

# GAO Highlights

Highlights of [GAO-17-720](#), a report to congressional requesters

## Why GAO Did This Study

Over the last decade, extreme weather and fire events have cost the federal government over \$350 billion, according to the Office of Management and Budget. These costs will likely rise as the climate changes, according to the U.S. Global Change Research Program. In February 2013, GAO included *Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks* on its High-Risk List.

GAO was asked to review the potential economic effects of climate change and risks to the federal government. This report examines (1) methods used to estimate the potential economic effects of climate change in the United States, (2) what is known about these effects, and (3) the extent to which information about these effects could inform efforts to manage climate risks across the federal government. GAO reviewed 2 national-scale studies available and 28 other studies; interviewed 26 experts knowledgeable about the strengths and limitations of the studies; compared federal efforts to manage climate risks with leading practices for risk management and economic analysis; and obtained expert views.

## What GAO Recommends

GAO recommends that the appropriate entities within the Executive Office of the President (EOP), including the Office of Science and Technology Policy, use information on potential economic effects to help identify significant climate risks and craft appropriate federal responses. EOP entities and the Environmental Protection Agency did not provide official comments on the report.

View [GAO-17-720](#). For more information, contact Alfredo Gómez at (202) 512-3841 or [gomezj@gao.gov](mailto:gomezj@gao.gov), or Oliver Richard at (202) 512-2700 or [richardo@gao.gov](mailto:richardo@gao.gov)

## CLIMATE CHANGE

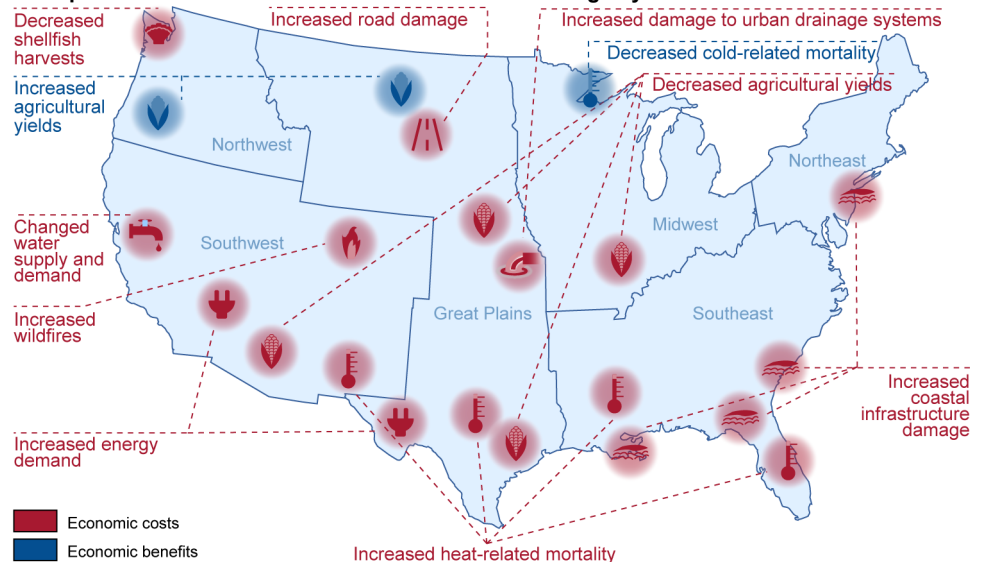
### Information on Potential Economic Effects Could Help Guide Federal Efforts to Reduce Fiscal Exposure

## What GAO Found

Methods used to estimate the potential economic effects of climate change in the United States—using linked climate science and economics models—are based on developing research. The methods and the studies that use them produce imprecise results because of modeling and other limitations but can convey insight into potential climate damages across sectors in the United States.

The two available national-scale studies that examine the economic effects of climate change across U.S. sectors suggested that potential economic effects could be significant and unevenly distributed across sectors and regions. For example, for 2020 through 2039, one study estimated between \$4 billion and \$6 billion in annual coastal property damages from sea level rise and more frequent and intense storms. Also, under this study, the Southeast likely faces greater effects than other regions because of coastal property damages (see figure).

#### Examples of Potential Economic Effects of 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-17-720

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 several experts and prior GAO work, this information could help federal decision makers identify significant climate risks as an initial step toward managing such risks. This is consistent with, for example, National Academies leading practices, which call for climate change risk management efforts that focus on where immediate attention is needed. The federal government has not undertaken strategic government-wide planning to manage climate risks by using information on the potential economic effects of climate change to identify significant risks and craft appropriate federal responses. By using such information, the federal government could take an initial step in establishing government-wide priorities to manage such risks.