



Fact Sheet

Climate Adaptation at the Federal Level

January 2014

Climate change adaptation is a risk-management strategy characterized by adjustments to natural or human systems in response to actual or expected climate change.¹ Climate adaptation (or resiliency) efforts can vary widely based on the needs of a region, but they commonly include better climate information and decision-making tools, new building and infrastructure standards, and infrastructure modifications that improve resiliency to storm water or extreme temperatures.

Due to concerns over national climate vulnerability and unavoidable increases in climate risk in the coming decades, policymakers have expanded their focus beyond climate mitigation to include resiliency efforts. Many efforts are ongoing at the state and local level. Although progress by the federal government has lagged, strides have been made in the last few years. Action at the federal level can serve to provide guidelines and resources to states and cities, promote collaboration, and improve financing availability. This fact sheet will explore federal climate resiliency efforts, the majority of which are in progress.

RECENT IMPACTS

In 2012, the United States saw many serious extreme weather events including drought, hurricanes, tornadoes, and wildfires. The year was the hottest on record for the United States, based on temperature records dating back to 1895.² In 2012, there were 3,527 monthly weather records broken for heat, rain, and snow in the United States.³ The National Oceanic and Atmospheric Administration (NOAA) found that the 2012 drought was the most severe drought in the United States since the 1930s, resulting in agricultural failure across the 22 states affected, 123 direct deaths and \$30 billion in costs. The drought and extreme heat also provoked wildfires. Western wildfires during 2012 burned more than 9.2 million acres of land in the United States and caused \$1 billion in damage. NOAA counted 11 national “Billion-Dollar Weather/Climate Disasters” in 2012, totaling \$115 billion in damages (see Table 1), the second-highest totals for number of events and damages (adjusted for inflation) since NOAA began keeping track in 1980.⁴

2012 Event	Est. Cost (\$B)	Deaths
U.S. Drought/Heatwave	\$30.0	123
Western Wildfire	\$1.0	8
Hurricane Sandy	\$65.0	159
Hurricane Isaac	\$2.3	9
Plains/East/Northeast Severe Weather	\$2.9	28
Rockies/Southwest Severe Weather	\$2.6	0
Southern Plains/Midwest Severe Weather	\$2.3	1
Midwest/Ohio Valley Severe Weather	\$3.3	1
Midwest Tornadoes	\$1.1	6
Texas Tornadoes	\$1.0	0
Southeast/Ohio Tornadoes	\$3.1	42
Total	\$114.6	377

In 2012, a study in the journal *Environmental Research Letters* found that the sea level has risen approximately eight inches since 1880, with the rate accelerating. The study projects sea level to rise another 1 to 8 inches by 2020 and 4 to 19 inches by 2050,⁵ noting that this rise in sea level would increase the chances of flooding, resulting in damages to homes, roads, schools, and more. Hurricane Sandy had a significant impact on several Northeastern states, causing severe interruptions to critical water and electrical services, 159 deaths and \$65 billion in damages.⁴ Scientists anticipate that the mid-Atlantic coast will see more frequent and intense storm events, such as Hurricane Sandy, and also expect the impacts of these storms to be more severe as sea levels rise.

Due to current and projected extreme weather events, and their costly impacts, the U.S. Government Accountability Office (GAO) flagged climate change as a high risk in its 2013 report. According to the GAO, the impacts of climate change, such as extreme weather events, will result in increased fiscal exposure for the federal government. To mitigate this risk, the GAO recommends a national climate change adaptation strategy.¹

LEGISLATION

Legislative action can assist federal adaptation efforts by appropriating funding and creating programs designed to prepare for climate impacts. Several bills to expand federal resiliency efforts were introduced in 2013. Most have sat idle, with the exception of adaptation language included in the Hurricane Sandy relief package.

Disaster Relief Appropriations Act of 2013 (P.L. 113-2)

In January 2013, Congress passed the *Disaster Relief Appropriations Act* to provide \$50.7 billion in funding for states and communities affected by Hurricane Sandy. Specific language in the bill authorized funding to be used on adaptation efforts. Of the \$10.9 billion authorized for the Federal Transit Administration's Public Transportation Emergency Relief Program, up to \$5.38 billion may be used "to carry out projects related to reducing risk of damage from future disasters in areas impacted by Hurricane Sandy." The U.S. Army Corps of Engineers received an authorization of \$2.9 billion "to reduce future flood risk in ways that will support the long-term sustainability of the coastal ecosystem and communities." The bill also required the Federal Emergency Management Agency to "submit to Congress recommendations for the development of a national strategy for reducing future costs, loss of life, and injuries associated with extreme disaster events in vulnerable areas of the United States."⁶

In an analysis of the *Disaster Relief Appropriations Act*, the Georgetown Climate Center concluded that there are other opportunities within the Act for agencies to direct disaster relief funds to climate adaptation projects. Some of the opportunities they identified include:

- Federal agencies could consider including criteria when issuing grants to encourage communities to assess the long-term vulnerabilities of projects that will be funded with disaster relief.
- State and local governments could use Community Development Block Grant (CDBG) funds or Hazard Mitigation Grant Program (HMGP) funds to make up the cost difference needed to adapt facilities.
- State and local governments can use the State Revolving Fund (SRF) to improve water treatment facilities. They can also prepare for future disasters by enacting codes and standards that require public facilities to be constructed to higher standards, and by incorporating climate change in hazard mitigation plans.⁷

Safeguarding America's Future and Environment (SAFE) Act (S. 1202)

The SAFE Act was introduced in June 2013 by Senators Max Baucus (D-MT) and Sheldon Whitehouse (D-RI) to establish a federal program to address the impacts of climate change by protecting the country's natural resources. The bill aims to reduce costs and maximize government efficiency by encouraging cooperation with state, local and tribal governments.⁸ The bill states, "the Federal Government should provide leadership in preparing for and responding to the impacts ... [of extreme weather and climate change] to ensure that present and future generations continue to receive the benefits of the abundant and diverse natural resources of the United States." Other provisions of this bill include establishing a Natural Resources Climate Change Adaptation Panel, which would adopt a National Fish, Wildlife and Plants Climate Adaptation Strategy; establishing a National Climate Change and Wildlife Center within the United States Geological Survey; developing Federal Agency Adaptation Plans; and requiring State Natural Resource Adaptation Plans. At this time, the SAFE Act has been referred to the Committee on Environment and Public Works and is awaiting further action.

Strengthening the Resilience of Our Nation on the Ground (STRONG) Act (S. 904 and H.R. 2322)

The STRONG Act was originally introduced in December 2012 by then-Senator John Kerry (D-MA), Senator Kirsten Gillibrand (D-NY) and the late Senator Frank Lautenberg (D-NJ) to establish a National Extreme Weather Resilience Plan with the aim of making the United States more resilient to disasters associated with extreme weather events in order to minimize economic and social costs.⁹ At the time of introduction, Senator Kerry stated, "Hurricanes, flooding, drought and other extreme weather take an immense toll on communities, homeowners, the local economy, and our first responders ... This bill can help save lives and reduce the serious economic impact."¹⁰ The bill (S. 904) was reintroduced in the 113th Congress in May 2013 by Senators Gillibrand and Roger Wicker (R-MS).¹¹

Rep. Scott Peters (D-CA) and nine co-sponsors introduced the STRONG Act (H.R. 2322) into the House in June 2013.¹² The bill calls for the establishment of an interagency working group, which would analyze federal agencies' current and planned resilience activities to find gaps and overlaps. The working group would also be responsible for developing a National Extreme Weather Resilience Plan and would work with an advisory group to look into the needs of state and local entities. The plan would improve federal, state and local coordination; make data and tools available to various stakeholders; and support state, local, regional and tribal resiliency plans. Introducing the bill, Rep. Peters stated, "Up to this point, there hasn't been a national vision for increasing community resiliency in the face of extreme weather events. The STRONG Act will save taxpayers money over the long run by having the country plan ahead for more potent, extreme weather such as wildfires, hurricanes, and drought."¹³ The bill has been referred to the Senate Commerce Committee and the House Transportation and Infrastructure Committee.

EXECUTIVE ACTION ON CLIMATE ADAPTATION

Executive Order 13514

In 2009, President Obama signed Executive Order (EO) 13514, which set environmental, economic and energy performance goals for federal agencies. The EO included climate adaptation requirements for all federal agencies. EO 13514 mandated that all federal agencies participate in the interagency Climate Change Adaptation Task Force, which worked to develop a national strategy for climate adaptation, finding "approaches through which the policies and practices of the agencies can be made compatible with and reinforce that strategy."¹⁴ Section 8 of the EO required each agency to develop and implement a "Strategic Sustainability Performance Plan" by FY 2011 (followed by annual updates), which must include an evaluation of the agency's climate risks over the short and long term. The Adaptation Task Force last released a progress report in October 2011¹⁵ and was replaced in November 2013 by the interagency Council on Climate Preparedness and Resilience, which will continue the work of the Task Force.¹⁶

President Obama's Climate Action Plan and Executive Order 13653

President Obama revealed his Climate Action Plan in June 2013 as a unilateral strategy to reduce carbon pollution, promote renewable energy, and make the United States a leader in addressing climate problems.¹⁷ The plan includes a focus on a national resilience strategy, which was further advanced by the President's Executive Order 13653 on November 1, 2013, entitled "Preparing the United States for the Impacts of Climate Change." In addition to creating the Council on Climate Preparedness and Resilience, the EO established the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, which initially consists of 26 officials from 23 states and territories. The Task Force will provide recommendations by November 2014 on how to improve federal support of local adaptation efforts, including greater information sharing and changes to federal grant and loan programs.¹⁸

Table 2: Resilience Strategy in President Obama's Climate Action Plan

Building Stronger and Safer Communities and Infrastructure	Protecting our Economy and Natural Resources	Using Sound Science to Manage Climate Impacts
<ul style="list-style-type: none"> • Directing Agencies to Support Climate-Resilient Investment • Establishing a State, Local, and Tribal Leaders Task Force on Climate Preparedness • Supporting Communities as They Prepare for Climate Impacts • Boosting the Resilience of Buildings and Infrastructure • Rebuilding and Learning from Hurricane Sandy 	<ul style="list-style-type: none"> • Identifying Vulnerabilities of Key Sectors to Climate Change • Promoting Resilience in the Health Sector • Promoting Insurance Leadership for Climate Safety • Conserving Land and Water Resources • Maintaining Agricultural Sustainability • Managing Drought • Reducing Wildfire Risks • Preparing for Future Floods 	<ul style="list-style-type: none"> • Developing Actionable Climate Science • Assessing Climate-Change Impacts in the United States • Launching a Climate Data Initiative • Providing a Toolkit for Climate Resilience

FEDERAL AGENCY ADAPTATION PLANS

Efforts among the federal agencies show a foundation for federally-coordinated action to increase the nation's resiliency to climate change. Under direction from EO 13514, federal agencies were required to release their Strategic Sustainability Performance Plans (SSPP) for FY 2011, then update the plan each year through FY 2021.

Each 2012 SSPP was to include an agency Adaption Plan (or Roadmap), and some agencies provided updates to their Adaptation Plans in their 2013 SSPP. EO 13653 requires agencies to update their 2012 Adaptation Plans by May 2014. SSPP and Adaptation Plan highlights from select agencies include:

United States Army Corps of Engineers (USACE)

The USACE Climate Change Adaptation Plan and Report, included in the appendix of its 2012 SSPP,¹⁹ compels USACE to “mainstream climate change adaptation in all activities to help enhance the resilience of our built and natural water-resource infrastructure and reduce its potential vulnerabilities to the effects of climate change and variability.” The report details how USACE is developing guidance and policies on how to best incorporate adaptation planning into their work, which includes pilots and training programs. Due to its focus on infrastructure that is vulnerable to extreme weather, USACE’s plan includes support for science and engineering research that yields actionable climate information.²⁰

United States Department of Agriculture (USDA)

In its 2013 SSPP, USDA identified climate change resilience as one of its sustainability practice goals.²¹ The previous year’s SSPP included a Climate Change Adaptation Plan, through which the USDA reported a risk analysis on how climate change is likely to affect its functions and national agriculture production. The Adaptation Plan highlights strategic USDA planning goals that relate to climate change, including increased food security and improved resiliency and conservation of national forests and private working lands. Eleven of USDA’s agencies provided their own Agency Adaptation Plans, which included action steps to improve climate resiliency efforts. The USDA Farm Service Agency, for example, committed itself to working with other groups to improve field office outreach of its climate information and decision support tools.²²

United States Department of Defense (DOD)

The DOD released the most recent annual update of its SSPP in August 2013, in which DOD laid out its goals and sustainability performance expectations over the next decade. One of DOD’s central goals through this effort is to maintain readiness in the face of climate change. The 2012 SSPP included the DOD FY 2012 Climate Change Adaptation Roadmap (CCAR). In the CCAR, DOD addresses climate risks and vulnerabilities posed to national security and DOD facilities, and its goals to manage these risks. These goals include: defining a coordinating body to address climate change; utilizing a robust decision-making approach based on the best available science; integrating climate change considerations into existing processes; and partnering with federal agencies and allies on climate challenges. The CCAR mandated the DOD Climate Change Adaptation Working Group, which was established in November 2012 and is currently developing DOD climate adaptation policy and vulnerability assessment protocols, among other activities.²³

United States Department of Homeland Security (DHS)

DHS published its Climate Change Adaptation Roadmap in June 2012 as part of its 2012 SSPP. The Roadmap evaluates DHS’s current climate preparedness and plans for future climate risks to national security. The Roadmap identifies four actions that will guide DHS’s adaptation efforts: managing climate risk for DHS activities, improving resiliency of critical infrastructure, ensuring national resilience to disasters, and contributing to Arctic security and environmental protection. DHS lists 42 actions across these four goals, such as incorporating climate considerations into National Flood Insurance Program reform, having FEMA form interagency partnerships to improve its climate science knowledge, and a series of actions to prepare for a more robust U.S. Coast Guard presence in the Arctic.²⁴

United States Environmental Protection Agency (EPA)

The EPA released its draft Climate Change Adaptation Plan in February 2013. The plan outlined guiding principles and priorities in order to mainstream adaptation efforts at EPA. These priorities include identifying and satisfying climate information and decision-making tool needs, partnering with tribes to increase climate adaptation capacity, and the development of Adaptation Implementation Plans specific to each major EPA program and region.²⁵ EPA released draft implementation plans in November 2013 for seven Program Offices and all ten Regional Offices.²⁶

CONCLUSION

With the threat of more and increasingly severe extreme events, the federal government risks a high economic and social cost for inaction on climate adaptation (and mitigation). Recent efforts partially reflect this urgency. The Obama Administration has made significant progress in making adaptation a key issue within federal agencies, and Congress has passed bills that incorporate resiliency planning. A GAO report found that policymakers were increasingly viewing climate adaptation as a risk management strategy to protect vulnerable sectors.²⁷

There is much more yet to be done at the federal level, including the development of a coordinated national adaptation strategy. Short of that, there are a number of smaller, yet critical areas for improvement. For example, a 2013 GAO report highlights the need to enhance federal support of local infrastructure decision makers trying to plan for climate impacts. The report's recommendations include having relevant federal agencies identify "the 'best available' climate-related information for infrastructure planning" to be used by local decision makers and to incorporate this information into design standards.²⁸

The ability to adapt to climate change rests in part on a continued effort by the federal government to establish resiliency plans, instigate action, and support ongoing state and local efforts. A coordinated multilevel government approach will ease the collective challenges of protecting the built and natural environment from climate impacts to ensure long-term safety and prosperity.

For More Information:

[Complete List of Federal Agencies' Sustainability Plans](#)

[White House Summary of Climate Change Resilience Initiative](#)

Authors: Rachel Hampton and John-Michael Cross

Editor: Carol Werner

This fact sheet is available electronically (with hyperlinks and endnotes) at www.eesi.org/papers.

The Environmental and Energy Study Institute (EESI) is a non-profit organization founded in 1984 by a bipartisan Congressional caucus dedicated to finding innovative environmental and energy solutions. EESI works to protect the climate and ensure a healthy, secure, and sustainable future for America through policymaker education, coalition building, and policy development in the areas of energy efficiency, renewable energy, agriculture, forestry, transportation, buildings, and urban planning.

¹ ["Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks."](#) February 2013. U.S. Government Accountability Office. 2013 High Risk Report. Accessed January 2, 2014.

² Freedman, Andrew. ["NOAA: 2012 Hottest & 2nd-Most Extreme Year On Record."](#) January 2013. Climate Central. Accessed January 2, 2014.

³ ["Extreme Weather Map 2012."](#) Natural Resources Defense Council. Accessed January 2, 2014.

⁴ ["Billion-Dollar Weather/Climate Disasters."](#) National Climatic Data Center. Accessed January 2, 2014.

⁵ Strauss, Ben, Claudia Tebaldi and Remik Ziemlinski. ["Surging Seas."](#) March 2012. Climate Central. Accessed January 2, 2014.

⁶ ["Public Law 113-2: An act making supplemental appropriations for the fiscal year ending September 30, 2013, to improve and streamline disaster assistance for Hurricane Sandy, and for other purposes."](#) January 29, 2013. Library of Congress. Accessed January 2, 2014.

⁷ Smith, Nicole, and Jessica Grannis. ["Understanding the Adaptation Provisions of the Sandy Disaster Relief Appropriations Act \(H.R. 152\)."](#) May 2013. Georgetown Climate Center. Accessed January 2, 2014.

⁸ U.S. Congress. Senate. ["Safeguarding America's Future and Environment \(SAFE\) Act."](#) S. 1202. 113th Congress. June 20, 2013. Accessed January 2, 2014.

⁹ U.S. Congress. Senate. ["Strengthening The Resiliency of Our Nation on the Ground \(STRONG\) Act."](#) S. 3691. 112th Congress. December 12, 2012. Accessed January 2, 2014.

¹⁰ Hartke, Jason. ["A STRONG Act for a Stronger America."](#) December 2012. U.S. Green Building Council. Accessed January 6, 2014.

¹¹ U.S. Congress. Senate. ["Strengthening The Resiliency of Our Nation on the Ground \(STRONG\) Act."](#) S. 904. 113th Congress. May 8, 2013. Accessed January 2, 2014.

-
- ¹² U.S. Congress. House. [*Strengthening The Resiliency of Our Nation on the Ground \(STRONG\) Act*](#). H.R. 2322. 113th Congress. June 11, 2013. Accessed January 2, 2014.
- ¹³ “[Press Release: Congressman Peters Introduces Bipartisan ‘STRONG’ Act to Address Disaster Resiliency](#).” June 2013. Office of Rep. Scott Peters. Accessed January 2, 2014.
- ¹⁴ [Executive Order 13514: Federal Leadership in Environmental, Energy, and Economic Performance](#). October 5, 2009. The White House. Accessed January 6, 2014.
- ¹⁵ “[Climate Change Resilience](#).” The White House Council on Environmental Quality. Accessed January 6, 2014.
- ¹⁶ [Executive Order 13653: Preparing the United States for the Impacts of Climate Change](#). November 1, 2013. The White House. Accessed January 6, 2014.
- ¹⁷ [The President’s Climate Action Plan](#). June 2013. The White House. Accessed January 2, 2014.
- ¹⁸ “[Fact Sheet: Executive Order on Climate Preparedness](#).” November 2013. The White House. Accessed January 6, 2014.
- ¹⁹ [2012 Sustainability Plan: Public Version](#). November 2012. U.S. Army Corps of Engineers. Accessed January 6, 2014.
- ²⁰ [USACE 2012 Climate Change Adaptation Plan and Report](#). June 2012. U.S. Army Corps of Engineers. Accessed January 6, 2014.
- ²¹ [U.S. Department of Agriculture 2013 Strategic Sustainability Performance Plan](#). June 2013. U.S. Department of Agriculture. Accessed January 6, 2014.
- ²² [U.S. Department of Agriculture Climate Change Adaptation Plan](#). June 2012. U.S. Department of Agriculture. Accessed January 6, 2014.
- ²³ [Department of Defense Strategic Sustainability Performance Plan FY 2013](#). August 2013. U.S. Department of Defense. Department of Defense FY 2012 Climate Change Adaptation Roadmap included in the appendix. Accessed January 6, 2014.
- ²⁴ [Department of Homeland Security Climate Adaptation Roadmap](#). June 2012. U.S. Department of Homeland Security. Accessed January 8, 2014.
- ²⁵ [U.S. Environmental Protection Agency Climate Change Adaptation Plan Draft](#). February 2013. U.S. Environmental Protection Agency. Accessed January 5, 2014.
- ²⁶ [EPA Adaptation Implementation Plans](#). November 2013. U.S. Environmental Protection Agency. Accessed January 6, 2014.
- ²⁷ [Climate Change Adaptation Strategic Federal Planning Could Help Government Officials Make More Informed Decisions](#). October 2009. U.S. Government Accountability Office. Accessed January 8, 2014.
- ²⁸ [Climate Change Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers](#). April 2013. U.S. Government Accountability Office. Accessed January 8, 2014.