

# GAO Highlights

Highlights of [GAO-20-338T](#), a testimony before the Subcommittee on Environment, House Committee on Oversight and Reform.

## Why GAO Did This Study

Since 2005, federal funding for disaster assistance is at least \$450 billion, including approximately \$19.1 billion in supplemental appropriations signed into law on June 6, 2019. In 2018 alone, there were 14 separate billion-dollar weather and climate disaster events across the United States, with a total cost of at least \$91 billion, according to the National Oceanic and Atmospheric Administration. The U.S. Global Change Research Program projects that disaster costs will likely increase as certain extreme weather events become more frequent and intense due to climate change.

The costs of recent weather disasters have illustrated the need for planning for climate change risks and investing in resilience. Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events, according to the National Academies of Science, Engineering, and Medicine. Investing in resilience can reduce the need for far more costly steps in the decades to come.

Since February 2013, GAO has included *Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks* on its list of federal program areas at high risk of vulnerabilities to fraud, waste, abuse, and mismanagement or most in need of transformation. GAO updates this list every 2 years. In March 2019, GAO reported that the federal government had not made measurable progress since 2017 to reduce fiscal exposure to climate change.

View [GAO-20-338T](#). For more information, contact J. Alfredo Gómez at (202) 512-3841 or [gomezj@gao.gov](mailto:gomezj@gao.gov).

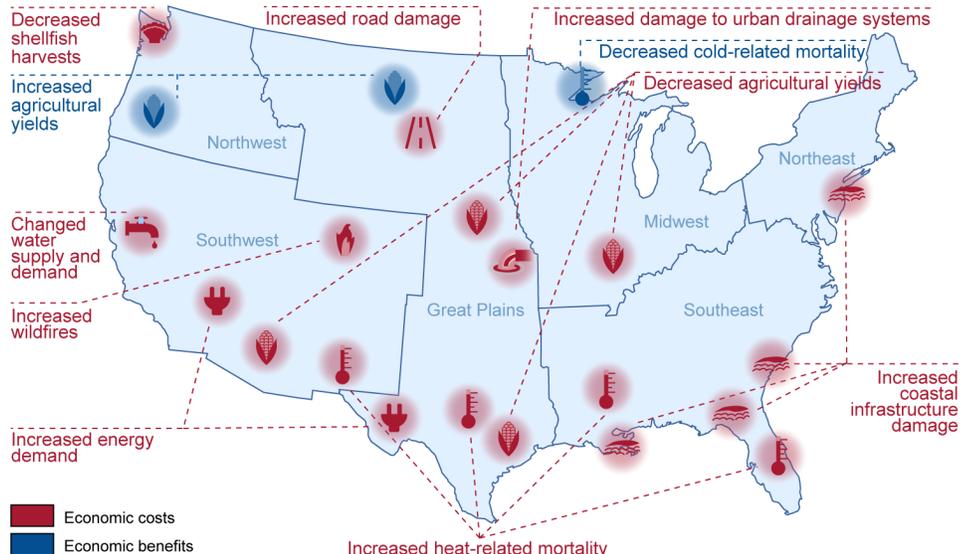
## CLIMATE CHANGE

### Potential Economic Costs and Opportunities to Reduce Federal Fiscal Exposure

#### What GAO Found

The estimated economic effects of climate change, while imprecise, can convey useful insight about potential damages in the United States. In September 2017, GAO reported that the potential economic effects of climate change could be significant and unevenly distributed across sectors and regions (see figure). This is consistent with the 2018 findings of the U.S. Global Change Research Program's Fourth National Climate Assessment, which concluded, among other things, that the continued increase in the frequency and extent of high-tide flooding due to sea level rise threatens America's trillion-dollar coastal infrastructure.

#### Examples of Potential Economic Effects from Climate Change by 2100



Sources: GAO analysis of Environmental Protection Agency, *Climate Change Impacts in the United States: Benefits of Global Action* (Washington, D.C.: 2015), and Solomon Hsiang et al., "Estimating Economic Damage from Climate Change in the United States," *Science*, vol. 356 (2017); Map Resources (map). | GAO-20-338T

Information about the potential economic effects of climate change could inform decision makers about significant potential damages in different U.S. sectors or regions. According to prior GAO work, this information could help decision makers identify significant climate risks as an initial step toward managing them.

The federal government faces fiscal exposure from climate change risks in several areas, including:

- Disaster aid:** due to the rising number of natural disasters and increasing reliance on federal assistance. GAO has previously reported that the federal government's fragmented and reactive approach to funding disaster resilience presented challenges to effective reduction of climate-related risks. GAO has also reported that, due to an artificially low indicator for determining a jurisdiction's ability to respond to disasters that was set in 1986, the

This testimony—based on reports GAO issued from October 2009 to October 2019—discusses 1) what is known about the potential economic effects of climate change in the United States and the extent to which this information could help federal decision makers manage climate risks across the federal government, (2) the fiscal exposure facing the federal government due to climate risks and current efforts to address that exposure, (3) the extent to which the federal government has invested in resilience to climate change impacts, and (4) how the federal government could reduce fiscal exposure to the effects of climate change.

GAO had made 62 recommendations related to the *Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks* high-risk area. As of December 2018, 25 of those recommendations remained open.

Federal Emergency Management Agency risks recommending federal assistance for jurisdictions that could recover on their own.

- **Federal insurance for property and crops:** due, in part, to the vulnerability of insured property and crops to climate change impacts. Federal flood and crop insurance programs were not designed to generate sufficient funds to fully cover all losses and expenses. The flood insurance program, for example, was about \$21 billion in debt to the Treasury as of April 2019. Further, the Congressional Budget Office estimated in May 2019 that federal crop insurance would cost the federal government an average of about \$8 billion annually from 2019 through 2029.
- **Operation and management of federal property and lands:** due to the hundreds of thousands of federal facilities and millions of acres of land that could be affected by a changing climate and more frequent extreme events. For example, in 2018, Hurricane Michael devastated Tyndall Air Force Base in Florida, with a preliminary repair estimate of \$3 billion.

As we reported in October 2019, our past work shows an absence of government-wide strategic planning for climate change. Specifically, our past work has identified limitations related to strategic planning for climate change that includes a lack of coordination, prioritization, and consolidation of strategic priorities. In our March 2019 High-Risk Update, we assessed the federal government's progress since 2017 related to climate change strategic planning against five criteria and found that the federal government had not met any of the criteria for removal from the high-risk list.

Federal investments in resilience to reduce fiscal exposures have been limited. As GAO has reported, enhancing resilience can reduce fiscal exposure by reducing or eliminating long-term risk to people and property from natural hazards. For example, a 2018 interim report by the National Institute of Building Sciences estimated approximate benefits to society in excess of costs for several types of resilience projects. While precise benefits are uncertain, the report estimated that for every dollar invested in designing new buildings to particular design standards, society could accrue benefits amounting to about \$11 on average.

GAO's March 2019 High-Risk report identified a number of recommendations GAO has made related to fiscal exposure to climate change. The federal government could reduce its fiscal exposure by implementing these recommendations. Among GAO's key government-wide recommendations are:

- Entities within the Executive Office of the President (EOP) should work with partners to establish federal strategic climate change priorities that reflect the full range of climate-related federal activities;
- Entities within EOP should use information on potential economic effects from climate change to help identify significant climate risks and craft appropriate federal responses;
- Entities within EOP should designate a federal entity to develop and update a set of authoritative climate observations and projections for use in federal decision making, and create a national climate information system with defined roles for federal agencies and certain nonfederal entities; and
- The Department of Commerce should convene federal agencies to provide the best-available forward-looking climate information to organizations that develop standards and building codes to enhance infrastructure resilience.

Further, in October 2019, GAO reported that Congress could consider establishing a federal organizational arrangement to periodically identify and prioritize climate resilience projects for federal investment. GAO also issued the Disaster Resilience Framework to serve as a guide for analysis of federal action to facilitate and promote resilience to natural disasters, including resilience to climate change.