projects are exempt from BCA**
 - **If BCA greater than 1.0, full application development may be recommended**
 - **Full Application is due September 15, 2023**



Applicant's Role (Subrecipient)

Pre-Award:

- **Develops, adopts and updates local mitigation plan**
- **Submits HMGP Pre-Application/Application to GEMA/HS**

Post-Award:

- **Implements project and maintains records and accounting information on awarded projects for three (3) years**
- **Ensures all project costs are reasonable and in compliance with all applicable federal, state, and local requirements governing the use of federal funds**
- **Complies with all Local, State and Federal Procurement Procedures**
 - **2CFR Part 200 (Code of Federal Regulations)**
- **Complies with all award requirements**
- **Complies with three (3) year post Acquisition requirements**
 - **Open Space Monitoring and Audits**



GEMA/HS's Role (Recipient/Pass-Through)

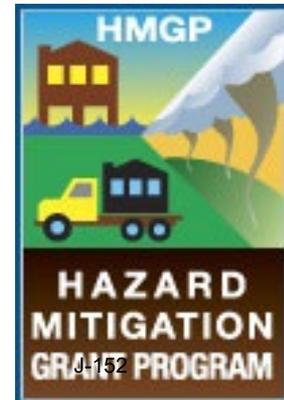
Manages overall program within Georgia

- **Update the State Mitigation Plan**
- **Establish mitigation priorities for the disaster**
- **Solicit Program Interest**
- **Provide technical assistance to applicants to complete applications**
- **Review, submit and manage applications to FEMA**
- **Keep Subrecipients updated on status of all applications to FEMA**
- **Ensure subrecipients adhere to all program and administrative requirements**
- **Receive and disburse funds and monitor progress of awarded projects**
- **Evaluate the effectiveness of approved projects**



FEMA's Role (Federal Awarding Agency)

- **Provide programmatic oversight of the HMGP**
- **Keep Georgia appraised of available funding**
- **Provide technical assistance to GEMA/HS in support of developing eligible HMGP projects**
- **Conduct final eligibility review and approve applications for funding**
 - **Can take up to 18-36 months to complete review process**





What You Need to Know

Generators/Transfer Switches

For Critical Facilities

- **Police Stations, Fire Stations, Water/Wastewater Treatment Facilities, Hospital, Electrical Facility, Emergency Operations Center (EOC)**

Location to determine if in Special Flood Hazard Area (SFHA)

- **Flood Insurance Rate Map (FIRM)**
- **Must comply with EO 11988**
- **If in SFHA, generator/transfer switch must be elevated to 500-year flood elevation**

Power Outage History

- **Must provide the years with the most weather-related outage data**
- **Generator Data Sheet must be filled out by Certified Electrician**
- **EHP Coordination with State and Federal Environmental Agencies**
- **BCA > 1.0 for Cost Effectiveness**



What You Need to Know

Property Acquisition/Elevation:

- **Flood History of Property with all Flood Insurance Claims**
- **Substantial damage determination (if applicable)**
- **Location to determine if in the Special Flood Hazard Area (SFHA)**
 - **Flood Insurance Rate Map (FIRM)**
- **Interest of Voluntary Participation Form signed by Homeowner**
- **EHP Coordination with State and Federal Environmental Agencies**
- **Structure Specific Information**
 - **Building Foundation Type, Use of Building, Square Footage, Building Replacement Value, First Flood Elevation (FFE)**

Initiative

- **Includes Warning Sirens, Mass Alert Systems, Weather Radios and Transfer Switches**
- **Warning and Communication for the Public, Internal Communication not allowable**
- **Storm History of desired project area**
- **Location to determine if in Special Flood Hazard Area (Warning Sirens and Transfer Switches only)**
 - **Flood Insurance Rate Map (FIRM)**
- **EHP Coordination with State and Federal Environmental Agencies**



What You Need to Know

Community Safe Room:

- **Must comply with FEMA P-361/ICC 500 Community Safe Room Guidance**
- **Location to determine if in the Special Flood Hazard Area (SFHA)**
 - **Flood Insurance Rate Map (FIRM)**
- **Population that will utilize Safe Room**
 - **Must be sized for population within 1/2 mile of Safe Room**
 - **5 sf/occupant**
 - **Predominant structure types within 1/2 mile of Safe Room**
- **EHP Coordination with State and Federal Environmental Agencies**



What You Need to Know

Wildfire Projects BCA Information

- **For Reforestation and Soil Stabilization Projects**
 - **Number of Acres Mitigated**
- **For Defensible Space, Hazardous Fuel Reduction, Ignition Resistant Construction**
 - **Number of buildings protected**
 - **Replacement value of buildings protected**
 - **Value of infrastructure vulnerable to fire in project area**
 - **Value of timber to be sold in project area**
 - **Fire suppression costs for one typical fire event within project area**
 - **Number of residents who live within the project area**
- **BCA > 1.0 for Cost Effectiveness**
- **Operations and Maintenance Plan required**
- **Duplication of Programs must be avoided**



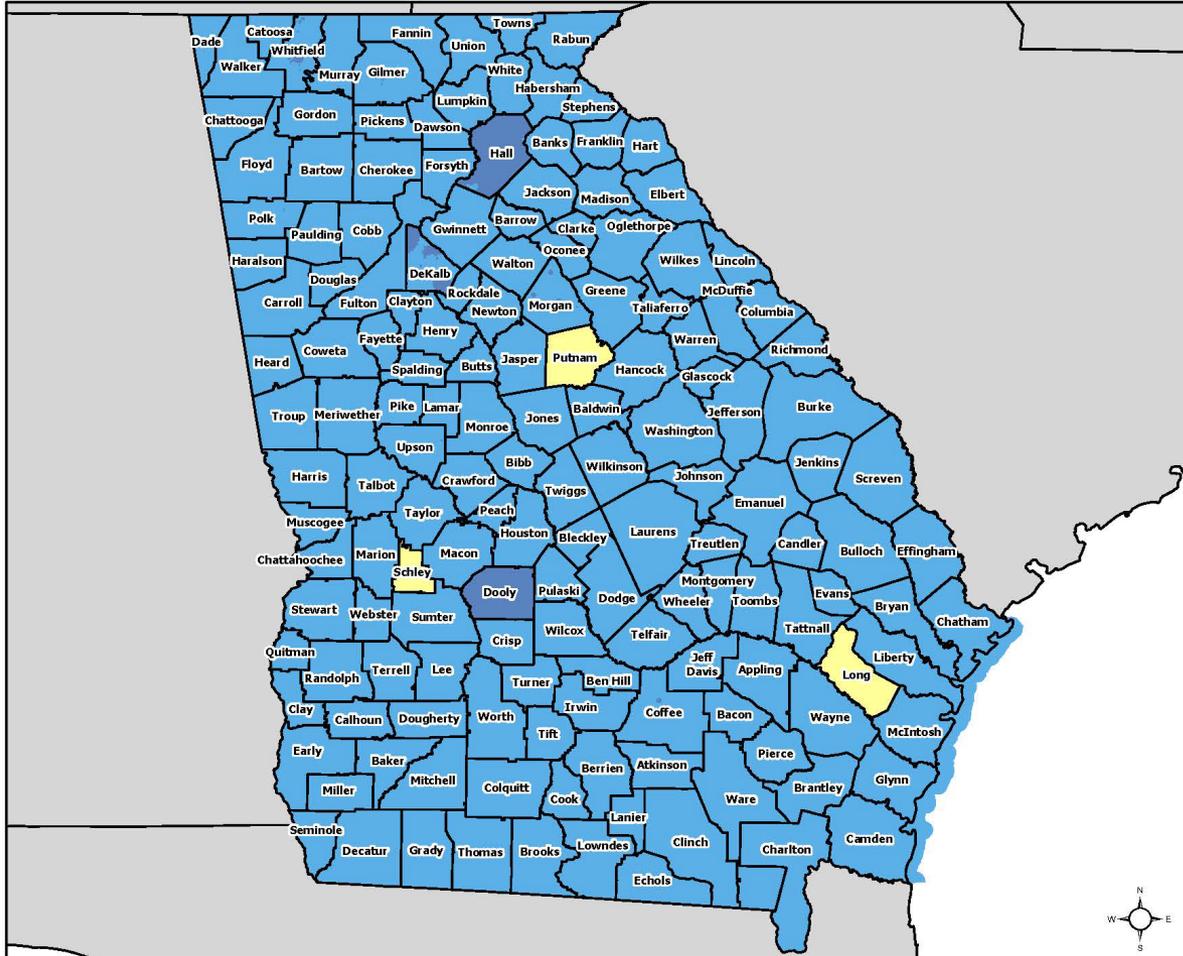
HMGP Plan Update Grant Process

- **Declared counties expiring in 2026 or sooner that have not already developed a plan update application will receive an application from their Hazard Mitigation Planner.**
- **Pre-application not required**
- **Expect application by July 1, 2023**
- **Completed application by September 15, 2023**
- **All applications submitted to FEMA by December 15, 2023**

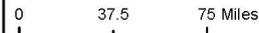


Georgia Emergency Management Agency/Homeland Security

Mitigation Planning Portal Mitigation Plan Status for Georgia



- Legend**
- Jurisdiction Summary
- Approved
 - Approvable Pending Adoption
 - Expired
 - No Approved Plan



Data Sources:
FEMA, Esri, Georgia
U.S. Census Bureau, MPP

County	HazMit Plan Expiration Date
Butts	9/23/2025
Crisp	7/6/2027
Henry	4/10/2024
Jasper	2/24/2026
Meriwether	7/19/2025
Newton	8/26/2026
Pike	6/30/2025
Spalding	3/23/2027
Troup	8/18/2024



Next Steps

- **Determine Eligible Projects for your Community**
- **Work with EMA Director and Local Officials**
- **Consult your Risk Reduction Specialist or Planning Specialist**
- **Review Project Checklist**
- **Submit Pre-Application by June 1, 2023**





DR-4685 Application Timeframe

- **January 16, 2023– Disaster Declaration (9 Counties)**
- **March 14 (Troup), March 16 (Spalding)- @10AM Applicant Briefings**
- **March 22, 2023 (Web-EX) @ 1030 AM Virtual Briefing**
- **June 1, 2023 – Pre-Applications due to GEMA/HS**
- **July 1, 2023 – GEMA/HS Notification to Applicants for Full Applications**
- **September 15, 2023 – Full Applications due to GEMA/HS**
- **December 15, 2023 – All Applications submitted to FEMA**
- **FEMA Application Review Process (18-36 months)**



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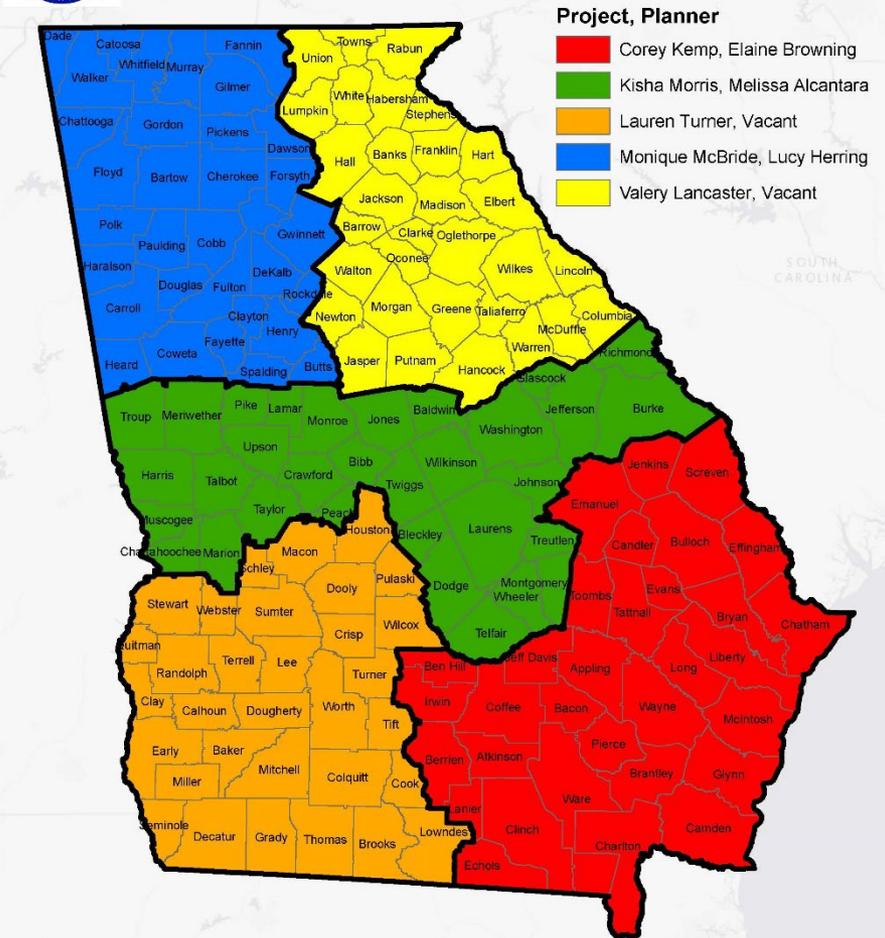
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GEMA/HS Hazard Mitigation Specialist Areas





Questions?

Appendix J-IV
Loss Avoidance Documentation

*Loss Avoidance Study
Lower Flint River Watershed
Georgia*



FEMA

May 2016

This study was completed entirely by Richard N. Downer, FEMA HM HPA Technical Specialist, Region I, while deployed to DR-4259-GA.

Data was supplied by the Georgia Emergency Management Agency and Homeland Security, Mitigation Division, Terry Lunn, Hazard Mitigation Division Director and State Hazard Mitigation Officer.

The author had the benefit of several previously published sample Loss Avoidance Studies, two of which were most helpful – *Loss Avoidance Study Riverine Flood Methodology Report (without Appendices) April 2011, Version 2* and *Loss Avoidance Study Southeastern Louisiana Hurricane Isaac, 2012 DR-4080-LA Joint Field Office, Hazard Mitigation Branch, Baton Rouge, LA January 2013.*

John E. Bourdeau, FEMA HPA Specialist, Region VI, was most helpful with technical questions.

This publication presents a methodology for an Acquisition/Demolition Loss Avoidance Study. Finally, the study presents an expansive list of the data needs for such a study in the hope that both FEMA and the States will do a better job of electronically archiving the required data as HMGP projects are closed out.

Cover Photo: Baker County Court House, City of Newton

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Executive Summary:

The severe weather that affected Georgia had a devastating effect on the State and local communities. An upper-level long wave trough began to take form over the Western United States on Sunday, December 20, 2015. This put the Southeastern United States in a Southwest upper-flow on Monday, December 21, allowing vast amounts of moisture from the Gulf of Mexico to move into the area. The longwave upper-level trough pattern persisted over the Western and Midwestern United States through December 31, 2015, producing multiple surface low-pressure systems that formed in the Deep South and traversed northeastward. This allowed for frontal boundaries to remain nearly stationary and draped over the Southeast for over ten days. The upper-level flow caused waves of low-pressure to tap into and transport moisture from the Gulf of Mexico northeastward along the frontal boundaries into the Southeast. As a result, most of North and Central Georgia received between seven and fifteen inches of rainfall in only an eleven day period.

This first flood warning was issued by the NWS on December 22, 2015 and last flood warning expired on January 13, 2016. Over the course of the incident period, the NWS compiled a summary of the river crests in twelve basins. For the gauges monitored in these basins, new records were recorded at twenty-nine (29) sites and twenty-one (21) other sites recorded their second highest crest on record.

On February 10, 2016, Governor Nathan Deal requested a major disaster declaration due to severe storms and flooding during the period of December 22, 2015 to January 13, 2016. The Governor requested a declaration for Public Assistance for 33 counties and Hazard Mitigation state-wide. During the period of January 20 to February 9, 2016, joint federal, state, and local government Preliminary Damage Assessments (PDAs) were conducted in the requested counties. PDAs estimate damages immediately after an event and are considered, along with several other factors, in determining whether a disaster is of such severity and magnitude that effective response is beyond the capabilities of the state and the affected local governments, and that Federal assistance is necessary. The following link is for the NWS river summary during the incident period: http://www.srh.noaa.gov/ffc/?n=2015_dec_flooding .

In this study, 463 Acquisition/Demolition properties along the Flint River in Leesburg, Albany, Newton, Camilla and Bainbridge were examined to determine if they would have sustained damage during the DR-4259 event. These 463 properties represented all the previously acquired properties in Lee, Dougherty, Baker, Mitchell and Decatur counties as listed in the Georgia Emergency Management and Homeland Security Agency (GEMHSA) database.

The database suffers from incomplete data. Early HMGP applications (1995) were not always completely coded into the database. Building type was not coded. Vacant lots which were acquired to prevent *checker boarding* were eliminated from the study set.

The remaining 435 properties were then examined in detail to determine if they, in fact, would have sustained flood water at or above the FFE. Of the 463 only 40 structures were determined to have sustained damage from flooding. See Appendix G.

Approximately 30 million dollars were spent to purchase the 463 properties; most of the cost being funded by a combination of the FEMA Hazard Mitigation Grant Program (HMGP), the Governor’s Emergency Funds, Community Development Block Grants (CDBG) and the National Flood Insurance Program (NFIP) benefit known as Increased Cost of Compliance (ICC). Because the database does not list the adjacent ground elevation, it was not possible to determine if the various properties were surface flooded. Surface flooding can cause damages related to erosion, debris deposition and access inconvenience.

Approximately 1.8 million dollars or \$46,000 each were spent to purchase the 40 properties. On average these 40 structures sustained 5.2 million dollars in avoided losses or approximately \$130,000 each during the DR-4259 event.

Table ES.1 Lower Flint River Watershed Avoided Losses

City, County	Number of Properties	Total Losses Avoided	Total Cost of Mitigation	Difference (+ or -)	Loss Avoidance Ratio
Newton, Baker	5	\$301,501	\$79,876	\$221,625	3.77
Albany, Dougherty	19	\$2,303,378	\$437,693	\$1,865,685	5.26
Leesburg, Lee	16	\$2,592,203	\$1,317,591	\$1,274,612	1.97
Totals	40	\$5,197,082	\$1,835,160	\$6,079,167	2.83

A Losses Avoided Ratio greater-than-one indicates that the project benefits have exceeded the project costs and that the mitigation activity provided a positive Return on Investment (ROI). The Losses Avoided for this study of 40 properties was determined to be 2.83. This ratio being greater-than-one indicates that the mitigation benefits for the single event, DR-4259, have already exceeded the Acquisition/Demolition project costs.

Acquisition/Demolition projects are projected to have a Useful Life of 100 years. This study represents only one flood event in a 22-year period (1994-2016); therefore, this ratio is expected to increase several fold as future floods test the effectiveness of the acquisitions over their useful life-cycles.

The area around Leesburg experienced the most significant inundations and thus had the highest avoided losses. The DR-4259 storm appears to have stalled over the Kinchafoonee Creek and Muckalee Creek watersheds; resulting in 166-year Recurrence Interval flood depths adjacent to these creeks. Flood depths exceeding 6 feet above the FFE were determined for three previously acquired structures.

Section One:

1.0 Introduction

Hazard mitigation is defined by the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) *as any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects*. Every year, FEMA provides communities and States with substantial financial assistance for hazard mitigation projects. This assistance is provided through Hazard Mitigation Assistance (HMA) grants under the following three programs: the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation (PDM) Program and the Flood Mitigation Assistance (FMA) Program,

In 2005, under FEMA's direction, the Multi-hazard Mitigation Council (MMC) conducted a study to assess the cost-effectiveness of natural hazard mitigation. The study, based on probabilistic hazard events rather than actual events, found that natural hazard mitigation saved an average of \$4 for every \$1 of investment (MMC, 2005).

In 2007, the Congressional Budget Office (CBO) indicated that projects funded under the PDM grant program have been cost effective in general, because the discounted present value of their future reductions in disaster losses tended to exceed their total costs of federal and nonfederal dollars. PDM mitigation projects funded during the 2004 to mid-2007 time period cost nearly \$500 million. For these projects, the CBO estimated a future reduction of losses with a present value of \$1.6 billion. Using these values, the total ratio of reduction in losses to costs was estimated to be 3 to 1.

The ability to assess the economic performance of mitigation activities over a period of time is important to encourage continued funding of mitigation projects. A Loss Avoidance Study (LAS) consists of evaluating the economic performance of a mitigation project over a period of time or based on actual hazard events, determining the value of the losses that were avoided by the mitigation project, and comparing the value of the losses avoided to the cost of the mitigation project. The losses avoided by the mitigation are determined by comparing damage that would likely have been caused by the same event without the project in place (Mitigation Project Absent [MP_A]) with damage that actually occurred with the project in place (Mitigation Project Complete [MP_C]).

FEMA implemented the loss avoidance concept as part of its ongoing effort to determine the performance of mitigation programs over a period of time in economic terms. In order to implement the LAS concept to achieve these objectives, it was necessary to develop quantitative, verifiable, defensible, and reproducible methodologies for obtaining consistent, reliable results. FEMA developed these methodologies through practical applications using flood mitigation projects.

FEMA completed nine LASs for the riverine flood hazard from 2001 to 2009. These studies were used to develop and refine the methodology for the riverine flood hazard (FEMA, 2009e.) FEMA also adapted the loss avoidance methodology to other types of hazards. In 2008, FEMA implemented LAS methods to assess the economic performance of electrical system modifications to mitigate the impact of ice and wind storms in Kansas and Nebraska. FEMA prepared additional methodology documents for tornado wind and wildfire mitigation projects (FEMA, 2009f; 2009g).

Since LASs have not been implemented for these types of hazards to date, these methodologies are theoretical.

Loss Avoidance Ratio (LAR) and Return on Investment (ROI) are often used as interchangeable terms. However, Loss Avoidance Ratio more correctly refers to the ratio of the Total Avoided Costs to the Total Cost of Mitigation for a single event. Whereas, Return on Investment more correctly refers to the ratio of Total Avoided Costs to the Total Cost of Mitigation for more than one event. In other words, ROI implies that the time-value of each event's Total Avoided Costs are considered.

This document uses the Ft's EMA methodology as described in the publication: *Loss Avoidance Study, Riverine Flood Methodology Report (without Appendices), April 2011, Version 2, 123 pages*. Every study presents unique challenges in data collection and site conditions. As FEMA encounters hazard- and site-specific situations, the methodology for a particular hazard or mitigation project type is developed further. As new studies are completed, the methodology will continue to evolve, and the tools to support the studies will become more robust.

1.1 Georgia Mitigation Project Information and History

Natural disasters in Georgia commonly result from flooding. From 1953 to 2016, the President declared 12 disasters for severe storms and flooding events in Georgia. Frequent flooding has jeopardized public health and safety and caused severe damage to property. Every year, damage from flooding costs residents, businesses, and taxpayers millions of dollars in repairs even though not every flood is severe enough to be declared a disaster by the President. As a consequence, Georgia communities, supported by the State of Georgia and the Department of Homeland Security's Federal Emergency Management Agency (FEMA), have sought to reduce the risk of flood damage through mitigation. This effort has included the acquisition/demolition, acquisition/relocation, flood-proofing, and elevation of flood-prone buildings. To evaluate the cost-effectiveness of these mitigation projects, FEMA partnered with the State of Georgia following a December 2015-January 2016 flooding disaster to conduct a Loss Avoidance Study (LAS). The LAS could have compared the losses avoided in all floods since the completion of the mitigation projects. However, only the December 2015- January 2016, DR-4259, event data were used for this study.

Because Georgia is highly susceptible to flooding, the State of Georgia initiated a number of flood mitigation projects to reduce or eliminate the risk of property damage; the threat to life, public health, and safety; and costs for emergency response. Four hundred-sixty three properties were considered for the Lower Flint River Watershed Study. The projects were completed between January 4, 1995 and December 15, 2010. The projects, which were funded by FEMA, other public agencies, and private sources, were dispersed throughout Baker, Decatur, Dougherty, Lee and Mitchell counties.

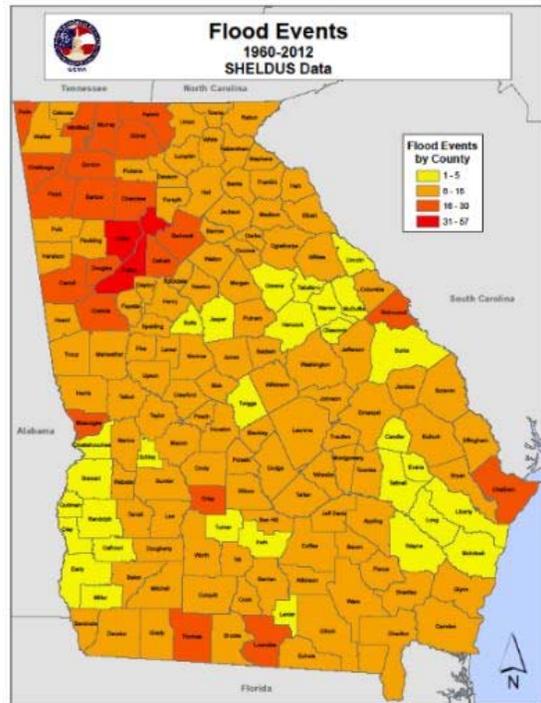
From 1990 to 2000, nearly 75% of the disaster losses in Georgia were the result of flooding (Dobur, 2009). The losses from flooding during this period totaled \$2 billion. From January 1999 to May 2009, there were 804 flood events in Georgia (National Climatic Data Center [NCDC], 2010b).

According to the *2014 State of Georgia Hazard Mitigation Strategy Plan, Effective April 1, 2014 – March 31, 2001*, in the State of Georgia, flooding is highly dependent of precipitation amounts

and is highly variable within the State. Georgia's climate is primarily affected by latitude, proximity to the Atlantic Ocean and Gulf of Mexico, and topography. Certain seasons are more prone to flooding due to their prone-ness to excessive precipitation. Typically, the wet seasons are during the winter, early spring and midsummer while the drier seasons are in the fall and late spring. However, this varies across the State with the northern portion receiving maximum precipitation amounts during the winter as a result of frontal systems while central and coastal Georgia receive maximums in the mid to late summer as a result of tropical cyclones and convective thunderstorm activity.

The rate of onset and duration of flooding events depends on the type of flooding (typical flood or lash flood). The frequency measure of flooding events typically refers to the 100 year flood. In other words, this particular flood magnitude has the probability of occurring in one out of 100 years (1% chance per year). This magnitude of flood is often mapped as 100 year floodplains, which often delineate those with substantial risk to some severe flooding. Higher number of events in the Atlanta area is likely a result of the growth and development within floodplains in the region prior to floodplain mapping efforts that began in the 1970s. As a result, land and structures in this region are more likely to experience flood events.

Figure 1.1



Figures 1.1 and 1.2 illustrate flooding hazard events' history and losses in the State of Georgia from 1960 – 2012. Although the event totals pale compared to more frequent events such as severe weather, the total losses speak to the impact of flooding on Georgia. The regions with major losses from flooding include the Atlanta area, the Augusta area, and southwestern Georgia. However, the entire State of Georgia has experienced loss from flooding.

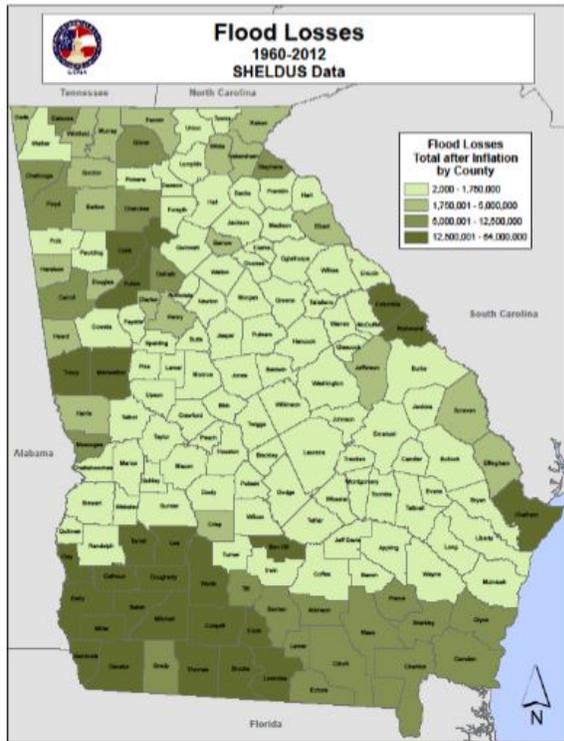


Figure 1.2

flood events were extreme events with damages almost ten times the amount of any other recorded flood event.

In total, 1,601 inland flooding events have occurred from 1960-2012 in Georgia according to SHELUDS data. This equates to approximately 26 events per year historic average. These storms in total have caused 51 injuries, 69 fatalities and over \$854 million in damages.

Table 1.1 lists notable flooding events in Georgia since the late 1800s along with an estimate of magnitude of the flood (recurrence interval). Although the majority of floods will be minor in their impact, the risk analysis demonstrates the susceptibility of Georgia to experience significant flooding events. It should be noted that the 1994 Tropical Storm Alberto and 2009 Metro Atlanta

Table 1.1 Notable Flood Events in Georgia

Year	Area Affected	Recurrence Interval	Remarks
1881	Savannah Area	>100 years	335 deaths; \$1.5 million in damages
1893	Savannah Area	>100 years	2,500 deaths; \$10 million in damages
1916	Chattahoochee, Coosa, and Flint Rivers	25 to >100 years	8-21 inches of rain; \$2.3 million in damages
1925	Central / South Georgia	25 to >100 years	8-11 inches of rain; 2 deaths
1929	Savannah, Ogeechee, and Altamaha Rivers	25 to >100 years	6-10 inches of rain; \$3 million in damages
1940	Ogeechee and Savannah Rivers	10 to 75 years	25 deaths; \$850,000 in damages; hurricane
1977*	Toccoa Creek	Unknown	DR541; Dam failure; 39 deaths; \$2.8 million in damages
1990*	Conasauga, Chattooga, Toccoa and Oconee Rivers	50 to >100 years	FEMA DR857; 9 deaths; \$13.9 million in damages
1990*	Savannah, Ogeechee and Ochopee Rivers	>100 years	FEMA DR880; \$7.6 million in damages, tropical storm
1991*	Altamaha, Apalachicola, Ocklockonee, Ogeechee, Satilla, and Savannah Rivers	25 to 50 years	FEMA DR897; \$3.4 million in damages
1994*	Flint, Chattahoochee, and Altamaha Rivers	>100 years	FEMA DR1033; 31 deaths; >20 inches of rain; \$400 million in damages; Tropical Storm Alberto
1994*	Savannah area	25 to >100 years	FEMA DR1042; 15 inches of rain; \$10.5 million in damages
1995*	Western Georgia	25 to 50 years	FEMA DR1209; 5-9 inches of rain; \$20 million in damages; hurricane
2004*	Middle and South Georgia	10 to 50 years	FEMA DR1560; 4-9 inches of rain; \$20 million in damages; hurricane
2004*	Northern and Southwestern Georgia	10 to 50 years	FEMA DR1554; 4-9 inches of rain; \$30 million in damages; hurricane
2009*	Southwestern Georgia	10 to >500 years	FEMA DR1833; 5-10 inches of rain; \$36.5 million in damages
2009*	Northwest Georgia, Atlanta Area	> 500 years (Epic)	FEMA DR1858; 9-12 inches of rain; \$225 million in damages

***Presidential Declared Disasters**

The worst flooding event in Georgia since records were kept is the flooding from a decaying tropical system, previously known as Tropical Storm Alberto, that produced torrential rainfall which resulted in some of the worst flooding ever observed across portions of the States of Georgia, Alabama, and Florida during July 1994. By far, the worst flooding occurred along Georgia's Flint and Ocmulgee Rivers and their tributaries. Some of the hardest hit cities along these rivers include Albany, Macon, and Montezuma. Across the entire three-state area impacted by the flooding, 17 NWS river forecast locations set new record flood stages, some breaking the old record by 5-7 feet. In all, 47 NWS river forecast locations exceeded flood stage. Crests of 5-15 feet above flood stage were common, while portions of some rivers observed crests that exceeded flood stage by more than 20 feet.

The flooding from Tropical Storm Alberto took a significant toll on human life, as a total of 33 persons perished. Of that total, 31 deaths occurred in Georgia, while the other 2 occurred in Alabama. Many of the fatalities, as is typical with flood events, occurred as a result of flash flooding; and most occurred in vehicles. In addition, approximately 50,000 people were forced from their homes due to the flooding. More than 18,000 dwellings were damaged or destroyed by the floods, and nearly 12,000 people applied for emergency housing. In Macon, Georgia, the fresh water supply to nearly 160,000 people was disrupted when the water treatment plant, located along the banks of the Ocmulgee River, was flooded. Some residences were without fresh water for as long as 19 days. In addition, thousands of people and pieces of equipment were engaged in various flood-fighting efforts throughout the three-state area impacted by the flooding. Dozens of Federal, state, and local government agencies, private organizations, as well as various volunteer groups, were heavily involved in the massive mobilization of resources.

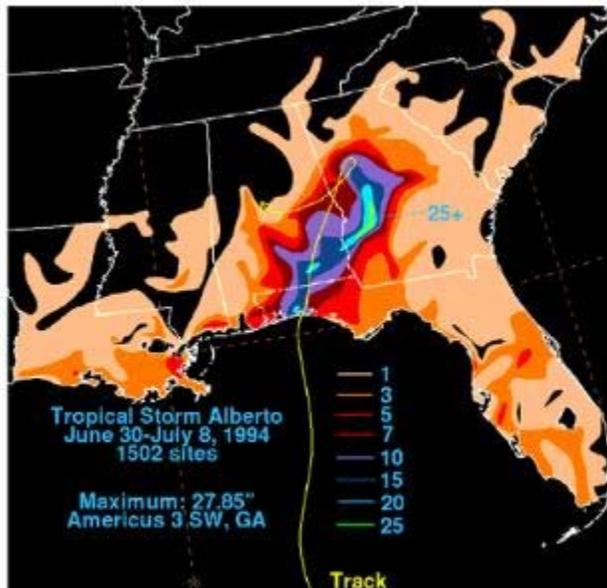
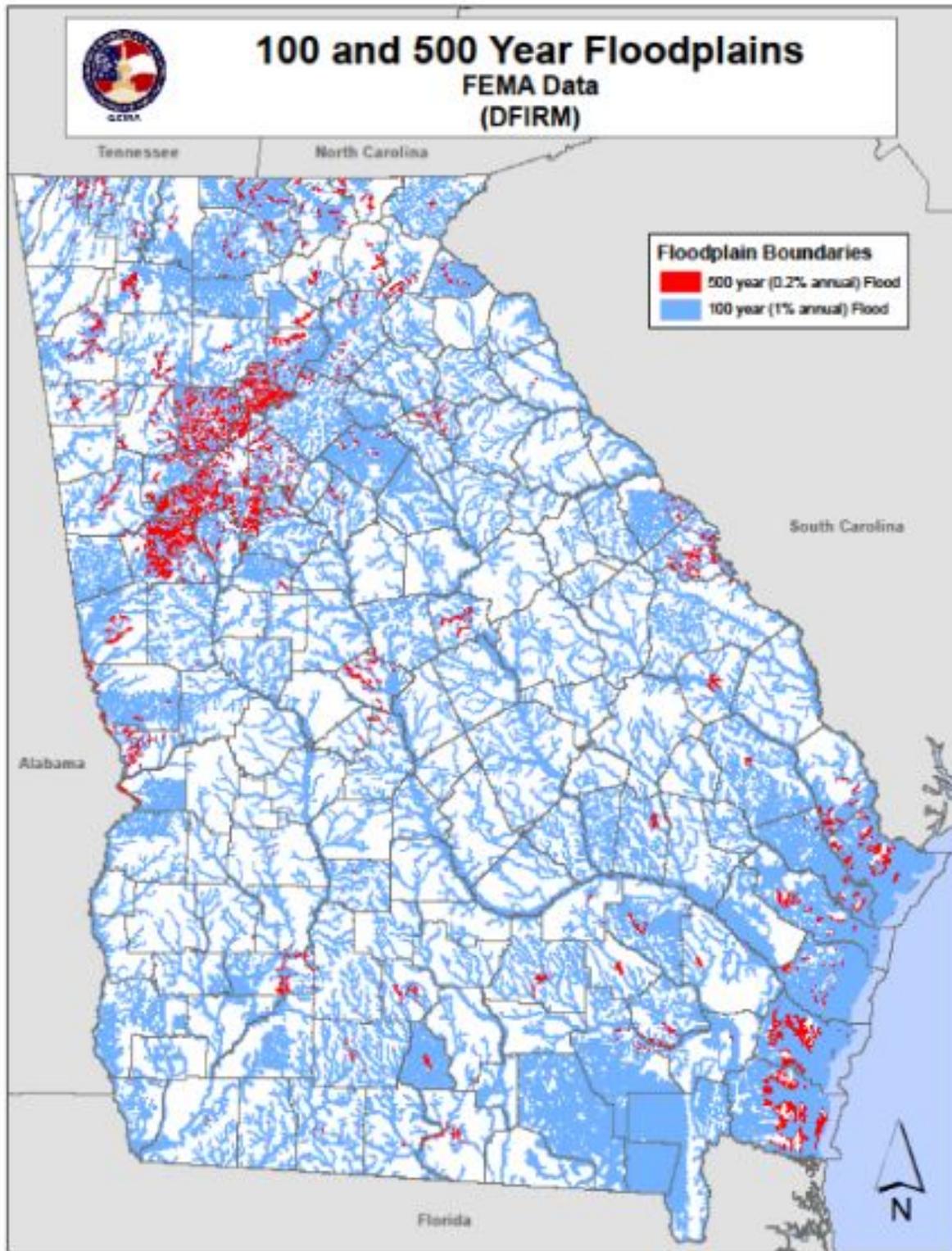


Figure 1.3 Tropical Storm Alberto Rainfall Totals (inches)

With respect to property damages from Tropical Storm Alberto, the estimates are nearly \$750 million across the States of Georgia, Alabama, and Florida as a result of this flood event. In addition to the more than 18,000 dwellings damaged or destroyed, hundreds of bridges and well over 1,000 roads sustained damages. Also, 218 dams (most of them small dams located in Georgia) were damaged by the flooding, many of which failed altogether. Agricultural losses accounted for approximately \$100 million. In the States of Georgia, Alabama, and Florida combined, more than 900,000 acres of crops were affected by the flooding. Georgia and Alabama suffered the greatest crop losses with more than 400,000 acres in each state impacted. In all three states, peanuts and cotton were the commodities most severely affected. Livestock losses were also significant, especially to poultry, with as many as 250,000 chickens reportedly lost to the flooding.

Similar to storm surge models, flood models are statistically based on historical flooding events and estimate the impact areas of certain magnitudes of floods (typically the 100 year flood). **Figure 1.4** maps the 1% (100 year) and 0.2% (500-year) floodplains for the State of Georgia based on the FEMA DFIRM floodplain layer. This is the result of map modernization efforts that ended in 2010. As of this plan update, all counties in Georgia have available DFIRM data. During the map updates, not all 500 year floodplains were mapped. For many counties, only 100 year floodplains were mapped. Clearly a large portion of Georgia is susceptible to flooding.

Figure 1.4 100 and 500 Year Floodplains in Georgia



In 1994, Tropical Storm Alberto caused heavy storms to sweep over Georgia. Prolonged thunderstorms produced rainfall totals of 12 to 15 inches during a 24-hour period in south-central Georgia. The Flint and Ocmulgee rivers crested up to 20 feet above flood stage and inundated major portions of the state. Floodwaters forced closure of 175 roads in 30 counties. The President declared a major disaster that included 43 counties. Fifteen deaths and dozens of injuries were reported in Georgia (NOAA, 1994). Following the 1994 flooding the State of Georgia initiated a campaign to acquire flood-prone buildings in the Flint River Watershed.

1.2 Georgia Hurricane History

Forecasters often say hurricanes could graze the coastline anywhere from Florida to New England, with North Carolina being the most likely place for a landfall. But if history is any guide, Georgia is generally safe from potential harm.

Why? Georgia's curved coastline makes it harder to attract a direct hit, and the state has fewer miles of coast than neighboring Florida or South Carolina, both of which have endured their share of Atlantic hurricanes.

In fact, Georgia hasn't taken a direct hit from a major hurricane in more than a century, and only four minor storms made landfall here during the 1900s.

Georgia's three worst hurricanes all occurred during the month of August and all made came ashore in the Savannah vicinity in 1881, 1893 and 1898, with the Augusta area's most catastrophic impacts occurring in the 1881 storm in which 700 people died.

1.3 Benefits of a Loss Avoidance Study

The potential benefits of LASs for elected officials, other community officials, project sponsors, and other decision makers are as follows:

- A Loss Ratio (LR) provides a verifiable, quantitative value that clearly demonstrates the economic performance of a project as implemented. Even if the LR is less than one, a project can still be shown to be successful, depending on the age of the project and its expected useful life. For example, the useful life of a minor localized flood reduction project is estimated to be 30 to 50 years (i.e., the project is expected to reduce loss for 30 to 50 years). The LR will increase with each subsequent flood event in which similar losses are avoided.
- Studies that demonstrate the successful economic performance of mitigation projects promote the continuation of funding for HMA programs. The studies provide a tangible reference for policy makers to use to understand the benefits of mitigation and to make an educated decision regarding funding for such projects.
- At the State level, LASs can be used to meet some of the requirements for Enhanced State Mitigation Plans, in accordance with 44 CFR § 201.5. An Enhanced State Mitigation Plan must demonstrate that the State effectively uses existing mitigation programs to achieve its mitigation goals. If the State demonstrates that it has developed a comprehensive mitigation program, and FEMA approves the State's plan, the State may be eligible to receive increased

HMGP funds under the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 following Presidential declarations of major disasters.

- At the local level, an LAS can be used to educate the community about the opportunities for, and benefits of, mitigation. This is particularly important in areas with the potential for repetitive damage. Quantitative demonstrations of improvements to the community through mitigation will increase public support for future projects.
- Following a disaster, an LAS may provide a positive outcome by demonstrating that losses were avoided through proactive planning and investment by the community for existing mitigation projects.

An LAS may provide a way to share successful and innovative mitigation practices. A community can use this information to identify efficient and effective projects when future mitigation measures are considered. An LAS may also be used to prioritize proposed mitigation projects in the community.

1.4 Required Expertise for a Loss Avoidance Study

The types of expertise needed to conduct an LAS depends in part on the type of hazard and project. For many studies, an engineer is needed to collect and analyze technical data related to the hazard event. However, it may be possible for personnel with less technical expertise to collect data and calculate the losses avoided and the Loss Ratio.

Because all LAS's require data related to the specific mitigation projects, representatives of the agencies that administered the mitigation grants, provided non-grant funding, or provided oversight for the construction of the projects should participate in data collection.

For the analysis of riverine flood event data, expertise in gathering and analyzing stream gage or precipitation gage data is required. If a hydrologic and/or hydraulic model is required for the analysis, it will be necessary for an engineer to perform these analyses of the flooding source.

Losses in the MP_C scenario are based on actual observed losses following the event. However, the losses in the MP_A scenario must be estimated because they are theoretical. If it is not possible to use historical losses from similar events, loss calculations may be based on accepted standard methodologies, such as those established by FEMA and the U.S. Army Corps of Engineers (USACE). FEMA's methodologies for loss estimation are described in:

- Benefit-Cost Analysis (BCA) Toolkit, Version 5.2.1, including the BCA Tool and the BCA Reference Guide (FEMA, 2011)¹
- Hazards U.S. – Multi-Hazard (HAZUS-MH) loss estimation model (FEMA, 2009c)²

Personnel familiar with these methodologies may be able to calculate the losses avoided if standard methods and values are provided, but qualified personnel with relevant knowledge and training may be required to estimate the damage to a facility based on analysis of the hazard if no standard methodologies exist.

1 All references to the FEMA BCA Tool in this document are to the FEMA Benefit-Cost Analysis Tool, Version 5.2.1 (FEMA, 2011)

2 All references to HAZUS-MH in this document are to Hazards U.S. - Multi-Hazard MR4 and include the *Flood Model Technical Manual* (FEMA, 2009c; 2009d)

Section Two:

2.0 Hazards and Performance Analysis

Hazards and Performance Analysis (HPA) is a technical group within the FEMA Hazard Mitigation Branch that provides engineering, architectural, economic and scientific assistance to Federal, State and local partners in support of disaster response and recovery.

For this Loss Avoidance Study (LAS) a single HPA Specialist Expert from FEMA Region I undertook the work. This Loss Avoidance Study (LAS) took 45 days from initiation to completion. This LAS is significant in that the project was completed entirely within the FEMA-4259-DR-GA Virtual Joint Field Office, Atlanta, Georgia by FEMA staff without outside support.

2.1 Purpose of a Loss Avoidance Study

A LAS provides the justification for existing and future mitigation projects and measures. The ability to assess the economic performance of mitigation projects over a period of time is important to encourage additional funding and continued support of mitigation activities. A LAS requires the mitigation project be completed prior to the event being analyzed. Losses avoided by the mitigation measure are determined by comparing damage that *would have been caused* by the same event, had the project not been in place.

This study examined properties that were acquired and demolished. Then the extent of damage to the structure on the properties was determined, assuming the properties not have been acquired. A depth- damage calculation was used to determine the dollar value of losses avoided based on depth of inundation in a building had it not been mitigated (acquired/demolished). This dollar value was compared with the actual cost to acquire the property to determine cost-effectiveness of the mitigation measure. Technical aspects of this process are explained in the LAS methodology Section 2.2.

2.2 LAS Methodology

This study is focused on a set of properties in the DR-4259 inundation area, all of which were acquired using Federal, State and local funding. These projects were funded under FEMA's *Hazard Mitigation Grant Program* (HMGP) beginning in 1995. The *Hazard Mitigation Grant Program* is a part of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (The Stafford Act) and provides grants for states and communities to implement hazard mitigation measures after a Presidentially-declared disaster.

Hazard Mitigation is defined as a *sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects.*

FEMA completed nine Loss Avoidance Studies for *riverine* flood hazard from 2001 to 2009. Mitigation projects for river flooding involve acquisition or elevation of flood prone properties. Homes may be purchased and removed from a flood prone area and replaced with buffer areas such as walking trails installed along the rivers' edge.

2.3 *First Floor Elevations*

FFE's are the most important data to collect when building modification projects are analyzed or when buildings are part of a flood reduction project analysis, because damage is calculated based on the depth of flooding inside buildings. The FFE is taken at the top of the lowest finished floor for buildings shown to be in Special Flood Hazard Areas on the FIRM (that is, areas subject to inundation during the 1-percent annual chance flood). Elevation projects require FFE's for both the MPA and MPC scenarios. Actual FFE's, such as surveyed FFE's provided by FEMA elevation certificates, are always preferred.

When elevation certificates are unavailable, several approaches exist for estimating the FFE. However, these approaches should be used as a last resort because they typically result in an increase in the margin of error for the analysis.

2.4 *Screening and Prioritization*

After an initial list of projects is compiled, each building in a building modification project must be evaluated individually to identify those which have the necessary data for an LAS. The list of data required for a riverine flood LAS is provided in Section Four. Initial data collection efforts and general project knowledge should provide sufficient information to determine the potential for a building to advance to Phase 2. If specific data are not available for a building or are difficult to recreate, that building should be removed from the list. Additionally, the building should be eliminated from the study if there are discrepancies in the building data that cannot be resolved through site visits or additional data sources, or the building is outside the project area.

Flood reduction projects should be removed from the study during Phase 1 if specific, necessary data are not available or if the data cannot be easily estimated. Each project on the initial project list should be evaluated for the data requirements of that particular study and for the availability of those data. Unlike building modification projects, which are analyzed on an individual building basis, if sufficient data for the flood reduction project do not exist, the entire project is eliminated.

Section Three:

3.0 Phase I: Initial Project Selection

For this study the State of Georgia Emergency Management and Homeland Security Agency (GEMHSA), Mitigation Division supplied an electronic list of 463 previously acquired properties that, had they not have been acquired and demolished earlier might have been damaged during the incident period: December 22, 2015 to January 13, 2016. For this storm FEMA issued a Major Disaster Declaration; DR-4259-GA on February 26, 2016. **Table 3.1** shows size of the original data set by city, county, flooding source and number.

Table 3.1 Number of Properties Listed by City, County and Flooding Source

City	County	Flooding Sources	Original Number of Properties
Newton, City of	Baker	Cooleewahee	4
		Flint	61
Albany, City of	Dougherty	Flint	219
	Dougherty	Flint	60
Bainbridge, City of	Decatur	Big Slough Tributary	2
		Flint	39
Leesburg, City of	Lee	Kinchafoonee	67
		Muckalee	7
Camilla, City of	Mitchell	Flint	3
Albany, City of	Mitchell	Flint	1
TOTALS			463

The file was quickly parsed to eliminate vacant lots and entries without first floor elevations or square footage values. **Table 3.2** shows the final property count.

Table 3.2 Properties by City, County, Flooding Source after Parsing for Vacant Lots, no FFE and no Square Footage

City	County	Flooding Sources	Original Number of Properties	Vacant Lots	New Total Properties
Newton	Baker	Cooleewahee	4	0	4
		Flint	61	-2	59
Albany	Dougherty	Flint	279	-22	257
Bainbridge	Decatur	Flint	41	-4	37
Leesburg	Lee	Kinchafoonee	67	-0	67
		Muckalee	7	-0	7
Camilla	Mitchell	Flint	3	-0	3
Albany	Mitchell	Flint	1	-0	1
TOTALS			463	-28	435

The data set supplied had most of the following electronic data available:

1. Property ID.
2. Parcel Number.
3. Parcel Size in acres.
4. GEMA Area.
5. Building Replacement Value at time of damage.
6. Contents replacement Value at time of damage.
7. Square footage of the (heat/cool) livable space.
8. Construction year.
9. First Floor Elevation (FFE).
10. Damage Source (river name).
11. Flood Zone.
12. Flood Zone Alpha Name (A, AE, Floodway).
13. FIRM Panel Number.
14. Flood Profile Number.
15. Comments.
16. Disaster Type (Flood, Hurricane, Earthquake, Tornado).
17. Occupancy Type (owner, renter, commercial).
18. Applicant.
19. Project Number.
20. Disaster Number.
21. Date Mitigated (structure removed or elevated).
22. Mitigation Effectiveness (100%, blank, 1%).
23. Post Mitigation Title Holder.
24. People Protected.
25. Expected Annual Benefits at the time of mitigation.
26. Protection Level.
27. Green Space Amount.
28. Mitigation Action (Acquisition, Elevation).
29. Funding Source.
30. Latitude.
31. Longitude.
32. Address1.
33. Address2.
34. City.
35. County.

3.1 Flood Event Analysis

The next step involved determining if the remaining structures would have been damaged by the DR-4259 event. In simplest terms, if the event flood high water elevation was greater than the first floor elevation then the structure suffered some damage.

Thus, it was necessary to determine the event high water elevation for each property.

Very limited Depth-Discharge-Frequency data were available for the DR-4259 event. The USGS recorded depths and discharges at its gaging stations in the study area and the data were available on the USGS Flood-Tracking site. The pertinent gaging stations are listed in **Table 3.3**. However, no frequency data were available from the USGS.

Table 3.3 USGS Gaging Stations and Flood-Tracking Data for DR-4259-GA

Gage Name	Gage Number	Gage Datum, feet	Gage Height, feet	High Water Elevation, feet
Flint River at Newton	02353000	+110.20	32.53	142.73
Flint River at Albany	02352500	+150.03	32.17	182.20
Flint River at Bainbridge	02356000	+58.06	30.20	88.26
Muckalee Creek at State Highway 195 near Leesburg	02351890	+220.00	14.46	234.46
Kinchafonee Creek near Dawson	02350900	+211.74	21.00	232.74

Five different hydrologic techniques were used to estimate the Discharge-Frequency or Depth-Frequency of the DR-4259 event.

1. Newton, Flint River. Frequency data were not published in the FIS. However, Discharge-Frequency data for the USGS gage at Newton were published in a report entitled: Hazard Mitigation at Work: Two Georgia Communities, AIS Draft, 12 November 1998, FEMA T.O.221, page 8:

Table 3.4 Flint River at Newton Depth-Damage-Frequency Data

Frequency (years)	Discharge (cfs)	Elevation (feet above sea level)
10	71,160	141.3
50	104,040	148.5
100	118,920	151.3
500	156,000	157.3

According to the USGS, the peak discharge at the USGS gage on 01/04/2016 equaled 58,900 cfs. Using a hand-drawn Gumbel plot of the data given in the report, the estimated Recurrence Interval is 6 years.

The observed High Water Elevation of 142.73 feet was adopted as the best estimate for the Flint River at Newton.

2. Newton, Cooleewahee Creek. No High Water Elevation data were available for the Cooleewahee Creek at Newton so the same Recurrence Interval and High Water Elevation were assumed as for the Flint River at Newton: RI = 6 years, HWE = 142.73.

- Albany, Flint River. According to the USGS, the peak discharge at the USGS gage on 01/04/2016 equaled 64,700 cfs. The FIS for Albany list the following Discharge-Frequency data:

Table 3.5 Estimated Discharge-Frequency Data for Flint River at Albany

Recurrence Interval, years	Discharge, cfs
10	59,300
50	86,700
100	99,100
500	130,000

Using a hand-drawn Gumbel plot of the data given in the above table, the estimated Recurrence Interval for a discharge of 64,700 cfs is 14 years.

The High Water Elevation for with each property was then determined by creating another hand-drawn Gumbel plot of data extracted from the Flood Profiles at the appropriate location adjacent to the property. This was tedious and time-consuming process.

- Bainbridge, Flint River. According to the USGS, the peak discharge at the USGS gage on 01/04/2016 equaled 69,700 cfs. No frequency data was given in the FIS. Nor, did the FIS contain any Flood Profiles.

Therefore, a Recurrence Interval of 6 years was assumed; the same as for the Flint River at Newton. Using the USGS Flood-Tracking site data a High Water Elevation of 88.34 was assumed.

- Leesburg, Kinchafoonee Creek. Fortunately, the City of Leesburg recently submitted an HMGP application to acquire 19 properties flooded during DR-4259 in December 2015. **Table 2.6** summarizes the data for 4 of these 19 properties. Using the reported FFE's and the flood depths reported in four of the individual property reports it was possible to independently develop high water elevations for DR-4259.

Table 3.6 Lee County Georgia – FY2016 Proposed Floodplain Property Acquisitions with calculated DR-4259 High Water Elevations for Kinchafoonee Creek

Address	City	Flood Zone	BFE, feet	FFE, feet	DR-4259 Depth, feet	DR-4259 HWE, feet	Closest X-section on FIRM
288 Cyprus Point Circle	Leesburg	AE	206.0	202.82	4.5	207.32	K 206
786 Creekside Drive	Leesburg	AE	194.0	194.22	1.00	195.22	D 195
282 Kinchafoonee Creek Drive	Leesburg	AE	195.0	196.91	0.33	197.24	C 195
356 Creekside Drive	Leesburg	AE	198.7	199.95	-0.15	199.8	E 199

Table 3.7 Lee County Georgia – FY2016 Floodplain Property Acquisitions with estimated DR-4259 Recurrence Intervals for Kinchafoonee Creek

Address	City	Flood Zone	BFE, feet	FFE, feet	DR-4259 Depth, feet	DR-4259 HWE, feet	Closest X-section on FIRM	Estimated Recurrence Intervals, years
288 Cyprus Point Circle	Leesburg	AE	206.0	202.82	4.5	207.32	K 206	166
786 Creekside Drive	Leesburg	AE	194.0	194.22	1.00	195.22	B 194	166
356 Creekside Drive	Leesburg	AE	198.7	199.95	-0.15	199.8	E 199.0	270
282 Kinchafoonee Creek Drive	Leesburg	AE	195.0	196.91	0.33	197.24	C 195	333

A critical review of **Table 3.7** suggests that the First Floor Elevation (FFE) for 282 Kinchafoonee Creek Drive may be in error. It is unlikely that the owner of 282 Kinchafoonee Creek Drive made an appreciable error in determining the depth of flooding in his house since he reported a depth of only 4 inches to the insurance inspector. However, if the FFE had been 195.91 instead of 196.91, then the High Water Elevation would have been only 196.24. When 196.4 is plotted on the Gumbel plot the Recurrence Interval is approximately 210 years.

The owner of 356 Creekside Drive reported, “The flood of 2016 lacked 2 inches before being in the house.” The house is located in the AE Zone at the edge of the floodway where flood velocities can influence the apparent flood elevations (stack the water) as water impacts a structure.

Therefore, we have a greater confidence that the DR-4259 Recurrence Interval along Kinchafoonee Creek was closer to 166 years than to 270 or 333 years.

6. Lacking a stream gage on Muckalee Creek, the Recurrence Interval was assumed as the same as for Kinchafoonee Creek; 166 years.

Table 3.8 summarizes the available USGS Depth data available. Using the either Depth-Discharge-Frequency data in the FIS or the Flood Profile Panels data it was possible to construct Gumbel Recurrence Interval plots for the three sub-watersheds; for the Cooleewahee Creek and the Flint River at Newton and Flint River at Bainbridge where the high water elevation surface was assumed to be flat and equal to the gaged elevation.

Table 3.8 Discharges and Estimated Recurrence Intervals

City	County	River or Creek	Discharge, cfs	Estimated Recurrence Intervals, years (Appendix C)	Estimated Water Surface Elevations for DR-4259-GA
Newton	Baker	Cooleewahee	Not known	6 (assumed same as Flint)	No Flood Profile Panels in FIS, assume WSE = 142.73 from Flood-Tracking Chart
		Flint (USGS gage 02353000)	58,900 USGS	6 (Gumbel plot)	
Albany	Dougherty	Flint (USGS gage 02352500)	64,700 USGS	14 (Gumbel plot)	From Flood Profile Panels base on Recurrence Interval. Depth varies with location.
Bainbridge	Decatur	Flint (USGS gage 02356000)	69,700 USGS (no frequency data available)	6 (assumed same as Flint at Newton, no Discharge-Frequency in FIS)	No Flood Profile Panels in FIS, assume WSE = 88.34 from Flood-Tracking Chart
Leesburg	Lee	Kinchafoonee (USGS gage 02350900)	Gage located upstream at a higher elevation. Data not considered useful.	166 (based on HWM's during DR-4259)	From 166-year profile drawn on Flood Profile Panels. Depth base on Recurrence Interval. Depth varies with location.
		Muckalee	Not known	166 (assumed same as Kinchafoonee)	

The discharge-frequency relationships for the Muckalee and Kinchafoonee Creeks as shown in the FIS were determined by USGS regional regression equations. The USGS gage (02350900) Kinchafoonee Creek at Pinewood Road, near Dawson, Georgia is too far upstream from the Special Flood Hazard Area to use the gage height data to determine the water surface elevation.

Although multiple flood events have occurred in the Flint River watershed; 1897, 1912, 1925, 1929, 1942, 1943, 1944, 1948, 1949, 1966, 1971, 1975, 1978, 1985, 1990, 1991, 1994, 1995, 1998; only the 2016 event data.

Section Four:

4.0 Phase II: Project Effectiveness Analysis

To calculate the effectiveness of the properties from the initial data set the following data were collected:

- Base Flood Elevation (BFE).
- Estimated Recurrence Interval (RI) of the DR-4259 event. RI varied with location.
- First Floor Elevation (FFE) before acquisition/demolition.
- DR-4259 Flood Elevation or High Water Elevation (HWE).
- The structure type.
- Total Cost of Mitigation at the time of acquisition.
- Building Replacement Value (BRV) at time of mitigation.
- Date mitigated.
- Living space (heated/cooled) in square feet.

The following data were then determined or calculated:

- Flood depth above the FFE.
- BRV in 2016 dollars.
- Displacement days.
- Displacement Costs.
- % Structural Damages based on USACE Generic Depth-Damage Tables.
- Structural Damages Cost.
- % Contents Damages based on USACE Generic Depth-Damage Tables.
- Contents Damages.
- Total Avoided Losses.
- Total Avoided Costs minus Total Cost of Mitigation at the time of acquisition.
- Losses Avoided Ratio.

4.1 Required Data and Project Screening

The data required for a Hazard Mitigation Assistance (HMA) grant application are similar to the data required for a Loss Avoidance Study (LAS). Therefore, if a building modification project was funded through one of the HMA grant programs, much of the required data can be obtained from the project file.

The required data include the following:

36. Property ID.
37. Parcel Number (Optional).
38. Project Number (Optional).
39. Street Address. **Building Location** – Latitude/longitude data, address, and assessor's parcel number; all available for this study.
40. Community.
41. County.

42. Damage Source.
43. Latitude.
44. Longitude.
45. FIRM Panel Number.
46. Base Flood Elevation (BFE).
47. Flood Zone designation.
48. Estimated Recurrence Interval.
49. Flood Insurance Study (FIS).
50. FIS Flood Profile Panel number.
51. First Floor Elevation (FFE) before mitigation provides the basis for the damage calculations.
52. High Water Elevations for the Study Event, DR-4259.
53. Lot Size in acres. Required if Environmental Benefits are to be included. Environment Benefits were not used in this study.
54. Structure Type. **Building Information** – Type (i.e., residential, commercial, industrial, or municipal), type of construction (e.g., wood frame, manufactured), basement information (finished versus unfinished), year built, livable square footage, foundation type, number of stories, and building replacement value (BRV).
55. Total Cost of Mitigation at the time of mitigation action. **Total Project Cost**, which includes the fair market value of the building paid to the homeowner, demolition costs, relocation costs, construction costs (elevations only), legal fees, and assessor’s costs. Each type of cost can have multiple sources. Data were obtained from the GEMHSA database.
56. Date of Mitigation.
57. Living Space area (heated or cooled).

Calculated data values:

1. **Building Replacement Values for the 2016 Event** – Building Replacement Values and Content Values were determined using the International Code Council (ICC) methodology. This methodology is regularly used by Georgia Counties Tax Officials and has been accepted by the Georgia Hazard Mitigation Division and FEMA Region IV as an appropriate method for determining BRV for HMGP applications.
2. **Building and Contents Damages** -Flood Damage percentages for the 2016 event for the building and the contents were determined using the latest FEMA Depth-Damage Tables. See Appendix B.
3. **Event Frequencies and Elevations** – Frequencies or Recurrence Intervals were determined or estimated using a variety of methods. Where available, Discharge-Frequency data from the appropriate FIS were plotted on Gumbel paper and used in conjunction with high water marks reported on the USGS Flood-Tracking site to determine the local flood frequency. In the case of Kinchafoonee Creek near Dawson the USGS gages was too far upstream to extract meaningful

water surface elevations, but the discharge-frequency data were adopted for the downstream Special Flood Hazard Area (SFHA).

4. **Water Surface Elevations for the 2016 Event** – For Albany and Leesburg, event water surface elevations were extracted from the FIS Flood Profile Panels base on the Recurrence Interval. Elevations varied based on the location along the flooding source. For Newton and Bainbridge the 2016 event water surface elevations were assumed to be flat since only one elevation was given for each city in the USGS Flood-Tracking site data.
5. **Depths of Flooding in the 2016 Event** – The depth of flooding was determined by subtracting the building first floor elevation from the 2016 event water surface elevation. If the calculated flood depth was less than or equal zero, the property was eliminated from the study data set.
6. **Total Losses Avoided** – The sum of the Displacement Costs, Structural Damage Costs and Contents Damage Costs.
7. **Difference between the Total Losses Avoided and the Total Project Cost** – Shows whether the project has passed the breakeven point. Negative values indicate that the avoided losses have not yet exceeded the total project costs.
8. **Losses Avoided Ratio or Return on Investment** – Ratio of the Total Losses Avoided to the Total Project Costs.

4.2 *Determining Flood Depths at Specific Properties Locations*

At locations with available Flood Profile FIS panels, the High Water Elevation was estimated using the previously estimated frequency and the profiles. At locations where only high water elevations were available (Flood-Tracking sites), the water surface was assumed to be flat. See Appendix G.

4.3 *Depth-Damage Curves*

Established depth-damage relationships are commonly used for determining losses caused by flood hazards. These relationships, which have been developed by FEMA, USACE, and other agencies using observed data from historical events, generally identify the loss that is likely to occur at certain intervals (i.e., flood depths). FEMA and USACE have published depth-damage curves that relate depth of flooding to potential structure damage, which is value based upon a percentage of the BRV. The flood depth-damage relationships are either nationally published estimates, or are estimated from local damage information. Physical damage losses, displacement expense, and disruption time for residents were determined utilizing FEMA and USCE depth-damage relationship curves.

All buildings in this study were Acquisition projects. Depth-damage tables are shown in Appendix B. Disruption Expenses, Debris Removal Expenses and Reduced Insurance Premiums were not considered in this study. Green Space Benefits were calculated based on the FEMA

default value of \$7,853.27 per acre for isolated green space and \$37,492.94 for riparian lots, but these Environmental Benefits were not included in the study.

4.4 Calculating Return on Investment

Calculating the ROI is the final task in determining losses avoided. The results vary depending on the number of events evaluated for each building and the resulting level of damage. In this study the losses from only one event, DR-4259 were included.

An ROI can be calculated for each individual building, for a mitigation project (which could include multiple buildings), by storm event, by community, or for the entire study area (which could include multiple projects). If an ROI is calculated for multiple buildings, taking an average of the ROI for each building is not appropriate. The total losses avoided for all of the buildings should be added and divided by the total construction costs. This is referred to as aggregation.

4.5 Georgia Study: Calculating Return on Investment

In general, the more events that are evaluated in an LAS, the higher the ROI.

An ROI was calculated for each individual building for event DR-4259. This information is reported by city and county. See **Table 6.0**.

A total ROI of 2.83 was calculated for the study as a whole, based on the cumulative losses calculated for all the buildings and the total cost of mitigation for all of the buildings. The ROI calculated for each county and the resulting ROI for the study are shown in **Table 6.0**. The aggregate losses avoided for all buildings was \$3,361,922 and the aggregate project investment was \$1,835,160. The aggregate LAS reflects all the losses avoided and all the costs of mitigation associated with all buildings in the study. The LAR will increase as additional storm events occur.

The LAR of 2.83 for the entire study demonstrates that Georgia's investment in the acquisition/demolition projects have been successful. Building modification projects are expected to reduce losses for 30 years to 100 years after project implementation depending on the type of project. The useful life of residential elevation projects is 30 years, and the useful life of acquisition and relocation projects are approximately 100 years.

The projects in this Georgia study have already demonstrated an LAR of 2.83. The first mitigation activity included in the study was completed in 1996 (approximately 20 years ago), while other buildings were mitigated as recently as 2000. Because many of the buildings included in the study had a fairly recent project completion date, the LAR is not as high would result from a study performed many years after the project completion dates. However, as additional floods occur, further losses will be avoided, and consequently the LAR will increase.

Section Five:

5.0 Phase III: Loss Estimation Analysis

To complete Phase III of the LAS, the following items were calculated:

- Building Repair Costs based on flood depth.
- Content Losses based on flood depth.
- Displacement Costs (food and lodging expenses) based on flood depth.
- Total Losses Avoided.

5.1 Building Repair Costs Based on Flood Depth and 2016 Building Replacement Value

Building repair costs were determined assuming had the property *not been acquired*. This calculation becomes the “losses avoided” in dollars, because this mitigation project was in place at the time of the flood event, DR-4259.

For example: Property # 65 (180 S. Main Street, Newton, Baker County) had a living space area of 2,205 square feet. Having calculated that this *one story residential structure without a basement* would have been flooded 0.33 feet (4 inches) above the finish floor allows one to determine the building repair costs based on the flood depth.

The Building Replacement Value (BRV) is based on a 2016 replacement cost of \$112.65 per square foot. (See *Appendix E, Estimated Building Replacement Costs for DR-4259*). The calculated BRV is \$248,393 (2,205 sf x \$112.65/sf = \$248,393).

The USACE Generic Depth-Damage Tables (See *Appendix B, Structural and Contents Damages plus Displacement Days*) were used to determine the dollar value for any level of flooding in a residence. The calculation takes into account the structural members supporting the property below the finish floor level, as well as the finish flooring, cabinets, appliances, drywall, insulation, electrical outlets and wiring, or any item that is damaged by the inundation. All of the items just mentioned would have been damaged with 0.33 feet of flooding in the home. **Table 5.1** provides the building repair costs for each of the 5 properties in Newton, Baker County. These same values can also be found in the final spreadsheet (**Table 6.0**).

Building Repair Costs are calculated as follows:

1. From Appendix B, **Table B.1**, the interpolated % Damage for 0.33 feet of flooding in a *One Story without Basement* residential structure is 16.7%.
2. The Structural Damage or Structural Repair Cost is \$41,482 (BRV x % Damage/100 = \$248,393 x 16.6%/100 = \$41,482).

Table 5.1 Losses Avoided in City of Newton, Baker County

Property ID	Water Depth Above FFE Pre-Mitigation	Building Repair Costs	Contents Losses	Displacement Costs	Total Losses Avoided
65	0.33	\$41,482	\$24,343	\$10,247	\$76,072
67	0.33	\$20,223	\$11,868	\$10,247	\$42,339
93	0.33	\$16,140	\$24,170	\$10,247	\$50,558
1059	0.33	\$22,710	\$12,572	\$10,247	\$45,529
1060	1.33	\$42,501	\$24,008	\$20,495	\$87,003
Totals		\$143,056	\$96,960	\$61,484	\$301,501

5.2 Content Losses

The cost of contents that are damaged are also calculated; including appliances, electronic equipment, furniture, clothing and other standard residential contents (see Appendix B, **Table B.2**).

Contents Loss Costs are calculated as follows:

1. From Appendix B, **Table B.2**, the interpolated % Damage for 0.33 feet of flooding in a One Story without Basement residential structure is 9.8%.
2. The Structural Damage or Structural Repair Cost is \$24,343 ($BRV \times \% \text{ Damage} / 100 = \$248,393 \times 9.8\% / 100 = \$24,343$).

5.3 Displacement Costs

Along with the property damage calculation, a displacement cost calculation is made that provides a dollar value for the time that the property owners would have been displaced had the property been flooded. This calculation is based on the percentage of damage to the residence which means that the greater the damage (or flood level in the home) the longer the family members would be displaced while repairs are being made. Displacement costs include lodging and the cost of purchasing meals while displaced. The displacement costs are determined in *number of days* before the family members can return to their home. Displacement costs do not include loss of wages or the emotional cost of the loss.

Displacement Costs per structure are based on the average Georgia household size and the Government Services Agency (GSA) per diem rates for the local area. See Appendix B.4 for the complete set of calculations. The USACE Generic Displacement Days tables are also shown in Appendix B, **Table B.3**.

Displacement Costs are calculated as follows:

1. From Appendix B, **Table B.3**, the Displacement Days for 0.33 feet of flooding in a One Story without Basement residential structure is 45 days.

- The Displacement Cost is \$10,247 ($\$227.72/\text{day} \times 45 \text{ days} = \$10,247$).

5.4.1 Losses Avoided in the City of Newton, Baker County

The five (5) properties listed in **Table 5.1** represent approximately three hundred thousand dollars in total losses avoided for the City of Newton, Baker County. These losses include structural damage repairs, replacement of various contents that would have been destroyed or damaged, and displacement costs.

The second column in **Table 5.1**, provides the depth of inundation (in feet) had the home still been at its former pre-mitigation elevation. Property ID # 65 demonstrates that even the smallest amount of flooding, in this case 0.33 of a foot (4 inches) above the finish floor elevation, causes quite a bit of damage – over \$76,000.

The depth of inundation had these properties not been acquired and demolished would have varied between 0.33 feet and 1.33 feet.

The individual losses for the City of Albany, Dougherty County, and the City of Leesburg, Lee County are also shown in the final spreadsheet, **Table 6.0**. **Table 5.2** shows the total losses for all three counties.

Table 5.2 Total Losses Avoided in Newton, Albany and Leesburg

City, County	Number of Properties	Building Repair Costs	Contents Losses	Displacement Costs	Total Losses Avoided
Newton, Baker	5	\$143,056	\$96,960	\$61,484	\$301,501
Albany, Dougherty	19	\$1,117,528	\$611,996	\$573,854	\$2,303,378
Leesburg, Lee	16	\$1,206,374	\$678,758	\$707,071	\$2,592,203
Totals	40	\$2,466,959	\$1,387,714	\$1,342,409	\$5,197,082

5.4.2 Losses Avoided in the City of Albany, Dougherty County

The nineteen (19) properties listed in **Table 5.2** represent approximately 2.3 million dollars in total losses avoided for the City of Albany, Dougherty County. These losses include structural damage repairs, replacement of various contents that were destroyed or damaged, and displacement costs. The depth of inundation had these properties not been acquired/demolished would have varied between 0.50 feet and 4.67 feet.

5.4.3 Losses Avoided in the City of Leesburg, Lee County

The sixteen (16) properties listed in **Table 5.2** represent nearly 2.6 million dollars in total losses avoided for the City of Leesburg, Lee County. These losses include structural damage repairs, replacement of various contents that were destroyed or damaged, and displacement costs. The depth of inundation had these properties not been acquired/demolished would have varied between 0.3 feet and 9.3 feet.

Of the 40 properties studied only three properties in Leesburg have not yet reached the breakeven point; i.e., the point where the losses avoided are greater than the total cost of mitigation. For property #368, had the depth been only 2 inches deeper, it would have passed the threshold. The other two properties will have to experience at least one more flood event.

However, because the Loss Avoidance Ratios for the other 37 properties were well above 1.0, we can say these acquisitions in this study were definitely cost-effective.

Table 5.3 Properties that have not reached the breakeven point

City, County	ID #	Depth of Flooding, feet	Total Losses Avoided	Total Cost of Mitigation	Difference (+ or -)	Loss Avoidance Ratio
Leesburg, Lee	368	0.33	\$133,717	\$141,608	(\$7,891)	0.94
	369	0.33	\$152,798	\$190,731	(\$37,932)	0.80
	419	1.1	\$116,088	\$155,226	(\$39,138)	0.75
Totals			\$402,603	\$487,565	(\$84,961)	0.83

5.5 Total Losses Avoided for the Lower Flint River Watershed

Table 5.4 also summarizes the losses for all 40 properties in the analysis, or approximately 5.2 million dollars in total losses avoided. These losses include structural damage repairs, replacement of various contents that would have been destroyed and displacement costs.

5.6 Losses Avoided Compared with the Total Mitigation Costs

Table 5.4 compares the total losses avoided from **Table 5.1** with the actual cost to acquire and demolish the structures. The difference between these two numbers will be either positive or negative. The total cost of mitigation for each project was derived from Georgia Hazard Mitigation Grant Program (HMGP) data records and represent the total actual mitigation costs.

Note, that with this one event, the Avoided Losses now exceed the Total Cost of Mitigation by \$6.0 million dollars.

Table 5.4 Losses Avoided Compared with the Total Mitigation Costs

City, County	Number of Properties	Total Losses Avoided	Total Cost of Mitigation	Difference (+ or -)	Loss Avoidance Ratio
Newton, Baker	5	\$301,501	\$79,876	\$221,625	3.77
Albany, Dougherty	19	\$2,303,378	\$437,693	\$1,865,685	5.26
Leesburg, Lee	16	\$2,592,203	\$1,317,591	\$1,274,612	1.97
Totals	40	\$5,197,082	\$1,835,160	\$3,361,922	2.83

5.7 Loss Avoidance Ratio for the Lower Flint River Watershed, Georgia

The losses avoided ratio (LR) is calculated by comparing the Losses Avoided (LA) to the net present value of the cost of the project to date. A LR of greater than one indicates that project benefits have exceeded project costs and the mitigation activity is determined to be cost effective and performing successfully. A ratio below one indicates that mitigation benefits have not yet exceeded project costs, however, this study represents only one flood event. An acquisition/demolition project has a useful life of 100 years or more.

The Losses Avoided Ratio (LR) is calculated as follows: $LR = LA \div PC$

Where LA = Losses Avoided in Dollars and PC = Project Costs

Using the totals at the bottom of **Table 5.4**, we derive the following losses avoided ratio:

$$\$5,197,082 \div \$1,835,160 = 2.83 \text{ (Loss Avoided Ratio)}$$

This ratio describes the fact that losses during this one event, DR-4259, would have been 2.83 times larger than the costs to acquire and demolish these 40 homes.

It cost approximately \$1.83 million to acquire and demolish these 40 homes, most of the cost being funded by FEMA Hazard Mitigation Assistance. In contrast, had the homes *not been acquired* prior to DR-4259, all of the homes would have been flooded above the finish floor, many a foot or higher. Had these damages occurred, it would have cost approximately \$5.2 million dollars in repairs – these are the losses avoided and represent 2.83 times of the total cost to acquire these homes.

As described earlier, Leesburg had significant flooding during DR-4259, because the storm appeared to have stalled between the Kinchafoonee and Muckalee Creeks, with Recurrence Intervals for the storm estimated at 166 years.

While three of the 16 properties in Leesburg had Loss Ratios less than 1.00, two of the properties had Loss Ratios greater than 12. Just one more flooding event with flooding depths of 1 foot or less would cause these three properties to become breakeven acquisitions. See the final spreadsheet, **Table 6.0**.

Table 6.0 shows that 37 projects out of 40 that were better than breakeven (Loss Avoidance Ratio = 1.0 or greater) with only 3 projects falling below the breakeven point. This ratio describes the fact that 283% of the costs expended to acquire and demolish these 40 homes were recovered during one just flood event. The data suggests that acquisition projects in the Lower Flint River Watershed are very cost-effective.

5.8 Hazard Mitigation Grant Funding

Many of the hazards of living in a Special Flood Hazard Area (SFHA) can be mitigated using FEMA Hazard Mitigation Assistance (HMA). These funds are administered through the State and information concerning FEMA HMA funding can be obtained by contacting the State Hazard Mitigation Officer (SHMO) or a local Flood Plain Administrator (FPA). There is an excellent FEMA website at: <http://www.fema.gov/hazard-mitigation-assistance>.

Homeowners with flood insurance may also qualify for Increased Cost of Compliance (ICC), a flood policy benefit that assists policy holders bring their home into compliance with local flood plain ordinances, such as elevating a home above the BFE. The ICC benefit can also be used to offset cost share requirements for HMA grant programs – which could effectively fund an elevation project at close to no cost to the homeowner or fund the demolition of their home as part of an acquisition project. Information describing ICC can be found at: <http://www.fema.gov/national-flood-insurance-program-2/increased-cost-compliance-coverage>.

5.9 Summary of Losses Avoided

In summary, this Loss Avoidance Study demonstrates that Federal, State and local funds used to acquire and demolish properties provides a cost-effective long-term mitigation measure that helps reduce or prevent future costs and damages to both life and property that result from a storm event.

Hazard Mitigation provides a community with the ability to minimize losses; recover quickly and be resilient in response to a natural disaster event. This strengthens the economic base and provides the residents with confidence and hope for the future.

Section Six:

6.0 Tables

In this study, 463 Acquisition/Demolition properties along the Flint River in Leesburg, Albany, Newton, Camilla and Bainbridge were examined to determine if they would have sustained damage during the DR-4259 event. These 463 properties represented all the previously acquired properties in Lee, Dougherty, Baker, Mitchell and Decatur counties as listed in the Georgia Emergency Management and Homeland Security (GEMAHS) database. The following table outlines the various tables and their contents.

Table of Tables

Table Number	City	Electronic Name Original GEMHSA Data File	Electronic Name Vacant lots eliminated and flood depths calculated	Electronic Name Final Results
6.0	Newton, Albany, Leesburg			Table 6.0 Final Results 40 Projects.xlsx
6.1	Newton	Table 6.1 Newton Original GEMHSA Data 65.xlsx		
6.1.1	Newton		Table 6.1.1 Newton with Elevations 51.xlsx	Only 5 with flood damage
6.2	Albany	Table 6.2 Albany Original GEMHSA Data 279.xlsx		
6.2.1	Albany		Table 6.2.1 Albany with Elevations 253.xlsx	Only 19 with flood damage
6.3	Leesburg	Table 6.3 Leesburg Original GEMHSA Data 76.xlsx		
6.3.1	Leesburg		Table 6.3.1 Leesburg with Elevations 76.xlsx	Only 16 with flood damage
6.4	Bainbridge	Table 6.4 Bainbridge Original GEMHSA Data 39.xlsx		
6.4.1	Bainbridge		Table 6.4.1 Bainbridge with Elevations 39.xlsx	Zero with flood Damage
6.5	Camilla & Albany in Mitchell County	Table 6.5 Camilla & Albany Original GEMHSA Data 4.xlsx		No FFE data

Table 6.0 Final Results 40 LOWER FLINT RIVER WATERSHED LOSS AVOIDANCE STUDY FOR DR-4259-GA

Project Number	Address:	City	Disaster Number	DR-4259 Flood Elev	Total Cost of Mitigation at Time of Acquisition	Flood Depth, Feet	Living Space, sq.ft	2016 Building Replacement Value	Displacement, Days	Displacement Costs	Structural % Damage	Contents % Damage	Structural Damage Costs	Contents Damage Costs	Data not used in this study. Greenspace Benefit	Total Losses Avoided	Difference (+ or -)	Losses Avoided Ratio
Newton, Baker County, Georgia																		
1	180 S Main St	Newton	1033	142.73	\$21,790	0.33	2,205	\$248,393	45	\$10,247	16.7	9.8	\$41,482	\$24,343	\$55,115	\$76,072	\$54,282	3.49
1	154 S Main St	Newton	1033	142.73	\$18,821	0.33	1,075	\$121,099	45	\$10,247	16.7	9.8	\$20,223	\$11,868	\$37,493	\$42,339	\$23,518	2.25
1	156 S Main St	Newton	1033	142.73	\$4,036	0.33	720	\$81,108	45	\$10,247	19.9	29.8	\$16,140	\$24,170	\$37,493	\$50,558	\$46,522	12.53
13	568 N Main St	Newton	1033	142.73	\$17,614	0.33	1,800	\$202,770	45	\$10,247	11.2	6.2	\$22,710	\$12,572	\$40,867	\$45,529	\$27,915	2.58
13	568 N Main St	Newton	1033	142.73	\$17,614	1.33	1,440	\$162,216	90	\$20,495	26.2	14.8	\$42,501	\$24,008	\$40,867	\$87,003	\$69,389	4.94
Totals for Newton, Baker County					\$79,876			\$815,586		\$61,484			\$143,056	\$96,960	\$211,835	\$301,501	\$221,625	3.77
Albany, Dougherty County, Georgia																		
4	162 (160) Lovers Ln Rd	Albany	1033	187.4	\$63,699	2.4	2,445	\$275,429	135	\$30,742	35.3	19.5	\$97,227	\$53,709	\$14,622	\$181,677	\$117,978	2.85
4	2700 Robinson's Pnt Dr	Albany	1033	187.4	\$72,960	1.5	3,075	\$346,399	90	\$20,495	27.7	15.6	\$95,952	\$54,038	\$0	\$170,485	\$97,525	2.34
4	2418 Cherry Laurel Ln	Albany	1033	174.6	\$7,201	2.1	1,588	\$178,888	135	\$30,742	32.9	13.8	\$58,854	\$24,687	\$0	\$114,283	\$107,082	15.87
22	408 Cherry Ave	Albany	1033	179.5	\$14,079	0.5	1,800	\$202,770	45	\$10,247	18.9	10.7	\$38,324	\$21,696	\$1,335	\$70,267	\$56,188	4.99
22	408 Corn Ave	Albany	1033	179.5	\$10,086	2.49	1,084	\$122,113	135	\$30,742	36	19.9	\$43,961	\$24,300	\$1,335	\$99,003	\$88,917	9.82
22	409 Cherry Ave	Albany	1033	179.5	\$12,400	1.08	1,494	\$168,299	90	\$20,495	24	13.7	\$40,392	\$23,057	\$1,335	\$83,944	\$71,544	6.77
22	411 Cherry Ave	Albany	1033	179.5	\$12,899	1.5	1,494	\$168,299	90	\$20,495	27.7	15.6	\$46,619	\$26,255	\$1,335	\$93,368	\$80,470	7.24
22	412 Cherry Ave	Albany	1033	179.5	\$13,607	1.14	1,868	\$210,430	90	\$20,495	24.5	13.9	\$51,555	\$29,250	\$1,335	\$101,300	\$87,693	7.44
22	413 Cherry St	Albany	1033	179.5	\$6,262	1.08	998	\$112,425	90	\$20,495	24	13.7	\$26,982	\$15,402	\$1,335	\$62,879	\$56,617	10.04
22	414 Cherry Ave	Albany	1033	179.5	\$15,740	2.33	1,195	\$134,617	135	\$30,742	34.7	19.3	\$46,712	\$25,981	\$1,335	\$103,435	\$87,695	6.57
22	414 Corn Ave	Albany	1033	179.5	\$35,769	3.45	1,316	\$148,247	180	\$40,990	43.3	23.7	\$64,191	\$35,135	\$1,335	\$140,315	\$104,546	3.92
22	416 Cherry Ave	Albany	1033	179.5	\$8,192	2.72	1,704	\$191,956	135	\$30,742	37.9	20.9	\$72,751	\$40,119	\$1,335	\$143,612	\$135,420	17.53
22	417 Cherry Ave	Albany	1033	179.5	\$31,431	2.87	1,202	\$135,405	135	\$30,742	39	21.5	\$52,808	\$29,112	\$1,335	\$112,662	\$81,232	3.58
22	420 Corn Ave	Albany	1033	179.5	\$12,293	4.67	1,308	\$147,346	225	\$51,237	51.2	27.8	\$75,441	\$40,962	\$1,335	\$167,640	\$155,347	13.64
22	421 Cherry Ave	Albany	1033	179.5	\$8,891	3.9	1,174	\$132,251	180	\$40,990	46.4	25.3	\$61,365	\$33,460	\$1,335	\$135,814	\$126,923	15.28
22	423 Cherry Ave	Albany	1033	179.5	\$36,666	3.61	1,028	\$115,804	180	\$40,990	44.4	24.3	\$51,417	\$28,140	\$1,335	\$120,547	\$83,881	3.29
22	423 Holloway Ave	Albany	1033	179.5	\$50,273	1.72	2,491	\$280,611	90	\$20,495	29.6	16.6	\$83,061	\$46,581	\$1,335	\$150,137	\$99,864	2.99
22	425 Cherry Ave	Albany	1033	179.5	\$11,370	3.83	1,116	\$125,717	180	\$40,990	45.9	25.1	\$57,704	\$31,555	\$1,335	\$130,249	\$118,879	11.46
22	428 Cherry Ave	Albany	1033	179.5	\$13,874	3.35	1,088	\$122,563	180	\$40,990	42.6	23.3	\$52,212	\$28,557	\$1,335	\$107,759	\$107,885	8.78
Totals for Albany, Dougherty County					\$487,693			\$3,319,570		\$573,854			\$1,117,528	\$611,996	\$35,983	\$2,303,378	\$1,865,685	5.26
Leesburg, Lee County, Georgia																		
1	100 Creekside Pl	Leesburg	1311	200.6	\$89,331	1.84	1,958	\$220,569	90	\$20,495	30.7	17.2	\$67,715	\$37,938	\$18,746	\$126,147	\$36,816	1.41
1	284 Cypress Point Cir	Leesburg	1311	207.3	\$54,570	9.3	1,997	\$224,962	450	\$102,474	53.4	30.8	\$120,130	\$69,288	\$18,746	\$291,892	\$237,322	5.35
1	316 Cypress Point Cir	Leesburg	1311	207.3	\$99,331	5	2,170	\$244,451	225	\$51,237	53.2	28.8	\$130,048	\$70,402	\$25,870	\$251,686	\$152,355	2.53
1	726 Creekside Dr	Leesburg	1311	195.7	\$141,608	0.3	1,649	\$185,760	45	\$10,247	16.4	9.7	\$30,465	\$18,019	\$74,986	\$58,731	(\$82,877)	0.41
1	730 Creekside Dr	Leesburg	1311	195.7	\$190,731	0.3	2,298	\$258,870	45	\$10,247	16.4	9.7	\$42,455	\$25,110	\$74,986	\$77,812	(\$112,918)	0.41
199	540 Creekside Dr	Leesburg	1033	197	\$47,232	4.26	2,142	\$241,296	225	\$51,237	48.7	26.5	\$117,511	\$63,944	\$41,242	\$232,692	\$185,460	4.93
199	618 Creekside Dr	Leesburg	1033	195.9	\$155,226	1.1	2,124	\$239,269	90	\$20,495	14.4	13.8	\$34,455	\$33,019	\$28,120	\$87,969	(\$67,258)	0.57
199	626 Creekside Dr	Leesburg	1033	195.9	\$108,434	3.46	2,160	\$243,324	180	\$40,990	43.3	23.7	\$105,359	\$57,668	\$49,866	\$204,017	\$95,582	1.88
199	710 Creekside Dr	Leesburg	1033	195.7	\$8,275	1.84	2,280	\$256,842	90	\$20,495	30.7	17.2	\$78,850	\$44,177	\$37,493	\$143,522	\$135,247	17.34
199	780 Creekside Dr	Leesburg	1033	195.4	\$115,238	3.58	1,661	\$187,112	180	\$40,990	44.2	24.1	\$82,703	\$45,094	\$37,493	\$168,787	\$53,549	1.46
9	634 Creekside Dr	Leesburg	1033	196.9	\$31,375	2.88	1,103	\$124,253	135	\$30,742	39.4	21.5	\$48,956	\$26,714	\$44,992	\$106,412	\$75,037	3.39
9	754 Northampton Rd	Leesburg	1033	202.1	\$78,550	8.1	1,640	\$184,746	405	\$92,227	67.5	35.9	\$124,704	\$66,324	\$17,247	\$283,254	\$204,704	3.61
9	646 Lovers Lane Rd	Leesburg	1033	193.4	\$37,910	3.4	952	\$107,243	180	\$40,990	42.9	23.5	\$46,007	\$25,202	\$78,735	\$112,199	\$74,289	2.96
9	796 Northampton Rd	Leesburg	1033	202.6	\$71,590	6.6	912	\$102,737	315	\$71,732	61.4	32.9	\$63,080	\$33,800	\$37,493	\$168,613	\$97,023	2.36
9	109 Creekside Place	Leesburg	1033	198.1	\$69,790	0.3	1,327	\$149,487	45	\$10,247	16.4	9.7	\$24,516	\$14,500	\$37,493	\$49,263	(\$20,527)	0.71
9	759 Northampton Rd	Leesburg	1033	202.1	\$18,400	8.1	1,176	\$132,476	405	\$92,227	67.5	35.9	\$89,422	\$47,559	\$46,866	\$229,207	\$210,807	12.46
Totals for Leesburg, Lee County, Georgia					\$1,317,591			\$3,103,395		\$707,071			\$1,206,374	\$678,758	\$670,374	\$2,592,203	\$1,274,612	1.97
Grand Totals for all 40 projects					\$1,835,160			\$7,238,551		\$1,342,409			\$2,466,959	\$1,387,714	\$918,192	\$5,197,082	\$3,361,922	2.83

Appendix A:

Acronyms

<i>BCA</i>	Benefit-Cost Analysis
<i>BRV</i>	Building Replacement Value
<i>CBO</i>	Congressional Budget Office
<i>CDBG</i>	Community Development Block Grants
<i>CFR</i>	Code of Federal Regulations
<i>CFS</i>	Cubic Feet per Second
<i>DFIRM</i>	Digital Flood Insurance Rate Map
<i>DSR</i>	Damage Survey Report
<i>FEMA</i>	Federal Emergency Management Agency
<i>FFE</i>	First Floor Elevation
<i>FIRM</i>	Flood Insurance Rate Map
<i>FIS</i>	Flood Insurance Study
<i>FMA Program</i>	Flood Mitigation Assistance Program
<i>GEMHSA</i>	Georgia Emergency Management and Homeland Security Agency
<i>GIS</i>	Geographic Information System
<i>HAZUS-MH</i>	Hazards U.S. – Multi-Hazard
<i>HMA</i>	Hazard Mitigation Assistance
<i>HMGP</i>	Hazard Mitigation Grant Program
<i>HPA</i>	Hazard and Performance Analysis
<i>HWM</i>	High Water Mark
<i>LAS (or study)</i>	Loss Avoidance Study
<i>MMC</i>	Multi-hazard Mitigation Council
<i>MP_A</i>	Mitigation Project Absent
<i>MP_C</i>	Mitigation Project Complete
<i>NCDC</i>	National Climatic Data Center
<i>NFIP</i>	National Flood Insurance Program
<i>NOAA</i>	National Oceanic and Atmospheric Administration
<i>NWS</i>	National Weather Service
<i>PDM Program</i>	Pre-Disaster Mitigation Program
<i>PA Program</i>	Public Assistance Program
<i>ROI</i>	Return on Investment
<i>SHELDUS</i>	Spatial Hazard Event and Loss Database for the United States (SHELDUS) produced by the Hazards & Vulnerability Research Institute of the University of South Carolina
<i>USACE</i>	U.S. Army Corps of Engineers
<i>USGS</i>	U.S. Geological Survey
<i>WSE</i>	Water Surface Elevation

Appendix B:

Estimating Structural & Contents Damages plus Displacement Days

The most recent U.S. Army Corps of Engineers Generic depth-damage percentage tables and displacement days data are available within the BCA 5.2 program. The tables are reproduced below.

B.1 Residential Building Structural Depth-Damage Function

The residential building depth damage value is a critical calculation for the Loss Avoidance Study. The building structural damage is calculated as a percentage of the building replacement value.

Table B.1 Residential Building Structural Depth Damage Data

Building Type	1 Story without Basement	2 Story Without Basement	Mobile Home Double-Wide on Slab
Flood Depth in Feet	Percent Damage	Percent Damaged	Percent Damaged
-2	0	0	0
-1	2.5	3	0
0	13.4	9.3	8.0
1	23.3	15.2	44.0
2	32.1	20.9	63.0
3	40.1	26.3	73.0
4	47.1	31.4	78.0
5	53.2	36.2	80.0
6	58.6	40.7	81.0
7	63.2	44.9	82.0
8	67.2	48.8	82.0
9	70.5	52.4	82.0
10	73.2	55.7	82.0
11	75.4	58.7	82.0
12	77.2	61.4	82.0
13	78.5	63.8	82.0

Source: USACE Generic and FEMA FIA DDF Tables in BCA 5.1

For example: Property # 65 (180 S. Main Street, City of Newton, Baker County) was a single story, wood frame house with 2,205 square feet of living space and would have experienced a flood depth of 0.33 feet above the finish floor elevation (pre-mitigation) during the DR-4259 event. From Table B.1 the interpolated Percentage Damage for 0.33 feet of flooding is 16.7% $[(23.3 - 13.4) \times 0.33 + 13.4] = 16.7\%$.

The total Building Replacement Value (BRV) of the 2,205 square foot residence is \$112.65 (see Appendix E) multiplied by 2,205 square feet for a BRV of \$248,393 (2,205 sf x \$112.65/sf = \$248,393).

To arrive at the Structural Damage Cost for this property requires multiplying the BRV of the structure by the percent damaged (see Table B.1) which is 17.7% or (248,393 X 0.167 = \$41,482) or \$41,482.

A similar process is required to determine the Residential Building Contents Depth-Damage Value.

B.2 Residential Building Contents Depth-Damage Function

The residential building depth damage function is also a critical calculation for the Loss Avoidance Study. Contents damage is also calculated as a percentage of the Building Replacement Value.

Table B.2 Residential Building Contents Depth Damage Data

Building Type	1 Story without Basement	2 Story Without Basement	Mobile Home Double-Wide on Slab
Flood Depth in Feet	Percent Damage	Percent Damaged	Percent Damaged
-2	0	0	0
-1	2.4	1.0	0
0	8.1	5.0	12.0
1	13.3	8.7	66.0
2	17.9	12.2	90.0
3	22.0	15.5	90.0
4	25.7	18.5	90.0
5	28.8	21.3	90.0
6	31.5	23.9	90.0
7	33.8	26.3	90.0
8	35.7	28.4	90.0
9	37.2	30.3	90.0
10	38.4	32.0	90.0
11	39.2	33.4	90.0
12	39.7	34.7	90.0
13	40.0	35.6	90.0

Source: USACE Generic and FEMA FIA DDF Tables in BCA 5.1

B.3 Average Household Size

The Georgia average household size according to the 2010-2014 U.S. Census Bureau is 2.72 persons. See <https://www.census.gov/quickfacts/table/PST045214/13>

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more. Scroll to: Families and Living Arrangements, Persons per household, 2010-2014 to find the 2.72 persons per household.

B.4 Displacement Costs

The displacement costs are based on the U. S. Government Services Administration (GSA) *per diem* rates for Georgia. The following link gives both lodging and meal rates: (See <http://www.gsa.gov/portal/category/100120>)

The 2015-16 lodging rates, October through September, for all Georgia counties except for the Atlanta metropolitan area was \$89 per night for all months.

Table B.3 Residential Building Displacement Days Data

Building Type	1 Story without Basement	2 Story Without Basement	Mobile Home Double-Wide on Slab
Flood Depth in Feet	Displacement Days	Displacement Days	Displacement Days
-2	0	0	0
-1	0	0	0
≤ 0	0	0	0
≤ 1	45	45	45
≤ 2	90	90	90
≤ 3	135	135	135
≤ 4	180	180	180
≤ 5	225	225	225
≤ 6	270	270	270
≤ 7	315	315	315
≤ 8	360	360	360
≤ 9	405	405	405
≤ 10	450	450	450
≤ 11	495	495	495
≤ 12	540	540	540
≤ 13	585	585	585

Source: USACE Generic and FEMA FIA DDF Tables in BCA 5.1

The 2015-16 rate for meals was \$51 per day. This rate is then multiplied by the average number of people living in the residence which was determined to be 2.72. The total meal cost per day per household is \$138.72.

The total for daily meals per household (\$138.72) is added to the total daily lodging rate (\$89) for a *Total Daily Displacement Cost of \$227.72 per residence.*

The Number of Days Displaced is based on the flood depth (percent of damage) caused by the flood event.

For example, using an inundation depth above the first floor of 0.33 feet, would have displaced the family for 45 days at an average daily displacement cost of \$227.72 per day ($\227.72×45 days) or a *Total Displacement Cost of \$ 10,247.40.*

Appendix C:

Estimated Frequencies of Peak Discharges for DR-4259-GA

Early USGS Estimates of Recurrence Intervals for DR-4259

Station Number	Station Name	Date of Peak	Peak Gage Height, feet	Peak Discharge, cfs	Annual Exceedance Probability (AEP)	Recurrence Interval
02192000	BROAD RIVER NEAR BELL, GA	12/31/2015	27.56	39400	Q10%-Q4%	10-25 year
02193340	KETTLE CREEK NEAR WASHINGTON, GA	12/22/2015	16.76	3780	Q10%-Q4%	10-25 year
02207185	NO BUSINESS CREEK AT LEE ROAD, BELOW SNELLVILLE, GA	12/24/2015	10.86	1430	Q10%-Q4%	10-25 year
02207385	BIG HAYNES CREEK AT LENORA ROAD, NR SNELLVILLE, GA	12/24/2015	11.9	1750	Q10%-Q4%	10-25 year
02215260	OCMULGEE RIVER AT ABBEVILLE, GA	12/31/2015	18.11	51800	Q10%-Q4%	10-25 year
02215500	OCMULGEE RIVER AT LUMBER CITY, GA	1/3/2016	20.17	55300	Q10%-Q4%	10-25 year
02341800	UPATOI CREEK NEAR COLUMBUS, GA	12/25/2015	21.65	18500	Q2%-Q1%	50-100 year
02350512	FLINT RIVER AT GA 32, NEAR OAKFIELD, GA	12/31/2015	27.79	51400	Q10%-Q4%	10-25 year
02350900	KINCHAFOONEE CREEK AT PINEWOOD ROAD, NR DAWSON, GA	12/25/2015	21	11800	Q10%-Q4%	10-25 year
02352500	FLINT RIVER AT ALBANY, GA	1/2/2016	32.17	64700	Q10%-Q4%	10-25 year
02353000	FLINT RIVER AT NEWTON, GA	1/4/2016	32.53	58900	Q10%-Q4%	10-25 year
02355662	FLINT RIVER AT RIVERVIEW PLANTATION, NR HOPEFUL, GA	1/4/2016	38.68	63000	Q10%-Q4%	10-25 year
02356000	FLINT RIVER AT BAINBRIDGE, GA	1/4/2016	30.28	69700	Q10%-Q4%	10-25 year
02381600	FAUSETT CREEK NEAR TALKING ROCK, GA	12/24/2015	17.84	3110	Q2%-Q1%	50-100 year
02382200	TALKING ROCK CREEK NEAR HINTON, GA	12/24/2015	13.36	13900	Q10%-Q4%	10-25 year
02385800	HOLLY CREEK NEAR CHATSWORTH, GA	12/26/2015	11.86	8590	Q10%-Q4%	10-25 year
02394820	EUHARLEE CREEK AT US 278, AT ROCKMART, GA	12/24/2015	10.75	3300	Q10%-Q4%	10-25 year
02395120	TWO RUN CREEK NEAR KINGSTON, GA	12/24/2015	8.86	4600	Q4%-Q2%	25-50 year
02398000	CHATTOOGA RIVER AT SUMMERVILLE, GA	12/26/2015	20.5	20700	Q4%-Q2%	25-50 year
03550500	NOTTELY RIVER NEAR BLAIRSVILLE, GA	12/24/2015	14.88	6840	Q10%-Q4%	10-25 year

Note that these early Recurrence Intervals are given as ranges.

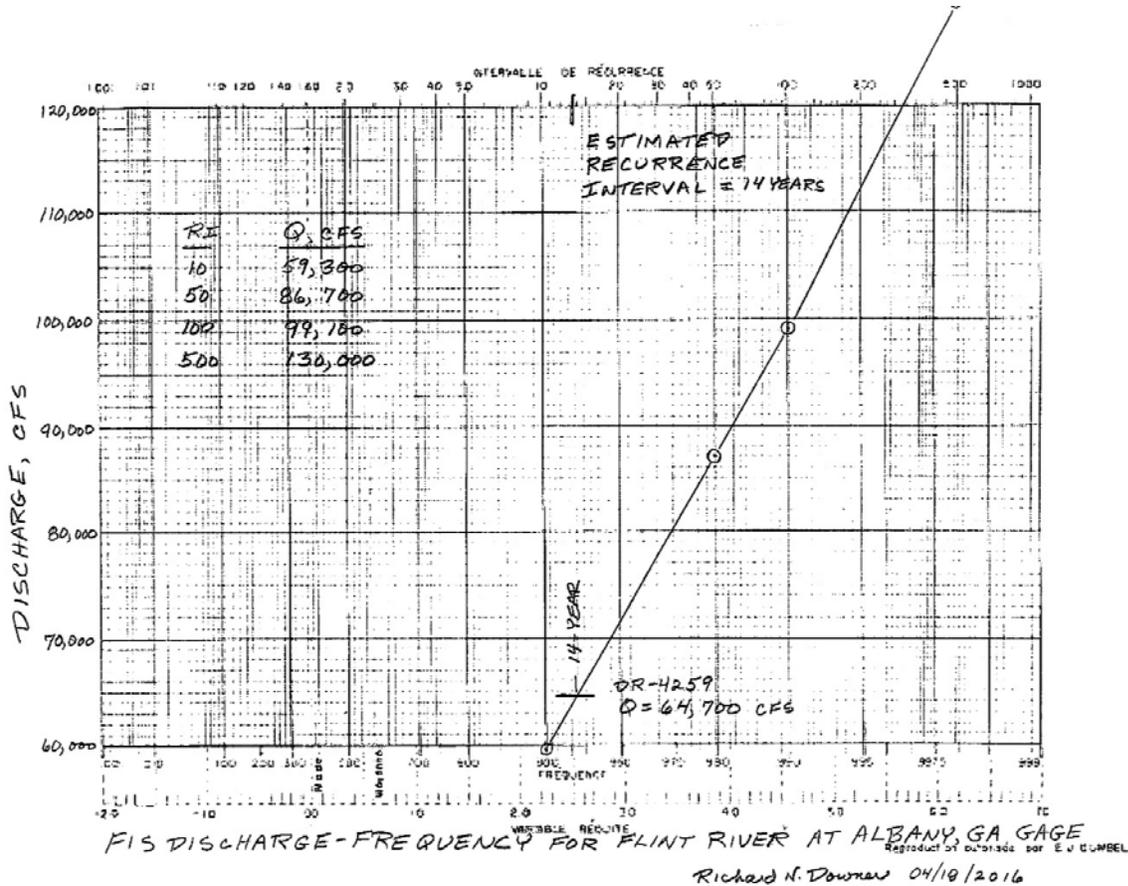
1. Flint River at the Albany, Georgia; USGS gage (02352500).

Flood Insurance Study, ALBANY, GA, REVISED: SEPTEMBER 25, 2009
 FLOOD INSURANCE STUDY NUMBER 13095CV000A

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TABLE 2 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		10-percent chance	2-percent chance	1-percent chance	0.2-percent chance
FLINT RIVER At county boundary	4,100.0	59,000	86,400	98,700	129,500
At Albany Gauge	5,300.0	59,300	86,700	99,100	130,000



According to the USGS, the peak discharge at the USGS gage on 01/02/2016 equaled 64,700 cfs. Using a hand-plotted Gumbel plot of the data given in the FIS, the estimated Recurrence Interval = 14 years.

2. Flint River at the Newton, Georgia; USGS gage (02353000).

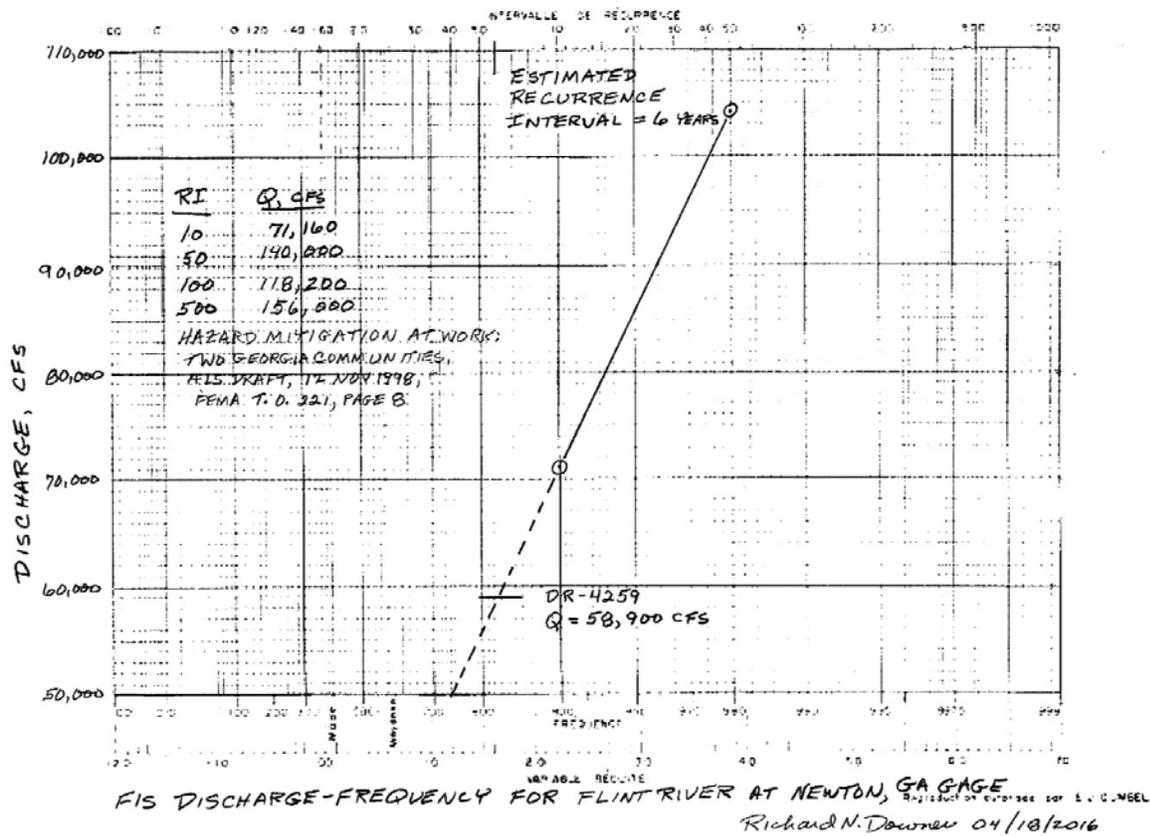
Discharge-Frequency data and Flood Profiles were not published in the BAKER COUNTY Flood Insurance Study for Newton, GA.

August 18, 2009

FLOOD INSURANCE STUDY NUMBER 13007CV000A

However, Discharge-Frequency data for the USGS gage at Newton was published in a report entitled: *Hazard Mitigation at Work: Two Georgia Communities, AIS Draft, 12 November 1998, FEMA T.O.221*, page 8:

Frequency (years)	Discharge (cfs)	Elevation (feet above sea level)
10	71,160	141.3
50	104,040	148.5
100	118,920	151.3
500	156,000	157.3



According to the USGS, the peak discharge at the USGS gage on 01/04/2016 equaled 58,900 cfs. Using a hand-plotted Gumbel plot of the data given in the FIS, the estimated Recurrence Interval = 6 years.

3. *Flint River at the Bainbridge, Georgia; USGS gage (02356000).*

Flood Insurance Study, BAINBRIDGE, EFFECTIVE SEPTEMBER 25, 2009
FLOOD INSURANCE STUDY NUMBER 13087CV000A

No discharge data or no elevation data were available in the FIS. Assume the discharge- frequency relationship is the same as for Newton; 6 years.

USGS Flood-Tracking for the Flint River at Bainbridge (02356000) high water was $32.53 + 58.06 = 88.34$ feet.

4. *Kinchafoonee Creeks at Pinewood Road, near Dawson, Georgia; USGS gage (02350900).*

This USGS gage is too far upstream on Kinchafoonee Creek to be representative of water depths within the Leesburg city limits. The watershed area is 527 square miles while the watershed area of Kinchafoonee Creek at Century Road is 591 square miles. The peak high water elevation at the gage on 01/04/2016 was 224.46 feet, which is at least 15 feet above the 500-year flood level at Century Road as shown on Panel 06P.

Flood Insurance Study, LEESBURG, EFFECTIVE: September 2, 2009
FLOOD INSURANCE STUDY NUMBER 13177CV000A

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TABLE 1 - SUMMARY OF DISCHARGES

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (sq. mi.)</u>	<u>PEAK DISCHARGES (cfs)</u>			
		<u>10% chance</u>	<u>2% chance</u>	<u>1% chance</u>	<u>0.2% chance</u>
KINCHAFOONEE CREEK at U.S. Highway 3 just upstream of Fowltown Creek at Century Road	676.0	10,100	16,560	20,450	29,480
	584.9	9,360	15,340	18,910	27,200
	591.0	9,330	15,280	18,840	27,090
MUCKALEE CREEK at County Boundary just upstream of confluence of Tributary A just upstream of confluence of Tributary B	435.3	7,790	12,720	15,630	22,340
	431.4	7,750	12,650	15,550	22,210
	424.1	7,670	12,520	15,380	21,980

According to the USGS, the peak discharge at the USGS gage on 01/02/2016 equaled 11,800 cfs for a catchment area of 527 square miles

Fortunately, the City of Leesburg recently submitted an HMGP application to acquire 19 properties flooded during DR-4259 in December 2015. Table C.1 summarizes the data for these 19 properties. Using the reported FFE's and the flood depths reported in four of the individual property reports it is possible to independently develop high water elevations for DR-4259 at Leesburg.

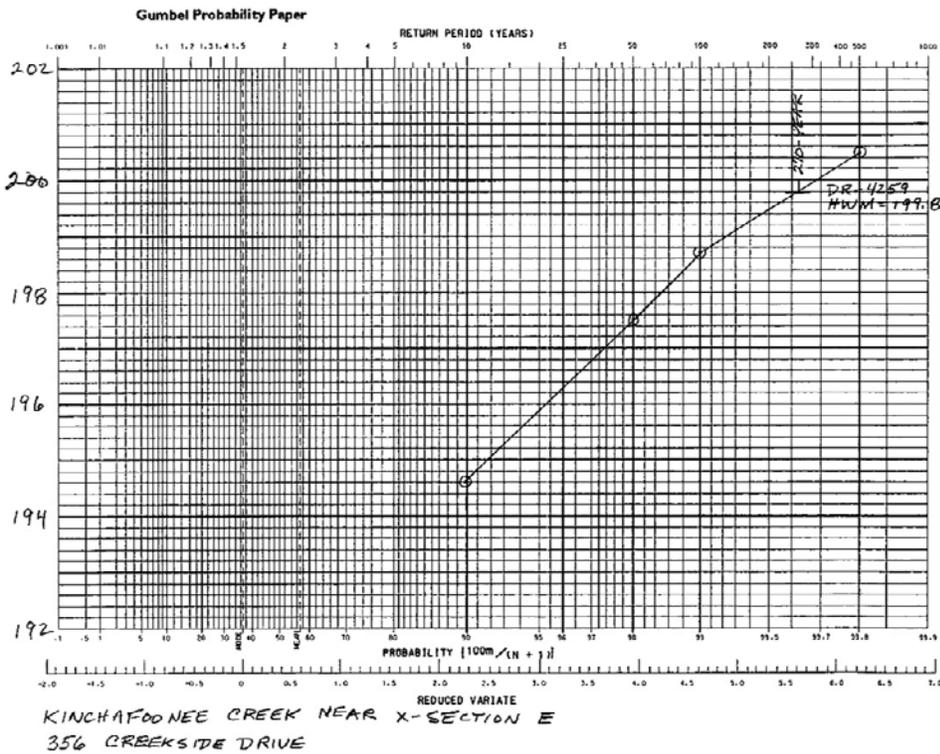
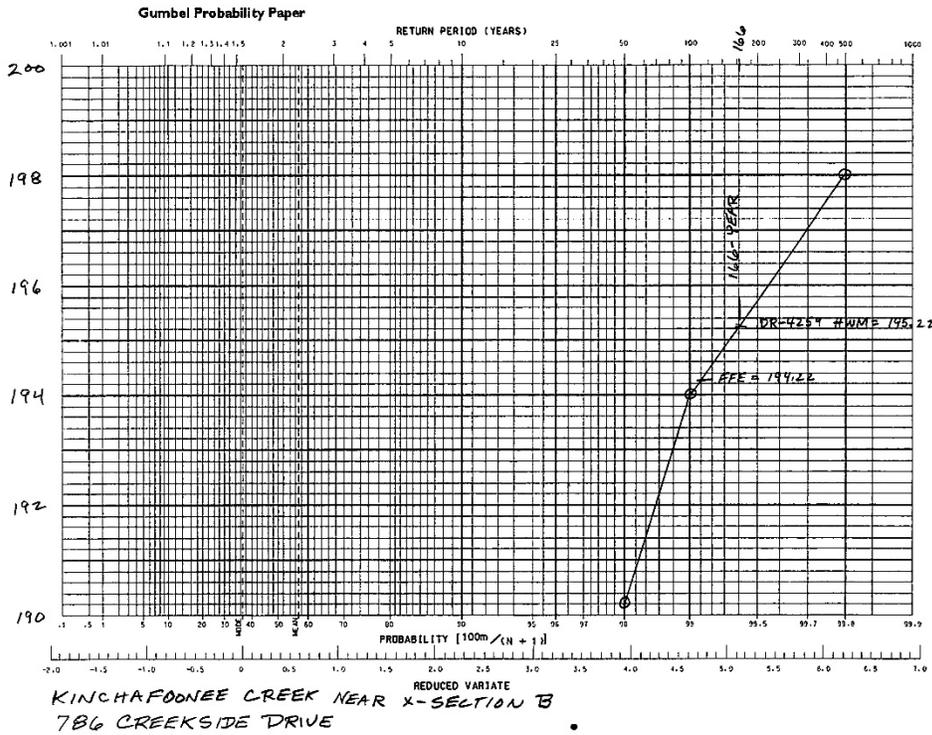
Table C.1 Lee County Georgia – FY2016 Floodplain Property Acquisitions with calculated DR-4259 High Water Elevations for Kinchafoonee Creek

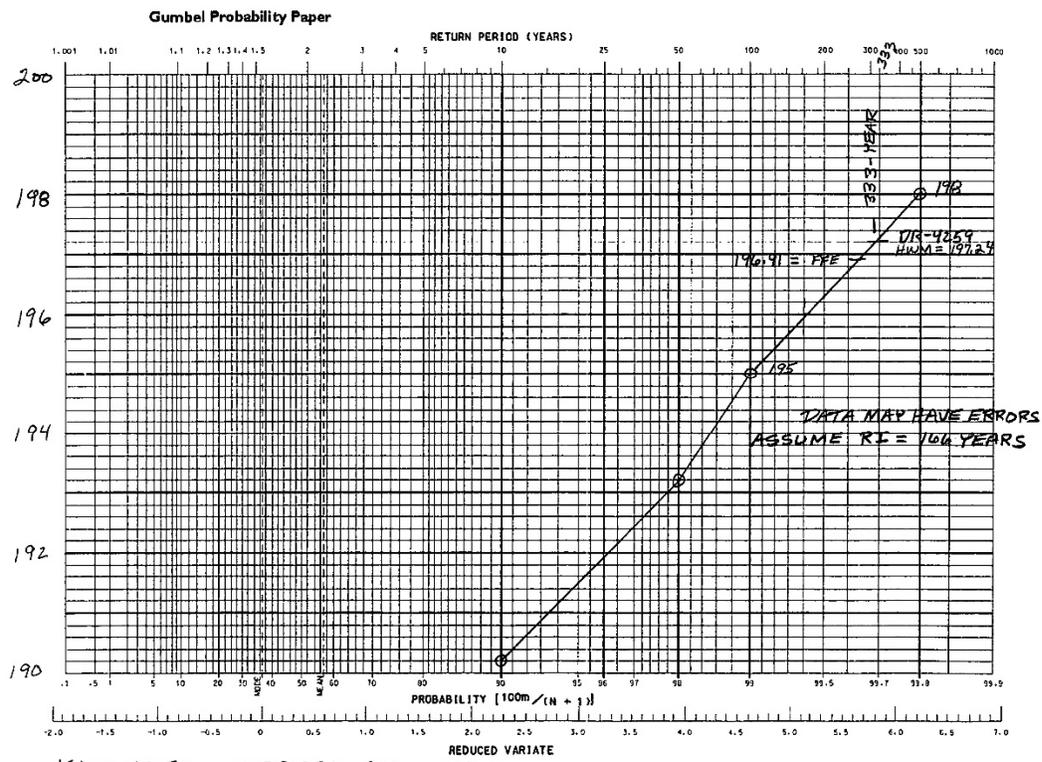
Address	City	Flood Zone	BFE, feet	FFE, feet	DR-4259 Depth, feet	DR-4259 HWE, feet	Closest X-section on FIRM
288 Cyprus Point Circle	Leesburg	AE	206.0	202.82	4.5	207.32	K 206
786 Creekside Drive	Leesburg	AE	194.0	194.22	1.00	195.22	D 195
282 Kinchafoonee Creek Drive	Leesburg	AE	195.0	196.91	0.33	197.24	C 195
356 Creekside Drive	Leesburg	AE	198.7	199.95	-0.15	199.8	E 199

Table C.2 Lee County Georgia – FY2016 Floodplain Property Acquisitions with estimated DR-4259 Recurrence Intervals for Kinchafoonee Creek

Address	City	Flood Zone	BFE, feet	FFE, feet	DR-4259 Depth, feet	DR-4259 HWE, feet	Closest X-section on FIRM	Estimated Recurrence Intervals, years
288 Cyprus Point Circle	Leesburg	AE	206.0	202.82	4.5	207.32	K 206	166
786 Creekside Drive	Leesburg	AE	194.0	194.22	1.00	195.22	B 194	166
356 Creekside Drive	Leesburg	AE	198.7	199.95	-0.15	199.8	E 199.0	270
282 Kinchafoonee Creek Drive	Leesburg	AE	195.0	196.91	0.33	197.24	C 195	333

A critical review of Table C.2 suggests that the First Floor Elevation (FFE) for 282 Kinchafoonee Creek Drive may be in error. It is unlikely that the owner of 282 Kinchafoonee Creek Drive made an appreciable error in determining the depth of flooding in his house since he reported a depth of only 4 inches to the insurance inspector. However, if the FFE had been 195.91 instead of 196.91, then the High Water Elevation would have been only 196.24. When 196.4 is plotted on the Gumbel plot the Recurrence Interval is approximately 210 years. The owner of 356 Creekside Drive reported, “The Flood of 2016 lacked 2 inches before being in the house.” The house is located in the AE Zone at the edge of the floodway where flood velocities can influence the apparent flood elevations as water impacts a structure or flows around an object.





KINCHAFOONEE CREEK AT X-SECTION C
282 KINCHAFOONEE CREEK DRIVE, LEESBURG, GA

4-36

Richard N. Downer 05/02/16

Therefore, we have a greater confidence that the DR-4259 Recurrence Interval along Kinchafoonee Creek was closer to 166 years than to 270 or 333 years.

Table C.3 outlines the available USGS Depth data available. Using the either Depth-Discharge-Frequency data in the FIS or the Flood Profile Panels data it was possible to construct Gumbel Recurrence Interval plots for the three sub-watersheds; for the Coolewahee Creek and the Flint River at Newton and Flint River at Bainbridge where the high water elevation surface was assumed to be flat and equal to the gaged elevation.

Table C.3 Discharges and Estimated Recurrence Intervals

City	County	River or Creek	Discharge, cfs	Estimated Recurrence Intervals, years (Appendix C)	Estimated Water Surface Elevations for DR-4259-GA
Newton	Baker	Cooleewahee	Not known	6 (assumed same as Flint)	No Flood Profile Panels in FIS, assume WSE = 142.73 from Flood-Tracking Chart
		Flint (USGS gage 02353000)	58,900	6 (Gumbel plot)	
Albany	Dougherty	Flint (USGS gage 02352500)	64,700	14 (Gumbel plot)	From Flood Profile Panels base on Recurrence Interval. Depth varies with location.
Bainbridge	Decatur	Flint (USGS gage 02356000)	69,700 (no frequency data available)	6 (assumed same as Flint at Newton, no Discharge-Frequency in FIS)	No Flood Profile Panels in FIS, assume WSE = 88.34 from Flood-Tracking Chart
Leesburg	Lee	Kinchafoonee (USGS gage 02350900)	Gage located upstream at a higher elevation. Data not considered useful.	166 (based on HWM's during DR-4259)	From 166-year profile drawn on Flood Profile Panels. Depth base on Recurrence Interval. Depth varies with location.
		Muckalee	Not known	166 (assumed same as Kinchafoonee)	

High water elevations at specific properties were extracted off the FIS Flood Profile Panels using the previously described Recurrence Intervals.

Table C.4 Lee County Georgia – FY2016 Floodplain Property Acquisitions with estimated DR-4259 Recurrence Intervals for Kinchafoonee Creek

Address	City	Flood Zone	BF E, feet	FFE, feet	DR-4259 Depth, feet	DR-4259 HWE, feet	Closest X-section on FIRM	Estimated Recurrence Intervals, years
288 Cyprus Point Circle	Leesburg	AE	206.0	202.82	4.5	207.32	K 206	166
786 Creekside Drive	Leesburg	AE	194.0	194.22	1.00	195.22	B 194	166
282 Kinchafoonee Creek Drive	Leesburg	AE	195.0	196.91	0.33	197.24	C 195	333

Therefore, we have a greater confidence that the DR-4259 Recurrence Interval along Kinchafoonee Creek was closer to 166 years than 333 years.

5. *Muckalee Creek*

Lacking a stream gage on Muckalae Creek, the Recurrence Interval will be assumed as the same as for Kinchafoonee Creek; 166 years.

Appendix D:

Methodology for Determining the FIRM Panel Number and the Flood Profile Number for each property location

Method 1

1. Google the following key words: Georgia DFIRM Maps.
2. Click on Georgia DFIRM and go to <http://map.georgiadfirm.com/>
3. Click Accept.
4. See the Locate by address or point window.
5. Type in the address or latitude and longitude in format: N 31.329028 W 84.331889.
6. Click Search.
7. See red bulls eye move to location on the DFIRM.
8. Use Zoom Slider at far left to change the magnification. Mouse roller can also be used to fine zoom.
9. Left click and hold to pan the map.
10. Heavy red, horizontal and vertical lines mark the edges of panels. Panel Numbers with their effective dates are shown in red letters.
11. BFE lines and x-section lines are only shown at the Address Zoom Level.

Method 2 for finding FIRM Panels and FIS's

1. Google the following key words: FEMA Flood Map Service Center
2. Click on Search All Products
3. Enter the State, County and Community Names (boxes will appear when a previous box is filled).
4. Click on the blue Search button.
5. See two folders containing Effective Products and Historic Products.
6. Click on the Effective Products icon.
7. See a list of Products.
 - a. FIRM Panels
 - b. FIS Reports
8. Download the required file(s).

Method 3

1. Google the following key words: FEMA Flood Map Service Center
2. Click on MSC Search by Address.
3. Enter an address, place or coordinates in the box. Example:
 - a. 61 Water Street, Newton, GA.
4. Click on the blue Search button.

5. See the FIRM Panel Number with its Effective Date listed in bold.
6. Use the three map buttons to:
 - a. View Map; links to the Map Center Intranetix Viewer.
 - b. Save Map; links to a zip-file which can be Saved or Opened.
 - c. Interactive Map. Links to an Arcgis Map which can be zoomed or panned.
 - i. The Topographic Base Map can be used to find street locations.
 - ii. The Imagery Base Map is useful in locating buildings.

Appendix E:

Estimated Building Replacement Costs for DR-4259-GA

Building Replacement Costs (BRC) for this study were calculated using the International Code Council (ICC) methodology. This methodology is regularly used by Georgia Counties Tax Officials and has been accepted by the Georgia Hazard Mitigation Division and FEMA Region IV as an appropriate method for determining the BRC for HMGP applications.

The ICC method is a national averages method and requires a knowledge of the Building Type, the Construction Type and the building footprint area in square feet. The five steps are:

1. Determine the Building Group (2012 International Building Code):
 - a. R-2, Residential, multifamily.
 - b. R-3, Residential, one- and two-family.
2. Choose the Type of Construction/IBC:
 - a. Types I & II Building Elements are of noncombustible materials.
 - b. Type III Exterior walls are of noncombustible materials and the interior building elements are of any material permitted by the code.
 - c. Type IV H.T. (Heavy Timber) Exterior walls are of noncombustible materials and the interior building elements are of solid or laminated wood without concealed spaces.
 - d. Type V Structural elements, exterior and interior walls are of any materials permitted by code.
 - i. Fire-resistance rated construction.
 - ii. Non fire-resistance rated construction.
3. Look up the Square Foot Cost for the appropriate Building Group and Construction Type.
4. Multiply the Square Foot Cost value by the building area to determine an average Building Replacement Cost.
5. Use Regional Cost Modifiers to adjust the value to reflect any regional differences.

For this study *Building Group R-3, Residential, one- and two-family* and *Construction Type VB* were used. Although the ICC suggests it will update their tables every six months, the latest table available on their web site is dated August 2015.

Lee County provided documentation that the Square Foot Costs given in the table were an accurate representation of the actual replacement cost for homes flooded in December 2015 in Leesville.

Lee County used a Square Foot Cost of \$112.65. See the table below.

At the suggestion of Terry Lunn, Director, Hazard Mitigation Division, Georgia Emergency Management Agency and Homeland Security, the same Square Foot Cost value was adopted for Baker and Dougherty Counties.



LEE COUNTY

Life works well here.

BOARD OF COUNTY COMMISSIONERS

T. PAGE THARP GOVERNMENTAL BUILDING
102 STARKSVILLE AVENUE NORTH, LEESBURG, GEORGIA 31763

**LEE COUNTY BUILDING INSPECTION
BUILDING INSPECTION
BUILDING PERMITS
BUSINESS LICENSE
ALCOHOL LICENSE**

Joey Davenport
Chief Building Official

Lamanda Croft
Administrative Assistant

Matthew Inman
*Engineering and
Planning Director*

Lee County, Georgia
102 Starksville Ave. N.
Leesburg, GA 31763
(229) 759-6000
Fax: (229) 759-2346
Web: www.lee.ga.us

*One of the first
original counties of
Georgia*

*Established
June 9, 1825*

Thursday, April 14, 2016

Mrs. Marcia Studley
Lee County Floodplain Manager
Lee County, Georgia

Dear Marcia,

Per your recent request please allow this letter to serve as confirmation of the square foot replacement cost for construction of a new home in Lee County, Georgia. Per the most recent Building Valuation Data Sheet as published by the International Code Council (attached) the per square foot construction costs are shown as \$112.65. Per recent conversations with local building contractors the per square foot construction costs in Lee County is currently ranging from a low of \$105.00 for starter home type properties to \$120.00 for higher end homes. Based on the above in my opinion the number provided in the B.V.D. from the International Code Council should be an accurate representation of actual replacement costs for these homes based on a per square foot price.

If you have further questions or concerns please feel free to call on me.

Respectfully,

Joey Davenport
Chief Building Official
Lee County, Georgia

Lee County is a thriving vibrant community celebrated for its value of tradition encompassing a safe family oriented community, schools of excellence, and life long opportunities for prosperity without sacrificing the rural agricultural tapestry.

Important Points

- The BVD is not intended to apply to alterations or repairs to existing buildings. Because the scope of alterations or repairs to an existing building varies so greatly, the Square Foot Construction Costs table does not reflect accurate values for that purpose. However, the Square Foot Construction Costs table can be used to determine the cost of an addition that is basically a stand-alone building which happens to be attached to an existing building. In the case of such additions, the only alterations to the existing building would involve the attachment of the addition to the existing building and the openings between the addition and the existing building.
- For purposes of establishing the Permit Fee Multiplier, the estimated total annual construction value for a given time period (1 year) is the sum of each building's value (Gross Area x Square Foot Construction Cost) for that time period (e.g., 1 year).
- The Square Foot Construction Cost does not include the price of the land on which the building is built. The Square Foot Construction Cost takes into account everything from foundation work to the roof structure and coverings but does not include the price of the land. The cost of the land does not affect the cost of related code enforcement activities and is not included in the Square Foot Construction Cost.

Square Foot Construction Costs ^{a, b, c, d}

Group (2012 International Building Code)	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
A-1 Assembly, theaters, with stage	229.03	221.51	216.10	207.06	194.68	189.07	200.10	177.95	171.21
A-1 Assembly, theaters, without stage	209.87	202.35	196.94	187.90	175.62	170.01	180.94	158.89	152.15
A-2 Assembly, nightclubs	177.89	172.85	168.07	161.49	151.98	147.78	155.80	137.68	132.99
A-2 Assembly, restaurants, bars, banquet halls	176.89	171.85	166.07	160.49	149.98	146.78	154.80	135.68	131.99
A-3 Assembly, churches	211.95	204.43	199.02	189.98	177.95	172.34	183.02	161.22	154.48
A-3 Assembly, general, community halls, libraries, museums	176.88	169.36	162.95	154.91	141.73	137.12	147.95	125.00	119.26
A-4 Assembly, arenas	208.87	201.35	194.94	186.90	173.62	169.01	179.94	156.89	151.15
B Business	182.89	176.17	170.32	161.88	147.55	142.00	155.49	129.49	123.76
E Educational	195.85	189.10	183.56	175.25	163.21	154.58	169.21	142.63	137.99
F-1 Factory and industrial, moderate hazard	108.98	103.99	97.83	94.17	84.37	80.56	90.16	69.50	65.44
F-2 Factory and industrial, low hazard	107.98	102.99	97.83	93.17	84.37	79.56	89.16	69.50	64.44
H-1 High Hazard, explosives	102.01	97.02	91.86	87.20	78.60	73.79	83.19	63.73	N.P.
H234 High Hazard	102.01	97.02	91.86	87.20	78.60	73.79	83.19	63.73	58.67
H-5 HPM	182.89	176.17	170.32	161.88	147.55	142.00	155.49	129.49	123.76
I-1 Institutional, supervised environment	180.72	174.14	169.28	161.12	149.06	145.04	161.12	133.69	129.43
I-2 Institutional, hospitals	308.50	301.79	295.93	287.50	272.14	N.P.	281.10	254.09	N.P.
I-2 Institutional, nursing homes	213.56	206.85	200.99	192.56	179.22	N.P.	186.16	161.17	N.P.
I-3 Institutional, restrained	208.37	201.66	195.80	187.37	174.54	167.98	180.97	156.48	148.74
I-4 Institutional, day care facilities	180.72	174.14	169.28	161.12	149.06	145.04	161.12	133.69	129.43
M Mercantile	132.61	127.57	121.79	116.21	106.35	103.15	110.52	92.05	88.36
R-1 Residential, hotels	182.28	175.70	170.83	162.68	150.87	146.84	162.68	135.49	131.23
R-2 Residential, multiple family	152.86	146.27	141.41	133.25	122.04	118.01	133.25	106.66	102.41
R-3 Residential, one- and two-family	143.93	139.97	136.51	132.83	127.95	124.61	130.57	119.73	112.65
R-4 Residential, care/assisted living facilities	180.72	174.14	169.28	161.12	149.06	145.04	161.12	133.69	129.43
S-1 Storage, moderate hazard	101.01	96.02	89.86	86.20	76.60	72.79	82.19	61.73	57.67
S-2 Storage, low hazard	100.01	95.02	89.86	85.20	76.60	71.79	81.19	61.73	56.67
U Utility, miscellaneous	77.10	72.64	68.12	64.64	58.13	54.28	61.62	45.49	43.33

- a. Private Garages use Utility, miscellaneous
- b. Unfinished basements (all use group) = \$15.00 per sq. ft.
- c. For shell only buildings deduct 20 percent
- d. N.P. = not permitted

Appendix F:

Determination of Environmental Benefits

For this study Environmental Benefits were calculated for illustrative purposes, but not used. They ranged from \$1,335 to \$78,735 per property.

Environmental benefits are those that accrue when a parcel's land use is changed by an acquisition mitigation project to one that provides natural environmental benefits or "ecosystem services" benefits.

Ecosystem Services are treated as benefits because they provide measurable, economic dollar values to the economy and because they should be included in a holistic analysis of mitigation project cost-effectiveness. A mitigated parcel may provide several ecosystem services, so the total environmental benefit of the parcel is the total of all the ecosystem services provided for the post-project land use.

For example, green open space or riparian areas adjacent to flood sources provide many beneficial ecosystem services, with some like:

- **Erosion Control:** preventing erosion and thus reducing silting of the streams and rivers. In turn, this reduces the need for human filtration for drinking water.
 - **Water Retention and Flow Regulation:** retaining water like a sponge, which helps prevent or reduce flooding, and retaining water during droughts.
 - **Climate Regulation and Air Quality:** changing developed land to undeveloped land will result in a net gain of natural land that is able to pull carbon and pollutants out of the atmosphere.
 - **Aesthetic Value:** providing public areas that are more visually attractive and desirable, as seen by a generally higher property value adjacent to these areas.
 - **Recreation Value:** providing access to recreational activities such as kayaking, fishing, biking, bird watching, and general recreation.
- Because natural systems are largely self-maintaining, and tend to become more economically valuable over time, including ecosystem services as benefits in a benefit cost analysis brings in the natural benefits inherent in the land. Additionally, it yields a more complete picture of the entire suite of benefits – not just losses avoided – from publicly-funded mitigation projects.

The ecosystem services values used in the BCA Tool are based on published, peer-reviewed economic studies of ecosystem services. These values are expressed in terms of dollars per acre per year, and are valued in 2011 dollars since that was the year when the research was

completed. The ecosystem services value is then multiplied by the number of acres of the project area to calculate the total economic value.

Surface flooding can cause damages related to erosion, debris deposition and access inconvenience. Damages should be assessed using a depth-damage curve whose base elevation is the ground elevation adjacent to the structure. It does not seem reasonable to assign a fixed value for Environmental Benefits without knowing the damages associated with an event based on the depth of flooding and velocity of flow over the lot.

The economic value of some ecosystem services is more concrete because they can easily be calculated since we already understand the costs required to replace naturally-occurring services (“green infrastructure”) with human-made infrastructure like a water-filtration plant. Regardless of complexity, all values underwent a rigorous two-step review process.

Currently, the BCA 5.2 program assigns **\$7,853.32 per acre per year for green space benefits** and **\$37,492.94/ per acre per year for riparian benefits** following an acquisition. For this study, riparian benefits were assigned to properties with one or more boundaries on a water body. The proximity of each property to a water body was checked using the web site:

http://qpublic7.qpublic.net/ga_address.php

Searching for property Records and Maps in Georgia

1. Go to the web site: qpublic.net
2. Scroll down and double click on the state.
3. Double click on the blue “Here”to go to the county listing.
4. Click on the first letter of the county name; scroll down to the county name.
5. Double click on the county name.
6. Click on Search Records on top task bar.
7. Click on Yes, I accept the above statement.
8. See the Search by Address window open.
9. Type in the address.

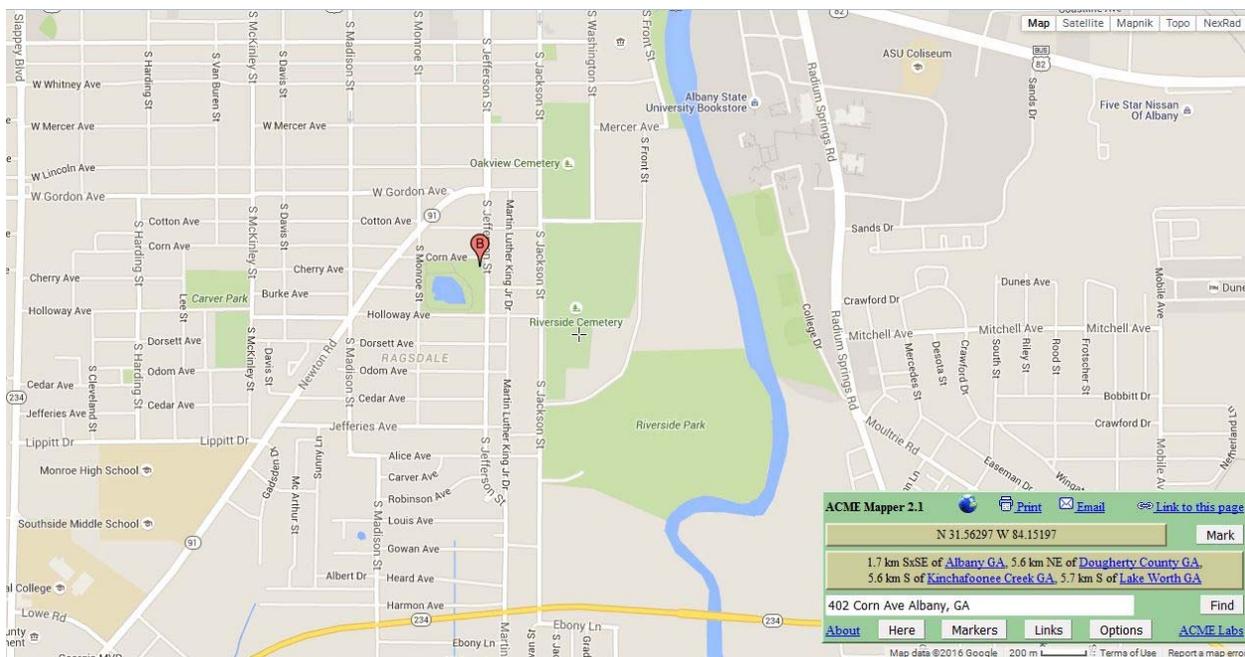
Appendix G:

Estimating Flood Depths for Individual Structures in Albany and Leesburg

For Albany and Leesburg, where Flood Profile Panels are available in the FIS, the following steps were used to estimate the DR-4259 event flood depths for individual properties. 402 Corn Avenue, Albany, GA will be used as an example.

First it necessary to find the general location of the property. Using ACME Mapper 2.1 (<http://mapper.acme.com/>) one can determine that the property, 402 Corn Avenue, Albany, GA, is located on the southwest corner of Corn Avenue and S. Jackson Streets.

Figure G.1 ACME Mapper



Secondly, by studying either the FEMA Map Center DFIRM or the Georgia DFIRM (<http://map.georgiadfirm.com/>) one can locate Corn Avenue just south of cross-section Q.

Next, on Flood Profile Panel 12P, one can locate 402 Corn Avenue just south of cross-section Q at a BFE = 184.5.

Figure G.2 DFIRM

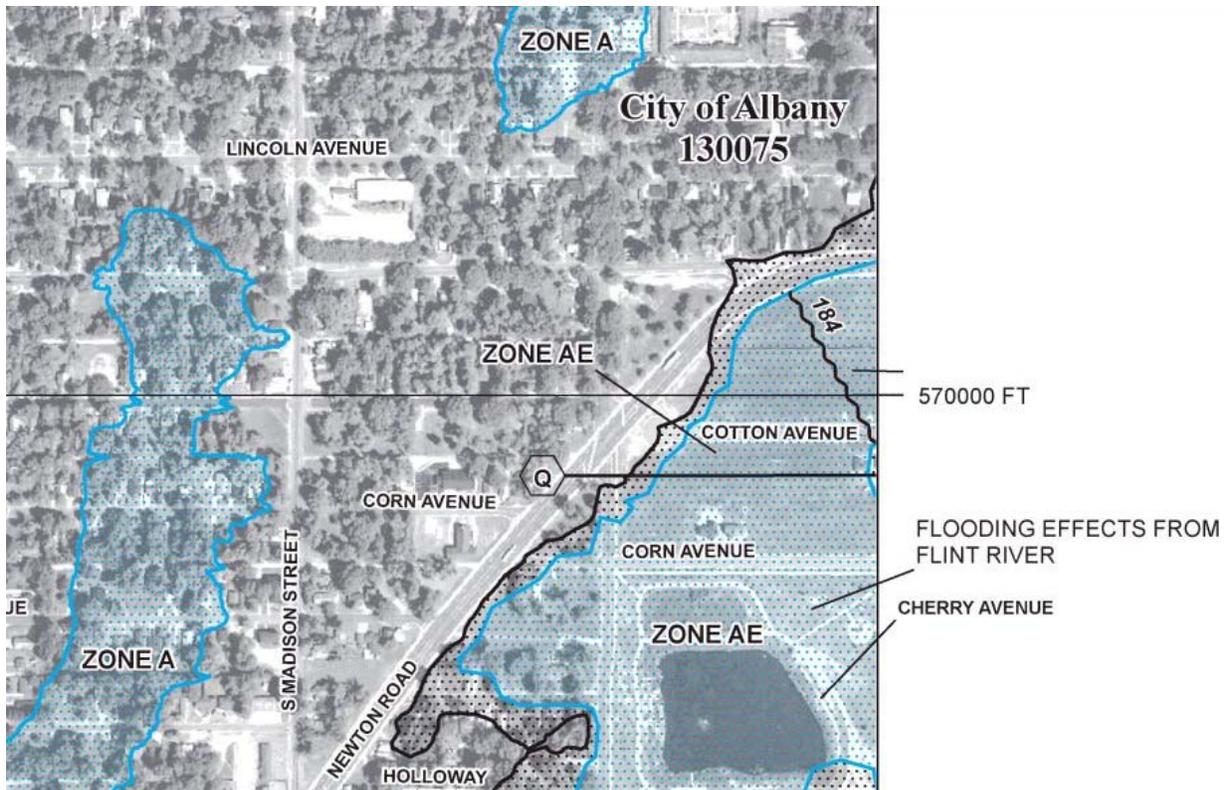
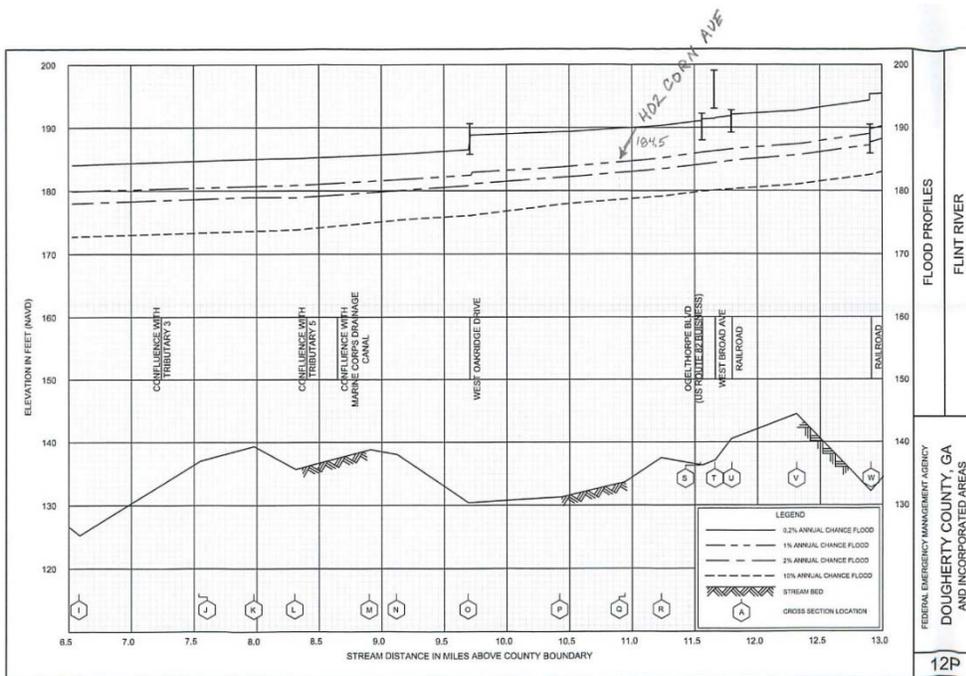


Figure G.3 Flint River Flood Profile, Panel 12P



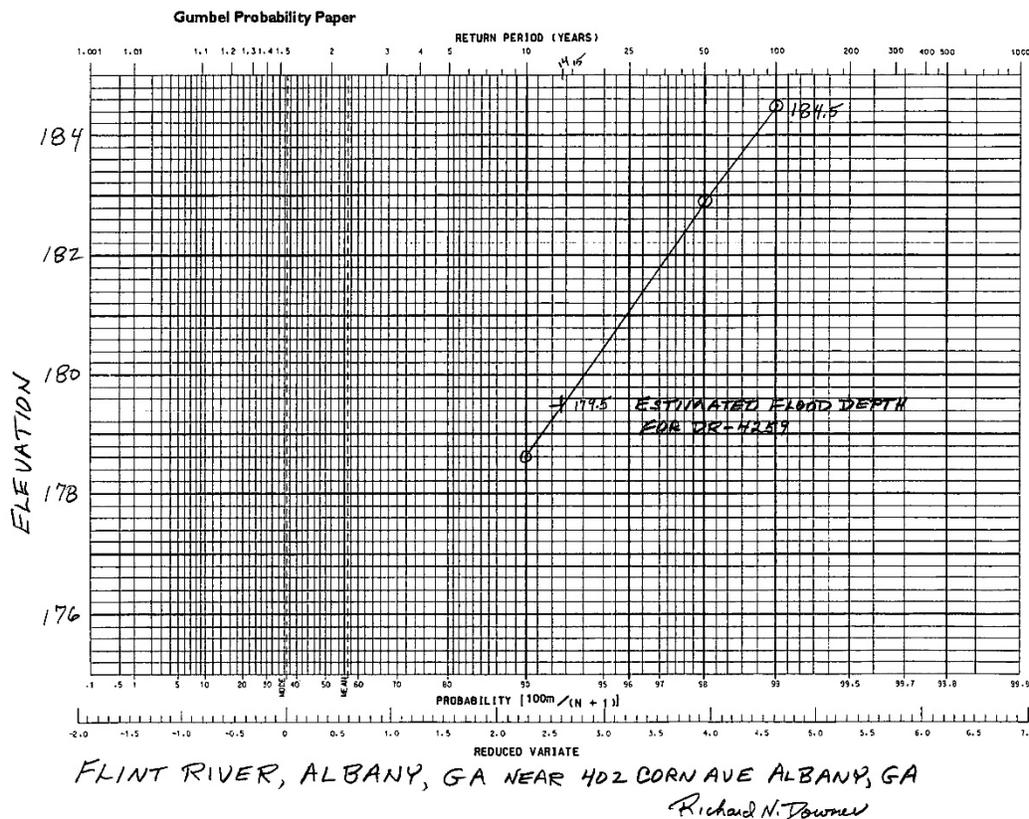
A closer examination of Panel 12P allows one to read off the following flood depths for 402 Corn Avenue:

Table G.1 Depth-Frequency of Flint River at Albany, GA Extracted from Flood profile Panel 12P

Recurrence Interval, years	Flood Depths read from Panel 12P, Flint River, Albany, GA
10	178.6
50	182.9
100	184.5

After plotting these data on Gumbel probability paper it is possible to estimate the Flood Depth for a previously determined 14-year Recurrence Interval event at 402 Corn Avenue.

Figure G.4 Gumbel Depth-Frequency Plot near 402 Corn Ave. Albany, GA



In this case, the DR-4259 Flood Depth for a 14-year Recurrence Interval storm is estimated to be 179.5 feet. This value was then entered on the master spreadsheet as the DR-4259 Flood Depth for 402 Corn Avenue.

Table G.2 FFE and Flood depth at 402 Corn Ave. Albany, GA

FFE Before Mitigation	DR-4259 Flood Depth	Flood Depth, feet	Damage
180.72	179.5	-1.22	No damage

Negative flood depths were listed as having “No damage”. This process was repeated for the 279 properties in Albany and the 76 properties in Leesburg.

Appendix C

Supplement to the FEMA Loss Avoidance Study for the City of Savannah

Total Daily Displacement Cost/Residence*	\$249
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*Assumes 2.53/household from Census Bureau and federal per diem rates used for Chatham

Table 1-0, Depth-Damage Functions

Depth	Mean of Damage, Structure	Mean of Damage, Contents
-2	0	0
-1	2.5	2.4
0	13.4	8.1
1	23.3	13.3
2	32.1	17.9

Table 6-1, Acquisitions in the Carver Heights Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1 HMGP	1033	City of Savannah	1310 Stokes St	Savannah	32.0752	-81.118418	\$ 41,837	1.28
2 HMGP	1033	City of Savannah	1012 Stokes St	Savannah	32.074719	-81.116685	\$ 40,181	0.14
3 HMGP	1033	City of Savannah	1008 Stokes St	Savannah	32.074412	-81.115639	\$ 58,857	0.11
4 HMGP	1033	City of Savannah	1006 Stokes St	Savannah	32.074454	-81.115822	\$ 37,213	0.15
5 HMGP	1033	City of Savannah	1029 Stokes St	Savannah	32.074542	-81.117256	\$ 53,894	0.11
6 HMGP	1033	City of Savannah	1011 Stokes St	Savannah	32.074299	-81.116268	\$ 36,232	0.91
7 LPDM	2008	City of Savannah	1010 Stokes St	Savannah	32.07451	-81.1116	\$ 21,725	1.30
							\$ 289,938	0.48

Table 6-2, FEMA's IA Housing Inspection Surveys (Matthew)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevat	Matthew WSE	Comments
2.08	First Floor Slab		1013 Stokes	SAVANNAH	32.07432	-81.11653	7	9.58	FFE is .5 feet above grade

Table 6-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building \$F	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	8.7	768 \$	103	0.88	\$ 79,104	23.3	\$ 18,431	13.3	10,521	11,185	10	13,622	\$ 53,759
2	10.7	1102 \$	103	-1.12	\$ 113,506	2.5	\$ 2,838	2.4	2,724	-	9.58	-	\$ 5,562
3	10.8	1283 \$	103	-1.22	\$ 132,149	2.5	\$ 3,304	2.4	3,172	-	9.58	-	\$ 6,475
4	10.3	1100 \$	103	-0.72	\$ 113,300	2.5	\$ 2,833	2.4	2,719	-	9.58	-	\$ 5,552
5	10.6	1134 \$	103	-1.02	\$ 116,802	2.5	\$ 2,920	2.4	2,803	-	9.58	-	\$ 5,723
6	9.3	879 \$	103	0.28	\$ 90,537	13.4	\$ 12,132	8.1	7,333	-	9.58	13,622	\$ 33,087
7	9.8	660 \$	103	-0.22	\$ 67,980	13.4	\$ 9,109	8.1	5,506	-	9.58	13,622	\$ 28,238
							\$ 51,566		\$ 34,779	\$ 11,185		\$ 40,866	\$ 138,397

Table 7-1, Acquisitions in the Tremont Park Neighborhood

Grant Type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1 HMGP	1033-0196	City of Savannah	1911 Hobson Ave	Savannah	32.059195	-81.136196	7507	7.75

Table 7-2, FEMA's IA Housing Inspection Surveys (Matthew)

HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Matthew WSE	Comments
3.42 First Floor Slab		1918 Hobson Ave	SAVANNAH	32.05959	-81.13622	6	10.72	FFE is 1.3 feet above grade

Table 7-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	9.63	885	\$ 103	1.09	\$ 91,155	23.3	\$ 21,239	13.3	\$ 12,124	\$ 11,185	10.72	\$ 13,622	\$ 58,170
							\$ 21,239		\$ 12,124	\$ 11,185		\$ 13,622	\$ 58,170

Table 8-1, Acquisitions in the West Lake Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI		
HMA acquisitions	1	PDM	2005	Chatham County	1907 Blue Jay Ave.	Savannah	32.03449515	-81.1401825	\$ 93,991	0.53
	2	PDM	2005	Chatham County	1909 Blue Jay Ave.	Savannah	32.03442095	-81.1403047	\$ 93,991	0.53
	3	PDM	2005	Chatham County	1915 Blue Jay Ave.	Savannah	32.0344634	-81.14082531	\$ 80,491	0.62
	4	PDM	2005	Chatham County	1918 Blue Jay Ave.	Savannah	32.03499765	-81.14089417	\$ 87,241	0.57
	5	PDM	2005	Chatham County	1920 Blue Jay Ave.	Savannah	32.03506647	-81.1410623	\$ 84,086	0.50
	6	PDM	2005	Chatham County	1921 Blue Jay Ave.	Savannah	32.03477755	-81.14116105	\$ 86,491	0.48
	7	PDM	2005	Chatham County	1922 Blue Jay Ave.	Savannah	32.03514685	-81.1412606	\$ 90,491	0.46
	8	PDM	2005	Chatham County	1923 Blue Jay Ave.	Savannah	32.03484958	-81.14133842	\$ 79,491	0.53
	9	PDM	2005	Chatham County	1923 Westlake Ave.	Savannah	32.0355116	-81.14126274	\$ 83,741	0.60
	10	PDM	2005	Chatham County	1924 Blue Jay Ave.	Savannah	32.03519012	-81.14140745	\$ 91,490	0.46
	11	PDM	2005	Chatham County	1932 Blue Jay Ave.	Savannah	32.0354804	-81.14250743	\$ 81,497	0.08
	12	PDM	2005	Chatham County	1933 Blue Jay Ave.	Savannah	32.03521218	-81.14262105	\$ 83,491	0.51
							\$ 1,036,492		0.49	

Table 8-2, FEMA's IA Housing Inspection Surveys (Matthew)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Matthew WSE	Comments
			West Lake Apts	SAVANNAH				16.00	Source: Chatham County Engineering Dept.

Table 8-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	15.58	1650	\$ 103	0.42	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	16	\$ 13,622	\$ 50,161
2	15.51	1650	\$ 103	0.49	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	16	\$ 13,622	\$ 50,161
3	15.61	1650	\$ 103	0.39	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	16	\$ 13,622	\$ 50,161
4	15.69	1650	\$ 103	0.31	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	16	\$ 13,622	\$ 50,161
5	15.51	1300	\$ 103	0.49	\$ 133,900	13.4	\$ 17,943	8.1	10,846	-	16	\$ 13,622	\$ 42,411
6	16.07	1278	\$ 103	-0.07	\$ 131,634	13.4	\$ 17,639	8.1	10,662	-	16	\$ 13,622	\$ 41,923
7	15.77	1278	\$ 103	0.23	\$ 131,634	13.4	\$ 17,639	8.1	10,662	-	16	\$ 13,622	\$ 41,923
8	16.32	1300	\$ 103	-0.32	\$ 133,900	13.4	\$ 17,943	8.1	10,846	-	16	\$ 13,622	\$ 42,411
9	16.18	1650	\$ 103	-0.18	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	16	\$ 13,622	\$ 50,161
10	16.2	1278	\$ 103	-0.2	\$ 131,634	13.4	\$ 17,639	8.1	10,662	-	16	\$ 13,622	\$ 41,923
11	16.63	1300	\$ 103	-0.63	\$ 133,900	2.5	\$ 3,348	2.4	3,214	-	16	\$ -	\$ 6,561
12	16.41	1300	\$ 103	-0.41	\$ 133,900	13.4	\$ 223,959	8.1	10,846	-	16	\$ 13,622	\$ 42,411
										\$ 149,842	\$	510,369	

Table 9-1, Acquisitions in the Liberty City/Summerside/Southover/Richfield Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1 FMA	2003	City of Savannah	1633 Vassar St	Savannah	32.042088	-81.134183	\$ 102,040	0.77
2 FMA	2003	City of Savannah	1635 Vassar St	Savannah	32.042117	-81.134353	\$ 106,110	0.74
3 HMGP	1761	City of Savannah	4705 Heritage Street	Savannah	32.041733	-81.133711	\$ 139,580	0.59
4 HMGP	1033	City of Savannah	1627 Vassar St	Savannah	32.041988	-81.133615	\$ 91,145	0.80
5 LPDM	2008	City of Savannah	4703 Heritage Street	Savannah	32.043337	-81.13297	\$ 153,566	0.31
							\$ 592,441	0.61

Table 9-2, FEMA's IA Housing Inspection surveys (Matthew)

HWM Location	Foundation	Address	City	Latitude	Longitude	FFE	Matthew WSE	Comments
HWM	0.08 First Floor Slab	1605 Vassar Ave	SAVANNAH			17.97	18.05	FFE from HMGP application

Table 9-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	17.2	1421	\$ 103	0.85	\$ 146,363	23.3	\$ 34,103	13.3	\$ 19,466	\$ 11,185	18.05	\$ 13,622	\$ 78,376
2	17.11	1421	\$ 103	0.94	\$ 146,363	23.3	\$ 34,103	13.3	\$ 19,466	\$ 11,185	18.05	\$ 13,622	\$ 78,376
3	17.1	1519	\$ 103	0.95	\$ 156,457	23.3	\$ 36,454	13.3	\$ 20,809	\$ 11,185	18.05	\$ 13,622	\$ 82,070
4	17.17	1276	\$ 103	0.88	\$ 131,428	23.3	\$ 30,623	13.3	\$ 17,480	\$ 11,185	18.05	\$ 13,622	\$ 72,910
5	17.6	1536	\$ 103	0.45	\$ 158,208	13.4	\$ 21,199.87	8.1	\$ 12,815	\$ -	18.05	\$ 13,622	\$ 47,637
							\$ 156,482		\$ 90,036	\$ 44,741		\$ 68,110	\$ 359,369

Table 10-1. Acquisitions in the Cuyler/Brownsville Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1 FMA	1997	City of Savannah	1247 W 42nd Street	Savannah	32.057308	-81.118076	\$ 36,646	1.62
2 FMA	1997	City of Savannah	2372 Ogeechee Road	Savannah	32.057533	-81.118389	\$ 81,791	0.68
3 FMA	1997	City of Savannah	1245 West 42nd Street	Savannah	32.057267	-81.117905	\$ 31,992	2.79
4 HMGP	1033	City of Savannah	2343 Ogeechee Rd	Savannah	32.057888	-81.118882	\$ 62,458	0.56
5 HMGP	1033	City of Savannah	2345 Ogeechee Rd	Savannah	32.057856	-81.119196	\$ 44,609	0.78
6 HMGP	1033	City of Savannah	1251 W 42nd St	Savannah	32.057348	-81.118226	\$ 35,013	2.36
7 HMGP	1033	City of Savannah	1241 W 42nd St	Savannah	32.057227	-81.117721	\$ 62,356	1.04
8 HMGP	1033	City of Savannah	2380 Ogeechee Rd	Savannah	32.057492	-81.119121	\$ 68,887	0.63
9 HMGP	1033	City of Savannah	2376 Ogeechee Rd	Savannah	32.057533	-81.118547	\$ 65,662	0.63
							\$ 487,414	1.03

Table 10-2. FEMA's IA Housing Inspection Surveys (Matthew)

HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Matthew WSE	Comments
0.83	First Floor Crawl Space	1239 W 42nd Ave	SAVANNAH	32.057222	-81.1176	6	8.83	FFE is 2 foot above grade

Table 10-1. Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	7.7	912	\$ 103	1.13	\$ 93,936	23.3	\$ 21,887.09	13.3	\$ 12,493	\$ 11,185	8.83	\$ 13,622	\$ 59,188
2	7.8	828	\$ 103	1.03	\$ 85,284	23.3	\$ 19,871	13.3	\$ 11,343	\$ 11,185	8.83	\$ 13,622	\$ 56,021
3	6.6	1037	\$ 103	2.23	\$ 106,811	32.1	\$ 34,286	17.9	\$ 19,119	\$ 22,370	8.83	\$ 13,622	\$ 89,998
4	8.9	959	\$ 103	-0.07	\$ 98,777	13.4	\$ 13,236	8.1	\$ 8,001	-	8.83	\$ 13,622	\$ 34,859
5	8.9	959	\$ 103	-0.07	\$ 98,777	13.4	\$ 13,236	8.1	\$ 8,001	-	8.83	\$ 13,622	\$ 34,859
6	7.9	1406	\$ 103	0.93	\$ 144,818	23.3	\$ 33,743	13.3	\$ 19,261	\$ 11,185	8.83	\$ 13,622	\$ 77,811
7	7.6	1063	\$ 103	1.23	\$ 109,489	23.3	\$ 25,511	13.3	\$ 14,562	\$ 11,185	8.83	\$ 13,622	\$ 64,880
8	8.72	1352	\$ 103	0.11	\$ 139,256	13.4	\$ 18,660	8.1	\$ 11,280	-	8.83	\$ 13,622	\$ 43,562
9	9.27	1258	\$ 103	-0.44	\$ 129,574	13.4	\$ 17,963	8.1	\$ 10,495	-	8.83	\$ 13,622	\$ 41,480
							\$ 197,794		\$ 114,555	\$ 67,111		\$ 122,598	\$ 502,058

Table 11-1: Acquisitions in the Wilmington Park Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1 FMA	2008-002	Chatham County	2 Clarendon Road	Savannah	31.998713	-80.99371	358,832	0.04

HMA acquisitions

Table 11-2: FEMA's IA Housing Inspection Surveys (Matthew)

HWM Location	Foundation	Address	City	Latitude	Longitude	FFE	Matthew WSE	Comments
0.25 First Floor Slab		112 Winchester Drive	SAVANNAH	31.99760	-80.99298	8	8.25	FFE from HMGP Application

IA Housing Inspections

Table 11-1: Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	9.1	2588	\$ 103	-0.85	\$ 266,564	2.5	\$ 6,664	2.4	6,398	-	8.25	-	\$ 13,062
							6,664		6,398	-		-	13,062

HMA Acquisition

Table 12-1, Acquisitions in the Beach High School Area

Grant type	Year of Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1	HMGP 1033-0196	City of Savannah	1216 W 51st St	Savannah	32.050865	-81.119534	56,546	0.11
2	HMGP 1042-0002	City of Savannah	1203 W 50TH ST	Savannah	32.051111	-81.118908	24,388	1.24
3	HMGP 1042-0002	City of Savannah	1203 W 51TH ST	Savannah	32.050497	-81.119243	30,407	2.25
4	HMGP 1042-0002	City of Savannah	1214 W 51TH ST	Savannah	32.050826	-81.11936	20,380	0.18
5	HMGP 1042-0002	City of Savannah	1224 W 50TH ST	Savannah	32.051643	-81.119454	27,204	1.50
6	HMGP 1042-0002	City of Savannah	1129 W 49TH ST	Savannah	32.051953	-81.119283	20,287	0.27
7	HMGP 1042-0002	City of Savannah	2803 STANLEY ST	Savannah	32.052385	-81.118225	38,010	0.24
8	HMGP 1042-0002	City of Savannah	2807 STANLEY ST	Savannah	32.0522	-81.118317	40,323	1.36
9	HMGP 1042-0002	City of Savannah	2902 STANLEY ST	Savannah	32.051692	-81.118457	27,114	1.37
10	HMGP 1042-0002	City of Savannah	2906 STANLEY ST	Savannah	32.05151	-81.118525	24,155	1.32
11	HMGP 1042-0002	City of Savannah	3401 STANLEY ST	Savannah	32.05106	-81.118671	49,831	1.69
12	HMGP 1042-0002	City of Savannah	3405 STANLEY ST	Savannah	32.050808	-81.118817	44,385	0.13
13	HMGP 1042-0002	City of Savannah	3407 STANLEY ST	Savannah	32.050686	-81.118872	23,385	1.45
							426,416	0.96

HMA acquisitions

Table 12-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Matthew WSE	Comments
1.58	First Floor	Crawl Space	1202 W 49th Street	SAVANNAH	32.05207	-81.11847	6	8.58	FFE is 1 foot above grade

Table 12-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	9.3	1222	\$ 103	-0.72	\$ 125,866	2.5	\$ 3,147	2.4	\$ 3,021	\$ -	\$ 8.58	\$ -	\$ 6,167
2	8.21	750	\$ 103	0.37	\$ 77,250	13.4	\$ 10,352	8.1	\$ 6,257	\$ -	\$ 8.58	\$ 13,622	\$ 30,231
3	7.68	1155	\$ 103	0.90	\$ 118,965	23.3	\$ 27,719	13.3	\$ 15,822	\$ 11,185	\$ 8.58	\$ 13,622	\$ 68,348
4	9.27	720	\$ 103	-0.69	\$ 74,160	2.5	\$ 1,854	2.4	\$ 1,780	\$ -	\$ 8.58	\$ -	\$ 3,634
5	8.87	1224	\$ 103	-0.29	\$ 126,072	13.4	\$ 16,894	8.1	\$ 10,212	\$ -	\$ 8.58	\$ 13,622	\$ 40,727
6	10.07	1083	\$ 103	-1.49	\$ 111,549	2.5	\$ 2,789	2.4	\$ 2,677	\$ -	\$ 8.58	\$ -	\$ 5,466
7	9.83	1840	\$ 103	-1.25	\$ 189,520	2.5	\$ 4,738	2.4	\$ 4,548	\$ -	\$ 8.58	\$ -	\$ 9,286
8	8.6	1860	\$ 103	-0.02	\$ 191,580	13.4	\$ 25,672	8.1	\$ 15,518	\$ -	\$ 8.58	\$ 13,622	\$ 54,812
9	8.4	1060	\$ 103	0.18	\$ 109,180	13.4	\$ 14,630	8.1	\$ 8,844	\$ -	\$ 8.58	\$ 13,622	\$ 37,096
10	8.81	828	\$ 103	-0.23	\$ 85,284	13.4	\$ 11,428	8.1	\$ 6,908	\$ -	\$ 8.58	\$ 13,622	\$ 31,958
11	8	1571	\$ 103	0.58	\$ 161,813	23.3	\$ 37,702	13.3	\$ 21,521	\$ 11,185	\$ 8.58	\$ 13,622	\$ 84,031
12	9.11	1160	\$ 103	-0.53	\$ 119,480	2.5	\$ 2,987	2.4	\$ 2,868	\$ -	\$ 8.58	\$ -	\$ 5,855
13	8.5	912	\$ 103	0.08	\$ 93,936	13.4	\$ 12,587	8.1	\$ 7,609	\$ -	\$ 8.58	\$ 13,622	\$ 33,818
							172,498		107,585	22,370		108,976	411,429

HMA

Table 13-1, Acquisitions in the Magnolia Park/Blueberry Hill Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
1	HMGP 1761-0014	City of Savannah	1513 Woodland Circle	Savannah	32.021721	-81.085663	230,313	0.37
2	HMGP 1033-0194	City of Savannah	1501 Forsyth Road	Savannah	32.019099	-81.087462	114,574	0.72
3	HMGP 1033-0194	City of Savannah	1451 Spalding Road	Savannah	32.020171	-81.087949	132,784	0.40
4	HMGP 1033-0194	City of Savannah	1430 Whitney Road	Savannah	32.021413	-81.0875	156,905	1.02
5	HMGP 1033-0194	City of Savannah	1441 Whitney Road	Savannah	32.021105	-81.087939	142,122	0.03
6	HMGP 1033-0194	City of Savannah	1447 Whitney Road	Savannah	32.021035	-81.087619	172,002	0.06
7	HMGP 1033-0194	City of Savannah	5413 Woodland Dr	Savannah	32.021351	-81.087147	150,816	0.36
8	HMGP 1033-0194	City of Savannah	5519 Woodland Dr	Savannah	32.020031	-81.087539	135,229	0.67
9	HMGP 1033-0194	City of Savannah	5519 Woodland Dr	Savannah	32.019681	-81.087663	118,971	0.78
10	HMGP 1033-0194	City of Savannah	1514 Forsyth Road	Savannah	32.019387	-81.086498	149,835	0.92
11	HMGP 1033-0194	City of Savannah	1513 Forsyth Road	Savannah	32.018959	-81.0869	137,207	0.94
12	HMGP 1033-0194	City of Savannah	1507 Spalding Road	Savannah	32.019854	-81.086767	169,720	0.65
13	HMGP 1033-0194	City of Savannah	1507 Forsyth Road	Savannah	32.01903	-81.08719	175,642	0.63
14	HMGP 1271-0004	City of Savannah	1508 Forsyth Road	Savannah	32.019442	-81.086896	130,534	0.66
15	HMGP 1271-0004	City of Savannah	1502 Forsyth Road	Savannah	32.019531	-81.087155	101,939	0.77
16	HMGP 1311-0007	City of Savannah	1501 Spalding Street	Savannah	32.019893	-81.086966	142,351	0.33
							2,360,943	0.56

Table 13-2, FEMA's IA Housing Inspection Surveys (Matthew)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Matthew WSE	Comments
0.67	First Floor	Crawl Space	1519 Forsyth Road	SAVANNAH	32.01889	81.08663	7	10.67	FPE is 3 feet above grade

Table 13-1, Losses Avoided Calculations (Matthew)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Matthew WSE	Mental Stress and Productivity Costs	Totals
1	11.1	3239	\$ 103	-0.43	\$ 333,617	13.4	\$ 44,705	8.1	27,023	-	10.67	13,622	\$ 85,350
2	9.9	1530	\$ 103	0.77	\$ 157,590	23.3	\$ 36,718	13.3	20,959	11,185	10.67	13,622	\$ 82,485
3	10.4	1770	\$ 103	0.27	\$ 182,310	13.4	\$ 24,430	8.1	14,767	-	10.67	13,622	\$ 52,819
4	8.59	2420	\$ 103	2.08	\$ 249,260	32.1	\$ 80,012	17.9	44,618	22,370	10.67	13,622	\$ 160,622
5	11.4	983	\$ 103	-0.73	\$ 101,249	2.5	\$ 2,531	2.4	2,430	-	10.67	-	\$ 4,961
6	11.8	2107	\$ 103	-1.13	\$ 217,021	2.5	\$ 5,425	2.4	5,209	-	10.67	-	\$ 10,634
7	10.36	1814	\$ 103	0.31	\$ 186,842	13.4	\$ 25,037	8.1	15,134	-	10.67	13,622	\$ 53,793
8	9.83	1758	\$ 103	0.84	\$ 181,074	23.3	\$ 42,190	13.3	24,083	11,185	10.67	13,622	\$ 91,080
9	9.85	1790	\$ 103	0.82	\$ 184,370	23.3	\$ 42,958	13.3	24,521	11,185	10.67	13,622	\$ 92,287
10	9.08	1977	\$ 103	1.59	\$ 203,631	32.1	\$ 65,366	17.9	36,450	22,370	10.67	13,622	\$ 137,808
11	8.61	1802	\$ 103	2.06	\$ 185,606	32.1	\$ 59,580	17.9	33,223	22,370	10.67	13,622	\$ 128,795
12	9.45	2267	\$ 103	1.22	\$ 233,501	23.3	\$ 54,406	13.3	31,056	11,185	10.67	13,622	\$ 110,269
13	9.76	2267	\$ 103	0.91	\$ 233,501	23.3	\$ 54,406	13.3	31,056	11,185	10.67	13,622	\$ 110,269
14	10.1	1630	\$ 103	0.57	\$ 167,890	23.3	\$ 39,118	13.3	22,329	11,185	10.67	13,622	\$ 86,255
15	9.9	1432	\$ 103	0.77	\$ 147,496	23.3	\$ 34,367	13.3	19,617	11,185	10.67	13,622	\$ 78,791
16	10.7	1500	\$ 103	-0.03	\$ 154,500	13.4	\$ 20,703	8.1	12,515	-	10.67	13,622	\$ 46,840
							631,952		364,989	145,408		190,708	1,333,057

Totals	Properties	64
	Costs	5,559,983.06
	ROI	0.60
	Losses Avoided	3,325,910.02

Total Daily Displacement Cost/Residence* **\$249**

*Assumes 2.53/household from Census Bureau and federal per diem rates used for Chatham

Table 1-0. Depth-Damage Functions

Depth	Mean of Damage, Structure	Mean of Damage, Contents
-2	0	0
-1	2.5	2.4
0	13.4	8.1
1	23.3	13.3
2	32.1	17.9
3	40.1	22
4	47.1	25.7
5	53.2	28.8
6	58.6	31.5
7	63.2	33.8
8	67.2	35.7

Table 13-1. Acquisitions in the West Savannah Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI	
1	FMA	1997-001	City of Savannah	107 Fell Street	Savannah	32.088149	-81.120791	\$ 13,120	4.79
2	HMGP	1042-0001	City of Savannah	105 BAKER ST	City of Savannah	32.088735	-81.121355	\$ 12,329	5.09
3	HMGP	1042-0001	City of Savannah	107 BAKER ST	City of Savannah	32.088661	-81.121399	\$ 13,177	5.18
4	HMGP	1042-0001	City of Savannah	109 BAKER ST	City of Savannah	32.08857	-81.121457	\$ 10,200	7.83
5	HMGP	1042-0001	City of Savannah	110 BAKER ST	City of Savannah	32.08852	-81.121008	\$ 9,702	3.50
6	HMGP	1042-0001	City of Savannah	111 BAKER ST	City of Savannah	32.088471	-81.121516	\$ 14,604	4.83
7	HMGP	1042-0001	City of Savannah	112 BAKER ST	City of Savannah	32.088407	-81.121066	\$ 21,071	4.50
8	HMGP	1042-0001	City of Savannah	113 BAKER ST	City of Savannah	32.088385	-81.121572	\$ 28,616	3.15
9	HMGP	1042-0001	City of Savannah	116 BAKER ST	City of Savannah	32.088242	-81.121117	\$ 25,616	3.70
10	HMGP	1042-0001	City of Savannah	117 BAKER ST	City of Savannah	32.088308	-81.121637	\$ 36,516	2.97
11	HMGP	1042-0001	City of Savannah	118 BAKER ST	City of Savannah	32.088226	-81.121691	\$ 14,664	7.09
12	HMGP	1042-0001	City of Savannah	119 BAKER ST	City of Savannah	32.088226	-81.121691	\$ 7,716	9.15
13	HMGP	1042-0001	City of Savannah	120 BAKER ST	City of Savannah	32.088055	-81.121311	\$ 20,949	2.76
14	HMGP	1042-0001	City of Savannah	121 BAKER ST	City of Savannah	32.088146	-81.121764	\$ 135,036	0.81
15	HMGP	1042-0001	City of Savannah	123 BAKER ST	City of Savannah	32.088051	-81.121834	\$ 5,236	13.52
16	HMGP	1042-0001	City of Savannah	124 BAKER ST	City of Savannah	32.087991	-81.121355	\$ 37,616	1.54
17	HMGP	1042-0001	City of Savannah	126 BAKER ST	City of Savannah	32.087923	-81.121396	\$ 16,652	4.69
18	HMGP	1042-0001	City of Savannah	130 BAKER ST	City of Savannah	32.087769	-81.121518	\$ 16,916	4.44
19	HMGP	1042-0001	City of Savannah	132 BAKER ST	City of Savannah	32.087676	-81.121596	\$ 18,668	3.43
20	HMGP	1042-0001	City of Savannah	201 FELL ST	City of Savannah	32.087073	-81.121565	\$ 21,896	1.69
21	HMGP	1042-0001	City of Savannah	203 FELL ST	City of Savannah	32.087002	-81.121606	\$ 5,582	5.11
22	HMGP	1042-0001	City of Savannah	205 FELL ST	City of Savannah	32.086927	-81.121646	\$ 6,793	7.38
23	HMGP	1042-0001	City of Savannah	207 FELL ST	City of Savannah	32.086875	-81.121683	\$ 15,364	3.26
24	HMGP	1042-0001	City of Savannah	209 FELL ST	City of Savannah	32.086798	-81.121738	\$ 31,616	1.83
25	HMGP	1042-0001	City of Savannah	8 JENKS ST	City of Savannah	32.088741	-81.121732	\$ 11,389	8.67
26	HMGP	1042-0001	City of Savannah	12 JENKS ST	City of Savannah	32.088659	-81.121808	\$ 9,310	4.56
27	HMGP	1042-0001	City of Savannah	14 JENKS ST	City of Savannah	32.088584	-81.121859	\$ 15,554	6.28
28	HMGP	1042-0001	City of Savannah	106 JENKS ST	City of Savannah	32.088805	-81.121681	\$ 3,126	33.03
29	HMGP	1042-0001	City of Savannah	107 JENKS ST	City of Savannah	32.088673	-81.122238	\$ 9,557	5.57
30	HMGP	1042-0001	City of Savannah	109 JENKS ST	City of Savannah	32.08864	-81.12226	\$ 9,738	7.82
31	HMGP	1042-0001	City of Savannah	111 JENKS ST	City of Savannah	32.08858	-81.122301	\$ 33,516	0.98
							\$ 631,844		3.45

HEMA acquisitions

Table 13-2, FEMA's IA Housing Inspection Surveys (Irma)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Irma WSE	Comments
0.25	First Floor	Crawl Space	225 Fell Street	SAVANNAH	32.08625	81.12203	9	11.25	FFE is 2 feet above grade

Table 13-1, Losses Avoided Calculations (Irma)

FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Irma WSE	Mental Stress and Productivity Costs	Totals
1	10.2	1008 \$	1.05	\$ 103,824	23.3	\$ 24,191	13.3	13,809	11,185	11.25	13,622 \$	62,807
2	10.29	1007 \$	0.96	\$ 103,721	23.3	\$ 24,167	13.3	13,795	11,185	11.25	13,622 \$	62,769
3	9.16	627 \$	2.09	\$ 64,581	32.1	\$ 20,731	17.9	11,560	22,370	11.25	13,622 \$	68,283
4	8.79	852 \$	2.46	\$ 87,756	32.1	\$ 28,170	17.9	15,708	22,370	11.25	13,622 \$	79,870
5	11.34	918 \$	-0.09	\$ 94,554	13.4	\$ 12,670	8.1	7,659	-	11.25	13,622 \$	33,951
6	9.09	672 \$	2.16	\$ 69,216	32.1	\$ 22,218	17.9	12,390	22,370	11.25	13,622 \$	70,600
7	9.49	1142 \$	1.76	\$ 117,626	32.1	\$ 37,758	17.9	21,055	22,370	11.25	13,622 \$	94,805
8	8.7	672 \$	2.55	\$ 69,216	40.1	\$ 27,756	22	15,228	33,556	11.25	13,622 \$	90,161
9	8.57	744 \$	2.68	\$ 76,632	40.1	\$ 30,729	22	16,859	33,556	11.25	13,622 \$	94,766
10	8.67	960 \$	2.58	\$ 98,880	40.1	\$ 39,651	22	21,754	33,556	11.25	13,622 \$	108,582
11	8.74	888 \$	2.51	\$ 91,464	40.1	\$ 36,677	22	20,122	33,556	11.25	13,622 \$	103,977
12	8.89	672 \$	2.36	\$ 69,216	32.1	\$ 22,218	17.9	12,390	22,370	11.25	13,622 \$	70,600
13	10.11	875 \$	1.14	\$ 90,125	23.3	\$ 20,999	13.3	11,987	11,185	11.25	13,622 \$	57,793
14	10.62	2240 \$	0.63	\$ 230,720	23.3	\$ 53,758	13.3	30,686	11,185	11.25	13,622 \$	109,251
15	9.63	676 \$	1.62	\$ 69,628	32.1	\$ 22,351	17.9	12,463	22,370	11.25	13,622 \$	70,806
16	9.95	875 \$	1.30	\$ 90,125	23.3	\$ 20,999	13.3	11,987	11,185	11.25	13,622 \$	57,793
17	9.13	816 \$	2.12	\$ 84,048	32.1	\$ 26,979	17.9	15,045	22,370	11.25	13,622 \$	78,016
18	8.99	760 \$	2.26	\$ 78,280	32.1	\$ 25,128	17.9	14,012	22,370	11.25	13,622 \$	75,132
19	10.73	1040 \$	0.52	\$ 107,120	23.3	\$ 24,959	13.3	14,247	11,185	11.25	13,622 \$	64,013
20	10.84	1056 \$	0.41	\$ 108,768	13.4	\$ 14,575	8.1	8,810	-	11.25	13,622 \$	37,007
21	10.76	672 \$	0.49	\$ 69,216	13.4	\$ 9,275	8.1	5,606	-	11.25	13,622 \$	28,503
22	10.46	672 \$	1.03	\$ 69,216	23.3	\$ 16,127	13.3	9,206	11,185	11.25	13,622 \$	50,140
23	10.6	672 \$	0.65	\$ 69,216	23.3	\$ 16,127	13.3	9,206	11,185	11.25	13,622 \$	50,140
24	10.46	873 \$	0.79	\$ 89,919	23.3	\$ 20,951	13.3	11,959	11,185	11.25	13,622 \$	57,718
25	8.68	806 \$	2.57	\$ 83,018	40.1	\$ 33,290	22	18,264	33,556	11.25	13,622 \$	98,732
26	10.45	468 \$	0.80	\$ 48,204	23.3	\$ 11,232	13.3	6,411	11,185	11.25	13,622 \$	42,450
27	9.07	1198 \$	2.18	\$ 123,394	32.1	\$ 39,609	17.9	22,088	22,370	11.25	13,622 \$	97,689
28	9.45	1306 \$	1.80	\$ 134,518	32.1	\$ 43,180	17.9	24,079	22,370	11.25	13,622 \$	103,251
29	9.8	755 \$	1.45	\$ 77,765	23.3	\$ 18,119	13.3	10,343	11,185	11.25	13,622 \$	53,269
30	9.73	780 \$	1.52	\$ 80,340	32.1	\$ 25,789	17.9	14,381	22,370	11.25	13,622 \$	76,162
31	11.11	872 \$	0.14	\$ 89,816	13.4	\$ 12,035	8.1	7,275	-	11.25	13,622 \$	32,932
				\$ 782,420		\$ 440,381		\$ 536,890			\$ 422,282	\$ 2,181,972

Table 14-1, Acquisitions in the Cuyler/Brownsville Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI		
HMA acquisitions	1	FMA	1997	City of Savannah	1247 W 42nd Street	Savannah	32.057308	-81.118076	36,646	1.62
	2	FMA	1997	City of Savannah	2372 Ogeechee Road	Savannah	32.057533	-81.118389	81,791	0.68
	3	FMA	1997	City of Savannah	1245 West 42nd Street	Savannah	32.057267	-81.117905	31,992	2.79
	4	HMG	1033	City of Savannah	2343 Ogeechee Rd	Savannah	32.05788	-81.118882	62,458	0.56
	5	HMG	1033	City of Savannah	2345 Ogeechee Rd	Savannah	32.057856	-81.119196	44,609	0.78
	6	HMG	1033	City of Savannah	1251 W 42nd St	Savannah	32.057348	-81.11826	33,013	2.36
	7	HMG	1033	City of Savannah	1241 W 42nd St	Savannah	32.057227	-81.117721	62,356	1.04
	8	HMG	1033	City of Savannah	2380 Ogeechee Rd	Savannah	32.057492	-81.119121	68,887	0.63
	9	HMG	1033	City of Savannah	2376 Ogeechee Rd	Savannah	32.057533	-81.118547	65,662	0.63
							\$	487,414	1.03	

Table 14-2, FEMA's IA Housing Inspection Surveys (Irma)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Irma WSE	Comments
0.92	First Floor	Crawl Space	1239 W 42nd Ave	SAVANNAH	32.05722	-81.1176	6	8.92	FFE is 2 feet above grade

Table 14-1, Losses Avoided Calculations (Irma)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Irma WSE	Mental Stress and Productivity Costs	Totals		
1	7.7	912	\$ 103	1.22	\$ 93,936	23.3	\$ 21,887	13.3	12,493	11,185	8.92	13,622	\$ 59,188		
2	7.8	828	\$ 103	1.12	\$ 85,284	23.3	\$ 19,871	13.3	11,343	11,185	8.92	13,622	\$ 56,021		
3	6.6	1037	\$ 103	2.32	\$ 106,811	32.1	\$ 34,286	17.9	19,119	22,370	8.92	13,622	\$ 89,398		
4	8.9	959	\$ 103	0.02	\$ 98,777	13.4	\$ 13,236	8.1	8,001	-	8.92	13,622	\$ 34,859		
5	8.9	959	\$ 103	0.02	\$ 98,777	13.4	\$ 13,236	8.1	8,001	-	8.92	13,622	\$ 34,859		
6	7.9	1406	\$ 103	1.02	\$ 144,818	23.3	\$ 33,743	13.3	19,261	11,185	8.92	13,622	\$ 77,811		
7	7.6	1063	\$ 103	1.32	\$ 109,489	23.3	\$ 25,511	13.3	14,562	11,185	8.92	13,622	\$ 64,880		
8	8.72	1352	\$ 103	0.20	\$ 139,256	13.4	\$ 18,660	8.1	11,280	-	8.92	13,622	\$ 43,562		
9	9.27	1258	\$ 103	-0.35	\$ 129,574	13.4	\$ 17,363	8.1	10,495	-	8.92	13,622	\$ 41,480		
										\$	114,555	\$	122,598	\$	502,058

Table 15-1. Acquisitions in the West Lake Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI	
HMA acquisitions	1 PDM	2005	Chatham County	1907 Blue Jay Ave.	Savannah	32.034449515	-81.1401825	\$ 93,991	0.53
	2 PDM	2005	Chatham County	1909 Blue Jay Ave.	Savannah	32.03442095	-81.14030347	\$ 93,991	0.53
	3 PDM	2005	Chatham County	1915 Blue Jay Ave.	Savannah	32.0344634	-81.14082531	\$ 80,491	0.62
	4 PDM	2005	Chatham County	1918 Blue Jay Ave.	Savannah	32.03499765	-81.14089417	\$ 87,241	0.57
	5 PDM	2005	Chatham County	1920 Blue Jay Ave.	Savannah	32.0350647	-81.1410623	\$ 84,086	0.50
	6 PDM	2005	Chatham County	1921 Blue Jay Ave.	Savannah	32.03477755	-81.14116105	\$ 86,491	0.33
	7 PDM	2005	Chatham County	1922 Blue Jay Ave.	Savannah	32.03514685	-81.1412606	\$ 90,491	0.46
	8 PDM	2005	Chatham County	1923 Blue Jay Ave.	Savannah	32.03484958	-81.14133842	\$ 79,491	0.08
	9 PDM	2005	Chatham County	1923 Westlake Ave.	Savannah	32.0355116	-81.14126274	\$ 83,741	0.10
	10 PDM	2005	Chatham County	1924 Blue Jay Ave.	Savannah	32.03519012	-81.14140745	\$ 91,490	0.07
	11 PDM	2005	Chatham County	1932 Blue Jay Ave.	Savannah	32.0354804	-81.14250743	\$ 81,497	0.08
	12 PDM	2005	Chatham County	1933 Blue Jay Ave.	Savannah	32.03521218	-81.14262105	\$ 83,491	0.08
							\$ 1,036,492	0.34	

Table 15-2. FEMA's IA Housing Inspection Surveys (Matthew)

HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Irma WSE	Comments
First Floor Slab		West Lake Apts 1,13,35,36,100	SAVANNAH				15.57	5 properties avg flood deth .43 feet less than Matthew
							Average WSE	15.57

Table 15-1. Losses Avoided Calculations (Irma)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Irma WSE	Mental Stress and Productivity Costs	Totals	
1	15.58	1650	\$ 103	-0.01	\$ 169,950	13.4	\$ 22,773.30	8.1	13,766	-	15.57	13,622	\$ 50,161	
2	15.51	1650	\$ 103	0.06	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	15.57	13,622	\$ 50,161	
3	15.61	1650	\$ 103	-0.04	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	15.57	13,622	\$ 50,161	
4	15.69	1650	\$ 103	-0.12	\$ 169,950	13.4	\$ 22,773	8.1	13,766	-	15.57	13,622	\$ 50,161	
5	15.51	1300	\$ 103	0.06	\$ 133,900	13.4	\$ 17,943	8.1	10,846	-	15.57	13,622	\$ 42,411	
6	16.07	1278	\$ 103	-0.50	\$ 131,634	13.4	\$ 17,639	8.1	10,662	-	15.57	13,622	\$ 41,923	
7	15.77	1278	\$ 103	-0.20	\$ 131,634	13.4	\$ 17,639	8.1	10,662	-	15.57	13,622	\$ 41,923	
8	16.32	1300	\$ 103	-0.75	\$ 133,900	2.5	\$ 3,348	2.4	3,214	-	15.57	-	\$ 6,561	
9	16.18	1650	\$ 103	-0.61	\$ 169,950	2.5	\$ 4,249	2.4	4,079	-	15.57	-	\$ 8,328	
10	16.2	1278	\$ 103	-0.63	\$ 131,634	2.5	\$ 3,291	2.4	3,159	-	15.57	-	\$ 6,450	
11	16.63	1300	\$ 103	-1.06	\$ 133,900	2.5	\$ 3,348	2.4	3,214	-	15.57	-	\$ 6,561	
12	16.41	1300	\$ 103	-0.84	\$ 133,900	2.5	\$ 3,348	2.4	3,214	-	15.57	-	\$ 6,561	
										\$ 104,113	\$	\$ 81,732	\$ 347,741	
										\$ 161,896				

Table 16-1. Acquisitions in the Carver Heights Neighborhood

Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	Costs	ROI
HMA acquisitions	1	HMGP	1310 Stokes St	Savannah	32.0752	-81.118418	\$ 41,837	1.28
	2	HMGP	1012 Stokes St	Savannah	32.074719	-81.116685	\$ 40,181	0.14
	3	HMGP	1008 Stokes St	Savannah	32.074412	-81.115639	\$ 58,857	0.11
	4	HMGP	1006 Stokes St	Savannah	32.074454	-81.115822	\$ 37,213	0.15
	5	HMGP	1029 Stokes St	Savannah	32.074542	-81.117256	\$ 53,894	0.11
	6	HMGP	1011 Stokes St	Savannah	32.074299	-81.116268	\$ 36,232	0.91
	7	LPDM	2008 City of Savannah	1010 Stokes St	Savannah	32.07451	-81.1116	\$ 21,725
							\$ 289,938	0.48

Table 16-2. FEMA's IA Housing Inspection Surveys (Irma)

HWM	HWM Location	Foundation	Address	City	Latitude	Longitude	Ground Elevation	Irma WSE	Comments
0.33	First Floor	Slab	1311 Stokes	SAVANNAH			9	9.58	FFE is 3 inches above grade

Table 16-1. Losses Avoided Calculations (Irma)

Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Irma WSE	Mental Stress and Productivity Costs	Totals
1	8.7	768	\$ 103	0.88	\$ 79,104	23.3	\$ 18,431	13.3	10,521	11,185	9.58	13,622	\$ 53,759
2	10.7	1102	\$ 103	-1.12	\$ 113,506	2.5	\$ 2,838	2.4	2,724	-	9.58	-	\$ 5,562
3	10.8	1283	\$ 103	-1.22	\$ 132,149	2.5	\$ 3,304	2.4	3,172	-	9.58	-	\$ 6,475
4	10.3	1100	\$ 103	-0.72	\$ 113,300	2.5	\$ 2,833	2.4	2,719	-	9.58	-	\$ 5,552
5	10.6	1134	\$ 103	-1.02	\$ 116,802	2.5	\$ 2,920	2.4	2,803	-	9.58	-	\$ 5,723
6	9.3	879	\$ 103	0.28	\$ 90,537	13.4	\$ 12,132	8.1	7,333	-	9.58	13,622	\$ 33,087
7	9.8	660	\$ 103	-0.22	\$ 67,980	13.4	\$ 9,109	8.1	5,506	-	9.58	13,622	\$ 28,238
											\$ 34,779	\$ 40,866	\$ 138,397

Totals	Properties
	59

Costs	ROI
\$ 2,445,688	1.30

Losses Avoided
\$ 3,170,168



Photo: Cheryl McDaniel

Loss Avoidance Study Property Acquisitions located in Savannah, Georgia



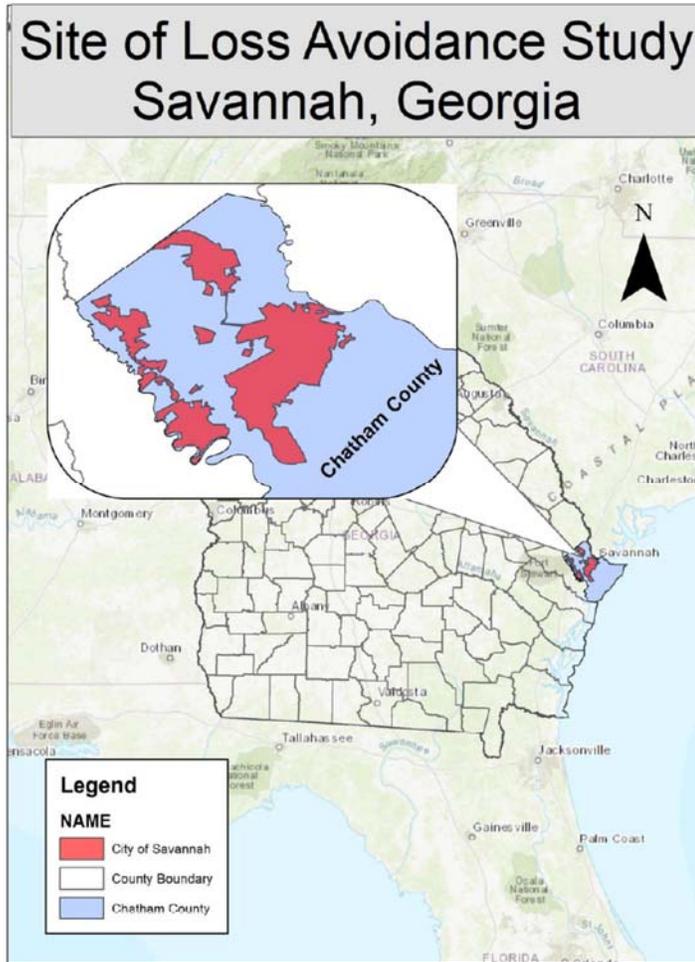
FEMA

DR-8284-GA, Hurricane Matthew

DR-4338-GA, Hurricane Irma

September 2018





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<http://www.ajc.com/entertainment/savannah-walloped-tybee-island-swamped-irma/YvLcqdkYlhAwqaSTACnw2O/>

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Figure 1.1, Margaret Street Neighborhood Map

Figure 2.1, Bonnie Drive Map

Figure 3.1, Woodley Avenue Map

Figure 4.1, Wilshire Boulevard Map

Figure 5.1, Nina Court Map

Index of Acronyms

BCA - Benefit Cost Analysis

BRV - Building replacement value

EDW - Enterprise Database Warehouse

DDF - Depth damage function

FFE - First floor elevations

FEV - Flood Event Viewer

FMA - Flood Mitigation Assistance Program

FEMA - Department of Homeland Security's Federal Emergency Management Agency

GSA – General Services Administration

GEMA/HS - Georgia Emergency Management & Homeland Security Agency

GMIS - Georgia Mitigation Information System

HMA - Hazard Mitigation Assistance

HMGP - Hazard Mitigation Grant Program

HWM - High water mark

IA - Individual Assistance

LAS - Loss Avoidance Study

MAP - Mitigation Action Plan

PDM - Pre-Disaster Mitigation Program

SHMO - State Hazard Mitigation Officer

SLOSH - Seismic, Sea, Lake, and Overland Surges from Hurricanes

SFHA - Special Flood Hazard Area

STAPLEE - Social, Technical, Administrative, Political, Legal, Economic, and Environmental

USACE - The US Army Corps of Engineers

USGS - US Geological Survey

WSE - Water surface elevation

Executive Summary

The Georgia State Hazard Mitigation Officer (SHMO) requested a loss avoidance study to be included in the DR-4338 Hazard Mitigation Joint Implementation Strategy. The request was to study effectiveness of the Hazard Mitigation Assistance (HMA) grant funds used to remove structures from high-risk flood areas in Chatham County, Georgia. Both the State of Georgia Enhanced Mitigation Plan and the Chatham County Mitigation Plan include acquisition of properties in flood-prone areas as an objective.

This study included 94 properties acquired with HMA grants (Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and Pre-Disaster Mitigation Program) since 1997 in Savannah, GA. The studied properties were acquired for a cost of \$8.2 million. The calculated losses avoided are \$6.6 million from Hurricane Matthew in 2016. The losses avoided ratio is 0.81. This means for every dollar invested in the property acquisition, \$0.81 in damages was avoided from this single event. The calculated losses avoided is \$5.4 million from Hurricane Irma in 2017. The losses avoided ratio is 0.66. This means for every dollar invested in the property acquisition, \$0.66 in damages was avoided from this single event. However, the savings will not stop with Hurricanes Matthew and Irma. Because these structures have been permanently removed from high risk flood areas, the losses avoided will continue to add up with every flooding event into perpetuity.

Introduction

Following two hurricanes in consecutive years, Hurricane Matthew (2016) and Hurricane Irma (2017), that impacted the same coastal Georgia counties and led to two major disaster declarations (DR-4284-GA and DR-4338-GA), the Georgia Emergency Management & Homeland Security Agency (GEMA/HS) requested the Department of Homeland Security's Federal Emergency Management Agency (FEMA) conduct a Loss Avoidance Study (LAS) to assess the effectiveness of acquisition projects in impacted areas of Savannah, Georgia. The hurricane events were analyzed to determine the Loss Avoidance Ratio, which is the losses that were avoided compared to the grant resources invested.

Background

Mitigation is defined by FEMA as any sustained action taken to reduce or eliminate long-term risk to people and property from hazards and their effects. Every year, FEMA provides States and communities access to grants for projects that will reduce or eliminate risks from natural hazards. HMA grants include post-disaster grants under the Hazard Mitigation Grant Program (HMGP) and pre-disaster grants under the Pre-Disaster Mitigation Program (PDM) and the Flood Mitigation Assistance Program (FMA).

Acquisition and demolition or relocation of structures, particularly those in mapped Special Flood Hazard Areas (SFHA), are eligible for HMA grants. An acquisition and demolition project includes the purchase of land and structure, demolition or relocation of the structure, removal of utilities and deed restriction of the land as open space for perpetuity. The open space is returned to the natural floodplain and may be used for compatible and limited purposes such as outdoor recreational activities if so desired by the local government and approved by FEMA. FEMA considers this type of mitigation to be 100 percent effective against future property damages.

The Georgia Enhanced State Hazard Mitigation Plan

The Georgia Enhanced State Hazard Mitigation Plan was approved on March 31, 2014 and expires on March 30, 2019. Since 2008 Georgia has had an Enhanced State Plan which makes Georgia eligible for up to 20% funding in the HMGP (15% is standard State Plan). In addition to inland flooding, coastal hazards and dam failures may result in the submission of acquisition grant applications. The Georgia Mitigation Information System (GMIS) is used to provide updated mapping to local communities for the flood, wildfire, landslide, Seismic, Sea, Lake, and Overland Surges from Hurricanes (SLOSH) and wind hazards. Georgia is dedicated to providing support and guidance to the counties and communities in the development of hazard mitigation plans to ensure a more disaster resilient state. The mitigation action plan includes the support of local government cost-effective requests for project funding through available grant opportunities. These grants can be used to mitigate repetitive loss properties with priority given to severe repetitive loss properties and removal of repetitive loss properties from the regulatory floodway. Georgia makes assisting local communities with eligible acquisition/elevation, flood proofing, and storm water projects a high priority. The Georgia Enhanced State Hazard Mitigation Plan includes, by county, an assessment of hazards and social vulnerability.

The Chatham County Hazard Mitigation Plan

The Chatham County Hazard Mitigation Plan was approved on February 5, 2016 and expires on February 4, 2021. All the participating jurisdictions have adopted the plan, which includes the Cities of Bloomingdale, Garden City, Pooler, Port Wentworth, Savannah, Tybee Island and the Town of Thunderbolt. Chatham County has a composite hazard and social vulnerability score of 15.3, which is the highest score for the State of Georgia. The composite assessment is a compilation of the social vulnerability scores and the hazard risk score for Storm Surge, Wind, Flood, Wildfire, and Earthquake. The values, ranging from 0 to 20 represent the least to the most hazardous areas in the state, respectively. Identified hazards which could potentially cause a community to request acquisition grants are flood, storm surge, sea level rise, and hurricane/tropical storm. To prioritize the Mitigation Action Plan (MAP) for each participating jurisdiction, a Priority Risk Index, along with STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria, was used to identify each hazard as a high, moderate, or low risk. Goals and mitigation strategies were then developed from this risk assessment. The mitigation action “Promote the acquisition by conservation organizations of flood areas for community green space” is prioritized as low.

Since 1997, FEMA, GEMA/HS, and the City of Savannah have invested \$24.45 million for the acquisition and demolition of 347 properties. This study included 94 properties acquired with HMA grants (Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and Pre-Disaster Mitigation Program) since 1997 in Savannah, GA

History

Chatham County, one of the original counties in the State of Georgia was created February 5, 1777. In this coastal Georgia County, there are several cities and towns including the City of Savannah and six inhabited islands. The county is bounded by water on three sides with the Savannah River to the north, Ogeechee River to the south, and the Atlantic Ocean to the east resulting in 32.6% of the total area of the county being covered by water. Its population of 265,128 residents as reported by the 2010 U.S. Census reside within the county’s 632 square miles.

Prior to 2016, the Georgia coast had experienced no major hurricanes since the late 1800s. The last hurricane to cause any impacts to the Georgia coast was Hurricane David which hit on September 4-5, 1979. Hurricane David was a Category 2 storm that reportedly did minimal damage. Hurricane David brought sustained winds of 58 mph (gusts of 68 mph), 6.86 inches of rain, and a storm surge of 12 feet above mean sea level. (National Weather Service. (1979)) Prior to David, the Georgia coast experienced nearly a century long stretch without a tropical storm. During the 19th Century, records indicate six major hurricanes impacted the Georgia coast: one each in 1804, 1813, 1824, 1854, 1893, and 1898. Of particular note, the August 1893 Sea Islands hurricane was blamed for thousands of deaths in Georgia and South Carolina.

”Landfall just south of Savannah, GA as a Cat 3 hurricane. Moved north-northeast through the SC Midlands and weakened into a Cat 1 hurricane before reaching Columbia, SC. The storm hit near high tide and produced a catastrophic storm surge of 16+ feet, wind gusts greater than 115 mph, significant damage northward through around Charleston and ~2,000 deaths (mostly due to the storm surge). Downtown Savannah was spared complete inundation. The storm

essentially marked the beginning of the end of the phosphate industry in the area.”
(Weather.gov)

Hurricane Matthew

On October 5th 2016, Hurricane Matthew traveled in a parallel path with the southern U.S. Atlantic coast, eventually making U.S. landfall near Myrtle Beach, SC as a Category 1 storm. This storm killed 47 people in the U.S. including three in Georgia. The center of Matthew remained off shore, 20 miles east of Tybee Island. As Matthew passed, the eastern portions of Chatham County experienced sustained hurricane force winds. Two-hundred fifty thousand people in Georgia were left without power, and Street Simons Island near Brunswick was completely cut off from the coast. Over the area affected by the storm, 2.1 million cubic yards of vegetative debris was generated. Damages to homes and businesses in Georgia alone was greater than \$90 million in insured losses, and included 30,000 claims. (Wenk 2016)

In Savannah and Chatham County, mass evacuations took tens of thousands of people away from their homes during the storm. Those who stayed endured overnight curfews and the Red Cross transported over 20,000 to safety shelters. High winds, heavy rains and storm surge coupled with tidal flows, damaged and flooded neighborhoods. Many large and majestic live oak trees throughout the city blocked streets and tore down electrical poles and wires causing problems for home and business owners for several days. Damage to Savannah and Tybee Island was significant, but not devastating. Bridges that would normally return evacuees to their homes were blocked by debris causing delays in the return to homes and businesses and frustrating owners.

Hurricane Irma

Hurricane Irma, in 2017, was the second major hurricane, and the first Category 5 hurricane of the 2017 Atlantic hurricane season. Irma's intensity dropped slightly before it made its first U.S. landfall on September 10 near Cudjoe Key, FL with maximum sustained winds at 130 mph. As a slightly weakened Irma, it made a second U.S. landfall, the same day, at Marco Island, FL then weakened and moved north, up the Florida peninsula and into South Georgia.

Prior to landfall, the Georgia Governor Nathan Deal declared a state of emergency initially for all six coastal counties and eventually expanded this to cover 30 counties in southeast and east central Georgia. Later, a mandatory evacuation order was issued for all areas east of U.S. I-95. In the end, the state of emergency was expanded to cover 94 counties south of Atlanta. By the end of the event, over a half-million people on the Georgia coast were displaced by mandatory evacuation orders. On September 10, Governor Deal expanded the state of emergency to cover the entire state.

Irma entered Georgia as a strong tropical storm. Irma left 1.5 million residents in Georgia without power, and in total 45 people, including four Georgians, lost their lives due to the hurricane. High winds, large flying debris and heavy rains damaged many houses and knocked down trees, causing widespread damage to power lines. Georgia Power, along with aid provided by the Georgia National Guard, mobilized over 5000 individuals. Preliminary estimates in the early days after the storm reached \$350 million in insured damages, and untold millions in uninsured damage.

DR-4338- GA Hazard Mitigation Joint Implementation Strategy

The Joint Implementation Strategy outlines a method and process to identify and implement hazard mitigation opportunities in response to damage from flooding and wind associated with Hurricane Irma. The Georgia SHMO requested a losses avoided study to be included in the Strategy. The Georgia SHMO requested the subject of the study to be losses avoided from use of HMA grants for acquisitions and demolitions in Chatham County, Georgia. The acquisitions and demolitions were made possible through the receipt of HMGP grant funds associated with DR-1033 to DR-1761, and receipt of PDM and FMA grants funds from 2004 to 2011. There were nearly 400 property acquisitions in Chatham County during this period. This LAS selected acquisitions where Individual Assistance (IA) Housing Inspections for DR-4338-GA were in close proximity to a cluster of acquisitions. A total of 94 acquisition sites in the City of Savannah were found to be near IA inspections.

Methodology

Site Selection

High water mark (HWM) information can sometimes be established based on water gauge data collected during an event. The US Geological Survey (USGS) Flood Event Viewer (FEV), which publishes high water mark observations, was used to collect data. The USGS FEV has survey data at 17 locations in Chatham County. However, the HWM observations were not in close proximity to the areas of focus for this study, so it did not provide relevant analysis. Therefore, this study instead analyzed water depth information collected during preliminary damage assessments completed by FEMA IA teams. To select relevant sites where water depth information was recorded, a geospatial analysis was completed using topographic information and locations of property acquisitions and structures visited by IA teams.

The Savannah Area Geographic Information System (SAGIS) was used to determine the ground elevation where IA housing inspections were completed. The IA housing inspection noted the depth of water above the first floor and type of foundation of each structure. Through a comparison of ground elevations, type of foundation and water depths at all identified locations, the water surface elevation (WSE) in each neighborhood was determined. Data from locations separated from the acquisition sites by a topographical feature, such as a major roadway, was not used if it appeared the feature could cause a change in hydraulics between the sites. The WSE was then used along with the first floor elevations (FFE) reported by the State of Georgia at each acquisition site to calculate the water depth which would have occurred at each acquired property. Data from the SAGIS.org website was used to validate the FFEs provided.

Analysis

The US Army Corps of Engineers (USACE) generic depth damage function (DDF) was used to estimate the amount of structure and building contents damage expected based on the water depth. The USACE DDF estimates the amount of damage as a percentage of building replacement value (BRV) based on depth of water in the structure. The SHMO data included BRV, contents value and size of the structures acquired. The BRV provided by the SHMO appeared to be from when the acquisitions were completed; some acquisitions occurred more than 20 years ago. Therefore, to get a current estimate of losses avoided, FEMA researched the BRV on the National Home Builders website for current BRV. The latest

information available from 2015, indicated the national average cost to build a single family home is \$103/SF. This square foot cost was used with the square footage from the SHMO data to determine a current BRV. Likewise building contents was based the use of the same BRV. The FEMA BCA software defaults building contents equal to 100% of structure value. For example, an average 2000 SF home with a \$206,000 structure value and \$206,000 contents value with 2 feet flood water depth would have structural damage of 32.1% BRV ($\$206,000 \times 0.321 = \$66,126$) and content damage of 17.9% BRV ($\$206,000 \times 0.179 = \$36,874$). The DDF values are included in Table 1-0.

When a flooding event occurs, residents are frequently displaced to a temporary location until repairs are made to residences. These displacement costs are estimates based on GSA lodging rates (\$117/night), meal and incidental expenses (\$59/person/day) less the costs for meals prepared at home (\$7/person/day) for the specific location. The duration of displacement attributed to repairing a flooded home is estimated at 45 days/foot water depths. In this loss avoidance study, it is assumed there would be 2 people and 1 worker for each property or \$221/day displacement costs. For the average home mentioned above the total displacement cost is $\$221/\text{day} \times 45 \text{ days/foot} \times 2 \text{ foot water depth}$ for a total of \$19,890.

In addition to the building repairs, content replacement, and displacement costs, there is an economic value for the mental stress and anxiety and lost productivity experienced by the residents of a flooded structure. The values are \$2443/person for mental stress and anxiety, and \$8736/worker for lost productivity. For the average home mentioned above the total mental stress and anxiety and lost productivity cost is $2 \times \$2,443$ plus \$8,736 for a total of \$13,622.

The total losses avoided are the summation of building repairs (\$66,126), content replacement (\$36,874), displacement costs (\$19,890), and mental stress and anxiety and lost productivity (\$13,622). For the average home mentioned above the total damage resulting in 2 feet water depth is \$136,512.

The measure of the effectiveness of the projects in the study is compared against the total project costs. Total project costs include the property's fair market value, demolition costs, appraisal fees, real estate fees, and other typical fees associated with an acquisition. The total project costs were provided by the GA SHMO and pulled from FEMA Enterprise Database Warehouse (EDW).

Results

Selected Properties

This study analyzed water depth information collected during preliminary damage assessments completed by IA teams. IA completed over 750 and nearly 400 housing inspections in Chatham County during Hurricanes Matthew and Irma respectively. Housing inspections without a HWM recorded were removed from the data, and the remaining inspections with a HWM were mapped geospatially to determine which inspections were located near a cluster of HMA acquisitions and could be used to determine dependable results.

The property selection produced five clusters of acquisitions and IA housing inspections where losses avoided can be determined. Each of the five clusters are detailed below.

1. Margaret Street Neighborhood

The Margaret Street Neighborhood includes 11 properties acquired by the City of Savannah. The properties were acquired with HMGP funds from DR-1042 and FY2005 PDM grants. The total project costs for the 11 properties was \$1,236,850. The GIS Map (Appendix B, Figure 1.1) shows the locations of the acquisitions, IA housing inspections, and the location of the SFHA. The details of each property acquired along Margaret Street are included in Appendix A, Table 1-1. The IA housing inspection team conducted two surveys in close proximity to the Margaret Street acquisitions. The IA housing inspection information is included in Appendix A, Table 1-2 (Matthew) and Table 1-3 (Irma).



Figure 1.2 Picture looking East, North side of Margaret Street, Photo, Kent Elrick, FEMA Reservist

A photograph of the area after the completed acquisitions is shown in Figure 1.2.

1.1 Matthew Losses

The WSE derived from the IA housing inspection is 6.67 feet. Given this WSE, the loss avoided from the acquisition of the 11 properties on Margaret Street is \$21,291. The detailed calculations of losses avoided are shown in Table 1-4. The losses avoided ratio for the Margaret Street Neighborhood is $\$21,291/\$1,236,850 = 0.04$.

1.2 Irma Losses

The WSE derived from the IA housing inspection is 10.08 feet. Given this WSE, the loss avoided from the acquisition of the 11 properties on Margaret Street is \$725,023. The detailed calculations of losses avoided are shown in Table 1-5. The losses avoided ratio for the Margaret Street Neighborhood is $\$725,023/\$1,236,850 = 0.57$.

2. Bonnie Drive Neighborhood Area

The Bonnie Drive Neighborhood area includes acquisitions on E. Derenne Avenue, Vicksburg Drive, Bonnie Drive, and LaRoche Court. The City of Savannah acquired 25 properties in the neighborhood. These selected properties were acquired with HMGP grants funds from DR-1033 to DR-1761 and FY2007 PDM grants. The total project costs for the 25 properties was \$1,783,277. The GIS Map (Appendix B, Figure 2.1) shows the locations of the acquisition, IA housing inspections, and the location of the SFHA. The details of each property acquired in the Bonnie Drive Neighborhood are included in Appendix A, Table 2-1. The IA housing inspection team conducted three surveys in close proximity to the Bonnie Drive Neighborhood acquisitions. The IA housing inspection information is included in Appendix A, Table 2-2 (Matthew) and Table 2-3 (Irma).



Figure 2.2 Picture looking East, North side of Bonnie Drive, Photo, Kent Elrick, FEMA Reservist

A photograph of the area after the completed acquisitions is shown in Figure 2.2.

2.1 Matthew Losses

The WSE derived from the IA housing inspection is 13 feet. Given this WSE, the losses avoided from the acquisition of the 25 properties in the Bonnie Drive Neighborhood is \$1,972,448. The detailed calculations of losses avoided are shown in Table 2-4. The losses avoided ratio for the Bonnie Drive Neighborhood is $\$1,972,448/\$1,783,277 = 1.11$.

2.2 Irma Losses

The WSE derived from the IA housing inspection is 11.67 feet. Given this WSE, the losses avoided from the acquisition of the 25 properties in the Bonnie Drive Neighborhood is \$1,097,697. The detailed calculations of losses avoided are shown in Table 2-5. The losses avoided ratio for the Bonnie Drive Neighborhood is $\$1,097,697/\$1,783,277 = 0.62$.

3. Woodley Road Neighborhood:

The Woodley Road Neighborhood includes acquisitions on Linwood Road, Juniper Circle, and Woodley Road. The City of Savannah acquired 31 properties in the neighborhood. These selected properties were acquired with HMGP grant funds from DR-1033 to DR-1311 and a FY2011 PDM grant. Total project costs for the 30 properties was \$2,637,193. The GIS Map (Appendix B, Figure 3.1) shows the locations of the acquisition, IA housing inspections and the location of the SFHA. The details of each property acquired in the Woodley Road Neighborhood are included in Appendix A, Table 3-1. The IA housing inspection team conducted one survey in close proximity to the Woodley Neighborhood acquisitions. The IA housing inspection information is included in Appendix A, Table 3-2 (Matthew) and Table 3-3 (Irma).



Figure 3.2 Picture of 305 Linwood Road, Photo, Kent Elrick, FEMA Reservist

A photograph of the area after the completed acquisitions is shown in Figure 3.2.

3.1 Matthew Losses

The WSE derived from the IA housing inspections is 17.08 feet. Given this WSE, the losses avoided from the acquisition of the 31 properties in the Woodley Road Neighborhood is \$994,005. The detailed calculations of losses avoided are shown in Table 3-4. The losses avoided ratio for the Woodley Road Neighborhood is $\$1,510,083/2,637,193 = 0.57$.

3.2 Irma Losses

The WSE derived from the IA housing inspections is 15.08 feet. Given this WSE, the losses avoided from the acquisition of the 31 properties in the Woodley Road Neighborhood is \$80,924. The detailed calculations of losses avoided are shown in Table 3-5. The losses avoided ratio for the Woodley Road Neighborhood is $\$80,924/2,637,193 = 0.03$.

4. Wilshire Boulevard Neighborhood:

The Wilshire Boulevard Neighborhood includes acquisitions on Vineyard Drive and Wilshire Boulevard. The City of Savannah acquired 10 properties in the neighborhood. These selected properties were acquired with HMGP grant funds and FY2004 FMA grant funds. Total project costs for acquisitions of the 11 properties is \$986,179. The GIS Map (Appendix B, Figure 4.1) shows the locations of the acquisitions, IA housing inspections and the location of the SFHA. The details of each property acquired in the Wilshire Boulevard Neighborhood are included in Appendix A, Table 4-1. The IA housing inspection conducted two surveys in close proximity to the Wilshire Boulevard Neighborhood acquisitions. The IA housing inspection information is included in Appendix A, Table 4-2 (Matthew) and Table 4-3 (Irma).



Figure 4.2 Picture of 117 Wilshire Road, Photo, Kent Elrick, FEMA Reservist

A photograph of the area after the completed acquisitions is shown in Figure 4.2.

4.1 Matthew Losses

The WSE derived from the IA housing inspections is 23.17 feet. Given this WSE, the losses avoided from the acquisitions of the 31 properties in the Woodley Road Neighborhood are \$2,950,263. The detailed calculations of losses avoided are shown in Table 4-4. The losses avoided ratio for the Woodley Road Neighborhood is $\$2,950,263/\$986,179 = 2.99$.

4.2 Irma Losses

The WSE derived from the IA housing inspections are 20.67 feet. Given this WSE, the losses avoided from the acquisition of the 31 properties in the Woodley Road Neighborhood are \$2,551,179. The detailed calculations of losses avoided are shown in Table 4-5. The losses avoided ratio for the Woodley Road Neighborhood is $\$2,659,008/\$986,179 = 2.70$.

5. Nina Court Neighborhood:

The Nina Court Neighborhood includes Wesley Street, Kandlewood Street, Chatham Street, Nina Court and Paradise Drive. The City of Savannah acquired 15 properties in the neighborhood. These selected properties were acquired with HMGP grant funds from DR-1033 to DR-1311 and FY2011 PDM grant funds. Total project costs for the 15 properties was \$1,503,159. The GIS Map (Appendix B, Figure 5.1) shows the locations of the acquisitions, IA housing inspections and the location of the SFHA. The details of each property acquired in the Nina Court Neighborhood is included in Appendix A, Table 5-1. The IA housing inspection team conducted two surveys in close proximity to the Nina Court Neighborhood acquisitions. The IA housing inspection information is included in Appendix A, Table 5-2 (Matthew) and Table 5-3 (Irma).



Figure 5.2 Picture of 7 Nina Court, Photo, Kent Elrick, FEMA Reservist

A photograph of the area after the completed acquisitions is shown in Figure 5.2.

5.1 Matthew Losses

The WSE derived from the IA housing inspections is 11.58 feet. Given this WSE, the losses avoided from the acquisition of the 15 properties in the Nina Court Neighborhood are \$105,823. The detailed calculations of losses avoided are shown in Table 5-4. The losses avoided ratio for the Nina Court Neighborhood is $\$105,823/\$1,505,159 = 0.07$.

5.2 Irma Losses

The WSE derived from the IA housing inspections is 13.93 feet. Given this WSE, the losses avoided from the acquisition of the 15 properties in the Nina Court Neighborhood are \$861,305. The detailed calculations of losses avoided are shown in Table 5-5. The losses avoided ratio for the Nina Court Neighborhood is $\$861,305/\$1,505,159 = 0.57$.

Conclusion

FEMA, the State of Georgia and City of Savannah have funded the acquisition of 347 properties in Savannah, GA at the cost of \$24.45 million. This study analyzed avoided losses from Hurricanes Irma and Matthew for 94 properties in five neighborhoods, which were acquired for \$8.2 million. The calculated losses avoided for these events due to acquisition of these properties is \$12 million. The losses avoided ratio is 1.47. A summary of losses avoided for both hurricanes is shown in Table 6-1. Table 6-2 shows the losses avoided ratio for both hurricanes.

No field survey work was completed for this study. The results of this study are based on the IA housing inspection data provided, SAGIS, and other publicly available data sources. The accuracy of the housing inspection is one inch and FFE accuracy is one foot. A more detailed and accurate study could have been completed with a field survey crew with the sole purpose to conduct a study.

Sources:

FEMA, Individual Assistance housing inspection field data. Unpublished raw data.

USGS FloodEvent Viewer, <https://stn.wim.usgs.gov/FEV/#IrmaSeptember2017>.

State of Georgia, Hazard Mitigation Assistance acquisitions. Unpublished raw data.

[Savannah Area Geographic Information System, http://www.sagis.org/Home/Map](http://www.sagis.org/Home/Map).

Bynum, R. (May 27, 2012). Researchers to dig into Georgia hurricane history, *SavannahNow*. Retrieved from <http://savannahnow.com/hurricane-guide/2012-05-27/researchers-dig-georgia-hurricane-history>.

Taylor, H. (Nov. 2, 2015). Cost of Constructing a Home, *National Association of Home Builders Special Studies*, Retrieved from <http://www.nahbclassic.org/generic.aspx?genericContentID=248306>.

Siniavskaia, N. (Oct. 1, 2014). Regional Differences in New Homes Started in 2013, *National Association of Home Builders Special Studies*, Retrieved from <https://www.nahb.org/en/research/housing-economics/special-studies/regional-differences-in-new-homes-started-in-2013.aspx>.

[U.S. Army Corps of Engineers, \(2003\). Economic Guidance Memorandum \(EGM\) 04-01, Generic Depth-Damage Relationships for Residential Structures with Basements. Retrieved from https://www.nrcs.usda.gov/wps/PA_NRCSCconsumption/download/?cid=nrcs143_009848&ext=doc](https://www.nrcs.usda.gov/wps/PA_NRCSCconsumption/download/?cid=nrcs143_009848&ext=doc).

U.S. Census Bureau. (2016). Quick Facts Chatham County Georgia. Retrieved from <https://www.census.gov/quickfacts/fact/table/chathamcountygeorgia/PST045216>

National Weather Service. (1979). Hurricane David Report. Retrieved from http://www.nhc.noaa.gov/archive/storm_wallets/atlantic/atl1979-prelim/david/

Tropical Cyclone History for Southeast South Carolina and Northern Portions of Southeast Georgia <https://www.weather.gov/chs/TChistory>

Wenk, Amy. (October 21, 2016). Hurricane Matthew damages reach \$90 million in Georgia, Retrieved from <https://www.bizjournals.com/atlanta/news/2016/10/21/hurricane-matthew-damages-reach-90-million-in.html>

Appendix A

Table 1-0, Depth-Damage Functions
 Damage Function for One Story SFR w/o basement

Depth	Mean of Damage, Structure	Mean of Damage, Contents
-2	0	0
-1	2.5	2.4
0	13.4	8.1
1	23.3	13.3
2	32.1	17.9
3	40.1	22
4	47.1	25.7
5	53.2	28.8
6	58.6	31.5
7	63.2	33.8
8	67.2	35.7

Table 1-1, Acquisitions in the Margaret Street Neighborhood

	Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude
HMA acquisitions	1 PDM	2005	City of Savannah	2305 Margaret St	Savannah	32.039663	-81.057161
	2 PDM	2005	City of Savannah	2308 Margaret St	Savannah	32.040188	-81.056969
	3 PDM	2005	City of Savannah	2309 Margaret St	Savannah	32.039802	-81.056891
	4 PDM	2005	City of Savannah	2310 Margaret St	Savannah	32.040131	-81.056785
	5 PDM	2005	City of Savannah	2311 Margaret St	Savannah	32.039755	-81.056659
	6 PDM	2005	City of Savannah	2313 Margaret St	Savannah	32.039706	-81.056403
	7 PDM	2005	City of Savannah	2320 Margaret St	Savannah	32.040032	-81.056371
	8 PDM	2005	City of Savannah	2322 Margaret St	Savannah	32.039988	-81.056209
	9 PDM	2005	City of Savannah	2328 Margaret St	Savannah	32.03997	-81.055983
	10 PDM	2005	City of Savannah	2316 Margaret St	Savannah	32.040084	-81.056542
	11 HMGP	1042	City of Savannah	2315 Margaret ST	Savannah	32.039660	-81.056163

Table 1-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Matthew WSE
	0.83	First Floor	Slab	2400 Block, 39TH ST	SAVANNAH	6	6.83
	0.50	First Floor	Slab	2400 Block, 39TH ST	SAVANNAH	6	6.50
	Average WSE						6.67

Table 1-3, FEMA's IA Housing Inspection Surveys (Irma)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Irma WSE
	0.08	First Floor	Slab	2600 Block of EVERGREEN AVE	SAVANNAH	10	10.08
	0.08	First Floor	Slab	2300 Block of E 42ND ST	SAVANNAH	10	10.08
Average WSE							10.08

Table 1-4, Losses Avoided Calculations (Matthew)

HMA Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio	
1	10	2062	\$ 103	-3.34	\$ 212,386	0	\$ -	0	-	-	-	-	157,399	0.00	
2	10.4	1530	\$ 103	-3.74	\$ 157,590	0	\$ -	0	-	-	-	-	124,027	0.00	
3	10.4	1750	\$ 103	-3.74	\$ 180,250	0	\$ -	0	-	-	-	-	141,778	0.00	
4	11.4	981	\$ 103	-4.74	\$ 101,043	0	\$ -	0	-	-	-	-	91,122	0.00	
5	8.6	1566	\$ 103	-1.94	\$ 161,298	0	\$ -	0	-	-	-	-	130,868	0.00	
6	8.7	1425	\$ 103	-2.04	\$ 146,775	0	\$ -	0	-	-	-	-	92,974	0.00	
7	8.6	1574	\$ 103	-1.94	\$ 162,122	0	\$ -	0	-	-	-	-	101,272	0.00	
8	10.9	1336	\$ 103	-4.24	\$ 137,608	0	\$ -	0	-	-	-	-	115,745	0.00	
9	7	1225	\$ 103	-0.34	\$ 126,175	13.4	\$ 16,907	8.1	10,220	-	-	27,128	110,324	0.25	
10	9.2	1296	\$ 103	-2.54	\$ 133,488	0	\$ -	0	-	-	-	-	119,464	0.00	
11	6.87	1327	\$ 103	-0.21	\$ 136,681	13.4	\$ 18,315	8.1	11,071	-	-	29,386	78,877	0.37	
(1) from sagis.org							\$ 35,223		\$ 21,291	\$ -	\$ -	\$ 56,514	\$ 1,263,850	0.04	
(2) from NAHB															

Table 1-5, Losses Avoided Calculations (Irma)

HMA Acquisition	FFE	Building SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio	
1	10	2062	\$ 103	0.08	\$ 212,386	13.4	\$ 28,460	8.1	17,203	829	13,622	60,114	157,399	0.38	
2	10.4	1530	\$ 103	-0.32	\$ 157,590	13.4	\$ 21,117	8.1	12,765	-	-	33,882	124,027	0.27	
3	10.4	1750	\$ 103	-0.32	\$ 180,250	13.4	\$ 24,154	8.1	14,600	-	-	38,754	141,778	0.27	
4	11.4	981	\$ 103	-1.32	\$ 101,043	2.5	\$ 2,526	2.4	2,425	-	-	4,951	91,122	0.05	
5	8.6	1566	\$ 103	1.48	\$ 161,298	23.3	\$ 37,582	13.3	21,453	14,752	13,622	87,409	130,868	0.67	
6	8.7	1425	\$ 103	1.38	\$ 146,775	23.3	\$ 34,199	13.3	19,521	13,757	13,622	81,099	92,974	0.87	
7	8.6	1574	\$ 103	1.48	\$ 162,122	23.3	\$ 37,774	13.3	21,562	14,752	13,622	87,710	101,272	0.87	
8	10.9	1336	\$ 103	-0.82	\$ 137,608	2.5	\$ 3,440	2.4	3,303	-	-	6,743	115,745	0.06	
9	7	1225	\$ 103	3.08	\$ 126,175	40.1	\$ 50,596	22	27,759	30,664	13,622	122,640	110,324	1.11	
10	9.2	1296	\$ 103	0.88	\$ 133,488	23.3	\$ 31,103	13.3	17,754	8,785	13,622	71,263	119,464	0.60	
11	6.87	1327	\$ 103	3.21	\$ 136,681	40.1	\$ 54,809	22	30,070	31,957	13,622	130,458	78,877	1.65	
(1) from sagis.org							\$ 325,760		\$ 188,414	\$ 115,495	\$ 95,354	\$ 725,023	\$ 1,263,850	0.57	
(2) from NAHB															

Table 2-1, Acquisitions in the Bonnie Drive Neighborhood

	Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude
HMA acquisitions	1	HMGP	1761	City of Savannah	2402 E Derenne Ave	Savannah	32.017889 -81.068683
	2	HMGP	1686	City of Savannah	2302 E. Derenne Ave	Savannah	32.018045 -81.069686
	3	HMGP	1686	City of Savannah	2306 E. Derenne Ave	Savannah	32.017971 -81.069433
	4	HMGP	1686	City of Savannah	2310 E. Derenne Ave	Savannah	32.017927 -81.069217
	5	HMGP	1686	City of Savannah	2312 E. Derenne Ave	Savannah	32.017848 -81.06872
	6	HMGP	1033	City of Savannah	2304 Vicksburg DR	Savannah	32.019434 -81.068510
	7	HMGP	1033	City of Savannah	2313 Vicksburg DR	Savannah	32.019047 -81.068595
	8	HMGP	1033	City of Savannah	2309 Vicksburg DR	Savannah	32.019108 -81.068697
	9	HMGP	1033	City of Savannah	2401 Vicksburg DR	Savannah	32.018871 -81.068223
	10	HMGP	1033	City of Savannah	5310 Bonnie DR	Savannah	32.018684 -81.068320
	0	HMGP	1033	City of Savannah	5314 Bonnie DR	Savannah	32.018516 -81.068383
	12	HMGP	1033	City of Savannah	5318 Bonnie DR	Savannah	32.018343 -81.068442
	13	HMGP	1033	City of Savannah	5322 Bonnie DR	Savannah	32.018186 -81.068510
	14	HMGP	1033	City of Savannah	5326 Bonnie DR	Savannah	32.018067 -81.068565
	15	HMGP	1033	City of Savannah	5 La Roche CT	Savannah	32.018075 -81.068036
	16	HMGP	1033	City of Savannah	6 La Roche CT	Savannah	32.018325 -81.067926
	17	HMGP	1033	City of Savannah	2417 Vicksburg DR	Savannah	32.018627 -81.067469
	18	HMGP	1033	City of Savannah	2415 Vicksburg DR	Savannah	32.018684 -81.067643
	19	HMGP	1033	City of Savannah	2409 Vicksburg DR	Savannah	32.018731 -81.067837
	20	HMGP	1033	City of Savannah	2405 Vicksburg DR	Savannah	32.018817 -81.068024
	21	HMGP	1033	City of Savannah	5321 Bonnie DR	Savannah	32.016150 -81.068971
	22	PDM	2007	City of Savannah	5317 Bonnie DR	Savannah	32.018312 -81.068930
	23	HMGP	1033	City of Savannah	5313 Bonnie DR	Savannah	32.018526 -81.068874
	24	HMGP	1033	City of Savannah	5309 Bonnie DR	Savannah	32.018709 -81.068777
	25	HMGP	1033	City of Savannah	5305 Bonnie DR	Savannah	32.018896 -81.068692

Table 2-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Matthew WSE
	0.33	First Floor	Slab	4900 Block of LaRoche	SAVANNAH	13	13.33
						Average WSE	13.33

Table 2-3, FEMA's IA Housing Inspection Surveys (Irma)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Irma WSE
	0.67	First Floor	Slab	5100 Block of LAROCHE AVE	SAVANNAH	11	11.67
	0.25	First Floor	Slab	2200 Block of VICKSBURG DR	SAVANNAH	12	12.95
	0.08	First Floor	Slab	2500 Block of OAK FOREST DR	SAVANNAH	11	11.08
Average WSE							11.90

Table 2-4, Losses Avoided Calculations (Matthew)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
	1	11.6	1128	\$ 103	1.73	\$ 116,184	32.1	\$ 37,295	17.9	\$ 20,797	\$ 17,205	13,622	\$ 88,919	\$ 105,191
2	10.5	1275	\$ 103	2.83	\$ 131,325	40.1	\$ 52,661	22	\$ 28,892	\$ 28,144	13,622	\$ 123,319	\$ 100,813	1.22
3	9.8	1173	\$ 103	3.53	\$ 120,819	47.1	\$ 56,906	25.7	\$ 31,050	\$ 35,106	13,622	\$ 136,684	\$ 119,194	1.15
4	10.7	1087	\$ 103	2.63	\$ 111,961	40.1	\$ 44,896	22	\$ 24,631	\$ 26,155	13,622	\$ 109,305	\$ 99,348	1.10
5	10.4	888	\$ 103	2.93	\$ 91,464	40.1	\$ 36,677	22	\$ 20,122	\$ 29,139	13,622	\$ 99,560	\$ 96,101	1.04
6	12.2	1488	\$ 103	1.13	\$ 153,264	23.3	\$ 35,711	13.3	\$ 20,384	\$ 11,238	13,622	\$ 80,954	\$ 77,092	1.05
7	11	737	\$ 103	2.33	\$ 75,911	32.1	\$ 24,367	17.9	\$ 13,588	\$ 23,172	13,622	\$ 74,749	\$ 52,225	1.43
8	11.9	734	\$ 103	1.43	\$ 75,602	23.3	\$ 17,615	13.3	\$ 10,055	\$ 14,221	13,622	\$ 55,514	\$ 56,207	0.99
9	13.2	1450	\$ 103	0.13	\$ 149,350	13.4	\$ 20,013	8.1	\$ 12,097	\$ 1,293	13,622	\$ 47,025	\$ 66,358	0.71
10	11.3	1072	\$ 103	2.03	\$ 110,416	32.1	\$ 35,444	17.9	\$ 19,764	\$ 20,188	13,622	\$ 89,018	\$ 47,644	1.87
11	11.2	1159	\$ 103	2.13	\$ 119,377	32.1	\$ 38,320	17.9	\$ 21,368	\$ 21,183	13,622	\$ 94,493	\$ 60,598	1.56
12	11.3	1262	\$ 103	2.03	\$ 129,986	32.1	\$ 41,726	17.9	\$ 23,267	\$ 20,188	13,622	\$ 98,803	\$ 63,020	1.57
13	11.45	765	\$ 103	1.88	\$ 78,795	32.1	\$ 25,293	17.9	\$ 14,104	\$ 18,697	13,622	\$ 71,716	\$ 43,206	1.66
14	12.17	909	\$ 103	1.16	\$ 93,627	23.3	\$ 21,815	13.3	\$ 12,452	\$ 11,536	13,622	\$ 59,426	\$ 61,040	0.97
15	12.1	1504	\$ 103	1.23	\$ 154,912	23.3	\$ 36,094	13.3	\$ 20,603	\$ 12,232	13,622	\$ 82,552	\$ 106,340	0.78
16	11.67	1601	\$ 103	1.66	\$ 164,903	32.1	\$ 52,934	17.9	\$ 29,518	\$ 16,509	13,622	\$ 112,582	\$ 89,852	1.25
17	11.5	726	\$ 103	1.83	\$ 74,778	32.1	\$ 24,004	17.9	\$ 13,385	\$ 18,199	13,622	\$ 69,210	\$ 50,660	1.37
18	13.77	1557	\$ 103	-0.44	\$ 160,371	13.4	\$ 21,490	8.1	\$ 12,990	\$ -	-	\$ 34,480	\$ 65,719	0.52
19	13.63	1009	\$ 103	-0.30	\$ 103,927	13.4	\$ 13,926	8.1	\$ 8,418	\$ -	-	\$ 22,344	\$ 39,753	0.56
20	14.4	1170	\$ 103	-1.07	\$ 120,510	2.5	\$ 3,013	2.4	\$ 2,892	\$ -	-	\$ 5,905	\$ 60,695	0.10
21	12.2	744	\$ 103	1.13	\$ 76,632	23.3	\$ 17,855	13.3	\$ 10,192	\$ 11,238	13,622	\$ 52,907	\$ 39,568	1.34
22	10	1128	\$ 103	3.33	\$ 116,184	40.1	\$ 46,590	22	\$ 25,560	\$ 33,117	13,622	\$ 118,889	\$ 126,051	0.94
23	11	726	\$ 103	2.33	\$ 74,778	32.1	\$ 24,004	17.9	\$ 13,385	\$ 23,172	13,622	\$ 74,183	\$ 48,561	1.53
24	11	1125	\$ 103	2.33	\$ 115,875	32.1	\$ 37,196	17.9	\$ 20,742	\$ 23,172	13,622	\$ 94,731	\$ 58,136	1.63
25	10.9	726	\$ 103	2.43	\$ 74,778	32.1	\$ 24,004	17.9	\$ 13,385	\$ 24,166	13,622	\$ 75,177	\$ 49,904	1.51
							\$ 789,848		\$ 443,645	\$ 439,271	\$ 299,684	\$ 1,972,448	\$ 1,783,277	1.11

Table 2-5, Losses Avoided Calculations (Irma)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	11.6	1128	\$ 103	0.30	\$ 116,184	13.4	\$ 15,569	8.1	\$ 9,411	\$ 2,984	13,622	\$ 41,585	\$ 105,191	0.40
2	10.5	1275	\$ 103	1.40	\$ 131,325	23.3	\$ 30,599	13.3	\$ 17,466	\$ 13,923	13,622	\$ 75,610	\$ 100,813	0.75
3	9.8	1173	\$ 103	2.10	\$ 120,819	32.1	\$ 38,783	17.9	\$ 21,627	\$ 20,885	13,622	\$ 94,916	\$ 119,194	0.80
4	10.7	1087	\$ 103	1.20	\$ 111,961	23.3	\$ 26,087	13.3	\$ 14,891	\$ 11,934	13,622	\$ 66,534	\$ 99,348	0.67
5	10.4	888	\$ 103	1.50	\$ 91,464	32.1	\$ 29,360	17.9	\$ 16,372	\$ 14,918	13,622	\$ 74,272	\$ 96,101	0.77
6	12.2	1488	\$ 103	-0.30	\$ 153,264	13.4	\$ 20,537	8.1	\$ 12,414	\$ -	-	\$ 32,952	\$ 77,092	0.43
7	11	737	\$ 103	0.90	\$ 75,911	23.3	\$ 17,687	13.3	\$ 10,096	\$ 8,951	13,622	\$ 50,356	\$ 52,225	0.96
8	11.9	734	\$ 103	0.00	\$ 75,602	13.4	\$ 10,131	8.1	\$ 6,124	\$ -	-	\$ 16,254	\$ 56,207	0.29
9	13.2	1450	\$ 103	-1.30	\$ 149,350	2.5	\$ 3,734	2.4	\$ 3,584	\$ -	-	\$ 7,318	\$ 66,358	0.11
10	11.3	1072	\$ 103	0.60	\$ 110,416	23.3	\$ 25,727	13.3	\$ 14,685	\$ 5,967	13,622	\$ 60,001	\$ 47,644	1.26
11	11.2	1159	\$ 103	0.70	\$ 119,377	23.3	\$ 27,815	13.3	\$ 15,877	\$ 6,962	13,622	\$ 64,275	\$ 60,598	1.06
12	11.3	1262	\$ 103	0.60	\$ 129,986	23.3	\$ 30,287	13.3	\$ 17,288	\$ 5,967	13,622	\$ 67,164	\$ 63,020	1.07
13	11.45	765	\$ 103	0.45	\$ 78,795	13.4	\$ 10,559	8.1	\$ 6,382	\$ 4,475	13,622	\$ 35,038	\$ 43,206	0.81
14	12.17	909	\$ 103	-0.27	\$ 93,627	13.4	\$ 12,546	8.1	\$ 7,584	\$ -	-	\$ 20,130	\$ 61,040	0.33
15	12.1	1504	\$ 103	-0.20	\$ 154,912	13.4	\$ 20,758	8.1	\$ 12,548	\$ -	-	\$ 33,306	\$ 106,340	0.31
16	11.67	1601	\$ 103	0.23	\$ 164,903	13.4	\$ 22,097	8.1	\$ 13,357	\$ 2,287	13,622	\$ 51,363	\$ 89,852	0.57
17	11.5	726	\$ 103	0.40	\$ 74,778	13.4	\$ 10,020	8.1	\$ 6,057	\$ 3,978	13,622	\$ 33,677	\$ 50,660	0.66
18	13.77	1557	\$ 103	-1.87	\$ 160,371	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 65,719	0.00
19	13.63	1009	\$ 103	-1.73	\$ 103,927	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 39,753	0.00
20	14.4	1170	\$ 103	-2.50	\$ 120,510	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 60,695	0.00
21	12.2	744	\$ 103	-0.30	\$ 76,632	13.4	\$ 10,269	8.1	\$ 6,207	\$ -	-	\$ 16,476	\$ 39,568	0.42
22	10	1128	\$ 103	1.90	\$ 116,184	32.1	\$ 37,295	17.9	\$ 20,797	\$ 18,896	13,622	\$ 90,610	\$ 126,051	0.72
23	11	726	\$ 103	0.90	\$ 74,778	23.3	\$ 17,423	13.3	\$ 9,945	\$ 8,951	13,622	\$ 49,941	\$ 48,561	1.03
24	11	1125	\$ 103	0.90	\$ 115,875	23.3	\$ 26,999	13.3	\$ 15,411	\$ 8,951	13,622	\$ 64,983	\$ 58,136	1.12
25	10.9	726	\$ 103	1.00	\$ 74,778	23.3	\$ 17,423	13.3	\$ 9,945	\$ 9,945	13,622	\$ 50,936	\$ 49,904	1.02
							\$ 461,704		\$ 268,071	\$ 149,971	\$ 217,952	\$ 1,097,697	\$ 1,783,277	0.62

Table 3-1, Acquisitions in the Woodley Road Neighborhood

	Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude
HMA acquisitions	1	HMGP	1271	City of Savannah	313 Linwood Dr	Savannah	31.975156 -81.140547
	2	HMGP	1042	City of Savannah	407 Linwood RD	Savannah	31.976134 -81.143744
	3	HMGP	1033	City of Savannah	132 Juniper CIR	Savannah	31.974920 -81.137751
	4	HMGP	1033	City of Savannah	130 Juniper CIR	Savannah	31.975179 -81.137708
	5	HMGP	1033	City of Savannah	128 Juniper CIR	Savannah	31.975314 -81.137595
	6	HMGP	1033	City of Savannah	126 Juniper CIR	Savannah	31.975381 -81.137366
	7	HMGP	1033	City of Savannah	124 Juniper CIR	Savannah	31.975449 -81.137132
	8	HMGP	1033	City of Savannah	312 Linwood RD	Savannah	31.975595 -81.140417
	9	HMGP	1033	City of Savannah	310 Linwood RD	Savannah	31.975550 -81.140149
	10	HMGP	1033	City of Savannah	308 Linwood RD	Savannah	31.975496 -81.139904
	11	HMGP	1033	City of Savannah	306 Linwood RD	Savannah	31.975420 -81.139645
	12	HMGP	1033	City of Savannah	304 Linwood RD	Savannah	31.975334 -81.139375
	13	HMGP	1033	City of Savannah	12405 Woodley RD	Savannah	31.975066 -81.138905
	14	HMGP	1033	City of Savannah	12403 Woodley RD	Savannah	31.975268 -81.138931
	15	HMGP	1033	City of Savannah	12401 Woodley RD	Savannah	31.975533 -81.139066
	16	HMGP	1033	City of Savannah	303 Woodley RD	Savannah	31.975679 -81.139345
	17	HMGP	1311	City of Savannah	327 Woodley RD	Savannah	31.976519 -81.142094
	18	HMGP	1033	City of Savannah	12404 Woodley RD	Savannah	31.975426 -81.138467
	19	HMGP	1033	City of Savannah	12406 Woodley RD	Savannah	31.975269 -81.138444
	20	HMGP	1033	City of Savannah	12408 Woodley RD	Savannah	31.975117 -81.138417
	21	HMGP	1033	City of Savannah	12410 Woodley RD	Savannah	31.974934 -81.138434
	22	HMGP	1033	City of Savannah	12412 Woodley RD	Savannah	31.974591 -81.138268
	23	PDM	2011	City of Savannah	12411 Woodley RD	Savannah	31.974919 -81.138673
	24	HMGP	1033	City of Savannah	12407 Woodley RD	Savannah	31.974749 -81.138848
	25	HMGP	1033	City of Savannah	303 Linwood RD	Savannah	31.974740 -81.139095
	26	HMGP	1033	City of Savannah	305 Linwood RD	Savannah	31.974833 -81.139426
	27	HMGP	1033	City of Savannah	307 Linwood RD	Savannah	31.974931 -81.139784
	28	HMGP	1033	City of Savannah	309 Linwood RD	Savannah	31.975033 -81.140036
	29	HMGP	1033	City of Savannah	311 Linwood RD	Savannah	31.975106 -81.140321
	30	HMGP	1033	City of Savannah	12402 Woodley RD	Savannah	31.975671 -81.138500
	31	HMGP	1311	City of Savannah	108 Juniper Cir	Savannah	31.974881 -81.135099

Table 3-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Matthew WSE
	0.08	First Floor	Slab	200 Block of Windsor	SAVANNAH	17	17.08
Average WSE							17.08

Table 3-3, FEMA's IA Housing Inspection Surveys (Irma)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Irma WSE
	0.08	First Floor	Slab	00 Block of AUSTIN DR	SAVANNAH	15	15.08
Average WSE							15.08

Table 3-4, Losses Avoided Calculations (Matthew)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	16.9	1375	\$ 103	0.18	\$ 141,625	13.4	\$ 18,978	8.1	\$ 11,472	\$ 1,790	13,622	\$ 45,861	\$ 78,704	0.58
2	16.3	1880	\$ 103	0.78	\$ 193,640	23.3	\$ 45,118	13.3	\$ 25,754	\$ 7,757	13,622	\$ 92,251	\$ 78,440	1.18
3	16.62	1754	\$ 103	0.46	\$ 180,662	13.4	\$ 24,209	8.1	\$ 14,634	\$ 4,575	13,622	\$ 57,039	\$ 80,566	0.71
4	16.03	1768	\$ 103	1.05	\$ 182,104	23.3	\$ 42,430	13.3	\$ 24,220	\$ 10,442	13,622	\$ 90,714	\$ 68,576	1.32
5	17.25	1221	\$ 103	-0.17	\$ 125,763	13.4	\$ 16,852	8.1	\$ 10,187	\$ -	-	\$ 27,039	\$ 67,566	0.40
6	16.58	1698	\$ 103	0.50	\$ 174,894	23.3	\$ 40,750	13.3	\$ 23,261	\$ 4,973	13,622	\$ 82,606	\$ 81,564	1.01
7	17.72	1200	\$ 103	-0.64	\$ 123,600	2.5	\$ 3,090	2.4	\$ 2,966	\$ -	-	\$ 6,056	\$ 65,140	0.09
8	17.51	1306	\$ 103	-0.43	\$ 134,518	13.4	\$ 18,025	8.1	\$ 10,896	\$ -	-	\$ 28,921	\$ 93,974	0.31
9	17.18	1125	\$ 103	-0.10	\$ 115,875	13.4	\$ 15,527	8.1	\$ 9,386	\$ -	-	\$ 24,913	\$ 74,835	0.33
10	16.53	1348	\$ 103	0.55	\$ 138,844	23.3	\$ 32,351	13.3	\$ 18,466	\$ 5,470	13,622	\$ 69,909	\$ 88,512	0.79
11	16.62	1510	\$ 103	0.46	\$ 155,530	13.4	\$ 20,841	8.1	\$ 12,598	\$ 4,575	13,622	\$ 51,636	\$ 98,483	0.52
12	16.95	1637	\$ 103	0.13	\$ 168,611	13.4	\$ 22,594	8.1	\$ 13,657	\$ 1,293	13,622	\$ 51,166	\$ 84,504	0.61
13	16.38	1522	\$ 103	0.70	\$ 156,766	23.3	\$ 36,526	13.3	\$ 20,850	\$ 6,961	13,622	\$ 77,960	\$ 92,395	0.84
14	17.21	1031	\$ 103	-0.13	\$ 106,193	13.4	\$ 14,230	8.1	\$ 8,602	\$ -	-	\$ 22,831	\$ 81,463	0.28
15	17.25	1323	\$ 103	-0.17	\$ 136,269	13.4	\$ 18,260	8.1	\$ 11,038	\$ -	-	\$ 29,298	\$ 86,695	0.34
16	16.59	1393	\$ 103	0.49	\$ 143,479	13.4	\$ 19,226	8.1	\$ 11,622	\$ 4,873	13,622	\$ 49,343	\$ 93,930	0.53
17	18.6	1073	\$ 103	-1.52	\$ 110,519	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 78,215	0.00
18	15.93	1150	\$ 103	1.15	\$ 118,450	23.3	\$ 27,599	13.3	\$ 15,754	\$ 11,437	13,622	\$ 68,411	\$ 99,823	0.69
19	15.89	1421	\$ 103	1.19	\$ 146,363	23.3	\$ 34,103	13.3	\$ 19,466	\$ 11,835	13,622	\$ 79,025	\$ 79,020	1.00
20	15.84	1240	\$ 103	1.24	\$ 127,720	23.3	\$ 29,759	13.3	\$ 16,987	\$ 12,332	13,622	\$ 72,699	\$ 65,930	1.10
21	16.6	1076	\$ 103	0.48	\$ 110,828	13.4	\$ 14,851	8.1	\$ 8,977	\$ 4,774	13,622	\$ 42,224	\$ 63,586	0.66
22	17.21	1484	\$ 103	-0.13	\$ 152,852	13.4	\$ 20,482	8.1	\$ 12,381	\$ -	-	\$ 32,863	\$ 92,702	0.35
23	18.3	1454	\$ 103	-1.22	\$ 149,762	2.5	\$ 3,744	2.4	\$ 3,594	\$ -	-	\$ 7,338	\$ 136,960	0.05
24	16.75	1995	\$ 103	0.33	\$ 205,485	13.4	\$ 27,535	8.1	\$ 16,644	\$ 3,282	13,622	\$ 61,083	\$ 90,057	0.68
25	15.94	1199	\$ 103	1.14	\$ 123,497	23.3	\$ 28,775	13.3	\$ 16,425	\$ 11,337	13,622	\$ 70,159	\$ 84,257	0.83
26	16	1421	\$ 103	1.08	\$ 146,363	23.3	\$ 34,103	13.3	\$ 19,466	\$ 10,741	13,622	\$ 77,931	\$ 95,011	0.82
27	16.55	1387	\$ 103	0.53	\$ 142,861	23.3	\$ 33,287	13.3	\$ 19,001	\$ 5,271	13,622	\$ 71,180	\$ 92,498	0.77
28	17.08	1444	\$ 103	0.00	\$ 148,732	13.4	\$ 19,930	8.1	\$ 12,047	\$ -	-	\$ 31,977	\$ 96,799	0.33
29	16.83	1323	\$ 103	0.25	\$ 136,269	13.4	\$ 18,260	8.1	\$ 11,038	\$ 2,486	13,622	\$ 45,406	\$ 86,232	0.53
30	16.87	1198	\$ 103	0.21	\$ 123,394	13.4	\$ 16,535	8.1	\$ 9,995	\$ 2,088	13,622	\$ 42,240	\$ 73,904	0.57
31	19.86	1195	\$ 103	-2.78	\$ 123,085	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 86,852	0.00
							\$ 697,969		\$ 411,383	\$ 128,291	\$ 272,440	\$ 1,510,083	\$ 2,637,193	0.57

Table 3-5, Losses Avoided Calculations (Irma)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	16.9	1375	\$ 103	-1.82	\$ 141,625	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 78,704	0.00
2	16.3	1880	\$ 103	-1.22	\$ 193,640	2.5	\$ 4,841	2.4	\$ 4,647	\$ -	-	\$ 9,488	\$ 78,440	0.12
3	16.62	1754	\$ 103	-1.54	\$ 180,662	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 80,566	0.00
4	16.03	1768	\$ 103	-0.95	\$ 182,104	2.5	\$ 4,553	2.4	\$ 4,370	\$ -	-	\$ 8,923	\$ 68,576	0.13
5	17.25	1221	\$ 103	-2.17	\$ 125,763	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 67,566	0.00
6	16.58	1698	\$ 103	-1.50	\$ 174,894	2.5	\$ 4,372	2.4	\$ 4,197	\$ -	-	\$ 8,570	\$ 81,564	0.11
7	17.72	1200	\$ 103	-2.64	\$ 123,600	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 65,140	0.00
8	17.51	1306	\$ 103	-2.43	\$ 134,518	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 93,974	0.00
9	17.18	1125	\$ 103	-2.10	\$ 115,875	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 74,835	0.00
10	16.53	1348	\$ 103	-1.45	\$ 138,844	2.5	\$ 3,471	2.4	\$ 3,332	\$ -	-	\$ 6,803	\$ 88,512	0.08
11	16.62	1510	\$ 103	-1.54	\$ 155,530	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 98,483	0.00
12	16.95	1637	\$ 103	-1.87	\$ 168,611	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 84,504	0.00
13	16.38	1522	\$ 103	-1.30	\$ 156,766	2.5	\$ 3,919	2.4	\$ 3,762	\$ -	-	\$ 7,682	\$ 92,395	0.08
14	17.21	1031	\$ 103	-2.13	\$ 106,193	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 81,463	0.00
15	17.25	1323	\$ 103	-2.17	\$ 136,269	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 86,695	0.00
16	16.59	1393	\$ 103	-1.51	\$ 143,479	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 93,930	0.00
17	18.6	1073	\$ 103	-3.52	\$ 110,519	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 78,215	0.00
18	15.93	1150	\$ 103	-0.85	\$ 118,450	2.5	\$ 2,961	2.4	\$ 2,843	\$ -	-	\$ 5,804	\$ 99,823	0.06
19	15.89	1421	\$ 103	-0.81	\$ 146,363	2.5	\$ 3,659	2.4	\$ 3,513	\$ -	-	\$ 7,172	\$ 79,020	0.09
20	15.84	1240	\$ 103	-0.76	\$ 127,720	2.5	\$ 3,193	2.4	\$ 3,065	\$ -	-	\$ 6,258	\$ 65,930	0.09
21	16.6	1076	\$ 103	-1.52	\$ 110,828	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 63,586	0.00
22	17.21	1484	\$ 103	-2.13	\$ 152,852	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 92,702	0.00
23	18.3	1454	\$ 103	-3.22	\$ 149,762	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 136,960	0.00
24	16.75	1995	\$ 103	-1.67	\$ 205,485	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 90,057	0.00
25	15.94	1199	\$ 103	-0.86	\$ 123,497	2.5	\$ 3,087	2.4	\$ 2,964	\$ -	-	\$ 6,051	\$ 84,257	0.07
26	16	1421	\$ 103	-0.92	\$ 146,363	2.5	\$ 3,659	2.4	\$ 3,513	\$ -	-	\$ 7,172	\$ 95,011	0.08
27	16.55	1387	\$ 103	-1.47	\$ 142,861	2.5	\$ 3,572	2.4	\$ 3,429	\$ -	-	\$ 7,000	\$ 92,498	0.08
28	17.08	1444	\$ 103	-2.00	\$ 148,732	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 96,799	0.00
29	16.83	1323	\$ 103	-1.75	\$ 136,269	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 86,232	0.00
30	16.87	1198	\$ 103	-1.79	\$ 123,394	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 73,904	0.00
31	19.86	1195	\$ 103	-4.78	\$ 123,085	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 86,852	0.00
							\$ 41,288		\$ 39,636	\$ -	\$ -	\$ 80,924	\$ 2,637,193	0.03

Table 4-1, Acquisitions in the Wilshire Blvd Neighborhood

	Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude	
HMA acquisitions	1	HMGP	1033	City of Savannah	18 Vineyard DR	Savannah	31.985041	-81.133375
	2	HMGP	1033	City of Savannah	16 Vineyard DR	Savannah	31.984967	-81.133700
	3	HMGP	1311	City of Savannah	6 Vineyard DR	Savannah	31.984796	-81.134902
	4	HMGP	1033	City of Savannah	113 Wilshire BLVD	Savannah	31.984087	-81.134827
	5	HMGP	1033	City of Savannah	117 Wilshire BLVD	Savannah	31.984221	-81.135236
	6	HMGP	1033	City of Savannah	110 Wilshire BLVD	Savannah	31.984325	-81.134233
	7	HMGP	1033	City of Savannah	108 Wilshire BLVD	Savannah	31.984259	-81.134008
	8	HMGP	1033	City of Savannah	209 Wilshire BLVD	Savannah	31.984729	-81.137217
	9	FMA	2004	City of Savannah	115 Wilshire Blvd	Savannah	31.984158	-81.135056
	10	HMGP	1271	City of Savannah	106 Wilshire Blvd	Savannah	31.98433	-81.133774
	11	HMGP	1271	City of Savannah	2 Wilshire Blvd	Savannah	31.984706	-81.135421

Table 4-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Matthew WSE
	0.17	First Floor	Slab	400 Block of Wilshire	SAVANNAH	23	23.17
Average WSE							23.17

Table 4-3, FEMA's IA Housing Inspection Surveys (Irma)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Irma WSE
	0.25	First Floor	Slab	00 Block of MONTCLAIR BLVD	SAVANNAH	20	20.25
	0.08	First Floor	Slab	00 Block of BURBANK BLVD	SAVANNAH	21	21.08
Average WSE							20.67

Table 4-4, Losses Avoided Calculations (Matthew)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	11.6	1711	\$ 103	11.57	\$ 176,233	67.2	\$ 118,429	35.7	\$ 62,915	\$ 115,064	13,622	\$ 310,029	\$ 121,274	2.56
2	11.12	1517	\$ 103	12.05	\$ 156,251	67.2	\$ 105,001	35.7	\$ 55,782	\$ 119,837	13,622	\$ 294,242	\$ 86,290	3.41
3	14.25	1320	\$ 103	8.92	\$ 135,960	67.2	\$ 91,365	35.7	\$ 48,538	\$ 88,709	13,622	\$ 242,234	\$ 80,066	3.03
4	12.8	1568	\$ 103	10.37	\$ 161,504	67.2	\$ 108,531	35.7	\$ 57,657	\$ 103,130	13,622	\$ 282,939	\$ 110,795	2.55
5	11.26	1225	\$ 103	11.91	\$ 126,175	67.2	\$ 84,790	35.7	\$ 45,044	\$ 118,445	13,622	\$ 261,901	\$ 78,942	3.32
6	12.07	1632	\$ 103	11.10	\$ 168,096	67.2	\$ 112,961	35.7	\$ 60,010	\$ 110,390	13,622	\$ 296,982	\$ 84,676	3.51
7	13.03	1304	\$ 103	10.14	\$ 134,312	67.2	\$ 90,258	35.7	\$ 47,949	\$ 100,842	13,622	\$ 252,671	\$ 79,666	3.17
8	12.21	1540	\$ 103	10.96	\$ 158,620	67.2	\$ 106,593	35.7	\$ 56,627	\$ 108,997	13,622	\$ 285,839	\$ 84,355	3.39
9	11.65	1024	\$ 103	11.52	\$ 105,472	67.2	\$ 70,877	35.7	\$ 37,654	\$ 114,566	13,622	\$ 236,719	\$ 115,694	2.05
10	12.44	1050	\$ 103	10.73	\$ 108,150	67.2	\$ 72,677	35.7	\$ 38,610	\$ 106,710	13,622	\$ 231,618	\$ 69,703	3.32
11	11.7	1202	\$ 103	11.47	\$ 123,806	67.2	\$ 83,198	35.7	\$ 44,199	\$ 114,069	13,622	\$ 255,088	\$ 74,718	3.41
							\$ 1,044,677		\$ 554,985	\$ 1,200,759	\$ 149,842	\$ 2,950,263	\$ 986,179	2.99

Table 4-5, Losses Avoided Calculations (Irma)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	11.6	1711	\$ 103	9.07	\$ 176,233	67.2	\$ 118,428.58	35.7	\$ 62,915	\$ 90,168	13,622	\$ 285,134	\$ 121,274	2.35
2	11.12	1517	\$ 103	9.55	\$ 156,251	67.2	\$ 105,000.67	35.7	\$ 55,782	\$ 94,942	13,622	\$ 269,346	\$ 86,290	3.12
3	14.25	1320	\$ 103	6.42	\$ 135,960	58.6	\$ 79,672.56	31.5	\$ 42,827	\$ 63,814	13,622	\$ 199,936	\$ 80,066	2.50
4	12.8	1568	\$ 103	7.87	\$ 161,504	67.2	\$ 108,530.69	35.7	\$ 57,657	\$ 78,234	13,622	\$ 258,044	\$ 110,795	2.33
5	11.26	1225	\$ 103	9.41	\$ 126,175	67.2	\$ 84,789.60	35.7	\$ 45,044	\$ 93,549	13,622	\$ 237,005	\$ 78,942	3.00
6	12.07	1632	\$ 103	8.60	\$ 168,096	67.2	\$ 112,960.51	35.7	\$ 60,010	\$ 85,494	13,622	\$ 272,087	\$ 84,676	3.21
7	13.03	1304	\$ 103	7.64	\$ 134,312	67.2	\$ 90,257.66	35.7	\$ 47,949	\$ 75,947	13,622	\$ 227,776	\$ 79,666	2.86
8	12.21	1540	\$ 103	8.46	\$ 158,620	67.2	\$ 106,592.64	35.7	\$ 56,627	\$ 84,102	13,622	\$ 260,944	\$ 84,355	3.09
9	11.65	1024	\$ 103	9.02	\$ 105,472	67.2	\$ 70,877.18	35.7	\$ 37,654	\$ 89,671	13,622	\$ 211,823	\$ 115,694	1.83
10	12.44	1050	\$ 103	8.23	\$ 108,150	67.2	\$ 72,676.80	35.7	\$ 38,610	\$ 81,814	13,622	\$ 206,723	\$ 69,703	2.97
11	11.7	1202	\$ 103	8.97	\$ 123,806	67.2	\$ 83,197.63	35.7	\$ 44,199	\$ 89,174	13,622	\$ 230,192	\$ 74,718	3.08
							\$ 1,032,985		\$ 549,274	\$ 926,907	\$ 149,842	\$ 2,659,008	\$ 986,179	2.70

Table 5-1, Acquisitions in the Nina Court Neighborhood

	Grant type	Year or Declaration	Applicant	Address	City	Latitude	Longitude
HMA acquisitions	1	HMGP	1033	City of Savannah	122 Chatham ST	Savannah	31.995011 -81.120268
	2	PDM	2011	City of Savannah	202 Chatham St	Savannah	31.994800 -81.119996
	3	HMGP	1033	City of Savannah	206 Chatham ST	Savannah	31.994827 -81.119601
	4	HMGP	1033	City of Savannah	210 Chatham ST	Savannah	31.994785 -81.119425
	5	HMGP	1033	City of Savannah	214 Chatham ST	Savannah	31.994745 -81.119252
	6	HMGP	1033	City of Savannah	218 Chatham ST	Savannah	31.994700 -81.119111
	7	HMGP	1033	City of Savannah	213 Wesley ST	Savannah	31.995680 -81.118820
	8	HMGP	1033	City of Savannah	210 Kandlewood DR	Savannah	31.995419 -81.119108
	9	HMGP	1033	City of Savannah	214 Kandlewood DR	Savannah	31.995331 -81.118790
	10	HMGP	1686	City of Savannah	202 Kandlewood Dr	Savannah	31.995551 -81.119557
	11	HMGP	1311	City of Savannah	3 Nina Court	Savannah	31.994023 -81.124742
	12	HMGP	1311	City of Savannah	5 Nina Court	Savannah	31.994111 -81.124491
	13	HMGP	1311	City of Savannah	7 Nina Court	Savannah	31.994088 -81.124276
	14	HMGP	1311	City of Savannah	9 Nina Court	Savannah	31.994 -81.124038
	15	HMGP	1311	City of Savannah	11 Nina Court	Savannah	31.993765 -81.123998
	16	PDM	2011	City of Savannah	16 Paradise Drive	Savannah	31.993503 -81.124285

Table 5-2, FEMA's IA Housing Inspection Surveys (Matthew)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Matthew WSE
	1.58	First Floor	Slab	200 Block of Wesley	SAVANNAH	10	11.58
Average WSE							11.58

Table 5-3, FEMA's IA Housing Inspection Surveys (Irma)

IA Housing Inspections	HWM	HWM Location	Foundation	Address	City	Ground Elevation	Irma WSE
	0.08	First Floor	Slab	200 Block of CHATHAM ST	SAVANNAH	14	14.08
	0.08	First Floor	Slab	100 Block of CHATHAM ST	SAVANNAH	13	13.78
							13.93

Table 5-4, Losses Avoided Calculations (Matthew)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	13.22	975	\$ 103	-1.64	\$ 100,425	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 67,538	0.00
2	11.6	2024	\$ 103	-0.02	\$ 208,472	13.4	\$ 27,935	8.1	\$ 16,886	\$ -	-	\$ 44,821	\$ 105,060	0.43
3	12.66	1192	\$ 103	-1.08	\$ 122,776	2.5	\$ 3,069	2.4	\$ 2,947	\$ -	-	\$ 6,016	\$ 91,767	0.07
4	13.24	1913	\$ 103	-1.66	\$ 197,039	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 124,544	0.00
5	13.5	1418	\$ 103	-1.92	\$ 146,054	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 96,125	0.00
6	13.96	1392	\$ 103	-2.38	\$ 143,376	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 86,039	0.00
7	11.71	956	\$ 103	-0.13	\$ 98,468	13.4	\$ 13,195	8.1	\$ 7,976	\$ -	-	\$ 21,171	\$ 62,907	0.34
8	12.37	1189	\$ 103	-0.79	\$ 122,467	2.5	\$ 3,062	2.4	\$ 2,939	\$ -	-	\$ 6,001	\$ 61,449	0.10
9	11.6	1256	\$ 103	-0.02	\$ 129,368	13.4	\$ 17,335	8.1	\$ 10,479	\$ -	-	\$ 27,814	\$ 72,521	0.38
10	14	1225	\$ 103	-2.42	\$ 126,175	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 128,492	0.00
11	14.97	1170	\$ 103	-3.39	\$ 120,510	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 90,212	0.00
12	14.89	1372	\$ 103	-3.31	\$ 141,316	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 105,811	0.00
13	14.59	1125	\$ 103	-3.01	\$ 115,875	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 88,260	0.00
14	14.53	1500	\$ 103	-2.95	\$ 154,500	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 112,995	0.00
15	14.21	1980	\$ 103	-2.63	\$ 203,940	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 70,733	0.00
16	13.9	1394	\$ 103	-2.32	\$ 143,582	0	\$ -	0	\$ -	\$ -	-	\$ -	\$ 138,707	0.00
							\$ 64,596		\$ 41,227	\$ -	\$ -	\$ 105,823	\$ 1,503,159	0.07

Table 5-5, Losses Avoided Calculations (Irma)

HMA Acquisition	FFE	SF	BRV (\$/SF)	Depth	Building Replacement Cost (NAHB)	% structure damage	Structure damage	% content damage	Content Damage	Displacement Costs	Mental Stress and Productivity Costs	Losses Avoided	Cost	Ratio
1	13.22	975	\$ 103	0.71	\$ 100,425	23.3	\$ 23,399	13.3	\$ 13,357	\$ 7,094	13,622	\$ 57,472	\$ 67,538	0.85
2	11.6	2024	\$ 103	2.33	\$ 208,472	32.1	\$ 66,920	17.9	\$ 37,316	\$ 23,205	13,622	\$ 141,063	\$ 105,060	1.34
3	12.66	1192	\$ 103	1.27	\$ 122,776	23.3	\$ 28,607	13.3	\$ 16,329	\$ 12,663	13,622	\$ 71,221	\$ 91,767	0.78
4	13.24	1913	\$ 103	0.69	\$ 197,039	23.3	\$ 45,910	13.3	\$ 26,206	\$ 6,895	13,622	\$ 92,633	\$ 124,544	0.74
5	13.5	1418	\$ 103	0.43	\$ 146,054	13.4	\$ 19,571	8.1	\$ 11,830	\$ 4,310	13,622	\$ 49,333	\$ 96,125	0.51
6	13.96	1392	\$ 103	-0.03	\$ 143,376	13.4	\$ 19,212	8.1	\$ 11,613	\$ -	-	\$ 30,826	\$ 86,039	0.36
7	11.71	956	\$ 103	2.22	\$ 98,468	32.1	\$ 31,608	17.9	\$ 17,626	\$ 22,111	13,622	\$ 84,967	\$ 62,907	1.35
8	12.37	1189	\$ 103	1.56	\$ 122,467	32.1	\$ 39,312	17.9	\$ 21,922	\$ 15,547	13,622	\$ 90,403	\$ 61,449	1.47
9	11.6	1256	\$ 103	2.33	\$ 129,368	32.1	\$ 41,527	17.9	\$ 23,157	\$ 23,205	13,622	\$ 101,511	\$ 72,521	1.40
10	14	1225	\$ 103	-0.07	\$ 126,175	13.4	\$ 16,907	8.1	\$ 10,220	\$ -	-	\$ 27,128	\$ 128,492	0.21
11	14.97	1170	\$ 103	-1.04	\$ 120,510	2.5	\$ 3,013	2.4	\$ 2,892	\$ -	-	\$ 5,905	\$ 90,212	0.07
12	14.89	1372	\$ 103	-0.96	\$ 141,316	2.5	\$ 3,533	2.4	\$ 3,392	\$ -	-	\$ 6,924	\$ 105,811	0.07
13	14.59	1125	\$ 103	-0.66	\$ 115,875	2.5	\$ 2,897	2.4	\$ 2,781	\$ -	-	\$ 5,678	\$ 88,260	0.06
14	14.53	1500	\$ 103	-0.60	\$ 154,500	2.5	\$ 3,863	2.4	\$ 3,708	\$ -	-	\$ 7,571	\$ 112,995	0.07
15	14.21	1980	\$ 103	-0.28	\$ 203,940	13.4	\$ 27,328	8.1	\$ 16,519	\$ -	-	\$ 43,847	\$ 70,733	0.62
16	13.9	1394	\$ 103	0.03	\$ 143,582	13.4	\$ 19,240	8.1	\$ 11,630	\$ 331	13,622	\$ 44,824	\$ 138,707	0.32
							\$ 392,847		\$ 230,499	\$ 115,362	\$ 122,598	\$ 861,305	\$ 1,503,159	0.57

Table 6-1, Summary of Losses Avoided for Hurricanes Matthew and Irma

Neighborhood	Event	Structure	Contents	Displacement	MS and LP	Total	Costs
Margaret Street	Matthew	\$ 35,223	\$ 21,291	\$ -	\$ -	\$ 56,514	
	Irma	\$ 325,760	\$ 188,414	\$ 115,495	\$ 95,354	\$ 725,023	\$ 1,263,850
Bonnie Drive	Matthew	\$ 789,848	\$ 443,645	\$ 439,271	\$ 299,684	\$ 1,972,448	
	Irma	\$ 461,704	\$ 268,071	\$ 149,971	\$ 217,952	\$ 1,097,697	\$ 1,783,277
Woodley Road	Matthew	\$ 697,969	\$ 411,383	\$ 128,291	\$ 272,440	\$ 1,510,083	
	Irma	\$ 41,288	\$ 39,636	\$ -	\$ -	\$ 80,924	\$ 2,637,193
Wilshire Boulevard	Matthew	\$ 1,044,677	\$ 554,985	\$ 1,200,759	\$ 149,842	\$ 2,950,263	
	Irma	\$ 1,032,985	\$ 549,274	\$ 926,907	\$ 149,842	\$ 2,659,008	\$ 986,179
Nina Court	Matthew	\$ 64,596	\$ 41,227	\$ -	\$ -	\$ 105,823	
	Irma	\$ 392,847	\$ 230,499	\$ 115,362	\$ 122,598	\$ 861,305	\$ 1,503,159
Total		\$ 4,886,896	\$ 2,748,425	\$ 3,076,055	\$ 1,307,712	\$ 12,019,089	\$ 8,173,657

Table 6-2, Losses Avoided Ratio

Losses Avoided	\$ 12,019,089
Costs	\$ 8,173,657
Losses Avoided Ratio	1.47

Appendix B

Loss Avoidance Study - Margaret Street Neighborhood

Acquisitions in the Margaret Street Neighborhood						
Address	Grant Type	Year or Declaration	Matthew Event		Irma Event	
			Depth of Water	Ratio	Depth of Water	Ratio
2305 Margaret St	PDM	2005	-3.34	0.00	0.08	0.38
2308 Margaret St	PDM	2005	-3.74	0.00	-0.32	0.27
2309 Margaret St	PDM	2005	-3.74	0.00	-0.32	0.27
2310 Margaret St	PDM	2005	-4.74	0.00	-1.32	0.05
2311 Margaret St	PDM	2005	-1.94	0.00	1.48	0.67
2313 Margaret St	PDM	2005	-2.04	0.00	1.38	0.87
2320 Margaret St	PDM	2005	-1.94	0.00	1.48	0.87
2322 Margaret St	PDM	2005	-4.24	0.00	-0.82	0.06
2328 Margaret St	PDM	2005	-0.34	0.25	3.08	1.11
2316 Margaret St	PDM	2005	-2.54	0.00	0.88	0.60
2315 Margaret St	HMGP	1042	-0.21	0.37	3.21	1.65
Overall Losses Avoided Ratio Per Event			0.04		0.57	

FEMA's IA Housing Inspection Surveys							
Address	Foundation	Ground Elevation	Matthew Event		Irma Event		WSE
			HWM	WSE	HWM	WSE	
2600 Block of EVERGREEN AVE	Slab	10			0.08	0.08	10.08
2300 Block of E 42ND ST	Slab	10			0.08	0.08	10.08
2400 Block of 39TH ST	Slab	6	0.83	6.83			
2400 Block of 39TH ST	Slab	6	0.50	6.50			

IA Study Sites - MATTHEW (Upward arrow icon)

IA Study Sites - IRMA (Upward arrow icon)

Acquisitions (Red 'X' icon)

Flood Hazard Zones

- 1% Annual Chance Flood Hazard (Light blue square)
- 0.2% Annual Chance Flood Hazard (Orange square)
- Future Conditions 1% Annual Chance Flood Hazard (Dark blue square)
- Area with Reduced Risk Due to Levee (Yellow square)

Regulatory Floodway (Blue hatched square)

Special Floodway (Black hatched square)

Area of Undetermined Flood Hazard (Yellow square)

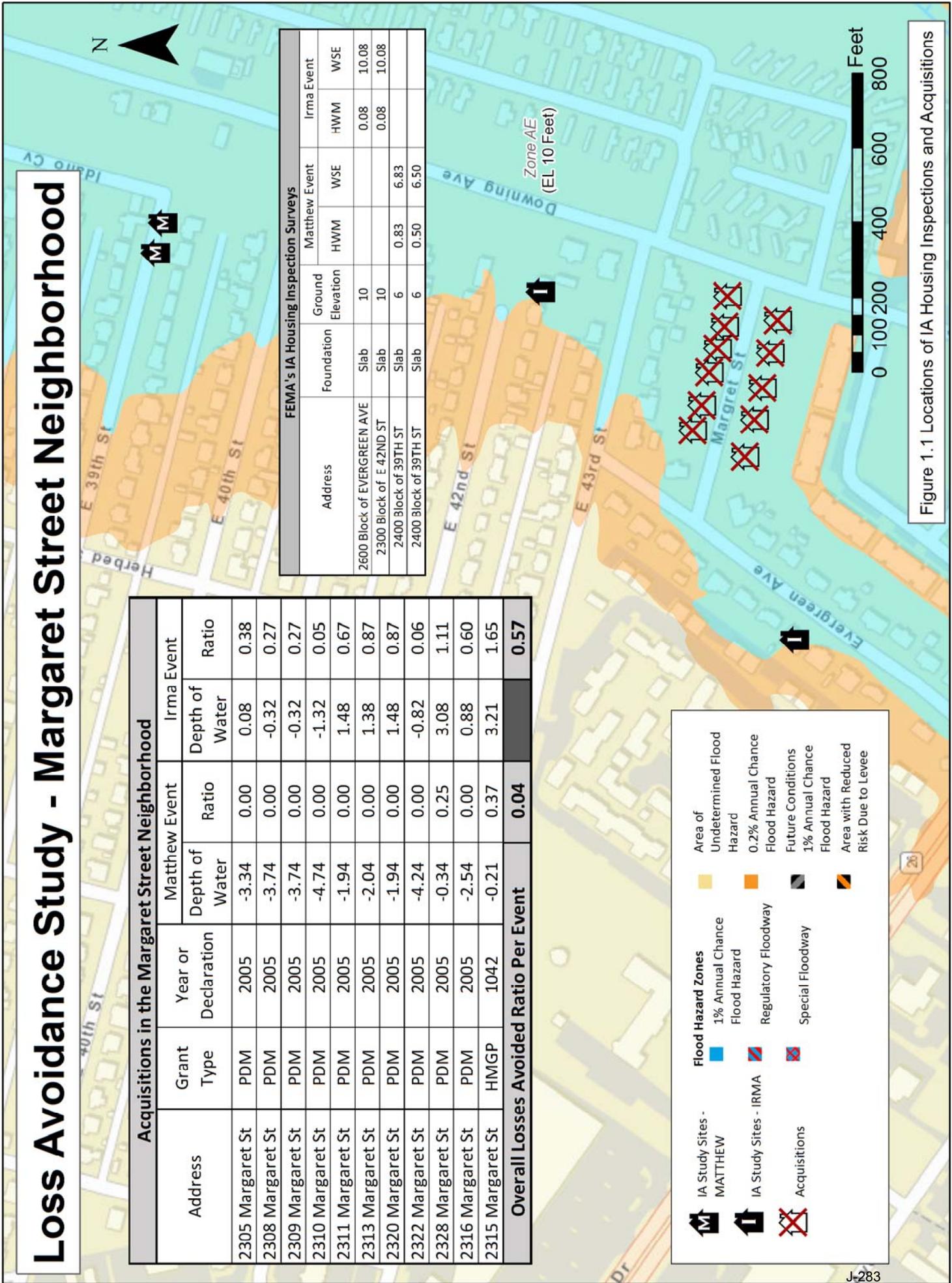


Figure 1.1 Locations of IA Housing Inspections and Acquisitions

Loss Avoidance Study - Bonnie Drive Neighborhood

Acquisitions in the Bonnie Drive Neighborhood						
Address	Grant Type	Year or Declaration	Matthew Event		Irma Event	
			Depth of Water	Ratio	Depth of Water	Ratio
2402 E Derenne Ave	HMGP	1761	1.7	0.85	0.3	0.40
2302 E. Derenne Ave	HMGP	1686	2.8	1.22	1.4	0.75
2306 E. Derenne Ave	HMGP	1686	3.5	1.15	2.1	0.80
2310 E. Derenne Ave	HMGP	1686	2.6	1.10	1.2	0.67
2312 E. Derenne Ave	HMGP	1686	2.9	1.04	1.5	0.77
2304 Vicksburg DR	HMGP	1033	1.1	1.05	-0.3	0.43
2313 Vicksburg DR	HMGP	1033	2.3	1.43	0.9	0.96
2309 Vicksburg DR	HMGP	1033	1.4	0.99	0.0	0.29
2401 Vicksburg DR	HMGP	1033	0.1	0.71	-1.3	0.11
5310 Bonnie DR	HMGP	1033	2.0	1.87	0.6	1.26
5314 Bonnie DR	HMGP	1033	2.1	1.56	0.7	1.06
5318 Bonnie DR	HMGP	1033	2.0	1.57	0.6	1.07
5322 Bonnie DR	HMGP	1033	1.9	1.66	0.5	0.81
5326 Bonnie DR	HMGP	1033	1.2	0.97	-0.3	0.33
5 La Roche CT	HMGP	1033	1.2	0.78	-0.2	0.31
6 La Roche CT	HMGP	1033	1.7	1.25	0.2	0.57
2417 Vicksburg DR	HMGP	1033	1.8	1.37	0.4	0.66
2415 Vicksburg DR	HMGP	1033	-0.4	0.52	-1.9	0.00
2409 Vicksburg DR	HMGP	1033	-0.3	0.56	-1.7	0.00
2405 Vicksburg DR	HMGP	1033	-1.1	0.10	-2.5	0.00
5321 Bonnie DR	HMGP	1033	1.1	1.34	-0.3	0.42
5317 Bonnie DR	PDM	2007	3.3	0.94	1.9	0.72
5313 Bonnie DR	HMGP	1033	2.3	1.53	0.9	1.03
5309 Bonnie DR	HMGP	1033	2.3	1.63	0.9	1.12
5305 Bonnie DR	HMGP	1033	2.4	1.51	1.0	1.02
Overall Losses Avoided Ratio Per Event			1.11		0.62	

Legend:

- IA Study Sites - MATTHEW: Upward arrow symbol
- IA Study Sites - IRMA: Downward arrow symbol
- Acquisitions: Red 'X' symbol
- Flood Hazard Zones:
 - 1% Annual Chance Flood Hazard: Yellow square
 - 0.2% Annual Chance Flood Hazard: Orange square
 - Regulatory Floodway: Blue hatched square
 - Special Floodway: Red hatched square
- Area of Undetermined Flood Hazard: Light blue square
- Future Conditions 1% Annual Chance Flood Hazard: Black square
- Area with Reduced Risk Due to Levee: Orange and black hatched square

Address	Foundation	Ground Elevation	Matthew Event		Irma Event	
			HWM	WSE	HWM	WSE
5100 Block of LAROCHE AVE	Slab	11			0.67	11.67
2200 Block of VICKSBURG DR	Slab	12			0.25	12.95
2500 Block of OAK FOREST DR	Slab	11			0.08	11.08
4900 Block of LaRoche	Slab	13	0.33	13.33		



AREA OF MINIMAL FLOOD HAZARD

Figure 2.1 Locations of IA Housing Inspections and Acquisitions

Loss Avoidance Study - Woodley Rd Neighborhood

Legend

- IA Study Sites - MATTHEW: House icon with 'M'
- IA Study Sites - IRMA: House icon with 'I'
- Acquisitions: House icon with 'X'
- Flood Hazard Zones:
 - 1% Annual Chance Flood Hazard: Yellow square
 - 0.2% Annual Chance Flood Hazard: Orange square
 - Future Conditions 1% Annual Chance Flood Hazard: Light blue square
 - Area with Undetermined Flood Hazard: Yellow square with diagonal lines
- Regulatory Floodway: Blue wavy line
- Special Floodway: Red wavy line
- Area with Reduced Risk Due to Levee: Yellow square with diagonal lines



Address	Grant Type	Year of Declaration	Matthew Event		Irma Event		
			Depth of Water	Ratio	Depth of Water	Ratio	
313 Linwood Dr	HMG	1271	0.2	0.58	-1.8	0.00	
407 Linwood RD	HMG	1042	0.8	1.18	-1.2	0.12	
132 Juniper CIR	HMG	1033	0.5	0.71	-1.5	0.00	
130 Juniper CIR	HMG	1033	1.1	1.32	-0.9	0.13	
128 Juniper CIR	HMG	1033	-0.2	0.40	-2.2	0.00	
126 Juniper CIR	HMG	1033	0.5	1.01	-1.5	0.11	
124 Juniper CIR	HMG	1033	-0.6	0.09	-2.6	0.00	
312 Linwood RD	HMG	1033	-0.4	0.31	-2.4	0.00	
310 Linwood RD	HMG	1033	-0.1	0.33	-2.1	0.00	
308 Linwood RD	HMG	1033	0.5	0.79	-1.4	0.08	
306 Linwood RD	HMG	1033	0.5	0.52	-1.5	0.00	
304 Linwood RD	HMG	1033	0.1	0.61	-1.9	0.00	
12405 Woodley RD	HMG	1033	0.7	0.84	-1.3	0.08	
12403 Woodley RD	HMG	1033	-0.1	0.28	-2.1	0.00	
12401 Woodley RD	HMG	1033	-0.2	0.34	-2.2	0.00	
303 Woodley RD	HMG	1033	0.5	0.53	-1.5	0.00	
327 Woodley RD	HMG	1311	-1.5	0.00	-3.5	0.00	
12404 Woodley RD	HMG	1033	1.2	0.69	-0.8	0.06	
12406 Woodley RD	HMG	1033	1.2	1.00	-0.8	0.09	
12408 Woodley RD	HMG	1033	1.2	1.10	-0.8	0.09	
12410 Woodley RD	HMG	1033	0.5	0.66	-1.5	0.00	
12412 Woodley RD	HMG	1033	-0.1	0.35	-2.1	0.00	
12411 Woodley RD	PDM	2011	-1.2	0.05	-3.2	0.00	
12407 Woodley RD	HMG	1033	0.3	0.68	-1.7	0.00	
303 Linwood RD	HMG	1033	1.1	0.83	-0.9	0.07	
305 Linwood RD	HMG	1033	1.1	0.82	-0.9	0.08	
307 Linwood RD	HMG	1033	0.5	0.77	-1.5	0.08	
309 Linwood RD	HMG	1033	0.0	0.33	-2.0	0.00	
311 Linwood RD	HMG	1033	0.3	0.53	-1.7	0.00	
12402 Woodley RD	HMG	1033	0.2	0.57	-1.8	0.00	
108 Juniper Cir	HMG	1311	-2.8	0.00	-4.8	0.00	
Overall Losses Avoided Ratio Per Event							0.57

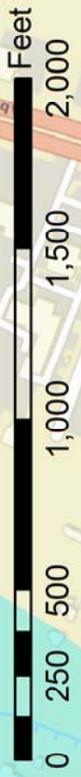
Address	Matthew Event		Irma Event	
	Foundation	Ground Elevation	Foundation	Ground Elevation
00 Block of AUSTIN DR	Slab	15	Slab	15
200 Block of Windsor	Slab	17	Slab	17

Figure 3.1 Locations of IA Housing Inspections and Acquisitions

Loss Avoidance Study - Wilshire Blvd Neighborhood

Legend

- IA Study Sites - MATTHEW:
- IA Study Sites - IRMA:
- Acquisitions:
- Flood Hazard Zones:
 - 1% Annual Chance Flood Hazard:
 - Regulatory Floodway:
 - Special Floodway:
- Area of Undetermined Flood Hazard:
- 0.2% Annual Chance Flood Hazard:
- Future Conditions 1% Annual Chance Flood Hazard:
- Area with Reduced Risk Due to Levee:



AREA OF MINIMAL FLOOD HAZARD Zone X

Acquisitions in the Wilshire Blvd. Neighborhood			
Address	Grant Type	Year or Declaration	Irma Event
18 Vineyard DR	HMGp	1033	Depth of Water: 9.1, Ratio: 2.35
16 Vineyard DR	HMGp	1033	Depth of Water: 9.5, Ratio: 3.12
6 Vineyard DR	HMGp	1311	Depth of Water: 6.4, Ratio: 2.50
113 Wilshire Blvd	HMGp	1033	Depth of Water: 7.9, Ratio: 2.33
117 Wilshire Blvd	HMGp	1033	Depth of Water: 9.4, Ratio: 3.00
110 Wilshire Blvd	HMGp	1033	Depth of Water: 8.6, Ratio: 3.21
108 Wilshire Blvd	HMGp	1033	Depth of Water: 7.6, Ratio: 2.86
209 Wilshire Blvd	HMGp	1033	Depth of Water: 8.5, Ratio: 3.09
115 Wilshire Blvd	FMA	2004	Depth of Water: 9.0, Ratio: 1.83
106 Wilshire Blvd	HMGp	1271	Depth of Water: 8.2, Ratio: 2.97
2 Wilshire Blvd	HMGp	1271	Depth of Water: 9.0, Ratio: 3.08
Overall Losses Avoided Ratio Per Event			2.70

FEMA's IA Housing Inspection Surveys

Address	Foundation	Ground Elevation	Matthew Event		Irma Event	
			HWM	WSE	HWM	WSE
00 Block of MONTCLAIR BLVD	Slab	20			0.25	20.25
00 Block of BURBANK BLVD	Slab	21			0.08	21.08
400 Block of Wilshire	Slab	23	0.17	23.17		

Figure 4.1 Locations of IA Housing Inspections and Acquisitions

Loss Avoidance Study - Nina Court Neighborhood

Legend

- IA Study Sites - MATTHEW**: House icon with 'M'
- IA Study Sites - IRMA**: House icon with 'I'
- Acquisitions**: House icon with 'X'
- Flood Hazard Zones**:
 - 1% Annual Chance Flood Hazard (Blue square)
 - Regulatory Floodway (Blue diagonal lines)
 - Special Floodway (Blue diagonal lines)
- Area of Undetermined Flood Hazard**: Yellow square
- 0.2% Annual Chance Flood Hazard**: Orange square
- Future Conditions 1% Annual Chance Flood Hazard**: Grey square
- Area with Reduced Risk Due to Levee**: Black and yellow diagonal lines

Acquisitions in the Nina Court Neighborhood

Address	Grant Type	Year of Declaration	Matthew Event Depth of Water	Matthew Event Ratio	Irma Event Depth of Water	Irma Event Ratio
122 Chatham St	HMGp	1033	-1.6	0.00	0.7	0.85
202 Chatham St	PDM	2011	0.0	0.43	2.3	1.34
206 Chatham St	HMGp	1033	-1.1	0.07	1.3	0.78
210 Chatham St	HMGp	1033	-1.7	0.00	0.7	0.74
214 Chatham St	HMGp	1033	-1.9	0.00	0.4	0.51
218 Chatham St	HMGp	1033	-2.4	0.00	0.0	0.36
213 Wesley St	HMGp	1033	-0.1	0.34	2.2	1.35
210 Kandlewood Dr	HMGp	1033	-0.8	0.10	1.6	1.47
214 Kandlewood Dr	HMGp	1033	0.0	0.38	2.3	1.40
202 Kandlewood Dr	HMGp	1686	-2.4	0.00	-0.1	0.21
3 Nina Court	HMGp	1311	-3.4	0.00	-1.0	0.07
5 Nina Court	HMGp	1311	-3.3	0.00	-1.0	0.07
7 Nina Court	HMGp	1311	-3.0	0.00	-0.7	0.06
9 Nina Court	HMGp	1311	-3.0	0.00	-0.6	0.07
11 Nina Court	HMGp	1311	-2.6	0.00	-0.3	0.62
16 Paradise Drive	PDM	2011	-2.3	0.00	0.0	0.32
Overall Losses Avoided Ratio Per Event				0.07	0.57	

FEMA's IA Housing Inspection Surveys

Address	Foundation	Matthew Event		Irma Event	
		HWM	WSE	HWM	WSE
200 Block of CHATHAM ST	Slab	14		0.08	14.08
100 Block of CHATHAM ST	Slab	13		0.08	13.78
200 Block of Wesley	Slab	10	11.58		



Figure 5.1 Locations of IA Housing Inspections and Acquisitions

Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	GMIS ID	Mitigation Action	Date Mitigated	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
1033	1	HMGP	City of Newton	180 S Main St	65	Acquisition	10/03/95	\$21,790	1/4/2016	\$76,072	3.49
1033	1	HMGP	City of Newton	154 S Main St	67	Acquisition	09/11/96	\$18,821	1/4/2016	\$42,339	2.25
1033	1	HMGP	City of Newton	156 S Main St	93	Acquisition	09/20/96	\$4,036	1/4/2016	\$50,558	12.53
1033	13	HMGP	Baker County	568 N Main St	1059	Acquisition	11/21/96	\$17,614	1/4/2016	\$45,529	2.58
1033	13	HMGP	Baker County	568 N Main St	1060	Acquisition	11/21/96	\$17,614	1/4/2016	\$87,003	4.94
1033	4	HMGP	Dougherty County	162 (160) Lovers Ln Rd	10	Acquisition	05/10/96	\$63,699	1/4/2016	\$181,677	2.85
1033	4	HMGP	Dougherty County	2700 Robinson's Pnt Dr	13	Acquisition	01/08/96	\$72,960	1/4/2016	\$170,485	2.34
1033	4	HMGP	Dougherty County	2418 Cherry Laurel Ln	23	Acquisition	06/03/96	\$7,201	1/4/2016	\$114,283	15.87
1033	22	HMGP	City of Albany	408 Cherry Ave	937	Acquisition	05/26/99	\$14,079	1/4/2016	\$70,267	4.99
1033	22	HMGP	City of Albany	408 Corn Ave	938	Acquisition	06/16/98	\$10,086	1/4/2016	\$99,003	9.82
1033	22	HMGP	City of Albany	409 Cherry Ave	939	Acquisition	08/06/96	\$12,400	1/4/2016	\$83,944	6.77
1033	22	HMGP	City of Albany	411 Cherry Ave	941	Acquisition	08/06/96	\$12,899	1/4/2016	\$93,368	7.24
1033	22	HMGP	City of Albany	412 Cherry Ave	943	Acquisition	07/06/99	\$13,607	1/4/2016	\$101,300	7.44
1033	22	HMGP	City of Albany	413 Cherry St	944	Acquisition	08/06/96	\$6,262	1/4/2016	\$62,879	10.04
1033	22	HMGP	City of Albany	414 Cherry Ave	946	Acquisition	09/10/98	\$15,740	1/4/2016	\$103,435	6.57
1033	22	HMGP	City of Albany	414 Corn Ave	947	Acquisition	07/27/99	\$35,769	1/4/2016	\$140,315	3.92
1033	22	HMGP	City of Albany	416 Cherry Ave	949	Acquisition	08/20/96	\$8,192	1/4/2016	\$143,612	17.53
1033	22	HMGP	City of Albany	417 Cherry Ave	950	Acquisition	05/08/96	\$31,431	1/4/2016	\$112,662	3.58
1033	22	HMGP	City of Albany	420 Corn Ave	953	Acquisition	07/21/98	\$12,293	1/4/2016	\$167,640	13.64
1033	22	HMGP	City of Albany	421 Cherry Ave	954	Acquisition	04/29/99	\$8,891	1/4/2016	\$135,814	15.28
1033	22	HMGP	City of Albany	423 Cherry Ave	956	Acquisition	05/25/99	\$36,666	1/4/2016	\$120,547	3.29
1033	22	HMGP	City of Albany	423 Holloway Ave	957	Acquisition	08/12/97	\$50,273	1/4/2016	\$150,137	2.99
1033	22	HMGP	City of Albany	425 Cherry Ave	958	Acquisition	05/15/96	\$11,370	1/4/2016	\$130,249	11.46
1033	22	HMGP	City of Albany	428 Cherry Ave	962	Acquisition	09/23/96	\$13,874	1/4/2016	\$121,759	8.78
1311	1	HMGP	Lee County	100 Creekside Pl	348	Acquisition	11/1/2011	\$89,331	12/26/2015	\$126,147	1.41
1311	1	HMGP	Lee County	284 Cypress Point Cir	362	Acquisition	10/1/2000	\$54,570	12/26/2015	\$291,892	5.35
1311	1	HMGP	Lee County	316 Cypress Point Cir	364	Acquisition	12/1/2000	\$99,331	12/26/2015	\$251,686	2.53
1311	1	HMGP	Lee County	726 Creekside Dr	368	Acquisition	4/1/2002	\$141,608	12/26/2015	\$58,731	0.41
1033	199	HMGP	Lee County	730 Creekside Dr	369	Acquisition	4/1/2001	\$190,731	12/26/2015	\$77,812	0.41
1033	199	HMGP	Lee County	540 Creekside Dr	418	Acquisition	11/1/1999	\$47,232	12/26/2015	\$232,692	4.93
1033	199	HMGP	Lee County	618 Creekside Dr	419	Acquisition	12/1/2000	\$155,226	12/26/2015	\$87,969	0.57
1033	199	HMGP	Lee County	626 Creekside Dr	420	Acquisition	10/1/2000	\$108,434	12/26/2015	\$204,017	1.88
1033	199	HMGP	Lee County	710 Creekside Dr	421	Acquisition	4/16/2003	\$8,275	12/26/2015	\$143,522	17.34
1033	199	HMGP	Lee County	780 Creekside Dr	422	Acquisition	12/1/2000	\$115,238	12/26/2015	\$168,787	1.46
1033	9	HMGP	Lee County	634 Creekside Dr	997	Acquisition	12/21/1995	\$31,375	12/26/2015	\$106,412	3.39
1033	9	HMGP	Lee County	754 Northampton Rd	998	Acquisition	12/7/1995	\$78,550	12/26/2015	\$283,254	3.61
1033	9	HMGP	Lee County	646 Lovers Lane Rd	1001	Acquisition	3/13/1996	\$37,910	12/26/2015	\$112,199	2.96
1033	9	HMGP	Lee County	796 Northampton Rd	1002	Acquisition	1/12/1996	\$71,590	12/26/2015	\$168,613	2.36
1033	9	HMGP	Lee County	109 Creekside Place	1003	Acquisition	12/19/1995	\$69,790	12/26/2015	\$49,263	0.71
1033	9	HMGP	Lee County	759 Northampton Rd	1005	Acquisition	12/11/1995	\$18,400	12/26/2015	\$229,207	12.46
Totals								\$1,835,160		\$5,197,082	2.83

Information from FEMA Loss Avoidance Study

Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
2005	7	PDM	City of Savannah	2328 Margaret St	Acquisition	\$ 110,324	10/3/2016	\$ 27,128	0.25
1042	3	HMG	City of Savannah	2315 Margaret ST	Acquisition	\$ 78,877	10/3/2016	\$ 29,386	0.37
1761	14	HMG	City of Savannah	2402 E Derenne Ave	Acquisition	\$ 105,191	10/3/2016	\$ 88,919	0.85
1686	8	HMG	City of Savannah	2302 E. Derenne Ave	Acquisition	\$ 100,813	10/3/2016	\$ 123,319	1.22
1686	8	HMG	City of Savannah	2306 E. Derenne Ave	Acquisition	\$ 119,194	10/3/2016	\$ 136,684	1.15
1686	8	HMG	City of Savannah	2310 E. Derenne Ave	Acquisition	\$ 99,348	10/3/2016	\$ 109,305	1.10
1033	196	HMG	City of Savannah	2312 E. Derenne Ave	Acquisition	\$ 96,101	10/3/2016	\$ 99,560	1.04
1033	196	HMG	City of Savannah	2304 Vicksburg DR	Acquisition	\$ 77,092	10/3/2016	\$ 80,954	1.05
1033	196	HMG	City of Savannah	2313 Vicksburg DR	Acquisition	\$ 52,225	10/3/2016	\$ 74,749	1.43
1033	196	HMG	City of Savannah	2309 Vicksburg DR	Acquisition	\$ 56,207	10/3/2016	\$ 55,514	0.99
1033	196	HMG	City of Savannah	2401 Vicksburg DR	Acquisition	\$ 66,358	10/3/2016	\$ 47,025	0.71
1033	196	HMG	City of Savannah	5310 Bonnie DR	Acquisition	\$ 47,644	10/3/2016	\$ 89,018	1.87
1033	196	HMG	City of Savannah	5314 Bonnie DR	Acquisition	\$ 60,598	10/3/2016	\$ 94,493	1.56
1033	196	HMG	City of Savannah	5318 Bonnie DR	Acquisition	\$ 63,020	10/3/2016	\$ 98,803	1.57
1033	196	HMG	City of Savannah	5322 Bonnie DR	Acquisition	\$ 43,206	10/3/2016	\$ 71,716	1.66
1033	196	HMG	City of Savannah	5326 Bonnie DR	Acquisition	\$ 61,040	10/3/2016	\$ 59,426	0.97
1033	196	HMG	City of Savannah	5 La Roche CT	Acquisition	\$ 106,340	10/3/2016	\$ 82,552	0.78
1033	196	HMG	City of Savannah	6 La Roche CT	Acquisition	\$ 89,852	10/3/2016	\$ 112,582	1.25
1033	196	HMG	City of Savannah	2417 Vicksburg DR	Acquisition	\$ 50,660	10/3/2016	\$ 69,210	1.37
1033	196	HMG	City of Savannah	2415 Vicksburg DR	Acquisition	\$ 65,719	10/3/2016	\$ 34,480	0.52
1033	196	HMG	City of Savannah	2409 Vicksburg DR	Acquisition	\$ 39,753	10/3/2016	\$ 22,344	0.56
1033	196	HMG	City of Savannah	2405 Vicksburg DR	Acquisition	\$ 60,695	10/3/2016	\$ 5,905	0.10
1033	196	HMG	City of Savannah	5321 Bonnie DR	Acquisition	\$ 39,568	10/3/2016	\$ 52,907	1.34
2007	2	PDM	City of Savannah	5317 Bonnie DR	Acquisition	\$ 126,051	10/3/2016	\$ 118,889	0.94
1033	196	HMG	City of Savannah	5313 Bonnie DR	Acquisition	\$ 48,561	10/3/2016	\$ 74,183	1.53
1033	196	HMG	City of Savannah	5309 Bonnie DR	Acquisition	\$ 58,136	10/3/2016	\$ 94,731	1.63
1033	196	HMG	City of Savannah	5305 Bonnie DR	Acquisition	\$ 49,904	10/3/2016	\$ 75,177	1.51
1271	4	HMG	City of Savannah	313 Linwood Dr	Acquisition	\$ 78,704	10/3/2016	\$ 45,861	0.58
1042	3	HMG	City of Savannah	407 Linwood RD	Acquisition	\$ 78,440	10/3/2016	\$ 92,251	1.18
1033	196	HMG	City of Savannah	132 Juniper CIR	Acquisition	\$ 80,566	10/3/2016	\$ 57,039	0.71
1033	196	HMG	City of Savannah	130 Juniper CIR	Acquisition	\$ 68,576	10/3/2016	\$ 90,714	1.32
1033	196	HMG	City of Savannah	128 Juniper CIR	Acquisition	\$ 67,566	10/3/2016	\$ 27,039	0.40
1033	196	HMG	City of Savannah	126 Juniper CIR	Acquisition	\$ 81,564	10/3/2016	\$ 82,606	1.01
1033	196	HMG	City of Savannah	124 Juniper CIR	Acquisition	\$ 65,140	10/3/2016	\$ 6,056	0.09
1033	196	HMG	City of Savannah	312 Linwood RD	Acquisition	\$ 93,974	10/3/2016	\$ 28,921	0.31

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Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
1033	196	HMGP	City of Savannah	310 Linwood RD	Acquisition	\$ 74,835	10/3/2016	\$ 24,913	0.33
1033	196	HMGP	City of Savannah	308 Linwood RD	Acquisition	\$ 88,512	10/3/2016	\$ 69,909	0.79
1033	196	HMGP	City of Savannah	306 Linwood RD	Acquisition	\$ 98,483	10/3/2016	\$ 51,636	0.52
1033	196	HMGP	City of Savannah	304 Linwood RD	Acquisition	\$ 84,504	10/3/2016	\$ 51,166	0.61
1033	196	HMGP	City of Savannah	12405 Woodley RD	Acquisition	\$ 92,395	10/3/2016	\$ 77,960	0.84
1033	196	HMGP	City of Savannah	12403 Woodley RD	Acquisition	\$ 81,463	10/3/2016	\$ 22,831	0.28
1033	196	HMGP	City of Savannah	12401 Woodley RD	Acquisition	\$ 86,695	10/3/2016	\$ 29,298	0.34
1033	196	HMGP	City of Savannah	303 Woodley RD	Acquisition	\$ 93,930	10/3/2016	\$ 49,343	0.53
1033	196	HMGP	City of Savannah	12404 Woodley RD	Acquisition	\$ 99,823	10/3/2016	\$ 68,411	0.69
1033	196	HMGP	City of Savannah	12406 Woodley RD	Acquisition	\$ 79,020	10/3/2016	\$ 79,025	1.00
1033	196	HMGP	City of Savannah	12408 Woodley RD	Acquisition	\$ 65,930	10/3/2016	\$ 72,699	1.10
1033	196	HMGP	City of Savannah	12410 Woodley RD	Acquisition	\$ 63,586	10/3/2016	\$ 42,224	0.66
1033	196	HMGP	City of Savannah	12412 Woodley RD	Acquisition	\$ 92,702	10/3/2016	\$ 32,863	0.35
2011	3	PDM	City of Savannah	12411 Woodley RD	Acquisition	\$ 136,960	10/3/2016	\$ 7,338	0.05
1033	196	HMGP	City of Savannah	12407 Woodley RD	Acquisition	\$ 90,057	10/3/2016	\$ 61,083	0.68
1033	196	HMGP	City of Savannah	303 Linwood RD	Acquisition	\$ 84,257	10/3/2016	\$ 70,159	0.83
1033	196	HMGP	City of Savannah	305 Linwood RD	Acquisition	\$ 95,011	10/3/2016	\$ 77,931	0.82
1033	196	HMGP	City of Savannah	307 Linwood RD	Acquisition	\$ 92,498	10/3/2016	\$ 71,180	0.77
1033	196	HMGP	City of Savannah	309 Linwood RD	Acquisition	\$ 96,799	10/3/2016	\$ 31,977	0.33
1033	196	HMGP	City of Savannah	311 Linwood RD	Acquisition	\$ 86,232	10/3/2016	\$ 45,406	0.53
1033	196	HMGP	City of Savannah	12402 Woodley RD	Acquisition	\$ 73,904	10/3/2016	\$ 42,240	0.57
1033	196	HMGP	City of Savannah	18 Vineyard DR	Acquisition	\$ 121,274	10/3/2016	\$ 310,029	2.56
1033	196	HMGP	City of Savannah	16 Vineyard DR	Acquisition	\$ 86,290	10/3/2016	\$ 294,242	3.41
1311	7	HMGP	City of Savannah	6 Vineyard DR	Acquisition	\$ 80,066	10/3/2016	\$ 242,234	3.03
1033	196	HMGP	City of Savannah	113 Wilshire BLVD	Acquisition	\$ 110,795	10/3/2016	\$ 282,939	2.55
1033	196	HMGP	City of Savannah	117 Wilshire BLVD	Acquisition	\$ 78,942	10/3/2016	\$ 261,901	3.32
1033	196	HMGP	City of Savannah	110 Wilshire BLVD	Acquisition	\$ 84,676	10/3/2016	\$ 296,982	3.51
1033	196	HMGP	City of Savannah	108 Wilshire BLVD	Acquisition	\$ 79,666	10/3/2016	\$ 252,671	3.17
1033	196	HMGP	City of Savannah	209 Wilshire BLVD	Acquisition	\$ 84,355	10/3/2016	\$ 285,839	3.39
2004	2	FMA	City of Savannah	115 Wilshire Blvd	Acquisition	\$ 115,694	10/3/2016	\$ 236,719	2.05
1271	4	HMGP	City of Savannah	106 Wilshire Blvd	Acquisition	\$ 69,703	10/3/2016	\$ 231,618	3.32
1271	4	HMGP	City of Savannah	2 Wilshire Blvd	Acquisition	\$ 74,718	10/3/2016	\$ 255,088	3.41
2011	3	PDM	City of Savannah	202 Chatham St	Acquisition	\$ 105,060	10/3/2016	\$ 44,821	0.43
1033	196	HMGP	City of Savannah	206 Chatham St	Acquisition	\$ 91,767	10/3/2016	\$ 6,016	
1033	196	HMGP	City of Savannah	213 Wesley ST	Acquisition	\$ 62,907	10/3/2016	\$ 21,171	0.34
1033	196	HMGP	City of Savannah	210 Kandlewood DR	Acquisition	\$ 61,449	10/3/2016	\$ 6,001	0.10

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Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
1033	196	HMGF	City of Savannah	214 Kandlewood DR	Acquisition	\$ 72,521	10/3/2016	\$ 27,814	0.38
Additional Properties evaluated by the State									
1033	196	HMGF	City of Savannah	1310 Stokes St	Acquisition	\$ 41,837	10/3/2016	\$ 53,759	1.28
1033	196	HMGF	City of Savannah	1012 Stokes St	Acquisition	\$ 40,181	10/3/2016	\$ 5,562	0.14
1033	196	HMGF	City of Savannah	1008 Stokes St	Acquisition	\$ 58,857	10/3/2016	\$ 6,475	0.11
1033	196	HMGF	City of Savannah	1006 Stokes St	Acquisition	\$ 37,213	10/3/2016	\$ 5,552	0.15
1033	196	HMGF	City of Savannah	1029 Stokes St	Acquisition	\$ 53,894	10/3/2016	\$ 5,723	0.11
1033	196	HMGF	City of Savannah	1011 Stokes St	Acquisition	\$ 36,232	10/3/2016	\$ 33,087	0.91
2008	1	LPDM	City of Savannah	1010 Stokes St	Acquisition	\$ 21,725	10/3/2016	\$ 28,238	1.30
2007	12	PDM	Chatham County	1907 Blue Jay Ave.	Acquisition	\$ 93,991	10/3/2016	\$ 50,161	0.53
2007	12	PDM	Chatham County	1909 Blue Jay Ave.	Acquisition	\$ 93,991	10/3/2016	\$ 50,161	0.53
2007	12	PDM	Chatham County	1915 Blue Jay Ave.	Acquisition	\$ 80,491	10/3/2016	\$ 50,161	0.62
2007	12	PDM	Chatham County	1918 Blue Jay Ave.	Acquisition	\$ 87,241	10/3/2016	\$ 50,161	0.57
2007	12	PDM	Chatham County	1920 Blue Jay Ave.	Acquisition	\$ 84,086	10/3/2016	\$ 42,411	0.50
2007	12	PDM	Chatham County	1921 Blue Jay Ave.	Acquisition	\$ 86,491	10/3/2016	\$ 41,923	0.48
2007	12	PDM	Chatham County	1922 Blue Jay Ave.	Acquisition	\$ 90,491	10/3/2016	\$ 41,923	0.46
2007	12	PDM	Chatham County	1923 Blue Jay Ave.	Acquisition	\$ 79,491	10/3/2016	\$ 42,411	0.53
2007	12	PDM	Chatham County	1923 Westlake Ave.	Acquisition	\$ 83,741	10/3/2016	\$ 50,161	0.60
2007	12	PDM	Chatham County	1924 Blue Jay Ave.	Acquisition	\$ 91,490	10/3/2016	\$ 41,923	0.46
2007	12	PDM	Chatham County	1932 Blue Jay Ave.	Acquisition	\$ 81,497	10/3/2016	\$ 6,561	0.08
2007	12	PDM	Chatham County	1933 Blue Jay Ave.	Acquisition	\$ 83,491	10/3/2016	\$ 42,411	0.51
1033	196	HMGF	City of Savannah	1911 Hobson Ave.	Acquisition	\$ 7,507	10/3/2016	\$ 58,170	7.75
2003	1	FMA	City of Savannah	1633 Vassar St	Acquisition	\$ 102,040	10/3/2016	\$ 78,376	0.77
2003	1	FMA	City of Savannah	1635 Vassar St	Acquisition	\$ 106,110	10/3/2016	\$ 78,376	0.74
1761	14	HMGF	City of Savannah	4705 Heritage Street	Acquisition	\$ 139,580	10/3/2016	\$ 82,070	0.59
1033	196	HMGF	City of Savannah	1627 Vassar St	Acquisition	\$ 91,145	10/3/2016	\$ 72,910	0.80
2008	1	LPDM	City of Savannah	4703 Heritage Street	Acquisition	\$ 153,566	10/3/2016	\$ 47,637	0.31
1997	1	FMA	City of Savannah	1247 W 42nd Street	Acquisition	\$ 36,646	10/3/2016	\$ 59,188	1.62
1997	1	FMA	City of Savannah	2372 Ogeechee Road	Acquisition	\$ 81,791	10/3/2016	\$ 56,021	0.68
1997	1	FMA	City of Savannah	1245 West 42nd Street	Acquisition	\$ 31,992	10/3/2016	\$ 89,398	2.79
1033	196	HMGF	City of Savannah	2343 Ogeechee Rd	Acquisition	\$ 62,458	10/3/2016	\$ 34,859	0.56
1033	196	HMGF	City of Savannah	2345 Ogeechee Rd	Acquisition	\$ 44,609	10/3/2016	\$ 34,859	0.78
1033	196	HMGF	City of Savannah	1251 W 42nd St	Acquisition	\$ 33,013	10/3/2016	\$ 77,811	2.36
1033	196	HMGF	City of Savannah	1241 W 42nd St	Acquisition	\$ 62,356	10/3/2016	\$ 64,880	1.04
1033	196	HMGF	City of Savannah	2380 Ogeechee Rd	Acquisition	\$ 68,887	10/3/2016	\$ 43,562	0.63
1033	196	HMGF	City of Savannah	2376 Ogeechee Rd	Acquisition	\$ 65,662	10/3/2016	\$ 41,480	0.63

DR4284 Mitigation Effectiveness Report

Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
2008	2	FMA	Chatham County	2 Clarendon Road	Acquisition	\$ 358,832	10/3/2016	\$ 13,062	0.04
1033	196	HMGF	City of Savannah	1216 W 51st St	Acquisition	\$ 56,546	10/3/2016	\$ 6,167	0.11
1042	2	HMGF	City of Savannah	1203 W. 50TH ST	Acquisition	\$ 24,388	10/3/2016	\$ 30,231	1.24
1042	2	HMGF	City of Savannah	1203 W. 51TH ST	Acquisition	\$ 30,407	10/3/2016	\$ 68,348	2.25
1042	2	HMGF	City of Savannah	1214 W. 51TH ST	Acquisition	\$ 20,380	10/3/2016	\$ 3,634	0.18
1042	2	HMGF	City of Savannah	1224 W. 50TH ST	Acquisition	\$ 27,204	10/3/2016	\$ 40,727	1.50
1042	2	HMGF	City of Savannah	1129 W. 49TH ST	Acquisition	\$ 20,287	10/3/2016	\$ 5,466	0.27
1042	2	HMGF	City of Savannah	2801 STANLEY ST	Acquisition	\$ 38,010	10/3/2016	\$ 9,286	0.24
1042	2	HMGF	City of Savannah	2807 STANLEY ST	Acquisition	\$ 40,323	10/3/2016	\$ 54,812	1.36
1042	2	HMGF	City of Savannah	2902 STANLEY ST	Acquisition	\$ 27,114	10/3/2016	\$ 37,096	1.37
1042	2	HMGF	City of Savannah	2906 STANLEY ST	Acquisition	\$ 24,155	10/3/2016	\$ 31,958	1.32
1042	2	HMGF	City of Savannah	3401 STANLEY ST	Acquisition	\$ 49,831	10/3/2016	\$ 84,031	1.69
1042	2	HMGF	City of Savannah	3405 STANLEY ST	Acquisition	\$ 44,385	10/3/2016	\$ 5,855	0.13
1042	2	HMGF	City of Savannah	3407 STANLEY ST	Acquisition	\$ 23,385	10/3/2016	\$ 33,818	1.45
1761	14	HMGF	City of Savannah	1513 Woodland Circle	Acquisition	\$ 230,313	10/3/2016	\$ 85,350	0.37
1033	194	HMGF	City of Savannah	1501 Forsyth Road	Acquisition	\$ 114,574	10/3/2016	\$ 82,485	0.72
1033	194	HMGF	City of Savannah	1431 Spalding Road	Acquisition	\$ 132,784	10/3/2016	\$ 52,819	0.40
1033	194	HMGF	City of Savannah	1430 Whitney Road	Acquisition	\$ 156,905	10/3/2016	\$ 160,622	1.02
1033	194	HMGF	City of Savannah	1441 Whitney Road	Acquisition	\$ 142,122	10/3/2016	\$ 4,961	0.03
1033	194	HMGF	City of Savannah	1447 Whitney Road	Acquisition	\$ 172,002	10/3/2016	\$ 10,634	0.06
1033	194	HMGF	City of Savannah	5413 Woodland Dr	Acquisition	\$ 150,816	10/3/2016	\$ 53,793	0.36
1033	194	HMGF	City of Savannah	5513 Woodland Dr	Acquisition	\$ 135,229	10/3/2016	\$ 91,080	0.67
1033	194	HMGF	City of Savannah	5519 Woodland Dr	Acquisition	\$ 118,971	10/3/2016	\$ 92,287	0.78
1033	194	HMGF	City of Savannah	1514 Forsyth Road	Acquisition	\$ 149,835	10/3/2016	\$ 137,808	0.92
1033	194	HMGF	City of Savannah	1513 Forsyth Road	Acquisition	\$ 137,207	10/3/2016	\$ 128,795	0.94
1033	194	HMGF	City of Savannah	1507 Spalding Road	Acquisition	\$ 169,720	10/3/2016	\$ 110,269	0.65
1033	194	HMGF	City of Savannah	1507 Forsyth Road	Acquisition	\$ 175,642	10/3/2016	\$ 110,269	0.63
1271	4	HMGF	City of Savannah	1508 Forsyth Road	Acquisition	\$ 130,534	10/3/2016	\$ 86,255	0.66
1271	4	HMGF	City of Savannah	1502 Forsyth Road	Acquisition	\$ 101,939	10/3/2016	\$ 78,791	0.77
1271	7	HMGF	City of Savannah	1501 Spalding Street	Acquisition	\$ 142,351	10/3/2016	\$ 46,840	0.33
Totals						\$11,384,469		\$9,921,042	0.87

Information from FEMA Loss Avoidance Study

Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
2005	7	PDM	City of Savannah	2305 Margaret St	Acquisition	\$ 157,399	9/12/2017	\$ 60,114	0.38
2005	7	PDM	City of Savannah	2308 Margaret St	Acquisition	\$ 124,027	9/12/2017	\$ 33,882	0.27
2005	7	PDM	City of Savannah	2309 Margaret St	Acquisition	\$ 141,778	9/12/2017	\$ 38,754	0.27
2005	7	PDM	City of Savannah	2311 Margaret St	Acquisition	\$ 91,122	9/12/2017	\$ 4,951	0.05
2005	7	PDM	City of Savannah	2310 Margaret St	Acquisition	\$ 130,868	9/12/2017	\$ 87,409	0.67
2005	7	PDM	City of Savannah	2313 Margaret St	Acquisition	\$ 92,974	9/12/2017	\$ 81,099	0.87
2005	7	PDM	City of Savannah	2320 Margaret St	Acquisition	\$ 101,272	9/12/2017	\$ 87,710	0.87
2005	7	PDM	City of Savannah	2322 Margaret St	Acquisition	\$ 115,745	9/12/2017	\$ 6,743	0.06
2005	7	PDM	City of Savannah	2328 Margaret St	Acquisition	\$ 110,324	9/12/2017	\$ 122,640	1.11
2005	7	PDM	City of Savannah	2316 Margaret St	Acquisition	\$ 119,464	9/12/2017	\$ 71,263	0.60
1042	3	HMGF	City of Savannah	2315 Margaret St	Acquisition	\$ 78,877	9/12/2017	\$ 130,458	1.65
1761	14	HMGF	City of Savannah	2402 E Derenne Ave	Acquisition	\$ 105,191	9/12/2017	\$ 41,585	0.40
1686	8	HMGF	City of Savannah	2302 E. Derenne Ave	Acquisition	\$ 100,813	9/12/2017	\$ 75,610	0.75
1686	8	HMGF	City of Savannah	2306 E. Derenne Ave	Acquisition	\$ 119,194	9/12/2017	\$ 94,916	0.80
1686	8	HMGF	City of Savannah	2310 E. Derenne Ave	Acquisition	\$ 99,348	9/12/2017	\$ 66,534	0.67
1686	8	HMGF	City of Savannah	2312 E. Derenne Ave	Acquisition	\$ 96,101	9/12/2017	\$ 74,272	0.77
1033	196	HMGF	City of Savannah	2304 Vicksburg DR	Acquisition	\$ 77,092	9/12/2017	\$ 32,952	0.43
1033	196	HMGF	City of Savannah	2313 Vicksburg DR	Acquisition	\$ 52,225	9/12/2017	\$ 50,356	0.96
1033	196	HMGF	City of Savannah	2309 Vicksburg DR	Acquisition	\$ 56,207	9/12/2017	\$ 16,254	0.29
1033	196	HMGF	City of Savannah	2401 Vicksburg DR	Acquisition	\$ 66,358	9/12/2017	\$ 7,318	0.11
1033	196	HMGF	City of Savannah	5310 Bonnie DR	Acquisition	\$ 47,644	9/12/2017	\$ 60,001	1.26
1033	196	HMGF	City of Savannah	5314 Bonnie DR	Acquisition	\$ 60,598	9/12/2017	\$ 64,275	1.06
1033	196	HMGF	City of Savannah	5318 Bonnie DR	Acquisition	\$ 63,020	9/12/2017	\$ 67,164	1.07
1033	196	HMGF	City of Savannah	5322 Bonnie DR	Acquisition	\$ 43,206	9/12/2017	\$ 35,038	0.81
1033	196	HMGF	City of Savannah	5326 Bonnie DR	Acquisition	\$ 61,040	9/12/2017	\$ 20,130	0.33
1033	196	HMGF	City of Savannah	5 La Roche CT	Acquisition	\$ 106,340	9/12/2017	\$ 33,306	0.31
1033	196	HMGF	City of Savannah	6 La Roche CT	Acquisition	\$ 89,852	9/12/2017	\$ 51,363	0.57
1033	196	HMGF	City of Savannah	2417 Vicksburg DR	Acquisition	\$ 50,660	9/12/2017	\$ 33,677	0.66
1033	196	HMGF	City of Savannah	5321 Bonnie DR	Acquisition	\$ 39,568	9/12/2017	\$ 16,476	0.42
2007	2	PDM	City of Savannah	5317 Bonnie DR	Acquisition	\$ 126,051	9/12/2017	\$ 90,610	0.72
1033	196	HMGF	City of Savannah	5313 Bonnie DR	Acquisition	\$ 48,561	9/12/2017	\$ 49,941	1.03
1033	196	HMGF	City of Savannah	5309 Bonnie DR	Acquisition	\$ 58,136	9/12/2017	\$ 64,983	1.12
1033	196	HMGF	City of Savannah	5305 Bonnie DR	Acquisition	\$ 49,904	9/12/2017	\$ 50,936	1.02
1042	3	HMGF	City of Savannah	407 Linwood RD	Acquisition	\$ 78,440	9/12/2017	\$ 9,488	0.12
1033	196	HMGF	City of Savannah	130 Juniper CIR	Acquisition	\$ 68,576	9/12/2017	\$ 8,923	0.13
1033	196	HMGF	City of Savannah	126 Juniper CIR	Acquisition	\$ 81,564	9/12/2017	\$ 8,570	0.11
1033	196	HMGF	City of Savannah	308 Linwood RD	Acquisition	\$ 88,512	9/12/2017	\$ 6,803	0.08
1033	196	HMGF	City of Savannah	12405 Woodley RD	Acquisition	\$ 92,395	9/12/2017	\$ 7,682	0.08
1033	196	HMGF	City of Savannah	12404 Woodley RD	Acquisition	\$ 99,823	9/12/2017	\$ 5,804	0.06
1033	196	HMGF	City of Savannah	12406 Woodley RD	Acquisition	\$ 79,020	9/12/2017	\$ 7,172	0.09
1033	196	HMGF	City of Savannah	12408 Woodley RD	Acquisition	\$ 65,930	9/12/2017	\$ 6,258	0.09
1033	196	HMGF	City of Savannah	303 Linwood RD	Acquisition	\$ 84,257	9/12/2017	\$ 6,051	0.07
1033	196	HMGF	City of Savannah	305 Linwood RD	Acquisition	\$ 95,011	9/12/2017	\$ 7,172	0.08
1033	196	HMGF	City of Savannah	305 Linwood RD	Acquisition	\$ 92,498	9/12/2017	\$ 7,000	0.08
1033	196	HMGF	City of Savannah	18 Vineyard DR	Acquisition	\$ 121,274	9/12/2017	\$ 285,134	2.35
1033	196	HMGF	City of Savannah	16 Vineyard DR	Acquisition	\$ 86,290	9/12/2017	\$ 269,346	3.12
1311	7	HMGF	City of Savannah	6 Vineyard DR	Acquisition	\$ 80,066	9/12/2017	\$ 199,936	2.50

DR4338 Mitigation Effectiveness Report

Disaster of Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
1033	196	HMGP	City of Savannah	113 Wilshire Blvd	Acquisition	\$ 110,795	9/12/2017	\$ 258,044	2.33
1033	196	HMGP	City of Savannah	117 Wilshire Blvd	Acquisition	\$ 78,942	9/12/2017	\$ 237,005	3.00
1033	196	HMGP	City of Savannah	110 Wilshire Blvd	Acquisition	\$ 84,676	9/12/2017	\$ 272,087	3.21
1033	196	HMGP	City of Savannah	108 Wilshire Blvd	Acquisition	\$ 79,666	9/12/2017	\$ 227,776	2.86
1033	196	HMGP	City of Savannah	209 Wilshire Blvd	Acquisition	\$ 84,355	9/12/2017	\$ 260,944	3.09
2004	2	FMA	City of Savannah	115 Wilshire Blvd	Acquisition	\$ 115,694	9/12/2017	\$ 211,823	1.83
1271	4	HMGP	City of Savannah	106 Wilshire Blvd	Acquisition	\$ 69,703	9/12/2017	\$ 206,723	2.97
1271	4	HMGP	City of Savannah	2 Wilshire Blvd	Acquisition	\$ 74,718	9/12/2017	\$ 230,192	3.08
1033	196	HMGP	City of Savannah	122 Chatham ST	Acquisition	\$ 67,538	9/12/2017	\$ 57,472	0.85
2011	3	PDM	City of Savannah	202 Chatham St	Acquisition	\$ 105,060	9/12/2017	\$ 141,063	1.34
1033	196	HMGP	City of Savannah	206 Chatham ST	Acquisition	\$ 91,767	9/12/2017	\$ 71,221	0.78
1033	196	HMGP	City of Savannah	210 Chatham ST	Acquisition	\$ 124,544	9/12/2017	\$ 92,633	0.74
1033	196	HMGP	City of Savannah	214 Chatham ST	Acquisition	\$ 96,125	9/12/2017	\$ 49,333	0.51
1033	196	HMGP	City of Savannah	218 Chatham ST	Acquisition	\$ 86,039	9/12/2017	\$ 30,826	0.36
1033	196	HMGP	City of Savannah	213 Wesley ST	Acquisition	\$ 62,907	9/12/2017	\$ 84,967	1.35
1033	196	HMGP	City of Savannah	210 Kandlewood DR	Acquisition	\$ 61,449	9/12/2017	\$ 90,403	1.47
1033	196	HMGP	City of Savannah	214 Kandlewood DR	Acquisition	\$ 72,521	9/12/2017	\$ 101,511	1.40
1686	8	HMGP	City of Savannah	202 Kandlewood Dr	Acquisition	\$ 128,492	9/12/2017	\$ 27,128	0.21
1311	7	HMGP	City of Savannah	3 Nina Court	Acquisition	\$ 90,212	9/12/2017	\$ 5,905	0.07
1311	7	HMGP	City of Savannah	5 Nina Court	Acquisition	\$ 105,811	9/12/2017	\$ 6,924	0.07
1311	7	HMGP	City of Savannah	7 Nina Court	Acquisition	\$ 88,260	9/12/2017	\$ 5,678	0.06
1311	7	HMGP	City of Savannah	9 Nina Court	Acquisition	\$ 112,995	9/12/2017	\$ 7,571	0.07
1311	7	HMGP	City of Savannah	11 Nina Court	Acquisition	\$ 70,733	9/12/2017	\$ 43,847	0.62
2011	3	PDM	City of Savannah	16 Paradise Drive	Acquisition	\$ 138,707	9/12/2017	\$ 44,824	0.32
Additional Properties evaluated by the State									
1997	1	FMA	City of Savannah	107 Fell Street	Acquisition	\$ 13,120	9/12/2017	\$ 62,807	4.79
1042	1	HMGP	City of Savannah	105 BAKER ST	Acquisition	\$ 12,329	9/12/2017	\$ 62,769	5.09
1042	1	HMGP	City of Savannah	107 BAKER ST	Acquisition	\$ 13,177	9/12/2017	\$ 68,283	5.18
1042	1	HMGP	City of Savannah	109 BAKER ST	Acquisition	\$ 10,200	9/12/2017	\$ 79,870	7.83
1042	1	HMGP	City of Savannah	110 BAKER ST	Acquisition	\$ 9,702	9/12/2017	\$ 33,951	3.50
1042	1	HMGP	City of Savannah	111 BAKER ST	Acquisition	\$ 14,604	9/12/2017	\$ 70,600	4.83
1042	1	HMGP	City of Savannah	112 BAKER ST	Acquisition	\$ 21,071	9/12/2017	\$ 94,805	4.50
1042	1	HMGP	City of Savannah	113 BAKER ST	Acquisition	\$ 28,616	9/12/2017	\$ 90,161	3.15
1042	1	HMGP	City of Savannah	116 BAKER ST	Acquisition	\$ 25,616	9/12/2017	\$ 94,766	3.70
1042	1	HMGP	City of Savannah	117 BAKER ST	Acquisition	\$ 36,516	9/12/2017	\$ 108,582	2.97
1042	1	HMGP	City of Savannah	118 BAKER ST	Acquisition	\$ 14,664	9/12/2017	\$ 103,977	7.09
1042	1	HMGP	City of Savannah	119 BAKER ST	Acquisition	\$ 7,716	9/12/2017	\$ 70,600	9.15
1042	1	HMGP	City of Savannah	120 BAKER ST	Acquisition	\$ 20,949	9/12/2017	\$ 57,793	2.76
1042	1	HMGP	City of Savannah	121 BAKER ST	Acquisition	\$ 135,036	9/12/2017	\$ 109,251	0.81
1042	1	HMGP	City of Savannah	123 BAKER ST	Acquisition	\$ 5,236	9/12/2017	\$ 70,806	13.52
1042	1	HMGP	City of Savannah	124 BAKER ST	Acquisition	\$ 37,616	9/12/2017	\$ 57,793	1.54
1042	1	HMGP	City of Savannah	126 BAKER ST	Acquisition	\$ 16,652	9/12/2017	\$ 78,016	4.69
1042	1	HMGP	City of Savannah	130 BAKER ST	Acquisition	\$ 16,916	9/12/2017	\$ 75,132	4.44
1042	1	HMGP	City of Savannah	132 BAKER ST	Acquisition	\$ 18,668	9/12/2017	\$ 64,013	3.43
1042	1	HMGP	City of Savannah	201 FELL ST	Acquisition	\$ 21,896	9/12/2017	\$ 37,007	1.69
1042	1	HMGP	City of Savannah	203 FELL ST	Acquisition	\$ 5,582	9/12/2017	\$ 28,503	5.11
1042	1	HMGP	City of Savannah	205 FELL ST	Acquisition	\$ 6,793	9/12/2017	\$ 50,140	7.38
1042	1	HMGP	City of Savannah	207 FELL ST	Acquisition	\$ 15,364	9/12/2017	\$ 50,140	3.26

DR4338 Mitigation Effectiveness Report

Disaster or Year	Project Number	Funding Source	Applicant	ADDRESS	Mitigation Action	Cost	Loss Avoided Date	Loss Avoided Amount	Return on Investment
	1042	1	HMGP	City of Savannah	209 FELL ST	\$ 31,616	9/12/2017	\$ 57,718	1.83
	1042	1	HMGP	City of Savannah	8 JENKS ST	\$ 11,389	9/12/2017	\$ 98,732	8.67
	1042	1	HMGP	City of Savannah	12 JENKS ST	\$ 9,310	9/12/2017	\$ 42,450	4.56
	1042	1	HMGP	City of Savannah	14 JENKS ST	\$ 15,554	9/12/2017	\$ 97,689	6.28
	1042	1	HMGP	City of Savannah	106 JENKS ST	\$ 3,126	9/12/2017	\$ 103,251	33.03
	1042	1	HMGP	City of Savannah	107 JENKS ST	\$ 9,557	9/12/2017	\$ 53,269	5.57
	1042	1	HMGP	City of Savannah	109 JENKS ST	\$ 9,738	9/12/2017	\$ 76,162	7.82
	1042	1	HMGP	City of Savannah	111 JENKS ST	\$ 33,516	9/12/2017	\$ 32,932	0.98
	1997	1	FMA	City of Savannah	1247 W 42nd Street	\$ 36,646	9/12/2017	\$ 59,188	1.62
	1997	1	FMA	City of Savannah	2372 Ogeechee Road	\$ 81,791	9/12/2017	\$ 56,021	0.68
	1997	1	FMA	City of Savannah	1245 West 42nd Street	\$ 31,992	9/12/2017	\$ 89,398	2.79
	1033	196	HMGP	City of Savannah	2343 Ogeechee Rd	\$ 62,458	9/12/2017	\$ 34,859	0.56
	1033	196	HMGP	City of Savannah	2345 Ogeechee Rd	\$ 44,609	9/12/2017	\$ 34,859	0.78
	1033	196	HMGP	City of Savannah	1251 W 42nd St	\$ 33,013	9/12/2017	\$ 77,811	2.36
	1033	196	HMGP	City of Savannah	1241 W 42nd St	\$ 62,356	9/12/2017	\$ 64,880	1.04
	1033	196	HMGP	City of Savannah	2380 Ogeechee Rd	\$ 68,887	9/12/2017	\$ 43,562	0.63
	1033	196	HMGP	City of Savannah	2376 Ogeechee Rd	\$ 65,662	9/12/2017	\$ 41,480	0.63
	2007	12	PDM	Chatham County	1907 Blue Jay Ave.	\$ 93,991	9/12/2017	\$ 50,161	0.53
	2007	12	PDM	Chatham County	1909 Blue Jay Ave.	\$ 93,991	9/12/2017	\$ 50,161	0.53
	2007	12	PDM	Chatham County	1915 Blue Jay Ave.	\$ 80,491	9/12/2017	\$ 50,161	0.62
	2007	12	PDM	Chatham County	1918 Blue Jay Ave.	\$ 87,241	9/12/2017	\$ 50,161	0.57
	2007	12	PDM	Chatham County	1920 Blue Jay Ave.	\$ 84,086	9/12/2017	\$ 42,411	0.50
	2007	12	PDM	Chatham County	1921 Blue Jay Ave.	\$ 86,491	9/12/2017	\$ 28,301	0.33
	2007	12	PDM	Chatham County	1922 Blue Jay Ave.	\$ 90,491	9/12/2017	\$ 41,923	0.46
	2007	12	PDM	Chatham County	1923 Blue Jay Ave.	\$ 79,491	9/12/2017	\$ 6,561	0.08
	2007	12	PDM	Chatham County	1923 Westlake Ave.	\$ 83,741	9/12/2017	\$ 8,328	0.10
	2007	12	PDM	Chatham County	1924 Blue Jay Ave.	\$ 91,490	9/12/2017	\$ 6,450	0.07
	2007	12	PDM	Chatham County	1932 Blue Jay Ave.	\$ 81,497	9/12/2017	\$ 6,561	0.08
	2007	12	PDM	Chatham County	1933 Blue Jay Ave.	\$ 83,491	9/12/2017	\$ 6,561	0.08
	1033	196	HMGP	City of Savannah	1310 Stokes St	\$ 41,837	9/12/2017	\$ 53,759	1.28
	1033	196	HMGP	City of Savannah	1012 Stokes St	\$ 40,181	9/12/2017	\$ 5,562	0.14
	1033	196	HMGP	City of Savannah	1008 Stokes St	\$ 58,857	9/12/2017	\$ 6,475	0.11
	1033	196	HMGP	City of Savannah	1006 Stokes St	\$ 37,213	9/12/2017	\$ 5,552	0.15
	1033	196	HMGP	City of Savannah	1029 Stokes St	\$ 53,894	9/12/2017	\$ 5,723	0.11
	1033	196	HMGP	City of Savannah	1011 Stokes St	\$ 36,232	9/12/2017	\$ 33,087	0.91
	2008	1	LPDM	City of Savannah	1010 Stokes St	\$ 21,725	9/12/2017	\$ 28,238	1.30
Totals					130	\$8,742,011		\$8,594,125	0.98

Appendix J-V
PA EMMIE and CAT C-G Reports

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4294-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	1	2	3	4%	13%	\$13,595.00	\$214,868.74	1.15%
15%	0	0	0	0%	0%	\$0.00	\$0.00	0%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	1	2	3	4%	13%	\$13,595.00	\$214,868.74	1.15%
Not Applicable	3	17	20	27%	87%	\$0.00	\$959,450.76	5.15%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	4	19	23	31%	100%	\$13,595.00	\$1,174,319.50	6.3%
Projects	19	56	75			\$90,023.00	\$18,625,245.63	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)

HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4297-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	1	1	1%	2%	\$0.00	\$32,969.55	0.11%
Mitigation Policy	2	10	12	7%	22%	\$61,394.80	\$646,307.53	2.07%
15%	0	0	0	0%	0%	\$0.00	\$0.00	0%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	2	10	12	7%	22%	\$61,394.80	\$646,307.53	2.07%
Not Applicable	7	34	41	24%	76%	\$0.00	\$3,812,434.29	12.21%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	9	45	54	32%	100%	\$61,394.80	\$4,491,711.37	14.38%
Projects	42	126	168			\$137,952.62	\$31,229,996.15	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)

HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4338-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	5	5	0%	2%	\$0.00	\$50,274.80	0.03%
Good Construction Practices	0	1	1	0%	0%	\$0.00	\$3,627.75	0%
Mitigation Policy	5	50	55	3%	18%	\$2,849,885.63	\$5,698,908.72	3.78%
15%	0	7	7	0%	2%	\$12,867.50	\$175,350.17	0.12%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	5	43	48	3%	16%	\$2,837,018.13	\$5,523,558.55	3.67%
Not Applicable	24	218	242	14%	79%	\$0.00	\$12,268,118.60	8.14%
Other	1	1	2	0%	1%	(\$53,417.00)	\$209,888.02	0.14%
Projects with HM	30	275	305	18%	100%	\$2,796,468.63	\$18,230,817.89	12.1%
Projects	199	1489	1688			\$2,824,149.03	\$150,695,730.55	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)

HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4400-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	0	36	36	6%	30%	\$302,574.72	\$854,428.64	0.46%
15%	0	18	18	3%	15%	\$113,728.32	\$474,429.54	0.26%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	0	18	18	3%	15%	\$188,846.40	\$379,999.10	0.21%
Not Applicable	18	68	86	15%	70%	\$0.00	\$31,273,107.56	16.92%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	18	104	122	22%	100%	\$302,574.72	\$32,127,536.20	17.38%
Projects	106	458	564			\$461,237.17	\$184,863,533.56	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)
 HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4501-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	0	0	0	0%	0%	\$0.00	\$0.00	0%
15%	0	0	0	0%	0%	\$0.00	\$0.00	0%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	0	0	0	0%	0%	\$0.00	\$0.00	0%
Not Applicable	0	0	0	0%	0%	\$0.00	\$0.00	0%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects	36	139	175			\$0.00	\$256,065,953.49	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)

HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4579-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	1	0	1	1%	7%	\$0.00	\$1,211,289.44	7.16%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	1	2	3	3%	20%	\$13,958.52	\$236,802.84	1.4%
15%	0	1	1	1%	7%	\$66.00	\$6,976.59	0.04%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	1	1	2	2%	13%	\$13,892.52	\$229,826.25	1.36%
Not Applicable	0	11	11	10%	73%	\$0.00	\$362,733.78	2.14%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	2	13	15	14%	100%	\$13,958.52	\$1,810,826.06	10.71%
Projects	20	85	105			\$14,725.68	\$16,912,645.60	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)
 HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4600-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	2	7	9	9%	19%	\$67,514.23	\$663,276.02	2.95%
15%	1	3	4	4%	8%	\$8,679.21	\$364,900.15	1.62%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	1	4	5	5%	10%	\$58,835.02	\$298,375.87	1.33%
Not Applicable	0	39	39	41%	81%	\$0.00	\$1,129,536.80	5.02%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	2	46	48	50%	100%	\$67,514.23	\$1,792,812.82	7.97%
Projects	21	75	96			\$205,579.85	\$22,500,640.63	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)
HMP = Hazard Mitigation Proposals

Date: 10-18-2023 05:10								
Federal Emergency Management Agency								
Public Assistance Mitigation Profile								
Disaster: FEMA-4685-DR-GA								
Cat.	Large Projects	Small Projects	Total Projects	Number of Projects with HM to Total Number of Projects	% of HMP Projects	HMP \$ Awarded	Total \$ Awarded on Projects	% of \$ Awarded on Projects with HMP to Total \$ Awarded
Codes and Standards	0	0	0	0%	0%	\$0.00	\$0.00	0%
Good Construction Practices	0	0	0	0%	0%	\$0.00	\$0.00	0%
Mitigation Policy	2	1	3	3%	14%	\$3,754.68	\$2,193,381.56	6.51%
15%	1	1	2	2%	9%	\$0.00	\$1,418,681.56	4.21%
B/C	0	0	0	0%	0%	\$0.00	\$0.00	0%
List	1	0	1	1%	5%	\$3,754.68	\$774,700.00	2.3%
Not Applicable	0	19	19	22%	86%	\$0.00	\$2,733,218.27	8.11%
Other	0	0	0	0%	0%	\$0.00	\$0.00	0%
Projects with HM	2	20	22	25%	100%	\$3,754.68	\$4,926,599.83	14.62%
Projects	10	77	87			\$3,754.68	\$33,695,442.19	100%

Note: The Mitigation Policy row shows a summary of its subcategories.

The Projects with HMP calculation at the bottom does not count the Mitigation Policy line, only its subcategories.

HM = 406 Mitigation (HMP, Codes and Standards, Mitigation Policy, etc.)
 HMP = Hazard Mitigation Proposals

DR-4284 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Water Control Facilities	2	\$120,125.17	\$90,093.88
Public Utilities	32	\$9,833,272.17	\$7,374,954.16
Roads and Bridges	33	\$4,232,985.54	\$3,174,739.21
Parks, Recreational Facilities, and O	60	\$5,260,832.24	\$3,945,624.23
Public Buildings & Equipment	68	\$3,445,654.06	\$2,584,240.61
195	\$22,892,869.18	\$17,169,652.09	

- Category**
- C Roads & Bridges
 - D Water Control Facilities
 - E Public Buildings & Equipment
 - F Public Buildings & Equipment
 - G Parks, Rec. Facilities, and Other

DR- 4338 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Public Buildings & Equipment	115	\$2,054,748.79	\$1,541,415.80
Water Control Facilities	4	\$5,226,339.18	\$3,919,754.39
Parks, Recreational Facilities, and O	55	\$4,445,920.44	\$3,334,440.36
Roads and Bridges	76	\$6,186,140.35	\$4,639,605.32
Public Utilities	96	\$43,952,962.99	\$32,964,722.26
346	\$61,866,111.75	\$46,399,938.13	

As of 1.10.24
Total Eligible Amount \$209,419,218.30 CAT C-G

Total Federal Amount \$159,994,776.05 CAT C-G

DR-4400 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Water Control Facilities	1	\$66,301.83	\$49,726.37
Parks, Recreational Facilities, and O	23	\$3,132,306.19	\$2,406,502.67
Public Buildings & Equipment	35	\$754,263.57	\$565,697.72
Roads and Bridges	39	\$1,764,172.47	\$1,323,129.41
Public Utilities	57	\$84,738,394.71	\$63,553,796.11
155	\$90,455,438.77	\$67,898,852.28	

State	Disaster Number	Declaration Date
GA	4284	10/08/16
GA	4338	09/15/17
GA	4400	10/14/18
GA	4501	03/29/20
GA	4579	01/12/21
GA	4600	05/05/21
GA	4685	01/16/23
GA	4738	09/07/23

DR-4501 - COVID-19 (CAT B only)

DR- 4579 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Public Utilities	14	\$11,905,086.09	\$10,714,577.51
Parks, Recreational Facilities, and O	3	\$64,844.51	\$58,360.06
Roads and Bridges	6	\$205,661.29	\$185,095.17
23	\$12,175,591.89	\$10,958,032.74	

DR-4600 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Parks, Recreational Facilities, and O	10	\$282,069.08	\$253,862.18
Water Control Facilities	2	\$44,269.33	\$39,842.40
Public Buildings & Equipment	3	\$124,918.71	\$112,426.84
Roads and Bridges	33	\$2,041,794.29	\$1,837,614.85
Public Utilities	9	\$4,482,920.21	\$4,034,628.21
57	\$6,975,971.62	\$6,278,374.48	

DR-4685 Project Category	Project Count	Eligible Amount	Federal+Admin Obligated
Water Control Facilities	1	\$41,194.87	\$30,896.15
Public Utilities	16	\$13,842,397.34	\$10,381,798.02
Public Buildings & Equipment	5	\$160,340.75	\$120,255.56
Roads and Bridges	7	\$1,009,302.13	\$756,976.60
29	\$15,053,235.09	\$11,289,926.33	

DR-4738 - No CAT C-G obligations at this time

Appendix J-VI Silver

Jackets Charter



FEMA



US Army Corps
of Engineers®



Note

Georgia Silver Jackets
Flood Risk Management Team Charter

Georgia Silver Jackets
Flood Risk Management Team Charter



Charley English, Director
Georgia Emergency Management Agency

Date: 9/24/2010

Georgia Silver Jackets

Flood Risk Management Team Charter

This charter establishes and formalizes the expectations for implementation of the Silver Jackets Flood Risk Management Team for the State of Georgia. The collaborative agreement forged by this charter in no way limits participating agencies from taking actions in accordance with their existing authorities and charges, nor does it encumber them with additional financial commitments to support the team or its recommendations.

This charter will be reviewed annually and may be revised at any time per the consent of the core agencies.

VISION STATEMENT

Establish and strengthen intergovernmental partnerships that result in comprehensive and sustainable solutions to Georgia's flood hazards.

MISSION STATEMENT

Through an intergovernmental team of state and Federal agencies, a collaborative process will:

- Facilitate strategic, integrated life-cycle mitigation actions to reduce the threat, vulnerability and consequences of flooding in the State of Georgia;
- Create or supplement a mechanism to collaboratively solve issues and implement or recommend solutions;
- Identify and implement ways to leverage available resources and information among agencies;
- Increase and improve flood risk communication and outreach;
- Inform the U.S. Army Corps of Engineers District Commander and State-level agency directors during response and recovery activities; and
- Integrate mitigation into recovery actions.

GOALS

- Ensure continuous collaboration for flood mitigation, response, and recovery activities before, during, and after flooding;
- Establish an ongoing, regularly scheduled forum for examining all types of solutions for flood risk management;
- Develop and maintain a common information matrix on State and federal programs which identifies limitations and opportunities;
- Provide a unified set of recommendations on programs that could be combined or amended to create integrated, comprehensive and sustainable solutions;
- Create a multi-agency technical resource gateway for state and local agencies;
- Coordinate team efforts into the updates of the Georgia Hazard Mitigation Plan;
- Provide assistance for implementing high priority actions identified in the Georgia Hazard Mitigation Plan;
- Jointly develop and deliver a unified flood risk outreach message to better educate and advise mutual customers;
- Develop and deliver a plan to inform all audiences about risk concepts, including residual risk;

- Jointly provide specific input to agencies on barriers that their existing programs, policies or processes present to effective flood risk management;
- Catalog and share information on past and future projects and initiatives; and
- Prioritize current and future initiatives individually and collectively.

ROLES AND RESPONSIBILITIES

The Flood Risk Management Team will involve interagency cooperation. Membership will vary based on available resources and team project focus. Representatives may be from the regional and state levels of the organizations. All participating agencies will contribute experience and information to all team efforts.

As this team evolves, other state and Federal agencies may choose to participate in this initiative, however; the core agencies that will be involved at all times are:

- Federal Emergency Management Agency (FEMA)
- U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (EPA)
- Georgia Department of Natural Resources (GA DNR)
- Georgia Emergency Management Agency (GEMA)
- Natural Resources Conservation Service (NRCS)
- United States Geologic Survey (USGS)
- National Weather Service (NWS)
- U.S. Economic Development Administration (EDA)
- Federal Highway Administration (FHWA)

Initially, the lead agency will be the USACE. The Savannah District will serve as the lead Corps of Engineers District. The Savannah District will maintain and distribute a contact sheet. With the support of a team consensus, the leadership role may rotate among the core members. With the support of team members, the agency assuming the leadership role is responsible for organizing, coordinating and facilitating team meetings, as well as recording and maintaining final meeting minutes. The representative of the lead agency may request assistance in performing any of these responsibilities.

MEETINGS

At a minimum, meetings will be conducted on a quarterly basis. Coordination may occur through email and teleconferencing. Agendas for meetings shall go out at least one week prior to meeting. Draft meeting minutes shall be distributed for review and presented for formal approval at the following meeting. The Savannah District will maintain final minutes and post on the Georgia Silver Jackets web site.

DECISIONS

Decisions will be accomplished by the team through consensus after discussion. If a decision cannot be reached through consensus, the secondary method will be by voting. The core agencies that should be involved in all major decisions include: FEMA, USACE, EPA, GA DNR, GEMA, NRCS, USGS, NWS, EDA, and FHWA.

Appendix K

Georgia Disaster Resilient Construction Codes



Georgia State International Building Code

Appendix N Disaster Resilient Construction (2012 Edition)



Georgia Department of Community Affairs
Local Government Assistance Division
60 Executive Park South, N.E.
Atlanta, Georgia 30329-2231
(404) 679-3118
www.dca.ga.gov

January 1, 2013

GEORGIA STATE INTERNATIONAL BUILDING CODE
APPENDIX N
DISASTER RESILIENT CONSTRUCTION

The INTERNATIONAL BUILDING CODE, 2012 Edition, published by the International Code Council, when used in conjunction with the Georgia State Amendments to the INTERNATIONAL BUILDING CODE, 2012 Edition and Appendix N Disaster Resilient Construction, shall constitute the official *Georgia State Minimum Standard Building Code*.

FORWARD

Introduction

The Department of Community Affairs (DCA) was awarded a grant through the U.S. Department of Housing and Urban Development (HUD) to develop Disaster Resilient Building Code (DRBC) Appendices for the International Building Code (IBC) and the International Residential Code (IRC). The DRBC Appendices are optional regulations that local jurisdictions may adopt, in whole or in part, through local ordinance. A task force of stakeholders was appointed to look for opportunities to improve any code provisions relating to damage from hurricane, flood, and tornado disasters. In addition to the approved recommendations from the task force, the state has developed and will conduct a comprehensive training program for code enforcement officials on the importance, implementation and enforcement of the Disaster Resilient Construction Appendices.

The meetings for the Disaster Resilient Building Code Appendices Task Force were open to the public, interested individuals and organizations that desired participation. The technical content of currently published documents on flooding, high-wind construction, and storm shelters, were used and referenced. Those publications included documents of the International Code Council (ICC), American Society of Civil Engineers (ASCE), the Federal Emergency Management Agency (FEMA), Mitigation Assessment Team (MAT) Program, Georgia Emergency Management Agency/Homeland Security (GEMA), APA – The Engineered Wood Association, National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), The State of Florida, American Forest & Paper Association’s American Wood Council, Southern Forest Products Association, NAHB Research Center, Insurance Institute for Business & Home Safety, and the Federal Alliance for Safe Homes.

Adoption

Local jurisdictions may adopt this entire appendix with chosen options or specific sections that apply to their communities through a local ordinance. The adopting ordinance must also be filed on record with DCA. A sample ordinance has been included in this document to assist the local jurisdictions with the adoption process. Recommended training is being offered to assist code enforcement officials in the implementation and enforcement of the appendices documents. Contact DCA at (404) 679-3118 or www.dca.ga.gov for more information.

Neither The Disaster Resilient Building Code Appendices Task Force, its members nor those participating in the development of Appendix N Disaster Resilient Construction accept any liability resulting from compliance or noncompliance with the provisions of Appendix N Disaster Resilient Construction.

The 2012 Disaster Resilient Building Code (DRBC) Appendices Task Force was charged with the development of two appendices. One appendix is for the International Residential Code and the other appendix is for the International Building Code. These two appendices look for opportunities to improve any provisions relating to hurricane, flood, and tornado disasters. In addition to improving existing provisions in the codes, the task force also developed new provisions to be included in the appendices that address these issues. These appendices contain increased construction requirements for disaster resilience and are intended to be made available for adoption by local jurisdictions in the State of Georgia.

These appendices have reasonable and substantial connection with the public health, safety, and general welfare. In addition, the financial impact and costs associated with these appendices have been taken into consideration.

Members:

Mr. Gregori Anderson, Chairman, States Codes Advisory Committee (SCAC)
Mr. David L. Adams, , Vice Chairman, States Codes Advisory Committee (SCAC)
Mr. Bill Abballe, AIA, American Institute of Architects (AIA) – Georgia Chapter
Mr. John Hutton, P.E., S.E., American Council of Engineering Companies of Georgia (ACEC/G)
Mr. Ron Anderson, Code Consultant
Mr. Lamar Smith, Home Builders Association of Georgia (HBAG)
Mr. Thomas Harper, Georgia State Inspectors Association (GSIA)
Mr. Tom Buttram, Building Officials Association of Georgia (BOAG)
Capt. Zane Newman, Georgia State Fire Marshal’s Office (Local Fire Official)
Mr. Terry Lunn, Georgia Emergency Management Agency (GEMA)
Mr. Alan Giles, , CFM, Georgia Department of Natural Resources (EPD / Floodplain Management Unit)
Mr. Tony Hebert, HUD Georgia State Representative (Region IV Office)
Mr. Jim C. Beck, Sr., Georgia Underwriting Association
Mr. Tim Thornton, Georgia Association of Realtors (GAR)
Mr. Steve Harrison, Building Owners and Managers Association – Georgia (BOMA)
Mr. Tom Aderhold, Georgia Apartment Association (GAA)
Mr. Tim Bromley, Accessibility Consultant – Georgia State ADA Coordinator’s Office
Mayor Mark Mathews, Georgia Municipal Association (GMA)
Commissioner Jeff Long, Association of County Commissioners of Georgia (ACCG)

Ad Hoc Subcommittee:

Mr. Tom Buttram, Chairman, DRBC Task Force Liaison (BOAG)
Mr. Ron Anderson, Vice Chairman, Code Consultant
Mr. Stephen V. Skalko, Concrete Industry
Mr. Jeffrey B. Stone, Wood Industry (AWC)
Mr. Robert Wills, Steel Industry (AISC)
Mr. Tom Cunningham, PhD., Residential Building Design
Mr. Duncan J. Hastie, P.E., Disaster Mitigation

DCA Staff:

Mr. Ted Miltiades, Director of Construction Codes & Industrialized Buildings
Mrs. Deirdre “Dee” Leclair, DRBC Grant Project Manager
Mr. Max Rietschier, Lead Codes Consultant
Mr. Bill Towson, 2012 International Residential Code Task Force Liaison, Code Consultant
Mr. Calvin Jordan, 2012 International Building Code Task Force Liaison, Code Consultant

How to Use Appendix N Disaster Resilient Construction

The appendix may be adopted in whole or in part by Local Jurisdictions to fit the needs of their community. The following sample ordinance has been provided to aid in the process of indentifying Chapters and Sections of the appendix that may be adopted. The format easily allows for choosing to adopt, revise or delete individual Chapters and Sections. Download the MS Word (.doc) version from the DCA website to take advantage of the dropdown menu choices and edit ability features of the document. Note that in Chapter 3, choose one of three options for flood elevation. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by the jurisdiction. Also note that in Chapter 4, choose one of three options for increased wind load. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by the jurisdiction. The Sample Ordinance document takes into account the flood elevation option in Chapter 3 and the wind load option in Chapter 4 of this appendix.

**SAMPLE ORDINANCE FOR ADOPTION OF
GEORGIA STATE INTERNATIONAL BUILDING CODE**

**APPENDIX N
DISASTER RESILIENT CONSTRUCTION**

ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the latest edition as adopted and amended by the Georgia Department of Community Affairs of *Appendix N Disaster Resilient Construction* regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefore; repealing Ordinance No. ____ of the [JURISDICTION] and all other ordinances or parts of the laws in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as *Appendix N Disaster Resilient Construction* to the International Building Code, the latest edition as adopted and amended by the Georgia Department of Community Affairs, be and is adopted as the *Appendix N Disaster Resilient Construction* of the [JURISDICTION], in the State of Georgia for regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said *Appendix N Disaster Resilient Construction* on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any prescribed in Section 2 of this ordinance.

Section 2. [NAME OF JURISDICTION] hereby:

Choose an item. CHAPTER AN1 SCOPE AND ADMINISTRATION Choose an item.

Choose an item. SECTION AN101 ADMINISTRATION Choose an item.

Choose an item. AN101.1 Purpose Choose an item.

Choose an item. AN101.2 Objectives Choose an item.

Choose an item. AN101.3 Scope Choose an item.

AN101.3.1 Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AN101.4 Violations Choose an item.

Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

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Section 3. That Ordinance No. ____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in *Appendix N Disaster Resilient Construction* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing under any act or ordinance hereby repealed as cited in Section 3 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the **[JURISDICTION’S KEEPER OF RECORDS]** is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

Section 8. Chapter AN6 Resources, of this document is intended to be used by the building officials as a resource guide.

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APPENDIX N DISASTER RESILIENT CONSTRUCTION

CHAPTER AN1 SCOPE AND ADMINISTRATION

SECTION AN101 ADMINISTRATION

AN101.1 Purpose. The scope of this appendix is to promote enhanced public health, safety and general welfare and to reduce public and private property losses due to hazards and natural disasters associated with flooding, high-winds, and windborne debris above that which is provided in the general provisions of this appendix.

AN101.2 Objectives. The objectives of this appendix are to:

1. Protect human life, to minimize property loss and to minimize the expenditures of public money associated with natural weather related disasters, including flooding, tornadoes and other high-wind events.
2. Establish enhanced design and construction regulations consistent with nationally recognized good practices for the safeguarding of life and property.

AN101.3 Scope.

AN101.3.1 The provisions of this appendix are not mandatory unless specifically referenced in an adopting ordinance of [NAME OF JURISDICTION]. If adopted, the provisions shall apply to all new development and to substantial improvements to existing development.

AN101.3.2 The provisions of this appendix supplement the jurisdiction's building and fire codes to provide for enhanced provisions to mitigate the hazard to life and property from natural weather related disasters, including flooding, tornadoes and other high-wind events.

AN101.3.3 The provisions of this appendix establish design and construction standards for storm shelters.

AN101.4 Violations. Any violation of a provision of this appendix or failure to comply with a permit of variance issued pursuant to this appendix or any requirement of this appendix shall be handled in accordance with the ordinances of [NAME OF JURISDICTION].

SECTION AN102 APPLICABILITY

AN102.1 General. This appendix provides enhanced minimum requirements for development of new construction and substantial improvement of existing development above that contained in the *International Building Code (IBC)*.

AN102.1.1 The provisions of this appendix shall apply to all new construction and additions, and shall apply to substantial alterations in flood hazard areas unless it is technically infeasible or otherwise exempted in Section 3403.2 of the *International Building Code*.

AN102.1.2 Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this appendix or to any previously approved alternative arrangements than it was before the work was undertaken.

AN102.1.3 Where there is a conflict between a requirement of the *International Building Code* and a requirement of this appendix, the requirement of this appendix shall govern. Where there is a conflict between a general requirement of this appendix and a specific requirement of this appendix, the specific requirement shall govern. Where, in any specific case, different sections of this appendix specify different materials, methods of construction or other requirements, the most restrictive shall govern.

AN102.2 Other laws. The provisions of this appendix shall not be deemed to nullify any provisions of local, state or federal law.

AN102.3 Referenced codes and standards. The codes and standards referenced in this appendix shall be those that are listed in Chapter AN7 and such codes and standards shall be considered as part of the requirements of this appendix to the prescribed extent of each such reference. Where differences occur between provisions

this appendix and referenced codes and standards, the provisions of this appendix shall apply.

SECTION AN103 POST DISASTER EVENT INSPECTIONS GUIDELINES

AN103.1 Inspections. The building official or agents shall inspect buildings and structures to determine the habitability of each with the goal of getting the community back into their residences quickly and safely. Inspections shall always be performed by teams of at least two individuals, also known as disaster assessment teams.

AN103.1.1 Right of entry. Unless permitted under the exigent circumstances provisions or from an order from State or Federal Authorities, disaster assessment teams shall confirm the right of entry requirements with the incident commander. Upon approval, the assessment teams shall be authorized to enter the structure or premises at reasonable times to inspect or perform duties as provided by this code, provided that the structure or premises be occupied, that credentials are presented, that entry is requested, and that entry is granted by the owner or person having charge over the structure or premises.

AN103.2 Types of inspections.

AN103.2.1 Rapid evaluation. Rapid evaluation is performed after a disaster event to determine if a building is apparently safe or obviously unsafe. The evaluation should last 10 to 30 minutes per building and shall be performed by the building official and/or their designated responders. Evaluation shall determine if a detailed evaluation is necessary. Placards are posted on buildings indicating status as one of the following:

1. INSPECTED
2. RESTRICTED USE
3. UNSAFE

See Section AN605 for Placards that may be reproduced for use in the field during evaluations. The jurisdiction shall alter placards to meet the jurisdiction and building department's requirements.

AN103.2.2 Detailed evaluation. Detailed evaluation is a thorough visual examination of a damaged building performed by a team of two, including an inspector and a design professional. Evaluation should last 30 minutes to 4 hours per building. Evaluation shall determine necessary restrictions on a damaged building's use, the need for an engineering evaluation or to evaluate postings.

AN103.2.3 Engineering evaluation. When indicated by the building official as necessary, engineering evaluations shall be completed by a registered design professional hired by the building owner.

AN103.3 Post disaster building safety evaluation chart. See Figure AN103.3 for Post Disaster Building Safety Evaluation Chart.

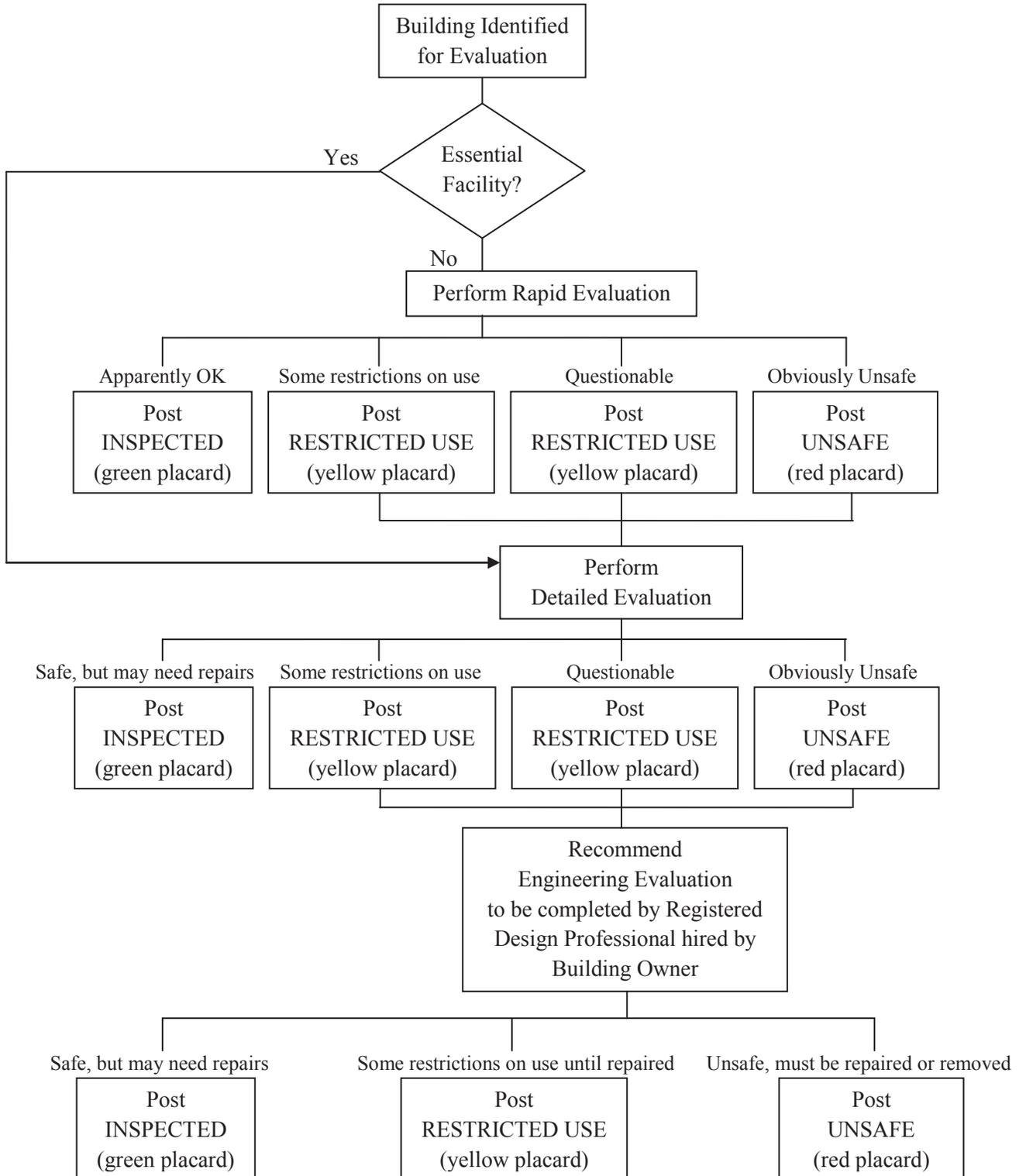
AN103.4 Evaluation Forms. *ATC-45 Rapid Evaluation Safety Assessment Form* and *ATC-45 Detailed Evaluation Safety Assessment Form* shall be used by [Name of Jurisdiction]'s Building Official for post disaster inspections. See Section AN605 for copies of the Safety Assessment Forms.

AN103.5 Placement and removal of placards.

AN103.5.1 Placement. Placards are to be posted in a clearly visible location near the main entrance and shall be visible from the public right-of-way. RESTRICTED USE or UNSAFE placards shall be placed at all entrances.

AN103.5.2 Removal. Placards shall not be removed or replaced, except by the authorized representatives of the local jurisdiction.

Figure AN103.3 Post Disaster Building Safety Evaluation Chart ^a



^(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

CHAPTER AN2 DEFINITIONS

SECTION AN201 GENERAL

AN201.1 Scope. Unless otherwise expressly stated the following words and terms shall, for the purposes of this appendix, have the meanings shown in this chapter.

AN201.2 Terms defined in other codes. Where terms are not defined in this appendix and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

AN201.3 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION AN202 DEFINITIONS

500-YEAR FLOOD. Flood having a 0.2% annual probability of being equaled or exceeded.

ADVISORY BASE FLOOD ELEVATION (ABFE). An advisory base flood elevation (BFE) issued by the Federal Emergency Management Agency (FEMA) that reflects post-storm conditions and vulnerability to damages from future flooding.

BASE FLOOD. Flood having a 1% chance of being equaled or exceeded in any given year, also referred to as the 100-year flood.

BASE FLOOD ELEVATION (BFE). The elevation of flooding, including wave height, having a 1% chance of being equaled or exceeded in any given year established relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the *Flood Insurance Rate Map (FIRM)*.

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Building Code*, or the building official's duly authorized representative.

DESIGN FLOOD. The greater of the following two flood events:

- (1) The *base flood*, affecting those areas identified as *special flood hazard areas* on the community's FIRM;

- (2) The flood corresponding to the area designated as a *flood hazard area* on a community's *flood hazard map* or otherwise legally designated.

DESIGN FLOOD ELEVATION (DFE). The elevation of the *design flood*, including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the *design flood elevation* shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map.

FLOOD [DAMAGE]-RESISTANT MATERIAL. Any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage.

FLOOD HAZARD AREA. The area subject to flooding during the *design flood*.

FLOOD HAZARD MAP. Map delineating *flood hazard areas* adopted by the authority having jurisdiction.

FLOOD INSURANCE RATE MAP (FIRM). An official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated both the *special flood hazard areas* and the risk premium zones applicable to the community.

FREEBOARD. A factor of safety expressed in feet above a flood level for purposes of floodplain management.

FUTURE-CONDITIONS FLOOD. The flood having a 1% chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

FUTURE-CONDITIONS FLOOD ELEVATION. The flood standard equal to or higher than the Base Flood Elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

CHAPTER AN3 FLOOD-RESISTANT CONSTRUCTION

Forward: This appendix provides three different options for increased freeboard. The jurisdiction may pick only one option that is higher than previously adopted and enforced by the jurisdiction. The National Flood Insurance Program (NFIP) minimum standards reference Base Flood Elevation without any freeboard in high risk flood hazard areas. Due to the flood damage prevention updates performed during the Map Modernization initiative that led to flood risks being digitally identified in all 159 Georgia counties, all Georgia NFIP participating communities have freeboard standards that meet or exceed the 1 foot standard used in the State model ordinances for areas where BFEs have been established.

SECTION AN301 HAZARD IDENTIFICATION

AN301.1 Identification of flood hazard areas. To establish flood hazard areas:

- (a) flood hazard map adopted by jurisdiction based on areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled “The Flood Insurance Study of [INSERT NAME OF JURISDICTION],” dated [INSERT DATE ISSUANCE], and amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto.
- (b) FIRM maps provided by the Federal Emergency Management Agency.

SECTION AN302 SCOPE

AN302.1 Flood loads. Buildings designed and constructed in flood hazard areas defined in IBC Section 1612.2 shall comply with the following:

AN302.1.1 Flood hazard areas without base flood elevations. In flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade to the building foundation.

OPTION A – FLOOD ELEVATION

AN302.1.2 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus one (1) foot, or
- (b) Base flood elevation plus one (1) foot, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or

- (e) 500-year flood, if known

OPTION B– FLOOD ELEVATION

AN302.1.3 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus two (2) feet, or
- (b) Base flood elevation plus two (2) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

OPTION C – FLOOD ELEVATION

AN302.1.4 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus three (3) feet, or
- (b) Base flood elevation plus three (3) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

SECTION AN303 FLOOD DAMAGE-RESISTANT MATERIALS

AN303.1 Flood damage-resistant materials. Flood damage-resistant materials comply with FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials.

AN303.2 Location of flood damage-resistant materials. Building components and materials located below the increase to base flood elevation as determined by the local jurisdiction in accordance with AN302.1 shall be flood damage-resistant as defined by Section AN303.1.

AN303.3 Fasteners and connectors used for flood damage-resistant materials. Fasteners and connectors used for flood damage-resistant materials to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

CHAPTER AN4 HIGH-WIND RESISTIVE CONSTRUCTION

SECTION AN401 GENERAL

AN401.1 Applications. Buildings, and parts thereof shall be designed to withstand the minimum wind loads and meet the opening protection requirements of IBC Section 1609 as modified in this chapter. **Wind Load Option A, B or C shall be selected. Table AN401.1 may be used to assist in the selection of an appropriate Wind Load Option.**

AN401.2 Limitations. The following limitations shall apply to the design and construction of buildings with respect to winds.

AN401.2.1 Empirical masonry. The empirical masonry provisions in IBC Section 2109 or Chapter 5 of TMS 402/ACI 530/ASCE 5 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

AN401.2.2 Unreinforced (plain) masonry. The unreinforced masonry provisions in IBC Section 2109 or sections 2.2, 3.2 or 8.2 of TMS 402/ACI 530/ASCE 5 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

AN401.2.3 Conventional light-frame construction. The *conventional light-frame construction* provisions in IBC Section 2308 shall not be permitted to be used for the wind load resisting elements of buildings, or parts of buildings or other structures.

Exception: Compliance with AF&PA WFCM shall be permitted subject to the limitations therein and the limitations of this appendix.

SECTION AN402 DEFINITIONS AND NOTATIONS

AN402.1 General. The following terms are defined in Chapter 2 of the International Building Code:

**CONVENTIONAL LIGHT-FRAME
CONSTRUCTION.**

MASONRY.

Unreinforced (plain) masonry.

WIND-BORNE DEBRIS REGION.

WIND SPEED, V_{ult} .

SECTION AN403 WIND LOADS

AN403.1 Wind Directionality Factor. The directionality factor for Wind Option B and C shall be taken as 1.0.

AN403.2 Exposure. Wind pressures for Wind Option B and C shall be based on exposure category C or D in accordance with IBC Section 1609.4 or ASCE 7.

AN403.3 Enclosure classification. The enclosure classification shall be determined in accordance with ASCE 7 with the largest door or window on a wall that receives positive external pressure considered as an opening.

AN403.4 Continuous operation of Risk Category IV buildings. When a building or an internal area within a building in Risk Category IV is required to remain operational during a design wind event (target performance level OB), that building or that internal area shall be designed in accordance with ICC-500 or FEMA-361.

SECTION AN404 WIND LOAD OPTION A

AN404.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of buildings and structures shall be obtained from IBC Section 1609.3.

AN404.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with IBC Section 1609.1.2 or ASCE 7.

Exception:

1. For Risk Category III buildings with a Life Safety target performance level for the entire building, the exterior glazing shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996.
2. For Risk Category IV buildings with an Immediate Occupancy target performance level for the entire building, the exterior glazing shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**SECTION AN405
WIND LOAD OPTION B**

AN405.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category I buildings and structures shall be obtained from IBC Section 1609.3. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category II buildings and structures shall be obtained from IBC Figure 1609B. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category III and IV buildings and structures shall be obtained from IBC Figure 1609B or 135 mph, whichever is greater.

AN405.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with this Section in addition to IBC Section 1609.1.2 or ASCE 7.

Exception:

- For Risk Category IV buildings, all components of the exterior envelope shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**SECTION AN406
WIND LOAD OPTION C**

AN406.1 Basic wind speed. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category I buildings and structures shall be obtained from IBC Section 1609.3. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category II buildings and structures shall be obtained from IBC Figure 1609B. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category III and IV buildings and structures shall be obtained from IBC Figure 1609B or 170 mph, whichever is greater.

AN406.2 Debris Hazard and Protection of Openings. Buildings shall be designed for impact resistance in accordance with this Section in addition to IBC Section 1609.1.2 or ASCE 7.

Exception:

- For Risk Category IV buildings, all components of the exterior envelope shall be impact resistant or be protected with an impact resistant covering meeting the requirements of ASTM E1996 for *Enhanced Protection*.

**Table AN401.1
WIND LOAD OPTIONS:**

TARGET PERFORMANCE LEVELS AND DESIGN CRITERIA⁴

OPTION	DESIGN WIND EVENT	Risk Category II ¹			Risk Category III ¹			Risk Category IV ¹		
		Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris	Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris	Target Performance Level ²	Min Wind Speed V_{ult}	Wind-Borne Debris
A	EF0 & 1 Tornado – IBC level Hurricane	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7	CP ³	IBC 1609.3	IBC 1609.1.2 or ASCE 7
					LS		Glazing	IO ⁵		Glazing
B	EF2 Tornado – Cat 3 Hurricane	CP ³ for EF0-EF1-IBC Hurricane for Risk Cat. III/IV	IBC 1609.3 for Risk Cat. III/IV	IBC 1609.1.2 or ASCE 7	LS	145 mph	Req'd for glazing per IBC 1609.1.2 and ASCE 7	IO ⁵	145 mph	Exterior Envelope
C	EF3 Tornado – Cat 4 Hurricane	CP ³ for EF0-EF1-IBC Hurricane for Risk Cat. III/IV	IBC 1609.3 for Risk Cat. III/IV	IBC 1609.1.2 or ASCE 7	LS	170 mph	Req'd for glazing per IBC 1609.1.2 and ASCE 7	IO ⁵	170 mph	Exterior Envelope

Notes:

- Risk Category per IBC Section 1604.5
- Performance Levels:
 CP: Collapse Prevention
 LS: Life Safety
 IO: Immediate Occupancy
 OB: Operational Building
- LS for occupants away from exterior envelope. IO for storm shelters or safe rooms.
- See Section AN401 and Section AN403 for additional limitations and criteria.
- OB for building or an internal area within a building designed to ICC-500 or FEMA 361.

CHAPTER AN5 STORM SHELTERS, SAFE ROOMS AND BEST AVAILABLE REFUGE AREAS

SECTION AN501 GENERAL

AN501.1 General. This section applies to the location and construction of storm shelters and safe rooms when constructed as separate detached buildings or as internal areas within buildings for the purpose of providing safe refuge for storms that produce high winds, such as tornados and hurricanes, and to the selection of best available refuge areas. Storm shelters shall be designed and constructed in accordance with IBC Section 423. Safe rooms shall be designed and constructed in accordance with FEMA 361. Storm shelters, safe rooms, and best available refuge areas shall be located on an accessible route.

Exception: *Residential Safe Rooms* and safe rooms serving a Business Group B Occupancy and having an *occupant load* not exceeding 16 persons may be constructed in accordance with FEMA 320.

AN501.2 Occupant load. The occupant load for storm shelters and safe rooms shall be determined by ICC 500 and FEMA 361 respectively.

AN501.3 Construction documents. Construction documents for buildings containing a storm shelter or safe room shall include the information required in ICC 500 or FEMA 361 respectively. Construction documents for buildings with access to a remote community storm shelter or safe room shall indicate the location of and access to the community storm shelter or safe room. Construction documents for buildings not containing or without access to a remote storm shelter or safe room, shall indicate the best available refuge area.

AN501.4 Signage. The location(s) of storm shelters, safe rooms or the best available refuge area(s) shall be clearly marked with a permanent sign.

SECTION AN502 DEFINITIONS AND NOTATIONS

AN502.1 Definitions. The following terms are defined in Chapter 2 of the International Building Code:

DWELLING UNITS.

OCCUPANT LOAD.

STORM SHELTER.

Community Storm Shelter.

Residential Storm Shelter.

AN502.2 Additional definitions.

BEST AVAILABLE REFUGE AREAS. Areas in a building that have been deemed by a registered design professional to likely offer the greatest safety for building occupants during a tornado or hurricane. Because these areas were not specifically designed as storm shelters or safe rooms, their occupants may be injured or killed during a tornado or hurricane. However, people in the best available refuge areas are less likely to be injured or killed than people in other areas of a building.

SAFE ROOM. A building, structure or portions thereof, constructed in accordance with FEMA 361 and designed for use during a severe wind storm event, such as a hurricane or tornado.

Community Safe Room. A safe room not defined as a “Residential Safe Room”

Residential Safe Room. A safe room serving occupants of *dwelling units* and having an *occupant load* not exceeding 16 persons.

SECTION AN503 BEST AVAILABLE REFUGE AREAS

AN503.1 General. Best available refuge area occupants may be injured or killed during a tornado or hurricane. However, people in the best available refuge areas are less likely to be injured or killed than people in other areas of a building.

AN503.2 Occupant Density. The minimum required floor area per occupant for best available refuge area(s) shall be determined in accordance with ICC 500 Table 501.1.1.

AN503.3 Identification of best available refuge areas. Best available refuge areas shall be identified by a registered design professional in accordance with the Wind Hazard Checklist of FEMA 361, Appendix B and FEMA P-431.

SECTION AN504 APPLICABILITY

AN504.1 Required storm shelters or safe rooms.

1. All new kindergarten through 12th grade schools with 50 or more occupants in total, per school, shall have a storm shelter or safe room.
2. All new 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations shall have a storm shelter or safe room.

CHAPTER AN6 RESOURCES

SECTION AN601 CONTACTS

Georgia Department of Community Affairs (DCA) Construction Codes

Georgia State Amendments to the State Minimum
Standard Codes

<http://www.dca.ga.gov/development/constructioncodes/programs/codeAmendments.asp>

Phone: 404-679-3118

Georgia Department of Natural Resources (DNR) Floodplain Management

4220 International Parkway, Ste. 101
Atlanta, GA 30354-3902

www.georgiadfirm.com

Phone: 404-675-1757

Federal Emergency Management Agency (FEMA)

www.fema.gov; www.floodsmart.gov

www.fema.gov/rebuild/buildingscience/

FEMA Publications and Technical Bulletins:

www.fema.gov/library/index.jsp

www.fema.gov/plan/prevent/floodplain/techbul.shtm

Georgia Emergency Management Agency (GEMA)

Georgia Office of Homeland Security

P.O. Box 18055

Atlanta, GA 30316-0055

www.gema.ga.gov

www.ready.ga.gov

Phone: 404-635-7000

Georgia Association of Regional Commissions (GARC)

www.garc.ga.gov

<http://garc.ga.gov/main.php?Regional-Commissions-2>

(for assistance in identifying Flood Hazard Areas)

International Code Council (ICC)

www.iccsafe.org

National Weather Service

www.srh.weather.gov

State Fire Marshal's Office

2 Martin Luther King Jr. Drive

Suite 920 / West Tower

Atlanta, Georgia 30334

www.oci.ga.gov

Phone: 404-656-7087

SECTION AN602 EMERGENCY INSPECTION KIT^b

- Staff's disaster response management plan
- Team contact list
- Area maps
- Official identification
- Personal identification
- Inspection forms and placards
- Communication equipment
- Clipboard
- Hard hat
- Orange safety vest
- Dust mask
- Work gloves
- Steel toe and waterproof boots
- Whistle
- First aid kit
- Latex gloves
- Safety glasses
- Sunglasses
- Pocket knife
- Matches
- Antibacterial hand wipes or alcohol-based hand sanitizer
- Insect repellent (w/ Deet or Picaridin)
- Sunscreen (SPF 15 or greater)
- Camera
- Black markers
- Pens & pencils
- Envelope for expense receipts
- Compass, GPS unit
- Backpack, waistpack
- Flashlight and extra batteries
- Battery-operated radio
- Duct tape
- Staples & stapler
- Staple gun
- Calculator
- Tire repair kit

Remember to grab:

- Personal identification
- Rain gear, extra clothing
- Water bottle
- Prescription medication
- Cell phone and charger
- Cash for personal expenses
- Toiletries

(b) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

SECTION AN603
SAFETY TIPS ^a

1. Always travel in teams of at least two people.
2. Always wear a hard hat, gloves, goggles, safety vest, and dust masks.
3. Always wear safety shoes capable of protecting the toes and bottom of the foot.
4. Survey the building exterior completely before entering.
5. Enter building only if authorized and if deemed safe to do so.
6. Be alert for falling objects.
7. In case of fire, injuries or victims, evacuate the area and alert the fire department immediately.
8. Avoid downed power lines and buildings under them or water surrounding them.
9. In case of gas leaks, shut off the gas (if possible) and report the leak.
10. In a flood situation, have a “walking stick.”

(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

SECTION AN604
MAJOR DISASTER PROCESS
(from link <http://www.fema.gov/hazard/dproc.shtm>)

A Major Disaster Declaration usually follows these steps:

- **Incident occurs and local government responds**, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;

Generally the local government will issue a local state of emergency

- **The State responds** with state resources, such as the National Guard and state agencies;

Prior to committing state resources, the Governor will declare a state of emergency in the counties impacted by the event for which assistance is needed.

- **Damage assessment** by local, state, federal, and volunteer organizations determine losses and recovery needs;

Generally the locals will submit a preliminary damage assessment to the state and the state will review and determine if state and/or federal assistance is needed. If federal assistance is needed, the state will request FEMA perform a preliminary joint damage assessment. If the Governor determines that the incident is of such severity and magnitude that effective response is beyond the capabilities of the state and the affected local governments then supplementary Federal assistance is requested (next step).

- **A Major Disaster Declaration** is requested by the Governor, based on the damage assessment, and agreement to commit state funds and resources to the long-term recovery;
- **FEMA evaluates** the request and recommends action to the White House based on the disaster, the local community and the state’s ability to recover;
- **The President approves** the request or FEMA informs the Governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

SECTION AN605
SAMPLE EVALUATION FORMS AND INSPECTION PLACARDS ^b (following pages)

Figure AN605.1^b

ATC-45 Rapid Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Areas inspected: Exterior only Exterior and interior

Building Description

Building name: _____ Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or high-rise Pre-fabricated

Low-rise multi-family One- or two-family dwelling

Low-rise commercial

Primary Occupancy

Dwelling Commercial Government

Other residential Offices Historic

Public assembly Industrial School

Emergency services Other: _____

Evaluation

Investigate the building for the conditions below and check the appropriate column. **Estimated Building Damage (excluding contents)**

Observed Conditions:	Minor/None	Moderate	Severe	Estimated Building Damage (excluding contents)
Collapse, partial collapse, or building off foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> None
Building significantly out of plumb or in danger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 0 to < 1%
Damage to primary structural members, racking of walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1 to < 10%
Falling hazard due to nonstructural damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 10 to < 30%
Geotechnical hazard, scour, erosion, slope failure, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 30 to < 70%
Electrical lines / fixtures submerged / leaning trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 70 to < 100%
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 100%

See back of form for further comments.

Posting

Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting.

INSPECTED (Green placard) **RESTRICTED USE** (Yellow placard) **UNSAFE** (Red placard)

Record any use and entry restrictions exactly as written on placard: _____

Number of residential units vacated: _____

Further Actions Check the boxes below only if further actions are needed.

Barricades needed in the following areas: _____

Detailed Evaluation recommended: Structural Geotechnical Other: _____

Substantial Damage determination recommended

Other recommendations: _____

See back of form for further comments.

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Figure AN605.2^b

ATC-45 Detailed Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Final Posting
from page 2

Inspected

Restricted Use

Unsafe

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or High-rise

Low-rise multi-family

Low-rise commercial

Pre-fabricated

One- or two-family dwelling

Other: _____

Primary Occupancy

Dwelling

Other residential

Public assembly

Emergency services

Commercial

Offices

Industrial

Other: _____

Government

Historic

School

Evaluation

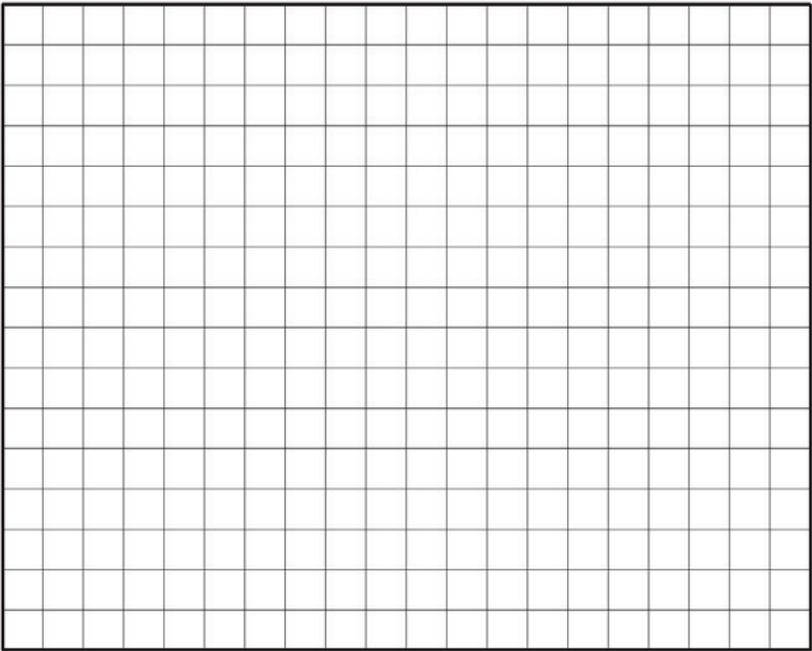
Investigate the building for the conditions below and check the appropriate column. There is room on the second page for a sketch.

	Minor/None	Moderate	Severe	Comments
Overall hazards:				
Collapse or partial collapse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building or story lean or drift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fractured or displaced foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural hazards:				
Failure of significant element/connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Column, pier, or bearing wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Roof/floor framing or connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Superstructure/foundation connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Moment frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Diaphragm/horizontal bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vertical bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Shear wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Nonstructural hazards:				
Parapets, ornamentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Canopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cladding, glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ceilings, light fixtures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stairs, exits, access walkways, gratings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interior walls, partitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Mechanical & electrical equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building contents, other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Geotechnical hazards:				
Slope failure, debris impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ground movement, erosion, sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Differential settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Continue on page 2

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Figure AN605.2^b (Continued)

ATC-45 Detailed Evaluation Safety Assessment Form		Page 2
Building name: _____		Inspector ID: _____
<p>Sketch Make a sketch of the damaged building in the space provided. Indicate damage points.</p>		
<p>Estimated Building Damage (excluding contents)</p> <p><input type="checkbox"/> None</p> <p><input type="checkbox"/> > 0 to < 1%</p> <p><input type="checkbox"/> 1 to < 10%</p> <p><input type="checkbox"/> 10 to < 30%</p> <p><input type="checkbox"/> 30 to < 70%</p> <p><input type="checkbox"/> 70 to < 100%</p> <p><input type="checkbox"/> 100%</p>		
<p>Posting If there is an existing posting from a previous evaluation, check the appropriate box.</p> <p>Previous posting: <input type="checkbox"/> INSPECTED <input type="checkbox"/> RESTRICTED USE <input type="checkbox"/> UNSAFE Inspector ID: _____ Date: _____</p> <p>If necessary, revise the posting based on the new evaluation and team judgment. <i>Severe</i> conditions endangering the overall building are grounds for an Unsafe posting. Local <i>Severe</i> and overall <i>Moderate</i> conditions may allow a Restricted Use posting. Indicate the current posting below and at the top of page one, whether the posting has been revised or not.</p> <p><input type="checkbox"/> INSPECTED (Green placard) <input type="checkbox"/> RESTRICTED USE (Yellow placard) <input type="checkbox"/> UNSAFE (Red placard)</p> <p>Record any use and entry restrictions exactly as written on placard: _____</p> <p>_____</p> <p>Number of residential units vacated: _____</p>		
<p>Further Actions Check the boxes below only if further actions are needed.</p> <p><input type="checkbox"/> Barricades needed in the following areas: _____</p> <p>_____</p> <p><input type="checkbox"/> Engineering Evaluation recommended: <input type="checkbox"/> Structural <input type="checkbox"/> Geotechnical <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Substantial Damage determination recommended</p> <p><input type="checkbox"/> Other recommendations: _____</p> <p>_____</p>		

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Figure AN605.3^b

INSPECTED

LAWFUL OCCUPANCY PERMITTED

This structure has been inspected (as indicated below) and no apparent structural hazard has been found.

Date _____
Time _____

Inspected Exterior Only

Inspected Exterior and Interior

Report any unsafe condition to local authorities; reinspection may be required.

This facility was inspected under emergency conditions for:

Inspector Comments:

(Jurisdiction)

Inspector ID / Agency

Facility Name and Address:

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

Figure AN605.4^b

RESTRICTED USE

Caution: This structure has been inspected and found to be damaged as described below:

Date _____
Time _____

Entry, occupancy, and lawful use are restricted as indicated below:

- Do not enter the following areas: _____
- Brief entry allowed for access to contents: _____
- Other restrictions: _____

Facility name and address:

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

Figure AN605.5^b

UNSAFE

**DO NOT ENTER OR OCCUPY
(THIS PLACARD IS NOT A DEMOLITION ORDER)**

This structure has been inspected, found to be seriously damaged and is unsafe to occupy, as described below:

Do not enter, except as specifically authorized in writing by jurisdiction. Entry may result in death or injury.

Facility Name and Address:

Date _____
Time _____

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

CHAPTER AN7 REFERENCES

REFERENCED STANDARDS

ASCE Standards ASCE/SEI 24-05 Flood Resistant Design and Construction
 FEMA P-320, Third Edition / August 2008 Taking Shelter From the Storm: Building a Safe Room For Your Home or Small Business, Includes Construction Plans and Cost Estimates
 FEMA 361, Second Edition / August 2008 Design and Construction Guidance for Community Safe Rooms
 FEMA P-431, Second Edition/October 2009 Tornado Protection: Selecting Refuge Areas in Buildings
 FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials

REFERENCED RESOURCES

- (a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007
- (b) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

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Georgia State
International Residential Code

Appendix R
Disaster Resilient Construction
(2012 Edition)



Georgia Department of Community Affairs
Local Government Assistance Division
60 Executive Park South, N.E.
Atlanta, Georgia 30329-2231
(404) 679-3118
www.dca.ga.gov

January 1, 2013

GEORGIA STATE INTERNATIONAL RESIDENTIAL CODE
APPENDIX R
DISASTER RESILIENT CONSTRUCTION

The INTERNATIONAL RESIDENTIAL CODE, 2012 Edition, published by the International Code Council, when used in conjunction with the Georgia State Amendments to the INTERNATIONAL RESIDENTIAL CODE, 2012 Edition and Appendix R Disaster Resilient Construction , shall constitute the official *Georgia State Minimum Standard Residential Code*.

FORWARD

Introduction

The Department of Community Affairs (DCA) was awarded a grant through the U.S. Department of Housing and Urban Development (HUD) to develop Disaster Resilient Building Code (DRBC) Appendices for the International Building Code (IBC) and the International Residential Code (IRC). The DRBC Appendices are optional regulations that local jurisdictions may adopt, in whole or in part, through local ordinance. A task force of stakeholders was appointed to look for opportunities to improve any code provisions relating to damage from hurricane, flood, and tornado disasters. In addition to the approved recommendations from the task force, the state has developed and will conduct a comprehensive training program for code enforcement officials on the importance, implementation and enforcement of the Disaster Resilient Construction Appendices.

The meetings for the Disaster Resilient Building Code Appendices Task Force were open to the public, interested individuals and organizations that desired participation. The technical content of currently published documents on flooding, high-wind construction, and storm shelters, were used and referenced. Those publications included documents of the International Code Council (ICC), American Society of Civil Engineers (ASCE), the Federal Emergency Management Agency (FEMA), Mitigation Assessment Team (MAT) Program, Georgia Emergency Management Agency/Homeland Security (GEMA), APA – The Engineered Wood Association, National Institute of Standards and Technology (NIST), National Oceanic and Atmospheric Administration (NOAA), National Science Foundation (NSF), The State of Florida, American Forest & Paper Association’s American Wood Council, Southern Forest Products Association, NAHB Research Center, Insurance Institute for Business & Home Safety, and the Federal Alliance for Safe Homes.

Adoption

Local jurisdictions may adopt this entire appendix with chosen options or specific sections that apply to their communities through a local ordinance. The adopting ordinance must also be filed on record with DCA. A sample ordinance has been included in this document to assist the local jurisdictions with the adoption process. Recommended training is being offered to assist code enforcement officials in the implementation and enforcement of the appendices documents. Contact DCA at (404) 679-3118 or www.dca.ga.gov for more information.

Neither The Disaster Resilient Building Code Appendices Task Force, its members nor those participating in the development of Appendix R Disaster Resilient Construction accept any liability resulting from compliance or noncompliance with the provisions of Appendix R Disaster Resilient Construction.

The 2012 Disaster Resilient Building Code (DRBC) Appendices Task Force was charged with the development of two appendices. One appendix is for the International Residential Code and the other appendix is for the International Building Code. These two appendices look for opportunities to improve any provisions relating to hurricane, flood, and tornado disasters. In addition to improving existing provisions in the codes, the task force also developed new provisions to be included in the appendices that address these issues. These appendices contain increased construction requirements for disaster resilience and are intended to be made available for adoption by local jurisdictions in the State of Georgia.

These appendices have reasonable and substantial connection with the public health, safety, and general welfare. In addition, the financial impact and costs associated with these appendices have been taken into consideration.

Members:

Mr. Gregori Anderson, Chairman, States Codes Advisory Committee (SCAC)
Mr. David L. Adams, , Vice Chairman, States Codes Advisory Committee (SCAC)
Mr. Bill Abballe, AIA, American Institute of Architects (AIA) – Georgia Chapter
Mr. John Hutton, P.E., S.E., American Council of Engineering Companies of Georgia (ACEC/G)
Mr. Ron Anderson, Code Consultant
Mr. Lamar Smith, Home Builders Association of Georgia (HBAG)
Mr. Thomas Harper, Georgia State Inspectors Association (GSIA)
Mr. Tom Buttram, Building Officials Association of Georgia (BOAG)
Capt. Zane Newman, Georgia State Fire Marshal’s Office (Local Fire Official)
Mr. Terry Lunn, Georgia Emergency Management Agency (GEMA)
Mr. Alan Giles, CFM, Georgia Department of Natural Resources (EPD / Floodplain Management Unit)
Mr. Tony Hebert, HUD Georgia State Representative (Region IV Office)
Mr. Jim C. Beck, Sr., Georgia Underwriting Association
Mr. Tim Thornton, Georgia Association of Realtors (GAR)
Mr. Steve Harrison, Building Owners and Managers Association – Georgia (BOMA)
Mr. Tom Aderhold, Georgia Apartment Association (GAA)
Mr. Tim Bromley, Accessibility Consultant – Georgia State ADA Coordinator’s Office
Mayor Mark Mathews, Georgia Municipal Association (GMA)
Commissioner Jeff Long, Association of County Commissioners of Georgia (ACCG)

Ad Hoc Subcommittee:

Mr. Tom Buttram, Chairman, DRBC Task Force Liaison (BOAG)
Mr. Ron Anderson, Vice Chairman, Code Consultant
Mr. Stephen V. Skalko, P.E. Concrete Industry
Mr. Jeffrey B. Stone, PhD., Wood Industry (AWC)
Mr. Robert Wills, Steel Industry (AISC)
Mr. Tom Cunningham, PhD., Residential Building Design
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Mr. Max Rietschier, Lead Codes Consultant
Mr. Bill Towson, 2012 International Residential Code Task Force Liaison, Code Consultant
Mr. Calvin Jordan, 2012 International Building Code Task Force Liaison, Code Consultant

How to Use Appendix R Disaster Resilient Construction

The appendix may be adopted in whole or in part by Local Jurisdictions to fit the needs of their community. The following sample ordinance has been provided to aid in the process of indentifying Chapters and Sections of the appendix that may be adopted. The format easily allows for choosing to adopt, revise or delete individual Chapters and Sections. Download the MS Word (.doc) version from the DCA website to take advantage of the dropdown menu choices and edit ability features of the document. Note that in Chapter 3, choose one of three options for flood elevation. Only one option may be chosen and that option must be higher than what has been previously adopted and enforced by your jurisdiction. Also note that in Chapter 4, choose one of four options for increased wind speed. Only one option may be chosen and that option must be higher than the mapped wind speed shown in the International Residential Code. The Sample Ordinance document takes into account the flood elevation option in Chapter 3 and the wind speed option in Chapter 4 of this appendix.

**SAMPLE ORDINANCE FOR ADOPTION OF
GEORGIA STATE INTERNATIONAL RESIDENTIAL CODE**

APPENDIX R

DISASTER RESILIENT CONSTRUCTION

ORDINANCE NO. _____

An ordinance of the [JURISDICTION] adopting the latest edition as adopted and amended by the Georgia Department of Community Affairs of *Appendix R Disaster Resilient Construction* regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefore; repealing Ordinance No. ____ of the [JURISDICTION] and all other ordinances or parts of the laws in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the [TITLE OF JURISDICTION'S KEEPER OF RECORDS] of [NAME OF JURISDICTION], being marked and designated as *Appendix R Disaster Resilient Construction* to the International Residential Code, the latest edition as adopted and amended by the Georgia Department of Community Affairs, be and is adopted as the *Appendix R Disaster Resilient Construction* of the [JURISDICTION], in the State of Georgia for regulating and governing the mitigation of hazard to life and property from natural weather related disasters, high-wind damages, flooding, and establishing construction standards for storm shelters; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said *Appendix R Disaster Resilient Construction* on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any prescribed in Section 2 of this ordinance.

Section 2. [NAME OF JURISDICTION] hereby:

Choose an item. CHAPTER AR1 SCOPE AND ADMINISTRATION Choose an item.

Choose an item. SECTION AR101 ADMINISTRATION Choose an item.

Choose an item. AR101.1 Purpose Choose an item.

Choose an item. AR101.2 Objectives Choose an item.

Choose an item. AR101.3 Scope Choose an item.

AR101.3.1 Insert [Name Of Jurisdiction] for [NAME OF JURISDICTION].

Choose an item. AR101.4 Violations Choose an item.

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Section 3. That Ordinance No. ____ of [JURISDICTION] entitled [FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION] and all other ordinances or parts of laws in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in *Appendix R Disaster Resilient Construction* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of

action acquired or existing under any act or ordinance hereby repealed as cited in Section 3 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

Section 8. Chapter AR6 Resources of this document is intended to be used by the building officials as a resource guide.

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APPENDIX R DISASTER RESILIENT CONSTRUCTION

CHAPTER AR1 SCOPE AND ADMINISTRATION

SECTION AR101 ADMINISTRATION

AR101.1 Purpose. The scope of this appendix is to promote enhanced public health, safety and general welfare and to reduce public and private property losses due to hazards and natural disasters associated with flooding, high-winds, and windborne debris above that which is provided in the general provisions of this appendix.

AR101.2 Objectives. The objectives of this appendix are to:

1. Protect human life, to minimize property loss and to minimize the expenditures of public money associated with natural weather related disasters, including flooding, tornadoes and other high-wind events.
2. Establish enhanced design and construction regulations consistent with nationally recognized good practices for the safeguarding of life and property.

AR101.3 Scope.

AR101.3.1 The provisions of this appendix are not mandatory unless specifically referenced in an adopting ordinance of [NAME OF JURISDICTION]. If adopted, the provisions shall apply to all new development and to substantial improvements to existing development.

AR101.3.2 The provisions of this appendix supplement the jurisdiction's building codes to provide for enhanced provisions to mitigate the hazard to life and property from natural weather related disasters, including flooding, tornadoes and other high-wind events.

AR101.3.3 The provisions of this appendix establish design and construction standards for storm shelters.

AR101.4 Violations. Any violation of a provision of this appendix or failure to comply with a permit of variance issued pursuant to this appendix or any requirement of this appendix shall be handled in accordance with the ordinances of [NAME OF JURISDICTION].

SECTION AR102 APPLICABILITY

AR102.1 General. This appendix provides enhanced minimum requirements for development of new construction and substantial improvement of existing development above that contained in the *International Residential Code* (IRC).

AR102.1.1 Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this appendix or to any previously approved alternative arrangements than it was before the work was undertaken.

AR102.1.2 Where there is a conflict between a requirement of the *International Residential Code* and a requirement of this appendix, the requirement of this appendix shall govern. Where there is a conflict between a general requirement of this appendix and a specific requirement of this appendix, the specific requirement shall govern. Where, in any specific case, different sections of this appendix specify different materials, methods of construction or other requirements, the most restrictive shall govern.

AR102.2 Other laws. The provisions of this appendix shall not be deemed to nullify any provisions of local, state or federal law.

AR102.3 Referenced codes and standards. The codes and standards referenced in this appendix shall be those that are listed in Chapter AR7 and such codes and standards shall be considered as part of the requirements of this appendix to the prescribed extent of each such reference. Where differences occur between provisions this appendix and references and standards, the provisions of this appendix shall apply.

SECTION AR103
POST DISASTER EVENT INSPECTIONS
GUIDELINES

AR103.1 Inspections. The building official or agents shall inspect residential buildings and structures to determine the habitability of each with the goal of getting the community back into their residences quickly and safely. Inspections shall always be performed by teams of at least two individuals, also known as disaster assessment teams.

AR103.1.1 Right of entry. Unless permitted under the exigent circumstances provisions or from an order from State or Federal Authorities, disaster assessment teams shall confirm the right of entry requirements with the incident commander. Upon approval, the assessment teams shall be authorized to enter the structure or premises at reasonable times to inspect or perform duties as provided by this code, provided that the structure or premises be occupied, that credentials are presented, that entry is requested, and that entry is granted by the owner or person having charge over the structure or premises.

AR103.2 Types of inspections.

AR103.2.1 Rapid evaluation. Rapid evaluation is performed after a disaster event to determine if a building is apparently safe or obviously unsafe. The evaluation should last 10 to 30 minutes per building and shall be performed by the building official and/or their designated responders. Evaluation shall determine if a detailed evaluation is necessary. Placards are posted on buildings indicating status as one of the following:

1. INSPECTED
2. RESTRICTED USE
3. UNSAFE

See Section AR605 for Placards that may be reproduced for use in the field during evaluations. The jurisdiction shall alter placards to meet the jurisdiction and building department's requirements.

AR103.2.2 Detailed evaluation. Detailed evaluation is a thorough visual examination of a damaged building performed by a team of two, including an inspector and a design professional. Evaluation should last 30 minutes to 4 hours per building. Evaluation shall determine necessary restrictions on a damaged building's use, the need for an engineering evaluation or to evaluate postings.

AR103.2.3 Engineering evaluation. When indicated by the building official as necessary, engineering evaluations shall be completed by a registered design professional hired by the building owner.

AR103.3 Post disaster building safety evaluation Chart. See Figure AR103.3 for Post Disaster Building Safety Evaluation Chart.

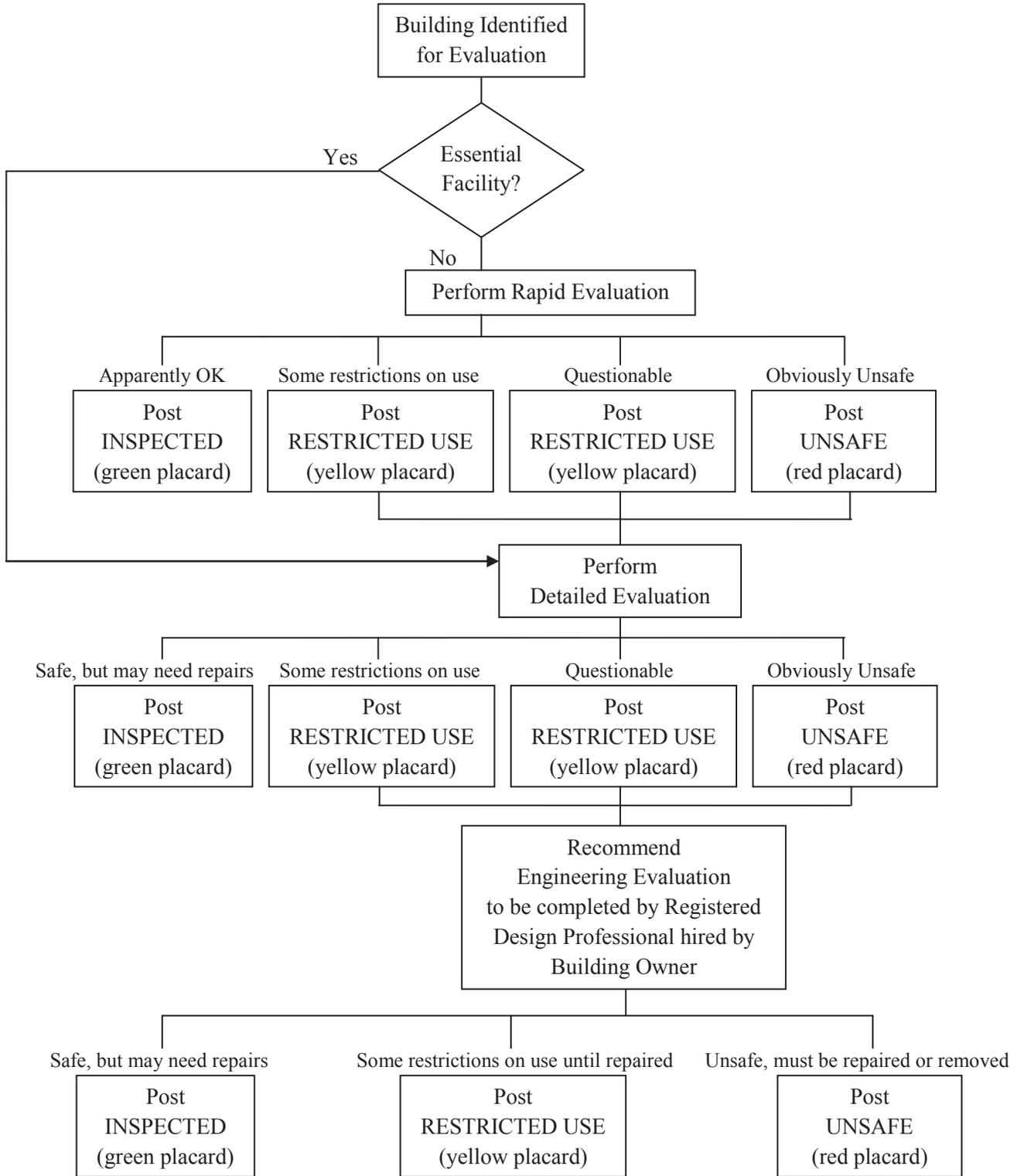
AR103.4 Evaluation forms. *ATC-45 Rapid Evaluation Safety Assessment Form* and *ATC-45 Detailed Evaluation Safety Assessment Form* shall be used by [NAME OF JURISDICTION]'s Building Official for post disaster inspections. See Section AR605 for copies of the Safety Assessment Forms.

AR103.5 Placement and removal of placards.

AR103.5.1 Placement. Placards are to be posted in a clearly visible location near the main entrance and shall be visible from the public right-of-way. In addition RESTRICTED USE or UNSAFE placards shall be placed at all entrances.

AR103.5.2 Removal. Placards shall not be removed or replaced, except by the authorized representatives of the local jurisdiction.

Figure AR103.3 Post Disaster Building Safety Evaluation Chart ^a



^(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

CHAPTER AR2 DEFINITIONS

SECTION AR201 GENERAL

AR201.1 Scope. Unless otherwise expressly stated the following words and terms shall, for the purposes of this appendix, have the meanings shown in this chapter.

AR201.2 Terms defined in other codes. Where terms are not defined in this appendix and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

AR201.3 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION AR202 DEFINITIONS

500-YEAR FLOOD. Flood having a 0.2% annual probability of being equaled or exceeded.

ADVISORY BASE FLOOD ELEVATION (ABFE). An advisory base flood elevation (BFE) issued by the Federal Emergency Management Agency (FEMA) that reflects post-storm conditions and vulnerability to damages from future flooding.

BASE FLOOD. Flood having a 1% chance of being equaled or exceeded in any given year, also referred to as the 100-year flood.

BASE FLOOD ELEVATION (BFE). The elevation of flooding, including wave height, having a 1% chance of being equaled or exceeded in any given year established relative to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD) or other datum specified on the *Flood Insurance Rate Map* (FIRM).

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Residential Code*, or the building official's duly authorized representative.

DESIGN FLOOD. The greater of the following two flood events:

- (1) The *base flood*, affecting those areas identified as *special flood hazard areas* on the community's FIRM;

- (2) The flood corresponding to the area designated as a *flood hazard area* on a community's *flood hazard map* or otherwise legally designated.

DESIGN FLOOD ELEVATION (DFE). The elevation of the *design flood*, including wave height, relative to the datum specified on the community's legally designated flood hazard map. In areas designated as Zone AO, the *design flood elevation* shall be the elevation of the highest existing grade of the building's perimeter plus the depth number (in feet) specified on the flood hazard map.

FLOOD [DAMAGE]-RESISTANT MATERIAL. Any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage.

FLOOD HAZARD AREA. The area subject to flooding during the *design flood*.

FLOOD HAZARD MAP. Map delineating *flood hazard areas* adopted by the authority having jurisdiction.

FLOOD INSURANCE RATE MAP (FIRM). An official map of a community on which the Federal Emergency Management Agency (FEMA) has delineated both the *special flood hazard areas* and the risk premium zones applicable to the community.

FREEBOARD. A factor of safety expressed in feet above a flood level for purposes of floodplain management.

FUTURE-CONDITIONS FLOOD. The flood having a 1% chance of being equaled or exceeded in any given year based on future-conditions hydrology. Also known as the 100-year future-conditions flood.

FUTURE-CONDITIONS FLOOD ELEVATION. The flood standard equal to or higher than the Base Flood Elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

**CHAPTER AR3
FLOOD-RESISTANT CONSTRUCTION**

Forward: This appendix provides three different options for increased freeboard. The jurisdiction may pick only one option that is higher than previously adopted and enforced by the jurisdiction. The National Flood Insurance Program (NFIP) minimum standards reference Base Flood Elevation without any freeboard in high risk flood hazard areas. Due to the flood damage prevention updates performed during the Map Modernization initiative that led to flood risks being digitally identified in all 159 Georgia counties, all Georgia NFIP participating communities have freeboard standards that meet or exceed the 1 foot standard used in the State model ordinances for areas where BFEs have been established.

**SECTION AR301
HAZARD IDENTIFICATION**

AR301.1 Identification of flood hazard areas. To establish flood hazard areas:

- (a) flood hazard map adopted by jurisdiction based on areas of special flood hazard as identified by the Federal Emergency Management Agency in an engineering report entitled “The Flood Insurance Study of [INSERT NAME OF JURISDICTION],” dated [INSERT DATE ISSUANCE], and amended or revised with the accompanying Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) and related supporting data along with any revisions thereto.
- (b) FIRM maps provided by the Federal Emergency Management Agency.

**SECTION AR302
SCOPE**

AR302.1 Flood loads. Buildings designed and constructed in flood hazard areas defined in Table R301.2(1) of the *International Residential Code* shall comply with the following:

AR302.1.1 Flood hazard areas without base flood elevations. In flood hazard areas without base flood or future-conditions flood elevation data, new construction and substantial improvements of existing structures shall have the lowest floor of the lowest enclosed area (including basement) elevated no less than three (3) feet above the highest adjacent grade to the building foundation.

OPTION A – FLOOD ELEVATION

AR302.1.2 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus one (1) foot, or
- (b) Base flood elevation plus one (1) foot, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or

- (e) 500-year flood, if known

OPTION B– FLOOD ELEVATION

AR302.1.3 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus two (2) feet, or
- (b) Base flood elevation plus two (2) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

OPTION C – FLOOD ELEVATION

AR302.1.4 Increase to base flood elevation requirements. Floors required by ASCE 24 to be built above base flood elevations as follows:

The higher of:

- (a) Design flood elevation plus three (3) feet, or
- (b) Base flood elevation plus three (3) feet, or
- (c) Advisory base flood elevation, or
- (d) Future-conditions plus one (1) foot, if known or
- (e) 500-year flood, if known

**SECTION AR303
FLOOD DAMAGE-RESISTANT MATERIALS**

AR303.1 Flood damage-resistant materials. Flood damage-resistant materials comply with FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials.

AR303.2 Location of flood damage-resistant materials. Building components and materials located below the increase to base flood elevation as determined by the local jurisdiction in accordance with AR302.1 shall be flood damage-resistant as defined by Section AR303.1.

AR303.3 Fasteners and connectors used for flood damage-resistant materials. Fasteners and connectors used for flood damage-resistant materials to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

CHAPTER AR4 HIGH-WIND RESISTIVE CONSTRUCTION

Forward: This appendix provides four different options for increased wind speed. The jurisdiction may pick only one option that is higher than the mapped wind speed shown in the International Residential Code.

SECTION AR401 GENERAL

AR401.1 Scope. The provisions of this appendix shall govern the structural design of one- and two-family dwellings (townhouses) not more than three stories in height with separate means of egress and their accessory structures. The building or structure shall comply with all aspects of the International Residential Code in addition to the requirements of this appendix.

AR401.2 Continuous load path. A continuous load path shall be provided to transmit the applicable forces from the roof assembly to the foundation.

AR401.3 Adoption of wind speed. [INSERT NAME OF JURISDICTION] adopts Option [PICK A, B, C, or D] MINIMUM WIND SPEED [INSERT WIND SPEED].

AR401.4 Alternative materials, design and methods of construction and equipment. The provisions of this appendix are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this appendix, provided such material is listed and tested for such application intended. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this appendix, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this appendix. Compliance with the specific performance-based provisions of the International Codes in lieu of specific requirements of this appendix shall also be permitted as an alternate.

AR401.4.1 Tests. Whenever there is insufficient evidence of compliance with the provisions of this appendix, or evidence that a material or method does not conform to the requirements of this appendix, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this appendix or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an

approved agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

SECTION AR402 OPTION A – MINIMUM WIND SPEED 100 MPH

AR402.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 100 mph Exposure B in accordance with AR402.1.1 or in accordance with Prescriptive Method AR402.2. Buildings with minimum wind speed of 100 mph Exposure C shall be in accordance with AR402.1.1.

AR402.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. *AF&PA Wood Frame Construction Manual (WFCM)*, or
2. *AF&PA Wood Frame Construction Manual Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings: 100 MPH Exposure B (WFCM)*; or
3. *ICC Standard for Residential Construction in High-Wind Regions (ICC 600)*; or
4. *ASCE Minimum Design Loads for Buildings and Other Structures (ASCE 7)*; or
5. *AISI Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings (AISI S230)*; or
6. *International Building Code*; or
7. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
8. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

AR402.2 Prescriptive wood frame construction method deemed to comply with 100 MPH Exposure B. Prescriptive construction method for wood frame structures shall be in accordance with IRC requirements for 100 mph Exposure B construction as modified in this section. A continuous load path shall be provided to transmit uplift forces from the roof assembly to the ground as follows:

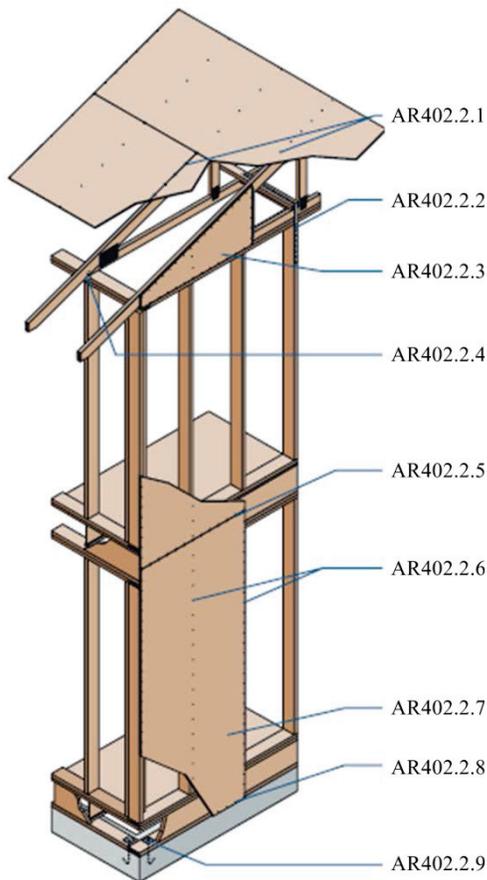


Figure AR402.2^b

(b) Form No. M310B © 2011 APA – The Engineered Wood Association.

AR402.2.1 Roof sheathing attachment. Nail roof sheathing with 8d ring shank (or deformed shank) (0.131" x 2-1/2") nails at 4 inches on center along the ends of the sheathing and gable end framing 6 inches on center along intermediate framing. See Figure AR402.2.1.

AR402.2.2 Gable end wall connection. Tie gable end walls back to the structure. See Figure AR402.2.2.

AR402.2.3 Gable end wall sheathing. Continuously sheath gable end walls with wood structural panels or equivalent approved material meeting loading requirements. See Figure AR402.2.3.

AR402.2.4 Roof framing to wall connection. Connect roof framing to wall using an approved connector or connectors having allowable loads when attached to Southern Pine or Douglas Fir lumber of 585 pounds in the upward direction, 485 pounds in the direction parallel to the wall and 165 pounds in the direction perpendicular to the wall. Attachment to be

on exterior face of the exterior walls. See Figure AR402.2.4.

AR402.2.5 Sheathing attachment at elevated floor level. Nail upper story sheathing and lower story sheathing into common wood structural panel or engineered rim board. See Figure AR402.2.5.

AR402.2.6 Wall sheathing attachment. Attach wall sheathing with 8d common (0.131" x 2-1/2") nails at 4 inches on center at end and edges of wood structural panels and 6 inches on center in the intermediate framing. See Figure AR402.2.6a. Adjacent edges in wood structural panel wall sheathing that do not occur over common framing members shall be attached to flat wise blocking as illustrated in Figure AR402.2.6b.

AR402.2.7 Continuous wall sheathing. Continuously sheath all walls with wood structural panels or equivalent approved material meeting loading requirements. Continuously sheath areas around openings for windows and doors. Minimum wall bracing requirements shall be in accordance with IRC Section R602.10 or R602.12 continuous sheathing methods as modified in Section AR402.2.

AR402.2.8 Wall sheathing to sill plate connection. Extend sheathing material to lap the sill plate. See Figure AR402.2.8.

AR402.2.9 Anchor bolt connection. Space 1/2" anchor bolts with 7 inches of embedment 48 inches on center with 0.229" x 3" x 3" square plate washers with slotted holes. See Figure AR402.2.9. There shall be a minimum of 2 bolts per plate section with one bolt located not more than 12" or less than 3.5" from each end of the plate section.

AR402.2.10 Top plate intersection detail. Double top plates shall be provided at the top of all exterior stud walls. The double plates shall overlap at corners and at intersections with other exterior or interior load bearing walls. Double top plates shall be lap-spliced with end joints offset in accordance with the minimum requirements given in the *WFCM Guides to Wood Construction in High Wind Areas for One- and Two-Family Dwellings: 100 MPH Exposure B*. See Figure AR402.2.10.

AR402.3 Wall openings. Uplift load path connections at wall openings shall be in accordance with IRC Section R602.3.5.

NAIL ROOF SHEATHING WITH 8d RING SHANK (0.131" X 2-1/2") OR DEFORMED SHANK NAILS AT 4" ON CENTER ALONG THE ENDS OF THE SHEATHING AND GABLE END FRAMING 6 INCHES ON CENTER ALONG INTERMEDIATE FRAMING

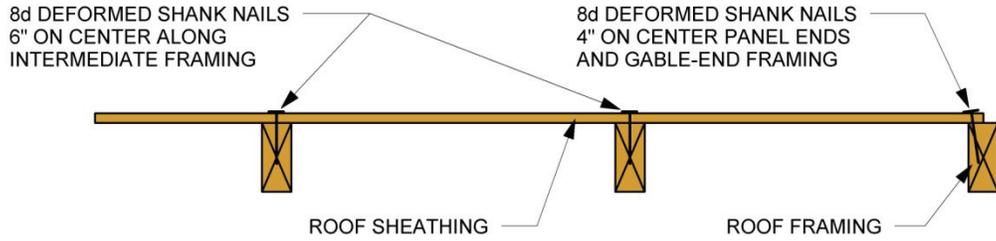


Figure AR402.2.1^b
Roof Sheathing Attachment Detail

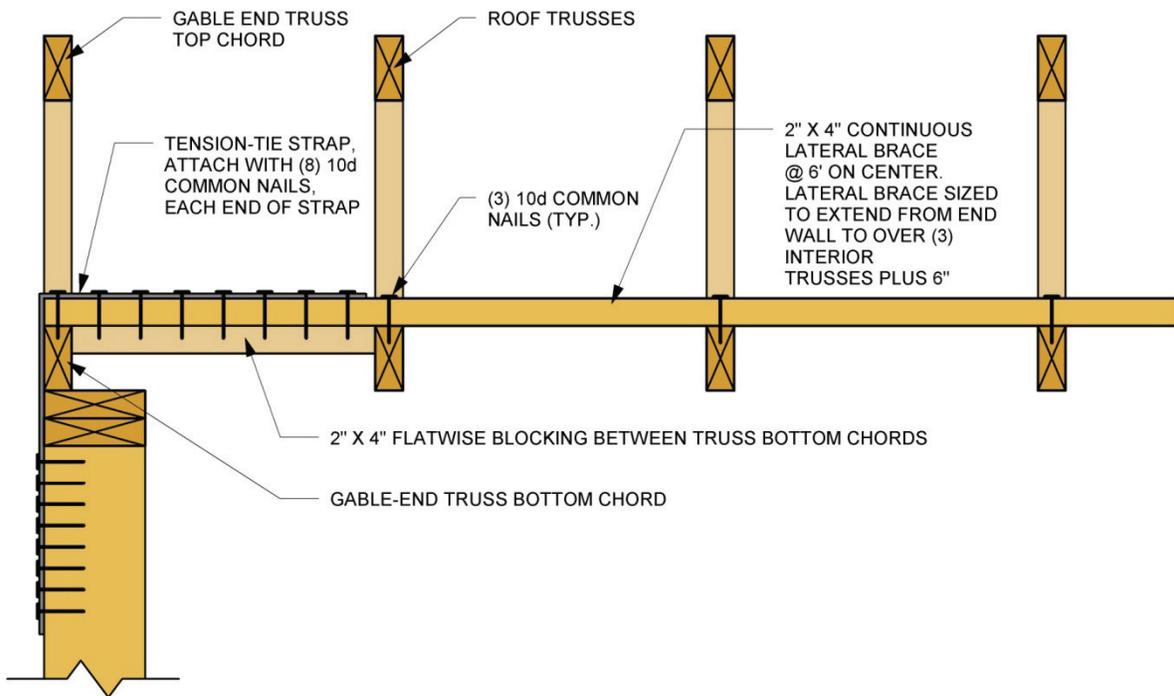


Figure AR402.2.2^b
Gable End Wall Connection Detail

SHEATH GABLE END WALLS WITH WOOD STRUCTURAL PANELS OR EQUIVALENT APPROVED MATERIAL MEETING LOADING REQUIREMENTS

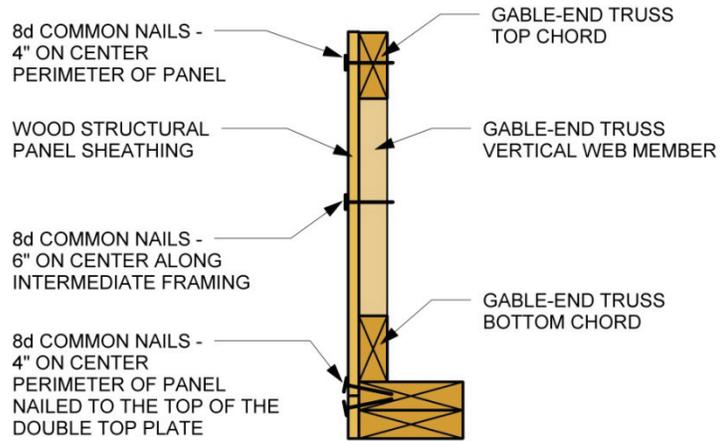


Figure AR402.2.3^b
Gable End Wall Sheathing Detail

ROOF FRAMING TO WALL CONNECTION WITH FRAMING ANCHOR TO MEET UPLIFT AND SHEAR CAPACITY ATTACHED ON SHEATHING SIDE OF THE EXTERIOR WALLS

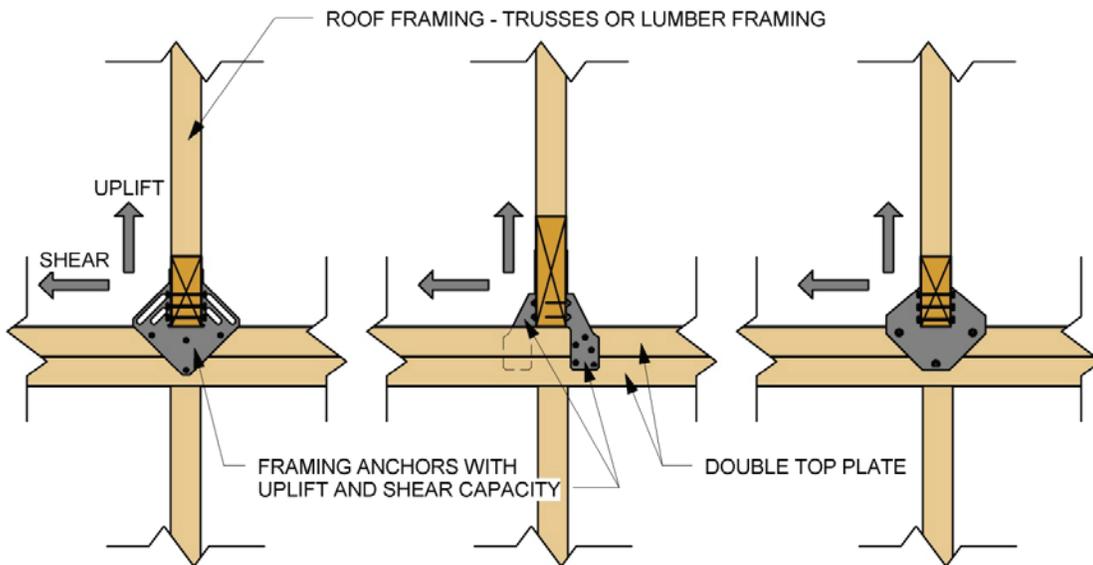


Figure AR402.2.4^b
Roof Framing to Wall Connection Detail

NAIL OFF UPPER STORY AND LOWER STORY SHEATHING INTO COMMON WOOD STRUCTURAL PANEL RIM BOARD

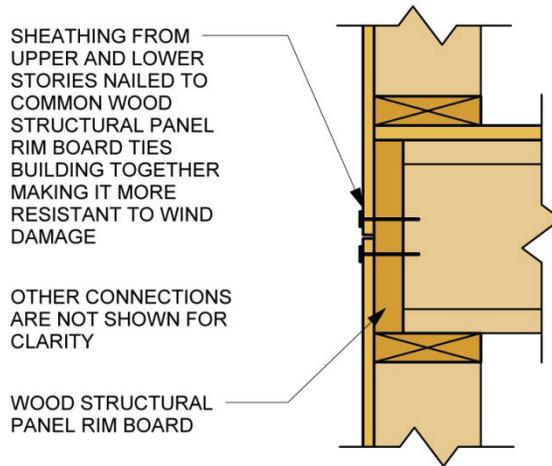


Figure AR402.2.5^b
Sheathing Attachment at Elevated Floor Level Detail

NAIL WALL SHEATHING WITH 8d COMMON (0.131" X 2-1/2") NAILS AT 4" ON CENTER IN THE BOUNDARY OF WOOD STRUCTURAL PANEL WALLSHEATHING AND 6" ON CENTER IN THE INTERMEDIATE STUDS

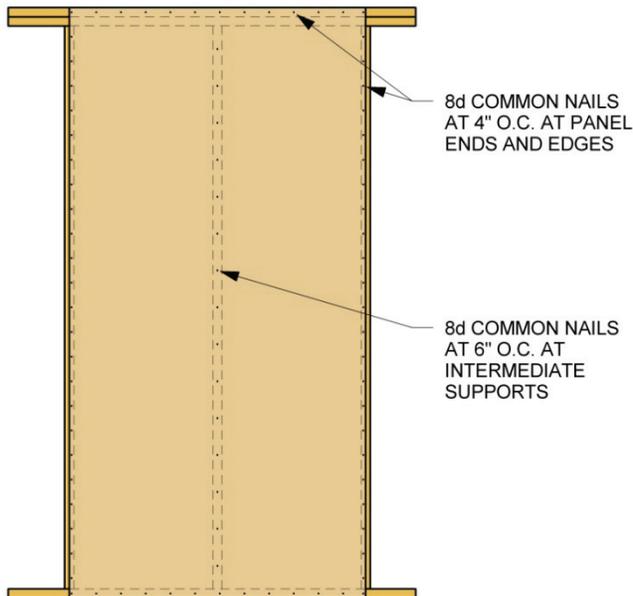


Figure AR402.2.6a^b
Wall Sheathing Attachment Detail

WOOD STRUCTURAL PANEL FLAT-WISE BLOCKING DETAIL

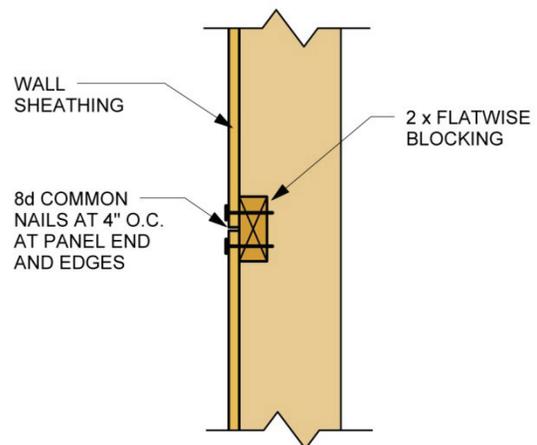


Figure AR402.2.6b
Panel Splice Detail

EXTEND WOOD STRUCTURAL PANEL SHEATHING AT BOTTOM WALL TO SILL PLATE INTERSECTION

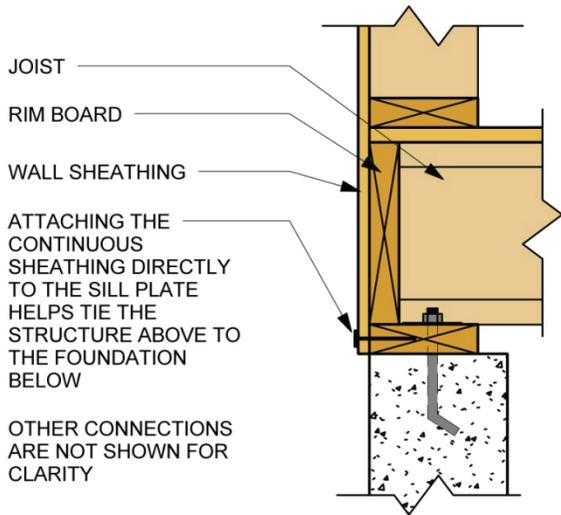


Figure AR402.2.8^b

Wall Sheathing to Sill Plate Connection Detail

SPACE 1/2" ANCHOR BOLTS 48" ON CENTER WITH 0.229" X 3" X 3" SLOTTED SQUARE PLATE WASHERS AT THE WALL TO SILL PLATE INTERSECTION

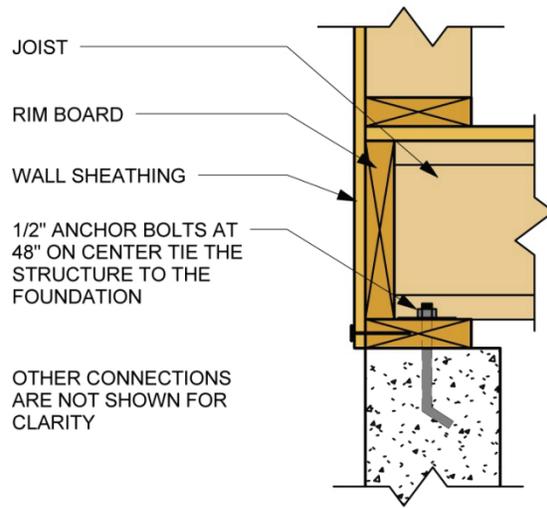


Figure AR402.2.9^b

Anchor Bolt Connection Detail

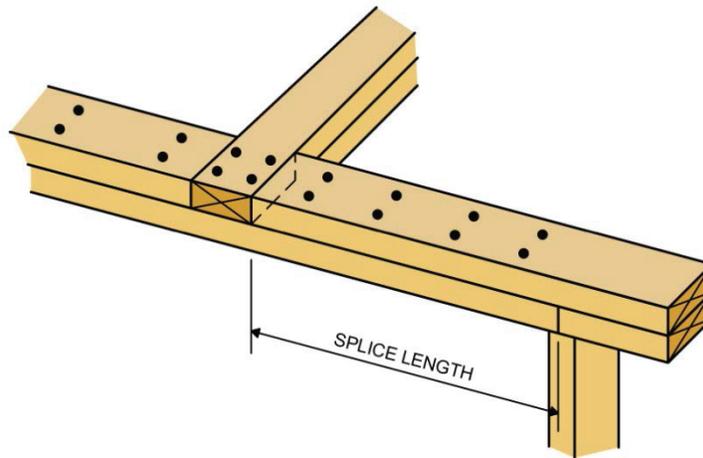


Figure AR402.2.10^c

Top Plate Intersection Detail

(b) *Form No. M310B* August 2011 APA – The Engineered Wood Association

(c) *WFCM Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings* – American Forest & Paper Association and the American Wood Council

SECTION AR403

OPTION B –MINIMUM WIND SPEED 110 MPH

AR403.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 110 mph Exposure B.

AR403.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
7. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

SECTION AR404

OPTION C –MINIMUM WIND SPEED 120 MPH

AR404.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 120 mph Exposure B.

AR404.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*; or
7. *Walls of structural insulated panels in accordance with R613 of the International Residential Code*.

SECTION AR405

OPTION D – MINIMUM WIND SPEED 130 MPH

AR405.1 Wind speed. Buildings shall be designed and constructed to comply with minimum wind speed of 130 mph Exposure B.

AR405.1.1 Design methods. The design of buildings for wind loads shall be in accordance with one or more of the following methods:

1. AF&PA *Wood Frame Construction Manual* (WFCM); or
2. ICC *Standard for Residential Construction in High-Wind Regions* (ICC 600); or
3. ASCE *Minimum Design Loads for Buildings and Other Structures* (ASCE 7); or
4. AISI *Standard for Cold-Formed Steel Framing – Prescriptive Method For One- and Two-Family Dwellings* (AISI S230); or
5. *International Building Code*; or
6. *Concrete walls in accordance with R404 and R611 of the International Residential Code*.

SECTION AR406

FASTENERS AND CONNECTORS FOR CLADDING

AR406.1 Fasteners and connectors for cladding. Fasteners and connectors to be made of stainless steel, hot-dipped zinc-coated galvanized steel, mechanically deposited-zinc coated, silicon bronze or copper. Copper fasteners shall not be permitted for use in conjunction with steel.

SECTION AR407

FENESTRATION

AR407.1 Design pressure. Exterior windows and doors shall be designed to resist the design wind loads specified in *International Residential Code* Table R301.2(2) adjusted for height and exposure per *International Residential Code* Table R301.2(3) based on the minimum wind speed specified in this appendix by the local jurisdiction.

AR407.2 Anchorage methods. Window and door assembly anchoring systems shall be in accordance with the manufacturer's published recommendations to achieve the design pressure specified per Section AR407.1. Substitute anchoring systems shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice. Anchorage shall not exceed the spacing for the tested rated performance.

SECTION AR408
ROOFING

AR408.1 Secondary water barrier. Underlayment shall be two layers applied in the following manner:

- (a) **Self-adhering tape as first layer.** Install minimum 4 inch wide self-adhering modified bitumen tape over sheathing joints. Seal deck penetrations with self-adhering modified bitumen tape. **ASTM D 226 Type I, ASTM D 4869 Type I or ASTM D 6757** as second layer. Apply a 19-inch strip of underlayment felt parallel to and starting at eaves, secure with low-profile, capped-head nails or thin metal disks attached with roofing nails. Fasten at approximately 6 inches on center along the laps and at approximately 12 inches on center along a row in the field of the sheet between the side laps. All laps shall be a minimum of 4 inches. Starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches, fasten as before. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.
- (b) **Two layers of ASTM D 226 Type I, ASTM D 4869 Type I or ASTM D 6757.** For each layer, apply a 19-inch strip of underlayment felt parallel to and starting at eaves, secure with low-profile, capped-head nails or thin metal disks attached with roofing nails. Fasten at approximately 6 inches on center along the laps and at approximately 12 inches on center along a row in the field of the sheet between the side laps. All laps shall be a minimum of 4 inches. Starting at the eave, apply 36-inch-wide sheets of underlayment, overlapping successive sheets 19 inches, fasten as before. Distortions in the underlayment shall not interfere with the ability of the shingles to seal.

Exception: As an alternative, adhered underlayment complying with ASTM D 1970 shall be permitted.

AR408.2 Fasteners.

AR408.2.1 Underlayment fasteners. Underlayment shall be attached using metal or plastic cap corrosion-resistant nails with a head diameter of not less than 1 inch with a thickness of at least 32-gauge sheet metal. The cap-nail shank shall be a minimum of 12 gauge with a sufficient length to penetrate through the roof sheathing or a minimum of 3/4 inch into the roof sheathing.

AR408.2.2 Asphalt shingles fasteners. Where asphalt shingles shall be applied with corrosion-resistant nails with shanks made of minimum 12 gauge wire and a minimum head diameter of 3/8 inch. Nails shall be long enough to penetrate 3/4 inch into the roof deck. Where the deck is less than 3/4 inch thick, the nails shall be long enough to penetrate completely through plywood decking and extend at least 1/8 inch through the roof deck.

AR408.3 Attachment. Where asphalt shingles shall have a minimum number of fasteners required by the manufacturer, but not less than six fasteners per strip shingle or three fasteners per individual shingle. Drive nail head flush with the shingle surface per figure AR408.2.

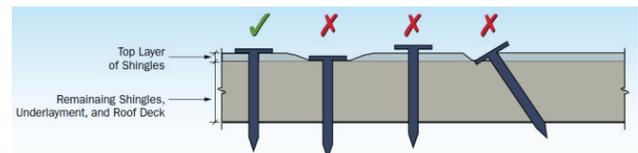


Figure AR408.2^d

(d) FEMA *Home Builder's Guide to Coastal Construction Technical Fact Sheet No. 7.3 Asphalt Shingle Roofing for High Wind Regions.*

**CHAPTER AR5
RESIDENTIAL STORM SHELTERS AND SAFE ROOMS**

**SECTION AR501
GENERAL**

AR501.1 General. This section applies to the construction of residential storm shelters and safe rooms when constructed as separate detached buildings or as internal areas within buildings for the purpose of providing safe refuge for storms that produce high winds, such as tornados and hurricanes. Residential storm shelters or safe rooms shall be offered as an optional package.

**SECTION AR502
RESIDENTIAL STORM SHELTERS AND SAFE
ROOMS**

AR502.1 Residential storm shelters. Residential storm shelters when constructed shall be in compliance with the following:

1. *ICC/NSSA-500* per IRC Section R323.

AR502.2 Residential safe rooms. Residential safe rooms when constructed shall be in compliance with the following:

1. *FEMA 361 Design and Construction Guidance for Community Safe Rooms*; or
2. *FEMA 320 Taking Shelter from the Storm: Building a Safe Room For Your Home and Small Business*

CHAPTER AR6 RESOURCES

SECTION AR601 CONTACTS

Georgia Department of Community Affairs (DCA) Construction Codes

Georgia State Amendments to the State Minimum
Standard Codes

<http://www.dca.ga.gov/development/constructioncodes/programs/codeAmendments.asp>

Phone: 404-679-3118

Georgia Department of Natural Resources (DNR) Floodplain Management

4220 International Parkway, Ste. 101
Atlanta, GA 30354-3902

www.georgiadfirm.com

Phone: 404-675-1757

Federal Emergency Management Agency (FEMA)

www.fema.gov; www.floodsmart.gov

www.fema.gov/rebuild/buildingscience/

FEMA Publications and Technical Bulletins:

www.fema.gov/library/index.jsp

www.fema.gov/plan/prevent/floodplain/techbul.shtm

Georgia Emergency Management Agency (GEMA)

Georgia Office of Homeland Security

P.O. Box 18055

Atlanta, GA 30316-0055

www.gema.ga.gov

www.ready.ga.gov

Phone: 404-635-7000

Georgia Association of Regional Commissions (GARC)

www.garc.ga.gov

<http://garc.ga.gov/main.php?Regional-Commissions-2>

(for assistance in identifying Flood Hazard Areas)

International Code Council (ICC)

www.iccsafe.org

National Weather Service

www.srh.weather.gov

State Fire Marshal's Office

2 Martin Luther King Jr. Drive

Suite 920 / West Tower

Atlanta, Georgia 30334

www.oci.ga.gov

Phone: 404-656-7087

SECTION AR602

EMERGENCY INSPECTION KIT^e

- | | | |
|--|---|---|
| <input type="checkbox"/> Staff's disaster response management plan | <input type="checkbox"/> Safety glasses | <input type="checkbox"/> Duct tape |
| <input type="checkbox"/> Team contact list | <input type="checkbox"/> Sunglasses | <input type="checkbox"/> Staples & stapler |
| <input type="checkbox"/> Area maps | <input type="checkbox"/> Pocket knife | <input type="checkbox"/> Staple gun |
| <input type="checkbox"/> Official identification | <input type="checkbox"/> Matches | <input type="checkbox"/> Calculator |
| <input type="checkbox"/> Personal identification | <input type="checkbox"/> Antibacterial hand wipes or alcohol-based hand sanitizer | <input type="checkbox"/> Tire repair kit |
| <input type="checkbox"/> Inspection forms and placards | <input type="checkbox"/> Insect repellent (w/ Deet or Picaridin) | <i>Remember to grab:</i> |
| <input type="checkbox"/> Communication equipment | <input type="checkbox"/> Sunscreen (SPF 15 or greater) | <input type="checkbox"/> Personal identification |
| <input type="checkbox"/> Clipboard | <input type="checkbox"/> Camera | <input type="checkbox"/> Rain gear, extra clothing |
| <input type="checkbox"/> Hard hat | <input type="checkbox"/> Black markers | <input type="checkbox"/> Water bottle |
| <input type="checkbox"/> Orange safety vest | <input type="checkbox"/> Pens & pencils | <input type="checkbox"/> Prescription medication |
| <input type="checkbox"/> Dust mask | <input type="checkbox"/> Envelope for expense receipts | <input type="checkbox"/> Cell phone and charger |
| <input type="checkbox"/> Work gloves | <input type="checkbox"/> Compass, GPS unit | <input type="checkbox"/> Cash for personal expenses |
| <input type="checkbox"/> Steel toe and waterproof boots | <input type="checkbox"/> Backpack, waistpack | <input type="checkbox"/> Toiletries |
| <input type="checkbox"/> Whistle | <input type="checkbox"/> Flashlight and extra batteries | |
| <input type="checkbox"/> First aid kit | <input type="checkbox"/> Battery-operated radio | |
| <input type="checkbox"/> Latex gloves | | |

(e) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

**SECTION AR603
SAFETY TIPS ^a**

1. Always travel in teams of at least two people.
2. Always wear a hard hat, gloves, goggles, safety vest, and dust masks.
3. Always wear safety shoes capable of protecting the toes and bottom of the foot.
4. Survey the building exterior completely before entering.
5. Enter building only if authorized and if deemed safe to do so.
6. Be alert for falling objects.
7. In case of fire, injuries or victims, evacuate the area and alert the fire department immediately.
8. Avoid downed power lines and buildings under them or water surrounding them.
9. In case of gas leaks, shut off the gas (if possible) and report the leak.
10. In a flood situation, have a “walking stick.”

(a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007

**SECTION AR604
MAJOR DISASTER PROCESS**
(from link <http://www.fema.gov/hazard/dproc.shtm>)

A Major Disaster Declaration usually follows these steps:

- **Incident occurs and local government responds**, supplemented by neighboring communities and volunteer agencies. If overwhelmed, turn to the state for assistance;

Generally the local government will issue a local state of emergency

- **The State responds** with state resources, such as the National Guard and state agencies;

Prior to committing state resources, the Governor will declare a state of emergency in the counties impacted by the event for which assistance is needed.

- **Damage assessment** by local, state, federal, and volunteer organizations determine losses and recovery needs;

Generally the locals will submit a preliminary damage assessment to the State and the State will review and determine if state and/or federal assistance is needed. If federal assistance is needed, the state will request FEMA perform a preliminary joint damage assessment. If the Governor determines that the incident is of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments then supplementary Federal assistance is requested (next step).

- **A Major Disaster Declaration** is requested by the Governor, based on the damage assessment, and agreement to commit state funds and resources to the long-term recovery;
- **FEMA evaluates** the request and recommends action to the White House based on the disaster, the local community and the state’s ability to recover;
- **The President approves** the request or FEMA informs the Governor it has been denied. This decision process could take a few hours or several weeks depending on the nature of the disaster.

**SECTION AR605
SAMPLE EVALUATION FORMS AND INSPECTION PLACARDS ^e (following pages)**

Figure AR605.1 e

ATC-45 Rapid Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Areas inspected: Exterior only Exterior and interior

Building Description

Building name: _____ Type of Building

Address: _____ Mid-rise or high-rise Pre-fabricated

_____ Low-rise multi-family One- or two-family dwelling

_____ Low-rise commercial

Building contact/phone: _____ Primary Occupancy

Number of stories: _____ Dwelling Commercial Government

"Footprint area" (square feet): _____ Other residential Offices Historic

Number of residential units: _____ Public assembly Industrial School

_____ Emergency services Other: _____

Evaluation

Investigate the building for the conditions below and check the appropriate column. **Estimated Building Damage (excluding contents)**

Observed Conditions:	Minor/None	Moderate	Severe	Estimated Building Damage (excluding contents)
Collapse, partial collapse, or building off foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> None
Building significantly out of plumb or in danger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> > 0 to < 1%
Damage to primary structural members, racking of walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 1 to < 10%
Falling hazard due to nonstructural damage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 10 to < 30%
Geotechnical hazard, scour, erosion, slope failure, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 30 to < 70%
Electrical lines / fixtures submerged / leaning trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 70 to < 100%
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 100%

See back of form for further comments.

Posting

Choose a posting based on the evaluation and team judgment. Severe conditions endangering the overall building are grounds for an Unsafe posting. Localized Severe and overall Moderate conditions may allow a Restricted Use posting.

INSPECTED (Green placard) **RESTRICTED USE** (Yellow placard) **UNSAFE** (Red placard)

Record any use and entry restrictions exactly as written on placard: _____

Number of residential units vacated: _____

Further Actions Check the boxes below only if further actions are needed.

Barricades needed in the following areas: _____

Detailed Evaluation recommended: Structural Geotechnical Other: _____

Substantial Damage determination recommended

Other recommendations: _____

See back of form for further comments.

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Figure AR605.2^e

ATC-45 Detailed Evaluation Safety Assessment Form

Inspection

Inspector ID: _____ Inspection date: _____

Affiliation: _____ Inspection time: _____ AM PM

Final Posting
from page 2

Inspected
 Restricted Use
 Unsafe

Building Description

Building name: _____

Address: _____

Building contact/phone: _____

Number of stories: _____

"Footprint area" (square feet): _____

Number of residential units: _____

Type of Building

Mid-rise or High-rise
 Low-rise multi-family
 Low-rise commercial

Pre-fabricated
 One- or two-family dwelling
 Other: _____

Primary Occupancy

Dwelling
 Other residential
 Public assembly
 Emergency services

Commercial
 Offices
 Industrial
 Other: _____

Government
 Historic
 School

Evaluation

Investigate the building for the conditions below and check the appropriate column. There is room on the second page for a sketch.

	Minor/None	Moderate	Severe	Comments
Overall hazards:				
Collapse or partial collapse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building or story lean or drift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Fractured or displaced foundation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Structural hazards:				
Failure of significant element/connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Column, pier, or bearing wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Roof/floor framing or connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Superstructure/foundation connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Moment frame	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Diaphragm/horizontal bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Vertical bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Shear wall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Nonstructural hazards:				
Parapets, ornamentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Canopy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Cladding, glazing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ceilings, light fixtures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Stairs, exits, access walkways, gratings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Interior walls, partitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Mechanical & electrical equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Elevators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building contents, other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Geotechnical hazards:				
Slope failure, debris impact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Ground movement, erosion, sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Differential settlement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Continue on page 2

I-49

INSPECTED

LAWFUL OCCUPANCY PERMITTED

This structure has been inspected (as indicated below) and no apparent structural hazard has been found.

- Inspected Exterior Only
- Inspected Exterior and Interior

Report any unsafe condition to local authorities; reinspection may be required.

Inspector Comments:

Facility Name and Address:

Date

Time

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

Do Not Remove, Alter, or Cover this Placard until Authorized by Governing Authority

RESTRICTED USE

Caution: This structure has been inspected and found to be damaged as described below:

Date _____
Time _____

Entry, occupancy, and lawful use are restricted as indicated below:

- Do not enter the following areas: _____
- Brief entry allowed for access to contents: _____
- Other restrictions: _____

Facility name and address:

This facility was inspected under emergency conditions for:

(Jurisdiction)

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

UNSAFE

**DO NOT ENTER OR OCCUPY
(THIS PLACARD IS NOT A DEMOLITION ORDER)**

This structure has been inspected, found to be seriously damaged and is unsafe to occupy, as described below:

Date _____
Time _____

This facility was inspected under emergency conditions for:

(Jurisdiction)

Do not enter, except as specifically authorized in writing by jurisdiction. Entry may result in death or injury.

Facility Name and Address:

Inspector ID / Agency

**Do Not Remove, Alter, or Cover this Placard
until Authorized by Governing Authority**

CHAPTER AR7 REFERENCES

REFERENCED STANDARDS

ASCE Standards ASCE/SEI 24-05 Flood Resistant Design and Construction
FEMA P-320, Third Edition / August 2008 Taking Shelter From the Storm: Building a Safe Room For Your Home or Small Business, Includes Construction Plans and Cost Estimates
FEMA 361, Second Edition / August 2008 Design and Construction Guidance for Community Safe Rooms
FEMA Technical Bulletin 2, Table 2. Types, Uses, and Classifications of Materials

REFERENCED RESOURCES

- (a) *When Disaster Strikes* by the International Code Council, Inc., Seventh Printing: November 2011, copyright 2007
- (b) *Form No. M310B* August 2011 APA – The Engineered Wood Association; www.apawood.org
- (c) *WFCM Guide to Wood Construction in High Wind Areas for One- and Two-Family Dwellings* – American Forest & Paper Association and the American Wood Council; www.awc.org
- (d) *FEMA Home Builder's Guide to Coastal Construction Technical Fact Sheet No. 7.3 Asphalt Shingle Roofing for High Wind Regions*.
- (e) *Disaster Mitigation: A Guide for Building Departments* by the International Code Council, Inc., copyright 2009

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