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

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
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.