

-2014-

National Preparedness Report

March 30, 2014



Homeland
Security

Executive Summary

This report marks the third *National Preparedness Report*. Required annually by *Presidential Policy Directive 8: National Preparedness*, the *National Preparedness Report* summarizes progress in building, sustaining, and delivering the 31 core capabilities described in the *National Preparedness Goal* (the Goal). Each year, the *National Preparedness Report* presents an opportunity to evaluate gains that whole community partners—including all levels of government, private and nonprofit sectors, faith-based organizations, communities, and individuals—have made in preparedness and to identify where challenges remain. This year’s report focuses primarily on preparedness activities undertaken or reported during 2013.

The intent of the *National Preparedness Report* is to provide the Nation—not just the Federal Government—with practical insights on core capabilities that can inform decisions about program priorities, resource allocation, and community actions. Based on stakeholder feedback, the 2014 report places a renewed emphasis on approachable language, clear visuals, and concise findings that are interesting and useful to preparedness professionals and non-experts alike. While the *National Preparedness Report* focuses on domestic efforts, the Federal Government also engages with international partners and organizations to understand and collaborate on issues such as cybersecurity, supply chain integrity and security, and infrastructure security and resilience.

The 2014 *National Preparedness Report* identifies **seven key findings** that outline overarching national trends, as well as additional **findings for each of the 31 core capabilities** included in the Goal.

Overarching Key Findings

New Approach to Recovery: Major events, such as Hurricane Sandy and the severe 2012–2013 drought, have served as catalysts for change in national preparedness, drawing clearer links between post-disaster recovery and pre-disaster mitigation activities.

National Areas for Sustainment: Continued progress has resulted in several mature capabilities across multiple mission areas that require ongoing sustainment to meet expected future needs.

National Areas for Improvement: Cybersecurity, Infrastructure Systems, Health and Social Services, and Housing remained national areas for improvement. Long-term Vulnerability Reduction is a newly identified national area for improvement.

Emergency Policy and Planning Initiatives: New national policy and planning initiatives are focusing efforts to address areas for improvement in preparedness and national risk priorities.

Impact of Budget Uncertainties: Budget uncertainties have created challenges for preparedness initiatives, resulting in increased emphasis on preparedness innovations and whole community engagement.

Self-assessment Results from States and Territories: States and territories assessed their capabilities similar to levels reported in 2012, with the highest self-assessment scores in the common core capabilities and the Response mission area. States and territories also reported the most annual progress in Operational Coordination, Planning, and Intelligence and Information Sharing.

Integrating Tribal Partners: The Nation is integrating tribal partners more systematically into preparedness. However, challenges remain for Federal agencies and tribal nations to increase engagement and expand training opportunities on relevant policies.



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Introduction

This report marks the third *National Preparedness Report*. Required annually by *Presidential Policy Directive 8: National Preparedness*, the *National Preparedness Report* summarizes progress in building, sustaining, and delivering the 31 core capabilities described in the *National Preparedness Goal* (the Goal). Each year, this report presents an opportunity to evaluate gains that whole community partners—including all levels of government, private and nonprofit sectors, faith-based organizations, communities, and individuals—have made in preparedness, and to identify where challenges remain. The 2014 *National Preparedness Report* focuses primarily on preparedness activities undertaken or reported during 2013.

The intent of the *National Preparedness Report* is to provide the Nation—not just the Federal Government—with practical insights on core capabilities that can inform decisions about program priorities, resource allocation, and community actions. Based on stakeholder feedback, this year's report places a renewed emphasis on approachable language, clear visuals, and concise narratives that are interesting and useful to preparedness professionals and non-experts alike. While the *National Preparedness Report* focuses on domestic efforts, the Federal Government also engages with international partners and organizations to understand and collaborate on issues such as cybersecurity, supply chain integrity and security, and infrastructure security and resilience.

Methodology

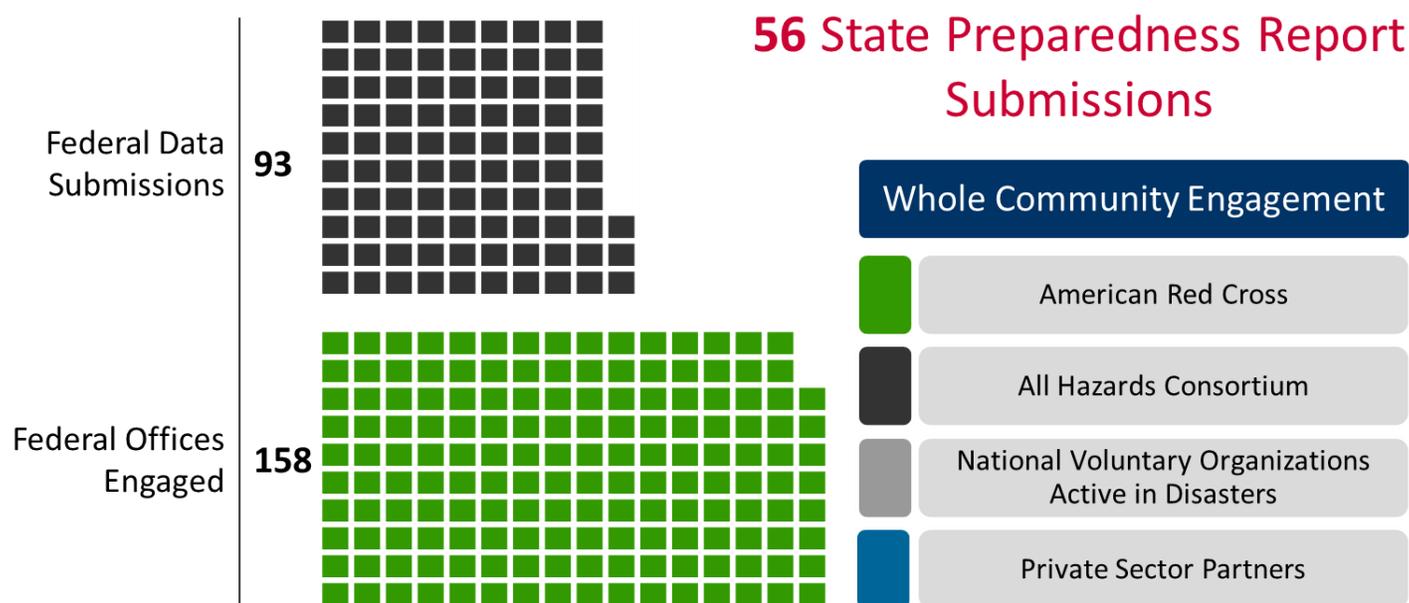
The Federal Emergency Management Agency (FEMA) compiles the *National Preparedness Report* in close coordination with whole community partners to support the Secretary of Homeland Security's requirement to provide an annual report to the President on the state of national preparedness. The Agency's approach to developing the report included the following activities:

- Reviewing Threat and Hazard Identification and Risk Assessments and 2013 State Preparedness Report submissions from U.S. states and territories;
- Conducting outreach to preparedness-related professional organizations and associations;
- Conducting research to update key findings from previous *National Preparedness Reports* and to identify new qualitative and quantitative preparedness data across all 31 core capabilities identified in the Goal;
- Evaluating results from established preparedness programs, including exercises and grants;
- Soliciting Federal departments and agencies for information on notable accomplishments and challenges in enhancing preparedness;
- Soliciting updates from Federal partners on their operational capability to meet the Goal and their progress in implementing the National Incident Management System; and
- Partnering with the U.S. Department of Homeland Security (DHS) Office of Infrastructure Protection to collect inputs from Federal partners on activities undertaken to strengthen infrastructure security and resilience.

This report includes results from an integrated self-assessment process that states and territories completed in 2013, including Threat and Hazard Identification and Risk Assessments and State Preparedness Report submissions. Through this annual cycle, participants updated target levels of performance specific to their jurisdiction for each of the 31 core capabilities and then assessed their ability to meet those unique targets. The 2014 *National Preparedness Report* summarizes these inputs from 56 states and territories across all core capabilities. Also through this integrated process, state and territory homeland security and emergency management personnel led multi-disciplinary, statewide efforts to evaluate risk and assess preparedness, engaging representatives from law enforcement; fire service agencies; public health and medical systems, including emergency medical services, hospitals, and healthcare organizations; and non-governmental organizations.

1,178

Data sources collected and reviewed from whole community partners



Report Organization

The *National Preparedness Report* identifies key findings that focus on overarching national trends, as well as specific issues related to the 31 core capabilities from the Goal. New sections in the 2014 report provide brief overviews for each mission area that summarize emerging trends, outline examples of preparedness in action and resilience innovations, and highlight whole community achievements across the Nation. The remaining sections present narratives for each of the core capabilities (see Table 1).

The core capability sections outline key findings based on research into activities achieved or reported during 2013. As available, each section includes maps, charts, graphs, and case studies from the whole community. The sections conclude with summary information from the 2013 State Preparedness Report process. These graphics highlight assessment results, including self-assessment ratings; insights on planning, organization, equipment, training, and exercise gaps; and trends in remaining capability gaps identified through the assessment. These ratings are not evaluations against a national standard, but rather represent states' and territories' self-assessments of their preparedness capabilities relative to their unique targets.

The Goal identifies three common core capabilities (Planning; Public Information and Warning; and Operational Coordination) that enable success across five preparedness mission areas: Prevention, Protection, Mitigation, Response, and Recovery. In addition, three capabilities (Intelligence and Information Sharing; Interdiction and Disruption; and Screening, Search, and Detection) are included within both the Prevention and Protection mission areas, and one capability (Infrastructure Systems) is included in both the Response and Recovery mission areas. The *National Preparedness Report* includes key findings and supporting information for these core capabilities in one unified narrative.

Core Capabilities

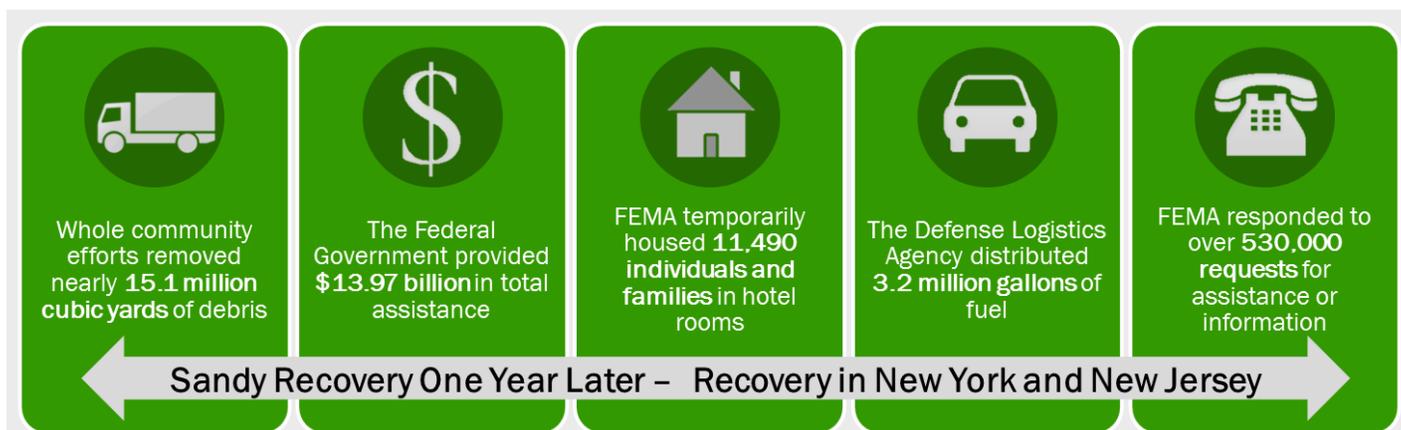
Common Core Capabilities	Mitigation Core Capabilities
<ul style="list-style-type: none"> • Planning • Public Information and Warning • Operational Coordination 	<ul style="list-style-type: none"> • Threats and Hazard Identification • Risk and Disaster Resilience Assessment • Community Resilience • Long-term Vulnerability Reduction
Prevention Core Capability	Response Core Capabilities
<ul style="list-style-type: none"> • Forensics and Attribution 	<ul style="list-style-type: none"> • Critical Transportation • Environmental Response/Health and Safety • Fatality Management Services • Mass Care Services • Mass Search and Rescue Operations • On-scene Security and Protection • Operational Communications • Public and Private Services and Resources • Public Health and Medical Services • Situational Assessment
Prevention/Protection Core Capabilities	Response/Recovery Core Capability
<ul style="list-style-type: none"> • Intelligence and Information Sharing • Interdiction and Disruption • Screening, Search, and Detection 	<ul style="list-style-type: none"> • Infrastructure Systems
Protection Core Capabilities	Recovery Core Capabilities
<ul style="list-style-type: none"> • Access Control and Identity Verification • Cybersecurity • Physical Protective Measures • Risk Management for Protection Programs and Activities • Supply Chain Integrity and Security 	<ul style="list-style-type: none"> • Economic Recovery • Health and Social Services • Housing • Natural and Cultural Resources

Table 1: The *National Preparedness Report* addresses all 31 core capabilities outlined in the *National Preparedness Goal*.

Year in Review

Each year, the Nation faces a range of incidents that challenge security and resilience, and confirm the need to continuously enhance preparedness across the whole community, as illustrated through the examples that follow.

January 29: To support long-term recovery in the aftermath of Hurricane Sandy (“Sandy”), President Obama signed the *Disaster Relief Appropriations Act* (Public Law 113-2) into law, which included the *Sandy Recovery Improvement Act*. The law provided over \$50 billion in disaster assistance for recovery activities managed by more than 20 agencies; streamlined procedures in FEMA’s Public and Individual Assistance programs to speed resources to survivors; and authorized tribes to request disaster declarations directly from the Federal Government. Sandy recovery efforts continued throughout the year with assistance from the whole community—over 500 voluntary agencies partnered with local, state, and Federal authorities.



March 1: The President issued the first major disaster declaration in response to a tribal request, providing relief to the Eastern Band of Cherokee Indians for severe storms, which caused flooding and landslides that damaged local roads and bridges. The President issued six major disaster declarations for tribal governments directly in 2013.

April 15: Two explosions near the finish line of the Boston Marathon killed three people and injured nearly 300. First responders and medical professionals cleared the scene within 22 minutes, using emergency plans and capabilities tested through 12 exercises, including a 2009 Multi-Jurisdiction Improvised Explosive Device Security Planning workshop held near the site of the bombings, as well as a 2011 Joint Counterterrorism Awareness Workshop on integrating response operations following a complex attack. A manhunt for the suspects ensued in Boston and the surrounding communities over the next four days, leading to the apprehension of one suspect and the death of the other. All 19 critically injured individuals admitted to hospitals survived.

April 17: An ammonium nitrate explosion killed at least 14 people and injured over 200 at the West Fertilizer Company storage facility in West, Texas. The explosion damaged or destroyed at least 180 buildings and ultimately led to *Executive Order 13650: Improving Chemical Facility Safety and Security*.

May 17–June 11: Ice buildup in the Yukon River caused severe flooding across much of Alaska, affecting several Native Alaskan Communities, particularly the small town of Galena, where 97 percent of the town’s homes were damaged. The Tanana Chiefs Conference and Alaskan National Guard evacuated more than 300 people, and the affected communities received more than \$10 million in state and Federal assistance. Over 120 volunteers from organizations across the country, including the Hoopa Tribal Civilian Community Corps, helped repair and rebuild damaged homes.

May 20: A powerful tornado destroyed over 1,100 structures along a 14-mile-long swath in Moore, Oklahoma and killed 25 people, including seven children who died in the collapse of an elementary school. As of November 2013, state and Federal partners had contributed more than \$85 million in assistance in the wake of this three-day outbreak of severe weather, including \$3.5 million for debris removal, \$1.3 million for crisis counseling, and more than \$47 million in low-interest disaster loans from the Small Business Administration (SBA).

June 11–20: The Black Forest fire burned over 14,000 acres and destroyed over 500 homes in Colorado, surpassing the 2012 Waldo Canyon fire as the most destructive in the state’s history. The American Red Cross, the El Paso County Animal Response Team, and other whole community partners provided overnight shelter during this period for more than 800 individuals and 3,800 animals.

September 11–30: Floods damaged or destroyed more than 18,500 homes across 15 counties in Colorado. Deforestation from recent wildfires in the area contributed to flooding, landslides, and mudslides after heavy rains fell. Colorado National Guard aerial evacuation teams airlifted over 2,700 survivors to safety. Local humane groups sheltered over 600 pets during the flood response and the Colorado National Guard helped airlift more than 800 pets from stranded areas.

September 16: A lone gunman fatally shot 12 people and injured three others at the Washington Navy Yard in Washington, D.C. Specialized law enforcement teams reached the building within seven minutes. The Navy Yard shooting was one of at least 12 mass shootings in 2013, demonstrating that the Nation continues to face challenges preventing, protecting against, responding to, and recovering from active shooter incidents.

October 4: A blizzard brought four feet of snow and winds up to 70 miles per hour to areas of South Dakota. The unusually early winter storm severely affected the region’s livestock, killing between 15,000 and 30,000 cattle. In addition to Federal recovery assistance, several private-sector and nonprofit organizations established the Rancher Relief Fund to provide additional resources to affected ranchers.

November 15: After nationwide drought conditions in 2012 continued into 2013, the President announced a National Drought Resilience Partnership to provide communities with a centralized point for accessing drought resources. In 2013, the drought resulted in over \$4.3 billion in crop insurance losses, due to lower-than-average crop yields. Ultimately, the U.S. Department of Agriculture (USDA) issued drought disaster declarations in 1,483 counties across 30 states.

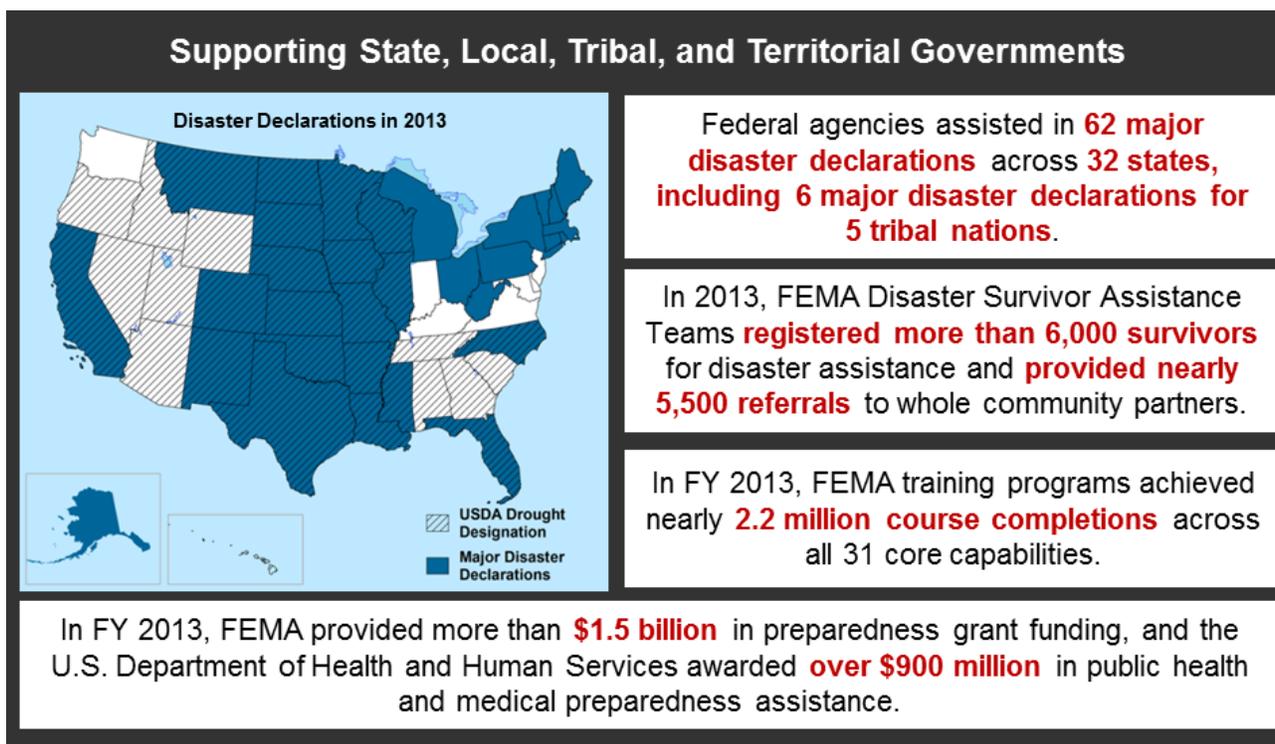


Figure 1: Federal partners supported state, local, tribal, and territorial preparedness activities in 2013 with services, training courses, and grant funds.

Overarching Findings

Major events, such as Hurricane Sandy and the severe 2012–2013 drought, have served as catalysts for change in national preparedness, drawing clearer links between post-disaster recovery and pre-disaster mitigation activities.



The Nation has begun to embrace a new approach to recovery in the wake of recent disasters. Recovery efforts are not seeking simply to restore communities to their pre-disaster states; rather, collaborative partnerships are increasingly tying recovery activities to initiatives that strengthen resilience, defined as the ability to adapt to changing conditions and to withstand and rapidly recover from disruption due to emergencies. These recovery activities are designed to help communities mitigate the effects of future disasters. Moreover, new recovery approaches developed in disaster-affected regions offer models for other communities across the country to incorporate into their pre-disaster mitigation plans and programs.

For example, Sandy damaged or destroyed more than 650,000 homes and forced temporary or permanent closures of thousands of businesses. In August 2013, the *Hurricane Sandy Rebuilding Strategy* outlined new guidelines for the investment of Federal recovery funding to ensure that the region’s rebuilding plan helps increase its resilience to future disasters. Recommendations included improving the sustainability of housing units, creating a strategy to ensure the availability of telephone and Internet communications, and partnering with state, local, and tribal stakeholders to fund infrastructure recovery projects that strengthen community resilience against current and emerging risks.

Additionally, a major drought in 2012 affected approximately two-thirds of the continental United States, impacting water supplies, tourism, transportation, energy, and fisheries, and costing the agricultural sector \$30 billion. A National Drought Resilience Partnership—led by USDA and the U.S. Department of Commerce (DOC) National Oceanic and Atmospheric Administration (NOAA)—is coordinating Federal policies, programs, and activities that help communities plan for, mitigate, and recover from droughts.

Continued progress has resulted in several mature capabilities across multiple mission areas that require ongoing sustainment to meet expected future needs.

The 2014 *National Preparedness Report* identifies five core capability areas for sustainment in multiple mission areas. These areas for sustainment represent relatively mature capabilities (as demonstrated in assessments, exercises, and performance in real-world events) that may face future capability gaps as current capability levels decline or demands on existing capabilities grow.

- **Interdiction and Disruption:** International and domestic initiatives have made it more difficult for malicious actors to obtain nuclear and radiological materials, and have raised awareness of how they acquire bomb-making materials.
- **On-scene Security and Protection:** In 2013, the security community continued to make progress in modifying tactics to better address active shooter events. Additionally, Federal agencies established availability requirements, plans, and resources to support deployment of Federal law enforcement officers in major incidents. However, in the 2013 State Preparedness Report process, over 60 percent of states and territories cited emerging training gaps due to personnel turnover and attrition as a major concern.
- **Operational Communications:** For the third year in a row, states and territories assessed Operational Communications among their highest-rated capabilities. Although one of the most widely exercised core capabilities in the past five years, Operational Communications faces future uncertainty with large-scale technology transitions to Next Generation 9-1-1 and Public Safety Broadband, which provide enhanced voice and data communication capabilities.

- **Public and Private Services and Resources:** Wildfire suppression capabilities are relatively mature, with the National Firefighting Mobilization System capable of moving wildland firefighting and associated resources nationwide in 24 to 48 hours. A trend toward larger and more complex wildfires increased demand for these capabilities.
- **Public Health and Medical Services:** States and territories identified Public Health and Medical Services as a high-rated core capability in training and exercises. Meanwhile, state and local public health agencies face continued budget uncertainties. DHS also identified biological concerns—including bioterrorism, pandemics, foreign animal diseases, and other agricultural concerns—as a top homeland security risk.

Cybersecurity, Infrastructure Systems, Health and Social Services, and Housing remained national areas for improvement. Long-term Vulnerability Reduction is a newly identified national area for improvement.

The Nation observed gradual increases in capability levels for previously identified national areas for improvement over the past year. Despite these gains, the 2014 *National Preparedness Report* identifies Cybersecurity, Long-term Vulnerability Reduction, and several recovery-focused capabilities as national areas for improvement, based on assessments, exercises, funding, and long-term trends influencing preparedness. Cybersecurity and two Recovery capabilities—Health and Social Services, and Housing—have been areas for improvement for three consecutive years, highlighting the challenges of raising capability levels on a national scale

- **Cybersecurity:** The Nation continues to address lessons learned from the cyber-focused National Level Exercise in 2012, including information sharing and incident management. The Nation is also strengthening national policy for cybersecurity, and adapting to growing interconnectedness between cyber and physical infrastructure. Development of a well-trained cybersecurity workforce, however, remains an ongoing challenge, with an estimated shortage of trained personnel in the tens of thousands. State Preparedness Report results reflect the absence of this expertise. States and territories have consistently identified Cybersecurity as among their weakest capabilities since the 2011 statewide self-assessment process, while more states and territories highlighted cyber attacks as threats of concern in their 2013 Threat and Hazard Identification and Risk Assessment submissions.
- **Health and Social Services:** The Nation continues to promote expanded access to survivor medical records across jurisdictional boundaries, which supports disaster recovery. Use of electronic health records has increased significantly since 2008, with more than 50 percent of hospitals using them as of 2012. Despite this progress, systematic approaches for measuring community health following a disaster are still under development. Fewer states and territories identified this recovery-focused capability as an area of strength in the 2013 State Preparedness Report process, placing it in the bottom third of all capabilities.
- **Housing:** The Housing core capability illustrates the gradual maturing of the Recovery mission area since the release of the *National Disaster Recovery Framework* in 2011, which defines how Federal agencies organize to support recovery efforts. For example, the Federal Government has begun efforts to coordinate plans, policies, and resources across the numerous agencies involved in housing, but efforts are still in their early stages. For the third year in a row, states and territories assessed Housing among their lowest-rated capabilities.



National Preparedness Report



- **Infrastructure Systems:** Sandy underscored how an initial loss in electrical power can cascade to affect other infrastructure systems. In response, the Nation has invested billions of dollars to modernize the electric grid and increase its reliability and resilience. Challenges remain in addressing aging infrastructure.
- **Long-term Vulnerability Reduction:** FEMA began to implement portions of the *Biggert-Waters Flood Insurance Reform Act of 2012* (Public Law 112-141) to phase out subsidized insurance policies. Some policyholders are raising concerns about these rate changes. Meanwhile, the flood insurance program is \$24 billion in debt.

New national policy and planning initiatives are focusing efforts to address areas for improvement in preparedness.

The Federal Government has initiated several national-level policy initiatives and planning efforts designed to focus attention on and bring unity of effort to preparedness areas for improvement. These activities are important steps, laying the policy and planning foundations upon which future capability improvements will build. They also align with priority areas of national risk identified in the 2013 *Homeland Security National Risk Characterization*, including terrorism, cyber attacks, pandemics, and other natural and technological hazards. The past year saw key policy and planning developments in the following areas:

- **Critical infrastructure security and resilience:** The 2013 *National Preparedness Report* recognized critical infrastructure resilience and public-private partnerships as areas for improvement. Policy and planning efforts emerged in 2013 that focused on addressing these areas. In February 2013, the President signed *Presidential Policy Directive 21* to advance national unity of effort to secure and maintain resilient critical infrastructure. In compliance with this Directive, DHS released an updated *National Infrastructure Protection Plan*, which provides an updated approach to critical infrastructure security and resilience across all five mission areas, and a greater focus on the integration of cyber and physical security efforts.
- **Cybersecurity:** The Federal Government moved forward with new policy and planning initiatives aimed at improving cybersecurity—an area for improvement identified in all three *National Preparedness Reports* published to date. In February 2013, the White House issued *Executive Order 13636: Improving Critical Infrastructure Cybersecurity*, which emphasizes improved cybersecurity collaboration and information sharing between the Federal Government and critical infrastructure owners and operators. Pursuant to this Executive Order, the U.S. Department of Commerce’s National Institute of Standards and Technology released the *Framework for Improving Critical Infrastructure Cybersecurity* in February 2014, which assembles voluntary standards, guidelines, and effective practices to address cyber risks.
- **Recovery capabilities:** The core capabilities within the Recovery mission area have emerged as consistent areas for improvement in all three *National Preparedness Reports*. Building on the *National Disaster Recovery Framework* from 2011, the Federal Government completed the *Recovery Federal Interagency Operational Plan*, along with related plans for the Prevention, Protection, Mitigation, and Response mission areas. The *Recovery Federal Interagency Operational Plan* describes how the Federal Government delivers core capabilities for the Recovery mission area and provides guidance for implementation of the *National Disaster Recovery Framework*.
- **Climate change:** In June 2013, the President released the *Climate Action Plan* outlining initiatives to enhance national resilience to the effects of climate change, followed by *Executive Order 13653: Preparing the United States for the Impacts of Climate Change* in November 2013. Together, these policies emphasize a need to modernize Federal programs in support of climate resilient investment; to share data and tools to inform decision-making on climate change preparedness; and to facilitate collaboration among Federal, state, local, tribal, private-sector, and nonprofit-sector partners.

Budget uncertainties have created challenges for preparedness initiatives, resulting in increased emphasis on preparedness innovations and whole community engagement.

Reduced budgets at the state and local levels have presented challenges for preparedness efforts across capabilities and disciplines. Fiscal year 2013 spending across all 50 states combined remains below fiscal year 2008 levels, after accounting for inflation. Survey data from U.S. cities indicate similar trends, with city-level general fund revenues declining for six straight years between 2007 and 2012. States and territories indicated that budget cuts or limitations contributed to gaps for 28 out of the 31 core capabilities. They also identified capability gaps in training across all core capabilities, arising from staff turnover and attrition. State and local budget cuts have affected preparedness disciplines, as well. For example, state and local health departments reported the loss of more than 50,000 positions since 2008—22 percent of the state and local public health workforce. Similarly, a 2012 survey of local law enforcement agencies found that 55 percent reduced training programs, 51 percent scaled back plans to acquire new technology, and 23 percent implemented officer layoffs.

Faced with these uncertainties, governments and whole community partners are increasingly looking to innovative approaches and engagement to achieve preparedness results. In some cases, the growth of mobile technology has been a key driver of preparedness innovation. For example, new mobile applications provide new ways to improve the security of mobile devices against cyber attacks, help individuals volunteer with the American Red Cross, and help communities salvage cultural resources and collections following disasters. Greater focus on whole community engagement in preparedness is also helping partners to share resources and information. For example, the Community Resilience Innovation Challenge is a partnership between FEMA and the Rockefeller Foundation that funded local efforts in 2013 to promote resilience. In accordance with *Presidential Policy Directive 8*, FEMA and its partners also unveiled America's PrepareAthon! in September 2013, a nationwide community-based campaign for action to increase emergency preparedness and resilience. Twice a year, the campaign brings together individuals, organizations, and communities to practice responding to local hazards. As part of the campaign, 18.8 million individuals participated in earthquake drills in 2013 for the one-day Great ShakeOut.



States and territories assessed their capabilities similar to levels reported in 2012, with the highest self-assessment scores in the common core capabilities and the Response mission area. States and territories also reported the most annual progress in Operational Coordination, Planning, and Intelligence and Information Sharing.

States and territories repeated the State Preparedness Report assessment process in 2013, rating their current capability levels relative to their preparedness targets for the 31 core capabilities. The assessment included a 5-point scale (with 5 as the highest rating) to evaluate each capability in terms of planning, organization, equipment, training, and exercises. Results from the 2013 process were generally consistent with the previous year's results, with states and territories reporting incremental changes. Nationally, states and territories reported the strongest gains in Operational Coordination and Infrastructure Systems, while Supply Chain Integrity and Security experienced the greatest decrease. As in 2012, states and territories reported greater capability levels for common and Response core capabilities (see Figure 2)—9 of

the 10 highest-rated capabilities fell within those areas. States and territories rated themselves lowest in Cybersecurity again in 2013, despite 82 percent identifying this core capability as a high priority. In post-assessment questions, participants reported making the most progress in the past year in Operational Coordination, Planning, and Intelligence and Information Sharing, whereas Cybersecurity, Long-term Vulnerability Reduction, and Housing face the greatest danger of decline in capability.

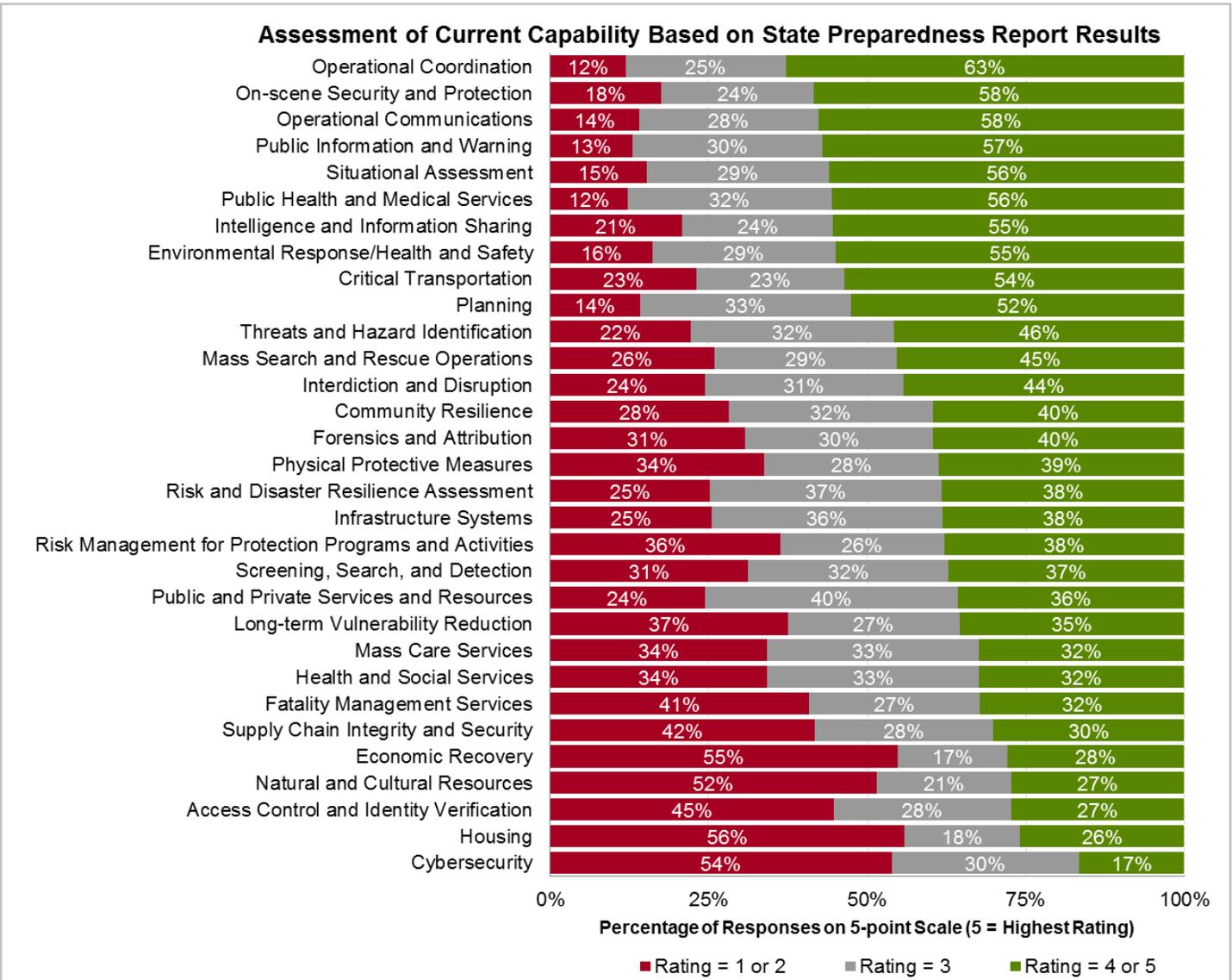
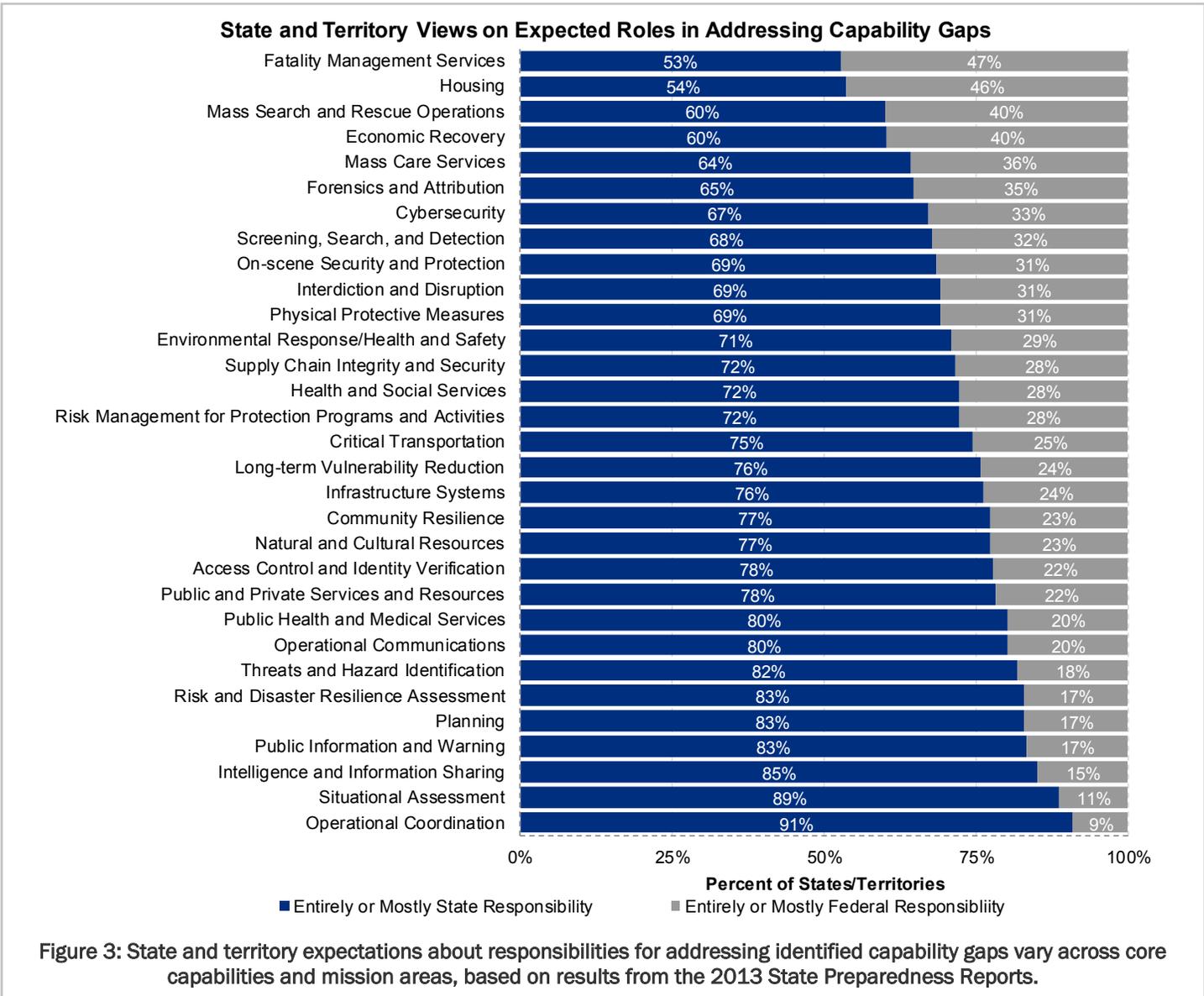


Figure 2: Self-assessments completed by 56 states and territories in 2013 confirm that the highest-rated core capabilities fall within the common core capabilities and the Response mission area. [Note: In some instances, percentages may total slightly more or less than 100 percent due to rounding.]

In the 2013 State Preparedness Report submissions, states and territories provided responses on perceived responsibilities for state and Federal partners in addressing identified capability gaps. As shown in Figure 3, states and territories expected the Federal Government to play a larger role in resource-intensive capabilities in the Response and Recovery mission areas. They had lower expectations of Federal support for cross-cutting core capabilities that facilitate information exchange during steady-state operations—including Operational Coordination, Situational Assessment, and Intelligence and Information Sharing. These insights reflect state and territory observations from the State Preparedness Report and may differ from Federal perspectives on who bears more responsibility for addressing identified gaps. However, these observations promote dialogue among Federal, state, local, tribal, and territorial partners regarding expected roles and responsibilities.



The Nation is integrating tribal partners more systematically into preparedness. However, challenges remain for Federal agencies and tribal nations to increase engagement and expand training opportunities on relevant policies.

The Nation has expanded efforts to more formally integrate 566 federally recognized tribal nations into preparedness programs managed by the Federal Government. Legislative changes enacted in 2013 authorized tribal nations to request disaster declarations directly from the Federal Government. Previously, tribes were required to request disaster assistance through a state. In 2013, the President issued six major disaster declarations to tribal nations. In addition, 27 tribal nations participated in a FEMA process in 2013 to identify threats and hazards and define measurable performance targets for all 31 core capabilities. Twenty-eight tribal nations also received a total of \$10 million through the Tribal Homeland Security Grant Program in 2013 to support planning and equipment purchases. The Bureau of Indian Affairs recruited regional emergency coordinators to work with tribal communities to ensure access to necessary resources during disaster response and recovery. Moreover, the U.S. Army Corps of Engineers (USACE) continued supporting tribes under its emergency management authority (Public Law 84-99), including providing drought assistance, flood response, levee rehabilitation, and technical assistance.

Despite these improvements, serious challenges remain for tribal and Federal partners to implement these new policies successfully. Tribal nations have little direct experience with the formal process for requesting disaster declarations and the associated administrative requirements, which can delay disaster aid. Similarly, Federal agencies have limited capacity to engage with and train 566 additional partners, which represent a 10-fold increase from 56 states and territories. Federal and tribal partners are using creative approaches to begin to address these issues. For example, the Bureau of Indian Affairs and FEMA are coordinating with tribal partners to raise awareness about the disaster declaration process and are developing guidance. USACE is exploring ways to incorporate emergency preparedness and response into ongoing consultations with tribal partners. Finally, FEMA Regions have deployed Preliminary Damage Assessment teams in non-disaster situations to help educate tribal partners on their capabilities.



COMMON

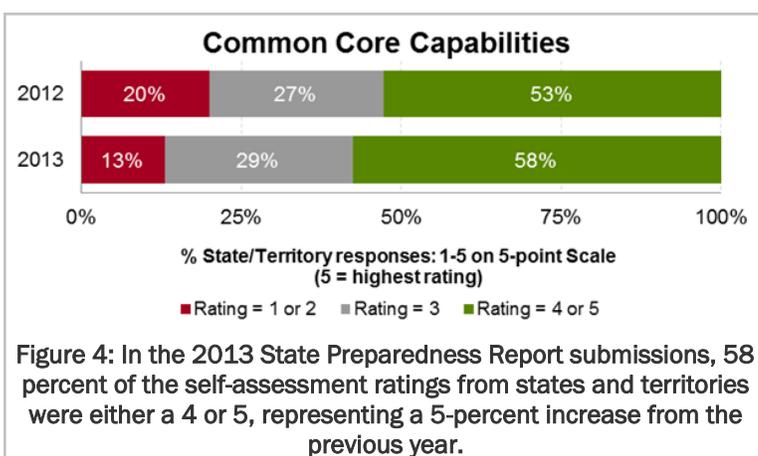


Highlights

- New **National Planning Frameworks** (Frameworks) unify whole community planning for the Prevention, Response, and Mitigation mission areas. (Planning, p. 15)
- State and local jurisdictions increasingly used the **Integrated Public Alert and Warning System** in 2013, but technical and outreach barriers continue to hinder its adoption and use in some areas. (Public Information and Warning, p. 16)
- Ongoing regional planning efforts address issues such as regional coordination, resource management, private-sector integration, and individuals with access and functional needs. (Planning, p. 15)
- A growing number of states are creating plans to address potential climate change risks. (Planning, p. 15)
- FEMA continued to analyze and improve incident management guidance and develop incident management resources in 2013. (Operational Coordination, p. 17)

Trends

The three common core capabilities—Planning, Public Information and Warning, and Operational Coordination—are crucial links across capabilities and mission areas. Success in these cross-cutting capabilities requires coordination and integration across diverse organizations and jurisdictions. Through the 2013 State Preparedness Report process, states and territories reported gradual improvements in the common core capabilities from 2012 to 2013, as shown in Figure 4. Forty-three percent of states and territories reported making the most progress in the Operational Coordination core capability in 2013, while 91 percent reported that addressing any remaining gaps in this core capability is mostly or entirely a state responsibility.



Key accomplishments during 2013 among the common core capabilities included new and improved doctrine, procedures, and systems. For example, the Integrated Public Alert and Warning System integrates various public alerting technologies into one platform that any alerting authority can access. Nearly 250 emergency response entities have become alerting authorities through the Integrated Public Alert and Warning System since 2011, including 42 state emergency management organizations. Together, these alerting authorities issued nearly 7,700 alerts in 2013 using a common system. Similarly, the National Incident Management System is the national standard for incident

management and response, with all states and territories reporting its adoption and incorporation into response training and exercises. In 2013, FEMA published new guidance related to the National Incident Management System for the whole community, including a [guide for intelligence and investigative operations](#) and [public works response resources](#). Finally, the Federal Government completed Frameworks to unify whole community preparedness planning, followed by *Federal Interagency Operational Plans* to align Federal preparedness planning. Federal stakeholders have begun to incorporate these new inputs into their plans and training programs, creating the foundation for improved coordination across the Federal Government.

By the Numbers

The Emergency Management Accreditation Program conducted **38 state, local, and Federal assessments** in 2012 and 2013. **Forty-five programs** have received accreditation.

Ninety percent of the U.S. population is directly covered by **77 broadcast stations** for Presidential alerts issued through the Emergency Alert System.

More than **90 percent** of Federal departments and agencies responding to a 2013 preparedness survey reported using the National Incident Management System for incident management and nearly **90 percent** have developed operational response plans.

Resilience Innovations

- The Emergency Management Assistance Compact maintains a database of [Mission Ready Packages](#) that describe specific response and recovery capabilities that jurisdictions offer for mutual aid.
- Twitter introduced [Twitter Alerts](#), which allow pre-qualified organizations (e.g., the American Red Cross, government agencies) to make critical posts (“tweets”) more visible in emergencies.
- The U.S. Geological Survey used data from the National Aeronautics and Space Administration (NASA) to develop [maps](#) of temperature and precipitation projections at the county level.

Preparedness in Action Jurisdictions that responded to the Boston Marathon bombings applied lessons from previous preparedness activities for large-scale events. Several jurisdictions had participated in local planning initiatives supported by DHS for responding to improvised explosive devices and complex attacks. Boston-area responders used DHS grant funds to test coordinated responses to large-scale events through exercises. New England was also one of ten sites that continued to use [Regional Catastrophic Preparedness Grant Program](#) funds to develop plans, tools, and training. The New England site exercised its *Multiple Improvised Explosive Device Response Plan* in 2011 and its *Regional Catastrophic Coordination Plan* in 2012, both of which helped specialized units coordinate before the Boston Marathon. Furthermore, the City of Boston used plans from other program sites to inform recovery and re-entry strategies after the bombings.

In addition, in 2013, whole community partners continued to develop and update plans to prepare for the impacts of climate change. At the national level, in December, [the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience](#) held its inaugural meeting, including 26 governors, mayors, tribal leaders, and other elected officials. Convened as part of *Executive Order 13653*, task force members are advising the Federal Government on ways to support communities in preparing for the impacts of climate change. In state activity, California released an updated *Climate Adaptation Strategy* for public comment in December to reflect recent advances in climate science and risk management. In October, California, Washington, Oregon, and Canada’s British Columbia signed the *Pacific Coast Action Plan on Climate and Energy*, which supports the President’s 2013 *Climate Action Plan*.

Along with regional and state planning, the Federal Government developed emergency planning tools in 2013 as part of the President’s plan to reduce gun violence. In June, the U.S. Department of Education, U.S. Department of Justice (DOJ), the Federal Bureau of Investigation (FBI), DHS, FEMA, and U.S. Department of Health and Human Services (HHS) released guides to help [schools](#), [institutions of higher education](#), and [houses of worship](#) develop emergency operations plans. These joint products provide practical resources that reflect emergency planning best practices and lessons learned from recent incidents. In addition, since December 2012, DHS partnered with the U.S. Secret Service (USSS) and the FBI to conduct outreach briefings with 100 K-12 school districts on school security.

Whole Community Accomplishments

Team Rubicon: Team Rubicon is a disaster relief nonprofit primarily composed of military veterans that has provided thousands of volunteers to support disaster response missions, such as basic search and rescue, debris removal, and emergency medical care. In 2013, Team Rubicon adopted the National Incident Management System for incident management and required all volunteers to complete FEMA’s basic online training.

Broward County, Florida: In 2012, Sandy triggered flooding and erosion of beaches and highways in Florida. Based on that experience, Broward County began incorporating sea level rise and climate projections into its existing land use and comprehensive plans. The four-county South Florida Regional Climate Compact, which includes Broward County, also finalized a climate action plan in 2013 to protect against climate impacts.

Planning

- Federal stakeholders are integrating new Federal planning doctrine into their plans and training programs.
- Regional and Federal partners continue to collaborate on regional plans that address specific threats and hazards.
- An increasing percentage of states have developed plans for climate change.

In accordance with *Presidential Policy Directive 8*, the Federal Government released Frameworks for the Prevention, Mitigation, and Response mission areas in May 2013 and completed mission area operational plans. Together, these plans describe how the whole community works together to deliver capabilities in each mission area. Progress in the Recovery mission area since the 2011 release of the *National Disaster Recovery Framework* underscores the benefits of unified Federal planning doctrine—new recovery operations training is building a qualified recovery workforce, and Federal partners are increasing collaboration to meet the requirements outlined in the framework. Federal stakeholders are incorporating these new inputs by developing new operational plans, revising existing plans, and updating training and exercise programs to reflect new organizational structures and responsibilities.

The Frameworks and *Federal Interagency Operational Plans* are also shaping FEMA’s regional planning. The Agency’s 2012 blueprint for regional planning prioritized the development of all-hazards plans for each of the 10 FEMA Regions. By the end of fiscal year 2013, all regional plans were completed, an increase from one finalized plan in March 2013. As of June 2013, regional partners had also developed 14 threat- and hazard-specific plans and coordinated with other regional planning programs, such as the Regional Catastrophic Preparedness Grant Program, which funded catastrophic planning activities at 10 sites from fiscal year 2008 to fiscal year 2011 (see Table 2). Jurisdictions participating in the grant program have committed to maintaining planning and coordination structures developed through the program to sustain regional planning when program funding expires in 2014.

Regional Plans Completed	Bay Area	Chicago	Hampton Roads	Honolulu	Houston	Los Angeles	National Capital Region	New England	NY-NJ-CT-PA	Puget Sound
Regional Coordination		•	•	•	•	•		•	•	•
Continuity				•	•	•			•	
Resource Management	•	•			•		•		•	•
Access & Functional Needs	•	•	•	•	•	•	•	•	•	•
Private-sector Integration		•					•		•	•

Table 2: Regional grant recipients have developed plans to address their unique threats, hazards, and gaps in preparedness and response capabilities. This table lists some of the plans developed since 2008.

The Nation also made progress in 2013 planning for the potential effects of climate change. In November 2013, the President released *Executive Order 13653: Preparing the United States for the Impacts of Climate Change*, which directs Federal agencies to modernize programs to address climate adaptation and resilience and requires them to share data and tools to support climate adaptation planning by Federal, regional, state, local, tribal, private-sector, and nonprofit partners. At the state level, 34 states and the District of Columbia had completed climate action plans as of March 2014 to reduce their contribution to climate change. Furthermore, 15 states also published separate climate change adaptation plans that identify and address vulnerabilities to the effects of climate change. Coastal areas are more sensitive to increased flooding due to sea level rise from climate change, and coastal states are more likely than landlocked states to have climate adaptation plans in place or to include climate adaptation in their hazard mitigation plans.



Public Information & Warning

- FEMA continues to improve adoption, performance, and accessibility of the Integrated Public Alert and Warning System. Recent real-world operations tested a new alert and notification tool that sends geographically tailored alerts to mobile devices.
- Technical and outreach challenges continue to test the effectiveness of the Integrated Public Alert and Warning System to alert the public during a disaster.

The Integrated Public Alert and Warning System is a collection of standards and technologies for emergency alert systems. One feature of this system—wireless emergency alerts—allows authorized responders to deliver geographically tailored alerts to mobile telephones. For example, officials issued a multi-state Amber Alert in August that led to the rescue of a teenager, despite some concerns from the public about the broad geographic distribution of the alert across several western states. Alerting authorities for the Integrated Public Alert and Warning System issued 7,692 alerts in 2013. As of December 2013, 42 state and territorial emergency response organizations have adopted the Integrated Public Alert and Warning System (see Figure 5), and FEMA has approved nearly 250 applications from state and local response entities to use the system, nearly tripling the total from January 2013.

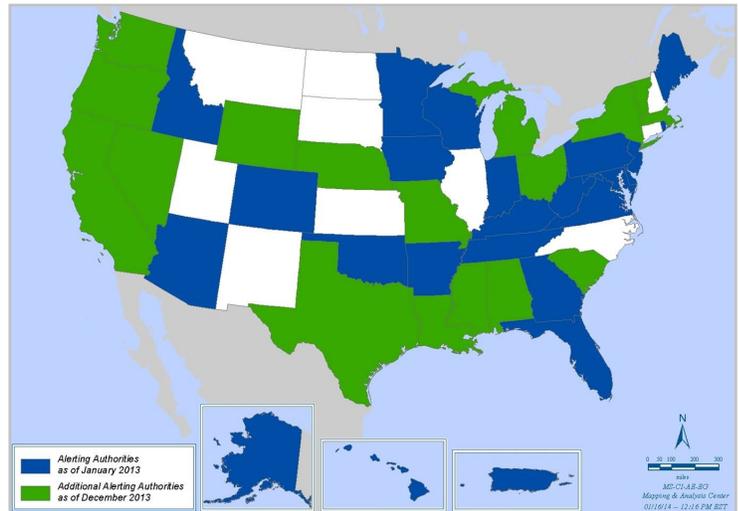
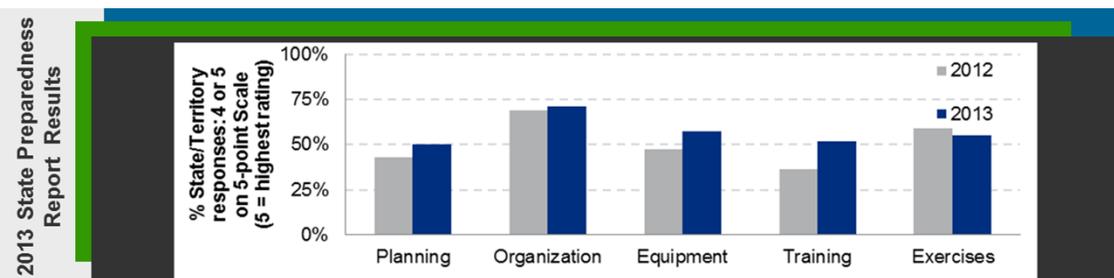


Figure 5: In 2013, FEMA approved 12 applications to use the Integrated Public Alert and Warning System from state and territorial emergency alerting authorities.

Increases in participation and use are due, in part, to FEMA’s outreach, including the release of public service announcements about wireless emergency alerts on radio and television in June 2013; hosting webinars for practitioners; and attending relevant conferences, consumer events, and roundtables throughout 2013.

FEMA is also improving accessibility and redundancy of the Integrated Public Alert and Warning System. FEMA, National Public Radio, and 25 of its affiliated radio stations are piloting different alerting technologies for individuals who are deaf or hard of hearing. Moreover, FEMA added redundant distribution capabilities to the system by collaborating with the Public Broadcasting Service to deliver wireless emergency alerts on its over-the-air digital television signals, and with the National Weather Service (NWS) to allow alerting authorities for the Integrated Public Alert and Warning System to communicate with each other using NWS’s emergency messaging system. The NWS’s local weather forecast offices have also been instrumental by sharing information about participation in the system with state and local emergency management partners. Despite these improvements, an April 2013 U.S. Government Accountability Office (GAO) report noted several barriers to state and local adoption and use of the Integrated Public Alert and Warning System, including limited guidance on integrating the system with existing state and local alerting systems, the potential for over-alerting due to challenges in geographically targeting wireless emergency alerts only to the affected areas, and the risk of individuals ignoring alerts altogether.



Capability gaps identified by states and territories included a need for compliance assessments of existing plans and expanded participation in the planning process.

Operational Coordination

- Successful response operations following the Boston Marathon bombings demonstrated the value of pre-event coordination on incident management.
- The response to Hurricane Sandy illustrated challenges in implementing incident management systems during events that span large geographical areas.
- FEMA is updating and improving incident management systems and resources.

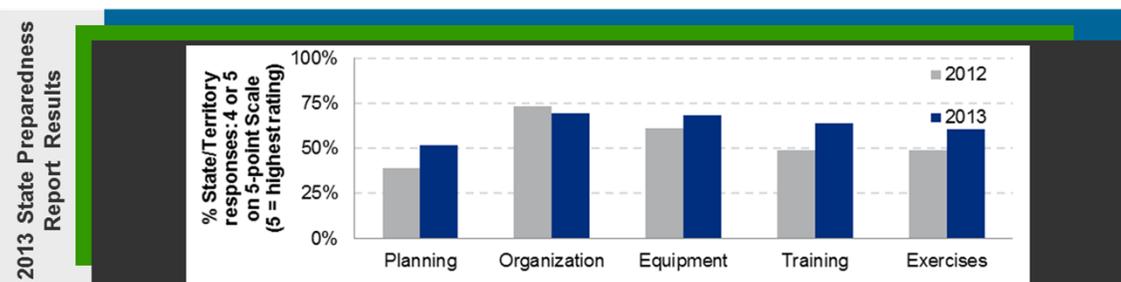
Pre-event coordination involving state agencies, local jurisdictions, and organizations hosting the Boston Marathon strengthened the response to the April 2013 bombings. The Massachusetts State Emergency Operations Center hosts an annual pre-marathon coordination exercise that allows responders from all hosting jurisdictions to test their plans by simulating responses to various scenarios. Another response exercise in 2012 revealed that Boston police and fire departments faced coordination challenges due to a lack of interoperability between their communications systems. The fire and police departments addressed the issue, and interoperability did not affect their coordination in response to the bombing.



In contrast, an after-action report on FEMA’s response to Sandy highlighted coordination and incident management procedures as areas for improvement. Specifically, FEMA experienced challenges implementing the organizational and staffing models it uses for geographically large events. However, states and territories still gave Operational Coordination the highest scores of all 31 core capabilities in the 2013 State Preparedness Report results, and states and territories identified it as a high priority more frequently than any other core capability.

In addition to evaluating performance in real-world incidents, whole community partners (including FEMA) continued collaboration to improve incident management systems and resources. Thirty-four agencies from the law enforcement, medical, and fire communities provided input to develop guidance released by FEMA on use of the National Incident Management System by intelligence and investigation personnel. FEMA also engaged the emergency management and public safety communities to improve standardization of mutual aid requests with new resource typing definitions for public works personnel and for fire and hazardous materials personnel. Furthermore, in response to lessons learned during Sandy, FEMA launched a year-long pilot program to evaluate the benefits of restructuring the existing National and Regional Incident Management Assistance Teams, which provide Federal assistance to state, local, or tribal governments in disaster response. Sixty team members completed a revised 12-week training program in July, and both pilot National Incident Management Assistance Teams deployed to Colorado in fall 2013 to support flood response.

States and territories gave Operational Coordination the highest scores of all 31 core capabilities in the 2013 State Preparedness Report results



Operational Coordination had the **highest assessment scores**, but half of states and territories said exercises involving this capability should focus on large-scale scenarios that identify breaking points.



PREVENTION/PROTECTION



Highlights

- Efforts to engage private-sector partners in intelligence and information sharing continued to expand. (Intelligence and Information Sharing, p. 22)
- DHS's Transportation Security Administration (TSA), Customs and Border Protection (CBP), and the U.S. Coast Guard (USCG) are using risk-based security initiatives to expedite screening for low-risk travelers. (Screening, Search, and Detection, p. 25)
- Antiterrorism programs increased public awareness of bomb-making supplies and secured nuclear material around the world. (Interdiction and Disruption, p. 23)
- Technological improvements and greater interoperability enhanced FBI and DHS use of biometric databases. (Forensics and Attribution, p. 21)
- Emerging technologies introduce opportunities for innovation, as well as implementation challenges for homeland security personnel at all levels of government. (Screening, Search, and Detection, p. 25)

Trends The Prevention mission area includes the capabilities necessary to avoid, prevent, or stop a threatened or actual act of terrorism. It focuses on ensuring that the Nation is optimally prepared to prevent an imminent terrorist attack within the United States. The Protection mission area focuses on safeguarding the Nation against all threats and hazards through steady-state programs that protect people and critical assets, systems, and networks. Three core capabilities involve activities that fall within both of these mission areas: Intelligence and Information Sharing; Interdiction and Disruption; and Screening, Search, and Detection.

State, local, tribal, and territorial governments are strengthening these capabilities traditionally viewed as Federal responsibilities. For example, while antiterrorism programs remain a priority for the Federal Government, state and local partners are also contributing through initiatives to counter violent extremism, raise public awareness about threats from explosive devices, and share intelligence through the national network of 78 fusion centers. State and territory responses in the 2013 State Preparedness Report process reinforce this trend, with slight improvements in their self-assessment ratings and a perception that they are mostly or entirely responsible for addressing remaining capability gaps.



Technology is enhancing core capabilities that support the Prevention mission area. For example, the DHS Domestic Nuclear Detection Office (DNDO) completed 48 evaluations and demonstrations of new radiological detection devices and the DHS Office of Health Affairs' BioWatch program introduced new technology to provide greater specificity for identification of biological agents. Federal agencies are also using technology to increase speed and efficiency for government programs. For example, automated passport screening saves time for travelers, and updates to data management programs streamlined the information-gathering process for law enforcement officers. However, some emerging technologies present both opportunities and challenges.

By the Numbers

The Food and Drug Administration maintained the ability to provide laboratory surge capacity to inspect **2,500** radiological and **2,100** chemical samples each week in the event of an attack on the food supply.

USDA plant and animal health monitoring and surveillance efforts prevented **\$1.19 billion** in damage from pest and disease outbreaks.

The U.S. Coast Guard assessed the effectiveness of antiterrorism programs in over **180** port facilities in **63** maritime trading partners, and imposed conditions of entry to improve maritime security.

Resilience Innovations

- The [Food and Agriculture Readiness Measurement \(FARM\) Toolkit](#) helps state and local governments to access capabilities to manage foodborne disease outbreaks.
- The [Water Contaminant Information Tool](#) provides information on chemical, biological, and radiological contaminants of concern for water security.
- DHS's independent study course [Surveillance Awareness: What Can You Do?](#) teaches employees at critical infrastructure facilities to detect and report suspicious activities.
- The [Against Violent Extremism](#) online network helps former violent extremists and survivors of violent extremism partner to prevent recruitment of at-risk youths.

Preparedness in Action

Immediately after explosions erupted near the finish line of the Boston Marathon, first responders rushed to the scene and investigators began working to identify the perpetrators and assess any continuing threats. Local, state, and Federal law enforcement agencies demonstrated increased interagency coordination by using existing partnerships and information sharing resources. For example, the Boston Joint Terrorism Task Force (JTTF) managed intelligence related to the investigation and guidance on bomb recognition and protective measures flowed through established channels designed to reach the whole community, including the Homeland Security Information Network and DHS's TRIP*wire* platform, a public-private information-sharing website. In addition, investigators, the private sector, and the public carried out unprecedented information sharing. Investigators provided regular situation updates and tailored information on how the public could assist, while the general public and private sector contributed surveillance video, photos, and thousands of tips.

Meanwhile, forensics experts from the FBI; Boston Police Department; Massachusetts State Police; and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) recovered physical items related to the blast and sent them to the FBI's laboratory for examiners to reconstruct the device to determine its makeup and components. Bomb squads—in some cases with explosive-detection canine teams—also responded to reports of suspicious packages during the week after the bombings.

Throughout the investigation, law enforcement officers relied on surveillance video, photographic evidence, and advanced screening technology to aid the search for the suspects. On April 19, 2013, one of the two suspects remained at-large. Over 1,000 officers conducted an unprecedented manhunt, searching door-to-door across a 20-block area. Ultimately, Massachusetts State Police used an infrared imaging unit purchased with preparedness grant funds to search for, locate, and apprehend the suspect.

Whole Community Accomplishments

New York, NY: New York City's Domain Awareness Program aggregates over 6,000 police and private business surveillance video streams in real-time to provide a comprehensive view of potential terrorist threats and criminal activity. For example, the program notifies the New York City Police Department of suspicious packages and employs advanced search capabilities, such as smart cameras and license plate readers.

Cook County, IL: In partnership with the International Association of Chiefs of Police, the Cook County Department of Homeland Security and Emergency Management is convening community members, public works, city officials, and first responders to create a national training program on countering violent extremism.

PREVENTION

Forensics & Attribution

- Federal agencies are building digital forensics capabilities at the state and local level through user-friendly technologies, allowing Federal digital forensic resources to focus on more complex cases.
- Enhanced technology and interoperability are allowing for greater use of biometric data to identify malicious actors.

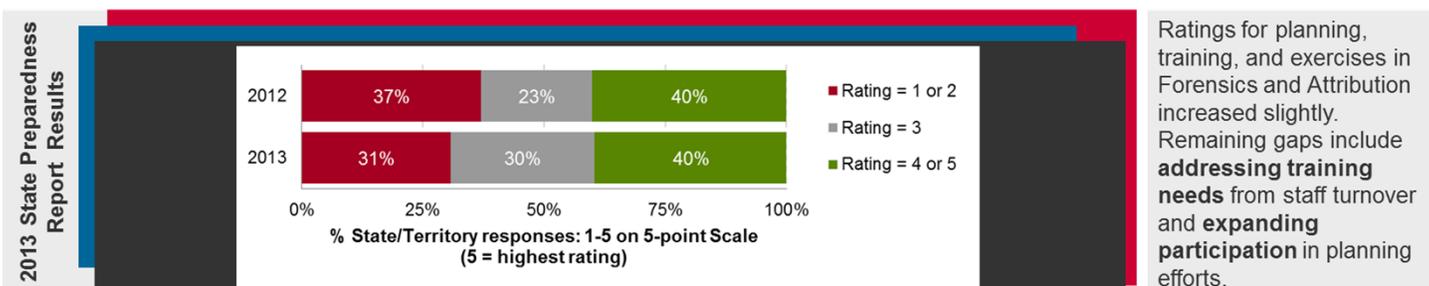
Forensics and Attribution capabilities are central to the Nation’s ability to quickly and accurately identify terrorists and their sponsors, especially during time-constrained and hazardous crisis situations. Effective implementation helps to prevent imminent terrorist attacks or follow-on incidents, supports criminal investigations, and informs leadership decisions. The *National Preparedness Report* highlights ongoing initiatives that support terrorism prevention, including improving forensics capabilities of state and local partners and enhancing investigative tools.

The use of computer forensics—recovering and analyzing information from digital devices—continues to grow. In fiscal year 2013, the USSS conducted over 5,300 forensic examinations. These investigations involved processing more than 1,247 terabytes of data, an 11-percent increase from fiscal year 2012. Computer forensics capabilities have traditionally resided mostly with Federal agencies; however, these agencies are fostering digital forensics capabilities at the state and local levels, as well. The FBI has deployed self-service digital forensics kiosks to more than 160 FBI field offices and regional computer forensics labs, enabling non-expert state and local investigators to independently review the contents of mobile phones and other media. Kiosk-use increased by 58 percent from fiscal year 2011 to fiscal year 2012 to 13,556 reviews, while requests for Federal assistance fell by 20 percent to 5,060. Increased kiosk-use reduces case backlog and frees Federal resources to focus on more complex cases.

The U.S. Secret Service conducted over 5,300 forensic examinations involving more than 1,247 terabytes of data in fiscal year 2013

In addition to computer forensic data, law enforcement agencies continue to use biometric data—behavioral or biological information such as fingerprints or iris scans—to identify malicious actors. In 2012, the FBI and DHS finished deploying fully interoperable search capabilities between two of their largest biometric databases. As of September 2012, homeland security and law enforcement officials conducted over 151 million searches across databases to help identify and track high-risk individuals, resulting in more than 2.8 million identifications.

The FBI continues to improve its biometric databases through the Next Generation Identification program to increase data storage capacity, reduce response times for inquiries, and collect multiple forms of biometric data. For example, in May 2013, the Next Generation Identification program deployed the National Palm Print System, which provides 18,000 Federal, state, local, and tribal law enforcement agencies access to a nationwide palm print database. In 2013, the FBI also initiated two related pilot programs. The FBI deployed the “Rap Back” Pilot to DHS Immigration and Customs Enforcement, providing ongoing status notifications of criminal activity for individuals who have previously undergone background checks. In addition, the Interstate Photo System Face Recognition Pilot allows law enforcement officers in four states to query more than 16 million arrest booking-photographs using automated facial recognition technology.



Intelligence & Information Sharing

- FBI Joint Terrorism Task Forces (JTTFs) continue to play a critical role in preventing terrorist attacks and investigating incidents.
- The National Network of Fusion Centers continues to demonstrate progress in enhancing its capabilities and performance, and tailoring products to address customer-identified needs.
- The Nationwide Suspicious Activity Reporting Initiative continues to mature.
- Increasing information sharing with the private sector remains a top priority.

The Intelligence and Information Sharing core capability falls within both the Prevention and Protection mission areas. The *National Preparedness Report* highlights programs and ongoing initiatives that support both mission areas.

The U.S. Intelligence Community is a coalition of 17 agencies that gathers and analyzes intelligence to support national security, including terrorism prevention efforts. The FBI leads JTTFs in 103 cities nationwide that focus on detecting, investigating, analyzing, and resolving terrorist threats or incidents. FBI JTTFs continue to receive immediate and comprehensive terrorist threat-related information, to include suspicious activity reporting, involving suspected Federal crimes of terrorism, from the law enforcement community which allows threats to be resolved in a timely manner.

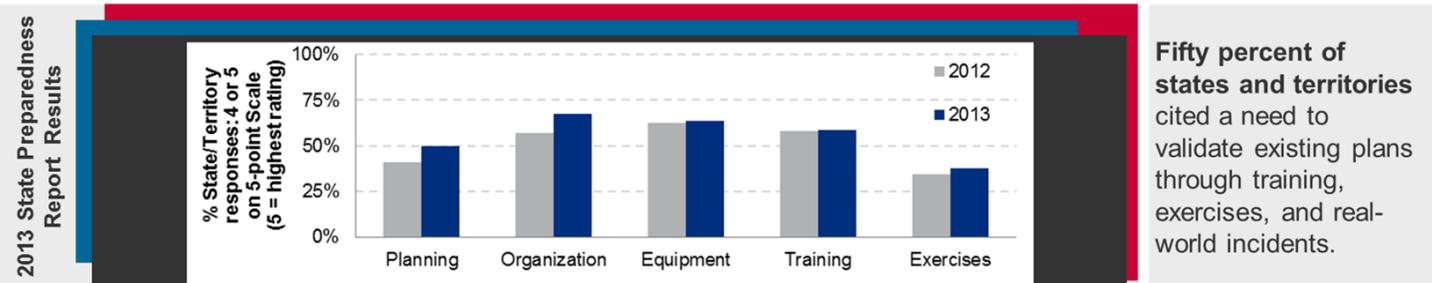
Additionally, 78 state and major urban area fusion centers serve as focal points within the state and local environment for the receipt, analysis, gathering, and sharing of threat-related information between the Federal Government and state, local, tribal, territorial and private sector partners. The network continued to mature, with year-over-year progress in several areas including developing strategic plans and establishing processes to verify receipt of analytical products. As of 2013, 95 percent of fusion centers—up from 92 percent in 2012—have documented and approved plans, policies, or standard operating procedures for the four identified critical operational capabilities (receive, analyze, disseminate, and gather) and privacy, civil rights, and civil liberties protections.

In addition, the number of products jointly developed by multiple fusion centers increased by 44 percent, demonstrating continued collaboration. Fusion centers also reported a 22 percent increase in the number of fusion center-to-fusion center requests for information, products, or services. In 2013, 79 percent of fusion centers reported having structured customer feedback mechanisms to evaluate analytic products from their customers.

The Nationwide Suspicious Activity Reporting Initiative also continues to identify and share relevant information more effectively to prevent terrorism and crime. In 2013, DHS and the FBI assumed responsibility for the Initiative, integrating it directly into operational activities through existing training, analysis, and investigative programs underway with state and local partners. As of July 2013, over 400,000 law enforcement and homeland security partners had received training to recognize behavior that may indicate criminal activity associated with terrorism. Additionally, from August 2012 to July 2013, fusion centers reviewed and submitted 450 suspicious activity reports that resulted in the initiation or enhancement of an investigation by the FBI (299) or a Terrorist Screening Center Watchlist encounter (151).



Efforts to engage non-governmental partners in intelligence and information sharing have also expanded. In October 2012, DHS and the Office of the Director of National Intelligence initiated an effort to address gaps in sharing information with the private sector that were identified in a 2012 report by the National Infrastructure Advisory Council. Since that time, the Intelligence Community has issued three national-level policy directives emphasizing the importance of information sharing with the private sector, and Federal partners have facilitated the availability of fusion center products to private sector partners. Additionally, the FBI's two-way, public-private system to share information—InfraGard—continues to expand by over 7,000 users each year. InfraGard's nearly 56,000 users contributed information that initiated or enhanced 598 FBI investigations in fiscal year 2012.



PREVENTION/PROTECTION

Interdiction & Disruption

- The Nation continues to build capabilities to identify and interdict terrorism threats involving chemical, biological, radiological, nuclear, and explosive materials.
- Antiterrorism programs have made it more difficult to obtain nuclear and radiological materials.
- While awareness programs have increased, malicious actors continue to acquire dangerous bomb-making supplies from common chemicals and dual-use products.



The Interdiction and Disruption core capability falls within both the Prevention and Protection mission areas. The *National Preparedness Report* highlights programs and ongoing initiatives that support both mission areas.

To prevent serious crimes and imminent terrorist threats, the FBI maintains 24-hour-alert special mission teams that conduct tactical operations at the local, regional, and national levels. In 2013, the FBI also led the interagency planning effort to develop and exercise the Radiological Nuclear Strategic Group, a team of subject matter experts from across the Federal Government, to advise senior decision makers during a credible nuclear or radiological threat. During a threat related to weapons of mass destruction, the Radiological Nuclear Strategic Group coordinates assets and capabilities from across the government to counter weapons of mass destruction; provides a common operating picture; and provides threat profiles tailored to multiple audiences (e.g., state, local, and territorial law enforcement; border protection personnel; critical infrastructure owners and operators; and international partners).



To protect the country from the potential terrorist threat of weapons of mass destruction, the President announced an initiative in April 2009 to secure all vulnerable highly enriched uranium and plutonium worldwide in four years. By April 2013, the initiative, led by the U.S. Department of Energy's (DOE's) National Nuclear Security Administration (NNSA), resulted in:

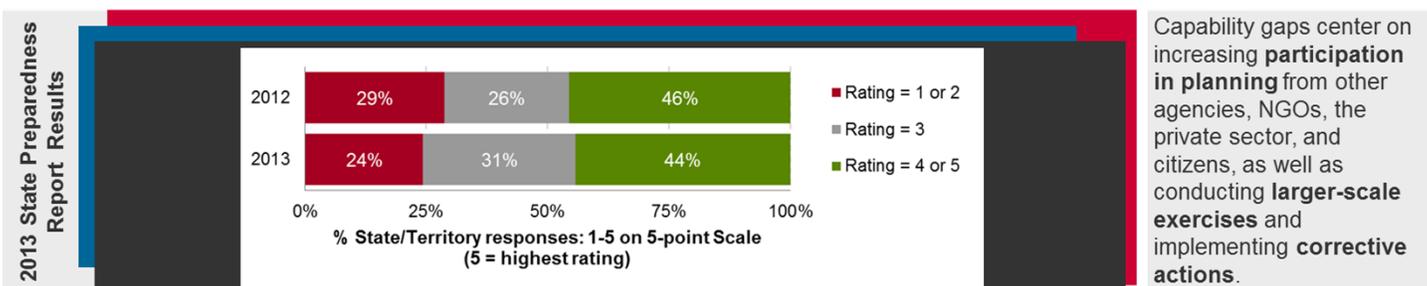
- Removal of more than 1,450 kilograms of highly enriched uranium and plutonium (enough material for more than 55 nuclear weapons) from civilian sites in more than 100 countries;
- Elimination of all highly enriched uranium from 12 countries/locations; and
- Shutdown or conversion to low enriched uranium of 24 highly enriched uranium research reactors in 14 countries.

Over the same period, NNSA completed physical protection upgrades at more than 1,000 buildings with radiological material and removed more than 10,000 at-risk radiological sources worldwide to reduce the threat of a radiological dispersion device, or "dirty bomb." In March 2013, the Nuclear Regulatory Commission codified security measures for government and private-sector

radioactive materials—including background checks, security barriers, and access controls—to protect against theft. Additionally, during 2013, the FBI and DOE jointly conducted six counterterrorism exercises for custodians of radiological materials.

Moreover, domestic antiterrorism programs are raising awareness of how malicious actors acquire bomb-making materials. DHS and the FBI developed programs to increase awareness among local governments, the private sector, and the public for activities associated with bomb-making. Through DHS's program, local law enforcement officers reach out to businesses to help employees identify and report suspicious behavior linked to dangerous bomb-making materials, such as fertilizers, sanitizers, and certain chemicals. In 2013, DHS reached more than 5,500 public- and private-sector partners. The FBI's awareness program to counter improvised explosive devices provides hands-on training, briefings, and demonstrations. In fiscal year 2013, the FBI trained more than 400 bomb technicians; over 30 military personnel; 125 Federal law enforcement officers; and nearly 4,000 state and local law enforcement officers, academics, and industry affiliates. Beyond these awareness activities, the FBI's Hazardous Devices School continued to serve as the Federal Government's sole authority for accrediting public safety bomb squads and certifying bomb technicians, training and certifying 1,500 Federal, state, local, territorial, and tribal bomb technicians each year. Following the Boston Marathon bombings, DHS and DOJ created joint outreach materials for 80,000 manufacturers and distributors of explosive powders. Security professionals also continue to enhance awareness of current tactics to help prevent, detect, and respond to bomb threats using DHS's TRIPwire, a public-private information-sharing website focused on improvised explosive devices. As of February 2014, TRIPwire had more than 17,000 active registered users, including over 2,000 new users in 2013. Despite this growing awareness, malicious actors continue to acquire bomb-making materials.

The NNSA has removed more than 1,450 kilograms of nuclear material—enough for more than 55 nuclear weapons—from civilian sites around the world since 2009



Screening, Search, & Detection

- Monitoring programs for biological and radiological materials continue to provide specialized detection capabilities in metropolitan areas to help prevent and rapidly respond to identified threats.
- TSA and CBP are enhancing the screening of travelers through the use of risk-based initiatives, including TSA Pre-Check and Global Entry.
- Technological developments in 3D printing and unmanned aircraft systems are outpacing screening capabilities and surveillance regulations.

The Screening, Search, and Detection core capability falls within both the Prevention and Protection mission areas. The *National Preparedness Report* highlights programs and ongoing initiatives that support both mission areas.

Monitoring programs provide early detection of terrorist acts and allow for surge capabilities if a threat is identified. The National Biosurveillance Integration Center (NBIC) continues to make progress integrating, analyzing, and disseminating information from the Nation's mature, yet uncoordinated biosurveillance programs. In October 2013, the NBIC began the transition to a new operating system, which will expand the Center's open-source biosurveillance capability. Surveillance for bioterrorism is further enhanced by the DHS-managed BioWatch program, which is designed to detect the release of aerosolized biological agents by continuously monitoring more than 30 of the country's largest urban areas for traces of dangerous pathogens. BioWatch also provides planning guidance and exercise support to state and local jurisdictions. Similarly, the BioSense program from the Centers for Disease Control and Prevention (CDC) incorporates emergency department data gathered from state and local health departments into a cloud-based, syndromic surveillance system. In 2013, CDC expanded BioSense coverage and completed 51 data use agreements with BioSense partners, exceeding the annual goal by nearly 60 percent.

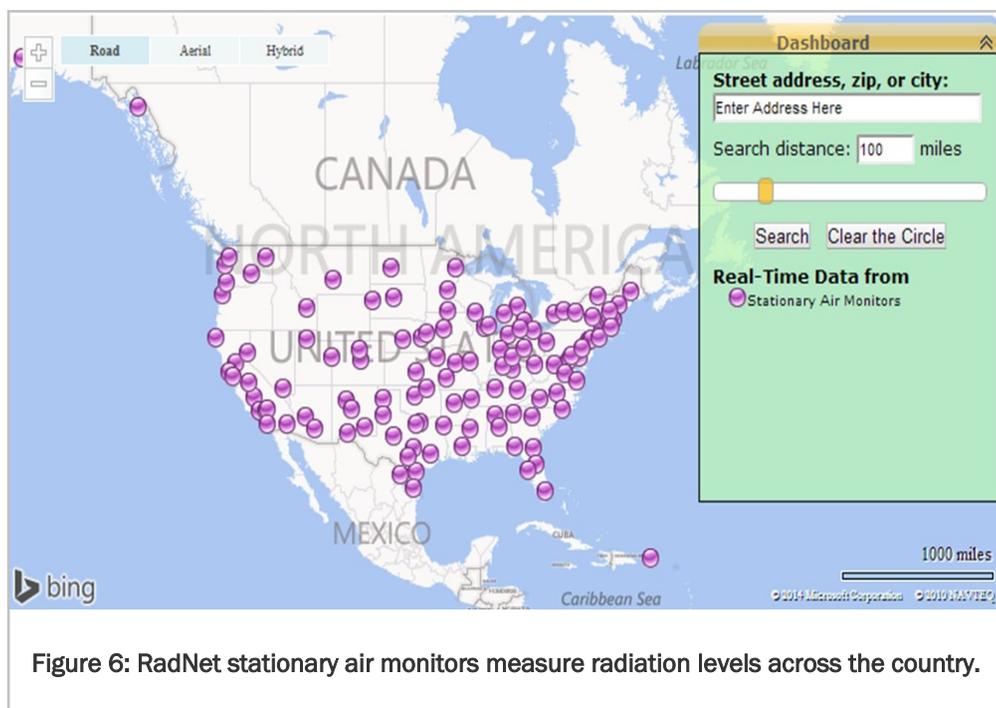


Figure 6: RadNet stationary air monitors measure radiation levels across the country.

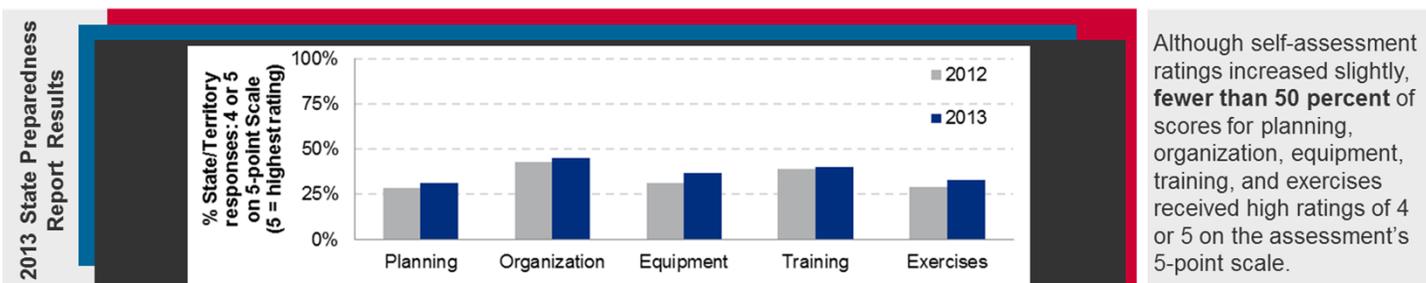
Beyond biosurveillance, the Environmental Protection Agency (EPA) maintains RadNet, a national network of monitoring stations in 100 U.S. cities that collects air, precipitation, drinking water, and milk samples for analysis of radioactivity. RadNet provides publicly available, near-real-time data from its stationary air monitors around the country, highlighted in Figure 6. In fiscal year 2013, EPA added 10 new RadNet monitors, bringing the national total to 134. To further aid in searching for radiological or nuclear threats and developing supporting technologies, NNSA and DNDO are mapping naturally occurring radiation levels in major U.S. cities to establish baseline measurements. Mapping helps experts more rapidly identify elevated levels of radioactivity and improve aerial radiation measurement capabilities for local, state and Federal partners. As of January 2014, NNSA and DNDO have mapped or partially mapped more than 10 metropolitan areas.

The Nation also uses screening and surveillance to protect against threats. TSA Pre-Check and CBP's Global Entry are two risk-based, trusted-traveler programs that expedite screening for pre-approved, low-risk travelers. These programs enable TSA and CBP to focus screening efforts on travelers who may pose higher risks. TSA Pre-Check has expanded rapidly since its launch in October 2011. From March to November 2013, Pre-Check availability grew from 40 airports to over 100. More than 20 million passengers have used Pre-Check nationwide. As of November 2013, Global Entry had over 1 million users, with more than 6,200 daily uses at automated kiosks located in 34 U.S. airports and 10 pre-clearance locations overseas. CBP estimates that the Global Entry program has saved more than 67,000 inspection hours. Additionally, TSA expanded risk-based screening approaches to luggage, eliminating duplicative baggage screening requirements for checked bags arriving from trusted foreign airports. In the maritime domain, the USCG continued inspection and enforcement activities at maritime port facilities nationwide. In fiscal year 2013, the USCG completed over 6,100 security-related inspections at maritime facilities and performed more than 3,700 inspections related to facility safety and environmental protection.

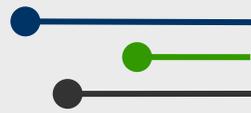
Emerging technologies—such as 3D-printed plastic weapons—introduce new technological considerations for organizations with screening missions like TSA. To protect the tens of thousands of schools, courthouses, stadiums, government buildings, and other facilities that rely on metal detectors, Congress extended the *Undetectable Firearms Act of 1988* (Public Law 100-649) in December 2013. The law requires firearms to contain at least 3.7 ounces of steel, but technological advancements such as 3D printing make the law difficult to enforce.



Furthermore, emerging public- and private-sector interest in using unmanned aircraft systems also presents safety concerns and regulatory challenges, given their affordability and surveillance potential when outfitted with cameras, license plate readers, or thermal imaging devices. As of December 2013, the Federal Aviation Administration (FAA) issued 83 certificates of authorization or waiver for government use of unmanned aircraft systems in support of law enforcement, and 74 certificates of authorization or waiver for homeland security and emergency response. At least three Federal agencies are developing privacy guidelines to govern their use of unmanned aircraft systems. In September 2013, the first FAA-approved commercial unmanned aircraft system took flight over Arctic waters to monitor oil drilling activities, and the FAA selected six test sites in December 2013 for research into use of these resources. Currently, no Federal regulations explicitly address the privacy implications of surveillance through unmanned aircraft systems. While some existing state and local law may already apply, state and local governments are beginning to establish their own privacy laws. As of September 2013, at least four states have banned or limited all surveillance through these systems.



PROTECTION



Highlights

- New guidance, standards, and best practices are promoting enhanced protection of critical infrastructure and cyber systems. (Access Control and Identity Verification, p. 29; Cybersecurity, p. 30)
- Shortfalls in the size and capabilities of the cyber workforce needed to protect critical digital assets and proprietary information continue to challenge the whole community. (Cybersecurity, p. 30)
- The 2013 *National Infrastructure Protection Plan* details an updated approach to strengthen the security and resilience of critical infrastructure through the integration of cyber and physical security efforts. (Physical Protective Measures, p. 31)
- The Federal Government and the private sector have partnered to increase the availability and utility of risk assessment tools and physical security and protection programs. (Risk Management for Protection Programs and Activities, p. 32)
- Government, private-sector, and university researchers are developing and using more secure authentication technologies to improve access to critical facilities and networks. (Access Control & Identity Verification p. 29)

Trends Progress in the Cybersecurity core capability featured prominently in 2013, reflecting nationwide attention to this issue, even as states and territories reported mixed progress in other Protection core capabilities. Previous *National Preparedness Reports* identified the Cybersecurity core capability as a national area for improvement, and 82 percent of states and territories identified it as a high priority. Additionally, ratings for Physical Protective Measures and for Risk Management for Protection Programs and Activities improved, while states and territories reported slight decreases for Access Control and Identity Verification, as well as for Supply Chain Integrity and Security. Through the statewide self-assessments, states and territories also described their remaining capability gaps, including: addressing training needs arising from staffing turnover and attrition; developing and validating plans; and expanding participation from additional partners, such as the private sector.

Across the Protection mission area, multiple levels of government and the private sector worked together to secure the Nation's critical cyber and infrastructure systems. The U.S. Department of Commerce's (DOC) National Institute of Standards and Technology (NIST) worked with hundreds of public and private stakeholders to develop the [Framework for Improving Critical Infrastructure Cybersecurity](#), which highlights voluntary risk-based standards, guidelines, and best practices to manage cybersecurity risks for critical infrastructure. DHS also released [NIPP 2013: Partnering for Critical Infrastructure Security and Resilience](#), which provides an updated approach to critical infrastructure security and resilience across all five mission areas, and a greater focus on integrating cyber- and physical-security efforts. The updated plan also reaffirms the need for all levels of government to work in partnership with the private sector. Additionally, public and private partners continued developing and updating technical standards to improve infrastructure security and resilience by securing [access control](#); [cyber systems](#) and [mobile devices](#); and [technological components from supply chains](#).

In 2013, major policy changes in the Protection mission area occurred at the national level, establishing an integrated approach for infrastructure stakeholders in government and the private sector to enhance infrastructure security and resilience. New policies include [Executive Order 13636: Improving Critical Infrastructure Cybersecurity](#) and [Presidential Policy Directive 21: Critical Infrastructure Security and Resilience](#). Both are in the early stages of implementation.

By the Numbers

The U.S. Secret Service prevented losses of **\$1.1 billion** through successful cyber investigations in fiscal year 2013.

After receiving an assessment from DHS, **70 percent** of infrastructure facilities have implemented or plan to implement security enhancements.

DHS provided **77,028** hours of cybercrime training to law enforcement officers domestically and overseas in fiscal year 2013.

Resilience Innovations

- The Federal Communications Commission's (FCC) [Smartphone Security Checker](#) is an online tool that helps smartphone users secure their mobile device in 10 steps.
- The web-based [Dams Sector Analysis Tool](#), developed by USACE and DHS, provides dam owners and operators with data collection and analysis tools that support screening, prioritization, and risk analysis of dam assets.
- DOE resources through its [Cybersecurity Capability Maturity Model](#) program include toolkits that help stakeholders across all sectors to identify cybersecurity capabilities and needs.

Preparedness in Action

Attacks against the Nation's critical cyber systems remained a major preparedness concern in 2013. Through

2012 and 2013, American financial institutions experienced a sustained campaign of distributed denial-of-service attacks, which disrupted websites for many financial services organizations. Throughout this campaign, the Financial Services Information Sharing and Analysis Center served as a forum for the financial services sector and government to share information and coordinate responses to the cyber attacks. DHS's National Cybersecurity and Communications Integration Center (NCCIC) identified and shared hundreds of thousands of Internet Protocol addresses to help financial institutions improve their defenses. DHS and the FBI also provided onsite technical assistance and classified briefings on the threat and related mitigation strategies to hundreds of security specialists within the financial sector.

Improving protection against chemical incidents was another major focus area. The DHS Office of Health Affairs (OHA) launched the pilot Chemical Defense Program in Baltimore, Maryland, to help protect local communities in large chemical emergencies. During the pilot, OHA developed tailored chemical risk assessment methodologies, provided workshops for stakeholders and vendors in the Baltimore area, and conducted technology assessments. Using these findings, the Maryland Transit Administration improved chemical emergency preparedness plans, community preparedness capabilities, and technologies designed to protect the public from chemical incidents. Since the initial pilot, OHA has extended the program to Boston; New York City; San Francisco; Seattle; and Washington, D.C.

Whole Community Accomplishments

Michigan: The State of Michigan continued the [Merit Network](#)—a research, test, training, and evaluation facility for cybersecurity and cyber defense—in partnership with state universities, local governments, and the private sector. The facility expanded available training, including certificates in cybersecurity incident handling, wireless security, and cybersecurity forensics.

Texas: The Railroad Commission of Texas recently developed a *Supply Disruption Tracking Plan*, which consists of three separate systems to track the efficiency and security of the supply for natural gas, gas processing plants, crude oil pipelines, and refineries.

Oregon: The State of Oregon, with partners from industry and academia, prepared an earthquake risk study for Oregon's critical energy infrastructure hub. The study assessed risk and determined countermeasures to protect the state's energy infrastructure in the event of a catastrophic earthquake.

PROTECTION

Access Control & Identity Verification

- Nearly all Federal employees and contractors have Personal Identity Verification cards, and Federal agencies are increasingly requiring smartcards to access information and computer systems.
- Government, private sector, and university researchers are developing and using more secure forms of authentication, including attribute-based and biometric controls.

Homeland Security Presidential Directive 12: Policy for a Common Identification Standard for Federal Employees and Contractors requires that all Federal departments and agencies use secure forms of smartcard identification to appropriately control employees' and contractors' access to facilities and systems. As of September 2013, 95 percent of Federal employees and contractors have Personal Identity Verification cards. With issuance near 100 percent, Federal agencies are focusing on increasing the percentage of computers requiring Personal Identification Verification cards for network access. As of February 2013, 57 percent of Federal agencies required these cards to log on to internal computer networks. In August 2013, NIST released an updated standard that created requirements for the use of Personal Identity Verification cards to access Federal Government-issued mobile devices. In addition to these Federal requirements, the private sector began introducing smartcard credentials—known as Commercial Identity Verification cards—in 2011, which are comparable to Federal Personal Identity Verification cards, but are developed specifically for use by the private sector.

In addition to smartcards, Federal agencies and the private sector are beginning to incorporate other approaches to identity authentication. In January 2014, NIST finalized guidance for implementing attribute-based access controls throughout the Federal Government. Attribute-based controls require users to enter unique information about themselves (e.g., past addresses or mother's maiden name) to access sensitive information systems. In addition, DHS is partnering with the financial services sector to develop attribute-based access controls to safeguard information and access to infrastructure.

Government and academia are also exploring biometric authentication to improve access control.

Biometric authentication relies on the unique physical attributes of a person, such as fingerprints or iris scans. In order to verify identities for system access, the Federal Government and universities are developing keystroke biometric techniques to measure an individual's typing patterns. A recent study of keystroke biometrics, sponsored by the U.S. Department of Defense's (DOD's) Defense Advanced Research Projects Agency, tested more than 2,000 users and found the technology only recorded false acceptance or rejection of identities in 0.5 percent of trials.



States and territories did not generally identify this capability as a high priority. **More than 50 percent** of states and territories noted a need to **increase private-sector participation** in exercises.

PROTECTION

Cybersecurity

- Cyber attacks on critical infrastructure are a major threat, but critical infrastructure owners and operators and the Federal Government are collaborating to reduce cyber risk through information sharing, exercises and the adoption of cybersecurity practices.
- The Federal Government and state governments are increasing cybersecurity training and education for employees to improve the capability of personnel to meet cybersecurity challenges.

The Nation faces a number of cybersecurity threats that could affect computer systems containing sensitive information and networked critical infrastructure systems—such as the water, communications, and electricity sectors. All levels of government and the private sector are working to reduce these risks through information-sharing programs, exercises, training, and new cybersecurity standards and guidance. Although state and territory self-assessment results showed slight progress in cybersecurity from 2012 to 2013, they also identified remaining capability gaps in planning, training, and exercises. For example, over 60 percent of states and territories noted a need to develop targeted annexes to their existing cybersecurity plans, to address training gaps from personnel turnover and attrition, and to validate plans through exercises and real-world incidents. Two-thirds of states and territories reported that addressing these capability gaps is mostly or entirely a state responsibility.

Though capability gaps remained for states, the Federal Government continued a series of nationwide initiatives to strengthen critical infrastructure cybersecurity in 2013. In February 2013, the President signed *Executive Order 13636: Improving Critical Infrastructure Cybersecurity*, which encourages voluntary cybersecurity collaboration between the Federal Government and critical infrastructure owners and operators. The Executive Order also calls for the development of a cybersecurity framework with voluntary standards, methodologies, and procedures to address cyber risks. In February 2014, the Federal Government released the first *Framework for Improving Critical Infrastructure Cybersecurity*, which reflects 2,500 stakeholder comments provided to enhance its applicability to government and private-sector partners. The framework incorporates global best practices and recommendations into a set of risk-based, voluntary cybersecurity standards for critical infrastructure organizations. In concert with the framework, DOE expanded cybersecurity assessment and planning resources available through its Cybersecurity Capability Maturity Model program, including updated tools for the electricity and oil and natural gas subsectors and a general model applicable to all infrastructure sectors.

**The National
Cybersecurity and
Communications
Integration Center
received over 228,000
cyber incident reports
from whole community
partners in fiscal year
2013**

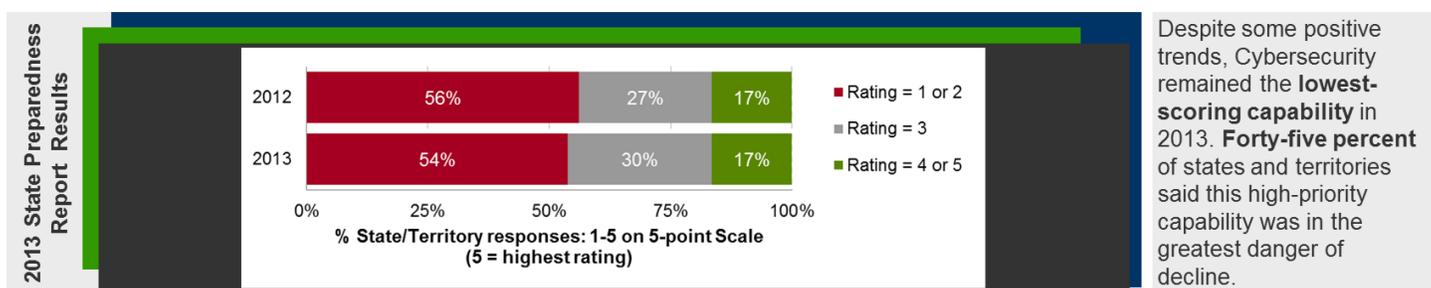
The cybersecurity-focused 2012 National Level Exercise identified a number of areas for improvement, including the need to conduct additional cyber exercises, and the need to improve information sharing and communication between the government and private sector. Federal offices involved with cybersecurity preparedness have independently made progress in several of these areas of concern. DHS's NCCIC, which serves as a centralized cybersecurity operations and analysis center, developed an incident management plan in fiscal year 2013 to guide its cyber response operations. The NCCIC began "train the trainer" cyber exercise planning efforts to teach stakeholders how to develop an effective cyber exercise program, and also conducted 87 cyber-related exercises involving state and local governments and the private sector. The dams sector also conducted an exercise that exposed sector partners to a cyber attack scenario and improved the sector's ability to examine internal cyber incident plans and procedures. U.S. nuclear power plants in operation continue to implement cybersecurity plans in accordance with Nuclear Regulatory Commission-approved implementation schedules. The Nuclear Regulatory Commission has developed a cybersecurity oversight program—including inspector training, an inspection program, and a process for evaluating the significance of inspection findings—and is inspecting nuclear power plants' implementation of their cybersecurity plans.

In 2013, the FBI embedded a team of subject matter experts in DHS through its Next Generation Cyber Initiative to facilitate the sharing of threat data with the NCCIC, Information Sharing and Analysis Centers, and private sector partners. The FBI also expanded its Cyber Task Force program, helping state, local, tribal, and territorial partners to

leverage Federal cyber capabilities. In its role as a national focal point for the U.S. government for coordinating, integrating, and sharing information related to all domestic cyber threat investigations, the FBI-led National Cyber Investigative Joint Task Force continued to help develop and coordinate operational initiatives in cooperation with DHS, DOD, and other Federal, state, local, tribal, territorial, and international partners to successfully neutralize cyber intrusions and other cyber threats.

The NCCIC received over 228,000 cyber incident reports from whole community partners in fiscal year 2013, a 41-percent increase in cybersecurity information sharing from fiscal year 2012. A new DHS Cyber Information Sharing Working Group contributed to this growth and tripled the number of cyber briefings delivered to the private sector from 2012 to 2013. The Electricity Sector Information Sharing and Analysis Center also expanded its cyber risk preparedness assessment program to help bulk power systems detect, prevent, and respond to cyber attacks, as well as coordinate with internal and external partners.

While cybersecurity collaboration and information-sharing activities are increasing, developing a well-trained cybersecurity workforce remains an ongoing challenge. A 2013 report estimates that the U.S. workforce needs 20,000–40,000 more cyber experts than are available. Federal, state, and local partners created training courses to help build cyber skills within the current workforce. DHS, FEMA, and DOE developed training focused on best practices in the workplace, combating cybercrime, and cybersecurity emergency management for government and private-sector partners. Additionally, the USSS National Computer Forensics Institute provided comprehensive training on cyber forensics and the prosecution of cybercrimes to over 350 different agencies and offices in fiscal year 2013. At the state level, Michigan developed a cybersecurity awareness program that provided 12 computer-based training lessons focused on best practices in the workplace to over 50,000 employees.



PROTECTION

Physical Protective Measures

- New national guidance on managing risk to critical infrastructure emphasizes security, resilience, and continued partnerships among all levels of government and the private sector.
- Ongoing programs to assess security and resilience provided actionable information to critical infrastructure owners and operators on protective measures for implementation.

In February 2013, the President signed *Presidential Policy Directive 21: Critical Infrastructure Security and Resilience* to guide actions for securing physical and cyber critical infrastructure. Pursuant to this policy, DHS released the new *National Infrastructure Protection Plan* in December 2013 that reflects stakeholder input from the 16 critical infrastructure sectors, the private sector, and all levels of government. The updated plan emphasizes resilience and the integration of physical and cyber protection efforts, as well as risk management and partnerships among the sectors.

In addition to developing new guidance, DHS continued existing assessment programs that strengthen security and resilience at critical infrastructure facilities nationwide. The DHS Office of Infrastructure Protection conducted 123 voluntary site assistance visits in fiscal year 2013 to help critical infrastructure owners and operators evaluate

vulnerabilities and identify additional protective measures. Follow-ups with 279 facilities confirmed that 18 percent had completed at least one improvement as a direct result of information received through a site assistance visit. Nearly half of these facilities reported planning or starting security enhancements within the past six months. Improvements included electronic security systems, entry controls, and perimeter security.

In addition, the DHS Office of Infrastructure Protection continued infrastructure assessments through the Regional Resiliency Assessment Program, which evaluates vulnerabilities and interdependencies among infrastructure assets within a region from an all-hazards perspective. In fiscal year 2013, DHS completed nine projects through the Regional Resiliency Assessment Program and began another nine. An additional fiscal year 2013 project is a large, two-year effort launched the previous year. DHS also concluded the first international project through the Regional Resiliency Assessment Program along the U.S.-Canada border, focusing on energy and transportation infrastructure. Furthermore, in fiscal year 2013, DHS accelerated the pace of reviews for site security plans for high-risk chemical facilities. After streamlining the review process in fiscal year 2012, DHS authorized 685 site security plans in fiscal year 2013, up from 68 the previous year. In 2013, DHS approved 421 site security plans.

DHS continued assessing the Nation's most critical infrastructure sites in fiscal year 2013 through 746 voluntary Enhanced Critical Infrastructure Protection security surveys. Through this program, DHS collects standardized data on facility vulnerability and protective measures and shares national summaries with facility owners and operators, allowing them to compare their facility's security measures with similar assets in the sector. Sixty-seven percent of participating facilities reported planning, starting, or implementing protective actions based on the survey results.

Finally, in 2013, the FBI continued its protection and prevention programs that cut across critical infrastructure sectors. For example, in partnership with the Nuclear Regulatory Commission and DHS, the FBI assists commercial nuclear power plants in developing response plans, tactical planning aids, and exercises. During fiscal year 2013, the FBI produced 50 response plans for nuclear power facilities, held seminars at four commercial nuclear power facilities, and conducted two law enforcement field training exercises.



PROTECTION

Risk Management for Protection Programs & Activities

- Although the majority of critical infrastructure sectors have widely adopted risk management practices, the large number of risk assessment methods has prompted DHS efforts to standardize them.
- A deadly explosion at a fertilizer facility prompted the identification of additional measures to improve risk management practices at chemical facilities.

DHS annually surveys Federal agencies that lead coordination efforts for the 16 critical infrastructure sectors to obtain a snapshot of the Nation's infrastructure security and resilience. The survey includes questions on how owners and operators in each sector use risk to inform their protection policies and programs. Results based on responses from 13 of the 16 sectors in 2013 indicate that at least half of the sectors have widely adopted risk management plans and

assessments to improve preparedness for all-hazards (see Figure 7). All responding agencies reported that at least some of their sector partners conduct these activities.

To support risk management activities, Federal agencies developed various resources for infrastructure owners and operators. Most critical infrastructure sectors participate in DHS programs to support risk assessments, including the Regional Resiliency Assessment Program and Site Assistance Visits. Sector-specific examples of Federal support include DOE, which offers over 70 risk assessment tools and programs for the energy sector, and USACE, which has developed the Common Risk Methodology for Dams to facilitate risk evaluation in the dams sector. Ninety-three state and local

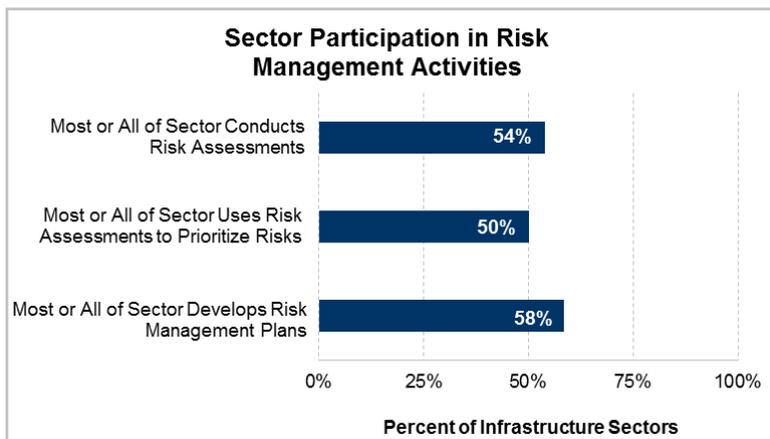


Figure 7: Responses from 13 of the 16 critical infrastructure sectors in an annual DHS survey illustrate the extent to which risk management practices are currently in place.

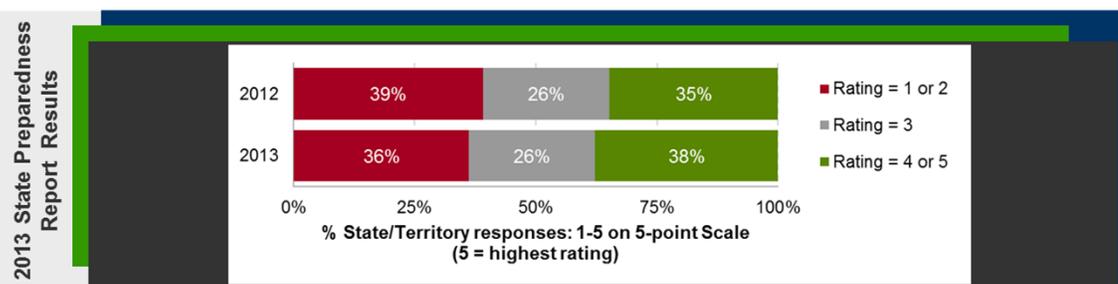
jurisdictions also completed energy assurance plans that assess preparedness for energy emergencies. In the maritime domain, the USCG expanded use in fiscal year 2013 of the Port Resilience Operational/Tactical Enforcement to Combat Terrorism (PROTECT) tool, developed in collaboration with the University of Southern California and Purdue University. The mathematical model helps USCG commanders optimize their use of available assets to counter terrorist threats against maritime resources. More broadly, at least eight sectors reported that Federal risk management programs informed sector-wide risk assessments or assisted owners and operators in developing facility-specific plans.

The large number of risk assessment tools and programs underscores the challenge of ensuring a consistent and accurate approach to assessing risk and incorporating results into decision-making. To address these challenges, DHS is developing a single, Internet-accessible resource called the Infrastructure Protection Gateway, which contains relevant data and risk assessment tools that use a standardized, streamlined assessment methodology. Improved access to relevant data through this resource supports event planning, preparedness, and incident response. In 2013, DHS launched a pilot to encourage state, local, tribal, and territorial partners to use the data and tools and provide feedback.

Among the 16 critical infrastructure sectors, risk management activities for the chemical sector intensified in 2013, following an April explosion at a fertilizer facility in West, Texas, that killed at least 14 people and injured 200. In response, the President issued *Executive Order 13650: Improving Chemical Facility Safety and Security* in August 2013 to strengthen facility security and reduce risks from hazardous chemicals to workers and communities. Specifically, the Executive Order calls for improved coordination and information sharing among Federal, state, local, and tribal partners; a review of existing risk management and regulatory programs; and the identification of best practices for facility safety.

Preparedness Case Study: National Risk Estimate on Insider Threats

The DHS Homeland Security Infrastructure Threat and Risk Analysis Center (HITRAC) publishes a series of National Risk Estimate products to provide issue- or sector-based risk assessments for policy makers and infrastructure owners and operators. A December 2013 study explored the insider threat facing critical infrastructure. The evaluation considered risk trends for the next three to five years, as well as longer term analysis looking 20 years ahead. Recommendations included developing scalable program standards to address insider threats; balancing risk-based security procedures with policy, legal, and employees' rights issues; and providing training for employees to help identify malicious insiders.



More than half of states and territories identified training needs from turnover and attrition as a capability gap for this core capability.

PROTECTION

Supply Chain Integrity & Security

- Federal agencies continued implementing the *National Strategy for Global Supply Chain Security* by introducing new guidance and standards for supply chain security, in addition to measures that improve supply chain efficiency.
- The majority of imports enter the United States through trusted trading partners that meet a standard set of security requirements. Balancing supply chain security with the efficient movement of goods remains a challenge at some points of entry.

U.S. manufacturers and distributors rely on a complex, global supply chain to meet the needs of American companies, of which 85 percent depend on foreign products or goods. The 2012 *National Strategy for Global Supply Chain Security* established goals to strengthen the global supply chain system, including promoting the efficient and secure movement of goods, and fostering a resilient supply chain system. These goals are being met through efforts to develop supply chain standards, improve risk management practices, create more efficiency, and engage stakeholders in trusted trader programs.

In 2013, Federal agencies demonstrated progress in implementing this national strategy by developing supply chain security standards and evaluating risk. DHS's Secure Supply Chain Initiative advanced several priority global standards and best practices, including strengthening security standards for international mail, creating a common understanding of high-risk cargo, and establishing requirements for transporting dangerous bomb-making materials. Additionally, in August 2013, NIST released draft guidance for managing supply chain risks in the information and communications technology sectors. Federal agencies also made progress in identifying and understanding the threats to key supply chain assets, infrastructure, and support systems. For example, a risk characterization by the U.S. government in 2013 focused on risks that could cause significant disruptions of the global supply chain.

The Federal Government also issued new requirements for procurements with potential national security implications, including components of computer or infrastructure systems that, if tampered with, could threaten critical infrastructure, cybersecurity, and defense. In November 2013, DOD issued an interim regulation that allows the Department to consider supply chain risk in purchases of sensitive information technology and to direct contractors to exclude high-risk product sources.

Efforts also continued to improve supply chain efficiency and security at ports of entry. The General Services Administration (GSA) and CBP have partnered since 2004 to modernize infrastructure at land ports of entry along the Canadian and Mexican borders. In 2013, CBP and GSA completed expansion and replacement projects in seven sites, and expanded entry lanes at one site to improve traffic flow and processing capacity. Additionally, a pilot study that tested the efficiency of offshore examination of cargo bound for a U.S.-Canada land border was able to reduce the processing time for trains at the border from two hours to nineteen minutes. DHS also deployed radio frequency identification technology to expedite trusted travelers through land borders and enhanced security by introducing next-generation license plate readers and radiation monitors at almost all ports of entry.



Programs such as the Customs-Trade Partnership Against Terrorism improve supply chain security before international cargo reaches U.S. ports. In exchange for meeting a standard set of security requirements, CBP provides companies with known track records of security performance with expedited clearance of their goods at U.S. points of entry. In 2013, the Customs-Trade Partnership Against Terrorism included 10,678 partners who accounted for more than 50 percent of U.S. imports (see Figure 8). The program also conducted 2,111 validation inspections to ensure partner compliance with requirements.

Additionally, over two million partners participated in TSA’s Known Shipper and Certified Cargo Screening Program, which allows trusted businesses to ship cargo on passenger aircraft. As of 2013, TSA certified that the air cargo industry has met the requirement to screen 100 percent of air cargo. Despite benefits from trusted trader programs, the United States continues to face challenges in processing goods efficiently. For example, the GAO recently found that the Free and Secure Trade program has not significantly reduced wait time for the more than five million commercial truckloads imported from Mexico each year.

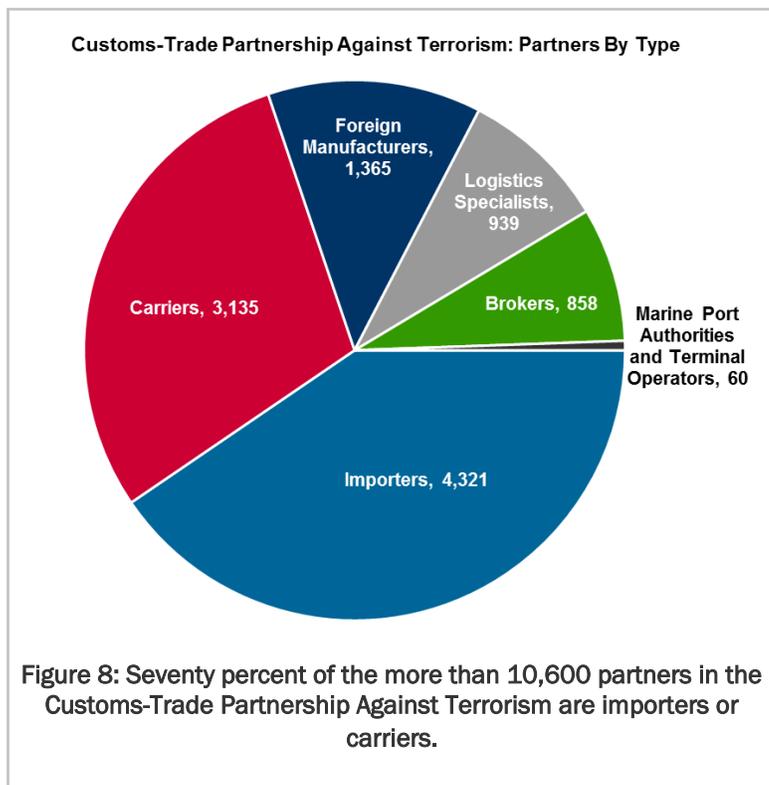
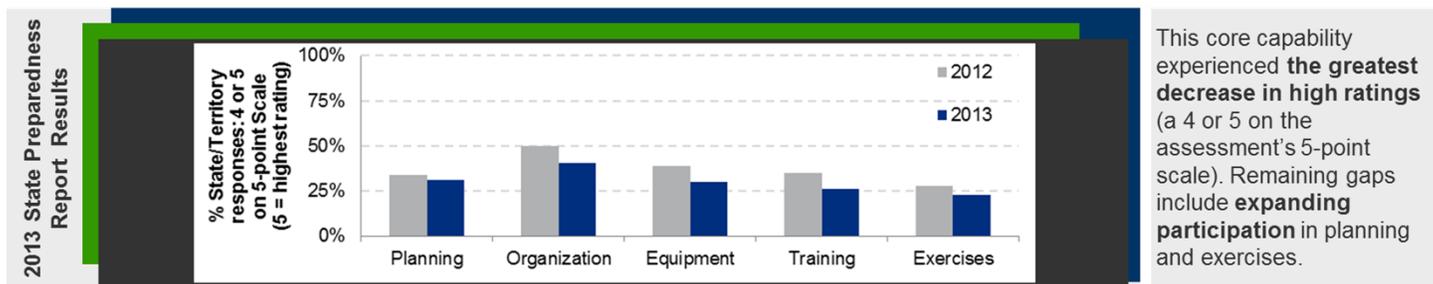


Figure 8: Seventy percent of the more than 10,600 partners in the Customs-Trade Partnership Against Terrorism are importers or carriers.

Preparedness Case Study: Managing Drug Supply Shortages

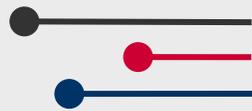
The Nation faces periodic shortages in key cardiovascular, anesthetic, pain relief, and anti-infective drugs, including a recent national shortage of intravenous saline solution that triggered state inquiries about Federal assistance. In response, the Food and Drug Administration (FDA) works with manufacturers to prevent drug shortages, which can arise from increased demand, quality control and production challenges, supply chain disruptions, and discontinuations. These efforts prevented 170 shortages in 2013. The HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) monitors general stress on the health system, such as the effects that resource challenges have on the healthcare system’s capacity to provide care. ASPR convened an HHS-wide leadership group to coordinate decision-making about the saline shortages, as it does during emergencies to analyze and resolve policy issues that arise. In addition, partners have developed tools for use in disasters that can help healthcare providers allocate resources during drug shortages. Examples include [crisis standards-of-care guidelines](#) from the Institute of Medicine; HHS’s [Radiation Emergency Medical Management portal](#); and guidance from the Association of State and Territorial Health Officials on [coping with drug shortages](#).



This core capability experienced the **greatest decrease in high ratings** (a 4 or 5 on the assessment’s 5-point scale). Remaining gaps include **expanding participation** in planning and exercises.



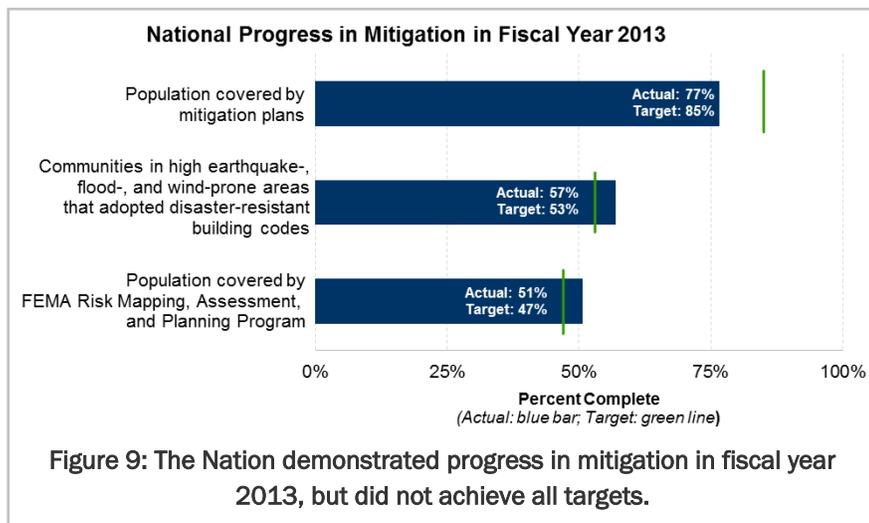
MITIGATION



Highlights

- The *Biggert-Waters Flood Insurance Reform Act of 2012* (Public Law 112-141) began to address the sustainability of Federal flood insurance by calling for updated flood risk maps and modified flood insurance rates that reflect risk more accurately. (Long-term Vulnerability Reduction, p.43)
- Threat and hazard identification initiatives by state, local, tribal, and territorial partners involved diverse representation from government agencies, non-governmental organizations, and other whole community partners to produce an inclusive understanding of threats and hazards. (Threats and Hazard Identification, p. 39)
- Federal partners are assessing the impacts of climate change on key economic sectors and the vulnerability of their missions to climate change and extreme weather. (Risk and Disaster Resilience Assessment, p. 40)
- New incentives and expanding partnerships are strengthening community resilience across the Nation. (Community Resilience, p. 42)

Trends Nationwide, mitigation efforts reduced the cost of natural disasters by an estimated \$3.2 billion in fiscal year 2013, exceeding Federal targets by over 30 percent. As shown in Figure 9, progress occurred in several mitigation areas, but challenges remain in addressing existing gaps and future risks.



The National Flood Insurance Program faces fiscal challenges. By design, the Federal Government has subsidized some of the highest-risk policies to reduce the financial burden on households. While this approach has kept premiums affordable, major disasters such as Hurricanes Katrina and Sandy have forced the program to borrow money to cover costs and the program is \$24 billion in debt. The *Biggert-Waters Flood Insurance Reform Act of 2012* (“Biggert-Waters”) attempts to ensure the sustainability of the program and, in turn, the future availability of flood insurance. The *Homeowner Flood Insurance Affordability Act of 2014* (Public Law 113-89) amended

certain provisions from Biggert-Waters to delay implementation of full risk-based premium rates for certain properties.

In addition to policy and fiscal issues, population changes and climate conditions pose challenges for reducing disaster losses. Over the past 40 years, the population in coastal shoreline counties has increased by 39 percent. Changes in climate are also influencing the frequency and intensity of extreme weather across the United States.

Given challenges from climate change, some states and Federal agencies are planning proactively. FEMA’s regulations require states to include an overview of past and future natural events that can affect them in their hazard mitigation plans. Thirty-two states mention climate change in their mitigation plans; of these, 11 incorporate a thorough discussion of the impacts of climate change and adaptation actions. In addition, USACE requires consideration of climate change in its planning activities.

By the Numbers

Mitigation plans from more than 22,000 communities cover approximately **76 percent** of the U.S. population, up from 71 percent in 2012.

Over 50 percent of the population is either aware of the importance of personal preparedness or is taking actions to improve their preparedness.

Seventy-one percent of Citizen Corps Councils have supported local emergency planning activities within the past two years.

Resilience Innovations

- The U.S. Department of Education's Readiness and Emergency Management for Schools Technical Assistance Center created a [virtual toolkit](#) with resilience resources for school emergency managers.
- NOAA's [Digital Coast](#) gives a growing coastal population information needed to make coastal communities more resilient.
- Oak Ridge National Lab researchers developed a [methodology to use social media](#) to help measure community resilience.
- In 2013, community leaders from Joplin, Missouri, [published lessons learned and recommendations](#) from their recovery from a 2011 tornado to help communities increase resilience before a disaster.

Preparedness in Action The Community and Regional Resilience Institute reported on the first pilot projects completed through its FEMA-supported Community Resilience System. A key finding from the pilot programs was that despite the flexibility that assessment tools offer, such tools cannot substitute for building relationships, networks, and plans across agencies and sectors. One example of this community networking is the Communities Organized to Respond in Emergencies program in Miami-Dade County that engages faith-based and community organizations in response and recovery efforts. Forty-six additional organizations committed to partner with this program in 2013, augmenting its available resources.

The Federal Highway Administration (FHWA) also continued working with state and local jurisdictions to assess the resilience of transportation systems to climate change. The FHWA developed a climate vulnerability assessment model for transportation and tested its application in five pilot studies from 2010–2011. In the Washington State pilot, the assessment revealed that many transportation assets are resilient to climate change, due to a “no regrets” mitigation strategy, which goes beyond minimum standards for seismic retrofitting and reducing flood exposure. [FHWA expanded the program](#) to 19 additional pilot sites in 16 states. The pilots are using the vulnerability assessment model and analyzing adaptation options to improve the resilience of transportation infrastructure. Washington State is building on its previous work by examining the Skagit River Basin, one of the vulnerable areas identified in a previous pilot study. Key activities include identifying adaptation strategies for transportation infrastructure, developing a repeatable evaluation process, and producing an action plan that accounts for future climate impacts.

Whole Community Accomplishments

Colorado: During the 2013 Colorado floods, the Independence Center led regional coordination efforts to help disaster survivors with disabilities. The Independence Center collaborated with seven other Centers for Independent Living, disability advocacy and service organizations, and FEMA's Office of Disability Integration and Coordination to integrate people with disabilities and others with access and functional needs into response and recovery operations.

Los Angeles, California: The City of Los Angeles Fire Department partnered with local organizations and businesses to create the South Los Angeles Teen Community Emergency Response Team Collaborative, which received the [John D. Solomon Whole Community Preparedness Award](#) in 2013. The program provided basic disaster preparedness and response training to youth from at-risk neighborhoods in Los Angeles, delivering training to 27 local teens. Fourteen of these individuals also received training in cardiopulmonary resuscitation and first-aid.

Eagle Village, Alaska: In Eagle Village, Alaska, mitigation actions have reduced vulnerability. After devastating floods in 2009, the community used mitigation funding from FEMA to relocate housing for its nearly 70 residents, moving several miles inland from the Yukon River. When similar floods occurred in 2013, these new homes did not sustain damage.

MITIGATION

Threats & Hazard Identification

- Threat and hazard identification submissions from state, local, tribal, and territorial partners more frequently identified threats and hazards that trigger secondary incidents.
- The process that state, local, tribal, and territorial partners used to identify their threats and hazards included representation from a wide variety of participants, including government agencies, non-governmental organizations, and other whole community partners.

States, territories, urban areas, and participating tribal nations revised their Threat and Hazard Identification and Risk Assessment submissions in 2013, in accordance with the updated *Comprehensive Preparedness Guide 201 (Second Edition)*. This guide describes a standard process for communities to identify the threats and hazards they face and define measurable targets for each core capability. Through this process, 56 states and territories, 27 urban areas, and 27 tribal nations produced submissions that addressed 676 threats and hazards.

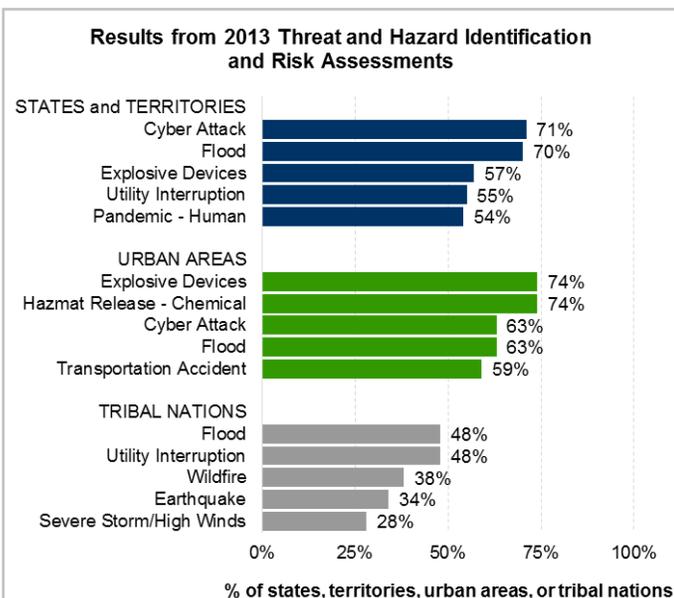


Figure 10: In their 2013 evaluations, states, territories, and urban areas tended to identify technological and human-caused events among the top threats and hazards, while tribal nations focused on natural hazards.

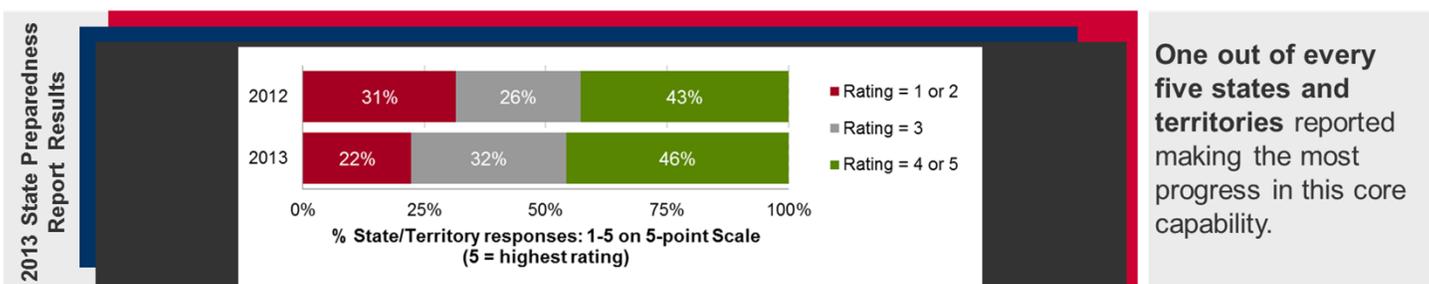
Figure 10 highlights the threats and hazards that states, territories, urban areas, and tribal nations identified most frequently. States, territories, and urban areas frequently identified explosive devices and cyber attacks, while tribal nations trended toward natural hazards, such as earthquakes, wildfires, and severe storms. In addition, Threat and Hazard Identification and Risk Assessment submissions from all participating levels of government frequently identified floods as a hazard. In 2013, they also included utility disruptions, explosive devices, and transportation accidents more often than the previous year.

Over one-third (35 percent) of the threats and hazards included in the 2013 submissions involved an initial incident that triggers a secondary, follow-on event, up from 24 percent in 2012. Examples include a cyber attack causing a utility disruption or a transportation accident leading to a hazardous chemical release. Approximately seven percent of all identified threats and hazards considered multiple events happening at the same time, such as bomb explosions and active shooter incidents occurring simultaneously.

States, territories, and urban areas reported integrating a wide variety of government agencies in their processes. On average, participants involved over 45 government agencies in their Threat and Hazard Identification and Risk Assessment efforts. Of these, nearly 75 percent of government participants represented one of the following disciplines: emergency management; law enforcement and public safety; fire service and emergency medical services; public health; or homeland security. In addition, hundreds of non-governmental organizations participated in the process nationally; approximately two-thirds of these stakeholders were from hospitals and healthcare organizations, businesses, utilities, education, and the American Red Cross.



In addition, threat and hazard identification efforts continued to inform planning efforts at the national level. In 2013, DHS conducted a national risk characterization and assessed the strategic environment to prioritize risks facing the Nation, and to inform ongoing strategic planning efforts. These analyses considered short-term trends in the next five years and future uncertainty through 2030 to identify current and emerging risk. These national efforts highlighted similar threats and hazards as the 2013 Threat and Hazard Identification and Risk Assessment process, including terrorism, cyber attacks, pandemics, and natural and technological hazards.



MITIGATION

Risk & Disaster Resilience Assessment

- Federal partners are assessing the impacts of climate change on key economic sectors and the vulnerability of their missions to climate change and extreme weather.
- Emerging tools to assess resilience increasingly incorporate similar types of data. However, wide variations remain in how these tools use the data types, leading to inconsistencies in assessment results.

In recognition of the challenges from climate change and aging infrastructure, Federal agencies are analyzing their impacts on key economic sectors and developing mitigation strategies. For example, in summer 2013, DOE released a report outlining the effects of climate change on the energy sector. DOE and the Council of Economic Advisors released a study on electric grid resilience that evaluated the current capacity of the grid to maintain power during natural disasters, analyzed the economic impacts of grid failure, and recommended actions to protect it. Similarly, the USACE completed a preliminary assessment and two nationwide screening assessments of the vulnerability of its civil works programs to climate change. In 2013, USACE also launched an initial vulnerability assessment of coastal projects to sea level change using geospatial databases and a publicly available calculator. By the end of 2013, USACE had assessed about 40 percent of some 2,100 coastal projects. The evaluation showed that over 270 projects were affected by sea level change, while over 600 projects appeared to be resilient to future climate shifts.

DHS's HITRAC provides additional assessment—with assistance from the National Infrastructure Simulation and Analysis Center—to inform disaster planning using hazard scenario analysis. For example, HITRAC concluded a study in 2013 that explored the impacts of the prolonged drought on electric power generation in Texas. Analysts identified at-risk facilities, assessed the potential effects of water shortages on electric power production, and studied the economic impacts of rolling blackouts. HITRAC also generates reports on hurricane swaths to project the likely impacts of scenario storms making landfall along the Gulf of Mexico and the Atlantic coast. In 2013, HITRAC published hurricane reports for Miami, Tampa, and New Orleans.

In addition to these Federal risk assessment efforts related to climate change and extreme weather, whole community partners progressed in developing approaches to measure resilience, which is the ability to adapt to changing conditions and to withstand and rapidly recover from disruption due to emergencies. Assessing resilience—and the characteristics that contribute to it—can help communities identify and prioritize preparedness actions. A 2012 study by the National Academy of Sciences observed that effective resilience assessments should address multiple hazards, apply to communities of various sizes, and consist of multiple data categories. However, comprehensive resilience assessment tools that meet these criteria remain in the early stages of development.

In recent years, numerous methodologies for assessing resilience have emerged from public and private research organizations. Common categories of qualitative and quantitative data featured in these assessments include:

- **Demographic and social connectivity variables**, such as population breakdowns by age, race, language, disability status, and voter registration;
- **Economic variables**, such as the number and size of businesses, home prices, household income, employment rates, and mortgage rates;
- **Infrastructure variables**, including medical system capacity, emergency shelter capacity, miles of major roadways, and public transportation networks;
- **Institutional capacity variables**, such as mitigation plans and flood insurance policies; and
- **Natural and ecological variables**, including land area, wetlands, and coastline.

Table 3 highlights the categories of data included in a subset of these assessments.

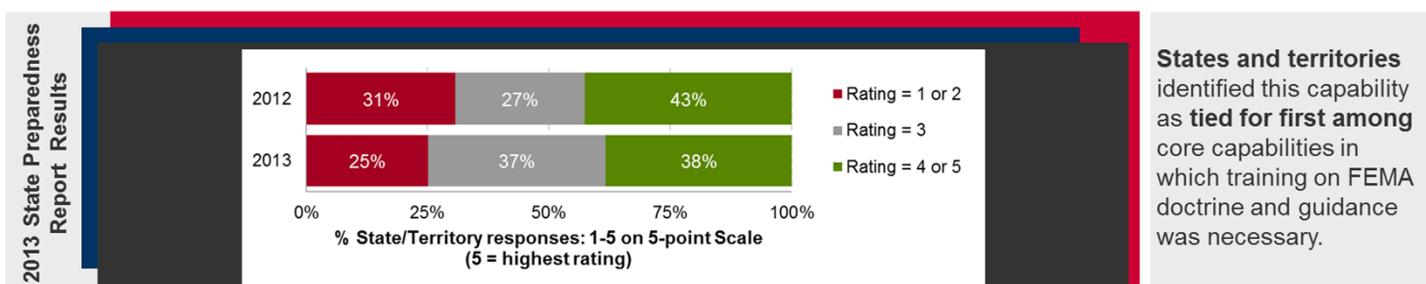
Resilience Assessments	Demographic and Social Connectivity Variables	Economic Variables	Infrastructure Variables	Institutional Capacity Variables	Natural and Ecological Variables
Baseline Resilience Indicators for Communities	•	•	•	•	•
Communities Advancing Resilience Toolkit	•	•		•	
Resilience Capacity Index	•	•		•	
PEOPLES Resilience Framework	•	•	•	•	•
Coastal Resilience Index	•		•	•	
Community Resilience System	•	•	•	•	•

Table 3: Resilience assessments generally agree on broad data categories to include when measuring resilience.

While common data categories have emerged, wide variations remain in how resilience assessments use these data categories, with different tools using different variables, weighting schemes, and aggregation methods. Variations across assessment tools can produce conflicting results that complicate comparisons across jurisdictions and create uncertainty for communities about their resilience levels. To mitigate these challenges, the National Academy of Sciences recommended developing a national resilience scorecard that uses a consistent methodology nationally, while preserving the ability for communities to tailor it to their specific needs.

Preparedness Case Study: Mapping Tools to Support Post-Sandy Rebuilding

After Sandy, residents in New York and New Jersey needed up-to-date maps to understand their flood risk before rebuilding. To address that need, FEMA developed interim Advisory Base Flood Elevation maps within weeks for nearly 300 communities to inform homeowner decision-making on rebuilding strategies. These temporary maps gave homeowners an interim resource to use until updated flood insurance rate maps became available. Communities accessed these resources online via the [FEMA GeoPlatform](#) and a [coastal hazard and mapping website](#). Ultimately, New Jersey incorporated the interim map information into its statewide flood control rules to strengthen the standard for rebuilding in Sandy-impacted areas. Similarly, New York City adopted emergency amendments to its building and zoning codes to accommodate this updated information.



Community Resilience

- New programs are emerging that incentivize communities to adopt resilience practices before disasters.
- Continued progress in expanding and formalizing whole community partnerships with additional stakeholders is strengthening resilience.

In 2013, new programs emerged to incentivize communities financially to adopt resilient practices before a disaster occurs. In December, the Rockefeller Foundation announced the first 33 awardees—including 11 U.S. cities—under its 100 Resilient Cities Centennial Challenge. This program provides technical support and resources to cities to develop resilience strategies. The Rockefeller Foundation also partnered with FEMA through the Community Resilience Innovation Challenge to award \$800,000 among 30 recipients to develop local plans, training programs, and awareness campaigns that enhance resilience. For example, a coalition of community organizations in St. Charles County, Missouri, is using funds to build a web-based database of community resources and share emergency preparedness plans with the faith-based community.

Meanwhile, progress continued in expanding and formalizing community partnerships, which researchers have found are critical to strengthening disaster resilience. A study by the National Academy of Sciences identified several steps to enhance community resilience, including engaging the whole community in disaster planning, and organizing communities, neighborhoods, and families to prepare for disasters. In 2013, a number of organizations strengthened partnerships with FEMA, expanding connections that strengthen disaster resilience (see Table 4). These partnerships facilitated a range of activities, such as the exchange of disaster resilience lessons learned, best practices, and training resources. A number of these partnerships support America’s PrepareAthon!, a community-based campaign to strengthen resilience.

New Partnerships with FEMA		
American Association of Retired Persons	Corporation for National and Community Service	American Red Cross
National Association for the Advancement of Colored People	International Association of Emergency Managers	National Voluntary Organizations Active in Disaster
Resilient Communities for America	Target Corporation	U.S. Office of Personnel Management

Table 4: In 2013, FEMA formalized relationships with the American Association of Retired Persons and National Association for the Advancement of Colored People. Other national organizations also pledged support to community preparedness efforts, including America’s PrepareAthon!.

Preparedness Case Study: “Know Your Line” Initiative



Developed through a partnership of eight Federal agencies, the “Know Your Line” initiative launched three pilot projects during 2013 in Frankfort and Franklin County, Kentucky; Harrisburg, Pennsylvania; and Nashville, Tennessee. As part of this initiative, signs posted in prominent public spaces indicate the height that flood waters reached in that location in past events. Unveiling the signs and other launch event activities raise awareness and provide tangible context for residents about the potential flood levels their communities have experienced in the past. In addition, through this program, FEMA and its partners develop tools and materials for other communities to launch their own customized initiatives.

Additional efforts are underway to improve partnerships for community resilience. For example, as of 2013, more than 1,200 Citizen Corps Councils existed nationally, and over 2,400 registered Community Emergency Response Team Programs were delivering preparedness and response training—a nine percent increase from the previous year. In addition, since 2009, the DHS Center for Faith-based and Neighborhood Partnerships has partnered with seven jurisdictions through its “Building Resilience with Diverse Communities” initiative by fostering relationships; supporting capability assessments; and providing training, technical assistance and exercise support. In 2013, the initiative expanded to Los Angeles, involving over 50 faith leaders from more than 1,000 houses of worship to strengthen local partnerships in preparedness efforts. DHS and HHS also continue to expand the role of health in community resilience. HHS participates in the DHS-led Community Health Resilience Initiative, which engaged over 60 stakeholders in 2013 to create a toolkit of health resilience resources. Additionally, HHS has begun to require its responders to participate in psychological first aid training to promote psychological health and well-being in their communities.



MITIGATION

Long-term Vulnerability Reduction

- As part of ongoing reform, FEMA continued updating flood maps and began transitioning certain policies under the National Flood Insurance Program toward non-subsidized rates that reflect true flood risk.
- The pace of vulnerability-reduction activities implemented by whole community partners is increasing, including approving grant projects, addressing at-risk properties, and adopting building codes locally.
- The Federal Government is exploring how large-scale infrastructure projects interact with natural resources and promoting green infrastructure investments to foster resilience.

Nearly 22,000 communities participate in the National Flood Insurance Program, representing about 5.6 million policies and \$1.2 trillion in coverage. Although this program saves policyholders from an estimated \$1.6 billion in losses annually, this FEMA-administered program faces fiscal challenges. Specific concerns include \$24 billion in debt from previous catastrophic flooding events and the program’s rate structure, which allows approximately 20 percent of policyholders to pay rates subsidized by the Federal Government. Despite collecting about \$3.5 billion in annual premiums, FEMA faces a \$1.5 billion shortfall annually due to subsidized policies.

The Biggert-Waters Flood Insurance Reform Act of 2012 enacted widespread changes to the National Flood Insurance Program

In an effort to improve the program’s sustainability, in July 2012, Congress passed the *Biggert-Waters Flood Insurance Reform Act of 2012* (Public Law 112-141), which enacted widespread changes to the program. In 2013, notable progress implementing the law occurred in two areas: continuing to update flood maps through FEMA’s Risk Mapping, Assessment, and Planning program and transitioning policies under the National Flood Insurance Program toward non-subsidized rates that reflect true flood risk.

Maintaining flood hazard maps allows FEMA to establish insurance rates based on accurate hazard information. By the end of fiscal year 2013, FEMA had deployed the Risk Mapping, Assessment, and Planning program in communities covering nearly 51 percent of the population, an increase from 47 percent in the previous year. In 2013, FEMA notified over 1,200 communities of updates to local flood maps. Of these, 450 will become effective in 2014 and may be impacted by Biggert-Waters, affecting nearly 400,000 flood insurance policies nationwide. Pursuant to Biggert-Waters, initial premium increases went into effect in 2013 for certain policyholders paying reduced rates. In March 2014, the *Homeowner Flood Insurance Affordability Act of 2014* (Public Law 113-89) amended certain provisions from Biggert-Waters to delay implementation of full risk-based premium rates for certain properties.



Beyond flood mitigation activities, whole community partners continued progress in other all-hazard vulnerability reduction projects in 2013. For example, states and local jurisdictions implemented mitigation projects through the Hazard Mitigation Grant Program, which supports long-term initiatives after a major disaster declaration, including mitigation planning and property acquisition. In fiscal year 2012 and fiscal year 2013, FEMA provided a combined \$1.6 billion in Hazard Mitigation Grant Program funds to support state and local projects, a more than 34 percent increase over the previous two-year period. Similarly, FEMA approved over 3,100 projects through the program for fiscal year 2012 and fiscal year 2013 combined, a more than 50-percent increase over the previous two fiscal years.

Models suggest that adopting building codes could reduce flood losses by \$4,000–\$7,500 per structure

To support cost-effective mitigation projects, FEMA released a benefit-cost analysis tool in 2013 to help states and local communities account for future risk—including sea level rise—in their mitigation planning. This resource leverages planning tools on sea level rise developed with NOAA, USACE, and the U.S. Global Change Research Program. NOAA also procured a new aerial remote sensing system that can measure above and below the shoreline to help Federal and state agencies with coastal inundation modeling, habitat mapping, and long-term planning for climate change and sea level rise. Further modifications after Sandy to Federal programs for housing assistance are also incentivizing resilient rebuilding and whole-community engagement, seeding new approaches to recovery that promote mitigation. (Additional details appear in the Housing core capability on page 69.) To support drought preparedness and mitigation,

the NOAA-led National Integrated Drought Information System provides a clearinghouse of drought-related maps, tools, and information, as well as regional early warning systems.

Communities also continued to embrace more stringent building codes, which can decrease structural damage sustained during disasters when adopted and enforced locally (see Table 5). Current models suggest that adopting building codes could reduce flood losses by approximately \$4,000–\$7,500 per structure. Sandy illustrated the potential for vulnerability

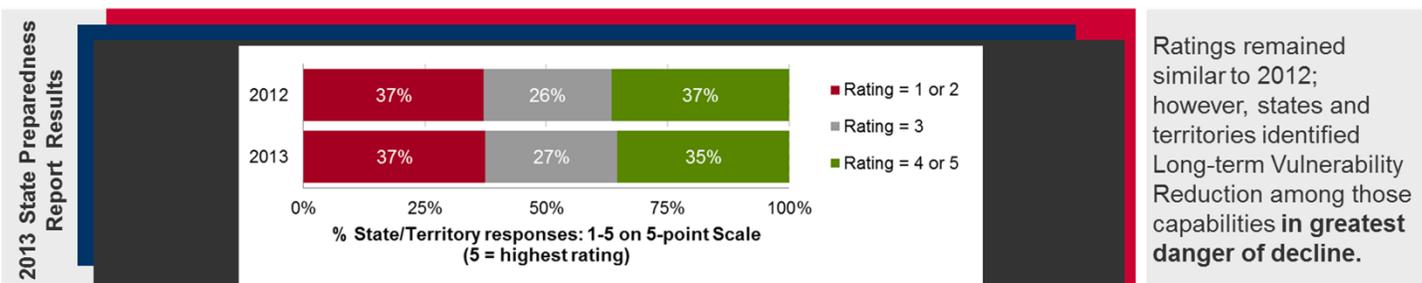
Building Codes	Percent of Jurisdictions in Hazard-Prone Areas Adopting Codes	Change from 2012
Disaster-resistant	60 percent	↑ 4 percent
Flood-resistant	61 percent	↑ 4 percent
Seismic-resistant	60 percent	↓ 12 percent
Hurricane-resistant	86 percent	↓ 4 percent

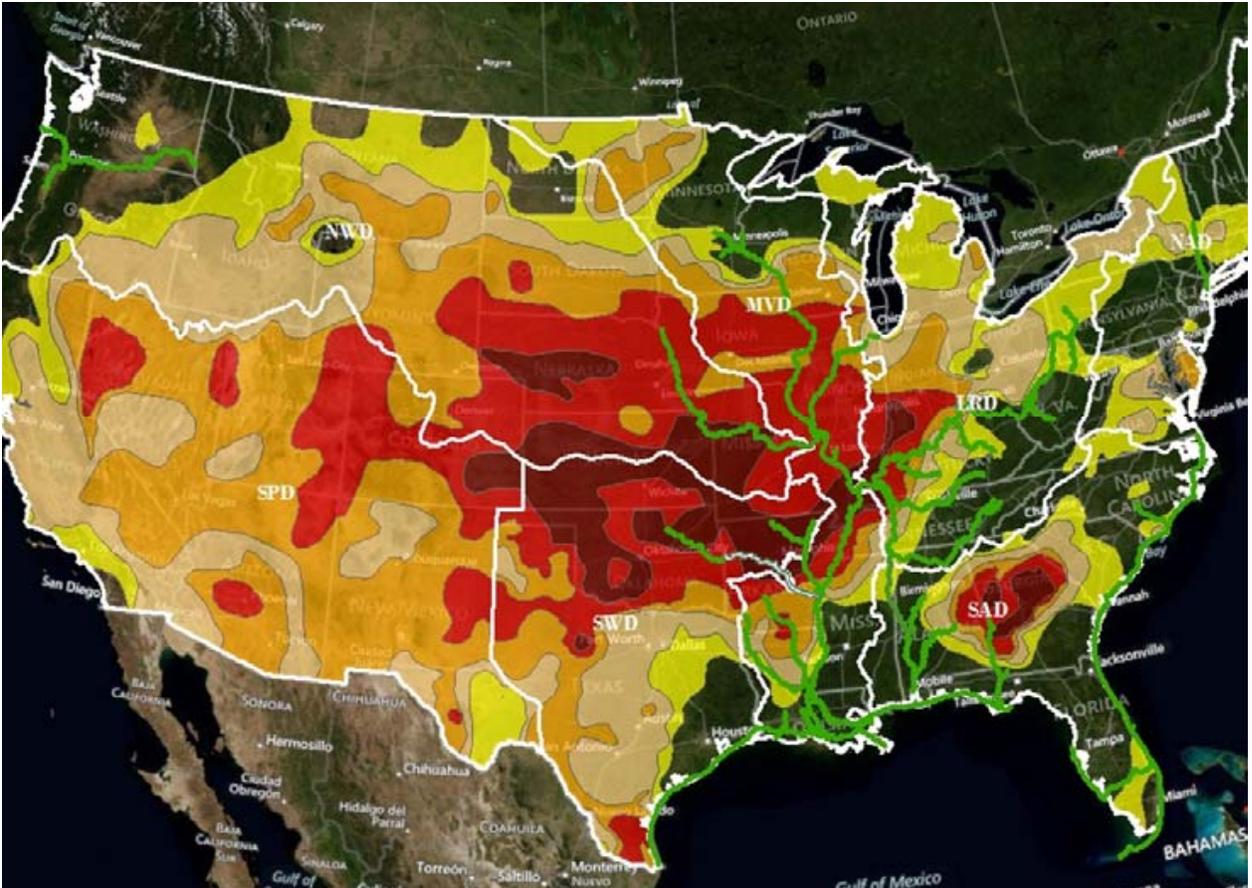
Table 5: Communities across the country continued progress in 2013 in adopting building codes with disaster provisions.

reduction through updated building codes: one-story homes in New York City built before the introduction of modern construction standards in 1961 represented 18 percent of the buildings in flooded areas, but 73 percent of damaged or destroyed buildings. According to the International Code Council, which publishes model building codes for statewide and local adoption, 11 states adopted the latest version of the International Building Code standard by October 2013, up from two states in 2012.

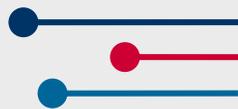
Recognizing the need for more disaster-resilient structures, in April 2013, the Federal Government announced a minimum flood risk reduction standard to protect rebuilding investments in Sandy-affected communities. The standard requires all major rebuilding projects using Sandy-related Federal funding to be elevated or otherwise flood-proofed according to the best available FEMA guidance plus one additional foot. Sandy-affected communities are encouraged to consider building to an even higher standard when planning critical infrastructure projects, based on the risks they face. To support these planning efforts, in December 2013, the USACE published guidance and a web-based tool to help communities calculate the minimum required elevation to reduce flood risk. Similarly, a November 2013 report from NIST investigating the 2011 tornado in Joplin, Missouri, called for nationally accepted standards for building design and construction, public shelters, and emergency communications to reduce deaths and property damage from tornadoes.

Sandy also prompted government partners to explore new strategies for reducing the vulnerability of infrastructure. In February 2013, NOAA and USACE released *Infrastructure Systems Rebuilding Principles* to promote a unified strategy to support state and local coastal restoration efforts after Sandy. The rebuilding principles highlight linkages between natural systems and physical infrastructure, community well-being, and coastal economies. The *Hurricane Sandy Rebuilding Strategy* expanded this focus to promote green infrastructure, which includes natural and/or restored features (e.g., wetlands or sand dunes) that incorporate natural processes (e.g., flood protection, water filtration) to enhance resilience. More broadly, recent efforts to create a consolidated Federal process for environmental and historic preservation reviews of disaster recovery projects are helping to promote consistency and establish a unified national approach.





RESPONSE



Highlights

- Released in 2013, a revised *National Response Framework* identifies 14 Emergency Support Functions as primary coordinating structures for Federal response actions under the *Robert T. Stafford Disaster Relief and Emergency Assistance Act* (Public Law 100-707), as well as non-Stafford Act incidents. The Framework also emphasizes the role that individuals, families, and households have in disaster response as whole community partners. (Planning, p. 15; all Response core capabilities)
- State and local law enforcement are better trained to address active shooter incidents, and Federal law enforcement agencies strengthened their capacity to surge resources to support all-hazards disaster response. (On-scene Security and Protection, p. 55)
- States have significantly improved Enhanced 9-1-1 capabilities, but challenges are emerging with financing the transition to Next Generation 9-1-1. (Operational Communications, p. 56)
- In 2013, Federal partners established agreements to expedite resources to states and provide cost-savings to voluntary organizations. (Public and Private Services and Resources, p. 58)
- Medical countermeasure capabilities for public health threats have improved, and new public health and medical authorities grant HHS greater flexibility in managing incidents. (Public Health and Medical Services, p. 59)

Trends Response officials from government and the whole community learned lessons from Sandy and improved preparedness for large and complex disasters. For example, to address the challenges of moving utility repair fleets into affected areas, the U.S. Department of Transportation developed a [new website](#) to provide the private sector with real-time regulatory relief information. Similarly, a [coalition of private-sector companies](#) developed a new practice to coordinate the transport of utility fleets across state lines. Sandy left more than 8.5 million customers without power and caused severe coastal flooding along the East Coast. To better prepare for future impacts, New Jersey required electric distribution companies to improve communication with the public about service availability during disasters, and New York City updated its hurricane evacuation zones to include 600,000 additional residents.

Building on the success of crowdsourced information during Sandy, FEMA and the American Red Cross released mobile applications to empower survivors to [share disaster information](#) and [volunteer for relief efforts](#) in their communities. FEMA also purchased 175 disability communication accessibility kits so that survivors with access and functional needs are able to equally access information about emergency programs and services in alternative formats. These collective actions by government, the private sector, and non-governmental organizations improve the Nation's ability to respond to the next disaster.

In 2013, active shooter events prompted first-responder communities to focus on integrated response planning and training for active shooter and mass casualty incidents. The complexities of such incidents often challenge first responders to take non-traditional actions to stop threats and save lives. To address this challenge, the Federal Interagency Committee on Emergency Medical Services developed a [set of strategies to improve coordination](#) and implement national standards for public safety responses during mass casualty incidents. Additionally, in September 2013, FEMA released updated [guidelines for responding to active shooter and mass casualty incidents](#) targeted to the public safety community. More local law enforcement officers across the country are receiving training in active shooter response tactics once reserved for special weapons and tactics teams.

By the Numbers

The President issued **six major disaster declarations** for federally recognized Indian tribal governments in 2013.

The U.S. Forest Service and fire partners responded to **46,199 fires** that burned over four million acres.

The American Red Cross provided large-scale disaster relief in **39 states** and served **20 million meals and snacks**.

FEMA Corps teams provided **1.7 million hours** of disaster response assistance across 28 states.

Resilience Innovations

- The California Department of Forestry and Fire Protection developed an [online statewide fire map](#) to display the locations of major fires burning in the state.
- The DHS Science & Technology Directorate and NASA developed an [advanced technology to detect the heartbeats of survivors](#) trapped under rubble.
- The [Lessons Learned Information Sharing](#) program redesigned its online platform for first responders, emergency managers, and homeland security officials to share best practices and lessons learned, including resources to help communities build and sustain capabilities (e.g., [Mass Care Services](#)).

Preparedness in Action

The effective response by local, state, and Federal authorities to the Boston Marathon bombings demonstrated the benefits of advanced planning and exercises. In preparation for the marathon, regional officials designed response plans that defined operational communications requirements and procedures for the deployment of multi-agency resources in case of an explosive attack. The Boston region exercised these plans before the marathon, including a full-scale exercise in November 2012 that tested communication and coordination between Boston's police and fire departments. These preparedness activities bolstered the region's rapid response to the bombings. For example, within moments of the second blast, Boston's Medical Intelligence Center notified area hospitals to prepare them for a surge of victims. Medical and health department personnel immediately began treating more than 140 people and coordinated hospital transportation for 90 people within 30 minutes. The coordinated response by civilian spectators, on-site medical personnel, and law enforcement enabled rapid triage care and patient transportation to readied emergency rooms in nearby hospitals, saving dozens of critically injured survivors.

Advanced planning also played a role in Manitou Springs, Colorado's effective response to severe flooding in 2013. To address the lessons learned from the 2012 Waldo Canyon fire, Manitou Springs partnered with the American Red Cross to train volunteers and develop a flood response plan. This partnership helped the town effectively respond to a flash flood. The community anticipated the closure of the main highway into town and pre-staged trained volunteers to provide medical care until outside assistance could arrive. Local businesses and faith-based organizations helped tourists reach evacuation centers and assumed responsibility for the safety of residents. Manitou Springs' effective partnership with the American Red Cross and local leaders demonstrated that it takes all aspects of a community to prepare and respond to disasters.

Whole Community Accomplishments

San Francisco Bay Area, California: Over 3,000 local, state, Federal, international, and private-sector partners participated in Urban Shield 2013, a 48-hour, full-scale exercise that tested responder teams' capabilities to operate within a set of terrorism scenarios and hazardous environments.

West, Texas: Ten locally based Citizen Corps teams contributed over 120 hours of volunteer service in response to the April 2013 fertilizer plant explosion.

Ouray, Colorado: When responding to a mining accident, local responders used training they had completed the day before on the Mass Casualty Incident Command System to coordinate bed availability and rapidly transport nearly two-dozen patients from a mountainous environment to area hospitals for life-saving treatment.

RESPONSE

Critical Transportation

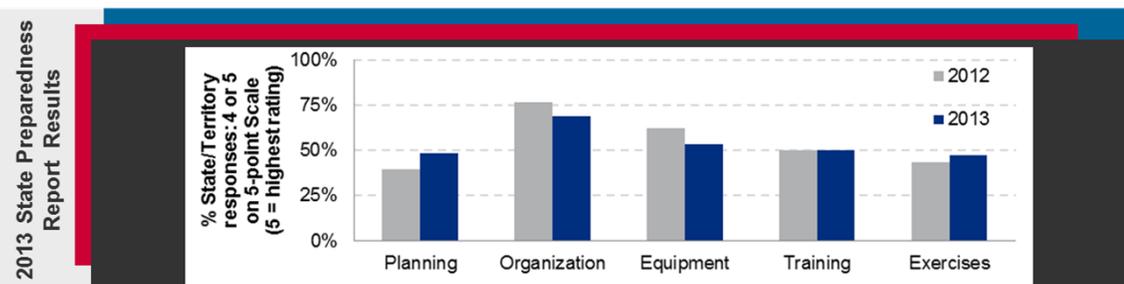
- The military demonstrated its ability to help civil authorities evacuate survivors during the response to the Colorado floods.
- Public- and private-sector organizations are addressing the challenges of moving private-sector utility repair fleets across state lines during a large-scale response.

In September 2013, record rainfall in Colorado caused severe flooding across more than 1,500 square miles and led the state and local governments to issue mandatory evacuation orders for nearly 6,000 residents. The Colorado National Guard—with support from the Iowa National Guard—and active-duty Army personnel evacuated more than 3,700 survivors and 1,000 pets to safety. The military evacuated approximately 2,500 of these survivors by air. DOD supplied seven helicopters to support the airlift operation, which was the largest of its kind since Hurricane Katrina. The U.S. Geological Survey contributed to evacuation efforts by monitoring flood-flow data to identify additional evacuation zones in the state. The FAA also supported the response air operations by implementing specialized airspace management measures, including eight disaster temporary flight restrictions that helped maintain the safety of responders engaged in search and rescue.

In addition to providing evacuation support, National Guard personnel from Colorado, Utah, Kansas, and Montana helped the Colorado Department of Transportation assess the safety of roads and bridges in the affected areas. These personnel contributed nearly 12,000 hours to response efforts and built access trails around 17 impassible sites along the state's major east-west highway in order to accelerate roadway restoration. Within 10 days, Colorado had reopened 8 of 27 damaged highways, allowing residents to return to their homes and allowing recovery crews to access the affected areas. The state completed temporary repairs on all 27 highways within two months.



While the Colorado floods tested evacuation capabilities, Sandy challenged the ability of government and private-sector partners to transport utility crews into the affected areas to help restore power to 8.5 million customers. Follow-on analysis by a consortium of utility companies and states identified different highway toll systems, private-sector awareness of weigh station requirements, and restricted roadway access as reasons for delayed power restoration in the affected states. Representatives from multiple critical infrastructure sectors—with support from the All Hazards Consortium—subsequently created a working group to address these challenges. Based on the lessons learned from an October 2013 exercise, the working group facilitated the movement of 1,500 utility personnel and their equipment from eight eastern states into three central states affected by a December ice storm. The working group implemented a new process to coordinate the transport of fleets with 18 states, FEMA, and DOE, helping to ensure that the crews arrived in the affected states within 24 hours of departure.



Remaining gaps focus on training and exercises, including coordination challenges during events involving multiple agencies and jurisdictions.

RESPONSE

Environmental Response/ Health & Safety

- FEMA supported regional planning for improvised nuclear devices to help the whole community address unique response challenges.
- Sandy operations illustrated that response and recovery personnel may lack the necessary experience, equipment, and training to safely clean up damaged homes and businesses after a disaster.

Presidential Policy Directive 8, while emphasizing an all-hazards, capability-based approach to planning, provides flexibility for jurisdictions to develop annexes to address unique planning requirements. An attack using an improvised nuclear device presents unique response challenges—such as limited access to the affected area due to nuclear contamination and shifting fallout zones—that often lead local and state partners to develop a tailored annex to their base emergency response plan. To promote planning for improvised nuclear devices, FEMA helped develop regional response plans focused on this threat for several high-risk metropolitan areas. These plans, which address a GAO recommendation to improve Federal guidance for these events, focus on regional response activities in the first 72–96 hours following detonation, prior to the arrival of Federal support. FEMA completed the first regional response plan focused on improvised nuclear devices for the Chicago metropolitan area in 2013. The planning team included over 300 Federal, state, local, private-sector, and non-governmental stakeholders across three states. Based on the lessons learned from the Chicago project, FEMA has initiated similar response planning efforts in Boston, Houston, and the National Capital Region.

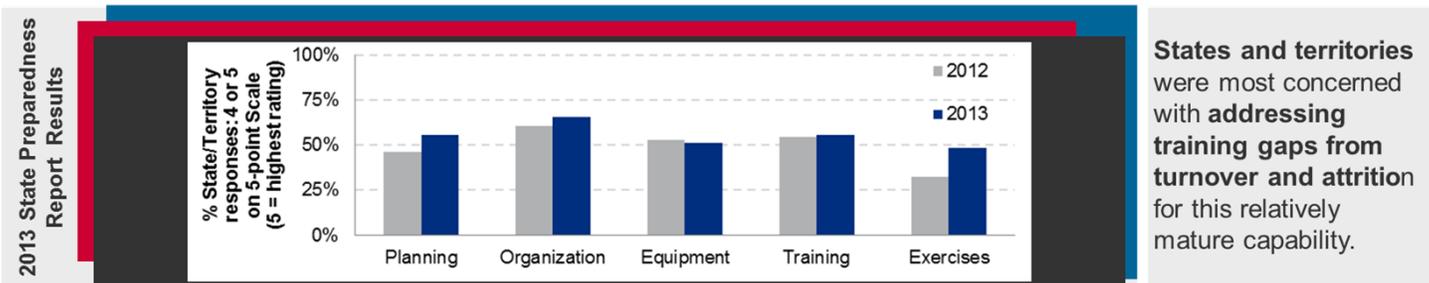


Additionally, the response to and ongoing recovery efforts from Sandy suggest that workers may lack the necessary experience, equipment, and training to safely clean up hazardous sites. The Occupational Safety and Health Administration (OSHA) and National Institute of Environmental Health Sciences (NIEHS) each completed a series of site visits in areas affected by Sandy to assess the hazards facing workers and volunteers. OSHA deployed safety and health professionals throughout the impacted areas to protect response and recovery workers, reaching more than 63,000 workers and removing 7,900 from directly observed hazardous activities. NIEHS found that the majority of volunteer organizations did not have the capacity or technical expertise to properly train and equip responders completing hazardous tasks, such as debris management and structural demolition. As such, NIEHS found instances where workers demolished and repaired homes and businesses that were contaminated with hazardous materials, including mold, asbestos, lead, and raw sewage.

Preparedness Case Study: RadResponder Network

FEMA launched the RadResponder Network in January 2013 to support a coordinated response to a radiological event. The network provides state, local, territorial, and tribal emergency response officials with real-time access to radiological data through web-based tools and mobile applications. Access to this information helps responders rapidly characterize the nature of the event and execute lifesaving decisions, such as orders to evacuate or shelter in place. Through RadResponder, DOE has made a system available for first responders to quickly estimate their potential radiological exposure in accordance with EPA guidance on protective actions. Over 400 radiological response organizations and nearly 1,500 first responders nationally incorporated the network into response operations in 2013.

In response to the hazards facing Sandy response and recovery workers, NIEHS developed new curricula and trained responders in New York and New Jersey on health and safety practices for common worksite hazards. NIEHS also disbursed \$1.75 million in supplemental grant awards to support technical- and operations-level health and safety training for long-term recovery efforts in New York and New Jersey. Similarly, OSHA provided \$1.25 million through the Susan Harwood Training Grant Program to five community and day-labor organizations to train and educate approximately 5,600 post-Sandy cleanup and recovery workers. In anticipation of volunteers continuing to undertake hazardous cleanup operations, NIEHS developed a one-hour health and safety training module for weekend volunteers.



RESPONSE

Fatality Management Services

- Legal complexities and technical challenges hinder victim identification at the state and local levels, but forensic professionals are working to establish guidelines and common standards to address such challenges.
- State and Federal entities (including the military) maintain capable mortuary response assets and continue to coordinate planning with jurisdictions for complex emergencies that would stress mass fatality management capabilities.

State and local authorities face several challenges in accurately identifying victims. For example, more than 2,300 separate jurisdictional authorities exist for handling death investigations in the United States, each with different legal and administrative standards. Additionally, coroners and medical examiners lack a nationally standardized and accepted protocol for victim identification in mass fatality response. Furthermore, most state and local biometric databases and identification systems are poorly integrated with other state or Federal systems. For example, after a major transportation disaster, state and local authorities often rely on the National Transportation Safety Board to facilitate data requests to Federal agencies that possess more comprehensive databases of fingerprints and other biometric information. Additionally, the 2013 State Preparedness Report results show that while only 48 percent of states and territories identified Fatality Management Services as a high priority, states and territories viewed the Federal Government as having a larger role in filling remaining preparedness gaps than any other core capability.

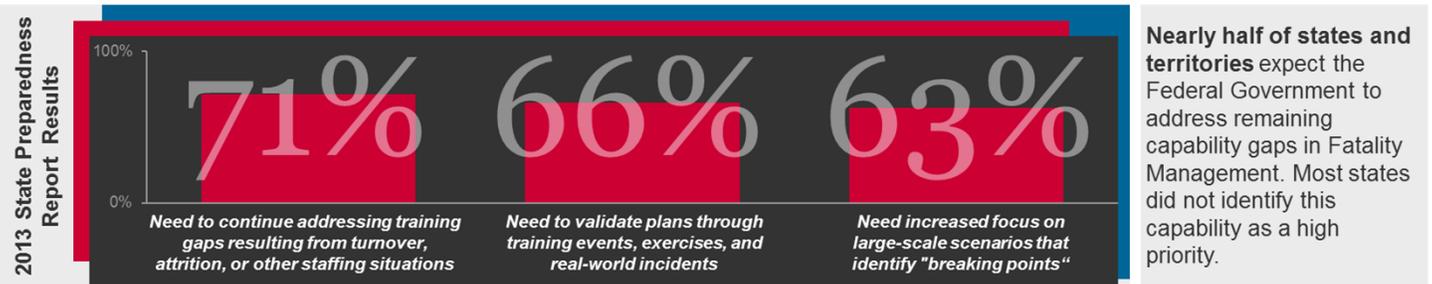
In August 2013, NIST released a common format for the exchange of fingerprint, facial, and other biometric information for identifying disaster victims

Practitioners and subject matter experts in forensic science are working to address these challenges. The Scientific Working Group on Disaster Victim Identification—which includes government, private-sector, and nonprofit members—is developing consensus guidelines and best practices to improve and standardize analytical methods, protocols, training, and research related to mass fatality management. Additionally, in August 2013, NIST released a common format for the exchange of fingerprint, facial, and other biometric information for identifying disaster victims.

The Federal Government also maintains assets for mass fatality incident response. For example, as part of the National Disaster Medical System, HHS maintains 10 Disaster Mortuary Operational Response Teams that can deploy within 24 hours and provide local authorities with support during incidents stretching local capacity.

Additionally, states have developed comprehensive plans, mutual aid agreements, and information management systems to coordinate and facilitate mass fatality responses. Ten states and local jurisdictions have established their own mortuary response teams and portable disaster morgues to enhance their ability to manage large-scale incidents.

HHS Disaster Mortuary Operational Response Teams are designed to respond to disasters involving tens or hundreds of deaths. Since catastrophic incidents may result in thousands of fatalities, state and Federal agencies have expanded planning for events that would stress the Nation's fatality management capabilities. For example, in 2013, DOD began working with FEMA, HHS, and state governments on regional planning for complex catastrophes, defining capabilities needed to support civilian response to mass fatality incidents. These efforts revealed unique challenges associated with mass fatality incidents involving chemical, biological, radiological, or nuclear materials, including decontamination of remains, victim recovery and identification, family reunification, and other fatality management operations. To date, DOD has supported detailed regional planning in one FEMA Region.



RESPONSE

Mass Care Services

- Planning and exercises strengthened capabilities to meet evacuation support, sheltering, and feeding needs, but also revealed remaining challenges for mass care coordination in a large-scale incident.
- The Nation improved family reunification tools and capabilities, and continues to address gaps in meeting children's needs in a disaster.
- Jurisdictions are taking steps to further integrate whole community partners into mass care planning efforts to confront challenges in addressing the unique requirements of individuals with access and functional needs.



Released in 2012, the *National Mass Care Strategy* provides a framework to enhance coordination of mass care across the whole community. In 2013, members of the National Mass Care Council—co-chaired by the American Red Cross, FEMA, the National Emergency Management Association, and National Voluntary Organizations Active in Disaster—developed and validated guidance to promote standardized and scalable delivery of mass care services. For example, members of this mass care community of practitioners came together in collaborative workgroups to develop multi-agency planning templates that are helping local jurisdictions identify resources, formalize roles, and detail responsibilities necessary to feed and shelter survivors after a major disaster.

Preparedness Case Study: Innovative Applications for Disaster Volunteers

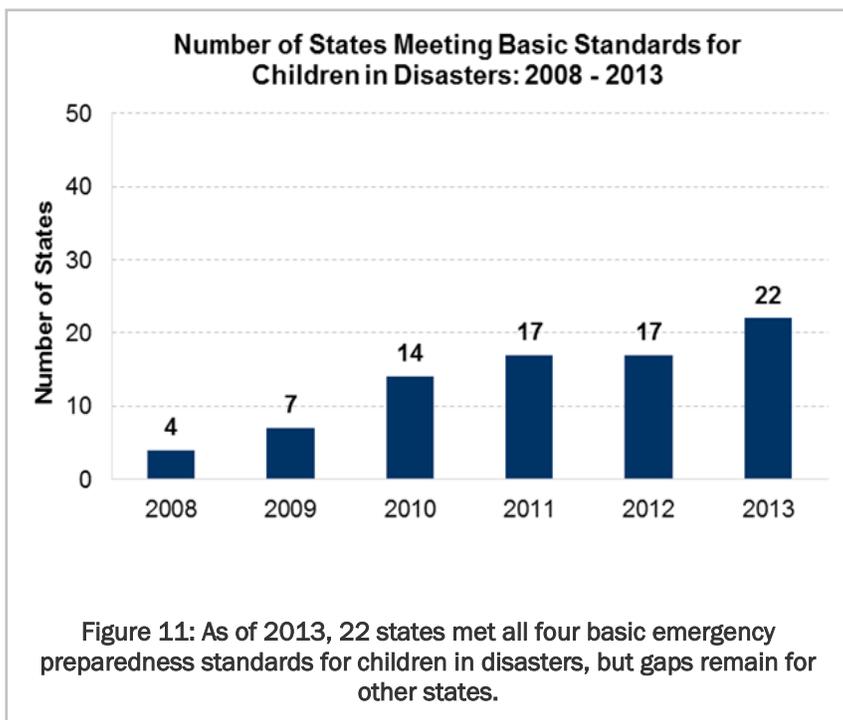
In July 2013, the American Red Cross launched a new mobile application—Team Red Cross—that allows local community volunteers to receive targeted and rapid training on disaster response. The American Red Cross offers [seven mobile applications](#) that make lifesaving information readily available to individuals in a disaster. During the Colorado floods in September, the American Red Cross pushed notifications to approximately 1,500 Team Red Cross users in the affected areas, urging them to help affected individuals with the recovery process. When tornados struck Texas in May 2013, warning alerts through the organization’s tornado application enabled a family to seek shelter in time. Additionally, in response to the tornado outbreak in Oklahoma in May, the American Red Cross and partner agencies opened four comprehensive Multi-Agency Resource Centers to help residents obtain assistance from dozens of agencies. Overall, in 2013, the American Red Cross provided large-scale disaster relief in 39 states, deployed over 17,600 relief workers, opened 1,056 shelters, and made up to 162,000 health and mental health contacts.

The 2013 National Mass Care Exercise provided a unique opportunity to validate these templates, as well as other mass care plans, in conjunction with the 2013 Florida Statewide Hurricane Exercise. While validating planning templates for feeding and sheltering, the exercise revealed that states must be able to quickly request and integrate personnel from other states, nongovernmental organizations, and Federal agencies to expand mass care capabilities and meet the requirements of a large event. The exercise also identified the need for additional planning to address resource prioritization following multiple incidents and to ensure continuity from response to recovery.

Building on lessons learned from the 2012 Colorado wildfires, the American Red Cross and FEMA partnered to assess shelters statewide for capacity and accessibility. In spring 2013, FEMA Corps teams canvassed the state, conducting surveys of over 300 shelters in order to update the National Shelter System, just four months before devastating floods forced thousands of residents to evacuate their homes. During the floods, state and local emergency managers relied on the updated National Shelter System to manage shelter operations and distribute resources to residents in need.

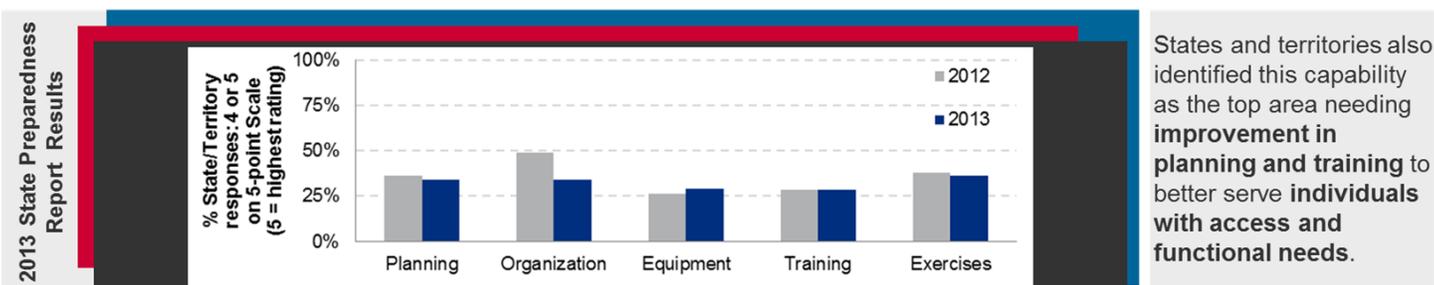
In addition, the Nation continues to make incremental progress in addressing the mass care needs of children. Save the Children released the *2013 National Report Card on Children in Disasters*, which assesses every state (and the District of Columbia) against four standards that focus on whether plans are sufficient for evacuation, family reunification, children with special needs, and all hazards in schools and child care facilities. Between 2008 and 2013, the number of states that met all four standards increased from 4 to 22 (see Figure 11). However, of the 50 states and the District of Columbia, 29 still did not meet these standards.

In November 2013, FEMA, the National Center for Missing and Exploited Children, HHS, and the American Red Cross released *Post-Disaster Reunification of Children: A Nationwide Approach*. This document reflects the Nation’s first attempt to frame a whole community approach for reunifying children separated from their parents or legal guardians in a disaster. The document establishes common roles and responsibilities, provides guidance, and identifies tools to help governments and those temporarily responsible for the care of children during disasters to integrate family reunification into all-hazards plans. Among these tools is the Unaccompanied Minor’s Registry, released in June 2013 as the first national repository to support the ability of the National Center for Missing and Exploited Children to collect, store, report, and act on information related to children separated from their families as a result of disaster.



Additionally, in September 2013, HHS's Administration for Children and Families released guidelines on children and youth-focused task forces, helping whole community partners integrate and coordinate the diverse systems and agencies to meet children's needs in a disaster. FEMA expanded the shelter resources available to infants and toddlers with specialized kits stored in regional distribution centers. In 2013, FEMA deployed 166 infant and toddler kits to four disaster areas; these kits contained baby food, formula, diapers, and other items to support 1,660 children.

Along with children's needs, adequately assisting individuals with access and functional needs remains a challenge. A court ruling in 2013 highlighted the need for more jurisdictions to plan for mass care for the whole community. In particular, recent disasters revealed the need for local jurisdictions to provide evacuation support in high-population areas with high-rise apartments, to ensure accessible shelters, and to ensure sufficient communications and transportation for disabled residents. Jurisdictions have engaged in collaborative planning that brings together resources and capabilities of the whole community. For example, the City of Oakland has engaged a wide group of stakeholders and integrated access and functional needs into all aspects of its emergency management planning and response.



RESPONSE

Mass Search & Rescue Operations

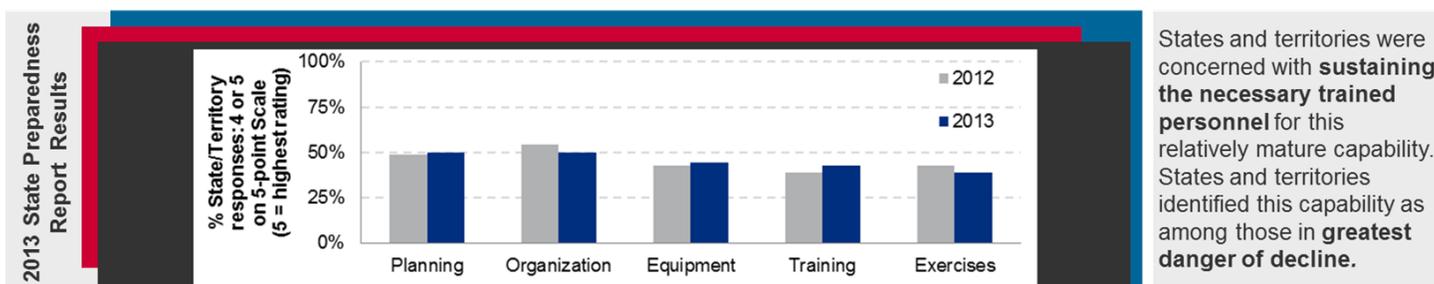
- Federal agencies continue to sustain mature capabilities for search and rescue.
- New guidance and a large-scale maritime exercise have enhanced Federal capabilities to conduct mass rescue operations.



The USCG, FEMA, the National Park Service, and DOD have established mature search and rescue capabilities for urban, maritime/coastal/waterborne, and land environments. For example, over the past six years, the USCG has consistently deployed assets to the victim or search areas within two hours, meeting this target more than 93 percent of the time. In addition, since 1989, FEMA's National Urban Search and Rescue Response System has supported national task forces to deploy to urban search and rescue incidents. Moreover, USACE maintains a cadre of structural support specialists who work and train with FEMA urban search and rescue teams to ensure that damaged buildings are safe for rescuers.

Federal search and rescue capabilities also activate frequently. For example, in fiscal year 2013, the USCG responded to nearly 18,000 cases, saving over 3,000 lives. Additionally, the USCG, along with NASA, the U.S. Air Force, and NOAA, use satellite tracking systems to coordinate responses and save lives in hundreds of missions annually. Even so, Federal search and rescue capabilities continue to undergo refinements. In 2013, FEMA added two hazardous materials equipment caches (for a total of seven), augmenting the organic capabilities of its Urban Search and Rescue Task Forces. Despite these improvements, states and territories identified Mass Search and Rescue Operations as among the capabilities most in danger of decline.

Catastrophic events remain a concern, as well, since typical search and rescue missions rarely involve large numbers of trapped or missing individuals. In 2013, the National Search and Rescue Committee—a Federal committee that coordinates civil search and rescue within the United States—supported implementation of updated guidance on search and rescue for catastrophic incidents. Federal agencies also released new operational guidance that defines their roles and responsibilities, and outlines resources available to assist state and local authorities. In April 2013, the USCG conducted Black Swan, the largest full-scale maritime mass rescue exercise to date. Involving over 1,200 personnel from dozens of agencies, Black Swan examined issues with abandon ship procedures, passenger accountability, patient evacuation, and medical surge in a scenario similar to the Costa Concordia disaster in 2012. The exercise demonstrated that USCG and its partners can mobilize rapidly and coordinate significant maritime assets in a mass rescue operation.



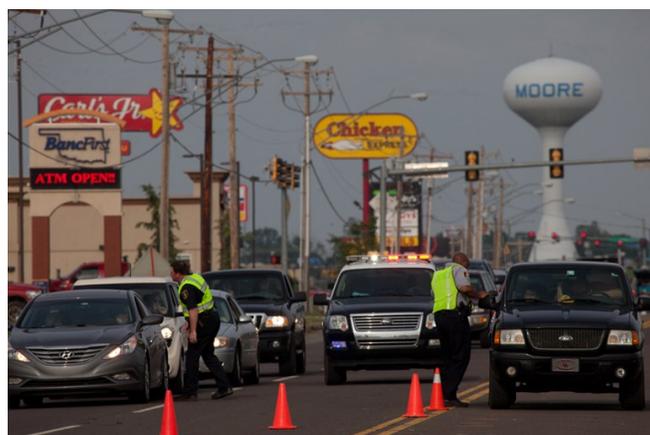
RESPONSE

On-scene Security & Protection

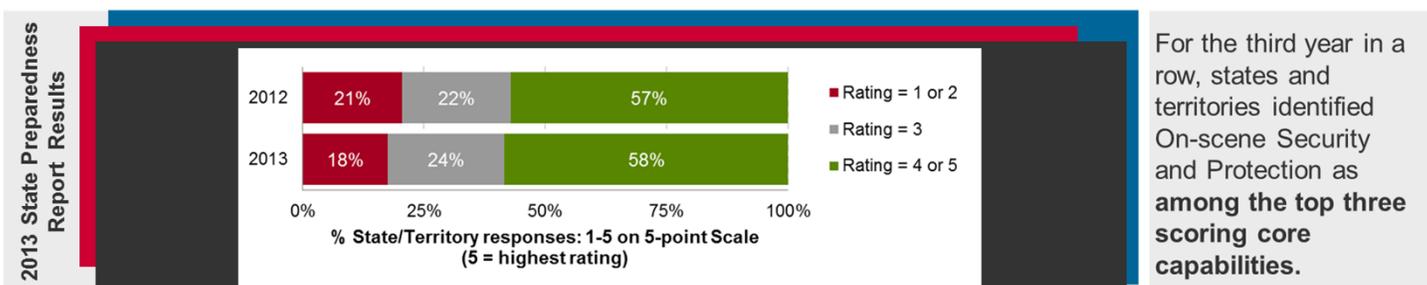
- State and local law enforcement are becoming better trained for and focused on responses to active shooter incidents.
- New plans and procedures coordinate deployment of Federal law enforcement officers in major incidents.

Active shooter incidents continued to occur across the Nation in 2013, with at least 15 incidents and 39 deaths. Until recently, training for patrol officers focused on containing an active shooting incident while waiting for specialized personnel to arrive. However, the law enforcement community has used lessons learned from previous events to refine tactics to emphasize a more immediate, aggressive response to active shooters. Accordingly, public safety and security officials have revised response protocols and increased active shooter training for front-line law enforcement officers.

For example, in response to the school shootings in Newtown, Connecticut, DOJ's Bureau of Justice Assistance and the FBI partnered with the Advanced Law Enforcement Rapid Response Training Center to expand delivery of specialized training to prepare officers for active shooter situations. Over 40,000 law enforcement officers have completed Advanced Law Enforcement Rapid Response Training since its inception in 2002. In 2013, the FBI sent more than 125 tactical instructors to the training and adopted its protocols as the national standard for special agent instruction. That same year, the FBI conducted 150 active shooter conferences and trained approximately 8,000 regional law enforcement personnel nationwide. Dozens of state and local police departments have also adopted protocols from the Advanced Law Enforcement Rapid Response Training. FEMA also updated training courses related to active shooter incidents and released new guidelines recommending more aggressive emergency medical response actions in active shooter situations to integrate fire and emergency medical services personnel more closely with law enforcement. Furthermore, the National Domestic Preparedness Consortium delivered an exercise-driven course on active shooter emergency response in 2013 to almost 6,500 law enforcement officers across the Nation.



In addition to supporting whole community preparedness for active shooter incidents, Federal agencies improved their abilities to surge and coordinate law enforcement support to state and local jurisdictions during disasters. In March 2013, the Deputy Attorney General directed DOJ law enforcement agencies to commit appropriate resources to a disaster response through Emergency Support Function #13 (Public Safety and Security) under the *National Response Framework*. Coordinated by ATF, Emergency Support Function #13 also developed a new concept of operations in 2013 that details planning assumptions, operations management, and training needed for a coordinated Federal response. Moreover, a new staffing model built around quick response teams facilitates the expedited deployment of specialized Federal law enforcement officers to support state and local response. Emergency Support Function #13 continued outreach with state, local, tribal, and territorial partners on the peace officer status of Federal law enforcement officers to ensure a common understanding of how different legal authorities across the country affect the extent to which Federal law enforcement partners can support response operations.

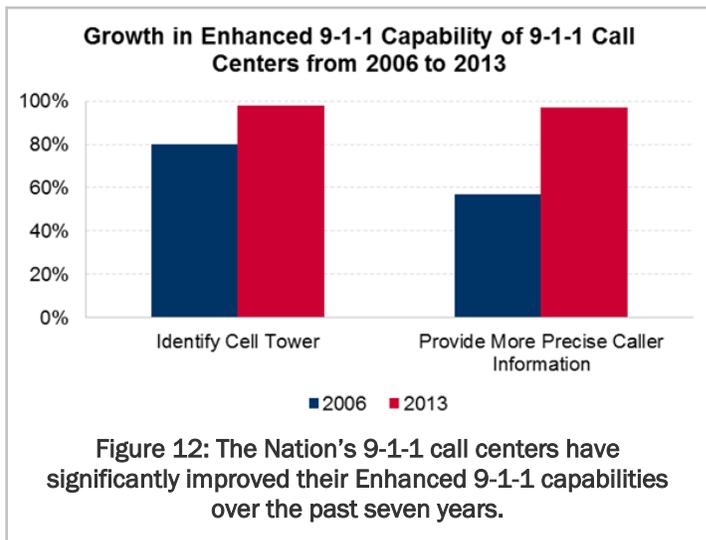


RESPONSE

Operational Communications

- States have made significant progress implementing wireless Enhanced 9-1-1, but existing 9-1-1 funding structures may be inadequate for facilitating the transition to Next Generation 9-1-1.
- The response to the Boston Marathon bombings demonstrated the value of regional communications planning and Federal priority-service programs.

States have made measurable progress advancing wireless Enhanced 9-1-1 service, which allows 9-1-1 centers to receive location and phone number information from callers using wireless phones. The FCC estimates that about 70 percent of 9-1-1 calls are placed from a wireless phone. As of March 2013, nearly 98 percent of 9-1-1 call centers are able to identify the cellular tower or the cellular site that is receiving a wireless call—an improvement from 80 percent in 2006 (see Figure 12). Similarly, 97 percent are able to provide more precise caller-location information for at least one wireless carrier, usually within 50 to 300 meters. This represents a 40 percent increase compared to 2006. Increased state capabilities in wireless Enhanced 9-1-1 are partially attributable to the Enhanced 9-1-1 Grant Program. Thirty-nine percent of funded projects focused on enhancing a grantee's ability to provide more accurate information on the location of wireless callers.



Seventeen states also used the Enhanced 9-1-1 Grant Program to begin transitioning their 9-1-1 systems to an Internet Protocol-based Next Generation 9-1-1 infrastructure. Legacy 9-1-1 systems do not support sending text messages, video,

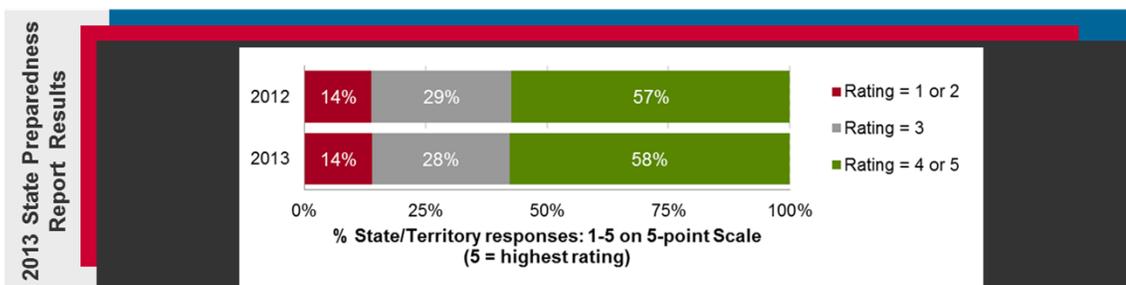
or photos directly to emergency responders. In response to an FCC public notice on the development of Next Generation 9-1-1, states and telecommunication providers asserted that existing state 9-1-1 funding mechanisms are insufficient to fund the initial transition and the ongoing costs of these new capabilities. States are also facing regulatory and technology challenges with implementing Next Generation 9-1-1. While 9-1-1 services remain primarily a state and local responsibility, the FCC has worked with affected stakeholders to help address implementation issues related to Next Generation 9-1-1. For example, the FCC adopted rules requiring wireless carriers and certain other text messaging providers to send an automatic “bounce-back” text message to consumers who try to text 9-1-1 where text-to-9-1-1 service is not yet available. The FCC also released a report in February 2013 that identified different options for updating 9-1-1 funding structures and incentivizing early adoption of Next Generation 9-1-1. A December 2013 FCC report noted that states and territories collected approximately \$2.3 billion in 9-1-1 and enhanced 9-1-1 fees in 2012. Twenty-four states, the District of Columbia, and Puerto Rico used a portion of these funds to support Next Generation 9-1-1 programs, totaling approximately \$97 million.



National and regional emergency communication plans and capabilities were instrumental during the response to the Boston Marathon bombings. DHS’s Office of Emergency Communications (OEC) had assessed the region’s response-level emergency communications during the 2010 marathon and found the absence of an integrated plan to coordinate communications across multiple jurisdictions. In response to this assessment, the Boston region completed a single communications plan for the marathon in January 2013. This plan, which the region aligned to Massachusetts’s overarching *Statewide Communications Interoperability Plan*, included a new, separate medical command and control radio network for the emergency medical services community. Following the April attack, this network allowed for the rapid and effective relay of critical information among emergency responders because they were using the same radio frequency. For example, within five minutes of the bombings, Boston Emergency Medical Services used the network to request additional ambulances from mutual aid partners. OEC has shared lessons learned from the Boston Marathon bombings with state and local partners to showcase the importance of regional emergency communications plans and capabilities.

In addition, while land and cell phone communications were largely unavailable for the first 90 minutes after the bombings, the state’s 800-megahertz radio system kept up with the demand and served as the key connection for first responders. State and local officials also turned to DHS’s telecommunications priority services—the Government Emergency Telecommunications Service and the Wireless Priority Service—to enhance call completion and support continuity of communications after the Boston attacks. In the week following the bombings, the Government Emergency Telecommunications Service routed over 280 calls and had a call completion rate of 99 percent. Emergency responders completed 93 percent of calls made through the Wireless Priority Service. DHS also expedited 152 enrollment requests for Wireless Priority Service to provide priority for critical response personnel on the cellular networks.

In the week following the Boston Marathon bombings, the Government Emergency Telecommunications Service routed over 280 calls with a completion rate of 99 percent



States and territories continue to score this core capability highly; however, **one in seven states and territories** identified it as a capability in **greatest danger of decline**.

Public & Private Services & Resources

- National voluntary organizations received access to GSA's supply schedules, which allow eligible groups to purchase emergency preparedness and disaster relief goods and services at a reduced cost.
- Based on lessons learned from Sandy, Federal partners developed new agreements to accelerate the delivery of response resources to affected communities.
- Federal agencies have taken steps to address the challenges of fires that are located at the interface of wildland and developed areas.

To further enhance logistics support during a disaster, GSA announced in August 2013 that member agencies in National Voluntary Organizations Active in Disaster are eligible to purchase disaster goods and services from its Federal Supply Schedules. These schedules provide access to crucial response goods and services at volume discount pricing. With this access, the 50 national members of National Voluntary Organizations Active in Disaster and their affiliated organizations across the country can benefit from cost savings on goods and services purchased off the schedules. Member organizations also have the assurance that prices will not increase during a disaster.

In addition to this expanded access to supplies, as the co-lead of Emergency Support Function #7 (Logistics) with GSA, FEMA developed new agreements with Federal partners to expedite the delivery of crucial resources to states during a disaster. These agreements stemmed from lessons learned related to the mission assignment process during the Federal Government's response to Sandy. Mission assignments are work orders that FEMA issues to another Federal department or agency, directing them to provide specific support (e.g., debris removal or power restoration) to state, local, and tribal governments. On the day that Sandy made landfall, FEMA issued over \$6.3 million in mission assignments to Federal partners. However, during the first three weeks of the response, approximately 40 percent of mission assignments took longer than one day to process, delaying the arrival of resources to the affected states. Follow-on FEMA guidance clarified the process, reducing the time needed to execute mission assignments.

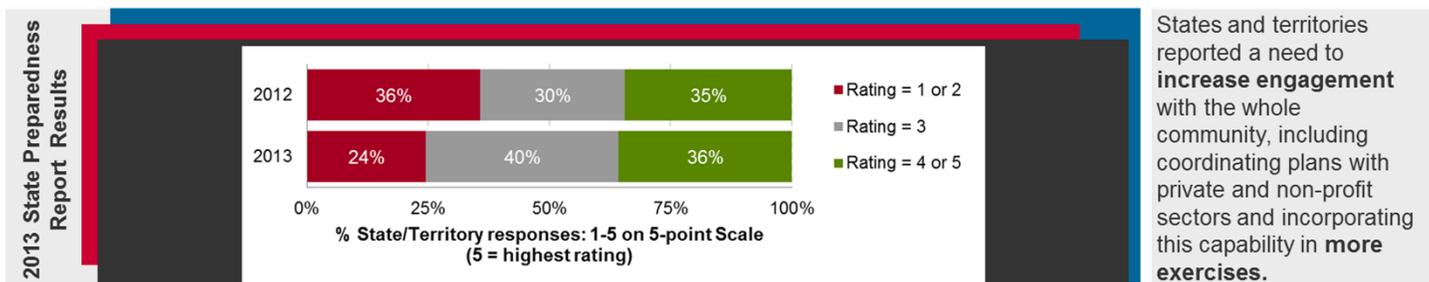
Ahead of Sandy, FEMA worked with several Federal partners to develop pre-scripted mission assignments, which enabled FEMA to expedite certain resources to the affected communities. To build on the success of these agreements during Sandy, FEMA revised its review process to streamline steps for developing new and accessing approved pre-scripted mission assignments, while also improving transparency for other departments and agencies. In addition, FEMA developed two pre-scripted mission assignments in 2013 with the U.S. Department of Transportation's Maritime Administration for cargo and berthing ships, resources that had been in high demand during previous large-scale responses.

Preparedness Case Study: New York State "Fuel NY" Initiative



Sandy caused acute fuel shortages that interfered with response efforts in parts of New York and New Jersey. Based on the lessons learned from the storm, New York passed a law requiring more than half of retail gas stations in the greater New York City area to install back-up power capacity by April 2014. The state is providing \$17 million in Federal recovery funds to help gas stations meet this requirement. As of late October 2013, 258 gas stations in the downstate area had begun installing back-up power capacity. New York also created the first state-based Strategic Gasoline Reserve to prevent future supply gaps during disasters. In addition, a pilot program on Long Island is reserving approximately three million gallons of fuel, enough to meet demand on the island for three days.

In addition to logistics support, fire response is a critical element of the Public and Private Services and Resources core capability. The U.S. Department of the Interior (DOI) and the U.S. Forest Service (USFS) have taken several steps to address the growing challenges of fires in the wildland-urban interface, where developed and undeveloped areas meet. More than 70,000 communities in the wildland-urban interface are at risk of a wildfire, and this risk has increased over time because of new developments on private forest land. Fires in these areas destroyed an average of 3,000 homes annually over the last decade, compared to an average of 900 homes annually in the 1990s. In recognition of this growing risk, DOI has reduced hazardous fuels in over four million acres of wildland-urban interface lands between fiscal year 2008 and fiscal year 2013. The USFS launched the Fire Adapted Communities program in 2012 and produced a process through a coalition to educate the public about the full suite of mitigation tools that can help communities adapt to wildfire. Through Fire Adapted Communities, the USFS found that about 36 percent of communities in the wildland-urban interface have taken one or more steps to reduce their risk to wildfires (e.g., developed a community wildfire protection plan) in fiscal year 2013, an increase from 27 percent of communities in fiscal year 2012.



RESPONSE

Public Health & Medical Services

- Advanced medical countermeasures and new legal authorities have improved the Nation's preparedness for biological weapons, pandemics, and emerging infectious diseases.
- Whole community practitioners are improving standards of care for emergency medical services and developing innovative practices for coordinating response and triage at mass casualty incidents.
- The Nation made progress in measuring public health preparedness, releasing the first comprehensive national index of health security preparedness.



With support from the Biomedical Advanced Research and Development Authority (BARDA) in HHS ASPR, research and development efforts resulted in new treatments for public health threats in 2013, including three new products licensed by the U.S. Food and Drug Administration (FDA). In March, the FDA approved the first treatment for seven types of botulism, a lethal toxin. The FDA also approved a more efficient process for influenza vaccine production and a new treatment for aerosolized anthrax. In addition, CDC and FEMA are working with 10 major urban areas to develop and evaluate plans for distributing medical countermeasures. These urban areas are engaging with key Federal partners and whole community stakeholders to identify resources, assess vulnerabilities, and coordinate rapid response to a biological attack or pandemic threat. In 2013, the Public Health Emergency Medical Countermeasures Enterprise took steps to improve the efficiency, effectiveness, and flexibility of the Federal Medical Station program, which provides a scalable surge capacity for all-hazards mass casualty care.

Moreover, CDC has established innovative models for dispensing medical countermeasures and is working with local public health departments and private-sector partners to establish points of dispensing to distribute treatment quickly and effectively at key locations within communities. Additionally, HHS expanded coordination and planning with DOD; FEMA; and other Federal, state, and local partners to provide emergency medical, biosurveillance, medical countermeasure, and other support during national special security events, including the Presidential Inauguration in January 2013.

Updated legal authorities also advanced public health and medical capabilities in 2013. Signed in March, the *Pandemic and All-Hazards Preparedness Reauthorization Act* (Public Law 113-5) reauthorized funding for public health and medical preparedness programs, including BARDA, the Hospital Preparedness Program, and the National Disaster Medical System within ASPR, as well as CDC's Strategic National Stockpile and Public Health Emergency Preparedness programs. The Act also grants the HHS Secretary greater authority to approve requests from states and tribal nations to temporarily reassign Federally funded public health personnel during an HHS-declared public health emergency, which increases staffing flexibility. In addition, the law reauthorizes funding through 2018 to acquire medical countermeasures for the Strategic National Stockpile, and increases the flexibility of Project BioShield to support research and development of medical countermeasures. Moreover, the new reauthorization act gives FDA clearer authority to issue Emergency Use Authorizations for not-yet-approved medical products (and not-yet-approved uses of medical products) before an emergency involving chemical, biological, nuclear, or radiological agents occurs, thus accelerating product availability.

Pandemic and All-Hazards Preparedness Reauthorization Act reauthorized funding for public health and medical preparedness programs

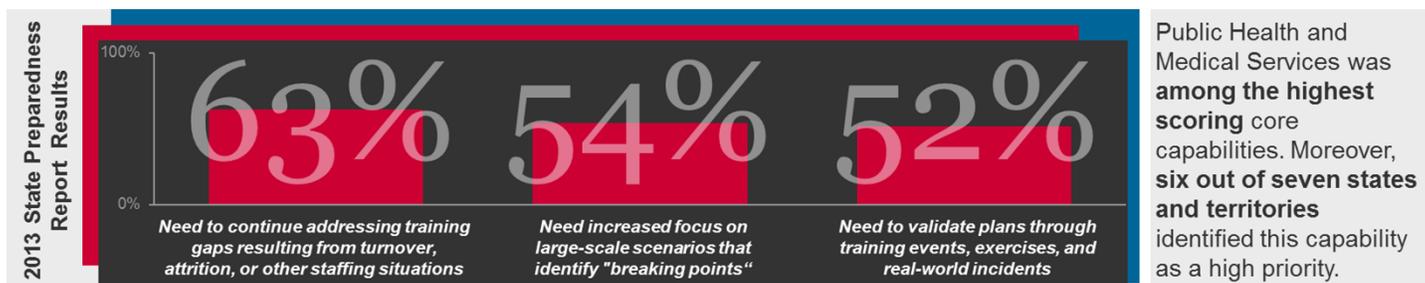
Recent events such as Hurricane Sandy, the Boston Marathon bombings, and the Newtown, Connecticut shootings identified other stressors on public health and medical services in major disasters and mass casualty incidents. Challenges include the loss of power at hospitals and long-term care facilities; insufficient quantities of trained staff, ambulances, medical supplies, and beds; acute and long-term psychological trauma and distress of survivors and responders; and ongoing threats to responder safety. In 2013, stakeholders issued new guidance to help manage these incidents. For example, in July 2013, the Institute of Medicine released the last of three reports to guide the implementation of updated crisis standards of care by healthcare organizations. The Federal Interagency Committee on Emergency Medical Services also released a report detailing strategies to improve coordination and support national implementation of standards for emergency medical services triage during mass casualty incidents. Additionally, HHS released a revised concept of operations to improve Federal coordination of disaster behavioral health activities during response and recovery. These innovations join other ongoing whole community efforts by the Committee for Tactical Emergency Casualty Care to apply best practices in military medicine for casualty management during civilian tactical and rescue operations.

Public health stakeholders also continued partnering to assess preparedness nationally. In December 2013, the Association for State and Territorial Health Officials—in collaboration with the CDC and 20 other partners—released the National Health Security Preparedness Index. This new tool for assessing state-by-state health preparedness aggregates 128 individual measures across five domains—Health Surveillance; Community Planning and Engagement; Incident and Information Management; Surge Management; and Countermeasure Management—resulting in an

— Preparedness Case Study: Federal Response to Emerging Infectious Diseases with Pandemic Potential —

In spring 2013, the Secretary of HHS determined that Middle East respiratory syndrome coronavirus and avian influenza A (H7N9) both had significant potential to impact national security or the health of U.S. individuals living abroad. As part of a coordinated Federal response, the CDC tracked the epidemiology of both diseases, helped characterize the influenza A (H7N9) strain, and provided detailed guidance to the public and clinicians in the United States and overseas. The FDA used new authorities to issue emergency authorizations for targeted diagnostic tools that enable rapid detection of and response to these emerging pandemic threats. Additionally, HHS worked closely with private-sector partners to rapidly research, develop, and test potential influenza A (H7N9) vaccines and medical countermeasures for Middle East respiratory syndrome coronavirus. HHS also partnered with FEMA and other Federal entities to develop a crisis action plan for both diseases, which outlines Federal response activities for a pandemic in the United States.

aggregate score for each on a 1-to-10 scale. The five domains in this index complement multiple core capabilities in the *National Preparedness Goal*, including Public Health and Medical Services; Mass Care Services; Screening, Search, and Detection; and Planning. Results from 2013 reveal differences in state-level preparedness across the five domains and establish a baseline for future trend analysis. The Association for State and Territorial Health Officials and whole community partners continue to refine the measures to deliver an increasingly rigorous annual assessment of health security preparedness.



RESPONSE

Situational Assessment

- Most emergency management agencies have invested in geospatial analysts to support situational assessment, but have limited capabilities to identify patterns in disaster impacts during a response.
- Most states use social media to enhance situational awareness, but have limited data collection and analytic capabilities to support large-scale events.

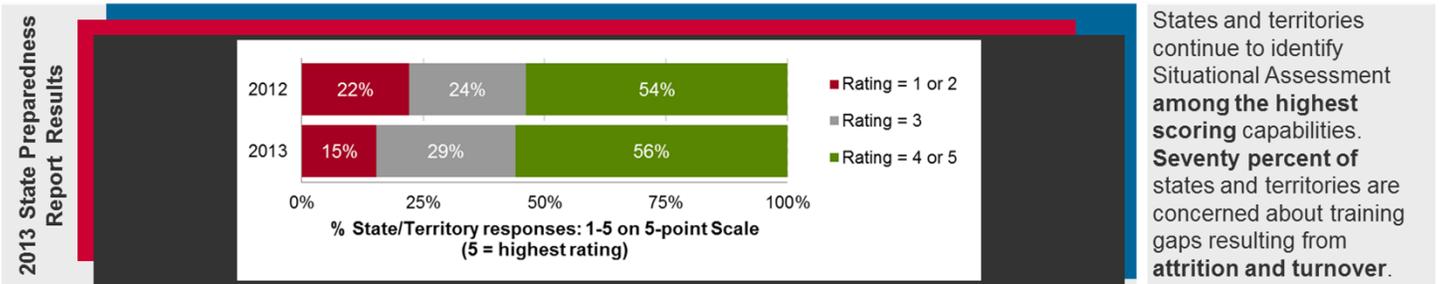
Two national surveys in 2013 confirmed that a majority of state emergency management agencies are using geospatial data and social media to improve situational awareness during a disaster response. In one survey, 90 percent reported having between one and five geospatial staff members available to support response operations, an improvement from 77 percent in 2005. However, more than half of states lack the capability to analyze imagery data and instead rely on Federal or other state or county agencies for support. Slightly more than half of the states cited insufficient staff expertise to conduct such analysis. Additionally, while 58 percent of states expressed interest in crowdsourced data and volunteered geographic information (i.e., geographic data that individuals provide voluntarily), only 18 percent currently use this information during disasters. States identified data reliability (78 percent) and data quality (66 percent) as the two primary reasons for the low use of crowdsourced data and volunteered geographic information.

Less than 25 percent of states believe they can apply their social media analytic processes to large-scale events

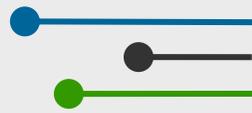
Preparedness Case Study: Social Media Analytics Tool Developed in Puget Sound

Emergency management officials in the Puget Sound region of Washington State developed the [FirstToSee tool](#) to gather and filter disaster response information from multiple social media outlets. This system uses open-source technology to organize social media and other information sources into sortable keywords and hashtags, thereby allowing first responders to maintain greater situational awareness on areas of interest, such as individuals requiring immediate assistance. Puget Sound partners developed a companion mobile application through which the public can send emergency reports and photos with location data from their smartphones and tablet devices. First responders tested the system in a May 2013 exercise and are making the tool available to additional jurisdictions in 2014.

The National Emergency Management Association co-sponsored a separate survey that confirmed that over 60 percent of states monitor information from social media during real-world events to enhance situational awareness. However, the majority of states monitoring social media do so manually rather than using advanced analytic products to identify and aggregate useful information more quickly. As a result, less than 25 percent of states believe they can apply their analytic processes to large-scale events. States indicated that the primary barrier to greater use of social media is a lack of dedicated personnel. A national forum of whole community emergency management practitioners identified a broader set of factors limiting the adoption of social media and crowdsourced information, including their uncertainty about accuracy, fear of liability, inability to translate research into operational decision-making, and policy limitations on gathering and managing such data.



RECOVERY



Highlights

- The Federal Government has used the aftermath of Sandy as a catalyst to accelerate the transformation of disaster recovery programs and to encourage resilient post-disaster rebuilding. (Infrastructure Systems, p. 65; Economic Recovery, p. 66; Housing, p. 69)
- Regional coordination of infrastructure investments can increase cost efficiency and resilience. (Infrastructure Systems, p. 65)
- Coordinating post-disaster Federal housing assistance to meet the needs of the Nation’s urban and rural populations remains a persistent challenge. (Housing, p. 69)
- Technology is increasing the resilience of health networks and improving assessments of disaster-affected natural resources. (Health and Social Services, p. 68; Natural and Cultural Resources, p. 71)

Trends The Federal Government has made substantial progress in maturing recovery leadership roles and coordinating structures outlined in the [National Disaster Recovery Framework](#), which provides a flexible blueprint through which the whole community coordinates disaster recovery. The six Recovery Support Functions in the framework enable this coordination and have helped states recover from approximately 12 significant incidents from 2011–2013. As shown in Table 6, the decision to activate these Recovery Support Functions is based on the needs of a particular incident. When one or more Recovery Support Functions activate, a Federal Disaster Recovery Coordinator or other Federal official oversees their efforts, working closely with state and local counterparts to synchronize response and recovery operations.

Incidents	Community Planning & Capacity Building	Housing	Economic Recovery	Infrastructure Systems	Health and Social Services	Natural & Cultural Resources
2012-2013 Multi-state Drought	●	●	●	●	●	●
2012 Hurricane Sandy	●	●	●	●	●	●
2013 Oklahoma Tornado	●	●	●			
2013 Alaska Flooding	●	●				
2013 Colorado Flooding	●	●	●	●		●
2013 New Mexico Flooding	●			●		●

Table 6: In 2013, the Federal Government used Recovery Support Functions to support states affected by multiple incidents.

While all levels of government have increased their familiarity with the recovery coordinating structures, building the organizational capability to support recovery remains a challenge. In the 2013 State Preparedness Report process, states and territories rated themselves lower in Recovery capabilities than any other mission area. For the third year in a row, at least three of the five lowest-scoring capabilities focused on recovery. Similarly, states and territories cited significant training gaps in this mission area, including training personnel to be fully inclusive of disaster survivors with access and functional needs. FEMA sponsored a second training on implementing the *National Disaster Recovery Framework* for Federal, state, and local recovery personnel, and Federal stakeholders continue to identify capabilities needed to support recovery efforts.

Despite these ongoing challenges, lessons learned from Sandy have spurred notable progress implementing the *National Disaster Recovery Framework* by emphasizing the need for increased resilience nationwide. Mitigation and resilience have always been core elements of the framework, but policy changes enacted after Sandy are strengthening linkages between post-disaster recovery and pre-disaster mitigation in the rules and eligibility requirements of multiple Federal assistance programs.

By the Numbers

The 2012–2013 drought caused **\$30 billion in financial losses** in the agricultural sector and reduced national hydroelectric power generation by 10 percent.

The U.S. Department of Housing and Urban Development (HUD) is providing nearly **\$63 million** to help flood-impacted communities in Colorado with infrastructure repair, housing, and economic development.

Flooding accompanies an estimated **90 percent** of all disasters, yet only **18 percent** of Americans carry flood insurance.

Resilience Innovations

- The Hurricane Sandy Rebuilding Task Force launched the [Rebuild by Design competition](#) to encourage innovative rebuilding designs for the region that promote resilience to severe weather.
- NOAA, FEMA, and USACE released two [online tools about sea level rise](#) to inform local land-use decisions that bolster resilience to coastal flooding.
- FEMA is piloting a Recovery Coordination Cell in Colorado with the planning section organized around watershed boundaries from the 2013 floods rather than existing jurisdictional boundaries.

Preparedness in Action The severe national drought from 2012 to 2013 affected more than two-thirds of U.S. counties and was the first test of the ability of the Recovery Support Functions to coordinate recovery efforts nationally. Unique local conditions and the diversity of agricultural economies precluded a one-size-fits-all solution and posed significant long-term coordination challenges. Drought recovery activities unfolded through regional meetings on drought coordination with stakeholders from across the whole community, including academic partners and local, state, and regional representatives. These meetings focused on improving coordination and maximizing the effectiveness of existing resources. Solutions developed there revealed valuable lessons for public and private partners applying the *National Disaster Recovery Framework* to coordinate long-term recovery on a national scale.

Moreover, Sandy recovery efforts are helping to transform the Nation's approach to disaster recovery, by emphasizing mitigation and resilience, and focusing significant Federal resources on resilient rebuilding. In December 2012, the President established the [Hurricane Sandy Rebuilding Task Force](#), which developed a plan with state, local, and tribal governments to ensure that rebuilding mitigates risks from future incidents. The *Disaster Relief Appropriations Act of 2013* (Public Law 113-2) and the *Sandy Recovery Improvement Act* (Public Law 113-2) also dedicated nearly \$50 billion to help rebuild the region after Sandy and other recent disasters, and amended the Stafford Act to streamline the delivery of Federal assistance.

Recipients are spending much of this additional funding in accordance with the recommendations in the [Hurricane Sandy Rebuilding Strategy](#), published by the Hurricane Sandy Rebuilding Task Force in 2013 to establish clearer guidelines for investing Federal funds in the Sandy-affected region. These guidelines seek to align spending with local priorities; cut red tape to deliver assistance more quickly; improve regional coordination; and promote the resilient rebuilding of housing, infrastructure, and local economies. In January 2014, the Sandy Recovery Office assumed responsibility for coordinating Federal support for the region's recovery. This office helps ensure that state and local priorities continue to guide Federal assistance and that projects adhere to new guidelines on resilient rebuilding.

Whole Community Accomplishments

Galena, Alaska: Complications from spring thawing severely damaged eight native communities near Galena, Alaska—five of which are inaccessible by overland routes. Throughout the summer, AmeriCorps, religious service groups, and whole community partners worked with native Alaskans to rebuild their homes before winter.

Moore, Oklahoma: When a tornado devastated Moore, Oklahoma, in 2013, the Joplin, Missouri, Chamber of Commerce sought to share lessons learned from its similar experience in 2011 with its counterpart in Moore. Influenced by this mentorship, the Moore Chamber of Commerce formed a partnership with First American Bank to sponsor nine community meetings to provide vital recovery guidance and information to survivors.

New York, New York: The New York Rising Community Reconstruction Program fosters the participation of local residents, elected officials, and other community and business leaders in developing a community recovery plan. With assistance from New York State and Federal agencies, these communities develop recovery plans that identify reconstruction projects and specify actions to increase preparedness and resilience.

RESPONSE/RECOVERY

Infrastructure Systems

- Interdependencies among essential infrastructure sectors leave these systems vulnerable to cascading effects that impede response and recovery efforts.
- Federal and state partners have established new investment strategies to share responsibility for enhancing infrastructure resilience and to help overcome funding uncertainties.
- Coordination of regional infrastructure investments is critical to cost-effective and efficient use of funding.

The Infrastructure Systems core capability falls within both the Response and Recovery mission areas. The *National Preparedness Report* highlights programs and ongoing initiatives that support both mission areas.

Sandy demonstrated that infrastructure systems are vulnerable to cascading effects that impede response efforts. Interdependencies involving the energy sector are particularly relevant because they affect other critical lifeline functions, including communications, transportation, and water/wastewater systems. Extensive power outages during Sandy affected response and recovery timelines for all critical lifeline functions. Power failures exacerbated fuel distribution challenges that limited the mobility of power-restoration crews and other responders. Additionally, power outages and diminished backup capacity at wastewater treatment plants forced the discharge of billions of gallons of raw and partially treated sewage as flooding overwhelmed facilities up and down the Atlantic coast.

In 2013, USACE developed the online Emergency Power Facility Assessment Tool, which enables critical infrastructure owners and operators to upload generator installation data—such as power and connection material requirements—for all public critical infrastructure facilities throughout the continental United States and all U.S. territories. The USACE database currently includes 16,290 registered facilities. USACE and FEMA are working with states and tribal partners to publicize the tool, expand data collection, and integrate the information into response efforts.



Recognizing that cascading effects increase vulnerability to severe incidents, the Federal Government has emphasized the need for national investment in more resilient infrastructure. The *American Recovery and Reinvestment Act of 2009* (Public Law 111-5) allocated \$4.5 billion to DOE to modernize the electric grid and increase its reliability and resilience to severe weather. From June 2011 to February 2013, these investments added 6.2 million smart meters and upgraded 3,000 digital distribution circuits to improve monitoring and operation of the grid. Similarly, a Federal Energy Regulatory Commission ruling in May 2013 required the development of new reliability standards and assessments to help

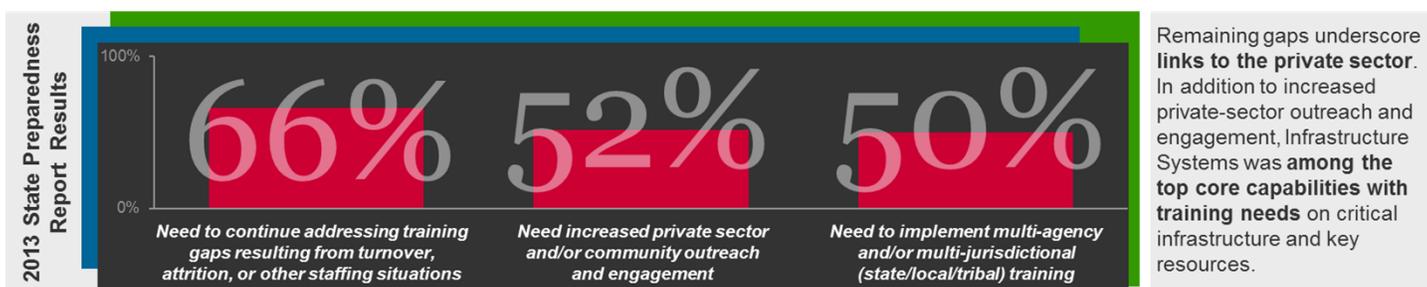
protect the Nation's power grid from geomagnetic storms. DOE has also supported the Sunburst project, which has established 15 monitoring nodes since 2012 to study the effects of geomagnetic disturbances on extra-high voltage transformers. With further DOE support, private utilities have funded an additional 15 nodes, bringing the nationwide total to 30 as of January 2014.

In addition to these investments, the EPA is also using its State Revolving Funds for drinking and wastewater to manage an additional \$569 million in grant funding to assist state and tribal governments with financing resilient water infrastructure projects in the Sandy-affected region. State Revolving Funds help states and tribes support low-interest lending for local drinking- and clean-water infrastructure projects, but using these programs specifically to mitigate flood damage and to enhance resilience is a new eligibility requirement for projects financed through supplemental Federal

funding for Sandy recovery. The EPA requires states to match at least 20 percent of the Federal contribution for these projects. In New York State alone, 14 counties are eligible for up to \$407.6 million in combined state and Federal financing.

In addition to grants, the EPA hosted training workshops and provided new tools and technical assistance to increase infrastructure resilience. In April 2013, EPA trained more than 30 drinking and wastewater utilities in New York and New Jersey on using its Climate Resilience Evaluation and Awareness Tool to help them understand climate change, manage its impacts, and plan adaptation strategies. EPA also trained more than 600 water sector representatives in a series of webinars on planning resources available through its Climate Ready Water Utilities initiative. Finally, EPA initiated the Water and Energy Nexus in Disasters project in 2013 to help the water sector prioritize power restoration and improve coordination among water, gas, and electricity utilities to strengthen their resilience to power outages.

Together, cost-sharing investment strategies provide additional options for local communities, states, and regions to address long-term gaps in investment for aging infrastructure, which the American Society of Civil Engineers estimates will widen in the coming years. Close regional coordination is needed to ensure that large-scale infrastructure projects are both efficient and cost-effective in mitigating risk. To that end, HUD and FEMA are helping to convene state, local, and Federal partners to plan, share information, and coordinate projects across sectors and geographic areas. Coordinating groups meet regionally, and smaller technical working groups focus on issues such as wastewater treatment, hospitals, and regional fuel availability. These efforts center on breaking down the silos between programs and funding streams to address the interdependencies among infrastructure systems. In fact, collaboration among local, state, and Federal agencies is a new requirement under the *Hurricane Sandy Rebuilding Strategy* that helps to ensure that large-scale infrastructure projects are designed to mitigate the effects of severe weather and enhance regional resilience.



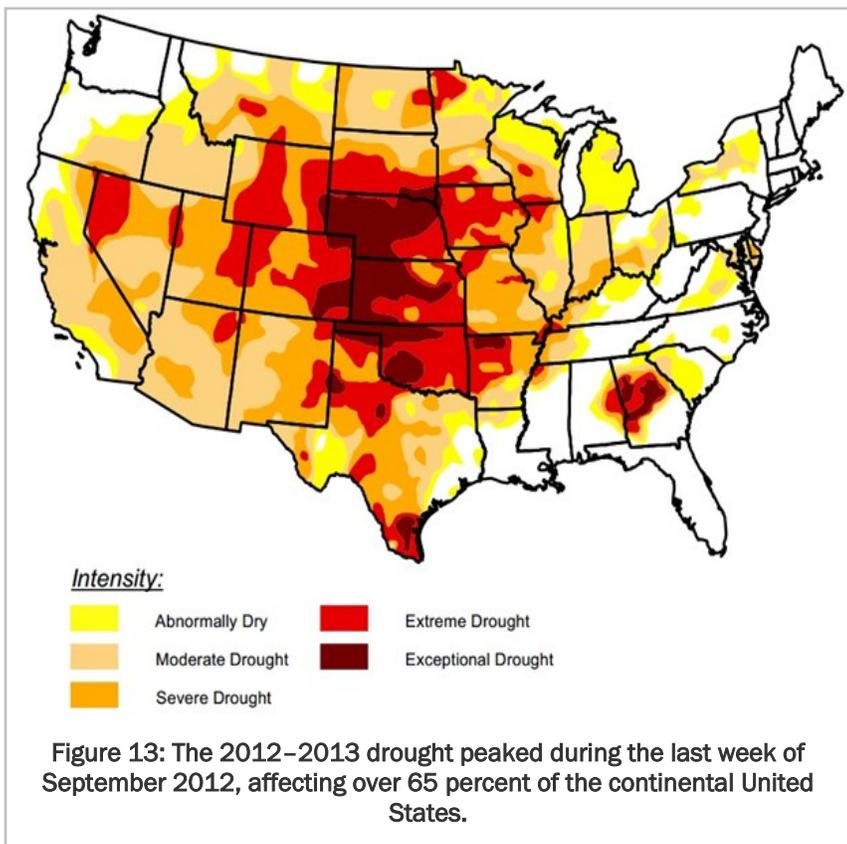
RECOVERY

Economic Recovery

- Sustained efforts by Federal departments and agencies to assist rural communities in recovering from long-term drought informed the design and development of the National Drought Resilience Partnership.
- The Federal Government is modifying existing grant and loan programs, providing technical assistance, and sharing information to help whole community stakeholders manage business risk after disasters.

From June 2012 through May 2013, the Nation experienced its most severe drought since 1939, as shown in Figure 13. Throughout this period, between 47–65 percent of the continental United States experienced moderate to exceptional drought conditions. In one of the first applications of the *National Disaster Recovery Framework*, all six Recovery Support Functions and 13 Federal departments and agencies mobilized—led by USDA, DOC’s Economic Development Administration (EDA), and the SBA—to assist state and local leaders in reducing the economic damage from droughts. The chronic nature of the drought magnified recovery challenges by requiring sustained coordination over the long term.

In August 2012, the Federal Government appointed a Federal Disaster Recovery Coordinator from USDA to lead drought recovery, which largely occurred through coordinating meetings with state, local, and regional partners, including academia. At these meetings, attendees repeatedly cited confusing and redundant application processes as a

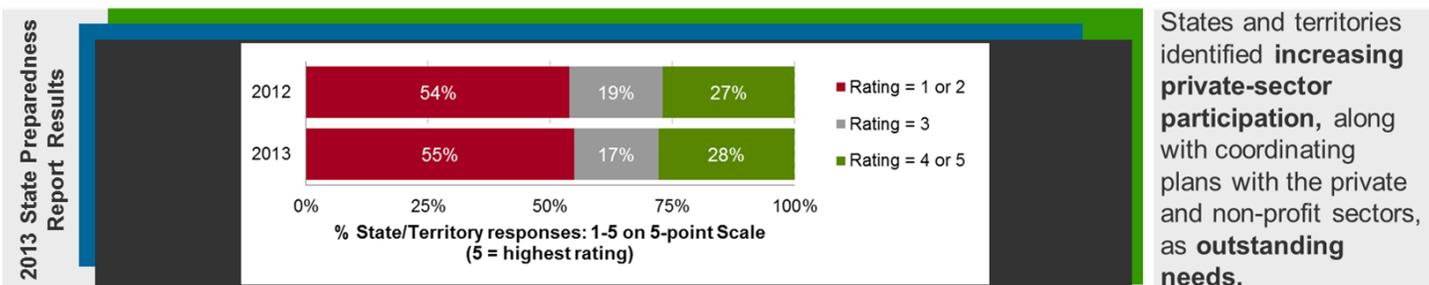


hindrance to the delivery of Federal drought assistance. To address this issue, EDA cataloged all drought-relevant assistance programs from every Federal department and agency during the first half of 2013. EDA and its Federal partners shared this information widely with state and local stakeholders. USDA continues to update the catalog and has worked with the Extension Disaster Education Network to integrate it into ongoing technical assistance efforts. As regional coordination meetings continued throughout 2013, the Federal Disaster Recovery Coordinator for drought shared additional recovery information to raise awareness about the drought’s impact on related issues, such as economic development, public health, and housing. In December 2013, the existing Federal coordinator transferred responsibility for coordinating drought recovery to the newly established National Drought Resilience Partnership. Status updates and additional drought planning and preparedness resources are available on the [U.S. Drought Portal](#), including webinars, early warning forums, and research products.

The Economic Recovery Support Function is also bolstering information sharing by delivering aid and technical assistance that enables public- and private-sector partners to better manage business risk after disasters. This assistance includes sharing economic and market data; promoting local procurement initiatives; improving the delivery of disaster assistance information; and integrating the disparate efforts of state, local, private-sector, nonprofit, and Federal agencies to enhance preparedness among small businesses.

For example, following Sandy, EDA and the Economic Recovery Support Function sponsored two procurement roundtables with local business interests in New York. These events provided business owners in Brooklyn and Suffolk County an opportunity to learn how to better compete for local, state, and Federal rebuilding contracts. In New Jersey, EDA also partnered with FEMA and the New Jersey Department of Banking and Insurance to host a series of insurance industry roundtables. These roundtables convened whole community stakeholders to identify opportunities and actions to promote best practices in risk management for New Jersey businesses. Additionally, the U.S. Department of Labor worked with state and local partners to identify available workforce system resources (e.g., disaster unemployment insurance, rapid response services, national emergency grants) to support economic recovery.

EDA and the SBA are also modifying existing programs to expedite delivery of aid and increase economic resilience. SBA implemented a recommendation from the *Hurricane Sandy Rebuilding Strategy* to prevent processing delays for disaster loan applications from businesses—typically fewer in number and filed later than home disaster loan applications—by creating separate tracks for home and business loans. Furthermore, in fiscal year 2012, EDA included resilience as a competitive factor in distributing \$200 million in disaster recovery assistance to state, local, and tribal governments.

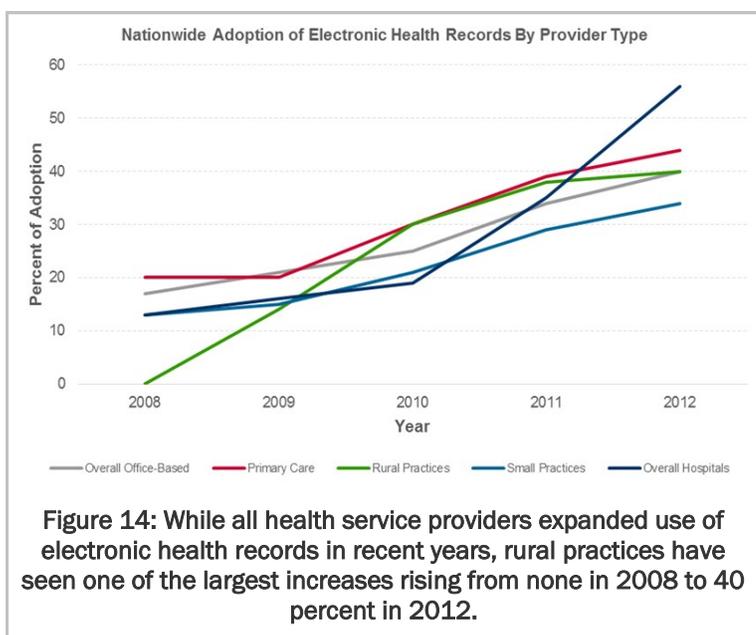


Health & Social Services



- Wider use of electronic health records and of health information exchanges is increasing the resilience of health networks, but social service providers have not yet adopted similar technologies to the same extent.
- Data-driven, systematic methods to assess long-term recovery of health and social services do not currently exist. However, the Nation is making progress in its ability to better assess and assist with the health and social service needs of disaster survivors.

Bolstered by financial incentive programs from the Centers for Medicare & Medicaid Services, use of electronic health records has grown substantially nationwide since 2008, as shown in Figure 14. Health professionals can easily access these records through secure health information exchanges, many of which are operated by states through additional Federal assistance.



These improvements in sharing medical records are minimizing disruptions in delivering health services to disaster survivors throughout the immediate and long-term recovery phases. For example, in May 2013, an EF-5 tornado struck Moore, Oklahoma, and destroyed the Moore Medical Center. Despite the damage, other nearby medical facilities successfully retrieved patient records through Oklahoma’s statewide Secure Medical Records Transfer Network, which informed their long-term treatment of survivors. In contrast, during Hurricane Katrina, medical facilities throughout New Orleans permanently lost patients’ medical histories when their paper records remained inundated in floodwaters for weeks.

Recently, HHS led the development of Direct, a project to provide a health information exchange capability between states by securely transferring information over the Internet. In July 2013, state health information exchanges from four Gulf states

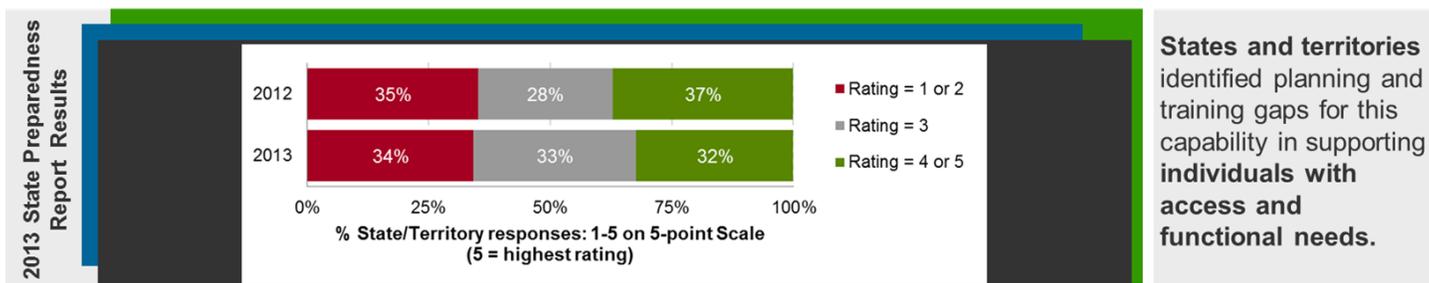
partnered with exchanges in six more states in the East and Midwest, agreeing to transfer encrypted records across state lines through Direct if a disaster displaces patient populations.

While health information exchanges better enable medical service providers to meet the immediate and long-term recovery needs of disaster survivors, many social service networks do not use interoperable electronic records. Providers that usually lack this capability include those in the child-care industry, small behavioral health programs, the Supplemental Nutrition Assistance Program, and voluntary social services programs. Consequently, despite clear progress by providers in adopting technology for electronic health records since 2008, room for improvement remains.

Another major challenge to meeting the needs of disaster survivors is that no systematic methods exist to assess the short- or long-term health, behavioral health, and social service recovery needs of entire communities. To address this long-term challenge, HHS is partnering with HUD, the U.S. Department of Veterans Affairs, and the Robert Wood Johnson Foundation to sponsor an Institute of Medicine study on the post-disaster recovery of a community’s public health, medical, and social services. A committee with whole community membership is beginning to investigate key activities, recovery practices, and novel programs that impact health outcomes in a community recovering from a disaster.



The Nation is making additional progress in assessing and meeting the health and social service needs of disaster survivors. The *Sandy Recovery Improvement Act* appropriated more than \$8 million in grants to support research to aid long-term recovery in areas affected by Sandy. The CDC, National Institutes of Health, and HHS ASPR are each overseeing multiple research projects focused on physical and behavioral health aspects of recovery, including community resilience; risk communication and the use of social media; health system response and health care access; evacuation and policy decision-making; and mental health. Researchers are required to share findings with each other and the affected communities, creating networks of community members and organizations to foster a strong recovery and to improve resilience as the region continues to rebuild.



RECOVERY

Housing

- Post-Sandy modifications to Federal programs for housing assistance are incentivizing resilient rebuilding and whole community engagement, while serving as a test bed for new techniques that promote mitigation.
- The Federal Government continues to revise existing doctrine on disaster housing assistance and to develop new doctrine and policies based on real-world experiences.
- Integrating efforts to meet the diverse housing needs of urban and rural populations over the temporary, interim, and long-term recovery periods remains a challenge.



In January 2013, Congress appropriated \$15.2 billion for the Community Development Block Grant Disaster Recovery program to support recovery from Sandy, the largest allocation in the program's history. Overseen by HUD, the program receives funding from Congress through special appropriations to support disaster recovery efforts, including housing. Although these funds will require years to fully distribute and spend, state and local governments in affected areas can already apply for over \$10.5 billion to help communities and homeowners recover from the storm (see Table 7).

HUD led the Hurricane Sandy Rebuilding Task Force and developed new requirements for Sandy-related funds under the Community Development Block Grant Disaster Recovery program to ensure that state and local grantees adopt a more resilience-focused approach to housing reconstruction. All applicants for 2013 funding must explicitly address how their projects promote sustainable and resilient rebuilding efforts. New grant recipients must also address the needs of affected individuals living

in public and affordable housing units and may use funds to buy out properties in high-risk areas. For the second round of funding opportunities that opened in October 2013, HUD requires applicants to conduct comprehensive risk assessments that anticipate effects of climate change, account for expected growth and development patterns, and incorporate resilience performance standards identified in the *Hurricane Sandy Rebuilding Strategy*.

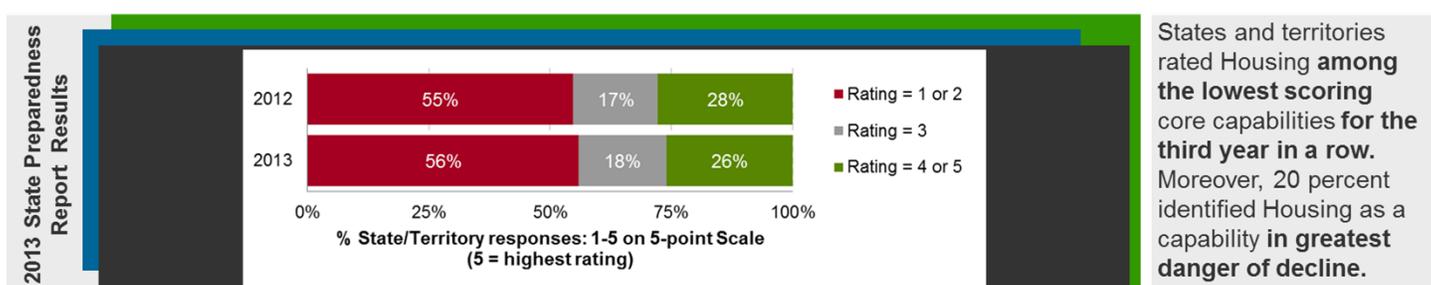
Grantee	First Allocation of Funds (February 2013)	Second Allocation of Funds (October 2013)	Total Funding for Community Development Block Grant Disaster Recovery Program
New Jersey	\$1.83 billion	\$1.46 billion	\$3.29 billion
New York City	\$1.77 billion	\$1.45 billion	\$3.22 billion
New York State	\$1.71 billion	\$2.1 billion	\$3.81 billion
Connecticut	\$71.82 million	\$66 million	\$137.82 million
Maryland	\$8.64 million	\$20 million	\$28.64 million
Rhode Island	\$3.24 million	\$16 million	\$19.24 million
Total	\$5.4 billion	\$5.1 billion	\$10.5 billion

Table 7: Since Congress added \$15.2 billion to the Community Development Block Grant Disaster Recovery program, HUD has released two separate Sandy-related allocations of over \$5 billion to state and local grant applicants.

Sandy also prompted additional new housing doctrine and policy innovations. The *Sandy Recovery Improvement Act* granted FEMA authority to lease and repair rental units for use as temporary housing. This policy change built on earlier innovations of the Sheltering and Temporary Essential Power program, developed by FEMA with state and local officials during Sandy to address urgent needs for temporary heating, power, accessibility, and other essential repairs. Sandy exposed the unique challenges of locating adequate temporary housing options in a densely populated, urban environment with limited housing stock and few open spaces to accommodate mobile trailers.

Differences in population density and regional hazards create requirements for accessible and affordable emergency housing that vary widely across the Nation. FEMA, HUD, USDA, the SBA, and other agencies manage assistance programs to address disaster housing needs for all types of incidents. However, rules frequently vary among these programs, including program eligibility requirements, thresholds for program activation, restrictions on how funds can be spent, and the recipients of assistance. As a result, Federal efforts to support housing solutions for urban and rural populations are not always well coordinated over the temporary, interim, and long-term periods. Additionally, accessibility requirements in existing laws, such as the *Rehabilitation Act* (Public Law 93-112) and the *Americans with Disabilities Act* (Public Law 101-336), are not always properly integrated into disaster housing assistance programs or community reconstruction projects.

To improve coordination across relevant Federal programs, the *Hurricane Sandy Rebuilding Strategy* also called on partner agencies in Emergency Support Function #6 (Mass Care, Emergency Assistance, Temporary Housing, and Human Services) and the Housing Recovery Support Function to develop recommendations on integrating all existing disaster housing plans and policies. Since these management structures coordinate Federal housing support from immediate response through long-term recovery, they are uniquely qualified to recommend statutory and regulatory improvements. Similar initiatives to revise disaster housing policy date back to 2006, but the integration necessary to meet response and recovery housing needs for disaster survivors has been difficult to achieve. Additionally, while some state and local governments have formed disaster housing task forces to coordinate recovery assistance, many states continue to lack familiarity with and training for housing support.



RECOVERY

Natural & Cultural Resources

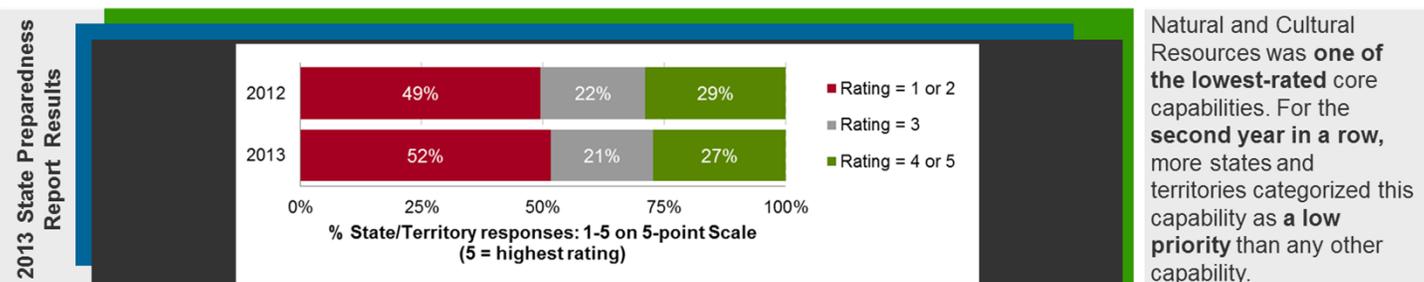
- New technologies and tools enable rapid preliminary assessments of the effects that disasters have on natural and cultural resources.
- States are making progress in developing public-private partnerships between emergency managers and cultural institutions to better prepare and recover natural and cultural resources after disasters.

Recent advancements in technology have enabled the rapid collection and analysis of data showing the impacts of disasters on natural and cultural resources. Scientists frequently use remote sensing technology to measure effects on natural resources by comparing areas before and after disasters. This type of analysis is particularly useful for coastal communities affected by hurricanes. NOAA offers a variety of tools to these communities, including high-resolution maps created using a laser-based remote sensing technology known as LiDAR to assess beach erosion, island breaching, and coastline elevation changes. NOAA also developed the Environmental Response Management Application, an online mapping tool that integrates environmental sensitivity maps, ship locations, weather, and ocean currents. The U.S. Geological Survey also uses this technology to immediately collect storm surge and peak flow data, and is developing tools to monitor erosion patterns to inform coastal erosion models.

Natural and cultural resource preservation groups are also integrating existing impact assessment methodologies into mobile devices. The National Park Service's National Center for Preservation Technology and Training recently adapted the Rapid Building and Site Condition Assessment forms—developed with over 20 agencies during Hurricane Katrina response operations—into a mobile application. This redesigned tool now functions on tablets and smartphones, enabling teams of inspectors to quickly survey historic structures after an incident. The application collects images, location data, structural information, data on nearby hazards, and other indicators in real-time. Volunteers field-tested this tool in New York during Sandy, and the National Park Service is incorporating further improvements.

The National Center for Preservation Technology and Training also recently collaborated on a similar effort with Heritage Preservation, a nonprofit organization dedicated to preserving U.S. cultural, historic, and scientific heritage. The center helped Heritage Preservation adapt its Emergency Response and Salvage Wheel—a tool that museums, libraries, and archives worldwide have used since 1997 to salvage collections during the immediate aftermath of an incident—into the new Emergency Response and Salvage mobile application. This resource details actions and practical salvage tips for various types of collections (e.g., photographs, natural history specimens).

Heritage Preservation also directs the Heritage Emergency National Task Force, a partnership co-sponsored with FEMA involving 42 national service organizations and Federal agencies. The Task Force formally supports Emergency Support Function #11 (Agriculture and Natural Resources) under the *National Response Framework* and the Natural and Cultural Resources Recovery Support Function under the *National Disaster Recovery Framework*. With assistance from two task force members, Heritage Preservation convened three national forums in Philadelphia, Pennsylvania; St. Louis, Missouri; and Portland, Oregon. The forums addressed roles and responsibilities for state cultural and emergency management agencies in safeguarding and rebuilding cultural and historic resources following a disaster. The forums included participants from 22 states and 1 U.S. territory. Prompted in part by these interactions, five states and counties have collaborated with cultural heritage partners to develop natural and cultural resource annexes to their emergency operations plans, including Massachusetts; Rhode Island; Utah; Colorado; and Chatham County, Georgia.



Conclusion

Since the inaugural 2012 *National Preparedness Report*, the Nation has continued to achieve incremental progress across all preparedness mission areas. For example, new Federal coordination teams focused on mitigation and recovery are having tangible effects on how Federal agencies support communities nationwide as they recover from disasters and rebuild to withstand future events. Across all mission areas, the 2014 *National Preparedness Report* presents evidence of growing preparedness capacity nationwide, including new assets, technologies, and guidance. These enhancements are due in part to three prominent factors: congressionally-appropriated grant funding, which has directed billions of dollars to build and sustain capabilities in state, local, tribal, and territorial jurisdictions; the dynamic adaptation of a capability-based National Preparedness System to address changing environments and unanticipated challenges; and the innovation occurring in communities nationwide to meet constant demands from the frequent threats and hazards they face.

Hurricane Sandy presented an opportunity to demonstrate the Nation’s improved capability to respond to and recover from a major incident. Before, during, and after Sandy, the Nation showed unity of effort in a complex, multi-state environment; surged resources; tested new doctrine; and, most importantly, focused on meeting survivor needs. Sandy reinforced the critical role of three core capabilities—Planning, Operational Coordination, and Public Information and Warning—that are common to all the mission areas and enable the success of other capabilities.

Along with Sandy, experiences in other recent real-world incidents—including floods, wildfires, drought, hazardous materials accidents, active shooter incidents, and the Boston Marathon bombings—highlighted the ongoing maturation of the National Preparedness System. Preparedness stakeholders have refined their understanding of the core capabilities, created linkages among mission areas, and used new doctrine for planning and exercises. Together, these activities reflect the dynamic nature of preparedness, as envisioned in the *National Preparedness Goal*. Preparedness is not static and must continue to account for the effects of climate change, the Nation’s aging infrastructure, and the role of emerging technology (e.g., crowdsourcing, social media), all of which will impact future efforts.

Despite these advances, national areas for improvement have appeared in all three *National Preparedness Reports* published to date. These issues demonstrate that no quick solutions exist for addressing these complex, national challenges. Rather, achieving meaningful preparedness improvements requires sustained efforts across the whole community that combine near-term, interim solutions and long-term strategies. To that end, new national policy initiatives are focusing energy on and bringing unity of effort to the national areas for improvement identified in this report, establishing the planning foundations upon which to build capability and manage risk nationally (See Table 8).

National Areas for Improvement	Emerging National Policy Initiatives
Cybersecurity Health and Social Services Housing Infrastructure Systems Long-term Vulnerability Reduction	Executive Order 13636: Improving Critical Infrastructure Cybersecurity Executive Order 13650: Improving Chemical Facility Safety and Security Executive Order 13653: Preparing the United States for the Impacts of Climate Change Presidential Policy Directive 21: Critical Infrastructure Security and Resilience President’s Climate Action Plan Hurricane Sandy Rebuilding Strategy National Drought Resilience Partnership

Table 8: National policy initiatives align clearly with areas for improvement identified in the *National Preparedness Report*.

New doctrine has established processes that facilitate the sharing of resources, tools, and expertise among whole community partners to help them prepare for natural hazards, as well as unexpected challenges from terrorist attacks, hazardous materials accidents, active shooter incidents, and disease outbreaks. Stakeholders are applying this doctrine and encouraging innovative solutions to harness capacity that exists throughout the Nation. This approach recognizes the shared responsibilities across the whole community for strengthening the resilience of communities nationwide—government alone cannot prevent, protect against, mitigate, respond to, or recover from all hazards without significant contributions from the private sector, non-governmental organizations, and individuals.

The 2014 *National Preparedness Report* identifies issues for additional analysis to inform resource allocation strategies and the Nation's overall understanding of preparedness, including:

- Studying resilience efforts over a multi-year period to better understand the return on investment for mitigation and recovery initiatives;
- Examining in greater depth the concepts of capability maturity and long-term sustainment, including identifying inputs to help evaluate maturity, track capability assets from year to year, and better understand the relative contributions of whole community partners;
- Exploring how dynamic elements within the preparedness environment—including emerging technology, climate change, aging infrastructure, and legal and policy updates—positively and negatively affect prevention, protection, mitigation, response, and recovery initiatives;
- Partnering with Federal Government and whole community stakeholders to measure performance in the core capabilities more effectively based on the new *National Planning Frameworks* and *Federal Interagency Operational Plans* to explore complementary approaches for visualizing this information; and
- Examining security and resilience efforts that address the interconnected nature of cyber and physical infrastructure, including interdependencies across sectors.

Using these results, future reports will evaluate the extent to which the Nation is addressing root causes for identified areas for improvement and taking action to build necessary capabilities.

Acronym List

ASPR	U.S. Department of Health and Human Services Assistant Secretary for Preparedness and Response
ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
BARDA	Biomedical Advanced Research and Development Authority
CBP	Customs and Border Protection
CDC	Centers for Disease Control and Prevention
DHS	U.S. Department of Homeland Security
DNDO	Domestic Nuclear Detection Office
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOJ	U.S. Department of Justice
EDA	Economic Development Administration
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GAO	Government Accountability Office
GSA	General Services Administration
HHS	U.S. Department of Health and Human Services
HITRAC	Homeland Security Infrastructure Threat and Risk Analysis Center
HUD	U.S. Department of Housing and Urban Development
JTTF	Joint Terrorism Task Force
NASA	National Aeronautics and Space Administration
NBIC	National Biosurveillance Integration Center
NCCIC	National Cybersecurity and Communications Integration Center
NIEHS	National Institute of Environmental Health Sciences
NIST	National Institute of Standards and Technology
NNSA	National Nuclear Security Administration
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
OEC	Office of Emergency Communications
OHA	Office of Health Affairs
OSHA	Occupational Safety and Health Administration
SBA	Small Business Administration
TSA	Transportation Security Administration
USCG	U.S. Coast Guard
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USSS	U.S. Secret Service