

## Why GAO Did This Study

In 2012, the United States produced about \$395 billion in agricultural commodities, with about half of this revenue from crop sales and half from livestock. According to the Third National Climate Assessment, climate change has the potential to negatively affect agricultural productivity in the United States through warmer temperatures and an increase in weather extremes. In recent years, USDA has taken actions to help U.S. farmers adapt to climate change and reduce greenhouse gas emissions.

GAO was asked to review USDA's climate change efforts. This review examines (1) USDA's climate change priorities and how these align with national priorities, (2) the status of USDA's climate change efforts, and (3) the challenges USDA faces in implementing its climate efforts and the steps it has taken to overcome these challenges. To conduct this work, GAO analyzed USDA documents and data and interviewed USDA officials and other knowledgeable stakeholders, such as farmers and environmental groups.

## What GAO Recommends

GAO recommends that USDA develop performance measures that better reflect the breadth of USDA climate change efforts and use its performance plans and reports to provide information on how the agency plans to achieve its goals and the status of its efforts. GAO also recommends that USDA develop and provide information to farmers on the economic costs and returns of taking certain actions in response to climate change. USDA concurred with these recommendations.

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## CLIMATE CHANGE

### USDA's Ongoing Efforts Can Be Enhanced with Better Metrics and More Relevant Information for Farmers

## What GAO Found

The U.S. Department of Agriculture's (USDA) climate change priorities for agriculture include, among other things, providing better information to farmers on future climate conditions. These priorities generally align with national priorities set by the Administration, which include promoting actions that reduce greenhouse gas emissions, advancing climate science, developing tools for decision makers, and developing better projections of future climate conditions. USDA is engaged in research efforts aimed at better understanding climate change's impacts on agriculture and providing technical assistance to farmers. Through the use of existing conservation and energy programs, USDA aims to reduce greenhouse gas emissions and sequester (store) carbon so it is not released, or is actively withdrawn, from the atmosphere.

Helping to make farmers more resilient to climate change is one of USDA's four strategic goals, but the agency is not using its performance planning and reporting process to provide information on how it intends to accomplish this goal or to assess the status of its efforts in this area. According to the Government Performance and Results Act of 1993, as amended, an agency's performance plan is supposed to explain how the agency will accomplish its performance goals, and its performance reports are supposed to review the extent to which those goals have been met. However, USDA performance plans for recent years have not provided a link between the agency's climate efforts and performance goals, and its recent performance reports have not provided information on whether the agency was meeting its performance measures related to climate change. In addition, USDA performance measures do not capture the breadth of the agency's climate efforts. Agency officials told GAO that developing measures for the strategic goal on climate change was difficult. However, USDA has developed measures for other areas, such as conservation, where similar challenges existed. Without developing performance plans and reports that better reflect USDA's climate change efforts, USDA will have difficulty fully assessing its progress in meeting its climate change strategic goal and providing information on its progress to Congress and the public.

USDA faces challenges in encouraging farmers to take measures to adapt to climate change and reduce emissions. For example, USDA faces the challenge of turning the large amount of often technical climate research into readily understandable information. To address this challenge USDA is, among other things, developing tools that summarize climate information and communicate research findings to farmers in a more accessible format. USDA also faces a challenge related to the incentive structure that farmers consider when making decisions for their farms. Farmers weigh the financial costs and returns of taking certain actions, but USDA has not provided much information to farmers on the economic costs and returns of taking certain adaptation or emissions reduction actions, such as changing the extent to which they plow their fields. Under federal internal control standards, agencies are to ensure there are adequate means of communicating with external stakeholders when it may have a significant impact on the agency achieving its goals. Without information that is readily accessible to farmers on the farm-level economic costs and returns of taking certain actions in response to climate change, farmers may be reluctant to take these measures.