

Mission Area Overview

MITIGATION

Focused on reducing loss of life and property by lessening the impact of disasters through increasing risk awareness and leveraging mitigation products, services, and assets



..... Key Finding Highlights



- Difficulties associated with identifying and repairing structurally impaired dams persist, increasing the potential for dams to fail with severe consequences for nearby communities.
- Recent studies and real-world incidents have demonstrated the benefits of green infrastructure for disaster mitigation, prompting the Federal Government to develop tools and guidance that support adoption of green infrastructure.
- The Federal Government is encouraging broader use of mitigation measures to address the threat of post-wildland-flooding and erosion.

Core Capabilities in Practice

The *National Mitigation Framework* (“Mitigation Framework”) describes seven core capabilities, including how they interact to reduce loss of life and property and increase community resilience.

To effectively mitigate risks, a community begins with **Threats and Hazards Identification**, including their frequency and magnitude. Next, the community conducts **Risk and Disaster Resilience Assessments** to understand the consequences that these threats and hazards would have if they occurred. Based on this knowledge, community officials can begin **Planning** efforts to manage the risk and provide **Public Information and Warnings** to residents. These actions enable **Long-term Vulnerability Reduction**, which limits or manages the effects of a disaster through one or more of the following strategies:

- *Risk avoidance* – Preventing exposure to an event (e.g., using zoning rules to prevent the construction of homes in high-risk areas)
- *Risk reduction* – Minimizing vulnerabilities (e.g., retrofitting buildings to be more resistant to earthquakes)
- *Risk transfer* – Eliminating or limiting liability for harm, without reducing vulnerability (e.g., purchasing insurance)

Since a community can rarely avoid risks completely, the Mitigation Framework encourages leadership, collaboration, partnership building, education, and skill building before an event through **Community Resilience**, with the goal of supporting other capabilities and building

..... CORE CAPABILITIES IN THE MITIGATION MISSION AREA

- Community Resilience
- Long-term Vulnerability Reduction
- Operational Coordination
- Planning
- Public Information and Warning
- Risk and Disaster Resilience Assessment
- Threats and Hazards Identification

resilience, and **Operational Coordination** (the ability to integrate critical stakeholders to support efforts during and after an incident).

The following are examples of actions taken in 2015 that highlight the relationships among the seven core capabilities in the Mitigation Framework.

Threats and Hazards Identification, Risk and Disaster Resilience Assessment, and Planning

In 2016, a collection of private and community partners—with the financial support of the Rockefeller Foundation—launched the RE.invest Initiative, which has guided eight communities through the steps necessary to develop strategic plans that mitigate their risks. Initiative members worked with scientists to identify each community's greatest hazards and its vulnerabilities to those hazards. The initiative culminated in the release of the report entitled *A Roadmap for Resilience*, which details the activities, initiatives, and outcomes that have strengthened resilience in the eight partner cities.

Public Information and Warning, and Long-term Vulnerability Reduction

Maine launched a Climate Adaptation Toolkit with climate resilience educational resources directed toward businesses and citizens, including the *Maine Comprehensive Energy Plan Update* published in February 2015. In addition, the Federal Alliance for Safe Homes released *If Disaster Strikes, Will You Be Covered?*, a guide that explains the various hazards that threaten homes and the best types of disaster insurance for managing the associated risks.

Community Resilience and Operational Coordination

The Colorado Governor's Office and the Colorado Resiliency and Recovery Office collaborated with thousands of Coloradans and over 150 different partners—such as local governments, Federal and state agencies, nonprofits, faith-based organizations, and businesses—on the Colorado Resiliency Project, listening to stories of resilience with the goal of creating a framework to empower communities to be more resilient in the face of natural disasters and other potential disruptions. As a result of this coordination, Colorado adopted a Resilience Framework—a strategic plan outlining future actions that Colorado will take to strengthen resilience—and advanced to the second phase of the National Disaster Resilience Competition.





THEN and Now

Mitigation Plans

As of December 31, 2015, 22,706 communities have mitigation plans that are approved (or approvable, pending adoption) by the Federal Emergency Management Agency, up from less than 18,000 in 2010. The percentage of the Nation's population covered by planned mitigation strategies has increased from 69 percent in 2011 to 83 percent in 2015.

Community Rating System

This program offers flood insurance discounts to policyholders in exchange for their community enacting flood-control and floodplain management policies that exceed the National Flood Insurance Program's minimum requirements. In 2012, there were a total of 1,100 participating communities—that has since grown to 1,368 in 2015.

StormReady and TsunamiReady

The number of communities that have voluntarily committed to advanced mitigation efforts under the National Weather Service's *StormReady* and *TsunamiReady* programs has increased from 1,950 in 2012 to 2,424 as of February 2016.

BY THE NUMBERS

300,000 INFORMATION SHEETS

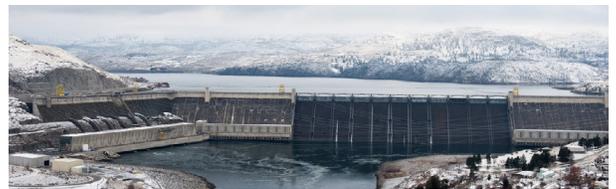
The National Oceanic and Atmospheric Administration (NOAA) distributed 300,000 NOAA *Extreme Weather Information Sheets*. These waterproof, "one-stop" reference guides contain phone numbers and web resources that residents can use during life-threatening weather emergencies.

\$21 MILLION IN LOSSES AVOIDED

Research suggests that the \$8 million that NOAA and the Nature Conservancy invested in the Fisher Slough Marsh restoration project in Washington State will save the community up to \$21 million over the next 50 years and reduce flooding on as many as 600 nearby acres.

23 STATES REHABILITATING DAMS

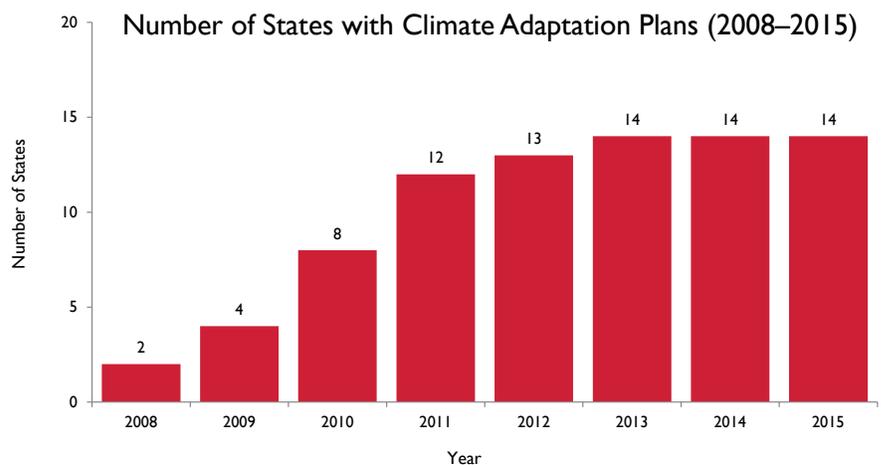
The U.S. Department of Agriculture (USDA) provided \$73 million in funding for about 150 dam rehabilitation and assessment projects in 23 states in order to ensure that the dams are protecting individuals from floods and providing essential water supplies in areas affected by drought.



PREPAREDNESS TRENDS AND FIGURES

Increasing State Planning for Climate Change

A growing number of states are considering the risks associated with climate change in their planning efforts. For example, climate adaptation plans lay out specific actions that states will undertake to reduce their vulnerability to climate change. According to data from the Georgetown Climate Center, the number of states that have chosen to adopt statewide climate adaptation plans increased steadily from only two in 2008 to 14 in 2013. Although no new states have finalized climate adaptation plans since 2013, nine states have plans currently under development. In addition, the number of states and territories that reported considering climate change when developing their Threat and Hazard Identification and Risk Assessment rose to 38 in 2015 from 28 the previous year.



PREPAREDNESS SNAPSHOTS



MINNEAPOLIS AND HENNEPIN COUNTY, MINNESOTA

Minneapolis and Hennepin County, Minnesota, created a calculated priority rating index for their Threat and Hazard Identification and Risk Assessment. The index measures the probability and magnitude of their threats and hazards, helping them to identify their capabilities of greatest need and to effectively prioritize resilience investments.

UNIVERSITY OF ALASKA

University of Alaska Fairbanks launched The Modern Blanket Toss, a program where students from local high schools developed and operated unmanned aircraft systems that took aerial photographs of hard-to-access



areas in order to help local community leaders evaluate future flood risks.

NOAA

NOAA and the University of Nebraska –Lincoln jointly created the new Drought Risk Management Research Center, which focuses on improving drought monitoring and risk management for Federal, state, tribal, and local partners.

COMMUNITY RESILIENCE CENTER OF EXCELLENCE

In 2015, the National Institute of Standards and Technology entered into a cooperative agreement with a team of 11 universities, led by Colorado State University, to establish the Community Resilience Center of Excellence. The



focus of the Center is to develop models and tools to assess the resilience of communities and support decisions for investment in local infrastructure that reduce the impact and burden of natural and manmade disasters.

HHS

The U.S. Department of Health and Human Services (HHS) launched the HHS emPOWER Map, which is a public, interactive map that uses Federal health data and NOAA severe-weather services to help Federal, state, local, and community partners anticipate, plan for, and respond to the needs of electricity-dependent individuals, whose lives may be threatened or lost by a severe weather-induced power outage.

STATE PERSPECTIVES ON PREPAREDNESS

2015 State Preparedness Report Results

- Since 2012, states and territories have reported a six percentage-point increase in proficiency ratings among Mitigation core capabilities, the largest proficiency increase of all the mission areas during that time period.
- Two of the top-five capabilities with the largest increase in proficiency percentage since 2012—Threats and Hazard Identification and Community Resilience—are Mitigation core capabilities. Since 2012, proficiency in Threats and Hazard Identification capabilities increased by 14 percentage points, while proficiency in Community Resilience capabilities increased by 9 percentage points.
- States and territories rated Threats and Hazard Identification as one of the top-five capabilities with the highest self-assessed proficiency ratings in 2015.

Notes: Vertical red lines (|) indicate the average rating for all core capabilities. The chart and statements do not include contributions from the three cross-cutting core capabilities—Planning, Operational Coordination, and Public Information and Warning

