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# Mitigation Planning Toolkit

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## Hazard Mitigation Planning

FEMA Region IV has developed an extensive web based tool to assist States, Local, and Tribal Communities involved in Hazard Mitigation Plan Development and Updates. The subject matter and various topics contained on this tool will aid planners, community officials, and leaders understand the necessity for having Hazard Mitigation Plans while guiding the direction of plan development and required updates. The tool has been designed to follow preferred planning methodology allowing planners to go step-by-step throughout the planning process or allow for specific sections only of the plan to be selected for review and/or update.

***Notice: Web links are subject to change without notice or warning.***

- Risk MAP 101
- Hazard Mitigation Planning**
- NFIP
- Hazard Mitigation Grant
- Outreach and Public Awareness
- Training
- Additional Resources



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Overview:

[Hazard Mitigation Planning Overview](#)

[Does my community have a mitigation plan?](#)

[Laws and Regulations](#)

State Guidance:

[State Multi-Hazard Mitigation Planning Guidance](#)

[Guidance: Local Mitigation Planning Guidance \(10/2011\)](#)

[How to Plan for Consolidated City-County Plans](#)

[How to Consider Communities That Cross County  
Boundaries](#)

Tribal Guidance:

[Tribal Multi-Hazard Mitigation Planning Guidance](#)

[Tribal Mitigation Planning](#)

[Quick Tips Guide](#)

[Annotated Agenda for Tribal Meetings](#)



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## Planning Process

[Getting Started: Building Support for Mitigation Planning](#)

[Local Mitigation Plan Scope of Work](#)

[Multi-Jurisdictional Planning](#)

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## Risk Assessment

[Understanding Your Risks: Identifying Hazards and Estimating Losses](#) (How To #2)

Hazard Identification

[FEMA Declared Disasters](#)

[USDA Declared Disasters](#)

[Spatial Hazard Events and Losses Database for the United States \(SHELDUS\)](#)

[National Climate Data Center \(NCDC\)](#)

[NOAA Risk and Vulnerability Assessment Tool: Roadmap for Adapting to Coastal Risk](#)

[USGS Risk Assessment](#)

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## Hazard Profiles

### Coastal Erosion

[What is Coastal Erosion?](#)

[USGS Coastal Change Hazards Digital Library](#)

[USGS Impacts and Predictions of Coastal Change During Hurricanes, USGS Fact Sheet 2010-3012](#)

[USGS National Assessment of Shoreline Change \(includes reports and GIS mapping applications\)](#)

### Coastal Storms

[What are Coastal Storms?](#)

[NOAA Coastal Storm Program](#)

[Coastal Inundation Toolkit](#)

[NOAA State of the Coast](#)

### Dam Failure

[What is Dam Failure?](#)

[National Inventory of Dams \(NID\)](#)

[Association of State Dam Safety Officials](#)

[National Dam Safety Program](#)

[Dam Safety Information](#)

[Federal Guidelines for Dam Safety](#)

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[Planning to Reduce Dam Risk Fact Sheet](#)

[Risk Prioritization Tool for Dams](#)

[Why Dams Fail](#)

Droughts

[What is Drought?](#)

[National Integrated Drought Information System](#)

[US Drought Monitor](#)

[NOAA Drought Information](#)

[U.S. Drought Portal](#)

[US Palmer Drought Indices](#)

[Extreme Heat Information](#)

[Heat Index Chart](#)

Earthquakes

[What are Earthquakes?](#)

[Understanding Hazards in the Central and Eastern U.S.](#)

[Earthquake history by state](#)

[Catalog of FEMA Earthquake Resources](#)

[USGS Earthquake Publication](#)

[National Earthquake Hazards Reduction Program](#)

[Urban Seismic Hazard Mapping](#)





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[National Earthquake Information Center \(NEIC\)](#)

[Earthquake Publications for Community Planners and Public Policy Makers](#)

[Reducing the Risks of Nonstructural Earthquake Damage—A Practical Guide, Fourth Edition](#)

[Modified Mercalli Intensity Scale](#)

Expansive Soils

[Expansive Soils Explanations](#)

Floods

[FEMA Map Service Center](#)

[What are floods?](#)

[How Does the NFIP Define Floods?](#)

[Current Flood Conditions and Flood-Data Portal](#)

[Winter Flooding Fact Sheet](#)

[Flood Mitigation Data Collect Tool](#)

[Risk MAP](#)

[Flood Risk Products](#)

Hailstorm

[Hail Fact Sheets](#)

[NOAA Hail Basics](#)



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## [Hail Measurements](#)

Hurricane

[FEMA National Hurricane Program](#)

[FEMA Hurricane Hazard Information](#)

[National Weather Service – National Hurricane Center \(NHC\)](#)

[NHC Storm Surge](#)

[NOAA CSC Hurricane Planning & Impact Assessment Reports](#)

[Application of HAZUS-MH to Support Hurricane Disaster](#)

[Operations](#)

[USGS Coastal Change Hazards: Hurricanes and Extreme Storms](#)

Landslides

[What are Landslides?](#)

[Landslide Types and Processes](#)

[Landslides Hazards Program](#)

Levee Failure

[FEMA Levee Information](#)

Man-Made Disasters

[Integrating Manmade Hazards into Mitigation Planning](#)

[Hazardous Material](#)

[Winter Storm Basics](#)

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## [Wind Chill Information](#)

Tornadoes

### [What are Tornadoes?](#)

### [Tornadoes-Nature's Most Violent Storms?](#)

### [When and Where Tornadoes Occur](#)

### [Enhanced Fujita Scale \(EF Scale\)](#)

Tsunami

### [What are Tsunamis?](#)

### [NOAA Tsunami](#)

### [National Tsunami Mitigation Program Fact Sheet: Preparing for Tsunami Hazards](#)

### [GOA Report: US Tsunami Preparedness, Federal and State Partners Collaborate to Help Communities Reduce Potential Impacts, but Significant Challenges Remain](#)

Wildfires

### [Wildfire Fact Sheet](#)

Windstorm

### [Windstorm Basics](#)

### [Wind Zones in the US](#)

### [Beaufort Wind Scale](#)

### [Other Issues to Consider](#)

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Sinkholes/Soil Subsidence

[USGS Sinkhole Factsheet](#)

[What is Soil Subsidence?](#)

Rogue Waves

[What is a Rogue Wave?](#)

[NWS Rogue Waves](#)

Sea Level Rise

[USGS National Assessment of Vulnerability to Sea Level Rise, USGS Open File Report 99-593](#)

[NOAA's Sea Level Trends](#)

[NOAA Tides and Currents](#)

[NOAA's Land Cover Change Program](#)

Global Change

[Climate Change-Health and Environmental Effects: Coastal Zones and Sea Level Rises](#)

[Early Warning Signs of Global Warming: Sea-Level Rise and Coastal Flooding](#)

[NOAA Climate Change](#)

[US Global Change Research Program](#)

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## Assessing Vulnerabilities

[HAZUS MH: Factsheet](#)

[HAZUS Risk Assessments Support Mitigation Planning](#)

[HAZUS Computer Requirements](#)

[HAZUS-MH: FEMA's Multi-Hazard Risk Assessment and Loss Estimation Software Program Overview Presentation](#)

[HAZUS-MH: FEMA's Gold Standard for Mitigation and Recovery Planning Handout](#)

[Social Vulnerability](#)

Repetitive Loss

[Severe Repetitive Loss Property Locations in FEMA Region IV and VI](#)

[NFIP Community Status Book](#)

Analyzing Development Trends

[Hazard and Resiliency Planning: Perceived Benefits and Barriers Among Land Use Planners](#)

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## Mitigation Strategy

Capabilities Assessment

[A Critical Role: Top Ten Policies That States Need to Recover from Disasters](#)

Mitigation Goals & Actions

[Developing the Mitigation Plan: Identifying Mitigation Actions and Implementation Strategies](#)

Benefit Cost Analysis (BCA)

[Mitigation Planning How-To #5](#)

Implementing Actions

[How to Prepare for and Mitigation against Hurricane Hazards](#)

[Landslide Loss Reduction: A Guide for State and Local Government Planning](#)

[Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects](#)

[Bringing the Plan to Life: Implementing the Hazard Mitigation Plan](#)

Grants

[Community Development Block Grants \(CDBG\) Disaster Recovery Assistance Grants](#)

[Hazard Mitigation Assistance Grants](#)

[EPA Environmental Education Regional Grants](#)

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## Public Involvement

Plan Maintenance

[Adoption](#)

[Region IV Adoption Process](#)

Local Mitigation Plan Review Tool (Crosswalk)

[Local Mitigation Plan Review Crosswalk Comparison Tool](#)

[Tribal Local Mitigation Plan Review Tool \(Crosswalk\)](#)

[Planning Resources](#)

[Hazard Mitigation Technical Assistance](#)

Mitigation in Action

[Hazard Mitigation: Integrating Best Practices into Planning](#)

[Best Practices](#)

[FEMA Region IV Strengthens Disaster Preparedness Nationwide by Sharing HAZUS Expertise](#)

[HAZUS User Group Success Story: Proving HAZUS Capabilities for Mitigation and Business Continuity Planning](#)

[HAZUS User Group Success Story: Using HAZUS for Flood Loss Estimates and CRS Flood Mitigation Planning](#)

[HAZUS User Groups Success Story: Incorporating HAZUS-MH Methodologies to Assist with Mitigation Planning and Hurricane Operation](#)

[Flood & Wind Mitigation Accomplishments](#)

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## Mitigation Planning General Resources

[Census Demographics](#)

[American Planning Association](#)

[Mitigation Works brochure](#)

[Mitigation's Value to Society Fact Sheet](#)

[Bureau of Indian Affairs](#)

[HUD Office of Native American Programs](#)

[EPA American Indian Tribal Portal](#)

[EPA Tribal Programs](#)

[National Hazard Center](#)

[FEMA Multi-Year Flood Hazard Identification Program](#)

[FEMA Multi-Hazard Identification and Risk Assessment Guide](#)

[QuakeSmart Fact Sheet](#)

[Floodsmart](#)

[Firewise](#)

[FEMA/USACE Hurricane Evacuation Studies](#)

[National Flood Risk Management Program-Silver Jackets](#)

[Agriculture Information](#)

[USDA Damage Claims and Causes of Loss](#)

[Protecting Manufactured Homes from Floods and Other Hazards](#)

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## Hazard Mitigation Planning Advanced Resources

[Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning](#)

[Adopting to Climate Change: A Planning Guide for State Coastal Managers](#)

[USGS Impacts and Predictions of Coastal Change During Hurricanes, USGS Factsheet 2010-3012](#)

[USGS National Assessment of Shoreline Change](#)  
(includes reports and GIS Mapping)

[Sea Level Rise and Coastal Flooding Impacts Viewer](#)

[RealClimate: Sea Level Numbers](#)

[North Carolina Sea Level Rise Risk Management Study](#)

[USACE Coastal Engineering Manual](#)

[South Carolina Coastal Erosion Study, USGS Factsheet 2005-3041](#)

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## HAZUS

[HAZUS User Groups Handout](#)

[USG Peak Flow File](#)

[Flood Frequency for Ungaged Locations](#)

[Comprehensive Data Management System \(CDMS\) Web Portal Version 1.0: The standardized role-based application to update statewide HAZUS-MH datasets](#)

HAZUS in Action

[HAZUS-MH Application: Earthquake: Population Density in Louisville, Kentucky in Relation to the Earthquake Hazard](#)

[HAZUS-MH Application: Flood: Coastal Flooding in Escambia County, Florida from Hurricane Ivan](#)

[HAZUS-MH Application: Hurricane Wind: Estimated Loss of Functionality of Hospitals in Hurricane Ivan](#)

[HAZUS-MH Application: Hurricane Wind: Estimated Shelter Needs: Hurricane Ivan](#)

[HAZUS-MH Application: Hurricane Wind: Estimates of Debris Generated in Hurricane Ivan](#)

[HAZUS-MH Application: Hurricane Wind: Exposure of Manufactured Housing to Wind in Hurricane Charley](#)

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