



Key Issues > High Risk > Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks



Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks

This information appears as published in the 2015 High Risk Report.

[View the 2015 Report](#)

WHY IT'S HIGH RISK

WHAT WE FOUND

WHAT REMAINS TO BE DONE

KEY REPORTS

RELATED GAO LINKS

Share This: [f](#) [t](#) [in](#) [e](#)

GAO CONTACT

The federal government needs a strategic approach with strong leadership and the authority to manage climate change risks that encompasses the entire range of related federal activities and addresses all key elements of strategic planning. Such an approach includes the establishment of strategic priorities and the development of roles, responsibilities, and working relationships among federal, state, and local entities. Recognizing that each department and agency operates under its own authorities and responsibilities—and can therefore be expected to address climate change in different ways relevant to its own mission—existing federal efforts have encouraged a decentralized approach, with federal agencies incorporating climate-related information into their planning, operations, policies, and programs. While individual agency actions are necessary, a centralized national strategy driven by a government-wide plan is also needed to reduce the federal fiscal exposure to climate change, maximize investments, achieve efficiencies, and better position the government for success. Even then, such approaches will not be fully sufficient unless also coordinated with state, local, and private-sector decisions that drive much of the federal government's fiscal exposure. The challenge is to develop a cohesive approach at the federal level that also informs state, local, and private-sector action.

The federal government has many climate-related strategic planning activities under way. Specifically, the President's June 2013 Climate Action Plan and November 2013 Executive Order 13653 on Preparing the United States for the Impacts of Climate Change show how federal agencies have made some progress on better organizing across agencies, within agencies, and among different levels of government. This leadership needs to be sustained, with increased focus on implementing federal plans—identifying the roles, responsibilities, and working relationships among federal, state, and local entities; identifying how such efforts will be funded and staffed over time; and establishing mechanisms to track and monitor progress. In addition to addressing these broad strategic challenges, there are specific areas among many that may require attention including:

- **Federal property and resources.** This involves incorporating climate change information into infrastructure planning processes, working with relevant professional associations to incorporate climate change information into design standards that define how structures are to be built, and determining how to account for climate change in NEPA analyses.
- **Federal flood and crop insurance programs.** This entails developing the information needed to understand and manage federal insurance programs' long-term exposure to climate change and to analyze the potential impacts of an increase in the frequency or severity of weather-related events on their operations. Specifically, there is a need to incorporate the projected effects of climate change, such as sea level rise and erosion, into updated flood maps and agricultural practices incentivized by the federal government.
- **Technical assistance to federal, state, local, and private-sector decision makers.** This involves developing a government-wide approach for providing (1) the best available climate-related information for making federal, state, local, and private-sector decisions, and (2) assistance for translating available climate-related data into information that officials need to make decisions. We have ongoing work focused on government-wide options to provide technical assistance to decision makers.
- **Environmental satellites.** Potential gaps in satellite data need to be addressed. NOAA must improve its satellite mitigation plans, and implement and monitor key mitigation activities, to ensure that its plans to address potential gaps in satellite data are viable when needed. We plan to continue assessing NOAA's actions on its satellite programs to determine whether its plans are viable.
- **Disaster aid.** FEMA needs improved criteria to assess a jurisdiction's capability to respond and recover on its own, and also to better apply lessons from past experience when developing disaster cost estimates so decision makers have a comprehensive view of overall funding claims and trade-offs. We have ongoing work related to disaster assistance and budgeting for emergencies.

GAO Highlights

Highlights of [GAO-16-37](#), a report to congressional requesters

Why GAO Did This Study

Over the last decade, the federal government incurred over \$300 billion in costs due to extreme weather and fire, according to the President's 2016 budget request. Costs are expected to grow as rare events become more common and intense due to climate change, according to the National Academies. State, local, and private sector decision makers also drive fiscal exposures, as they are responsible for infrastructure paid for with federal funds or eligible for disaster aid. GAO's 2015 High-Risk update prioritized improving federal efforts to provide the best available climate information and technical assistance to help decision makers use the information to build resilience in up front.

This report examines (1) the extent to which federal efforts meet the climate information needs of decision makers; (2) examples of how other countries organized climate information systems; (3) whether and how federal efforts could be improved; and (4) the strengths and limitations of different options to provide climate information. GAO analyzed reports; reviewed systems in three other countries; and interviewed stakeholders with knowledge of climate information.

What GAO Recommends

GAO recommends that the Executive Office of the President (EOP) direct a federal entity to develop a set of authoritative climate change projections and observations and create a national climate information system with defined roles for federal agencies and nonfederal entities. Relevant EOP entities provided only technical comments, which GAO incorporated as appropriate.

View [GAO-16-37](#). For more information, contact J. Alfredo Gómez at (202) 512-3841 or gomezj@gao.gov.

November 2015

CLIMATE INFORMATION

A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information

What GAO Found

Many federal efforts are under way, but the climate information needs of federal, state, local, and private sector decision makers are not being fully met, according to recent GAO reports, National Academies and other studies, and interviews with stakeholders. The November 2013 Executive Order 13653 on *Preparing the United States for the Impacts of Climate Change* calls on certain federal agencies to work together to provide authoritative information on climate preparedness and resilience. However, the federal government's own climate data—composed of observational records from satellites and weather stations and projections from climate models—are fragmented across individual agencies that use the information in different ways to meet their missions. GAO's February 2015 High-Risk update found that federal, state, local, and private sector decision makers may be unaware that climate information exists or be unable to use what is available.

Germany, the Netherlands, and the United Kingdom have well-established climate information systems, although each country's system is organized somewhat differently. In each, the government provides direction and funding, and entities within and outside the government provide technical assistance to help decision makers understand how to use climate information in planning.

Federal climate information efforts could be improved by incorporating key organizational and data elements, according to GAO reports, studies by the National Academies and other organizations, site visits to three countries with climate information systems, and interviews with stakeholders. Specifically, the key elements are (1) a focused and accountable organization, (2) authoritative data that define the best available information for decision makers, and (3) technical assistance to help decision makers access, translate, and use climate information in planning. Authoritative locally-focused information is crucial because it defines a common starting point for decision makers, and most decisions are made at the local level.

Options to provide climate information and technical assistance to decision makers have strengths and limitations, according to studies, international site visits, and interviews with stakeholders. For example, a new federal agency would have a focused mission but could face turf conflicts with existing programs at other agencies. On the other hand, a national climate information system could be developed that would incorporate the best features and address the limitations of these options. Similar to the programs in Germany, the Netherlands, and the United Kingdom, a national system to provide climate information to U.S. decision makers could have roles for federal and nonfederal entities. Based on GAO's review of systems in other countries, studies, and interviews with stakeholders, a key federal role in a national climate information system would be to provide authoritative data and quality assurance guidelines for how to use the data. A nonfederal entity would be better positioned to provide on-the-ground technical assistance and facilitate connections between decision makers and intermediaries with expertise.

GAO's Ongoing, Potential, and Recent Climate Change Work

Ongoing Work

1. Impacts of Climate Change on Fisheries Management

- *Requester – Senators Begich, Menendez, Merkley, and Whitehouse*
- *Projected Issue Date – Spring / Summer 2016*

2. International Efforts to Limit Fiscal Exposure to Climate Change

- *Requester – Representative Cartwright*
- *Projected Issue Date – Spring / Summer 2016*

3. Protecting Coastal Habitat From the Impacts of Climate Change

- *Requester – Senators Begich, Menendez, Merkley, and Whitehouse*
- *Projected Issue Date – Summer 2016*

4. Climate Change, Design Standards, and Building Codes

- *Requester – Representative Cartwright*
- *Projected Issue Date – Fall 2016*

5. Climate Change Costs and Risks to the Federal Government

- *Requester – Senators Cantwell and Collins*
- *Projected Issue Date – Spring 2017*

6. Climate Change Funding and Potential Fragmentation, Overlap, and Duplication

- *Requester – Representative Lamar Smith*
- *Projected Issue Date – (Unknown, unstaffed)*

7. Climate Impacts on Military Bases in Foreign Locations

- *Requester – Senators Sanders, Reed, Durbin, and Kaine*
- *Projected Issue Date – (Unknown, unstaffed)*

8. USDA Climate Hubs

- *Requester – Senator Roberts*
- *Projected Issue Date – (Unknown, unstaffed)*

Potential Requests

- A. Sea Level Rise, Brownfields, and Hazardous Waste Sites
- B. International Water Management Practices and Long-Term Drought
- C. Federal Energy Infrastructure Resilience
- D. Coral Reef Protection Strategies
- E. Resilience of Domestic Water Systems (Drinking and Wastewater)
- F. Climate Impacts, Migration, and Development Assistance

Recent Reports

GAO's recent climate change work focuses primarily on reducing federal fiscal exposure to the observed and projected impacts of climate change:

- Supply Chain Risks: SEC's Plans to Determine If Additional Action Is Needed on Climate-Related Disclosure Have Evolved ([GAO-16-211](#))
- Climate Information: A National System Could Help Federal, State, Local, and Private Sector Decision Makers Use Climate Information ([GAO-16-37](#))
- Climate Change: HHS Could Take Further Steps to Enhance Understanding of Public Health Risks ([GAO-16-122](#))
- Highlights Of A Forum: Preparing for Climate Related Risks: Lessons from the Private Sector ([GAO-16-126SP](#))
- Federal Supply Chains: Opportunities to Improve the Management of Climate-Related Risks ([GAO-16-32](#))
- 2015 High Risk Report, Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks ([GAO-15-290](#))
- Climate Change: Better Management of Exposure to Potential Future Losses Is Needed for Federal Flood and Crop Insurance ([GAO-15-28](#))
- Climate Change: USDA's Ongoing Efforts Can Be Enhanced with Better Metrics and More Relevant Information for Farmers ([GAO-14-755](#))
- Ocean Acidification: Federal Response Under Way, but Actions Needed to Understand and Address Potential Impacts ([GAO-14-736](#))
- Regulatory Impact Analysis: Development of Social Cost of Carbon Estimates ([GAO-14-663](#))
- Budget Issues: Opportunities to Reduce Federal Fiscal Exposures Through Greater Resilience to Climate Change and Extreme Weather ([GAO-14-504T](#))
- Climate Change Adaptation: DOD Can Improve Infrastructure Planning and Processes to Better Account for Potential Impacts ([GAO-14-446](#))
- Arctic Issues: Better Direction and Management of Voluntary Recommendations Could Enhance U.S. Arctic Council Participation ([GAO-14-435](#))
- Extreme Weather Events: Limiting Federal Fiscal Exposure and Increasing the Nation's Resilience ([GAO-14-364T](#))
- Climate Change: Energy Infrastructure Risks and Adaptation Efforts ([GAO-14-74](#))
- Climate Change: Federal Efforts Under Way to Assess Water Infrastructure Vulnerabilities and Address Adaptation Challenges ([GAO-14-23](#))
- Climate Change: Various Adaptation Efforts Are Under Way at Key Natural Resource Management Agencies ([GAO-13-253](#))
- Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers ([GAO-13-242](#))