



**G A O**

Accountability \* Integrity \* Reliability

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# Government Accountability Office

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## GAO's Climate Change Work

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# Agenda

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- What is GAO?
  - GAO's Climate Change Work: Past, Present, Future
  - **HIGH RISK LIST:** Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks
  - What is the High Risk List, and What Does it Mean?
  - May 14, 2013, Infrastructure Adaptation Report
  - Discussion
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# What is the Government Accountability Office (GAO)?

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- Independent, Nonpartisan
- Congressional Watchdog
- Mission:

*to support the Congress in meeting its constitutional responsibilities and to help improve the performance and ensure the accountability of the federal government for the benefit of the American people. We provide Congress with timely information that is objective, fact-based, nonpartisan, nonideological, fair, and balanced.*

- Core Values: Accountability, Integrity, and Reliability
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## 4 Climate Change Key Issues Pages

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- [Understanding Climate Change](#)
  - [Reducing Greenhouse Gas Emissions](#)
  - [Climate Change Funding and Management](#)
  - [Climate Change Response](#)
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## Past Climate Change Reports

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- At the direction of Congress, much of GAO's past reports have focused on understanding climate change and efforts to reduce greenhouse gas emissions.
  - **Understanding Climate Change**
    - Emissions data
    - Measuring and monitoring climate change
    - Satellites
    - GAO works with the National Academies and USGCRP on climate science issues
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## Past Climate Change Reports

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### Reducing Greenhouse Gas Emissions

- Analyzing policy options
- Emissions trading
- Carbon offsets
- International programs
- Technology
  - Carbon capture and storage

### Funding and Management

- More recently, Increased focus on funding, improving the management of federal programs, and adaptation.
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## Ongoing Work Focuses Primarily on Adaptation

- **HIGH RISK: Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks** (*Released February 14, 2013*)
- **Infrastructure Adaptation** – (*Just Released MAY 14, 2013*)

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|--|--|
| • Resource Management Adaptation                                     | • Interagency Collaborative Mechanisms |
| • Arctic Council   | • Arctic Infrastructure                |
| • U.S. Foreign Assistance for Climate Change                         | • Ocean Acidification                  |
| • Energy Infrastructure Adaptation                                   | • Federal Crop and Flood Insurance     |
| • Water Infrastructure Adaptation                                    | • Defense Infrastructure Adaptation    |
| • Improving Budget Recognition of Insurance & Other Fiscal Exposures |  |

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## What is the High-Risk List?

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- Every two years at the start of a new Congress, GAO calls attention to agencies and program areas that are high risk due to their vulnerabilities to fraud, waste, abuse, and mismanagement, or are most in need of transformation.
  - In February 2013, GAO detailed 30 high-risk areas.
  - <http://www.gao.gov/highrisk>
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Key Issues > High Risk



**High Risk List**

Every two years at the start of a new Congress, GAO calls attention to agencies and program areas that are high risk due to their vulnerabilities to fraud, waste, abuse, and mismanagement, or are most in need of transformation. This site presents GAO's current High Risk List, explains what has changed since the last update, and provides background information and related multimedia.

[View the 2013 Report](#)



2013 LIST LATEST CHANGES BACKGROUND MULTIMEDIA

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**GAO's 2013 High Risk List:**

Sort By Title	Sort By Topic
<a href="#">Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks</a>	Natural Resources and Environment
<a href="#">Management of Federal Oil and Gas Resources</a>	Natural Resources and Environment
<a href="#">Modernizing the U.S. Financial Regulatory System and Federal Role in Housing Finance</a>	Business Regulation and Consumer Protection
<a href="#">Restructuring the U.S. Postal Service to Achieve Sustainable Financial Viability</a>	Government Operations
<a href="#">Funding the Nation's Surface Transportation System</a>	Transportation
<a href="#">Strategic Human Capital Management</a>	Government Operations
<a href="#">Managing Federal Real Property</a>	Government Operations
<a href="#">DOD Approach to Business Transformation</a>	National Defense
<a href="#">DOD Business Systems Modernization</a>	Information Technology
<a href="#">DOD Support Infrastructure Management</a>	National Defense
<a href="#">DOD Financial Management</a>	Auditing and Financial Management

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

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- GAO reported in 2009 that the federal government's emerging adaptation activities were carried out in an ad hoc manner and were not well coordinated across federal agencies, let alone with state and local governments.
  - Subsequently, GAO's 2011 report on climate change funding found no coherent strategic government-wide approach to climate change.
  - The federal government would be better positioned to respond to the risks posed by climate change if federal efforts were more coordinated and directed toward common goals.
  - Climate change adaptation—adjustments to natural or human systems in response to actual or expected climate change—is a risk-management strategy to help protect vulnerable sectors and communities.
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# Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks

- Recognizing the CEQ adaptation task force, agency adaptation plans, and other efforts, while individual agency actions are necessary, a centralized 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.
- Recognizing the lack of a strategic framework, climate change creates significant financial risks for the federal government 4 key areas:
  1. Owner of Property
  2. Insurer
  3. Provider of Technical Assistance
  4. Provider of Disaster Aid

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## Owner of Property

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- The federal government owns and operates hundreds of thousands of buildings and facilities (like NASA centers) that could be affected by a changing climate.
- The federal government manages about 650 million acres, or 29 percent of the 2.27 billion acres of U.S. land.
- DOD in its 2010 Quadrennial Defense Review, recognized the risk to its defense facilities posed by climate change.

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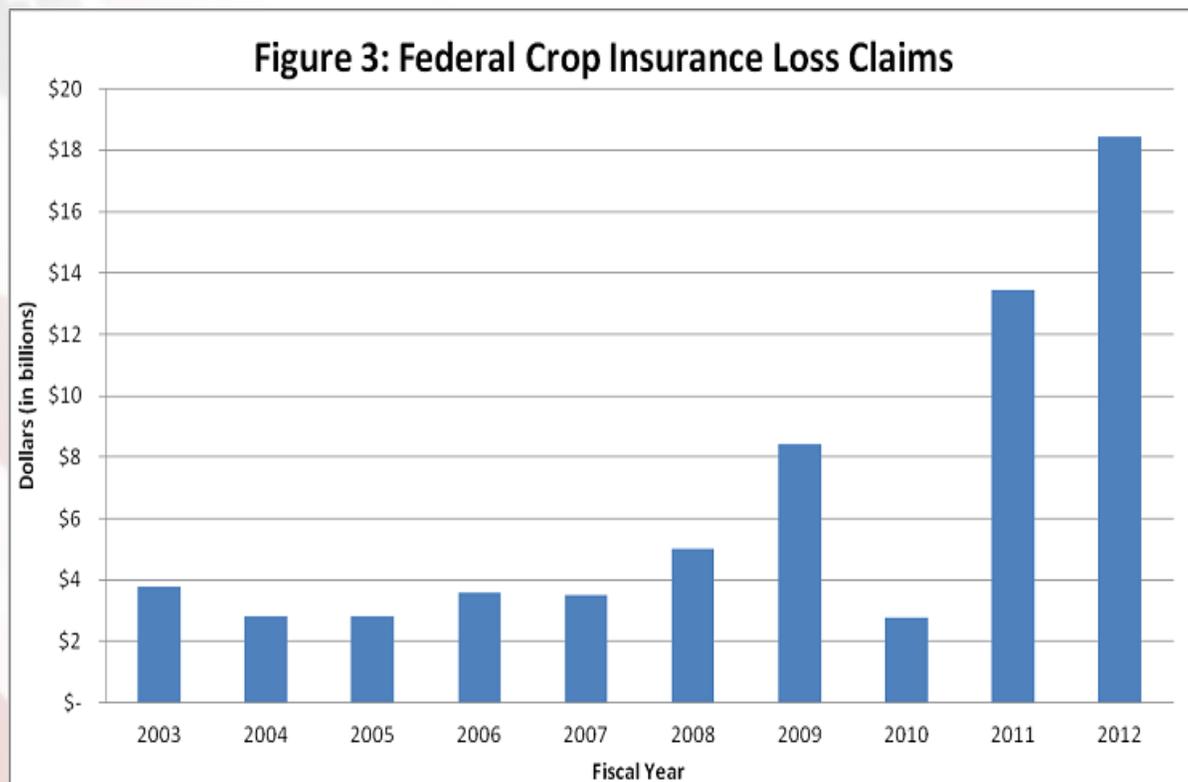
## Insurer – National Flood Insurance Program

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- National Flood Insurance program has been on GAO's high risk list since 2006 because of concerns about its long-term financial solvency.
  - Exposure to weather-related losses have grown substantially.
    - While Congress and FEMA intended that the National Flood Insurance Program be funded with premiums collected from policyholders and not with tax dollars, the program was, by design, not actuarially sound.
    - As of November 2012, FEMA owes the Treasury approximately \$20 billion—up from \$17.8 billion pre-Superstorm Sandy—and had not repaid any principal on the loan since 2010.
-

## Insurer – Federal Crop Insurance Corporation

- GAO reported on the federal crop insurance programs' important role in **managing the risk of farming losses caused by natural disasters** like the 2012 drought.



- The federal government's crop insurance costs have increased in recent years—rising from an average of \$3.1 billion per year from fiscal years 2000 through 2006 to an average of \$7.6 billion per year from fiscal years 2007 through 2012—and are projected to increase further.

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## Insurer

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- In 2007, GAO noted that the agencies responsible for the National Flood Insurance Program and the Federal Crop Insurance Corporation
    - had done little to develop the kind of information needed to understand their long-term exposure to climate change, and
    - had not analyzed the potential impacts of an increase in the frequency or severity of weather-related events on their operations.
  - GAO plans to begin follow up work on this topic in the near future.
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## Technical Assistance to State and Local Governments

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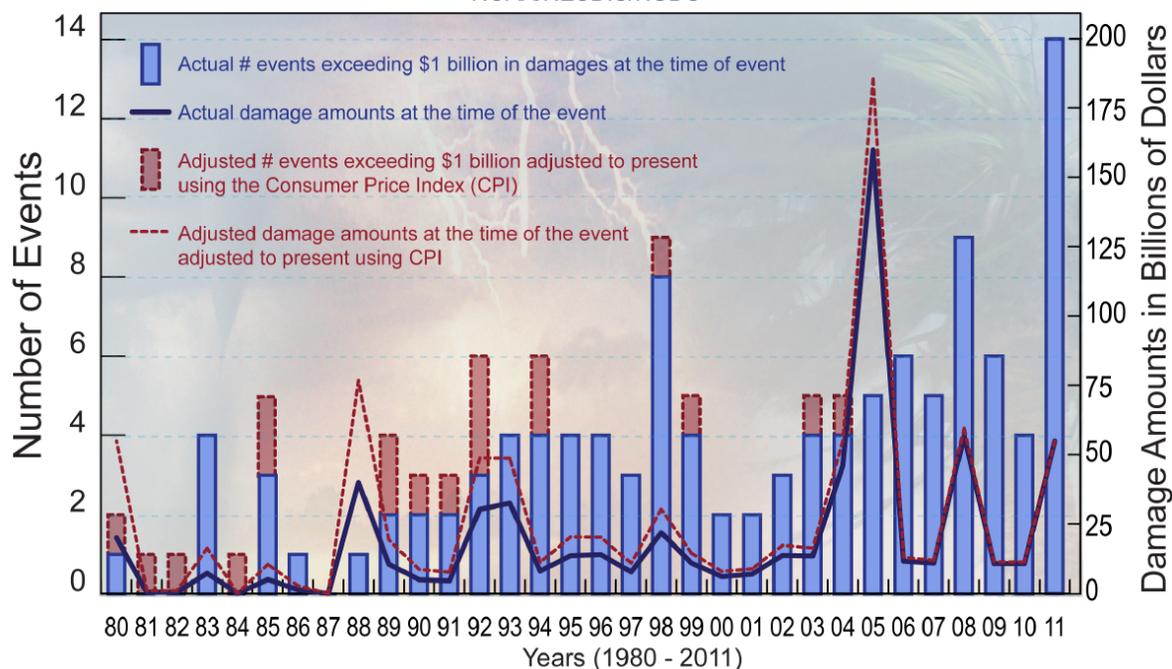
- The federal government annually invests billions of dollars in infrastructure projects that state and local governments prioritize and supervise
  - In this case, technical assistance to state and local decision makers means translating climate data—such as observed or projected temperature and precipitation changes—into information that officials need to make more informed decisions. This type of information could:
    - help local decision makers determine how high to build a bridge in an area susceptible to flooding events
    - Assess whether infrastructure such as sea walls are necessary to protect vulnerable communities.
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# Disaster Aid

- Federal recovery efforts for Superstorm Sandy are expected to cost over \$60 B.
- Federal exposure could grow, if what are considered “rare” events become more common, as projected by some experts.



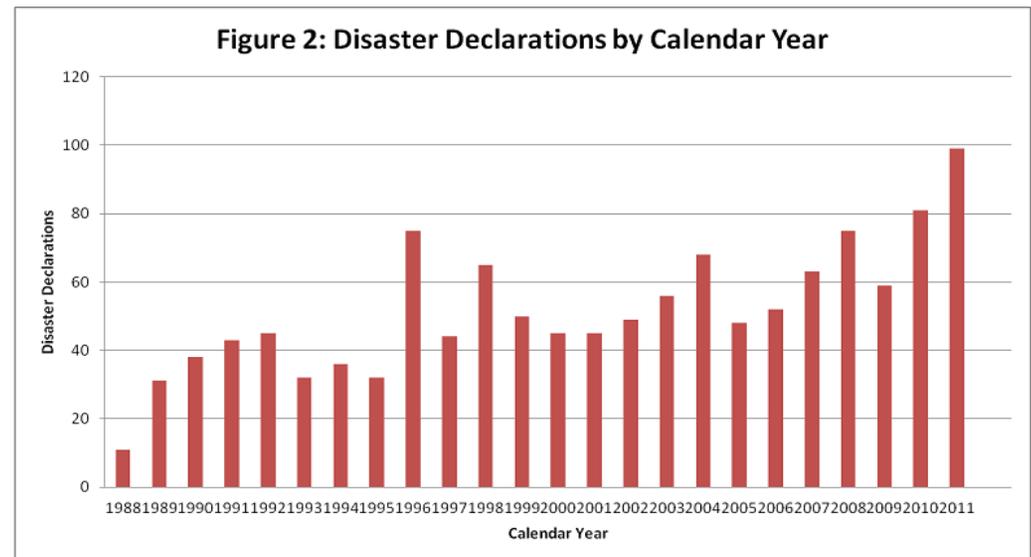
Billion Dollar Weather/Climate Disasters  
1980 - 2011  
NOAA/NESDIS/NCDC



- FEMA has obligated over \$80 billion in federal assistance for disasters declared during fiscal years 2004 through 2011 (does not include Sandy – 2012)

## Disaster Aid

- The growing number of disaster declarations—a record 98 in fiscal year 2011 compared with 65 in 2004—has contributed to increased federal disaster costs.



- The federal government does not budget for these costs, and without proper budgeting and forecasting to account for these events, the federal government runs the risk of facing a large fiscal exposure at any time.

## Examples of What Remains to Be Done

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### Develop clear governmentwide priorities with strong leadership

- Need to combine current decentralized approach with more focused and efficient governmentwide strategy that also informs action at the state and local levels. Who will do what by when?
- EXAMPLE – multiple inwardly focused decentralized agency technical assistance programs vs. a more coordinated, outward facing effort.

### Develop and incorporate climate information into flood and crop insurance.

- Develop the information needed to consider sea level rise and long-term erosion when updating flood maps. The Biggert-Waters Flood Insurance Reform Act of 2012 requires FEMA to use, among other things, information on future changes in sea levels and intensity of hurricanes in updating its flood maps. Effectiveness will depend on implementation by FEMA.

### Provide technical assistance to state and local governments.

- Develop a government-wide approach for providing (1) the best available climate-related data for making decisions at the state and local level and (2) assistance for translating available climate-related data into information that officials need.

### 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.
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# Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers

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## High Level Findings

- Roads and Bridges, Wastewater Management Systems, and NASA Centers Are Vulnerable to Changes in the Climate
  - Climate Change Has Not Been Systematically Incorporated in Infrastructure Planning
  - **Key Factors Enabled Some Decision Makers to Integrate Climate Change into Infrastructure Project Planning**
  - Future Federal Adaptation Efforts Could Better Meet the Needs of Local Infrastructure Decision Makers
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## 4 Key Factors Enabled Some Decision Makers to Integrate Climate Change into Infrastructure Project Planning

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1. Local Circumstances Were Conducive to Addressing Climate-Related Risks
    - Experienced natural disaster or had discernable climate-related impact
    - Strong leadership
    - Executive order or formal policy document to justify and encourage action
  
  2. Decision Makers Learned to Use Available Information
    - Did not wait for perfection / uncertainty not an excuse for inaction
    - Use a range of information sources to make the most informed decision
      - Site-specific projections
      - Qualitative information (state or regional scale)
      - Observed historical climate data
-

## 4 Key Factors Enabled Some Decision Makers to Integrate Climate Change into Infrastructure Project Planning

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### 3. Decision Makers Had Access to Local Assistance

- Translating available information
- Communicating to the public

### 4. Decision Makers Considered Climate Impacts within Existing Planning Processes

- Viewed in same context as other risks
- Mainstreaming (e.g. design standards)

**Future federal efforts could help in all 4 of these areas.**

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## GAO High-Risk on the Web

Web site: <http://www.gao.gov/highrisk>

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