

Why GAO Did This Study

NOAA operates and maintains a portfolio of observing systems to capture the environmental data needed to achieve its diverse missions. Some of these systems focus on the oceans, coasts, and Great Lakes. An observing system is a collection of one or more sensing elements that measures specific environmental conditions and resides on fixed or mobile platforms, such as buoys or satellites.

The House Appropriations Committee fiscal year report for the Department of Commerce's 2013 appropriations bill mandated GAO to review NOAA's ocean and coastal data collection systems. This report (1) identifies and describes the ocean, coastal, and Great Lakes observing systems NOAA operates; (2) identifies the annual operations and maintenance costs of these systems for fiscal years 2012 through 2014; and (3) examines the extent to which NOAA has taken steps to integrate and improve the cost-effectiveness of its observing systems portfolio. GAO analyzed agency documentation on, among other things, the characteristics and management of NOAA's observing systems, reviewed cost data from fiscal year 2012 through 2014, and interviewed NOAA officials.

What GAO Recommends

GAO recommends that NOAA develop a plan to guide the integration of its observing systems, analyze whether unnecessary duplication exists in its observing systems portfolio, and develop a standardized methodology for the routine preparation and reporting of observing systems costs. NOAA generally agreed with the recommendations.

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NOAA'S OBSERVING SYSTEMS

Additional Steps Needed to Achieve an Integrated, Cost-Effective Portfolio

What GAO Found

The National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce operates 41 ocean, coastal, and Great Lakes observing systems. NOAA's Office of Oceanic and Atmospheric Research and National Ocean Service manage 25 of these observing systems, with management of the remaining 16 systems split among four other NOAA offices. The majority of NOAA's ocean, coastal, and Great Lakes observing systems use one of three platforms—buoys, satellites, or ships—to collect a range of environmental data, which are used to produce a variety of products, such as weather forecasts and navigational tools.

NOAA estimates it spent an average of approximately \$430 million annually to operate and maintain its ocean, coastal, and Great Lakes observing systems in fiscal years 2012 through 2014. This is approximately 9 percent of NOAA's total annual appropriations for these years. In reviewing these estimates, GAO found NOAA's annual costs for these observing systems ranged from about \$22 million for systems managed by the National Marine Fisheries Service to \$198 million for systems managed by the Office of Marine and Aviation Operations in fiscal year 2014.

NOAA has not taken all of the steps it has identified as important to integrate and improve the cost-effectiveness of its observing systems portfolio. Since 2002, NOAA has identified the need to move toward an integrated observing systems portfolio. GAO's previous work has found that, in undertaking initiatives such as this, federal agencies can benefit from following leading practices for strategic planning, which include defining goals and performance measures to track progress. NOAA has not, however, developed a plan that clearly sets forth its vision for an integrated observing systems portfolio, the steps it needs to take to achieve this vision, or how it will evaluate its progress. NOAA officials said they have focused on taking specific steps toward integration rather than developing an integration plan. Without a plan, however, NOAA cannot be assured it has established a framework to effectively guide and assess the success of its observing system integration efforts. NOAA has also not assessed whether its observing systems are collecting unnecessarily duplicative data even though NOAA documents have identified the need to reduce duplication. NOAA officials told GAO that duplication is not a significant problem requiring further analysis. However, in the absence of an analysis, NOAA cannot know whether it is missing opportunities to achieve cost savings. NOAA has taken steps to integrate the management of its observing systems, including creating an observing systems council to provide a more centralized perspective on systems management. The agency has also developed analytical tools to assess its observing system capabilities and requirements, including a model to analyze investment options. Reliable cost data are needed to ensure the most accurate results from this model, but NOAA does not have a standard methodology for tracking its observing systems costs. NOAA officials said the agency is considering developing a better method for tracking observing system costs but has not established a time frame for doing so. Without accurate and consistent cost information, it will be difficult for NOAA to reliably compare the cost-effectiveness of its observing systems and make informed investment decisions.