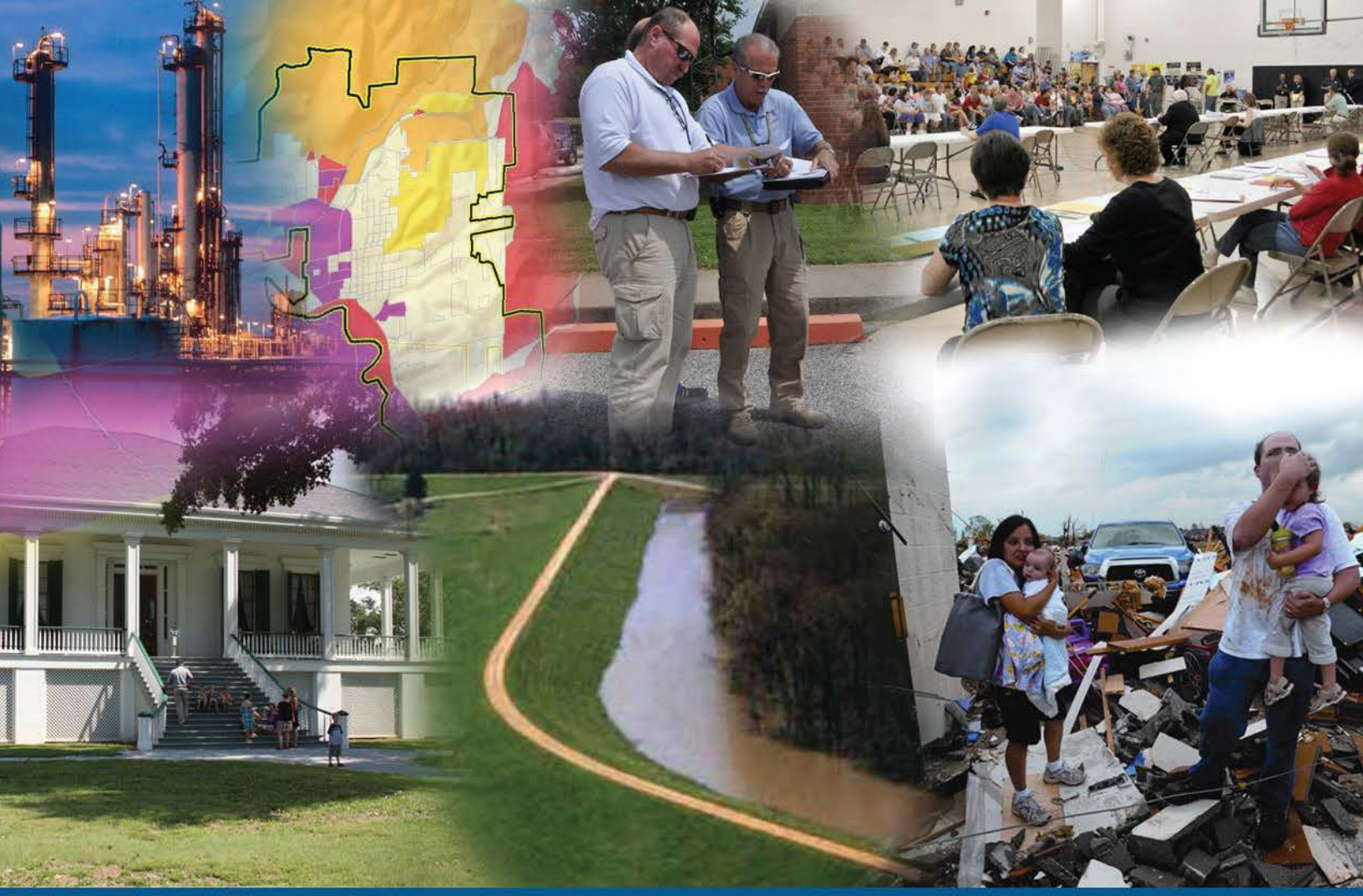

# Mitigation Federal Interagency Operational Plan

*Second Edition*
*August 2016*

https://www.fema.gov/sites/default/files/documents/fema_mitigation-fiop.pdf
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Homeland Security

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# Introduction

Threats and hazards present long-term risks to people and their property. Risk is the potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences. Risk is assessed based on applicable threats and hazards, vulnerabilities, and consequences. Mitigation is risk-management action taken to avoid, reduce, or transfer those risks. By reducing the impact of disasters, mitigation supports protection and prevention activities, eases response, and speeds recovery to create better prepared and more resilient communities. The National Mitigation Framework (NMF) establishes a common platform and forum for coordinating and addressing how the Nation manages risk through mitigation capabilities. This Framework describes mitigation roles across the whole community. The Framework addresses how the Nation will lessen the impact of disaster by developing, employing, and coordinating core mitigation capabilities to reduce loss of life and property. Building on a wealth of objective and evidence-based knowledge and community experience, the Framework seeks to increase risk awareness and leverage mitigation products, services, and assets across the whole community.

The National Planning System includes the following elements:

1. a set of National Planning Frameworks that describe the key roles and responsibilities to deliver the core capabilities required to prevent, protect, mitigate, respond, and recover;
2. a set of Federal Interagency Operational Plans (FIOP), one for each mission area, that provides further detail regarding roles and responsibilities, specifies the critical tasks, and identifies resourcing and sourcing requirements for delivering core capabilities;
3. Federal department and agency operational plans to implement the FIOPs in all hazards; and
4. comprehensive planning guidance to support planning by local, state, tribal, territorial, and insular area governments, nongovernmental organizations (NGO), and the private sector.

This FIOP builds upon the NMF, which sets the strategy for how the whole community[1] builds, sustains, and delivers the Mitigation core capabilities identified in the National Preparedness Goal. This FIOP describes the concept of operations for integrating, synchronizing, and ensuring the continuity of existing national-level Federal capabilities to support local, state, tribal, territorial, insular area, and Federal plans, and it is supported by Federal department-level operational plans where appropriate.

## *Purpose*

The Mitigation FIOP describes how the Federal Government delivers core capabilities for the Mitigation mission area. The purpose of this FIOP is to establish a joint system for supporting local, state, tribal, territorial, and insular area partners and delivering public resources in a coordinated, effective, and proficient manner. Building and sustaining a mitigation-minded culture within Federal

[1] The whole community includes individuals and communities, the private and nonprofit sectors, faith-based organizations, and all levels of government (local, regional/metropolitan, state, tribal, territorial, insular area, and Federal). Whole community is defined in the National Preparedness Goal as "a focus on enabling the participation in national preparedness activities of a wider range of players from the private and nonprofit sectors, including nongovernmental organizations and the general public, in conjunction with the participation of all levels of government in order to foster better coordination and working relationships." The National Preparedness Goal is located online at http://www.fema.gov.

department and agency programs can contribute to making the Nation more socially, ecologically, and economically resilient before, during, and after an incident.

To promote these goals, implementation of the Mitigation FIOP will:

- Establish opportunities for Federal partners to jointly discuss interagency mitigation priorities within their existing authorities and resources;
- Identify gaps and support improvements to address current and future risks in current mitigation efforts, where needed;
- Identify programmatic opportunities where appropriate to better align program funds, products, and services in support of the core capabilities through partnerships with each other and the whole community;
- Promote the integration of continuity planning and operations to ensure Mitigation core capabilities and the coordinating structures can be provided during and after an incident; and
- Describe how programs deliver core capabilities, outputs, and outcomes in the form of incentives, projects, products, guidance, technical assistance, and other services.

## Audience

While engaging the whole community is critical to successful integration, the Mitigation FIOP is directed toward Federal agency operations. This FIOP recognizes that success relies upon a whole community approach and is dependent upon Federal interagency collaboration and integration. Departments, agencies, Federal coordinating structures, and interagency partnerships should use this FIOP as a guide to build a hazard-resilient Nation through mitigation. Federal departments and agencies will develop and maintain department-level operational plans, as necessary, to deliver capabilities to fulfill responsibilities under the NMF and this FIOP. Departments and agencies may use existing plans, protocols, standard operating procedures, or standard operating guides for the development of such plans.

## Mission

Federal departments and agencies will successfully attain the National Preparedness Goal and the principles of the NMF when specific interagency mitigation outcomes are identified and achieved, and capability targets are met through implementation of joint objectives in the Concept of Operations (CONOPS).

To connect the National Preparedness Goal to the CONOPS in this FIOP, mitigation outcomes should be established through a Federal dialogue with the whole community. The Mitigation Framework Leadership Group (MitFLG) will serve as a central coordination point for the development of joint interagency objectives. They strive to promote a risk-conscious culture that makes mitigation choices part of an adaptive, healthy, and more resilient community.

Some initial outcomes for success might include the following:

- Federal department and agency operational plans consider community, regional, or national risk awareness or resilience.
- Community policies and planning, whether for economic development, capital infrastructure investments, or land use decisions, consider disaster-resilient, sustainable measures. They should also integrate continuity planning and operations inherent in preparedness.

- A culture of preparedness is created when individuals, organizations, communities, and all levels of government understand risk, plan for it, and take appropriate actions based on a mutually acceptable level of risk. They strive to promote a risk-conscious culture that makes mitigation choices part of an adaptive and healthy community.
- From the Federal level to the individual, mitigation actions reduce long-term risk. Existing Federal resources, programs, and leadership help individuals, organizations, and communities reduce their vulnerabilities and share best practices on investment decision making regarding security and resilience to help mitigate impacts to incidents. Reducing long-term risk not only helps to mitigate impacts, but to also mitigate hazards as much as possible so incidents do not become disasters.
- Federal entities help reduce the risk and cost of disasters in partnership with local, state, tribal, territorial, and insular area governments with regard to the environment, social stability, and economy. Federal programs make the best use of assets and reduce redundancies in an effective and efficient manner to support local capabilities and build capacity.
- Federal departments and agencies make available standardized, integrated data to support decision makers on how to assess and mitigate risks.

## Scope

This document presents a strategy and methodology that recognizes and respects the autonomy of Federal departments and agencies within their legal authorities and Executive Branch roles and establishes a system for departments and agencies to jointly discuss and pursue interagency mitigation initiatives (see the Authorities and References section). It does not organize deployment of resources, assign or adjudicate resources, or direct Federal departments and agencies in conducting mitigation actions. Nothing about the FIOP is intended to alter or impede the ability of Executive Branch departments and agencies to carry out their authorities or perform their responsibilities under law and consistent with applicable legal authorities and other Presidential guidance.[2]

The scope of this FIOP is not limited to disaster-focused authorities and capabilities, but encompasses a larger scope of authorities as described within the Authorities and References section. Within this broader scope, Federal departments and agencies deliver a capability or capabilities during steady state as well as before, during, and after an incident. Delivery may be a direct mitigation grant to reduce a community's long-term vulnerability, for example. Application may also be indirect, as when a Federal department or agency incorporates mitigation into its projects and activities, such as locating a facility in a low-hazard area and complying with hazard resilient codes.

Mitigation actions are driven by historical and future risk. As stated above, mitigation is operationally delivered during steady state operations, not only in anticipation of or in the wake of disaster; hence this FIOP for mitigation is always in effect. This FIOP does not present a linear or phased approach to the deployment of resources in support of incidents, but describes how the core capabilities in the Mitigation mission area support delivery of core capabilities in other mission areas. For this reason, the focus of this FIOP is on describing the connections among different Mitigation core capabilities.

[2] Nothing in this FIOP is intended to interfere with the authority of the Attorney General or Director of the Federal Bureau of Investigation (FBI) with regard to the direction, conduct, control, planning, organization, equipment, training, exercises, or other activities concerning domestic counterterrorism, intelligence, and law enforcement activities.

As the Mitigation FIOP supports the framework and represents an evolving operational paradigm, it is a living document that should be periodically reviewed and updated (see the Oversight, Plan Development, and Maintenance section for more detail).

## Mitigation Core Capabilities

The National Preparedness Goal defines seven Mitigation core capabilities, and the NMF addresses the critical tasks to deliver the Mitigation core capabilities. This FIOP identifies and describes roles and responsibilities and introduces the CONOPS for delivering these core capabilities at the Federal level. These capabilities are listed and defined below in Table 1 and further described in Appendix B.

**Table 1: Description of Mitigation Core Capabilities**

| Core Capability | Description |
|---|---|
| Planning | Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical-level approaches to meet defined objectives. |
| Public Information and Warning | Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available. |
| Operational Coordination | Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities. |
| Community Resilience | Enable the recognition, understanding, communication of, and planning for risk, and empower individuals and communities to make informed risk management decisions necessary to adapt to, withstand, and quickly recover from future incidents. |
| Long-Term Vulnerability Reduction | Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused threats and hazards by lessening the likelihood, severity, and duration of the adverse consequences. |
| Risk and Disaster Resilience Assessment | Assess risk and disaster resilience so that decision makers, responders, and community members can take informed action to reduce their entity's risk and increase their resilience. |
| Threats and Hazards Identification | Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude; and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity. |

### Capability Targets

Mitigation core capability targets are included in the National Preparedness Goal. These targets set performance threshold(s) for each core capability. In setting strategic outcomes for mitigation, it is important to be able to measure success and set targets for improvement.

The capability targets set in the National Preparedness Goal are reviewed, updated, or replaced based on the National Preparedness Goal's revision cycle. That process informs additional vetting and refinement of the initial mission-specific outcomes outlined in this FIOP. This vetting and refinement takes into consideration the perspective of the whole community and any changes to the risk

environment. The strategic direction for interagency mitigation; objectives and outcomes; and targets and performance measures can be defined, reviewed, and updated through the MitFLG.

On an annual basis, the MitFLG will review the strategic direction and identify and assess gaps in interagency capabilities and capacity. This type of evaluation will help inform science and technology innovations in support of mitigation. This requires coordination across the National Preparedness and scientific communities to guarantee that scientific efforts are both relevant to and incorporated into National Preparedness efforts under the Mitigation mission area. A well-coordinated research-to-operations pipeline will ensure that operational needs are prioritized in scientific research and technology development and can advance operational capabilities. The MitFLG will coordinate with an appropriate interagency entity, such as the National Science and Technology Council Subcommittee on Disaster Reduction, on these efforts.

## *Situation*

### Strategic Environment

Mitigation stakeholders exist in a strategic environment that includes threats and hazards from three categories: natural, technological/accidental, and adversarial/human-caused. Issues including globalization, technological innovation, demographic shifts, increasing population in vulnerable areas, escalating resource demands, climate changes, and security concerns, such as proliferation of weapons of mass destruction and the movement of people across borders, contribute to the complexity of future disasters. These trends indicate a future environment that presents a wide range of problems that occur unpredictably and perhaps simultaneously.

Constraints on resources at all levels continue to force the Nation to reconsider which resilience activities are truly affordable and how partnerships can be built to accomplish the objectives for a resilient Nation. The challenge is to build a culture of preparedness to empower the whole community to be resilient in the face of disruptions, disasters, and other crises while adapting to conditions that have changed as a result of an incident.

Federal departments and agencies are advocates for and ensure that all populations have equal access to acquire, use, and contribute to the core capabilities that strengthen resilience. Engaging amembers of the whole community is essential to national preparedness, and individuals and communities are key components. With equal access to the pertinent knowledge and skills, all members of the community can contribute to national preparedness. This includes children, individuals with disabilities, and others with access and functional needs[3]; those from religious, racial, and ethnically diverse backgrounds; and people with limited English proficiency. Their contributions must be integrated into preparedness efforts, and their needs must be incorporated as the whole community plans for and delivers the core capabilities.

### Strategic National Risk Assessment

Risk is the potential for an unwanted outcome resulting from an incident, event, or occurrence. Risk is assessed based on applicable likelihood of threats and hazards, vulnerabilities, and consequences.

[3] Access and functional needs refers to persons who may have additional needs before, during and after an incident in functional areas, including but not limited to: maintaining health, independence, communication, transportation, support, services, self-determination, and medical care. Individuals in need of additional response assistance may include those who have disabilities; live in institutionalized settings; are older adults; are children; are from diverse cultures; have limited English proficiency or are non-English speaking; or are transportation disadvantaged.

The Strategic National Risk Assessment (SNRA) identified the threats and hazards that pose the greatest risk to the Nation and provided the basis for establishing the National Preparedness Goal and the core capability requirements for all mission areas. The SNRA supports the National Preparedness Goal and captures the threats and hazards that pose a significant risk to the Nation, which are grouped into three categories. Figure 1, from the NMF, represents examples from the three hazard categories, though it is not an exhaustive list. Other threats and hazards may also become national-level events that pose significant risk.[4] Implementers of this FIOP should understand that this threat and hazard information was developed for an SNRA and does not present a full view of the risks facing local communities or differentiate among geographic locations. Appendix C introduces a conceptual model for conducting a threat and hazard identification and risk assessment that is appropriate to the level of risk and complexity of the environment.

Mitigation core capabilities support the continued analysis and development of the SNRA, as well as the Threat and Hazard Identification and Risk Assessments (THIRA) conducted by local, state, tribal, territorial, and insular area jurisdictions, the Federal Emergency Management Agency (FEMA), and other Federal department and agency regional offices. Analysis that combines THIRAs and the SNRA provides a more comprehensive and granular picture for the Mitigation mission area. Additionally, specialized risk assessments conducted for specific events or situations also can be used by the mitigation community to better understand the risk environment.

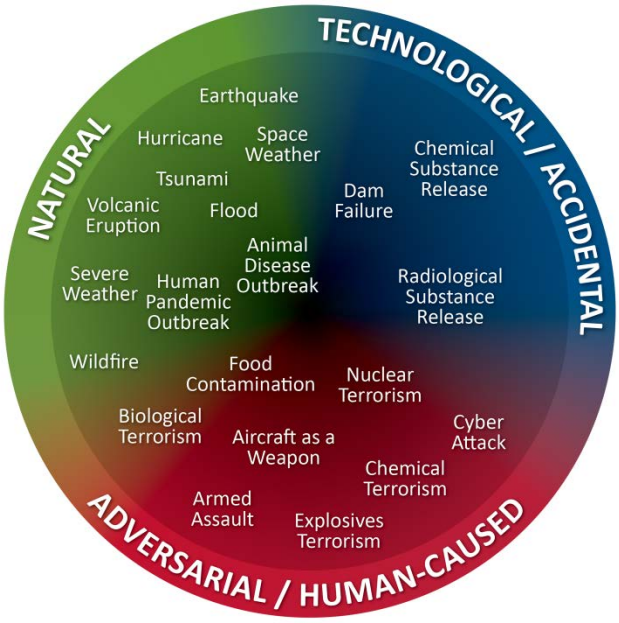


**Figure 1: Examples of Threats and Hazards by Category**

## Planning Assumptions and Critical Considerations

The following information represents the planning assumptions and critical considerations used in the development of this FIOP.

- The NMF and FIOP are based upon a broad definition of mitigation provided by the National Preparedness Goal within the context of national preparedness that extends beyond its definition in the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, as amended

[4] More information on the SNRA can be found at http://www.dhs.gov/strategic-national-risk-assessment-snra

(Stafford Act; additional detail can be found in the Authorities and References section). Mitigation activities and actions are not limited to what is eligible within the Stafford Act.

- Current authorizations and legislative language are unchanged by the NMF and FIOP. The NMF does not create new requirements.
- The term "community resilience" is purposefully used with two distinct meanings:
  - Community resilience is an inclusive, informed process that addresses social, economic, health and well-being, natural and cultural, technical, and organizational dimensions within a community—preparing a community to consciously manage rather than ignore risks.
  - Resilience is an outcome—the state of being able to adapt to changing conditions and then withstand and rebound from the impacts of disasters and incidents.[5]
- The interagency and partnering entities, to include local, state, tribal, territorial, insular area, and Federal governments, will operate within the constructs of current resources, to include funding sources, authorities, and programs.
- Current and future risks will be addressed using the best available science to guide our actions.
- Although the effects of international incidents on the United States will be considered, international mitigation efforts will not be addressed.
- The Mitigation FIOP is based upon input from an extensive, but not exhaustive, group of representatives from Federal departments and agencies. The FIOP will be revised periodically as described in the Mitigation FIOP Review Cycle section.
- Mitigation core capabilities have interdependencies with capabilities in other National Planning Frameworks. Three core capabilities span the National Planning Frameworks: Planning, Operational Coordination, and Public Information and Warning. Operations supporting two Mitigation core capabilities—Threats and Hazards Identification (THID) and Risk and Disaster Resilience Assessment (RDRA)—will inform and drive operational guidance in the other National Planning Frameworks.
- Implementation of this FIOP will capitalize on existing programs and documents that address mitigation and promote resilience.
- The mitigation discipline does not eliminate all risk from threats and hazards, but provides a mechanism for managing risk and a platform on which to base strategies for the continuation of essential government functions and critical infrastructure services.
- "Federal" efforts refer solely to the Federal Government's supportive role, or primary and potentially exclusive role, such as a military installation or Federal facility. "National" efforts encompass the whole community, including individuals; families; communities; nonprofit organizations; businesses; local, state, tribal, territorial, and insular area governments; and the Federal Government.

[5] As defined in the National Preparedness Goal and the NMF.

# Concept of Operations

## Overview

This CONOPS provides the common platform for ensuring that Federal actions operate in concert to achieve joint interagency objectives and serves as the vehicle for synchronizing Federal mitigation efforts. It serves to coordinate the delivery of Federal capabilities only. As described in the introduction, this FIOP is always in effect, spans steady state and incident-driven environments, and focuses on the connections among Mitigation core capabilities and the integration with other National Planning Frameworks and FIOPs.

The Mitigation core capabilities (listed and defined in Table 1 above and further described in Appendix B) can be delivered through numerous mechanisms, such as:

- Effective policy changes;
- Improved program efficiencies;
- A culture of sharing resources and data;
- Transitioning research and innovation into capabilities;
- Incentives that drive behavior;
- Strong partnerships and leadership; and
- Collectively integrating and leveraging analytical capabilities.

The Mitigation Concept of Operations section is organized into subsections around key concepts, which are shown in Table 2 below and discussed in detail in the following pages.

**Table 2: Mitigation CONOPS Sections**

| Section | Description |
|---|---|
| Overview | The CONOPS provides the common platform for synchronizing mitigation efforts. |
| The Mitigation Space | Mitigation capabilities are delivered both during steady state operations and incident-driven operations and are impacted by adaptive risk management factors. |
| Interdependent Core Capabilities | Mitigation's core capabilities provide mutually supportive actions that are overlapping and seldom delivered in isolation. |
| Incident-Specific Mitigation | Incidents create windows of opportunity for the delivery of Mitigation core capabilities, and the characteristics of an incident dictate the need for certain kinds of Mitigation activity. |
| Federal Mitigation Mechanisms | Federal Mitigation operations span three broad categories or mechanisms: Federal administrative structures, transfer of resources, and capacity building. |
| Federal Roles and Responsibilities | Federal roles and responsibilities to guide the Federal Government's implementation of the NMF |
| Connections to Other Mission Areas | Description of integration between the Mitigation Mission Area and the other four Mission Areas |

Tasks and responsibilities identified in this CONOPS are provided as guidance to Federal departments and agencies for implementation of mitigation. This document is not directive of Federal resources but serves as the organizing document for how the Federal Government delivers mitigation capabilities or supports their delivery around joint interagency objectives. Table 3 summarizes coordinated mitigation delivery.

**Table 3: Coordinated Delivery of Mitigation**

| Entity | Role |
|---|---|
| Mitigation Framework Leadership Group | Coordinate mitigation efforts across the Federal Government and assess the effectiveness of mitigation capabilities<br>Identify joint interagency goals and objectives<br>Provide joint interagency leadership<br>Promote knowledge and awareness of mitigation mission and goals within departments and agencies |
| Federal Coordinating Structures (e.g., memorandums of understanding [MOU], working groups) | Facilitate the preparedness and delivery of capabilities to achieve joint interagency goals and objectives |
| Federal Partners | Build, maintain, and deliver Mitigation core capabilities |

Mitigation successes are realized at the individual, local, state, tribal, territorial, insular area, and national levels, as well as by industry.

Federal departments and agencies support mitigation activities (e.g., building capacity, delivering resources) and apply specific Mitigation core capabilities using their own resources (e.g., hurricane advisories, regulatory risk maps, engineering and design tools for resilience) in conjunction with Federal laboratories, testing facilities, and universities. This includes Federal research and development programs on new and advanced technology and practices to make Mitigation core capabilities more effective and efficient. Many research and development efforts are funded and conducted by Federal departments and agencies, often in conjunction with the private sector. Mitigation efforts are also coordinated by Federal departments and agencies through existing coordination structures such as the National Science and Technology Council (NSTC). The NSTC Subcommittee on Disaster Reduction can provide further support in coordinating a communications pipeline with the scientific community to ensure that scientific efforts, education, and investments are relevant to mitigation needs.

## *The Mitigation Space*

Mitigation operations are managed under multiple management systems, and the associated Mitigation capabilities are delivered both during steady state operations and incident-driven operations. Figure 2 shows that Mitigation core capabilities are delivered across multiple operational states on a continuing basis, including when a disaster occurs.

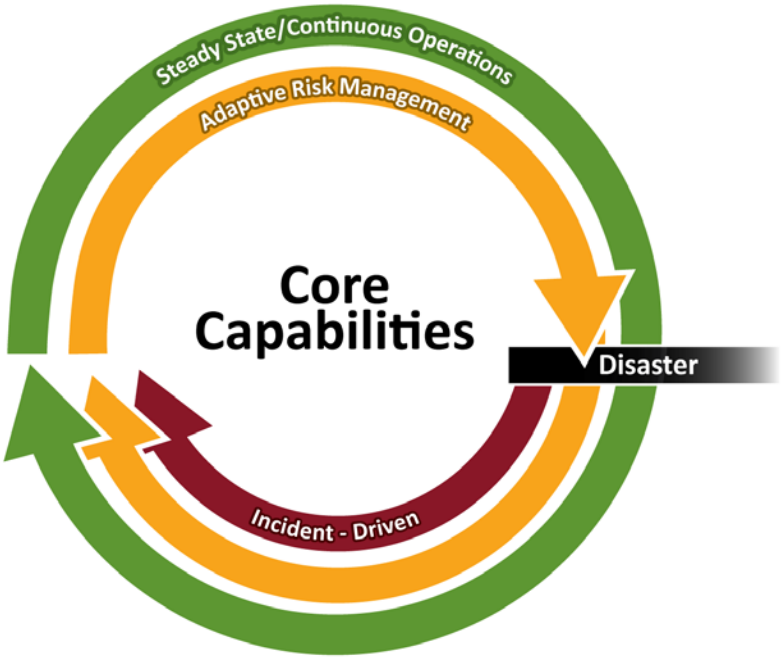


**Figure 2: Mitigation Operational Paradigm**

- **Steady state/continuous operations**. Mitigation efforts conducted during routine operations incorporate program management structures around shared goals, principles, department and agency initiatives, and coordinating structures to maximize and ensure continued Federal performance.
- **Incident-driven operations**. When Mitigation core capabilities are employed to support incident-driven operations, departments and agencies follow the National Incident Management System (NIMS).
- **Adaptive risk management**. Adaptive risk management applies to both steady state and incident-driven activities and offers opportunities for course correction within each. Operational paradigms for steady state and incident-driven operations include identifying opportunities for continuous improvement. For instance, advances in technology create new and more accurate ways to assess and mitigate hazards, and Federal mitigation action may change based on such advancements.

Mitigation capabilities work effectively as part of all operational environments and bring risk-based decisions to support activity across the whole community of national preparedness. The following sections describe the three conditions—steady state/continuous operations, incident-driven operations, and adaptive risk management—that shape risk management strategies and operational paradigms.

## Steady State/Continuous Operations

Federal departments and agencies conduct mitigation on the basis of current and future risks, not solely in response to disasters. Mitigation actions conducted during steady state or ongoing operations may be informally coordinated or bring together differing coordination structures and diverse program expertise, scientific knowledge, and authorities. Steady state mitigation activities require clearly articulated goals, shared strategic objectives, and mutually supportive standards of practice. Mitigation capabilities are delivered continuously in a wide array of departments' and

agencies' programs to support the whole community. These capabilities are delivered by professionals from diverse backgrounds, under varied operating procedures, policies, and standards and in a broad range of environments. Examples of diverse Federal programs and delivery mechanisms are shown below.

**Examples:**

- **Multiple departments or agencies, single mechanism**: Includes alignment of planning grants from Department of Housing and Urban Development, FEMA, and Environmental Protection Agency (EPA) to support sustainable and resilient communities.
- **Multiple departments or agencies, single mechanism**: Includes shared objective programs such as risk transfer through insurance (Department of Agriculture [USDA] crop insurance and FEMA National Flood Insurance Program [NFIP]).
- **Multiple departments or agencies, multiple mechanisms**: Includes development of sustainable and stronger, more resilient homes and buildings such as the U.S. Army Corps of Engineers (USACE) installations research, the Department of Homeland Security (DHS)/Science and Technology program on resilient, high-performance design of buildings, and FEMA Building Sciences group.
- **Multiple programs, single department or agency**: FEMA Hazard Mitigation Grant Program (HMGP) and hazard mitigation funding under Section 406 of the Stafford Act, Public Assistance. The Department of Health and Human Services (HHS)'s At-Risk Resiliency Initiative provides public health authorities with data and mapping tools and resources to better anticipate, plan for, and expedite response and recovery for at-risk populations with access and functional needs.
- **Single program, multiple mechanisms**: The FEMA Risk MAP (Risk Mapping, Assessment, and Planning) program affects different communities at different times. It is an activity which involves congressional mandate, strategic planning, program management, procurement action, training, interaction with a community, and a final deliverable that becomes a regulatory product.

One Federal action to address risks is often mutually supportive of other Federal activity, policy, regulation, and executive responsibility. Coordinating and sharing the value of research, development, and expended Federal resources enables mutually supportive resilience activity across all levels of government and the private sector. Discussing opportunities for joint initiatives and demonstrating the shared value of Federal risk management action is the responsibility of the mitigation coordinating structures, such as the MitFLG.

Connecting departments and agencies without compromising their authorities and autonomy requires a decentralized management model that creates linkages, fosters creativity, and capitalizes on the strengths of individual partners to maximize the expertise and capability of different groups, teams, and communities of expertise. This model of management supports autonomous structures and systems without imposing external organization or command and control structures. Federal partners deliver Mitigation core capabilities under their legal authorities and around shared interagency objectives with a set of common principles.

### Leadership

- Leadership articulates shared interagency objectives through Federal departmental and agency leaders, and the MitFLG serves as the central coordination point for Federal mitigation activities. Leadership promotes organizational knowledge of how components support mitigation, composes joint interagency objectives, and empowers action.
- Federal department and agency leadership provides common vision in delivery of their respective missions.

**Autonomy**

- Federal departments and agencies and programs operate under their existing authorities and develop and deliver solutions by encouraging initiative at the lowest level possible.
- Autonomy is the ability to self-direct with the capacity to make decisions. Autonomy is not isolation, and requires operational coordination and an environment that fosters collaboration.
- Experts are allowed the independence to define solutions.

**Contribution and Initiative**

- Localized change is powered by effective innovation.
- Federal partners work to maximize the impact of individuals, programs, offices, and departments and agencies contributing to mitigation.
- Trust in individual components to deliver their authorized capabilities is based on shared objectives.

**Self-Organization**

- Federal departments and agencies are best suited to determine their own organizational structures when conducting their authorized responsibilities.
- Non-uniform organizational structures provide constructive results when coordinated around shared objectives.

**Clear Objectives**

- Departments and agencies deliver Mitigation core capabilities in support of clear joint interagency objectives.

## Incident-Driven Operations

As the other National Planning Frameworks and interagency operational plans identify phases, states, or stages, they will serve as the platform for integrating mitigation into their activities. Disasters require the use of Mitigation core capabilities. Many integrate into specific operational structures and trigger the exercise of additional authorities, funding sources, and program coordination requirements for Federal departments and agencies. For the majority of events, when Mitigation core capabilities are delivered in support of response and recovery operations, they are subject to the administration and implementation of the National Response Framework (NRF), National Disaster Recovery Framework (NDRF) or associated response and recovery plans.

**Examples:**

- Informing response and recovery operations with risk analysis, de-escalating an incident, and remediating loss following a disaster are considered short-term mitigation under this CONOPS. In response to flooding in Minot, North Dakota, in 2011, the U.S. Geological Survey (USGS), FEMA, and Department of Commerce (DOC)/National Oceanic and Atmospheric Administration (NOAA) partnered to link mitigation expertise in data collection and analysis to support disaster response efforts with risk analysis—providing near real-time assessment of flood levels and estimated damages to decision makers. This activity highlights the benefits of DOC/NOAA's and the National Weather Service's "Weather Ready Nation" initiative through the provision of key decision support information to our partners.
- Hazard Mitigation funding under Section 406 of the Stafford Act provides discretionary authority to fund mitigation measures in conjunction with the repair of the disaster-damaged facilities. Use of Section 406 of the Stafford Act mitigation funds is authorized by disaster declarations and managed primarily through Joint Field Offices located near the disaster site, occurring in an operational environment administered under NIMS within the NRF and NDRF.

When mitigation capabilities are delivered in support of incidents requiring a coordinated response, in most cases Federal departments and agencies operate in support of the NRF/NDRF and in accordance with NIMS.

NIMS provides a systematic, proactive approach to guide departments and agencies at all levels of government to work to prevent, protect against, respond to, recover from, and mitigate the effects of incidents in order to reduce the loss of life and property and minimize harm to the environment. Recommended activities for the private sector and NGOs have also been established that support NIMS implementation and closely parallel the implementation activities that have been required of local, state, tribal, territorial, and insular area governments. NIMS is applicable regardless of the cause, size, location, or complexity of a given event. NIMS provides organized and standardized tenets and practices, which enable organizations and departments and agencies to work together in a predictable, coordinated manner. Components of NIMS operate under the following principles:

- **Flexibility**: The components of NIMS are adaptable to any situation, from routine, local incidents to incidents requiring the activation of interstate mutual aid to those requiring a coordinated Federal response, whether planned (e.g., major sporting or community events), notice (e.g., hurricane), or no-notice (e.g., earthquake). This flexibility is essential for NIMS to be applicable across the full spectrum of potential incidents, including those that require multidepartment, multiagency, multijurisdictional (such as incidents that occur along international borders), or multidisciplinary coordination.
- **Standardization**: Flexibility to manage incidents of any size requires coordination and standardization among emergency management and homeland security personnel and their affiliated organizations. NIMS provides a set of standardized organizational structures that improve integration and connectivity among jurisdictions and disciplines, starting with a common foundation of preparedness and planning. NIMS provides and promotes common terminology, including the establishment of plain language (clear text communication standards) which fosters effective communication among response organizations and agencies.[6]

[6] National Incident Management System (http://www.fema.gov/national-incident-management-system).

## Adaptive Risk Management

Evolving risks and emerging capabilities drive and shape the future operational environment. Adaptive management is critical to success, allowing Federal mitigation partners to be flexible and to modify programs and policies, when permissible, to reflect emerging challenges and new technologies. The importance of understanding risk for the future is vital to mitigation operations. Innovation, new regulation, climate change, population demographics, population health status, political and economic realities, international incidents, global trends, and changes in Federal involvement all affect risk management.

The study of the effects of evolving change and variability on vulnerability, and the ability to adapt to changes in hazards, is a relatively new field of research that brings together diverse experts. Ongoing research influences the field of risk management. FEMA's Strategic Foresight Initiative conducted and used analysis in this field to identify sociology and demographics, politics, technology, climate change, economics, and security and terrorism as key focus areas. Analyzing these efforts allows Federal partners engaged in research to prioritize research and implementation requirements.

**Examples:**

- The EPA has implemented adaptive risk management in many projects. Among the most notable are the Mississippi River Basin project, which uses models and monitoring to reduce the uncertainties surrounding the biochemical mechanisms of hypoxia, and the Lake Superior Lakewide Management Plan, which calls for a less structured periodic refining of management strategies based on new information and public input.
- DOC/NOAA uses adaptive management, especially in its coastal management and coastal habitat restoration activities. The adaptive management process implemented in these cases is passive, involving iterations of a five-step cycle: plan, act, monitor, evaluate, and adjust. DOC/NOAA emphasizes the monitoring and evaluation elements of adaptive management (note, adaptive risk management follows generally accepted standards of planning, including the five-step planning process).

Changes in the frequency and severity of threats and hazards, along with evolving background conditions and community evolution and growth, mean that Federal risk management practices must be adaptive. Evolving risks are drivers that require a coordinated Federal approach to adaptive risk management in how Federal departments and agencies evaluate and address risks and deliver Mitigation core capabilities, regardless of what threats or hazards arise. Federal departments and agencies exploit technology, innovation, and advances in science and engineering practices in the delivery of core capabilities. Efforts and developments should be coordinated and shared for optimized application and utilization. This coordination can be accomplished through the various multiple department or agency groups and organizations already in place with which the MitFLG will establish communication and coordination.

**Example:**

- Local, state, and tribal officials develop and adopt mitigation plans to meet the requirements of the Stafford Act. Approved mitigation plans must be updated regularly in order to accurately reflect changes in community risk. As hazards change, communities evolve, and mitigation takes place, the risk facing that community changes. The FEMA role in supporting these plans is to review their content, help communities identify risks and emerging options for risk reduction, and promote action.

## Summary

Mitigation core capabilities are delivered across multiple National Planning Frameworks and integrate into multiple organizational structures, which include both decentralized models and command and control systems. Under this CONOPS, Federal partners adhere to the appropriate management systems, which are necessary or required to administer their actions during steady state and incident-driven operations. Change outside of incidents (e.g., demographic shifts, calendar events, evolving risks, and developing technologies) drives mitigation activity in the same way incidents do. Mitigation operational structures by operational state are depicted in Table 4.

**Table 4: Mitigation Operational Structures**

| Mitigation Operational Structures | |
|---|---|
| Steady State Operations | Incident-Driven Operations |
| Adaptive Risk Management | |
| Federal departments and agencies deliver Mitigation core capabilities around their objectives and shared interagency objectives with a set of common principles:<br>▪ Leadership<br>▪ Autonomy<br>▪ Contribution and initiative<br>▪ Self-organization<br>▪ Clear objectives | When Mitigation core capabilities are delivered under incident-driven National Planning Frameworks (NRF and NDRF), Federal departments and agencies will adhere to the appropriate management systems identified for Response or Recovery interagency operations (NIMS):<br>▪ Flexibility<br>▪ Standardization |

## *Interdependent Core Capabilities*

Mitigation's core capabilities are mutually supportive, overlapping actions seldom delivered in isolation. In order for effective mitigation to occur, understanding the connections among capabilities is as critical as understanding the internal disciplines and requirements of each capability.

Individual capabilities are examined and categorized in detail in Appendix B, which is designed as a reference point for the internal coordination of discrete actions within each capability.

Delivering Mitigation core capabilities under this FIOP is an interdependent activity, whether it occurs during steady state operations, after an incident, or in response to evolving risks. Table 5 demonstrates how all Mitigation core capabilities are interdependent activities—each Mitigation core capability supports the work of others—and outlines the interdependent model for delivering Mitigation core capabilities in concert under this CONOPS. For example, the core capability THID produces the data required for input to the RDRA capability. More specifically, flood hazard identification information, such as the likelihood that an area of interest will experience a flood event, can be combined with population and property data to determine the event's consequences and a community's flood risk.

The interoperability and interdependence described in Table 5 apply to all Federal mitigation action. White cells describe how the core capability identified in each row supports the core capability listed in the individual columns. Grey cells provide abbreviated definitions for each core capability. While Table 5 describes the relationship among Mitigation core capabilities, the Connection to Other Mission Areas section of the CONOPS describes the integration points among the Mitigation FIOP and other FIOPs under the National Planning Frameworks.

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**Table 5: Interdependence of Mitigation Core Capabilities**

| | Threats and Hazards Identification | Risk and Disaster Resilience Assessment | Planning | Community Resilience | Public Information and Warning | Long-Term Vulnerability Reduction | Operational Coordination |
|---|---|---|---|---|---|---|---|
| **Threats and Hazards Identification** | Identify threats and hazards, determine frequency and magnitude, and incorporate into analysis and planning processes to clearly understand needs | Provide data and intelligence for current and future risk analysis and resilience assessment | Serve as scientific basis for risk-based prioritization and preparation | Drive community action with sound hazard information | Provide foundation for risk communication | Serve as scientific basis for risk-based decision making | Support operational decisions with data—from long-term to real-time hazard information |
| **Risk and Disaster Resilience Assessment** | Identify the need for more refined or focused threat or hazard information | Assess risk and disaster resilience so that decision makers can take informed action to reduce risk and increase resilience | Provide analytic link between threat and hazard information and projected consequences, providing basis for risk reduction strategies | Establish foundational understanding of current and future risk and resilience | Provide vulnerability information that leads to messaging, communication, and risk reduction guidance | Establish connection between risk information and targeted vulnerability reduction activity to increase resilience | Drive risk-based operations |
| **Planning** | Set priorities for re-evaluating threat and hazard data | Identify use and requirements to update risk and disaster resilience information | Conduct a systematic process, engaging the whole community to develop strategic, operational, and community-based approaches to meet objectives | Provide forum to establish risk-based decision making that improves resilience | Assess communication gaps; enact plan to address communication of risk, needs for training, and implementation of guidance | Through community engagement, select appropriate risk reduction measures and establish priorities and sequence for action | Integrate appropriate plans and coordinate planning activities to promote risk-based decisions |
| **Community Resilience** | Establish leadership, partnerships, and collaboration that drive the identification of threats and hazards and recognize the need for quality data | Lead an integrated effort to understand, communicate, and promote the benefits of RDRA | Driving force of leadership that engages and mobilizes the community to plan for future resilience | Enable the recognition, understanding, communication of, and planning for risk, and empower individuals and communities to make informed risk management decisions necessary to adapt to, withstand, and quickly recover from future incidents | Credible, influential leaders communicate targeted messages to receptive listeners | Compel communities to prioritize risk reduction activities and consider current and future risk when making investments | Successfully deliver multiple mitigation capabilities through established, trusted relationships and partnerships |
| **Public Information and Warning** | Risk communication and a more informed public affect the kinds of threat and hazard communications which can be delivered | Social vulnerabilities and communication factors affect overall risk analysis | The capacity and need to communicate current and future risks to the public following an incident affect planning assumptions | Provide science-based strategies and techniques for delivering information that promotes behavior change to support a resilient community | Deliver coordinated, prompt, reliable, and actionable information to the whole community through clear, consistent, accessible, and culturally and linguistically appropriate methods | Federal stakeholders must deliver information about long-term vulnerability reduction actions, funding, training, and guidance | How well public information is delivered drives operational requirements and vice versa |
| **Long-Term Vulnerability Reduction** | Long-term vulnerability reduction actions change the threat and hazard profile of a community, and may lead to re-identification of threats and hazards | Long-term vulnerability reduction actions change the current and future risk profile of a community, and may initiate re-assessment of risk and disaster resilience | Long-term vulnerability reduction actions are executed based on planned priorities and evolving plans | Implementation of risk reduction activities demonstrates progress toward achieving community resilience | Long-term vulnerability reduction actions require notification of stakeholders, communication, the implementation of guidance, training and a wide array of communication efforts | Build and sustain resilient systems and communities to reduce vulnerability by lessening the likelihood, severity, and duration of adverse consequences | Coordinate delivery of risk reduction activities with all appropriate stakeholders |
| **Operational Coordination** | Identifying and quantifying threats and hazards requires mitigation stakeholders to coordinate assessment, analysis, and delivery of information | Conducted both during steady state and in incident-driven operations, requiring a combination of command and control and other operational structures | Planning brings together threat, analysis, operational, and community stakeholders and planning professionals; developing plans requires seamless coordination around a single effort | Coordination of stakeholder actions is an essential characteristic of a resilient community | The delivery of training, guidance, forecast, and advisory information is initiated through defined operational requirements in all phases | Effective coordination may result in vulnerability reduction and occurs in both steady state and incident-driven environments | Establish and maintain a unified and coordinated operation structure that integrates stakeholders and supports execution of core capabilities |

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## Incident-Specific Mitigation

Incidents create windows of opportunity for the delivery of some, and focused development of other, Mitigation core capabilities, and the characteristics of an incident dictate the need for certain kinds of mitigation activity. As such, mitigation actions that support incident-driven operations include a broad spectrum of activity across mission areas. These mitigation actions fall under response and recovery structures in the immediate pre- and post-disaster environment and are administered under the appropriate mission area framework and FIOP.

Near real-time mitigation actions are designed to inform response, remediate impacts, reduce the cascading effects of incidents, and advise recovery efforts. These actions include certain fire suppression activities, chemical spill remediation, activities that manage repeat or cascading terrorist threats, injury prevention, public health interventions, and safety inspections of damaged structures. The ability to perform these actions must be maintained regardless of the hazard faced.

Mitigation tools such as real-time data and analysis and hazard impact modeling inform decision making—controlling operational risk and managing short-term objectives. Supporting short-term mitigation actions may also require the deployment of mitigation expertise to collect and analyze data after an incident. Mitigation also includes longer-term risk management actions, such as rebuilding, outreach, analysis, planning, and implementation activities—following a disaster—to produce longer-term risk management gains. Disasters generate critical opportunities to enact community changes that may result in longer-term and more sustained reductions in risk. They also present the opportunity and access to resources, such as expertise, data and modeling or better analysis, and understanding of risk and create a window of opportunity for affecting behavior change as well as structural and infrastructural mitigation.

Longer-term mitigation actions that occur concurrently with response and recovery actions encompass forensic data collection, such as the collection of high-water marks, and post-incident analysis, such as building performance investigations, and, as a result, require longer-term mitigation assets to function as part of response and recovery efforts. These activities may be closely coordinated through the Federal Disaster Recovery Coordinator (FDRC) and the Hazard Mitigation Advisor, under the NDRF.

## Federal Mitigation Mechanisms

Federal departments and agencies support whole community mitigation efforts by applying their own programs and capabilities across individual and coordinated operations, both in support of incidents and in response to risk. Regulatory responsibilities, oversight authorities, and obligations to support and inform stakeholders also serve to support and encourage mitigation. Leadership to promote national resilience at the Federal level comes from individual departments and agencies, the MitFLG, and other coordinating structures especially those used to gather input from the whole community to inform Federal efforts.

### Delivery of Federal Support

Federal support for mitigation includes the following activities to support a culture of preparedness:

- Technical assistance and expertise from subject matter experts;
- Training, outreach, and education (e.g., stakeholder engagement, guidance, exercises);
- Products and services (e.g., models; data and information; consultation; planning; technical assistance; insurance; and technology transfer, commercialization, and deployment);

- Projects ("bricks and mortar"), including the project planning, design, construction, operation, and maintenance; and
- Funding, including grants, contracts, cooperative agreements, partnerships, incentives, and tax policy.

### Capacity Building

Capacity building is a specialized form of technical assistance that serves the shared objectives of Federal mitigation partners and provides leverage when applying Federal capabilities within a community. It is a focused effort to nationally elevate and increase the level of mitigation expertise, creating a more resilient Nation. It includes planning; research and development; innovation; partnership; and collaboration. Capacity building also helps identify and execute solutions that link Mitigation core capabilities and practitioners across the whole community to build a culture of preparedness that can perform these capabilities regardless of the hazard faced.

## *Federal Roles and Responsibilities*

This FIOP identifies and describes Federal roles and responsibilities to guide the Federal Government's implementation of the NMF. Interagency activities in the form of coordinating structures, strategic planning, and cooperative activities, such as those described in the Concept of Operations section, already exist and should likewise be capitalized upon to implement the NMF.

### Existing National Strategic Planning and Interagency Activities

National strategic objectives have been set in numerous reports and plans of both Federal and non-Federal entities. Federal strategic planning can be an effective way to set shared objectives and align resources. Where these plans currently exist and identify interagency activities supporting Mitigation, Federal departments and agencies should capitalize on those plans and look to align their authorities and resources in such a way to meet common strategic goals and objectives as discussed in the NMF. Many current Federal plans identify a broad range of mitigation opportunities designed to make a more secure and resilient Nation, such as the department- and agency-specific Strategic Sustainability Performance Plans required under Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance (2009). Additional examples include:

- "Grand Challenges for Disaster Reduction," NSTC, Committee on Environment and Natural Resources, A Report of the Subcommittee on Disaster Reduction, 2005, with implementation plans in 2008 and 2010;
- "Federal Actions for a Climate Resilient Nation: Progress Report of the Interagency Climate Change Adaptation Task Force," and "National Action Plan for Managing Freshwater Resources in a Changing Climate," Council on Environmental Quality (CEQ), 2011;
- "Infrastructure Resilience Guidelines," identified in the Hurricane Sandy Rebuilding Strategy, 2013;
- "Strategic Plan for the National Earthquake Hazards Reduction Program (NEHRP), Fiscal Years 2009–2013" submitted to Congress by the Interagency Coordinating Council of NEHRP, 2008;
- "Crisis Response and Disaster Resilience for 2030, Forging Strategic Action in an Age of Uncertainty," FEMA, 2012;
- "National Strategy for the Marine Transportation System, A Framework for Action," Committee on Marine Transportation Systems, 2009;

- "National Health Security Strategy," HHS, 2015;
- "Unified National Program Management for Floodplain Management," 1994;
- "National Infrastructure Protection Plan, Partnering for Critical Infrastructure Security and Resilience," DHS, 2013;
- Executive Order 12777, Implementation of Section 311 of the Federal Water Pollution Control Act of October 18, 1972, as amended, and the Oil Pollution Act of 1990 (as amended), White House, 1991;
- "National Critical Infrastructure Protection R & D Plan," NSTC, Infrastructure Subcommittee, 2004;
- DOC/NOAA's Next Generation Strategic Plan, 2010, that includes the long-term goals: "Climate Adaptation and Mitigation, Weather Ready Nation, Healthy Oceans, and Resilient Coastal Communities and Economies";
- "Strategic Plan for the National Dam Safety Program (NDSP) Fiscal Years 2012–2016," NDSP, FEMA, 2012;
- National Security Presidential Directive – 51/Homeland Security Presidential Directive – 20 (NSPD 51/HSPD 20), National Continuity Policy, May 2007;
- National Continuity Policy Implementation Plan, August 2007;
- Federal Continuity Directive -1 (FCD 1), Federal Executive Branch National Continuity Program and Requirements, October 2012; and
- FCD 2, Federal Executive Branch Mission Essential Functions and Candidate Primary Mission Essential Functions Identification and Submission Process, July 2013.

**Example:**

**The Strategic Plan for the National Dam Safety Program (NDSP) for Fiscal Years 2012 through 2016** sets the national agenda for dam safety, as prescribed by the Dam Safety Act of 2006 (Public Law 109-460), and informs and supports other dam safety programs at the state and Federal levels. The plan's purpose is aligned with the collaborative approach of FEMA to address dam risk in the context of the emergency management lifecycle and to improve the unity of effort across the entire dam safety community. The successful implementation of this strategic plan over the next five years will support the Nation in preparing for, protecting against, responding to, recovering from, and mitigating dam failures and the risks and vulnerabilities posed by dams.

The plan provides a straightforward, realistic, and executable strategic direction for the NDSP based on the most efficient and effective uses of NDSP resources to reduce losses from dam failures in the United States. The goals, objectives, strategies, and priorities will serve as formal guidelines for all NDSP efforts.

Other national and international documents inform Federal activities and help set a shared vision from other stakeholder groups and academic institutes. These documents reflect global, national, regional, and local perspectives that can align Federal roles and resources to support those objectives. They include, but are not limited to, reports such as:

- "Regional Disaster Resilience, A Guide for Developing an Action Plan," The Infrastructure Security Partnership, 2011;
- "Sustainable Critical Infrastructure Systems, A Framework for Meeting 21st Century Imperatives," National Research Council of the National Academies, 2009;

- "Building Community Disaster Resilience Through Private-Public Collaboration," National Research Council, 2011;
- "Recommendations for an Effective National Mitigation Effort," National Emergency Management Association White Paper, 2009;
- "National Earthquake Resilience: Research, Implementation, and Outreach," National Research Council, 2011;
- "Improved Seismic Monitoring—Improved Decisionmaking: Assessing the Value of Reduced Uncertainty," National Research Council, 2006;
- "Environmental Resilience: Exploring Scientific Concepts for Strengthening Community Resilience to Disasters" U.S. Environmental Protection Agency, 2015.
- "Effective Emergency Management: Making Improvements for Communities and People with Disabilities," National Council on Disability, 2009;
- "Disaster Resilience: A National Imperative," The National Academies, Committee on Science, Engineering, and Public Policy, Committee on Increasing National Resilience To Hazards and Disasters, 2012;
- "Planning and Building Livable, Safe & Sustainable Communities—The Patchwork Quilt Approach," Natural Hazards Mitigation Association, 2014;
- "Community Resilience Planning Guide for Buildings and Infrastructure," National Institute of Standards and Technology, 2015;
- "National Biodefense Science Board Community Health Resilience Report," National Preparedness and Response Science Board, HHS-ASPR, 2014; and
- "Building Community Resilience to Disaster: A Way Forward to Enhance National Health Security," RAND Corporation, Chandra, A. et al., 2011.

## Mitigation Framework Leadership Group

The MitFLG is an interagency and intergovernmental body that facilitates information exchange and coordinates policy implementation and successful implementation of the NMF. The primary role of the MitFLG is to serve as the central coordination point for interagency mitigation activities. The MitFLG coordinates and promotes implementation of the NMF, increases awareness of mitigation throughout the Federal Government, and supports the advancement of Mitigation core capabilities through whole community mechanisms. The MitFLG includes representatives from relevant local, state, tribal, territorial, insular area, and Federal governments. It is chaired by FEMA in consultation with leadership in the DHS. The MitFLG coordinates with the Domestic Resilience Group (DRG) under the National Security Council (NSC), and other Interagency Policy Committees (IPC) or sub-IPCs as relevant. Membership in the MitFLG will include department and agency senior officials who can speak authoritatively on behalf of their respective organizations (see MitFLG membership below, as found in the NMF). The MitFLG may establish ad hoc working groups as needed.

Private industry and nongovernmental coordination with the MitFLG comes through existing mechanisms, such as structures available to Sector-Specific Agencies (SSA). The MitFLG is a coordinating structure for integrating Federal efforts, and related councils, task forces, and committees will coordinate through the MitFLG. Nothing about the operation of the MitFLG is intended to alter or impede the ability of Executive departments and agencies to carry out their

authorities or their responsibilities under law and consistent with applicable legal authorities and other Presidential guidance.

The MitFLG, through its coordination role, helps to set strategic direction and define the shared goals and objectives of the group; encourages specific and collaborative programs; and provides input to the annual National Preparedness Report.

**Mitigation Framework Leadership Group**

Non-Federal membership includes:

- Local, state, tribal, and territorial government representatives

Federal membership includes, but is not limited to:

- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Energy
- Environmental Protection Agency
- General Services Administration
- Department of Health and Human Services
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of the Interior
- Department of Justice
- Small Business Administration
- Department of Transportation
- Department of the Treasury

## Existing Federal Coordinating Structures

Coordinating structures are composed of representatives from multiple Federal departments and agencies, public and/or private sector organizations, or a combination of such groups. Pursuant to Presidential directive, the Secretary of Homeland Security is the principal Federal official for domestic incident management. The Secretary of Homeland Security is responsible for coordinating the domestic all-hazards preparedness efforts, including mitigation activities, of all Executive departments and agencies,[7] in consultation with local, state, tribal, territorial, and insular area governments, NGOs, private sector partners, and the general public; and for achieving the National Preparedness Goal. The Secretary's preparedness responsibilities also include overseeing the broad "emergency management," "continuity planning and operations," and "response" activities of FEMA and other DHS components.

The Federal Government has several established structures for coordination of a variety of activities that address the range of natural, technological, and human-caused/adversarial threats and hazards. These include Government Coordinating Councils (GCC), Sector Coordinating Councils (SCC), Committees, and Task Forces. Understanding the relationships between the implementation of the FIOP and these existing organizations is critical. The MitFLG will define the appropriate

[7] Except for those activities that may interfere with the authority of the Attorney General or the FBI Director.

relationships between these existing organizations and mitigation efforts. The following structures have mitigation-related missions:

- The NSC is the President's principal forum for considering national security policy matters with senior national security advisors and cabinet officials.
- The DRG is a senior level IPC under the NSC.
- CEQ coordinates Federal environmental efforts and works closely with departments and agencies and other White House offices in the development of environmental policies and initiatives. The Interagency Climate Change Adaptation Task Force is co-chaired by CEQ, DOC/NOAA, and the Office of Science and Technology Policy (OSTP).
- OSTP, NSTC, Committee on Environment, Natural Resources, and Sustainability, Subcommittee on Disaster Reduction serve as part of the internal deliberative process for the NSTC on disaster reduction issues.
- OSTP, NSTC, Committee on Homeland & National Security, Infrastructure Subcommittee serve as part of the internal deliberative process for the NSTC on issues related to resilient and sustainable design of buildings, lifelines, and other types of physical infrastructure.
- OSTP, NSTC, Committee on Technologies, Subcommittee on Standards enable responsive and timely coordination among Federal departments and agencies for more effective Federal department or agency engagement in the development and use of standards and raise awareness of best practices in standard policy issues affecting national priorities.
- The Federal Interagency Floodplain Management Task Force improves coordination, collaboration, and transparency among the Federal departments and agencies in floodplain management efforts, and works closely with local, state, tribal, territorial, and insular area governments, the private sector, and nonprofit organizations.
- The National Response System is the Federal Government's mechanism for mitigation planning of hazards associated with, and emergency response to, discharges of oil and the release of hazardous substances to navigable waters or environment of the United States. The National Oil and Hazardous Substances Pollution Contingency Plan is the framework for the National Response System, which functions through a network of interagency and intergovernmental relationships, such as the National Response Team and the Regional Response Teams.
- SSAs were designated by Presidential directive and given the responsibility to provide institutional knowledge and specialized expertise, as well as lead, facilitate, or support the security and resilience programs and associated activities of its designated critical infrastructure sector in the all-hazards environment.
- NDSP has two supporting coordinating structures: the National Dam Safety Review Board and the Interagency Committee on Dam Safety.
- NEHRP, Interagency Coordinating Committee acts in the public interest to assess trends and developments in the science and engineering of earthquake hazards reduction; effectiveness in carrying out the activities under Section 103(a)(2) of the Earthquake Hazards Reduction Act of 1977, as amended; the need to revise the Program; and its management, coordination, implementation, and activities.
- National Windstorm Impact Reduction Program (NWIRP), Interagency Coordinating Committee acts to accomplish significant reductions in windstorm related losses of life and property. The

Program facilitate improvements in windstorm forecast models, warning systems, evacuation planning, structural design technology, and community preparedness.

- National Institute of Building Sciences provides a forum for government and private sector interaction on research, development, codes, and standards for the built environment and by supporting advances in building sciences and technologies for the purpose of improving the performance of buildings and structures while reducing waste and conserving energy and resources.
- The Public Health Information Network is an HHS Centers for Disease Control and Prevention initiative to establish and support shared policies, standards, practices, and services that facilitate efficient public health information access, exchange, use, and collaboration among public health agencies and with their clinical and other partners.
- The National Community Health Resilience Coalition is coordinated by the HHS Office of the Assistant Secretary for Preparedness and Response to provide an ongoing venue for Federal and national stakeholders to share information and promising practices and develop collaborative opportunities to assist communities to build resilience, particularly as this involves health, social connectedness, and well-being.

The coordinating structures for mitigation should focus on creating a national culture shift that embeds risk management and mitigation in all planning, decision making, and development, as practicable. They should also ensure connectivity with the efforts of the whole community through mechanisms described in further detail in Appendix B. The primary role of the MitFLG will be to serve as the central coordination point for interagency mitigation activities.

The NDRF provides a flexible structure enabling disaster recovery managers to restore, redevelop, and revitalize the health, social, economic, natural, and environmental fabric of the community and build a more resilient Nation, citing mitigation as a key component throughout the framework.

## Guidance for Department- and Agency-Level Plans

As required by the National Planning System, "all executive departments and agencies with roles in the National Planning Frameworks shall develop department-level operational plans to support the interagency operational plans, as needed." Department- and agency-level operations plans will describe how the organization's capabilities support the application of Mitigation core capabilities, within the respective agency's authorities and funding limitations. Existing plans, standard operating procedures, or guides may be used for the development of these plans. The department- and agency-level plan should contain the level of detail necessary to clearly identify the department's or agency's specific critical tasks, responsibilities, and resources required to fulfill mission area tasks as appropriate under the FIOP. The frequency for reviewing and updating these plans will depend on each department's or agency's internal business practices.

Suggested plan elements include:

- Description of department's or agency's vision for mitigation;
- Description of authorities, responsibilities, and ability to implement Mitigation core capabilities;
- Incorporation of continuity planning and operations to ensure Mitigation capabilities are resilient;
- Summaries of overall trends visible within mitigation;
- Identification of Mitigation core capabilities that show the highest degree of progress;

- Identification of Mitigation core capabilities that show the most significant gaps/needs for improvement;
- Interagency coordination;
- Identification of resources to support activities;
- Submission date and updated/current schedule consistent with department business practices; and
- Evaluation and consideration of methods to integrate mitigation strategies across department or agency programs to ensure and supplement the civil rights of individuals with disabilities, from religious, racially, and culturally diverse backgrounds and with limited English proficiency.

In addition, the departmental- and agency-level operational plans could be used to:

- Help promote understanding of mitigation to department mission and operations to increase efficiency of national-level operations and identify possible changes to regulations, guidance, or policy to further the implementation of the Mitigation core capabilities;
- Serve as a means through which a self-assessment of department activities can be conducted that have a mitigation connection and/or have mitigation effects and be used as an internal department document and inform plan development;
- Develop an action plan with milestones to be consistent with department business practices; and
- Serve as a source of information for sharing lessons learned.

Federal roles and responsibilities to improve the Nation's resilience should focus, where possible, not only on using and expanding existing strategic planning documents, interagency implementation activities, and coordinating structures, but also on supporting the guidance set forth in this FIOP and in departmental operating plans.

## Connection to Other Mission Areas

### Cross Cutting Themes

National preparedness activities occur simultaneously across the five mission areas. Therefore, the National Planning Frameworks should be integrated to ensure the greatest degree of coordination possible and, where appropriate, the smoothest transition from one mission area to another. Further, each framework is inextricably linked to the successful implementation of the core capabilities described in the other National Planning Frameworks.

The core capabilities of each mission area should operate in concert with each other to best serve the Nation. For the purpose of the FIOP, integration is the means by which the Federal Government synchronizes operations and works to enhance operations conducted at the local, state, tribal, territorial, and insular area levels either during steady state operations, in support of adaptive risk management, or when a disaster strikes.

Continuity planning and operations are an inherent component to all of the mission areas, especially when faced with ever-changing threats, hazards, and risks. The continuation and resiliency of the core capabilities that support the mission areas are essential to national preparedness, and continuity is the planning paradigm and operational mechanism to ensure its success.

#### *Common Core Capabilities*

Three common capabilities cut across all five mission areas and serve to provide needed integration—Planning; Public Information and Warning; and Operational Coordination. As

established in the CONOPS, the goal of integration among the mission areas and across governmental levels is achieved through the three common core capabilities. Each of these capabilities must be coordinated and integrated across mission areas in order to successfully deliver the capability.

The **Planning** capability acts as a foundation for all mission areas and the entire preparedness system. It calls for the whole community, as appropriate, to use a systematic process to develop and maintain plans for meeting objectives within all mission areas. Within the Mitigation mission area, Planning builds upon existing processes, focusing on the incorporation of risk information to inform decision makers. Planning for critical infrastructure will be coordinated between the Protection and Mitigation mission areas to support shared objectives. Pre- and post-disaster recovery planning will also build on the community-based planning developed through mitigation.

The **Public Information and Warning** capability helps ensure an engaged, resilient public that can support any of the five mission areas. In mitigation, Public Information and Warning focuses on sharing information and communicating risk awareness and mitigation messages among elements of the whole community. This information is generated by engineers who support the development of building codes, departments and agencies such as DOC/NOAA and USGS, and information from DHS and the Intelligence Community (IC).

The **Operational Coordination** capability works to integrate stakeholder efforts through a unified and coordinated operational structure and process that integrates all critical stakeholders, mitigation activities establish protocols for mitigation data elements. These activities facilitate risk-based decisions to support the whole community. This can include being a part of command and control structures during response; of collaborative coordination structures during recovery; and of decentralized structures during steady state operations.

## Mitigation Integration with Other Mission Areas

Mitigation activities reduce the impact of disasters by supporting protection and prevention activities, easing response, and speeding recovery to create better prepared and more resilient communities. Within the entire network of core capabilities, each is dependent on the others to yield results that reduce damage and save lives. Mitigation core capabilities enhance the execution of core capabilities found in each of the other mission areas through information, assessments, and long-term vulnerability reduction strategies to achieve community resilience. When fully and successfully executed, Mitigation core capabilities may support the prioritization of Protection efforts by identifying threats and hazards, optimizing Response by helping to reduce the impact of disaster, and quickening and enhancing efforts in Recovery by analyzing disaster impacts. Through science and research, Mitigation capabilities may also help to synchronize efforts to update and rebuild improved, more resilient communities.

### *Prevention Mission Area*

Prevention mission threat identification and risk assessment information provide decision makers with awareness of and context for an incident. Once specific threats and risks are ascertained, communities can then devise appropriate measures for mitigating those threats, thereby reducing vulnerability. Prevention reduces threats or the consequences of an attack through effective Federal law enforcement, investigative, intelligence, and operational responses to threatened or actual acts of terrorism within the United States and its territories. It unifies the collective capabilities of the Federal Government to respond to an imminent threat, terrorist attack, and/or follow-on attack. Prevention efforts interact with mitigation efforts to ensure a coordinated Federal effort and, as necessary, to establish joint priorities across mission space. Prevention and mitigation must be in

communication during times of imminent threat so that mitigation assets, to the extent practical and appropriate, may be pre-positioned.

Prevention mission area outreach and community involvement help to establish and maintain strong partnerships to increase awareness of potential threats. Intelligence-focused relationships among local, state, tribal, territorial, and Federal law enforcement; intelligence and homeland security entities; and with the public and private sectors, academia, and other community organizations and NGOs facilitate information sharing. In turn, this creates more opportunities to thwart acts of terrorism and to lessen the effects of large-scale, manmade catastrophes should they occur. Through these dialogues, communities may better deter and detect specific threats and mitigate vulnerabilities. They may also develop new ways of reducing risks and reporting successful practices.

### *Protection Mission Area*

Activities in the Mitigation and Protection mission areas are typically performed in a steady state or well before an incident. Protection places particular attention on security and deterrence of threats, while mitigation emphasizes reducing vulnerabilities. Both seek to minimize consequences and have a shared focus on critical infrastructure. Addressing the security of critical infrastructure falls within the Protection mission area, while addressing the resilience of the infrastructure falls within the Mitigation mission area. Threats and hazards risk information and analysis are necessary to effectively design successful strategies for mitigation and protection. Integration of risk information, planning activities, and coordinating structures reduces duplication of effort and streamlines risk management actions in both mission areas.

### *Response Mission Area*

Effective community mitigation efforts directly reduce loss of life, property damage, and the required scale of response operations. Therefore, they can reduce the overall financial cost. Threats and hazards information and risk assessment data can trigger crucial life-saving and life-sustaining operations. Tools such as inundation mapping for flood events can be used to plan and determine appropriate life-saving actions. Most importantly, these data can be used to develop a better understanding of the situation in order to deliver information for decision making, while easing transition to recovery. When incidents impede the ability to communicate effectively or develop impact assessments, risk analysis and hazard modeling can provide operational assumptions for first responders to help them understand more about the situation and better prepare to respond.

### *Recovery Mission Area*

Mitigation and recovery share a focus on sustainable recovery and overall resilience. Cross-mission-area integration activities, such as planning, are essential to ensuring that risk avoidance and risk reduction actions are taken during the recovery process. Integrating mitigation actions into pre- and post-disaster recovery plans provides systematic risk management after the incident. During the recovery process actions can be taken to address the resilience of population's health and wellness, social systems, the economy, housing, natural and cultural resources, and critical infrastructure. Lessons learned during the recovery process also inform future mitigation actions. Linking recovery and mitigation can help us to break the cycle of damage-repair-damage resulting from rebuilding without mitigation following disasters.

### *An Integrated Approach*

Meeting the challenges of current and future disasters requires the concerted effort of all Federal agencies in partnership with local, state, tribal, territorial, and insular area governments; NGOs; and the private sector to integrate their efforts. The principle of integration ensures unity of effort among

all levels of government and all elements of a community. Achieving integrated effort is often complicated by crisis-driven planning and divergent organizational processes and cultures. The FIOP expands upon how integration can be improved through operational coordination and establishment of joint interagency objectives.

Another critical element for consideration when achieving integration is the organizational structure or mechanism in which organizations and individuals operate and interact. Integration can be approached from three different organizational perspectives: internal, horizontal, and vertical.[8] **Internal** integration occurs within Federal departments and agencies and within their respective programs. Communities of practice, or groups that are bound together by mutual interests, are examples of **horizontal** structures that can achieve integration. Integrated decisions are based on consensus and group acceptance of the governing structure. **Vertical** integration seeks to ensure compatibility among entities and levels by encouraging standardization within broad parameters. Vertical integration is much more hierarchical and relies on more directive methodologies. Integration among mission areas will continue to evolve as the CONOPS are exercised and implemented and the FIOPs are updated to capture lessons learned.

[8] FEMA, Emergency Management Institute, Principles, Practice, Philosophy and Doctrine of Emergency Management, Session 6, Integrated Emergency Management, April 2011.

# Oversight, Plan Development, and Maintenance

## *Mitigation FIOP Review Cycle*

This FIOP must reflect current conditions, realities, and stakeholder perspectives. Through a standard review, monitoring, and update cycle, the FIOP will remain relevant, credible, and sound for the whole community.

### Monitoring Process

The MitFLG will monitor actions taken in accordance with this FIOP. It will identify and document:

- Previously unused, new, or innovative coordination forums/groups/committees that enable the successful and coordinated delivery of Mitigation core capabilities;
- Mitigation lessons learned from exercises, disaster incidents, and other events;
- Any systemic and capability-level challenges and obstructions;
- Gaps in coordination and missed opportunities; and
- Stakeholder engagement and information provided regarding mitigation.

### Review and Update Process

This FIOP will be regularly reviewed to evaluate consistency with existing and new policies; evolving threats and hazards; and experience gained from use. Interagency partners will be engaged in the review and maintenance process for this FIOP. Reviews of this FIOP will be conducted on a quadrennial basis. The review and maintenance process may include developing incident-specific and classified annexes, which include the delivery schedule for Federally coordinated assets and resources, as appropriate. The FIOP will be updated periodically, as required, to incorporate new Executive guidance and statutory and procedural changes, as well as lessons learned from exercises and actual incidents.

Significant updates to the Mitigation FIOP will be vetted through a Federal senior-level interagency review process. The review process provides an opportunity to reassess the FIOP's direction and to address current conditions and realities by engaging stakeholders, revising the document, and publishing an amended version for the whole community. Information reported through the monitoring process will be integrated into the FIOP, as appropriate. Where conditions, realities, and stakeholder perspectives have changed little or not at all, the FIOP may remain unchanged. The FIOP review will accomplish the following:

- Provide an assessment of, and updated information on, the delivery of core capabilities;
- Ensure that the FIOP is consistent with other mission areas;
- Incorporate lessons learned and effective practices; and
- Reflect progress in the Federal Government's mission activities.

### FIOP Application to the Non-Federal Audience

Local, state, tribal, territorial, and insular area governments, NGOs, and private sector entities can adapt and reference the comprehensive operational approach to reducing loss of life and property offered in the FIOP when conducting their own planning and implementation activities. The Mitigation FIOP:

- Can serve as a resource for interrelated Federal and non-Federal efforts to build and sustain preparedness;
- Provides a transparent description of the existing organization, strategy, and methodology that the Federal Government uses to deliver Mitigation core capabilities;
- Merges operational information from across Federal departments and agencies into one document, streamlining endeavors to explain how the Federal Government supports accomplishment of the Mitigation mission; and
- Describes the scope of the MitFLG, a group that works to ensure appropriate integration of Federal mitigation efforts across the whole community.

# Authorities and References

Federal departments and agencies deliver the Mitigation core capabilities as authorized by Federal law including Presidential Executive Orders, other Presidential directives, and Federal statutes. Authority and direction for the delivery of the core capabilities is further provided in Federal regulations and in department and agency policies, guidelines, and directives. Pursuant to the National Preparedness Goal, and as stated above, the NMF defines mitigation broadly, encompassing, but not limited to, more specific definitions of mitigation, such as that found under the Stafford Act. This section highlights some of the key existing authorities that Federal mitigation partners rely on to execute their mitigation programs and activities. These are intended to be illustrative and not comprehensive. A more complete set of relevant Presidential directives, laws, and authorities can be developed as needed or coordinated by the MitFLG. An initial review identified more than 100 legal authorities that may be relevant to Federal mitigation operations. This document is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or equity, against the United States, its departments, agencies, or other entities, its officers or employees, or any other person.

## *National Preparedness Goal and Executive Orders*

The National Preparedness Goal describes the Nation's approach to national preparedness. The intent of the National Preparedness Goal is to catalyze integrated preparedness planning across departments and agencies, the private and nonprofit sectors, and the general public to strengthen the security and resilience of the Nation. The National Preparedness Goal builds on existing authorities and guides Federal action, including that which led to the creation of the NMF and this Mitigation FIOP. This directive is not intended to interfere with or impede the current authorities in place that have already established or reformed mitigation or other preparedness operations across the Federal Government. The NMF sets the strategy and doctrine for mitigation, while this FIOP provides guidance to Federal departments and agencies for implementation of the NMF and its core capabilities.

Examples of Executive Orders relevant to the National Preparedness Goal include:

**Executive Order 12333, United States Intelligence Activities, 1981** enables the Intelligence Community to mitigate the effects of human-caused/adversarial threats. It provides direction to departments and agencies on the collection, analysis, production, and dissemination of intelligence, reducing the threat to national security through the use of current and accurate information about the activities, capabilities, plans, and intentions of foreign entities.

**Executive Order 11988, Floodplain Management, 1977** requires Federal departments and agencies to take action to reduce the adverse effects of flooding, to preserve the natural benefits provided by floodplains, and to consider alternatives to floodplain development where practicable. This Order, in furtherance of the National Environmental Policy Act of 1969, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973, directs Federal departments and agencies to mitigate flood risk through risk identification, assessment, and reduction. This order was amended by Executive Order 13690, 2015 (below).

**Executive Order 13690, Floodplain Management, 2015** requires all future Federally funded projects to meet the level of resilience established by the Federal Flood Risk Management Standard. This Order directs Federal departments and agencies to consider current and future flood risk so that Federal projects are more resilient. This Order, in furtherance of the intent of Executive Order 11988, also encourages agencies to consider natural and nature-based approaches where possible.

- Executive Order 11990, Protection of Wetlands, 1977;
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994;
- Executive Order 13007, Indian Sacred Sites, 1996;
- Executive Order 13166, Access for Persons with Limited English Proficiency, 2000; and
- Executive Order 13514 Federal Leadership in Environmental, Energy, and Economic Performance, 2009.

## Department and Agency Directives and Congressional Acts

Federal departments and agencies are responsible for executing the laws enacted by Congress. As part of that responsibility, they promulgate regulations and issue department or agency directives that provide internal policy guidance, delegate authority, establish programs, define procedures, or assign responsibilities. These authorities can be specific to certain conditions, such as steady state or incident-driven operations, and be directed toward more than one department or agency. Examples of statutory authorities relevant to steady state operations include:

- The **Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988**, as amended, constitutes the statutory authority for most Federal disaster response activities, but it also includes certain provisions for hazard mitigation. Specifically, it authorizes steady state activities conducted by FEMA, such as support for communities to develop effective public-private natural disaster hazard mitigation partnerships, hazard vulnerability assessments, and documentation of hazard mitigation priorities and plans.
- The **Pandemic and All Hazards Preparedness Reauthorization Act** was enacted to prepare the Nation for public health and medical emergencies. This Act includes provisions for the development of a National Health Security Strategy, which promotes community resilience and strong and sustainable health and emergency response systems, and expanded preexisting grant programs to enhance community and hospital preparedness for health emergencies.
- The **Post-Katrina Emergency Management Reform Act** amended the Homeland Security Act and modified the Stafford Act with respect to the organizational structure, authorities, and responsibilities of FEMA and the FEMA Administrator. It enhanced FEMA's responsibilities and its authority within the Department of Homeland Security (DHS) and returned many preparedness functions to FEMA. According to the Act, FEMA leads the coordination of and supports the Nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. Under the Act, the FEMA Administrator reports directly to the Secretary of Homeland Security, and FEMA is adistinct entity within DHS.

Departments and agencies implement steady state mitigation actions that come before incidents but also mitigate disasters, by enforcing regulations or providing incentives to support more resilient new construction, including roads, bridges, and homes. Examples of departments that take mitigating action based on incident-driven triggers are:

- The **Federal Highway Administration in the Department of Transportation (DOT)** has an Emergency Relief program for the repair or reconstruction of Federal-aid highways and roads on Federal lands that have suffered serious damage as a result of natural disasters and catastrophic failures from an external cause.[9] Emergency Relief funds are available at the pro-rata cost share that would normally apply to the Federal-aid facility damaged. These actions attempt to mitigate further loss due to damaged Federal highways.
- The **Federal Mine Health and Safety Act of 1977**, which enabled the Department of Labor to work with HHS to mitigate the risk of death and disease in American miners. This interagency group was directed to establish health and safety standards in mining, and to work with the states to implement them. The purpose was to not only reduce the risk to miners' health and safety, but also to prevent the economic impacts that follow such conditions.

Additionally, Federal departments and agencies can use MOUs and memorandums of agreement (MOA) to cooperatively carry out mitigation activities as allowed by law.

[9] 23 U.S.C. § 125, as amended, Emergency Relief–Consolidated and Further Continuing Appropriations Act, 2012 (Public Law 112-55).

# Appendix A: Key Terms and List of Abbreviations

## Key Terms

**Access and Functional Needs**: Persons who may have additional needs before, during and after an incident in functional areas, including but not limited to: maintaining health, independence, communication, transportation, support, services, self-determination, and medical care. Individuals in need of additional response assistance may include those who have disabilities; live in institutionalized settings; are older adults; are children; are from diverse cultures; have limited English proficiency or are non-English speaking; or are transportation disadvantaged.

**Access/Accessible**: Suitability or adaptability of programs, services, activities, goods, facilities, privileges, advantages or accommodations provided by a public or private (for-profit or not-for-profit) entity, or by any entity to which it contracts for all members of the population, including individuals with disabilities.

**Adaptive Risk Management**: Applies to both steady state and incident-driven activities, and offers opportunities for course correction within each. Operational paradigms for steady state and incident-driven operations include identifying opportunities for continuous improvement. Activities that are driven by cycles, indicators, and changes that occur outside of incidents. This includes demographic and technological changes and advancements and evolving hazards and changing risk landscapes. For instance, advances in technology create new and more accurate ways to assess and mitigate hazards, and Federal mitigation action may change based on such advancements.

**Capability Targets**: Performance threshold(s) for each core capability.

**Community**: Unified groups that share goals, values, or purposes rather than geographic boundaries or jurisdictions. Communities bring people together in different ways for different reasons, but each provides opportunities for sharing information and promoting collective action. They have the ability to promote and implement mitigation activities without necessarily holding a formal position of authority within a jurisdiction.

**Concept of Operations**: A statement that clearly and concisely expresses what is intended to be accomplished and how it will be done using available resources.

**Continuity Planning and Operations**: The practice of ensuring the execution of essential functions in support of the core capabilities and mission areas through all circumstances. It is a fundamental responsibility of public and private entities to their stakeholders.

**Coordinating Structures**: Composed of representatives from multiple departments or agencies, public and/or private sector organizations, or a combination of these. Coordinating structures are able to facilitate the preparedness and delivery of capabilities, and they provide guidance, support, and integration to aid in the preparedness of the whole community and building resilience at the local, regional, and national levels. They ensure ongoing communication and coordination between all parties involved in preparing and delivering capabilities.

**Core Capabilities**: Distinct critical elements necessary to achieve the National Preparedness Goal.

**Critical Infrastructure**: Systems and assets, whether physical or virtual, so vital that the incapacity or destruction of such may have a debilitating impact on the security, economy, public health or safety, environment, or any combination of these matters, across any local, state, tribal, territorial, and Federal jurisdiction.

**Cultural Resources**: Aspects of a cultural system that are valued by or significantly representative of a culture or that contain significant information about a culture. Cultural resources may be tangible entities or cultural practices. Tangible cultural resources are categorized as districts, sites, buildings, structures, and objects for the National Register of Historic Places and as archaeological resources, cultural landscapes, structures, museum objects and archives, and ethnographic resources for Federal management purposes. Also includes cultural items as that term is defined in section 2(3) of the Native American Graves Protection and Repatriation Act [25 U.S.C. § 3001(3)]; and archaeological resources, as that term is defined in section 3(1) of the Archaeological Resources Protection Act of 1979 [16 U.S.C. § 470bb(1)].

**Culture of Preparedness**: A culture of preparedness is built on a shared acknowledgement of the certainty of future catastrophes; the importance of initiative and accountability at all levels; the role of citizens and stakeholders in preparedness; and finally, the roles of the whole community in creating a prepared Nation.

**Environmental Resilience**: Minimizing environmental risks associated with disasters, quickly returning critical environmental and ecological services to functionality after a disaster while applying this learning process to reduce vulnerabilities and risks to future incidents.

**Federal Disaster Recovery Coordinator**: The FDRC works as a deputy to the Federal Coordinating Officer (FCO) for all matters concerning disaster recovery. The FDRC is responsible for facilitating disaster recovery coordination and collaboration between the local, state, tribal, and Federal governments, the private sector, and voluntary, faith-based, and community organizations. The FDRC partners with and supports the Local Disaster Recovery Manager (LDRM) and the State and/or Tribal Disaster Recovery Coordinator (SDRC/TDRC) to facilitate disaster recovery in the impacted state or tribal area.

**Functional Needs**: Needs of an individual who under usual circumstances is able to function on their own or with support systems. However, during an emergency, their level of independence is challenged.

**Hazard**: Natural, technological, or human-caused source or cause of harm or difficulty.

- **Natural**: Source of harm or difficulty created by a meteorological, biological, environmental, or geological phenomenon or combination of phenomena.
- **Technological/Accidental**: Source of harm or difficulty created by accidents or failures.
- **Adversarial/Human-Caused**: Source of harm or difficulty created by an individual, group, organization, or government.

**Incident-Driven Operations**: When Mitigation core capabilities are employed to support incident-driven operations, departments and agencies follow NIMS. Near real-time mitigation actions are designed to inform response, remediate impacts, reduce the cascading effects of incidents, and advise recovery efforts. Incident-driven operations also include longer-term risk management actions, such as rebuilding, outreach, analysis, planning, and implementation activities—following a disaster—to produce longer-term risk management gains.

**Individual with Disability**: Person (child or adult) who has a physical or mental impairment that substantially limits one or more major life activities; a person who has a history or record of such impairment; or a person who is perceived by others as having such impairment. The term “disability” has the same meaning as that used in the Americans with Disabilities Act Amendments Act of 2008, Public Law 110–325, as incorporated into the Americans with Disabilities Act. See http://www.ada.gov/pubs/ada.htm for the definition and specific changes to the text of the Americans

with Disabilities Act. State laws and local ordinances may also include individuals outside the Federal definition. Children and adults may have physical, sensory, mental health, cognitive, and/or intellectual disabilities resulting in access and functional needs and may require assistance to maintain independence.

**Insular Areas of the United States**: Per the Stafford Act, insular areas include Guam, the Commonwealth of the Northern Mariana Islands, American Samoa, and the U.S. Virgin Islands. Other statutes or departments and agencies may define the term "insular area" differently

**Limited English Proficiency**: Term describing an individual who does not speak English as his/her primary language and who has a limited ability to read, write, speak, or understand English.

**Mission Areas**: Groups of core capabilities, including Prevention, Protection, Mitigation, Response, and Recovery.

**Mitigation**: Capabilities necessary to reduce loss of life and property by lessening the impact of disasters. Mitigation capabilities include, but are not limited to, community-wide risk reduction projects; efforts to improve the resilience of critical infrastructure and key resource lifelines; risk reduction for specific vulnerabilities from natural hazards or acts of terrorism; and initiatives to reduce future risks after a disaster has occurred.

**Mitigation Advisor**: The Mitigation Advisor brings broad mitigation expertise as an advisor to the FDRC and for all Recovery Support Functions (RSFs). Mitigation Advisors can make a large difference both in how mitigation is used and in how it is perceived by all the state and Federal partners in the NDRF and brings a wide range of opportunities to impact national resilience. The FDRC, RSF Field Coordinators, and Unified Federal Review (UFR) Advisor have access to, and are informed by, the Mitigation Advisor.

**Mitigation Coordinator**: The FEMA Mitigation Coordinators are subject matter experts who support the development of the Mitigation core capabilities during the steady state and help ensure delivery of those capabilities in all phases of a disaster. The purpose of the FEMA Mitigation Coordinator role is to bring broad mitigation expertise across all of the mitigation core capabilities and provide the collaboration and coordination with internal and external networks necessary to support mitigation and disaster resilience efforts before and after a disaster. The Mitigation Coordinator is the critical linkage to content, process, and internal and external partners, serving as a coordinator on regional issues pertaining to mitigation and disaster resilience. The Mitigation Coordinator is also a resource for the Mitigation Advisor during the recovery phase of a disaster.

**Mitigation Framework Leadership Group**: Interagency and intergovernmental body that facilitates information exchange and coordinates policy implementation and successful implementation of the NMF. The MitFLG serves as the central coordination point for interagency mitigation activities; it coordinates and promotes NMF implementation, increases awareness of mitigation throughout the Federal Government, and supports the advancement of Mitigation core capabilities through whole community mechanisms.

**National Incident Management System**: Provides a systematic, proactive approach to guide departments and agencies at all levels of government, NGOs, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, to reduce the loss of life and property and harm to the environment. NIMS works hand in hand with the NRF. NIMS provides the template for the management of incidents, while the NRF provides the structure and mechanisms for national-level policy for incident management.

**National Planning Frameworks**: Address the roles and responsibilities across the whole community to deliver the core capabilities. The National Planning Frameworks are built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities to deliver the necessary capabilities to prevent, protect, mitigate, respond, and recover. The National Planning Frameworks provide succinct descriptions, at a high level, of the steps to be taken to prepare to deliver the necessary capabilities; the National Planning Frameworks are not intended to be traditional operational plans, concept of operations plans, or detailed plans for affirmative action.

**National Preparedness**: Actions taken to plan, organize, equip, train, and exercise to build and sustain the capabilities necessary to prevent, protect against, mitigate the effects of, respond to, and recover from those threats that pose the greatest risk to the security of the Nation.

**National Preparedness Goal**: The National Preparedness Goal is aimed at strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the Nation, including acts of terrorism, cyber attacks, pandemics, and catastrophic natural disasters.

**Presidential Policy Directive 21 (Critical Infrastructure Security and Resilience)**: Presidential Directive which establishes national policy on critical infrastructure security and resilience. Refines and clarifies the critical infrastructure-related functions, roles, and responsibilities across the Federal Government, as well as enhances overall coordination and collaboration.

**Prevention**: Capabilities necessary to avoid, prevent, or stop a threatened or actual act of terrorism. Prevention capabilities include, but are not limited to, information sharing and warning; domestic counterterrorism; and preventing the acquisition or use of weapons of mass destruction (WMD). For the purposes of the prevention framework, the term "prevention" refers to preventing imminent threats.

**Protection**: Capabilities necessary to secure the homeland against acts of terrorism and manmade or natural disasters. Protection capabilities include, but are not limited to, defense against WMD threats; defense of agriculture and food; critical infrastructure protection; protection of key leadership and events; border security; maritime security; transportation security; immigration security; and cybersecurity.

**Recovery**: Capabilities necessary to assist communities affected by an incident to recover effectively, including, but not limited to, rebuilding infrastructure systems; providing adequate interim and long-term housing for survivors; restoring health, social, and community services; promoting economic development; and restoring natural and cultural resources.

**Resilience**: Ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies.

**Response**: Capabilities necessary to save lives, protect property and the environment, and meet basic human needs after an incident has occurred.

**Risk**: The potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences. Risk is assessed based on applicable threats and hazards, vulnerabilities, and consequences.

**Risk Assessment**: Product or process that collects information and assigns a value to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision making.

**Steady State/Continuous Operations**: Mitigation efforts conducted during ongoing operations which incorporate program management structures around shared goals, principles, and department and agency initiatives and coordinating structures to maximize Federal performance.

**Strategic National Risk Assessment**: Assessment identifying the threats and hazards that pose the greatest risk to the Nation and providing the basis for establishing the National Preparedness Goal and the core capability requirements for all mission areas. The SNRA captures the threats and hazards that pose a significant risk to the Nation, grouped into three categories.

**Unified Federal Review Advisor**: The interagency coordinator for environmental and historic preservation coordination for disaster recovery projects. This role is responsible for identifying opportunities for Environmental and Historic Preservation (EHP) efficiencies and will work closely with the RSFs, Mitigation Advisor, local, regional, state, tribal, and Federal agencies in coordination with the National UFR Coordinator. The UFR Advisor provides expertise for the implementation of the UFR Process and determines the specific tools and mechanisms required to further EHP compliance for the specific disaster event.

**Unified Federal Review Process**: The UFR Process, mandated in the Sandy Recovery Improvement Act of 2013, enhances the ability of Federal agencies to expedite the reviews that ensure compliance with EHP requirements for disaster recovery projects through a series of new tools and mechanism designed to be adaptive and flexible to the needs of a specific disaster. The UFR Process improves the efficiency of EHP reviews resulting in the potential for faster decisions on Federally funded, approved, or permitted activities that will expedite recovery for communities and other applicants for disaster assistance

**Whole Community**: Includes individuals, families, and households; communities; the private and nonprofit sectors; faith-based organizations; and local, state, tribal, territorial, and Federal governments. Whole community is defined in the National Preparedness Goal as “a focus on enabling the participation in national preparedness activities of a wider range of players from the private and nonprofit sectors, including nongovernmental organizations and the general public, in conjunction with the participation of all levels of government in order to foster better coordination and working relationships..”

## List of Abbreviations

| | |
|---|---|
| APHIS | Animal and Plant Health Inspection Service |
| C.F.R. | Code of Federal Regulations |
| CEQ | Council on Environmental Quality |
| CMMI | Capability Maturity Model Integration |
| CONOPS | Concept of Operations |
| CPG | Comprehensive Preparedness Guide |
| DHS | Department of Homeland Security |
| DOC | Department of Commerce |
| DOD | Department of Defense |
| DOI | Department of the Interior |
| DOT | Department of Transportation |

| | |
|---|---|
| DRG | Domestic Resilience Group |
| EOC | Emergency Operations Center |
| EPA | Environmental Protection Agency |
| FBI | Federal Bureau of Investigation |
| FCD | Federal Continuity Directive |
| FCO | Federal Coordinating Officer |
| FDRC | Federal Disaster Recovery Coordinator |
| FEMA | Federal Emergency Management Agency |
| FIOP | Federal Interagency Operational Plan |
| FNSS | Functional Needs Support Services |
| GCC | Government Coordinating Council |
| GIS | Geographic Information System |
| HHS | Department of Health and Human Services |
| HMGP | Hazard Mitigation Grant Program |
| HSPD | Homeland Security Presidential Directive |
| HUD | Department of Housing and Urban Development |
| IC | Intelligence Community |
| ICS | Incident Command System |
| IPC | Interagency Policy Committee |
| JOC | Joint Operations Center |
| LDRM | Local Disaster Recovery Manager |
| MAT | Mitigation Assessment Team |
| MitFLG | Mitigation Framework Leadership Group |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| MSA | Metropolitan Statistical Area |
| NDRF | National Disaster Recovery Framework |
| NDSP | National Dam Safety Program |
| NEHRP | National Earthquake Hazards Reduction Program |
| NFIP | National Flood Insurance Program |
| NGO | Nongovernmental Organization |
| NIMS | National Incident Management System |
| NMF | National Mitigation Framework |
| NOAA | National Oceanic and Atmospheric Administration |

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|---|---|
| NOC | National Operations Center |
| NRCS | Natural Resources Conservation Service |
| NRF | National Response Framework |
| NSC | National Security Council |
| NSPD | National Security Presidential Directive |
| NSTC | National Science and Technology Council |
| OSTP | Office of Science and Technology Policy |
| PPD | Presidential Policy Directive |
| RDRA | Risk and Disaster Resilience Assessment |
| Risk MAP | Risk Mapping, Assessment, and Planning |
| SCC | Sector Coordinating Council |
| SDRC | State Disaster Recovery Coordinator |
| SNRA | Strategic National Risk Assessment |
| SSA | Sector-Specific Agency |
| TDRC | Tribal Disaster Recovery Coordinator |
| THID | Threats and Hazards Identification |
| THIRA | Threat and Hazard Identification and Risk Assessment |
| U.S.C. | U.S. Code |
| USACE | U.S. Army Corps of Engineers |
| USCG | U.S. Coast Guard |
| USDA | U.S. Department of Agriculture |
| USGS | U.S. Geological Survey |
| UFR | Unified Federal Review |
| WMD | Weapons of Mass Destruction |

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# Appendix B: Delivery of Mitigation Core Capabilities[10]

## *Threats and Hazards Identification*

**Definition**: Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity.

### Expanded Capability Description

The identification of threats and hazards occurs on all political, geographical, and organizational levels. Appropriate data that are collected in a standardized and well-defined format can be made publicly accessible for analysis and assessment by relevant and appropriate entities. Threat and hazard identification is an essential part of all planning processes as part of the National Preparedness System.

### Federal Role

THID involves determining characteristics of the source of harm or characteristics associated with impacts, such as the geographic area, frequency, and magnitude. Each threat has unique considerations; for example, certain threats and hazards may not be restricted to particular geographic locations. Threat and hazard characteristics can be determined through modeling, historical data, and other tools and methodologies relevant to the factors that influence the manifestation of the threat or hazard.

The Federal Government supports and guides the efforts of the whole community to enable accurate and timely availability of threat and hazard data to meet the needs of analysts and decision makers. Federal THID activities span across Federal agencies and out to whole community partners and rely on two-way data collaboration—nationally generated and locally derived data.

Target: Identify the threats and hazards within and across local, state, tribal, territorial, and insular area governments and the top 100 Metropolitan Statistical Areas (MSA), in collaboration with the whole community, against a national standard based on sound science.

### Critical Tasks

- **Identify data requirements across stakeholders.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Collaboration with partners, data users, and data providers.
  - How/Example(s): Develop data requirements based on the data user needs and consistent data formats to develop standards for data and required documentation that promote data use, sharing, and further analysis and enhancement; identify appropriate level of security classifications for threat and hazard data to promote the broadest sharing without compromising data security.

[10] Capabilities and targets as defined in the National Preparedness Goal, June 2015, and critical tasks as defined in the National Mitigation Framework.

- **Develop and/or gather required data in a timely and accurate manner in order to effectively identify threats and hazards.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Make grants available for data collection and analysis, standardize data, make data available and accessible, and improve real-time accessibility and usability of data.
  - How/Example(s):
    - Surveillance, including health and animal disease surveillance;
    - Development of data and documentation standards;
    - Agreement on units of measurements;
    - Lessons learned from exercises and incidents;
    - Consideration of human factors (e.g., whether data collectors are trained, whether analysts have the proper skills and qualifications);
    - Validation, vetting, and screening of methods and results;
    - Inspection and enforcement of data standards and documentation;
    - Event-driven data collection like levee monitoring and inspections as flood waters rise or forensic data that can inform short-term recovery or Mitigation Assessment Teams (MAT) that assess the damage and vulnerability of buildings after an incident; and
    - Data catalogues and repositories to enable ready access to available and current data.
- **Deploy and maintain continuous, long-term hazards data collection systems.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Make grants available for data collection and analysis, standardize data, make data available and accessible, and improve real-time accessibility and usability of data.
  - How/Example(s): Deployment and maintenance of equipment and data availability from such means as remote sensing and surveillance, stream gauges, and sensors on critical infrastructure to support long term trend analysis. This type of data also supports the analysis of climate changes.
- **Ensure that the right data is received by the right people at the right time.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Pre-incident planning and exercises, public awareness messaging and assessment of effectiveness, coordinating structures.
  - How/Example(s):
    - Identify threats and hazards through national, regional, state, and local level exercises by not only conducting the exercise, but also incorporating lessons learned;
    - Ensure, via healthcare personnel, that public health agencies receive prompt notification upon identifying reportable diseases;

- Develop after-action reports and improvement plans;
- Improve and validate threat and hazard data based upon actual incidents;
- Hurricane warnings;
- Develop partnerships and disseminate information sharing and safeguarding protocols to private sector and critical infrastructure partners;
- Social media;
- Alert system;
- Physical communications;
- Environmental regulations;
- Operation centers;
- Employ a consistent data format;
- Standardize data and measurements;
- Customize the medium of communication for audiences; and
- Ensure Regional USDA personnel work with rural communities to assist them in floodplain identification and mitigating the impact of a flood on their farms (Natural Resources Conservation Service [NRCS], formerly the U.S. Soil Conservation Service).

- **Share appropriate data on natural and manmade hazards in a transparent and usable manner.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Conferences, meetings, mitigation plans, national databases, Web sites, data catalogs, modeling tools, local ordinances, and public messaging.
  - How/Example(s): Develop Web sites, data repositories, data catalogs, and other means of collection and dissemination for open source data. Examples are FEMA's publicly accessible Web site to view and download flood hazard maps and geographic information system (GIS) data and documentation and the USGS National Earthquake Information Center's Web site to view and download tectonic fault mapping and current and historical data and maps on earthquakes.
- **Strike a proper balance between dissemination and classification of national security and intelligence information.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Vertical structures among organizational units; local, state, tribal, territorial, insular area governments, and Federal laws requiring notification of imminent breach of security.
  - How/Example(s): Terrorist threats or warnings, regular inspections of facilities, security protocols for data access.

- **Build cooperation between private and public sectors by protecting internal interests but sharing THID resources and benefits.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Shared research, patents, accessible and/or shared data banks and repositories or Web sites.
  - How/Example(s):
    - Cybersecurity;
    - Academic research;
    - Condition assessments;
    - Stakeholder outreach;
    - Subject matter expert advisement;
    - Participation on committees;
    - Participation in exercises;
    - Scenario building and simulation;
    - Training and participation in common command structure (e.g., Incident Command System [ICS]);
    - Federal Register Request for Information, open comment period;
    - Safety commissions; and
    - Working partnerships.
- **Leverage available third-party data, tools, and information; social media; and open-source technology.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Conferences, open access Web sites and data banks, academia.
  - How/Example(s): Use existing data that has been or can be validated through documentation review or independent review. Examples of potential third-party data include World Bank and United Nations data which are available and can be leveraged for threat and hazard identification purposes by other entities; geospatial data; and social media.
- **Translate data into meaningful and actionable information through appropriate analysis and collection tools to aid in preparing the public.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Translate data to develop customized messaging that target audiences can understand and relate to so that their awareness of the threat or hazard is increased.
  - How/Example(s): Simplify complex scientific analyses into a format which individuals can readily understand, such as maps showing the extents of flooding or hurricane tracks predicting the path of a hurricane over multiple days.

## Risk and Disaster Resilience Assessment

**Definition**: Assess risk and disaster resilience so that decision makers, responders, and community members can take informed action to reduce their entity's risk and increase their resilience.

### Expanded Capability Description

RDRA is the evaluation of threats, hazards, vulnerabilities, needs, and resources through algorithms or other methods to define and prioritize risks so community members, decision makers, and responders can make informed decisions and take appropriate action. Such an assessment directly connects threat and hazard data and information in order to analyze and understand the potential effects on a community. A robust RDRA capability allows a comparison and prioritization of risks from disparate threats and hazards across a variety of communities and jurisdictions. RDRA outcomes such as analysis and data can be leveraged in planning efforts and resource allocations across the other mission areas.

### Federal Role

The Federal Government has a responsibility to support and guide the efforts of the whole community through regulatory authorities, funding, incentives, expertise, and leadership. RDRAs are part of a comprehensive planning process that involves all organizational levels: local, state, tribal, territorial, insular area, Federal, nongovernmental, and private entities.

**Target**: Ensure that local, state, tribal, territorial, and insular area governments and the top 100 MSAs complete a risk assessment that defines localized vulnerabilities and consequences associated with potential natural, technological, and human-caused threats and hazards to their natural, human, physical, cyber, and socioeconomic interests.

### Critical Tasks

***Data***

- **Share risk assessment data, both new and existing, to establish common operations across mission areas and standardized data requirements and guidance. Secure sensitive data as appropriate.**
  - Stakeholder(s): Academia; private sector; NGOs; local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policies, grants, publications, professional standards, professional associations.
  - How/Example(s):
    - Flood plain mapping;
    - Dam and levee safety inspections;
    - Protecting proprietary and sensitive information (confidential business information) provided to the Federal Government by whole community partners and providing risk assessment information to them in return;
    - Maintaining, via the Federal Highway Administration, a National Bridge Inventory which can be used as a risk and resilience assessment dataset;

  - Continuing to expand and develop procedures for information sharing and safeguarding (imperative, as neither industry, nor government alone can monitor all cyber threats); and
  - Monetary value, standards for poverty levels, educational assessments.

- **Establish standard data formats to enable sharing of vulnerability data and risk assessment outputs.**
  - Stakeholder(s): Federal Government, nonprofit organizations, private sector.
  - Mechanism(s): Legislation, policy, professional standards.
  - How/Example(s): Monetary value, standards for poverty levels, educational assessments.
- **Provide the right data to the right people at the right time.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, guidance, conferences, open-source data.
  - How/Example(s):
    - Maps;
    - Census data;
    - Common operating pictures (e.g., software, guidebook), especially for time sensitive data;
    - Timely and relevant information as plans and regulations are being developed at all levels of government;
    - Partnerships, including NGOs, the private sector, and industry, to ensure delivery to the right people; and
    - Ports and Waterway Safety Assessments offered to industry stakeholders by the U.S. Coast Guard (USCG).
- **Incorporate vulnerability datasets such as population, demographic, infrastructure inventory, and condition assessment information; climatological, geological, and environmental factors; critical infrastructure, lifelines, and key resources; building stock; and economic data to calculate the risk from the threats and hazards identified.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, guidance, regulations, policies, grants, open source data.
  - How/Example(s): Maps, census, drinking and wastewater infrastructure data, financial analysis, models.
- **Incorporate data from lessons learned and statistical information to target consideration of populations (such as for people with disabilities and others with access and functional needs, limited English proficiency populations, and racially, culturally, and ethnically diverse communities).**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.

- Mechanism(s): Policy and regulations, open-source databases, universities, census data, GIS mapping, Language Access Planning Tools, and limited English proficiency government technical assistance materials.
- How/Example(s): Analysis of data, studies to identify actions.

- **Update risk assessments to include changes to the risks and the physical environment. This includes aging infrastructure, new development, new technologies, new mitigation projects and initiatives, post-event verification/validation, new technologies or improved methodologies, and better or more current data.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policies, grants, private sector markets.
  - How/Example(s): Records of dams, structural monitoring, sensors, weather forecasting.
- **Create and maintain redundant systems for storing information and essential records.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Policy and regulations, open-source databases, universities.
  - How/Example(s): Multiple data storage centers, daily back-up of information technology systems.

***Analysis***

- **Perform credible risk assessments using scientifically valid and widely used risk assessment techniques.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research grants, market forces.
  - How/Example(s): GIS tools, structural condition assessments, remote sensing, and analytical and economic modeling software programs.
- **Understand social and structural vulnerabilities.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s): Standards for poverty levels, educational assessments, public health and environmental assessment, cultural competence and language accessibility, and individuals with disabilities.
- **Incorporate knowledge gained by those who have experienced incidents to help understand all the interdependencies, cascading impacts, and vulnerabilities associated with threats and hazards.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.

- Mechanism(s): Legislation, policy, professional associations, conferences, research.
- How/Example(s): Forensic studies, debriefing reports.

- **Validate, calibrate, and enhance risk assessments by relying on experience and knowledge beyond raw data or models.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research grants, forensic data collection.
  - How/Example(s): After-action reports, expert opinion, educational and skill assessments.
- **Develop analysis tools to provide information more quickly to those who need it and make use of tools and technologies, such as GIS.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research grants, market forces.
  - How/Example(s): GIS, analytical software programs, data standardization.
- **Consolidate analysis efforts to remove useless duplication and provide a more uniform picture of the risks.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s): Open access data, public research funds, and conferences.

***Education and Training***

- **Build the capability within communities to assess, analyze, and apply the knowledge of risk and resilience.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s): Training programs, higher education curriculums.
- **Ensure that data users and assessment stakeholders get the best available data and understand the assumptions/estimations made in the methodology.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s):
    - Training programs;
    - Higher education;

- Public awareness;
- Conferences; and
- Informed continuity of government and operations planning, to minimize disruption from incidents.

- **Train stakeholders to develop risk assessments and have the same accurate and comprehensive standards of assessment outputs.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s): Training programs, higher education, public awareness, and conferences.
- **Use risk assessments to design exercises for response activities and to determine the feasibility of mitigation projects and initiatives.**
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): Legislation, policy, professional associations, research.
  - How/Example(s): Training programs, higher education, gaming exercises, economic modeling programs, conferences.

## *Planning*

**Definition**: Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical level approaches to meet defined objectives.

### Expanded Capability Description

At some level, planning is an activity performed by every Federal department and agency. Federal departments and agencies conduct strategic planning to establish or reaffirm goals and objectives of the organization, they conduct site-specific planning for Federal facilities, or they require planning as a condition of program assistance. For the purposes of the Mitigation FIOP, planning is related to activities and actions that influence how Federal interagency mission objectives are delivered, regardless of what threats or hazards arise.

Planning is an ongoing process informed by values, data, demographics, market trends, etc. Communities and regions develop plans to guide local decision making regarding community development and infrastructure investments. Plans lay out priorities regarding where, when, and how development activity should occur within a community, region, and cumulatively, a state. Community planning, including the development of hazard mitigation and land use plans, typically happens before a disaster event or incident. Key steps include articulating a community vision and incorporating principles focusing on long-term resilience for where development activity can and should occur. Thus, local land use or community plans can support a development pattern that reduces community risk and vulnerability to multiple hazards. This contributes to a long-term plan to support the sustainability of resilient investments in infrastructure and whole community efforts.

## Federal Role

The act of community planning is primarily a local, state, tribal, territorial, and insular area activity. However, Federal departments and agencies can play a supportive role that builds capacity for local planning activities, encouraging the integration of best development practices into local planning efforts, assisting with regional coordination to plan for resilience, and aligning to Federal guidelines and standards that help ensure smart investments in resilience and mitigation for infrastructure and other community efforts. The Federal Government also requires plans (e.g., hazard mitigation plans or Department of Housing and Urban Development [HUD] consolidated plans) as a prerequisite to qualify for certain Federal funds. The Federal Government helps to coordinate and implement Federal programs, they provide grant funding to develop program specific plans, and they facilitate the development of plans to encourage certain behaviors. One example is the HUD–DOT–EPA Partnership for Sustainable Communities, which provides grants and assistance to support the efforts of states, communities, and tribal nations to encourage development that provides housing and transportation choices, protects the environment, and improves the economy. In addition, data and information are developed and provided by a variety of Federal departments and agencies to support mitigation planning. Through interagency working groups and coordination with agencies, the White House CEQ balances competing positions and encourages government-wide coordination, bringing Federal agencies; local, state, tribal, territorial, and insular area governments; and others together on matters relating to the environment, natural resources, and energy. The CEQ co-chairs (with the OSTP) the Interagency Climate Adaptation Task Force, which develops action plans to address issues related to climate change.

Federal agencies use planning to help deliver their own projects and programs. Strategic planning across departments and agencies is critical in identifying and acting upon shared objectives. For example:

- The Strategic Plan for the NDSP sets the national agenda for dam safety and informs and supports other dam safety programs at the state and Federal levels.
- The National Infrastructure Protection Plan provides a unifying framework that integrates a range of efforts designed to enhance the safety of the Nation's critical infrastructure. The overarching goal of the National Infrastructure Protection Plan is to build a safer, more secure, and more resilient Nation by preventing, deterring, neutralizing, or mitigating the effects of a terrorist attack or natural disaster.
- The Subcommittee on Disaster Reduction is a Federal interagency body of the NSTC under the Committee on Environment, Natural Resources, and Sustainability. The Subcommittee on Disaster Reduction developed the Grand Challenges for Disaster Reduction, a 10-year national strategy document for prioritizing Federal investments in science and technology to reduce disaster risks and promote resilient communities.
- The National Tsunami Hazard Mitigation Program is designed to reduce the impact of tsunamis through planning hazard assessment, warning guidance, and mitigation. The National Tsunami Hazard Mitigation Program is a partnership among the DOC/NOAA, USGS, FEMA, National Science Foundation, and the 28 U.S. coastal states, territories, and commonwealths.
- The National Health Security Strategy was developed to secure the Nation and its people to be prepared for, protected from, and resilient in the face of incidents with health consequences.
- The Infrastructure Resilience Guidelines developed by the Federal interagency as part of the Hurricane Sandy Rebuilding Strategy provide a common sense approach to plan the use of limited Federal resources wisely. Founded upon logical principles that break down barriers to

strong decision making, the guidelines help ensure Federal agencies have a consistent approach to building resilience and improved decision making for better protecting communities by setting criteria for investment and establishing standards that align infrastructure investment projects with national policy goals. The Guidelines help inform infrastructure investment by establishing a foundation for who should be part of the decision making process, how to invest in projects that focus on resilience, and how to incentivize resilience across the Nation.

Federal departments and agencies that manage Federal lands are also involved in planning activities. From military installations to national parks, planning is essential to the missions of these agencies. Federal projects that involve construction of buildings, infrastructure (e.g., dams, highways), or management of facilities all depend upon planning to ensure that program commitments are met. Integrating planning efforts across sectors, disciplines, and mission areas and sharing risk analysis and vulnerability assessments eliminates redundancy and identifies common solutions. There are many Federal programs that require or encourage local, state, tribal, territorial, and insular area planning. The Federal role is to develop a coordinated approach to planning to reduce redundant efforts, leverage resources, and encourage more comprehensive plans.

**Target**: Develop approved hazard mitigation plans that address relevant threats/hazards in accordance with the results of their risk assessment within all local, state, tribal, territorial, and Federal partners.

## Critical Tasks

The critical tasks listed below are ongoing tasks that communities are currently engaged in to support more integrated planning efforts that involve the whole community and that build resilience within a community to hazards. Tasks are interrelated.

- **Embed risk-based decision making into the planning process.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Regulations outline planning requirements (which require risk-informed mitigation strategies), agency policies promote integration of mitigation plans, and other land-use based planning and resources (e.g., training, data, and funding) support planning.
  - How/Example(s): The Federal role is to provide technical assistance and support to local, state, tribal, territorial, and insular area entities engaged in planning and to also foster integration of mitigation into land-use/comprehensive planning whenever possible. Federal departments and agencies responsible for Federal lands and facilities can integrate findings from risk assessments into their planning activities. FEMA and the American Planning Association have developed a document identifying strategies for integrating mitigation into ongoing community land use planning (Hazard Mitigation: Integrating Best Practices into Planning, American Planning Association Planning Advisory Service Report Number 560). The document has been widely disseminated to comprehensive land use planners across the Nation, and FEMA is continuing to look for opportunities to incentivize the integration of risk-based decision making into local planning processes.
- **Collaborate, cooperate, and build consensus across other disciplines that impact plans.** *Coordination efforts help to maximize Federal investments toward common goals, promote interagency collaboration, and deliver Federal resources more efficiently and effectively. Coordination can also help to reduce the burden on communities to deliver multiple plans for similar or interdependent functional areas (e.g., transportation, housing, hazard mitigation).*

- Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): Regulations outline planning requirements (which support cross-discipline engagement), Federal department and agency policies promote integration, and resources (e.g., training, data, and funding) are provided to support planning.
- How/Example(s): The Federal Government has a primary responsibility to provide leadership in this area, although the help of local, state, tribal, territorial, and insular area government entities is needed to support this effort. Federal actions affect local and regional development patterns and plans. Within the Federal Government, planning requirements should be aligned when appropriate to support and enhance local, state, tribal, territorial, and insular area government plans. Federal departments and agencies are working collaboratively to reduce redundancy and support consistency. For instance, as part of the HUD–DOT–EPA Partnership for Sustainable Communities, all three agencies are collaborating to ensure that their programs, policies, and investments are aligned and in support of six livability principles that support sustainable communities and community resilience. In addition, DOC/NOAA, USGS, and USACE make up the Integrated Water Resources Science and Services consortium—an innovative partnership of Federal agencies with complementary operational missions in water science, observation, prediction, and management. The Integrated Water Resources Science and Services consortium has developed a roadmap that identifies the human dimensions, technical components, and science needed to achieve operational goals that include integrating service and service delivery, improving river forecasts, and providing new "summit-to-sea" high resolution water resources information and forecasts. Another example is the Zoo and Aquarium All-Hazards Preparedness, Response, and Recovery Fusion Center, which is a collaborative partnership between USDA and the Association of Zoos and Aquariums to plan and prepare to prevent or mitigate cascading effects caused by captive wildlife during disasters and animal disease incidents.

- **Understand the demographics and systems that make up the community and their vulnerabilities and interdependencies with each other.** *Knowledge of a community, characteristics of its population, regional considerations, and its critical systems are essential to determining the community's vulnerabilities and to identifying appropriate solutions that have the support of the whole community.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Technical assistance and training can help build capability and understanding of the need for this task.
  - How/Example(s): This is essentially a regional or local responsibility, although the Federal Government can support this task by providing technical assistance and training. FEMA's Hazard Mitigation Planning tools and guidance assist communities in developing a planning process that includes establishing a planning team and coordination with other planning processes. DOT requires Existing Betterment Plans to facilitate rebuilding of roads and bridges to a higher standard than pre-incident standards.
- **Include disability and other access and functional needs subject matter experts in mitigation planning to address considerations, such as architectural accessibility through compliance with the Americans with Disabilities Act architectural standards; disability and other access and functional needs advocacy organizations, such as independent living**

**centers; and providers of disability services, support, and advocacy, and other access and functional needs-related assistance/functional needs support services (FNSS). Also, understand the civil rights of service animal users, such as being able to use all parts of facilities the public uses without being separated from their service animals.**[11]

- Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): Technical assistance, guidance, and tools are provided to our partners to ensure that these issues are addressed in the development of plans.
- How/Example(s): The Federal Government ensures that every Federal dollar spent complies with the appropriate civil rights law and requirements for non-discrimination, equal opportunity, and accessibility needs. HUD has several initiatives to promote disability rights in public and private housing. In addition, every FEMA Regional Office has a disability integration specialist; numerous Federal departments and agencies have civil rights offices that promote and work to ensure compliance with Federal civil rights laws.

- **Assess the full range of animal populations and potential issues they pose in the community, to ensure that the jurisdiction is equipped to comprehensively address human and animal issues and take steps to mitigate vulnerabilities in this area before, during, or after a disaster.** *Understanding and integrating animal issues in mitigation planning helps ensure that necessary actions are coordinated and implemented to reduce risks.*
  - Stakeholder(s): The Federal Government supports local and regional governments in this task.
  - Mechanism(s): The majority of animal response resources in the United States are in the private and non-profit sectors, making coordination critical to prevent or mitigate animal-related issues during disasters. Awareness, technical assistance, and training help build capability and understanding of the full range of animal issues. Animal disease surveillance methods or capability provide tools to accomplish surveillance and analyze results, or in some cases, such as diseases foreign to the United States, provide confirmation services.
  - How/Example(s): When appropriate and capable resources exist, the Animal and Plant Health Inspection Service (APHIS) will work with local, state, tribal, territorial, and insular area government planners and responders to assist them in identifying all hazard animal issues (including agriculture animals, pets, service and assistance animals, research animals, captive wildlife, and wildlife) and training needs to address response gaps, and reach back capabilities that could provide technical assistance. APHIS has tools that can be used by local, state, tribal, territorial, and insular area animal health specialists to develop surveillance plans or provide laboratory services support and confirmation. APHIS also has tools or expertise to develop and run disease spread models that can be used to evaluate response strategies or mitigations as well as develop scenarios to be used in exercises.
- **Incorporate the findings from the assessment of risk and disaster resilience into planning processes.** *These tasks are the foundation of mitigation planning. Building risk information into*

[11] As members of the community who may be affected by incidents, animals may include household pets, service and assistance animals, working dogs, livestock, wildlife, exotic animals, zoo animals, research animals, and animals housed in shelters, rescue organizations, breeding facilities, and sanctuaries.

*the planning process will raise awareness of risks and vulnerabilities, leading to decisions and actions to reduce risk or accept certain levels of risk.*

- Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): Regulations outline planning requirements (which require risk-based mitigation strategies), agency policies promote integration of mitigation plans, and other land-use based planning and resources (e.g., training, data, and funding) support planning. Provide guidance and share best practices on using risk assessments to inform economic analyses and investment decisions.
- How/Example(s): The Federal role is to provide technical assistance and support to local, state, tribal, territorial, and insular area entities engaged in planning and to also foster integration of mitigation into land-use/comprehensive planning whenever possible. Federal departments and agencies responsible for Federal lands and facilities can integrate findings from risk assessments into their planning activities. FEMA and the American Planning Association have developed a document identifying strategies for integrating mitigation into ongoing community land use planning (Hazard Mitigation: Integrating Best Practices into Planning, American Planning Association Planning Advisory Service Report Number 560). The document has been widely disseminated to comprehensive land use planners across the Nation, and FEMA is continuing to look for opportunities to incentivize the integration of risk-based decision making into local planning processes.

- **Seek out and incorporate the whole community in planning efforts**. *Community and comprehensive plans are expressions of a community's vision for the future. The extent that a community's plan reflects the goals and values of the public depends considerably on whether the whole community participated in its development. Involving the whole community in planning efforts also helps to build and broaden the plan implementation efforts. Inclusion of the whole community and its values necessitates that local, state, tribal, territorial, and insular area governments provide accessible and culturally and linguistically appropriate information, disseminated through media outlets serving racially and ethnically diverse audiences*.
  - Stakeholder(s): The Federal Government supports this task, although it is primarily a local, state, tribal, territorial, and insular area government responsibility.
  - Mechanism(s): The Federal Government can support this task through technical assistance and by regulation and guidance. Federal guidance can also support the development of coalitions or community workgroups to plan and prepare for public health emergency events.
  - How/Example(s):
    - Utah has developed an innovative Web site to encourage broad participation in statewide planning processes (http://envisionutah.org).
    - HHS's public health and healthcare capabilities guidance documents are designed to facilitate and guide public health and healthcare preparedness planning and ultimately assure safer, more resilient, and better-prepared communities. (http://www.phe.gov/preparedness/planning/hpp/reports/documents/capabilities.pdf and http://www.cdc.gov/phpr/capabilities/dslr_capabilities_july.pdf). These documents provide a guide that local, state, tribal, territorial, and insular area jurisdictions can use to better organize their work, plan their priorities, and decide which capabilities they have

the resources to build or sustain. The capabilities also help ensure that Federal preparedness funds are directed to priority areas within individual jurisdictions.

- **Build on the expertise, knowledge, and systems in place within the community**. *This is essential to promoting successful ongoing planning processes. Comprehensive planning is an ongoing task in many communities, and states often require localities to update plans at regular intervals. However, consideration of risk and vulnerability are most often addressed through the local hazard mitigation planning process. Integrating hazard mitigation planning into the typical comprehensive planning process can help build on the existing capabilities and increase consistency across community decisions regarding the built environment and development activity*.
  - Stakeholder(s): The Federal Government supports this task, but it is primarily a local, state, tribal, territorial, and insular area government responsibility.
  - Mechanism(s): The Federal Government can support local efforts to increase community capabilities in ongoing planning processes that integrate risk-based decision making through a range of mechanisms. Federal department and agency policies promote actions and activities, and resources (e.g., training, data, and funding) are provided to support planning.
  - How/Example(s):
    - FEMA has issued regulations that require local hazard mitigation plans as a condition of receiving mitigation grants.
    - USACE has developed the Silver Jackets program to support state planning efforts, and FEMA and the EPA are helping two communities in North Carolina identify land use and development strategies that can increase community resilience and further the coordination of local hazard mitigation and land use plans.
    - HUD provides financial support to regions and localities though its Regional Planning Grant program and Local Challenge Grant Program.
- **Coordinate the planning and development of interconnected initiatives that may have geographic, functional, or funding connections.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can help identify planning efforts or funding mechanisms that may be used to supplement one another.
  - How/Example(s): The Federal Government can identify programs that support similar mitigation efforts without duplicating programs to provide potential linkages or best practices to better connect planning and initiatives.
- **Share success stories where resilience-based planning has demonstrated measureable effectiveness in creating economic vitality within communities**. *Recognition programs can be an effective way to share success stories and lessons learned and to encourage increased innovation in planning practices.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

- Mechanism(s): The Federal Government can provide leadership in defining best practices in resilience-based planning, developing recognition programs, and sharing success stories through publications and Web sites.
- How/Example(s): The Federal Government can recognize communities nationwide for innovative solutions and best practices. Programs can be implemented to recognize a range of best practices that include but are not limited to resilient and sustainable communities. StormReady/TsunamiReady Communities (DOC/NOAA) as part of Weather Ready Nation, and National Award for Smart Growth Achievement (EPA).

- **Engage in a peer-to-peer and regional partnership (coalition) mentoring structure that promotes best practices, particularly when the planning capability is not present in a community.** *Interactions among communities can provide a common understanding of local issues and mechanisms for problem solving and in building interest and capability*.
  - Stakeholder(s): This is not primarily a Federal responsibility, but can be supported by the Federal Government in terms of providing support for various mentoring structures.
  - Mechanism(s): The Federal Government could provide technical assistance in developing mentoring structures and financial support to organizations in implementing the task.
  - How/Example(s): Hazus is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus User Groups provide a forum for users to meet and collaborate on innovative uses of Hazus, to share lessons learned, and to provide support to communities in the use of Hazus.
- **Foster public-private partnerships to promote resilience and maximize the use of available resources**. *Engaging private entities in building local capacity for planning related activities can help reduce vulnerability of all community assets. Public-private partnerships can also help supplement local planning efforts*.
  - Stakeholder(s): The Federal Government supports the development of public-private partnerships.
  - Mechanism(s): Federal technical assistance can be used to identify the benefits to private entities to demonstrate that mitigation makes good business sense.
  - How/Example(s): Project Impact was a Federal initiative that worked to create disaster-resistant communities through teamwork at all government levels and close partnerships with the private and nonprofit sectors. HHS promotes healthcare coalitions and partnerships among healthcare facilities (both public and private) and other healthcare assets in the community to organize and implement the mitigation, preparedness, response, and recovery actions of medical and healthcare providers in a jurisdiction's healthcare system.
- **Promote planning initiatives through multiple media sources**. *Using media sources, including media outlets that serve racially and ethnically diverse audiences, to both raise awareness of ongoing planning efforts and also the impact that such efforts are having within a community, can help to increase community buy-in to the planning process and help community members get behind a community plan.*
  - Stakeholder(s): The Federal Government supports this task, although it is primarily a local and regional function.

- Mechanism(s): Federal technical assistance could include support for town hall meetings, public service announcements, and other media outreach efforts, such as ethnic radio and television stations and newspapers.
- How/Example(s):
  - The HUD–DOT–EPA Partnership for Sustainable Communities has developed a robust outreach plan to identify the goals of this initiative.
  - Utah has developed a Web site to promote statewide planning initiatives: https://sites.google.com/a/utah.gov/utah/.

## *Community Resilience*

**Definition**: Enable the recognition, understanding, communication of, and planning for risk, and empower individuals and communities to make informed risk management decisions necessary to adapt to, withstand, and quickly recover from future incidents.

### Expanded Capability Description

Community Resilience provides the initiative and energy to increase resilience in all the areas that make up a community—economic, health and social sciences, housing, infrastructure, and natural and cultural resources—through risk management and employing the other core capabilities. Community Resilience requires leadership, collaboration, partnership building, education, and skill building to prepare our communities, property, critical infrastructure resources, and economy to absorb the impact of a threatening event and bounce back in a manner that sustains our way of life. A community uses these skill sets to increase awareness of, understand, and assess its risks and to plan, coordinate, and execute actions that reduce vulnerability over the long term. The Community Resilience capability supports and orchestrates all mitigation activities. A whole community approach to building sustainable and resilient communities requires finding ways to support and strengthen the culture, institutions, assets, and networks that already work well in communities and are working on a daily basis to address issues important to community members.

### Federal Role

Federal agencies have a unique opportunity to promote community resilience. Mitigation can protect both people and property from disasters by taking action to prevent consequences before a disaster strikes. Through coordination, cooperation, and collaboration, Federal agencies can work together to more effectively address complex large-scale issues that cut across multiple department and agency missions, developing continuity of operations plans, supporting resilience initiatives, and enabling informed, risk-based decision making at the local level where the effects of disasters are felt. The Federal role in developing and maintaining community resilience is in building and sustaining capacity and capability in communities and organizations across the Nation through grants, technical assistance, products, services, training, and other support mechanisms. In order to address the full range of risk and vulnerability issues across the Nation, Federal agencies must provide coordinated messages and delivery of a variety of programs. Federal activities, regulations, and funding should allow communities to better understand the complexities of risk and vulnerability and to begin to consider not only the high probability issues, but the low probability/high risk scenarios. Support in executing critical tasks to improve community resilience comes from a wide range of Federal partners. See examples below.

**Targets**:

- Maximize the coverage of the U.S. population that has a localized risk-informed mitigation plan developed through partnerships across the entire community.
- Empower individuals and communities to make informed decisions to facilitate actions necessary to adapt to, withstand, and quickly recover from future incidents.

To meet the targets, the plans must be up-to-date and include social science aspects (e.g., risk communication) and education aspects (e.g., regular training and exercises). The entire community must include representation across broad sectors, including private, public, academic, and community-based sectors and levels of government, employers, schools, religious groups, professional organizations, advocates for and organizations serving individuals with access and functional needs, etc. The plans must also consider the impacts of cascading or multiple concurrent events.

To date, all states, territories, and the District of Columbia have engaged in the mitigation planning process as defined in 44 C.F.R. Part 201 in developing and maintaining state-level mitigation plans. Thousands of communities, including local and tribal governments, have also engaged in the planning process and developed local or tribal mitigation plans in compliance with 44 C.F.R. Part 201.

To assist with coordination of mitigation across the whole community, FEMA will have a Mitigation Coordinator in each of the FEMA Regional Offices. The FEMA Mitigation Coordinators are subject matter experts who support the development of the mitigation core capabilities during the steady state and help ensure delivery of those capabilities in all phases of a disaster. The purpose of the FEMA Mitigation Coordinator role is to bring broad mitigation expertise across all of the mitigation core capabilities and provide the collaboration and coordination with internal and external networks necessary to support mitigation and disaster resilience efforts before and after a disaster. The Mitigation Coordinator is the critical linkage to content, process, and internal and external partners, serving as a coordinator on regional issues pertaining to mitigation and disaster resilience. The Mitigation Coordinator is also a resource for the Mitigation Advisor during the recovery phase of a disaster.

## Critical Tasks

- **Know the systems that make up the community and how to build constructive partnerships among those systems.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can support communities to be more resilient by providing best practices, fostering peer-to-peer mentoring relationships, and providing information through existing coordinating structures.
  - How/Example(s): Federal programs that work directly with stakeholders or can reach them through existing coordinating structures can provide case studies of communities that have increased their resilience by understanding the systems that make up the community and reducing vulnerabilities to those systems, and in turn, cascading impacts from the impairment or loss of those systems following an incident.

- **Assess and understand the risks facing a community, including physical, social, cultural, economic, and environmental vulnerabilities to all threats and hazards, and foster risk-adaptive behaviors.**
  - Stakeholder(s): Task is local; coordinate and collaborate with other Federal agencies and state, tribal, territorial, and insular area governments to provide support.
  - Mechanism(s): Regulations outline planning requirements (which require risk-informed mitigation strategies), and Federal agencies provide risk and vulnerability data.
  - How/Example(s):
    - FEMA Mitigation planning: http://www.fema.gov/hazard-mitigation-planning-overview;
    - FEMA Hazus: http://www.fema.gov/hazus;
    - FEMA Building Science: http://www.fema.gov/rebuild/buildingscience;
    - DOC/NOAA Digital Coast: http://coast.noaa.gov/digitalcoast;
    - DOC/NOAA Storm Prediction Center Convective Outlook Web site: http://www.spc.noaa.gov/products/outlook;
    - USGS Natural Hazards: http://www.usgs.gov/natural_hazards;
    - U.S. Climate Resilience Toolkit: http://toolkit.climate.gov;
    - EPA Climate Resilience Evaluation and Awareness Tool (CREAT), http://www2.epa.gov/crwu/assess-water-utility-climate-risks-climate-resilience-evaluation-and-awareness-tool;
    - EPA and USCG facilitate regional and area contingency planning for potential releases of hazardous substances and oil with other Federal agencies; local, state, tribal, territorial, and insular area governments; and industry, as outlined by the National Contingency Plan; and
    - HHS: National Disease Surveillance and laboratory testing through the Laboratory Response Network.
- **Recognize and communicate the reinforcing relationships between environmental stewardship and natural hazard risk reduction (e.g., enhancement of flood storage through wetland protection/restoration and holistic floodplain management).**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can highlight the value of environmental stewardship and how that stewardship can translate to a risk reduction measure, as well as other benefits that stewardship may also offer a community beyond the mitigation benefits through programs which support mitigation and resilience.
  - How/Example(s): The Community Rating System of the NFIP provides incentives through insurance rate reductions to policy holders in a participating jurisdiction that take risk reduction activities that also preserve the natural environment for the storage of floodwaters in wetland areas.

- **Communicate and utilize the best available, localized climate projections so the public and private sectors can make informed decisions about adaptation.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Make available and publicize best available climate projections.
  - How/Example(s): NOAA makes available sea level rise data through a public Web site: http://coast.noaa.gov/digitalcoast/tools/slr.
- **Know the community's permanent and transient population demographics and use that information to plan ahead to address resilience for the whole community, including people with disabilities and others with access and functional needs**. *This includes those from religious, racial, and ethnically diverse backgrounds and people with limited English proficiency*.
  - Stakeholder(s): The Federal Government supports these tasks, although they are primarily local and regional functions.
  - Mechanism(s): Examples may include MOAs, interagency agreements, grants, technical assistance, or products and services.
  - How/Example(s):
    - Human Dimensions.gov (http://www.hud.gov) is a community of practice and an interactive Web portal with featured links related to the human dimensions of natural resource management;
    - HHS: Provides targeted technical assistance to jurisdictions on both disease prevention and community-specific emergency preparedness planning;
    - DOC/NOAA: Coastal Resilience provides a framework that supports decisions to reduce the ecological and socioeconomic risks of coastal hazards: http://www.coastalresilience.org; the Coastal Storms Program is a nationwide effort led by DOC/NOAA to make communities safer by reducing the loss of life and negative impacts caused by coastal storms;
    - USACE Silver Jackets initiative: http://www.nfrmp.us/state;
    - HUD–DOT–EPA Partnership for Sustainable Communities: http://www.sustainablecommunities.gov; and
    - Environmental Justice: http://www.epa.gov/environmentaljustice.
- **Convince community members of the value of mitigation for reducing the impact of disasters and the scale of response and recovery efforts.**
  - Stakeholder(s): The Federal Government coordinates and collaborates with other Federal agencies and local, state, tribal, territorial, and insular area governments, as well as the private sector, to provide support to communities.
  - Mechanism(s): Examples may include MOAs, interagency agreements, grants, technical assistance, or products and services.
  - How/Example(s): Many Federal departments and agencies have education and outreach components. See examples in the critical tasks above. Developers are one target audience, since initial development decisions are key to building safety.

- **Foster sustained communication, civic engagement, and the development and implementation of proactive planning, response, and long-term risk reduction actions in the whole community.**
  - Ibid.
- **Conduct community preparedness activities that empower individuals and communities with information and resources that facilitate actions to enhance their resilience and consider accessibility and cultural sensitivities based upon the community makeup.**
  - Ibid.
- **Promote mitigation and resilience to the public through preparedness campaigns to increase public awareness and motivate individuals to build societal resilience prior to an event. Promote neighborhood activities and encourage volunteerism that advances preparedness.**
  - Ibid.
- **Identify and promote sound choices, and discourage choices that increase vulnerabilities and risks.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can promote sound practices through data, case studies, and best practices.
  - How/Example(s): Promote sound risk management practices through Federal programs.
- **Promote transparency in risk management decision making so that individuals, communities, private organizations, and all levels of government demonstrate how resilience is considered. Recognize the interdependent nature of the economy, health and social services, housing infrastructure, and natural and cultural resources within a community.**
  - Stakeholder(s): The Federal Government coordinates and collaborates with other Federal agencies and programs to develop clear messages on the shared goals and values of these programs. Coordination with appropriate local, state, tribal, territorial, and insular area government agencies is also essential to provide support to communities, and promote risk-based decision making where direct Federal investments are being made.
  - Mechanism(s): Federal grant programs, regulatory enforcement of storm water management, permitting authorities, and technical assistance.
  - How/Example(s):
    - FEMA Floodplain Management: https://www.fema.gov/national-flood-insurance-program;
    - EPA Office of Sustainable Communities: http://www.epa.gov/smartgrowth;
    - Incident Waste Decision Support Tool (I-WASTE): http://www2.ergweb.com/bdrtool/login.asp;
    - HUD Office of Sustainable Housing and Communities; HUD Community Development Block Grants: http://portal.hud.gov;
    - DOC/NOAA Coastal Zone Management: https://coast.noaa.gov/czm/
    - USDA Rural Development: http://www.rurdev.usda.gov/home.html ; and

  - UFR Process: https://www.fema.gov/unified-federal-environmental-and-historic-preservation-review-presidentially-declared-disasters.

- **Acknowledge and seek out naturally occurring relationships within communities, and build partnerships and coalitions before disasters or incidents occur.**
- **Educate the next generation of community leaders and resilience professionals; learn from the past and from what is working in the present.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Provide opportunities for leaders to learn about risk management, mitigation, and resilience.
  - How/Example(s): Federal Agencies can support activities like the National Preparedness Campaign to help reach the whole community by supporting local, state, tribal, or territory governments with executing their own Preparedness Campaign using the resources provided.

## *Public Information and Warning*

**Definition**: Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.

### Expanded Capability Description

Public Information and Warning incorporates pre- and post-event threat and natural disaster educational information, warnings, and reports. Information sharing is multidirectional, and Federal agencies share information through a variety of means before, during, and in response to a threat or incident in order to guide and inform the public.

### Federal Role

Public Information and Warning includes all information targeted toward creating resilient communities. For Federal stakeholders this capability encompasses all the ways that the Federal Government presents risk management information. The government collects hazard data, analyzes and communicates risks, provides action steps, delivers forecast information, and manages information and outreach efforts following disasters. Federal agencies also develop and disseminate risk management guidance.

This FIOP provides an opportunity to identify and apply shared platforms and techniques to maximize the impact of information and warning efforts, eliminate potential overlaps, and enhance the credibility and impact of Federal information and warning activity in support of mitigation.

Federal departments and agencies operate under existing authorities and target their communications to specific audiences. Threats and hazards often require different communication methods and restrictions on the use of information that is communicated, but in general Federal departments and agencies conduct Public Information and Warning activities for mitigation under shared assumptions.

**Target**: Communicate appropriate information, in an accessible manner, on the risks faced within a community after the conduct of a risk assessment.

## Critical Tasks

Federal partners perform critical tasks as identified in the NMF to deliver Public Information and Warning capabilities through a wide range of appropriate mechanisms. This ensures that required stakeholders are reached with the appropriate information at the appropriate time, without interruption, regardless of the threat or hazard faced.

***Steady State Operations***

- **Persuade the public that it is worthwhile to build a resilient community. Encourage private and public sector partners to work together to communicate the benefits of mitigation action and arrive at solutions**. *The Federal role is to consistently communicate Federal capabilities and encourage adoption of mitigation actions through effective communication. By reframing the national dialogue about community resilience so that the messaging focuses not just on a line of business, but on how Federal mitigation capabilities help communities get where they want to go, the Federal Government can better align with non-Federal efforts. This includes recognizing the importance of messaging in reaching the whole community about how mitigation fits into the large contexts of community resilience.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government promotes the benefits of mitigation and working towards achieving a resilient community through Federal administrative structures (defined in the Concept of Operations section), by providing resources to both Federal and non-Federal partners and by enabling capacity building.
  - How/Example(s): Federal departments and agencies manage and support calendared events such as National Hurricane Preparedness Week (DOC/NOAA) to raise awareness and foster partnerships. Ongoing, year-round efforts include:
    - Public health education (HHS);
    - Storm Ready/Tsunami Ready (DOC/NOAA);
    - Firewise Communities (U.S. Forest Service);
    - Floodsmart (FEMA)
    - Quakesmart (FEMA, National Institute of Standards and Technology, USGS); and
    - Leadership activities of the National Institute for Occupational Safety and Health (Centers for Disease Control and Prevention).
- **Increase awareness of the risks and the actions they can take to mitigate those risks through mechanisms such as preparedness campaigns**. *The Federal Government promotes mitigation and resilience to the public through national preparedness campaigns to increase public awareness and motivate individuals to build societal resilience prior to an event.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government aims to increase public awareness and motivate individuals to build societal resilience through Federal administrative structures, by providing resources to both Federal and non-Federal partners, and by enabling capacity building.

- How/Example(s): Examples of national preparedness and resilience campaigns include National Preparedness Month (multiple departments and agencies), National Preparedness Campaign (FEMA and partner agencies), "Turn Around, Don't Drown" (DOC/NOAA) and "Be a Force of Nature" (HHS, FEMA, DOC/NOAA). HHS promotes individual health readiness and resilience through its Healthy People 2020 campaign.

- **Communicate priorities and actions identified through risk analysis and plans to stakeholders and those expected to take action to reduce risk**. *Both in regulatory programs and in actions to support the public interest, Federal departments and agencies create incentives for risk reduction activity, and pursue risk communication strategies suited to driving behavior change and reducing risk nationwide.*

  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

  - Mechanism(s): The Federal Government communicates incentives for risk reduction actions through Federal administrative structures, by providing resources to both Federal and non-Federal partners and by enabling capacity building.

  - How/Example(s): MAT Reports (FEMA), storm assessments (DOC/NOAA), and after-action reports (HHS) are examples of activities the Federal Government uses to support the risk management activities of stakeholders and those expected to take action to reduce risk.

- **Refine and consider options to publicly release potentially sensitive risk information**. Federal departments and agencies determine the suitability of information for the appropriate audience and make any required security determinations.

  - Stakeholder(s): Private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

  - Mechanism(s): The Federal Government uses Federal Administrative Structures to determine which risk information is appropriate to publicly release.

  - How/Example(s): The Federal Government communicates potentially sensitive risk information through means such as the National Terrorism Advisory System (DHS) and by releasing incident-specific information (e.g., Federal Bureau of Investigation [FBI], HHS, DOC/NOAA, FEMA) or epidemiological-specific information (HHS) through existing methods such as the Joint Information Center.

- **Use social media, Web sites, and smartphone applications, as well as more traditional mechanisms such as community meetings or ethnic media outlets, to inform the public of actions to take to connect preparedness to resilience. Information and messaging should ensure effective communication with individuals with disabilities or others with access and functional needs, including those who are deaf, hard of hearing, blind, or have low vision, through the use of appropriate auxiliary aids and services, such as sign language and other interpreters and captioning of audio and video materials**. *Information and messaging should also be provided in multiple languages and formats in order to ensure effective communication with individuals with limited English proficiency. The Federal Government aims to leverage all available and appropriate technology to effectively deliver risk information to the whole community*.

  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

- Mechanism(s): The Federal Government uses Federal Administrative Structures, including mechanisms such as information technology systems, publications, brochures, social media, Web sites, and webinars to inform the public of risk management activities that promote community resilience.
- How/Example(s): Examples of Federal Government communication mechanisms include www.Ready.gov (DHS), DOC/NOAA Weather Forecast Office social media pages, and department and agency Web sites (all).

- **Target messages to reach organizations representing children, people with disabilities or access and functional needs, diverse communities, and people with limited English proficiency to ensure that the information is accessible and effective so that the full population is able to understand and act on the information**. *The success of mitigation activity is measured by the extent to which all populations in a given community have access to mitigation-related programs and activities. Public Information and Warning efforts in support of mitigation must respect the civil rights and civil liberties of all populations and do not result in discrimination on account of race, color, national origin (including limited English proficiency), religion, sex, or any form of disability*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government prepares appropriate messaging to reach all populations through public outreach and the media.
  - How/Example(s): FEMA's Office of Disability Integration and Coordination provides guidance on planning for integrating all populations in planning activities and communications.
- **Support and increase the number of communities that develop and share risk reduction products (e.g., building codes, design standards, floodplain management principles and practices, architectural accessibility standards)**. *Federal departments and agencies conduct training and education activities targeted to professionals as well as the general public. Departments and agencies fund and conduct training to maximize the ability of stakeholders to exhibit and practice mitigation and risk management activities.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government aims to support and increase the development and sharing of risk reduction products through Federal Administrative Structures, such as creating platforms for information sharing and safeguarding; supporting public and private partners who develop and deliver information; and pursuing MOUs and opportunities for joint deployment of information resources.
  - How/Example(s): An example of Federal support for developing and sharing risk reduction products is the MOU between FEMA and the International Code Council.

***Incident-Driven Operations***

- **Provide the tools necessary to make decisions quickly, such as a synchronization matrix that allows multiple leaders to make independent decisions**. *Federal departments and agencies possess subject matter expertise and technical resources that they can share with other agencies and stakeholders and deploy to support partners in delivering Public Information and*

*Warning actions. Federal departments and agencies develop decision support tools for Federal situational awareness and action that clearly communicate risks to Federal partners in support of incident operations*.

- Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): The Federal Government uses Federal Administrative Structures to provide the necessary tools for quick decision making.
- How/Example(s): Examples of how the Federal Government supports rapid decision making are:
  - The Risk Analyst Position at National Response Coordination Center (FEMA),
  - National Digital Forecast database (DOC/NOAA),
  - The DHS Common Operating Picture,
  - The Homeland Security Information Network,
  - Mine Emergency Operations Mapping tool (Mine Safety and Health Administration), and
  - Occupational health warnings (Occupational Safety and Health Administration).

- **Share information obtained through coordinating activities to inform prevention, protection, response, and recovery decision making by effectively communicating threat and hazard risk analysis. Conduct outreach with atypical partners. Coordinate common messaging and verified source communications through local community leaders**. *The Federal Government shares information obtained through coordinating activities to inform response and recovery decision making by effectively communicating threat and hazard risk analysis. The Federal Government maintains shared situational awareness and responds to incident-level information from public- and private-sector partners that identify new or previously unidentified stakeholders*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government uses Federal Administrative Structures to share information to inform prevention, protection, response, and recovery activities and to conduct outreach with atypical partners.
  - How/Example(s): Examples of how the Federal Government supports prevention, protection, response, and recovery activities are:
    - Risk Analyst Position at National Response Coordination Center (FEMA)
    - National Digital Forecast database (DOC/NOAA)
    - DHS Common Operating Picture (DHS)
    - Homeland Security Information Network (DHS)
    - Mine Emergency Operations Mapping tool (Mine Safety and Health Administration)
    - Occupational health warnings (Occupational Safety and Health Administration)
    - Aviation Winter Weather Dashboard (DOC/NOAA)

- (With atypical partners) Sharing Safe Room guidance with national security partners (FEMA).

- **Capitalize on the critical post-disaster window of opportunity and the media information cycle to influence public opinion to take steps toward future mitigation**. *The Federal Government plans for and delivers messaging, outreach, training, and technical support targeted to incident-specific realities*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government uses Federal Administrative Structures and enables capacity building to capitalize on post-disaster opportunities.
  - How/Example(s): Examples of Federal Government post-disaster outreach activities include issuing Recovery Advisories (FEMA/Federal Insurance and Mitigation Administration), issuing health advisories (HHS), and agricultural insurance marketing (USDA).

***Change Management***

- **Address evolving risk perception and risk communication within a community**. *The Federal Government adapts Federal risk communication tools, methods, and procedures to meet adaptive risk management requirements. These changes can include demographic and technological changes*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government addresses evolving risk perception and risk communication through Federal administrative structures by providing resources to both Federal and non-Federal partners, and by enabling capacity building.
  - How/Example(s): Examples of Federal Government activities to address changing risk within a community include:
    - Seasonal/calendar events,
    - Federal law and policy changes, social science research,
    - MAT Reports (FEMA),
    - Storm assessments (DOC/NOAA), and
    - Elevated threat levels.

- **Practice science-based methods, such as community-based social marketing, to create behavior change**. *The Federal Government adapts Federal risk communication tools, methods, and procedures to align with the findings of the behavior change research base*.
  - Stakeholder(s): Individuals; academia; national laboratories; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government addresses incorporating science-based behavior change methods through Federal administrative structures, by providing resources to both Federal and non-Federal partners and by enabling capacity building.
  - How/Example(s): Examples of the Federal Government employing science-based methods include:

- Federal law and policy changes,
- Supporting social science research,
- MAT Reports (FEMA),
- Storm assessments (DOC/NOAA),
- After-action reports (all agencies),
- Threat level communication, and
- Technological changes.

## Long-Term Vulnerability Reduction

**Definition**: Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused threats and hazards by lessening the likelihood, severity, and duration of the adverse consequences.

### Expanded Capability Description

Long-Term Vulnerability Reduction is an outcome-based capability that encompasses a variety of actions that reduce risk. A resilient community has taken stock of the threats and hazards it faces; assessed its current risk and ability to recover from disaster; developed a plan that addresses vulnerabilities; analyzed its available resources, processes, programs, and funding opportunities; and adopted successful practices as it promotes individual and community safety and resilience. The result is informed action that leads to lasting reductions in vulnerability.

Strengthening this capability enhances resilience and vitality across economic, housing, health and social, natural and cultural, and infrastructure domains. Further, it lessens the effects of natural, accidental, or adversarial incidents. Long-Term Vulnerability Reduction includes initiatives and investments that reduce response and recovery resource requirements in the wake of a disaster or incident. Individuals and organizations active across all mission areas can help identify opportunities to reduce risk and build resilience through this capability.

### Federal Role

Federal departments and agencies, within the scope of their authorities and funding, provide funding opportunities, technical assistance, and resources to stakeholders to help reduce risk and facilitate more lasting reductions in vulnerability across the whole community. Agencies and departments provide funding for actions that result in a higher level of protection due to upgrades of existing infrastructure that meet or exceed current codes and standards. The Federal Government provides technical assistance to stakeholders through a variety of mechanisms including technical guidance and after-incident performance reports. Resources are also provided by Federal agencies to assist local, state, tribal, territorial, and insular area government to promote lasting risk reduction before and after disasters.

Target: Achieve a measurable decrease in the long-term vulnerability of the Nation against current baselines amid a growing population base, changing climate conditions, increasing reliance upon information technology, and expanding infrastructure base.

## Critical Tasks

Mitigation actions are successfully implemented with commitment from the community. Engaging the whole community stake in vulnerability reduction ensures that public and private entities, as well as individuals, are invested, fully active partners.

***Individual and Local Community***

- **Broaden the use of natural hazards and catastrophic insurance**. *Individuals, households, and businesses that insure against risks recover more quickly than those who do not and require less from the Federal Government for disaster aid. By broadening the use of natural hazards and catastrophic insurance, communities become more resilient. Increasing access to health care for individuals and increasing access to health insurance through the Affordable Care Act can reduce the impact on health care institutions during disasters.*
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): The Federal Government provides insurance; technical assistance through training, outreach, and education; regulations; capacity building for local communities.
  - How/Example(s): Federal agencies and departments provide limited insurance opportunities to manage risk when opportunities to purchase insurance are not reasonably available from other sources. The Federal Government provides training, education, and outreach to local communities and individuals to inform those in affected areas about their risk. The Federal Government also helps develop local laws/ordinances to ensure compliance with Federal laws. The Federal Government provides flood insurance through the NFIP. Property owners with Federally backed mortgages are required to maintain flood insurance if they are sited in a Special Flood Hazard Area. State Flood Insurance Coordinators can provide advice and assistance to local community floodplain managers regarding coverage and compliance. The USDA, through the Risk Management Agency and private company partners, provides crop insurance to mitigate losses due to damaged crops. The USCG manages an Oil Spill Liability Trust Fund.
- **Develop plans and recognize that a prepared individual or family is the foundation of a resilient community.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can support community planning, which includes long-term development, mitigation, continuity, and other plans.
  - How/Example(s): FEMA's Risk MAP identifies mitigation actions for long-term vulnerability reduction as part of the Risk MAP community engagement process. The local mitigation plan development process incorporates a public process to ensure opportunities for partners and stakeholder involvement.
- **Promote neighborhood activities and encourage volunteerism that advances preparedness awareness campaigns**. *Resilience starts at the individual level, with each person in the community, and is locally grown through the contributions of those individuals. Resilience builds through connections that are fostered within neighborhoods; job markets; social, faith-based, and professional organizations; neighboring communities; and localities, regions, states, tribes, territories, insular areas, and the Federal Government until this body of influence has the ability*

*to impact the social and economic vitality of the community by taking into account, planning for, and mitigating against disaster events*.

- Stakeholder(s): The Federal Government supports this task, although this is primarily a local, regional, and private sector function.
- Mechanism(s): The Federal Government provides resources through training, outreach, and education to individuals, local communities, states, tribes, territories, and insular areas; the Federal Government has published and produced products and services to assist with public outreach.
- How/Example(s):
  - www.Ready.gov is a national public service advertising campaign designed to educate and empower Americans to prepare for and respond to emergencies. The goal of the campaign is to get the public involved and ultimately to increase the level of basic preparedness across the Nation.
  - The Firewise program administered by the National Fire Protection Association and sponsored by U.S. Forest Service, the DOI, and state forestry organizations. The Firewise program provides information for communities and individuals seeking to reduce their risk of fire damage. Their program information is available at http://www.firewise.org.
  - DHS sponsors the "If You See Something, Say Something™" campaign, which serves to heighten individual and community situational awareness to threat, hazard, and risk.

- **Incorporate mitigation measures into construction and development projects that take into account future conditions based on physical changes as well as climate change.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Federal Government can support the development of new building codes and standards through research and by providing available climate projection data.
  - How/Example(s): The FEMA Building Sciences Program provides research to help increase the resiliency of buildings in the face of hazards.
- **Capitalize on opportunities during the recovery building process to further reduce vulnerability**. *Mitigation actions taken after a disaster will break the cycle of disaster damage, reconstruction, and repeated damage. In order to make most efficient use of the time immediately after a disaster, a community will need to take action shortly after the disaster*.
  - Stakeholder(s): The Federal Government is heavily involved in the recovery building process after many disasters by supporting local communities; state, tribal, territorial, and insular area governments; the private sector; and individuals through the recovery process. Federal agencies and departments coordinate to reduce vulnerability during the rebuilding process.
  - Mechanism(s): The Federal Government publishes regulations and guidelines; provides resources including subject matter expertise, education, outreach, training, and products and services; provides funding through grants and loans; and builds capacity through partnership, collaboration, leadership, and research and development.
  - How/Example(s):

- Lead the Federal effort to establish incident-specific recovery advisories and resilience guidelines to ensure that Federal investments are resilient and increasing overall resilience. Where the FDRC is activated, leverage the HM Advisor and UFR Advisor to concentrate interagency partnerships for mitigation and historic and environmental preservation early in the recovery process.
- Funding—State, tribal, territorial, insular area, and Federal governments and local resources may provide post-recovery assistance. HUD, DOT, and FEMA disaster assistance grants may be available. Property, crop, and flood insurance claim payments assist with recovery and rebuilding. Small Business Administration property damage disaster loans can pay for repairs and some mitigation actions. Contributions from other sources may provide non-Federal cost matches for FEMA's HMGP. These grants focus on long-term risk reduction. Identifying potential funds to cover the required non-Federal cost share is essential to project viability. Examples of potential match funding sources are HUD Community Development Block Grants, flood insurance claim payments through the increased cost of compliance coverage, DOI Bureau of Indian Affairs funding, Appalachian Regional Commission, HHS Indian Health Services, and funds derived from Title III of the Secure Rural Schools and Community Self-Determination Act of 2000.
- Technical Assistance—USDA's NRCS, the USGS, and FEMA provide technical assistance regarding building codes and standards to communities and property owners. Technical bulletins and training and outreach materials are available to support local efforts. FEMA's Building Sciences group assesses damage and evaluates construction performance, which contributes to good practices and case studies.
- The UFR Process is leveraged to ensure coordination of environmental and historic preservation compliance activities among collaborating Federal stakeholders' technical specialists.

***Private Sector***

- **Determine the level of appropriate risk reduction to incorporate in operational and capital improvement projects.**
  - Stakeholder(s): Private and nongovernmental organizations.
  - Mechanism(s): The Federal Government can provide tools and data to support risk assessments.
  - How/Example(s): FEMA provides the Hazus tool which allows users to do risk assessments based on a number of different hazards and using their own vulnerability data.
- **Advance projects and activities that do not increase the residual risk in nearby neighborhoods and communities**. *Private-sector partners, much like local governments, should continue to incorporate mitigation in operational and capital improvement projects to ensure disaster impacts are minimized when they occur. This can include adhering to performance standards and building codes. Businesses that remain viable after a disaster enable individuals to recover more quickly and provide stability to the community. Communities rely on their private-sector partners to be active participants and members of the communities in which they conduct business.*

- Stakeholder(s): The Federal Government supports this task, although this is primarily a private-sector function in coordination with local, state, tribal, territorial, and insular area governments.
- Mechanism(s): The Federal Government publishes regulations and guidelines and, where applicable, provides resources including subject matter expertise, education, outreach, training, and products and services; provides funding through grants and loans; and builds capacity through partnership, collaboration, leadership, and research and development.
- How/Example(s):
  - Hazard Mitigation Assistance (FEMA);
  - Community Development Block Grants (HUD);
  - Natural Resources Conservation Service (USDA);
  - Technical Assistance Bulletins (FEMA); and
  - Disaster Loans (Small Business Administration).

- **Coordinate with government and community organizations to reduce duplication of effort and encourage complementary efforts**. *Private-sector partners, government, and community organizations may all perform actions to reduce long-term vulnerability. These entities should work together during the local hazard mitigation planning process to identify risks and determine what steps can be taken to reduce those risks. All stakeholders can benefit by identifying available resources and mitigation actions that have been taken, and working together to further reduce risk. They can incorporate innovative holistic solutions that consider systems-wide issues and concerns when investing in mitigation measures to reduce long-term vulnerability and advance projects and activities that are financially viable and sustainable over the long-term*.
  - Stakeholder(s): The Federal Government supports this task, although this is primarily a local and regional function.
  - Mechanism(s): The Federal Government published regulations and guidelines and, where applicable, provides resources including subject matter expertise, training, outreach, education, and products and services; provides funding through grants and loans; and builds capacity through partnership, collaboration, leadership, and research and development.
  - How/Example(s):
    - Hazard Mitigation Planning process.
    - FBI InfraGard is an information sharing and analysis effort serving the interests and combining the knowledge base of a wide range of members. InfraGard, a partnership between the FBI and the private sector, is an association of businesses, academic institutions; local, state, tribal, territorial, and insular area law enforcement agencies; and other participants dedicated to sharing information and intelligence to prevent hostile acts against the United States.

***Government***

- **Put community plans that include mitigation and resilience to work.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

- Mechanism(s): The Federal Government can support local mitigation and resilience by relying on local, state, tribal, and territorial mitigation plans to identify threats and hazards and strategies to manage the risks they pose.
- How/Example(s): FEMA's Hazard Mitigation Program supports the development of local, state, tribal, and territorial mitigation plans and requires that a plan is in place to be eligible for HMGP Assistance.

- **Execute identified risk management actions and projects resulting from analysis and planning processes in the community**. *Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage.*
  - Stakeholder(s): The Federal Government supports these tasks, although they are primarily local and regional functions.
  - Mechanism(s): The Federal Government publishes regulations and guidelines and, where applicable, provides resources including subject matter expertise, training, outreach, education, and products and services; provides funding through grants and loans; and builds capacity through partnership, collaboration, leadership, and research and development.
  - How/Example(s): FEMA's Risk MAP program identifies mitigation actions for long-term vulnerability reduction as part of the Risk MAP community engagement process.
- **Make risk avoidance and reduction a priority in capital improvements projects**. *Communities that incorporate mitigation in comprehensive or capital improvement plans can make current and future development less susceptible to damage from disaster. As infrastructure is updated or replaced by new materials using new technology, mitigation may result. Communities should leverage opportunities to improve public infrastructure as those opportunities are presented.*
  - Stakeholder(s): The Federal Government supports this task, although this is primarily a local and regional function.
  - Mechanism(s): The Federal Government provides resources including subject matter expertise, education, outreach, training, and products and services; provides funding through grants; and builds capacity through partnership, collaboration, and leadership.
  - How/Example(s): Funding (Grants)—Hazard Mitigation Assistance (FEMA), Technical Assistance Bulletins (FEMA).
- **Adopt and enforce a suitable building code to ensure resilient construction**. *Building code adoption and enforcement is a primary method of pre-disaster mitigation. Adopting and enforcing strong building codes consistently in a community will significantly reduce damage caused by disaster and reduce losses to critical infrastructure, transportations systems, businesses, and households.*
  - Stakeholder(s): The Federal Government supports this task, although this is primarily a local and regional function.
  - Mechanism(s): The Federal Government publishes regulations; provides resources to local communities and states, tribes, territories, and insular area governments; and builds capacity through partnership, collaboration, and leadership.

- How/Example(s): Local, state, and national building codes, including local floodplain ordinances, strengthen community resilience by improving the built environment as individuals and communities repair, construct, and develop by providing minimum standards for these activities. FEMA's Building Science section develops and maintains a library of technical bulletins for construction that incorporates risk reduction and sound construction principles.

- **Adopt appropriate land use measures to limit development in hazardous areas commensurate with identified risk.**
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Incentivize land use measures that limit development in hazardous areas through Federal Programs.
  - How/Example(s): The Community Rating System through the NFIP provides incentives for jurisdictions to restrict development in flood hazard areas by leaving those areas as open spaces or wetland areas, providing flood insurance policy rate reductions for these, and other mitigation actions.

- **Employ a variety of incentives, statutory and regulatory requirements, and voluntary initiatives to implement successful practices throughout communities**. *The Federal Government has published and made available a number of tools to assist communities with resilience efforts. Incentives are often tied to higher standards enforced by local communities to ensure that risk reduction measures are being implemented properly. The Federal Government can also encourage targeted financial incentives that encourage investments in mitigation and resilience activities.*
  - Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal governments; private sector; and nonprofit organizations.
  - Mechanism(s): The Federal Government publishes regulations and guidelines; provides resources including subject matter expertise, training, outreach, education, and products and services; provides funding through grants; and builds capacity through partnership, collaboration, and leadership.
  - How/Example(s):
    - DOC/NOAA's Community Resilience Index is a tool communities can use to examine their preparedness for storms and recovery;
    - FEMA's Community Rating System provides discounts to NFIP policyholders in communities that exceed minimum NFIP requirements; and
    - FEMA's HMGP allows additional funding for states that have an approved Enhanced State Hazard Mitigation Plan.

- **Be transparent and explicit about mitigation efforts in order to increase and sustain whole community investment, reduce duplication of effort, and encourage complementary efforts by partners**. *Government entities can support transparency by developing and maintaining partnerships, participating task forces and in regional planning meetings. Technical support can be obtained through MOAs/MOUs. These actions allow for open collaboration across Federal partners. The Federal Government supports mitigation efforts through a variety of mechanisms including grant funding, technical assistance, and outreach.*

- Stakeholder(s): Mitigation efforts are primarily local with support from the Federal Government.
- Mechanism(s): The Federal Government publishes regulations and guidelines; collaborates and partners with other Federal agencies through MOAs and MOUs; provides resources including training, outreach, education, and products and services; provides funding through grants; and builds capacity through partnership, collaboration, and leadership. Where the FDRC is activated, leverage the HM Advisor and UFR Advisor to concentrate interagency partnerships for mitigation and historic and environmental preservation early in the recovery process.
- How/Example(s): Interagency MOAs/MOUs, Federal task forces, regional meetings.

- **Establish standards and practices to reduce long-term vulnerability**. *Communities establish standards and practices for reducing risk as part of the local hazard mitigation planning process. When communities implement plans and involve their citizens in the plan's goals long-term, they can reduce vulnerability.*
  - Stakeholder(s): The Federal Government supports this task, although this is primarily a local and regional function.
  - Mechanism(s): The Federal Government publishes regulations and guidelines; provides resources including training, outreach, education, and products and services; and builds capacity through partnership, collaboration, and leadership.
  - How/Example(s): Although states and local communities establish standards and practices to reduce long-term vulnerability, the Federal Government publishes regulations, provides technical resources, and performs assessments to determine how buildings perform during events, which may encourage the adoption of higher building codes at the local, state, tribal, territorial, and insular area levels.
    - FEMA publishes Technical Bulletins regarding the NFIP, which provide guidance concerning the NFIP's building performance standards. The bulletins are intended for use primarily by local, state, tribal, territorial, and insular area officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders.
    - FEMA's MAT conducts field inspections and technical evaluations of the performance of buildings subjected to forces generated by the event, with the objective of identifying design practices, construction methods, and building materials that either failed under the forces generated by the event or were successful in resisting such forces. The MAT's findings and recommendations are aimed primarily at construction contractors, architects, engineers, planners and local building officials who are involved in permitting, inspection, and development of building codes, as well floodplain and land use management provisions.
    - Local governments can incorporate higher building codes and standards for all repair and new construction. State and local building code officials, community planning offices, and floodplain managers can provide resources, training, and technical assistance.

- **Capitalize on opportunities during the recovery building process to further reduce vulnerability, including pausing to evaluate and update current codes, policies, and approaches to redevelopment**. *Mitigation actions taken after a disaster will break the cycle of*

*disaster damage, reconstruction, and repeated damage. In order to make most efficient use of the time immediately after a disaster a community will need to take action shortly after the disaster*.

- Stakeholder(s): Local, state, tribal, territorial, insular area, and Federal Governments; private sector; nonprofit organizations
- Mechanism(s): The Federal Government publishes regulations and guidelines; provides resources including subject matter expertise, education, outreach, training, and products and services; provides funding through grants and loans; and builds capacity through partnership, collaboration, leadership, and research and development. Where the FDRC is activated, leverage the HM Advisor and the UFR Advisor to concentrate interagency partnerships for mitigation and historic and environmental preservation early in the recovery process.
- How/Example(s): Funding (Grants)—Local communities can use information from plans to make decisions for developing grant applications. After a Presidentially Declared Disaster, the Federal Government is heavily involved in the recovery building process. Federal agencies and departments coordinate to reduce vulnerability during the rebuilding process. Post-disaster, local jurisdictions can identify or may have identified in the jurisdiction's mitigation plan opportunities to use FEMA's Public Assistance Mitigation program (Section 406 of the Stafford Act) funds to mitigate damaged public facilities. State governments tasked with administering post-disaster programs can provide advice as communities make decisions about rebuilding, and FEMA's Building Science and Mitigation branches offer technical assistance, training, and technical bulletins. Public information and outreach services are also available from FEMA after a disaster. FEMA also provides grants through the National Flood Insurance Fund to mitigate insured structures and property that represent a high risk and vulnerability to flood damage. Grants and program funds from HUD Community Development Block Grants and USDA NRCS are potential funding sources to assist rebuilding efforts.

## *Operational Coordination*

**Definition**: Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

### Expanded Capability Description

Mitigation serves the interests of National Preparedness before, during, and after an incident, but has greatest effect if done well in advance of disaster. Through a unity of effort among the whole community, common objectives should be built with group consensus. Objectives should be transparent, based on an all-inclusive planning process, and have clear metrics to measure progress. Agencies and departments that operate within the NMF understand the CONOPS detailed in this FIOP, integrate their activities, and conduct interagency operational coordination across a range of operations during steady state, adaptive risk management, and incident-driven timelines, with each type of operation involving different communities of interests and structures. Operational coordination aids in this by enabling participants to do one or more of the following:

- **Facilitate Unity of Effort**. Achieving national objectives to prevent, protect against, respond to, recover from, and mitigate all threats and hazards through effective and efficient use of mitigation programs requires unity of effort with the whole community and among departments and agencies. This requires a holistic approach based on agreed-upon values and supported by operational coordination.

- **Maintain Continuity of Operations**. The ability to sustain essential services and functions regardless of the threat or hazard is another cornerstone of preparedness throughout all levels of government and both the public and private sectors. Continuity planning and operations are an inherent component to all of the mission areas, especially when faced with ever-changing risks. The continuation and resiliency of the operations that provide the core capabilities which support the mission areas are essential to national preparedness, and continuity is the planning paradigm and operational mechanism to ensure its success.
- **Achieve Common Objectives**. Successful operational coordination enables the Federal Government to build domestic and, if necessary, international support, conserve resources, and conduct coherent operations that more effectively and efficiently achieve common objectives. Solutions to a problem seldom reside within the capability of one agency. Operational coordination allows mitigation practitioners to recognize and leverage the core competencies and capabilities of other agencies while providing support, as appropriate, to the whole community.
- **Provide Common Understanding**. Operational coordination is critical to understanding the roles and relationships of participating Federal agencies and relevant stakeholders as well as their interests, equities, and insights into the challenges faced by threats/hazards. Such common understandings will be essential to enable stakeholders to operate effectively in the same space, identifying opportunities for cooperation and avoiding unnecessary conflict. For example, during incident-driven operations, NIMS provides a systematic, proactive approach to guide departments and agencies at all levels of government to work together to prevent, protect against, respond to, recover from, and mitigate the effects of incidents. Recommended activities for the private sector and NGOs have also been established that support NIMS implementation and closely parallel the implementation activities that have been required of local, state, tribal, territorial, and insular area governments. NIMS is applicable regardless of the cause, size, location, or complexity of a given event.

## Operational Coordination Actions

At the Federal level, mitigation efforts are intended to support local, state, tribal, territorial, and insular area communities that are informed, supported, and funded through a variety of Federal outreach and grant programs. To be successful, interagency coordination should bring together the interests of all stakeholders, creating a holistic approach to mitigation efforts either as a whole or to address threat/hazard--specific requirements.

The NMF forms the basis for the implementation of a mitigation strategy at the local, state, tribal, territorial, insular area, and Federal level. This framework highlights the interoperability and compatibility that is necessary to be effective outside of a disaster or during incident response. It speaks to how mitigation capabilities support Protection and Prevention mission areas during steady state operations and in efforts to reduce exposure. The NMF fosters a number of actions that assist in operational coordination during steady state operations and in applying adaptive risk management. These actions include:

- **Coordination**. Each organization brings its own culture, philosophy, goals, practices, and skills to the interagency table. This diversity is the strength of the interagency process, providing a cross-section of expertise, skills, and abilities. Interagency coordination should strive to break down barriers and enhance information sharing and safeguarding. Even in the routine of day-to-day business, cooperation is best achieved through active interagency involvement, building upon both the differences in agency cultures and the core competencies and successful experiences that each brings. Coordination conducted and solidified at the Federal level flows downward to local,

state, tribal, territorial, and insular area governments and outward to the nongovernmental offices and the private sector.

- **Collaboration**. The most common technique for promoting this collaboration is the identification or formation of centers, groups, cells, offices, elements, and planning teams and other enduring or temporary cross-functional staff organizations that manage specific processes and accomplish tasks in support of mission accomplishment. They facilitate planning by the staff, decision making by agency leads, and execution by the staff and assets available to them. Examples of these include Tsunami Warning Center, DOC/NOAA Weather Forecast Offices, National Centers, River Forecast Centers, USGS Streamgage, USACE Risk Management Centers, and USGS Earthquake Notification Service. Basic steps in building collaboration and gaining consensus are to:
  - Identify all agencies and organizations that are or should be involved in the mitigation effort;
  - Establish an interagency structure and define the objectives of the effort;
  - Define courses of action for agency activities;
  - Solicit from each agency, department, or organization a clear understanding of the role that each plays;
  - Identify potential obstacles to the collective effort arising from conflicting departmental or agency priorities;
  - Identify the resources of each participant in order to reduce duplication and increase coherence in the collective effort;
  - Define the desired end state;
  - Maximize assets to support the longer-term goals and unity of effort; and
  - Establish interagency assessment teams to conduct risk and resilience assessment based on quantifiable measures of effectiveness and performance.
- **Interpersonal communication**. Skills that emphasize consultation, persuasion, compromise, and consensus contribute to obtaining agreement in response to natural threats that face the Nation before they occur. Successful directors and their staffs build personal relationships to inspire trust and confidence within the Federal Government and amongst the whole community. Various formal and informal coordinating structures assist in gaining consensus and creating synergy among the engaged Federal and whole community partners. By developing personal relationships, using liaison elements, and making conscious decisions on the degree of reliance on those stakeholders for critical tasks, the required trust and confidence is gained.
- **Liaison**. In response to an incident, direct, early liaison is a valuable source of accurate, timely information on many aspects of a crisis area. An additional benefit is the opportunity to build working relationships based upon trust and open communications among all organizations. For that reason, ongoing liaison and exchange of liaison personnel with engaged organizations is equally important. During an incident, mitigation advisors deployed to support response and recovery activities begin research, modeling, and outlining a plan that will contribute to recovery efforts and change management, reducing the likelihood of repeat incidents. Key agencies within the Mitigation mission area continue to provide weather and geological information in order to maintain situational awareness and warn the public of secondary dangers and enhance situational awareness. To enhance recovery efforts, mitigation staff members deploy to support Best

Practices Field Teams jointly with the Public Affairs Office and state counterparts. They establish working relationships with the FCO, FDRC, State Coordinating Officer, and Chief of Staff and become knowledgeable with the Federal and state operating priorities to begin planning and outlining objectives in support of those priorities.

- **Integrated communication**. Incident communications are facilitated through the development and use of a common communications plan and interoperable communications processes and architectures. This integrated approach links the operational and support units of the various agencies involved with the necessity to maintain communication connectivity and discipline, enabling common situational awareness and interaction. Active communication during an incident builds upon the interpersonal relationships, trust, and confidence developed during steady state.

## Scalability, Flexibility, and Adaptability

A vital tenet of the Nation's system of emergency management is the development and execution of capabilities in a scalable, flexible, and adaptable manner. Processes and structures must be developed in order to rapidly and effectively meet unforeseen, unmet, evolving, and continuous needs of varying geographic scope, size, complexity, and intensity, regardless of the threat or incident. As incidents change in size, scope, and complexity, operations must adapt to meet evolving requirements. The number, type, and sources of resources must be able to expand rapidly to meet the needs associated with a given threat or incident and an incident's cascading effects. Participants throughout the whole community must remain flexible to adapt to these changing circumstances. Therefore, each framework describes structures at the national, local, and, where applicable, the sector-specific and cross-sector levels to coordinate planning, operations, and resource augmentation. They also describe the decision escalation and resource activation processes if events are or become wider in scope, resource intensity, or geography.

## Federal Role

An operation that supports and performs mitigation at the Federal level spans the full breadth of risk management activity. Whether Federal agencies are responding to incidents, delivering steady state risk analysis and reduction efforts, or responding to changing conditions or requirements—operational coordination describes the way that they will conduct their responsibilities and coordinate with their stakeholders. In particular, for this FIOP, operational coordination is the mechanism by which Federal agencies work with each other in support of the mitigation goals and the shared vision through strategic planning. In assuring that Federal operational coordination meets the needs of individual agency and department responsibilities, this FIOP outlines how Federal operational coordination occurs across critical tasks identified in the framework.

**Target**: Establish protocols to integrate mitigation data elements in support of operations with local, state, tribal, territorial, and insular area partners and in coordination with Federal agencies.

## Critical Tasks

Mitigation actions are successfully implemented with commitment from the community. Engaging the whole community with a stake in vulnerability reduction ensures that public and private entities and individuals are invested and fully active partners.

### *Steady State*

- **Establish procedures and build partnerships and coalitions across the whole community that emphasize a coordinated delivery of mitigation capabilities**. *Establish joint objectives*

*and foster delivery of mitigation capabilities across all Federal partners through coordinating structures and the coordination role of the MitFLG.*

- Stakeholder(s): Local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): Despite increasing vulnerability to natural disasters, many communities resist adopting mitigation programs due to cost and political influences. Progress toward adoption of mitigation practices will require support from Federal Government in the form of grants and programs and community commitment. Through guidance and support, communities overcome barriers and develop innovative solutions.
- How/Example(s): Web sites such as http://www.data.gov increase public access to high value, machine-readable datasets generated by the Federal Government. This site promotes use of architectural standards and technology, increases access to geospatial data, and promotes government-to-citizen communication, accountability, and transparency.

- **Identify mitigation roles and responsibilities and engage stakeholders across the whole community to support the information sharing process**. *Operating under the NMF, Federal departments and agencies coordinate the delivery of resources and capacity-building efforts to provide a unified pursuit of risk management principles for the Nation, supporting whole community stakeholders in a consistent and dynamic way*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The NMF outlines the roles and responsibilities of all levels of government and the whole community. Coupled with the Mitigation FIOP and follow-on local, state, territorial, tribal, and insular area plans, this will provide concepts to enhance vertical coordination in the implementation of mitigation activities.
  - How/Example(s): Through the use of general or threat/hazard-specific coordinating structures, stakeholders create a forum to share ideas and receive guidance. Coordinating structures are able to facilitate the preparedness and delivery of capabilities, programs, and grants and provide guidance and support to the whole community. These structures and forums enhance ongoing communication and coordination among all parties involved.
- **Recognize the complexity of various interest groups and integrate organizations across communities, including public-private partnerships**. *Federal partners support local mitigation efforts and deliver discrete mitigation capabilities with the recognition that stakeholders from multiple disciplines will operate under varying organizational structures and produce mitigation products (data, actions, products) to standards they define. The Federal Government seeks to maximize the use of mitigation outputs by identifying shared objectives, ensuring interoperability, reducing redundancy, and protecting Federal investments.*
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Through coordination and collaboration, the government works to develop a shared understanding of community needs and capabilities, empower and integrate resources from across the community, create stronger social infrastructure, establish relationships that facilitate more effective mitigation activities, increase individual and collective preparedness, and create greater resilience at both the community and national levels.

- How/Example(s): One example is the Volpe National Transportation Systems Center. As part of the DOT Research and Innovative Technology Administration, the Volpe Center is a critical resource for innovation in transportation. Their mission is to improve the Nation's transportation system by anticipating emerging transportation issues and to serve as a center of excellence for informed decision making. This organization engages with the whole community and provides information that works to mitigate disasters as related to transportation.

***Incident-Driven***

- **Emphasize mitigation technique integration into ICS[12] planning cycles by command and general staff representatives, and educate whole community partners**. *The Federal Government will leverage all available data and focus the post-incident responsibility of mitigation components on informing operations through risk analysis and implementing long-term mitigation into the delivery of Federal support.*
  - Stakeholder(s): Private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The provision of Mitigation experts from Federal departments and agencies that serve as technical experts and advisors inform response activities while preparing to enhance and strengthen recovery efforts.
  - How/Example(s): Section 406 of the Stafford Act's mitigation program (FEMA) presents an opportunity for applicants to fortify their infrastructure against future catastrophic events. FEMA and most states provide hazard mitigation officers—at the request of the applicant—to aid in formulating Section 406 of the Stafford Act mitigation proposals. However, it is the applicant's responsibility to identify and document the mitigation opportunities during public assistance project formulation.
- **Use and leverage mitigation products and capabilities, such as the identification of threats and the assessment of risk, to support incident operations**. *The delivery of mitigation capabilities at the Federal level generates a large amount of risk analysis information and a broad suite of risk analysis expertise and tools. Federal partners will bring the value of these tools to bear to provide risk analysis in support of incident operations.*
  - Stakeholder(s): Private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): The Comprehensive Preparedness Guide (CPG) 201: THIRA Guide and the CPG 201 Toolkit provide resources and information, data sources, and templates to support the execution of a THIRA.
  - How/Example(s): One site that serves as the tool to practitioners is Hazards-United States (Hazus). Hazus is a nationally applicable standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. Hazus uses GIS technology to estimate physical, economic, and social impacts of disasters. It graphically

[12] ICS is a standardized, on-scene, all-hazards incident management approach that allows for the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure; enables a coordinated response among various jurisdictions and functional agencies, both public and private; and establishes common processes for planning and managing resources.

illustrates the limits of identified high-risk locations due to earthquake, hurricane, and floods. DOC/NOAA's Incident Meteorologists provide live briefings at wildfires and other incidents.

- **Contribute to the situational awareness and a common operating picture for the entire Federal Government and for local, state, tribal, and territorial governments, as appropriate, in the event of a natural disaster, act of terrorism, or other manmade disaster**. *Through contributions to the DHS NOC, mitigation practitioners help provide real-time situational awareness and monitoring of the homeland, coordinate mitigation support to incidents and response activities, and, in conjunction with the DHS Office of Intelligence and Analysis, issue advisories and bulletins concerning threats to homeland security and the means to help mitigate them through the Public Information and Warning core capability*.[13]
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Mitigation professionals through coordination, collaboration, and open communication leverage all sources to gain, maintain, and relay important information that contributes to the situational awareness of leadership at all levels, and decision makers using appropriate methods and products.
  - How/Example(s): The National Incident Support Manual outlines the composition of a Situational Awareness Section that can be used to enhance the collection and analysis of information associated with the operations at the DHS NOC, DHS Office of Intelligence and Analysis, and National and Regional Response Coordination Centers.
- **Capitalize on opportunities for mitigation actions following disasters and incidents**. *Incidents often present unique opportunities to take mitigation actions. When Federal partners support rebuilding efforts and deliver response and recovery support, they will ensure that mitigation resources are deployed and delivered to define a resilient response and recovery and long-term vulnerability reductions*.
  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
  - Mechanism(s): Activation of a FDRC following a disaster triggers the appointment of a Mitigation Advisor. This special advisor, who reports to the FDRC, supports recovery operations by providing a critical linkage to content, process, and internal and external networks.

[13] Pursuant to the Homeland Security Act of 2002, as amended, the NOC is the principal operations center for DHS and shall (1) provide situational awareness and a common operating picture for the entire Federal Government, and for local, state, tribal, territorial, and insular area governments as appropriate, in the event of a natural disaster, act of terrorism, or other man-made disaster; and (2) ensure that critical terrorism and disaster-related information reaches government decision makers. Pursuant to these authorities, the NOC provides situational awareness, collecting and synthesizing all source information, including information from the state and major urban area fusion centers, for all threats and all hazards covering the homeland security enterprise. The Strategic Information and Operations Center (SIOC) acts as the FBI's worldwide emergency operations center (EOC) by maintaining situational awareness of criminal or terrorist threats, critical incidents, and crises; providing command, control, communications connectivity, and the FBI's common operating picture for managing operational responses; establishing the headquarters command post and developing connectivity to Joint Operations Centers (JOC); and sharing information and intelligence with other EOCs at all levels of government, to include the DHS NOC. The SIOC ensures effective coordination and liaison with partner agencies, strategic communications, and coordination and information sharing with other leaders, as appropriate and in accordance with classification and legal requirements, to manage the threat.

- How/Example(s): The HMGP provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, as amended. A key consideration during post-disaster rebuilding is planning for future risk to ensure that mitigation efforts anticipate the threats posed by future conditions such as sea level rise due to climate changes.

***Change Management***

- **Adapt to evolving risks and changing conditions, including those resulting from climate change**. *Changes in demographics, evolving risks, and advancements in risk analysis technology and practice drive the level and kind of mitigation activity in the same way the incidents do. Federal partners are encouraged to operate under shared interagency goals to deliver mitigation capabilities in a mutually supportive way.*

  - Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.

  - Mechanism(s): The study of the vulnerability to evolving change and variability, and their ability to adapt to changes in threats and hazards, is a relatively new field of research that brings together experts from a wide range of disciplines. Federal departments and agencies coordinate, through the study and implementation of Adaptive Risk Management, the best ways to counter evolving threats and hazards to the Nation.

  - How/Example(s): The Interagency Climate Change Adaptation Task Force identified a set of guiding principles that public and private decision makers should consider in designing and implementing adaptation strategies. They include (but are not limited to) the following:

    - Adopt integrated approaches;
    - Prioritize the most vulnerable;
    - Use best-available science;
    - Apply risk-management methods and tools; and
    - Apply ecosystem-based approaches.

- **Integrate Continuity Planning and Operations in Operational Coordination.**

  - Stakeholder(s): Academia, private sector, NGOs, local, state, tribal, territorial, and insular area governments; and the Federal Government.

  - Mechanism(s): Incorporate continuity planning and operations to ensure the continued functionality of the core capabilities essential to accomplishing this task.

  - How/Example(s): Ensuring plans and operations are resilient by incorporating the essential elements of continuity: identifying essential functions; establishing orders of succession and delegations of authority; having continuity facilities, communications, essential records, and human resources programs; testing, training, and exercising capabilities; and planning for devolution and reconstitution.

- **Look for ways to include new stakeholders in mitigation capabilities**. *As risk management concepts evolve and change, Federal delivery of mitigation needs to identify and include atypical*

*partners to maximize the impact of mitigation. This includes identifying partners in emerging scientific fields such as social vulnerability and providing decision support tools to operational partners who have not historically made use of mitigation tools.*

- Stakeholder(s): Individuals; academia; private sector; NGOs; local, state, tribal, territorial, and insular area governments; and Federal Government.
- Mechanism(s): Through coordination and collaboration, the government works to develop a shared understanding of community needs and capabilities, empower and integrate resources from across the community, create stronger social infrastructure, establish relationships that facilitate more effective mitigation activities, increase individual and collective preparedness, and create greater resilience among stakeholders.
- How/Example(s): By making actual and potential damages more tangible and understandable, mitigation tools and data, such as Hazus and USGS Streamgage data, help motivate decision makers, private-sector parties, and other stakeholders to come together during response, in developing public information campaigns, and in planning and preparing for disasters.

# Appendix C: Conceptual Model for Risk Analysis

## Introduction

The National Preparedness Goal describes the Nation's approach to preparing for the threats and hazards that pose the greatest risk to the security of the United States. While risk analysis supports all mission areas, and identifying and assessing risk is a component of the National Preparedness System, a thorough awareness and understanding of risk is essential for the Mitigation mission area, with its basis being a risk-conscious culture. Understanding risks from threats or hazards requires the tools and skills to identify threats and hazards and assess risks and resilience. The core capabilities to conduct this risk analysis, THID and RDRA, are found in the Mitigation mission area. Risk analysis, for the purposes of this report, encompasses the data, tools, skills, and abilities needed to deliver these capabilities. THID is the capability to analyze and understand the threat's or hazard's probability (likelihood of occurring) and potential magnitude. RDRA is the capability to conduct risk and resilience assessments to quantify the consequences of threats and hazards based on the results from a threat or hazard identification analysis. Both of these capabilities are necessary to be able to perform risk and resilience assessments. Threats and hazard identifications analysis results are the foundation for a risk and/or disaster resilience assessment.

Working together across mission areas to share data and assessments can create a common understanding of vulnerable community populations, assets, and systems from threats and hazards. This understanding of vulnerabilities should also be used as a tool to assess the level of preparedness capabilities.

The broad components of the THID and RDRA capabilities are data, analysis, and education and training. Building and maintaining these two capabilities requires the ability to produce and safeguard data, conduct analyses, and educate and train.

- **Data**—The data that is needed to identify and quantify the magnitude and probabilities of threats and hazards, as well as to assess risk and resilience, can vary greatly in terms of characteristics like accuracy, precision, completeness, uncertainty, and currency.
- **Analysis**—The analyses that are performed are not only dependent upon the accuracy, precision, and completeness of the data and inputs but also on the analytical complexity, number of variables, and interrelationship between variables and expert input. The analysis should leverage the best available, forward-looking, and science-based data.
- **Education and Training**—The expertise and skills of the individuals performing THID and RDRAs drive the results and reliability of the analysis. Their expertise varies greatly based upon on their training, experience, and aptitude for interrelating the components.

## Risk Analysis from the User Perspective

Federal agencies and departments that play a role in THID can work with partners from the whole community to develop methodologies to help understand the level of threat and hazard identification analysis that needs to be performed based on the purpose or use of the assessment and the level of risk. The level of analysis needed is based on the purpose or use for the results and the level of risk associated with the threat and hazard. Thus, the scalability of these capabilities ranges from very low complexity to very high. Figure C-1 provides a range of potential uses for THID and RDRA products and analysis. The users may range from those that are assessing their risks to identify their eligibility

and best application for grants to those that need complex and specific types of data and models to design critical infrastructure.


**Figure C-1: Potential Uses of Risk Analysis**

The reliability of the results depends on many factors. Factors like accuracy, precision, uncertainty, validity, currency, complexity, and level of expertise can all play in to how reliable the results are for a given purpose or use. Depending on the type of analysis and/or assessment that is performed, these factors describe the characteristics of the results based on either or both quantitative or qualitative tools, methodologies, data, inputs, etc.

## *Introducing a Conceptual Maturity Model*

Risk analysis can be conducted at varying levels of complexity depending on the needs and perspective of the user. The ability to understand the need for a full range of purposes and risk levels is necessary to help standardize the THID and RDRA inputs, analyses, and results for the whole community. This standardization would support both the THID and the RDRA capabilities and how they support or interrelate with capabilities across all five mission areas.

Starting with a basic analysis to help communities understand risk, guidance can be found in FEMA's CPG 201: THIRA Guide. This guidance is adaptable to the needs and resources of local, state, tribal, territorial, and insular area homeland security and emergency management partners. It describes the process in four steps:

- **Identify the threats and hazards of concern**—Based on a combination of experience, forecasting, subject matter expertise, and other available resources, identify a list of the threats and hazards of primary concern to the community.

- **Give the threats and hazards context**—Describe the threats and hazards of concern, showing how they may affect the community.
- **Establish capability targets**—Assess each threat and hazard in context to develop a specific capability target for each core capability defined in the National Preparedness Goal.
- **Apply the results**— For each core capability, estimate the resources required to achieve the capability targets through the use of community assets and mutual aid, while also considering preparedness activities, including mitigation opportunities.

Based on the premise above, risk analysis should be viewed through a maturity model under the National Preparedness Goal. The use of maturity models began in the software development field, and they were introduced by Carnegie Mellon University in the late 1990s.[14] The concept of maturity establishes increasing detail or formality of processes over a set of prescribed levels. The premise has been adopted in many fields, including project management and government processes. In the adaptation of the concept to other uses, typically four to five maturity levels are established that range from a basic awareness at the first level to a more detailed and optimized process or analysis to comport with certain outcomes at the highest level.

Maturity levels could be adopted to help users understand their risks and provide supportive guidance on the level of data and analysis needed to conduct their THID and RDRA. Figure C-2 depicts the increasing complexities on the continuum of analysis in the THIRA maturity process. In situations where risk and the purpose do not require a high level of maturity in the results, a lower level of RDRA would be warranted. An example of this situation is a low population area where the population is not located near the flooding sources in the area. In instances where you have a high risk from a threat or hazard along with a purpose that drives a high level of maturity, a more refined analysis would be warranted. Examples of where a high level of maturity of results would be needed could be an earthquake RDRA for the Los Angeles Metro Area, or a hurricane wind and flood RDRA for New York City. For both of these areas, the consequences of the threats and hazards with certain magnitudes could be high and the purpose of the assessment likely to require detailed information to inform preparedness decisions.

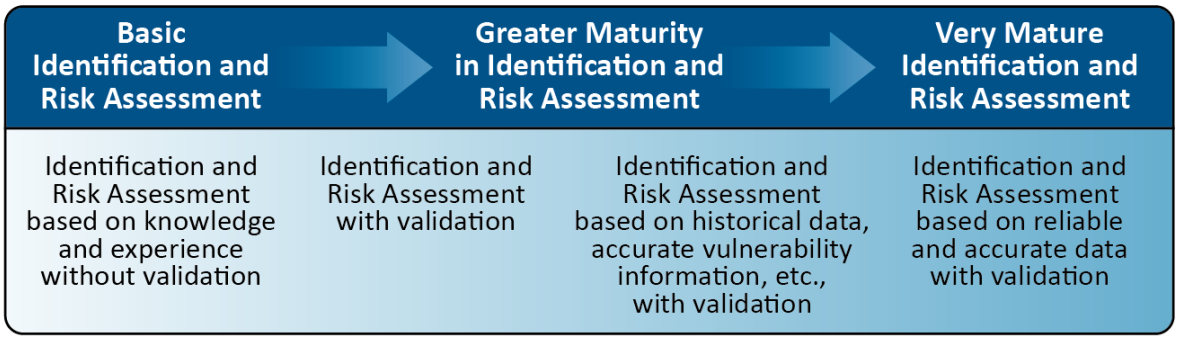


**Figure C-2: THIRA Maturity Process**

The Federal departments and agencies should undertake an effort to work with partners from the whole community to define levels of maturity and create guidelines as to what level of RDRA is desired based on factors such as risk and purpose. This would further enhance the RDRA capability

[14] Capability Maturity Model Integration (CMMI) Product Team, U.S. Department of Defense. Carnegie Mellon University. CMMI® for Services, Version 1.3. Pittsburgh: Carnegie Mellon, 2010 (http://www.sei.cmu.edu/reports/10tr034.pdf).

by defining the level of RDRA that should be performed and justifying higher levels of assessment when necessary.

## Building and Maintaining Risk Analysis Capabilities

Building and maintaining the THID and RDRA capabilities through resource allocation and investment across the whole community should be targeted to address the highest risks and to reduce uncertainty.

The risk associated with each threat or hazard and the uncertainty around the threat or hazard identification and assessments should guide the allocation and investment of resources in each of the categories, with the goal of reducing the risk or reducing the uncertainty. Figure C-3 shows a simple four quadrant matrix with Risk and Uncertainty making up the Y and X axes, respectively. This decision support tool helps illustrate when investments should be considered to reduce risk based on high risk, high uncertainty, or both.

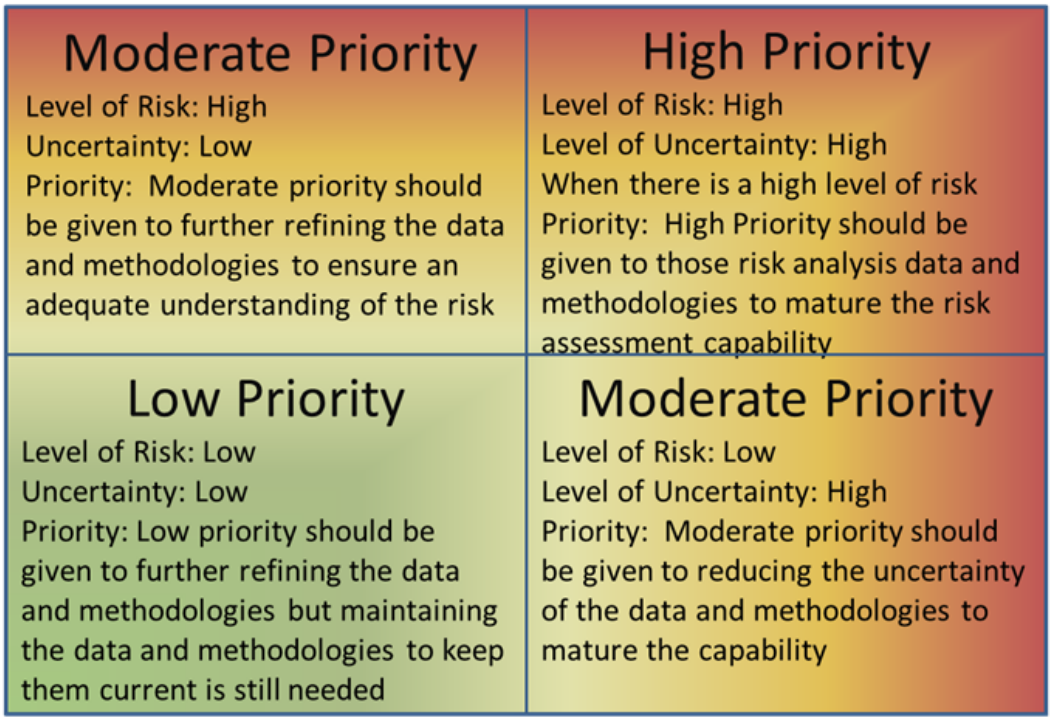


**Figure C-3: Resource Investment Prioritization for Maturing Risk Analysis Abilities Based on Risk and Uncertainty[15]**

Investments could be made in the three capability components (data, analysis, and education and training) to reduce risk and/or uncertainty. For instance when looking at a specific threat or hazard:

- **If the risk (or probability and consequence) is high** compared to the other threats and hazards, investment would be warranted in all three components. This would enable the risk to be reduced by more reliably identifying the threat or hazard and assessing the risk and resilience from that threat and hazard.

[15] Graphics and concepts adapted from Dr. Richard W. Spinrad, "Risk-Informed Investments in Oceanic and Atmospheric Research," The Royal Academy of Engineering, Lloyd's Register Educational Trust, April 2008.

- **If the uncertainty around the threat or hazard is high** compared to the other threats and hazards that exist, investments would be warranted again in all three of the capability components to enable the uncertainty of the threat or hazard to be reduced.

This type of resource and investment allocation guidance allows the core capabilities of THID and RDRA to be enhanced and maintained, with priority assigned based on the risk and uncertainty of the threats and hazards that are being identified and assessed against vulnerabilities.

Some capability components, those not specific to a single threat or hazard, can be applied across multiple threats and/or hazards and risk assessments. Investment and allocation in these general capabilities, like common risk assessment techniques or datasets to enhance the core capabilities, can be justified since the investments would raise the capability levels across multiple threats and/or hazards. Developing more accurate population and demographic data is an example of an investment that would allow the Data component of RDRA to be enhanced for all threats and hazards where a risk and/or resilience assessment would be performed.

Prioritizing resource investments and allocations is a reality in a limited resource environment. The prioritization of resources for these two capabilities is essential to enabling the whole community to know what threats and hazards they face and the risk associated with those threats and/or hazards.

Working together across mission areas to share data and assessments can create a common understanding of vulnerable community populations, assets, and systems from threats and hazards, as well as the level of preparedness capabilities.

## Summary

The THID and RDRA capabilities are similar to one another in terms of being dependent on the same components of data, analysis, and education and training. This requires that these components be further defined in a way that the whole community can understand when a capability is adequate and only needs to be maintained or needs to be built further to provide more reliable results. National consistency of these maturity levels will enable the whole community, regardless of the mission area(s) to which the capability is being applied, to use the results and products of these capabilities in an informed and responsible manner through delivery of the other core capabilities dependent on THID and RDRA. Defining what levels of maturity should be met for the data and results of analysis for both capabilities will also assist the whole community with understanding what should be expected and where deficiencies are present to justify further resource allocations and investments in the three components for each of the capabilities to support the five mission areas.

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