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U.S. TSUNAMI PREPAREDNESS

NOAA Has Expanded Its Tsunami Programs, but Improved Planning Could Enhance Effectiveness

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Highlights

Highlights of GAO-10-490, a report to congressional committees

Why GAO Did This Study

In June 2006, GAO reported a number of concerns about the level of U.S. tsunami preparedness. The National Oceanic and Atmospheric Administration (NOAA) leads U.S. efforts through three key programs: the Tsunami Program, which focuses on detection and warning activities; the National Tsunami Hazard Mitigation Program (NTHMP), which is a partnership with federal and state agencies focusing on hazard assessment and mitigation; and TsunamiReady, which is a partnership with at-risk communities focusing on education and emergency planning. The Tsunami Warning and Education Act of 2006 directed improvements in NOAA's warning and mitigation efforts and mandated GAO to report on its progress. This report addresses (1) the extent to which NOAA developed effective strategic plans for its tsunami programs and (2) the status of NOAA's efforts to strengthen and expand the programs and move tsunami research to application. GAO analyzed NOAA documents and interviewed federal, state, and local officials responsible for tsunami planning and preparedness efforts.

What GAO Recommends

GAO recommends that NOAA revise its tsunami strategic plans to ensure that all plan components are complete and develop a transition plan specifically for tsunami research. NOAA reviewed a draft of this report and agreed with its recommendations.

View GAO-10-490 or key components.
For more information, contact Anu Mittal at (202) 512-3841or mittala@gao.gov.

What GAO Found

NOAA adopted strategic plans for the Tsunami Program in 2008 and NTHMP in 2009, which it developed by following key planning practices and including most of the critical components of strategic plans identified by leading organizations, but some components have not been fully developed. GAO found that NOAA's planning process followed practices critical to creating effective strategic plans, such as involving stakeholders. Both plans also include most of the components of effective strategic plans—such as mission statements and long-term goals—but other necessary components were missing or incomplete. For example, in the Tsunami Program's strategic plan, NOAA identified nine long-term goals but did not identify strategies and performance measures for three of them. Similarly, in the strategic plan for NTHMP, NOAA identified eight long-term goals but did not identify performance measures, milestones, or who is responsible for achieving one of the goals. Although the strategic plan for NTHMP includes a goal for the TsunamiReady program, it does not identify strategies for achieving the goal.

Since 2005, NOAA has made progress in expanding and strengthening its tsunami warning and mitigation capabilities but faces challenges in both areas, as well as in moving its tsunami research to application. To enhance its warning capabilities, NOAA has, among other actions, deployed 39 tsunami detection buoys. Operating and maintaining the buoys, however, has been difficult and costly, consuming about 28 percent of the fiscal year 2009 Tsunami Program budget. NOAA is exploring ways to reduce maintenance costs by improving buoy reliability. To enhance its tsunami hazard mitigation efforts, NOAA expanded NTHMP membership from the 5 Pacific Coast states to all 29 at-risk coastal U.S. states and territories, changed how it funds mitigation projects in states and territories, and restructured NTHMP to better meet its program goals. NOAA's efforts to mitigate tsunami impacts through its TsunamiReady program, however, have been hampered by limited community participation. Although the number of TsunamiReady communities has increased from 27 in 2006 to 74 as of February 2010, overall participation in this voluntary program remains relatively low among the more than 760 communities identified as at risk for a tsunami. In this regard, GAO recommended in 2006 that NOAA conduct an assessment to identify potential barriers to program participation. Although NOAA has not yet conducted this assessment, GAO continues to believe that such an assessment is needed to help inform the agency's strategic planning efforts. Finally, NOAA has not complied with the Tsunami Warning and Education Act's requirement to develop and execute a plan for the transfer of technology from research into the Tsunami Program. Furthermore, NOAA's initial failure to follow its agencywide research transition policy contributed to a 2-year delay in moving the new tsunami forecasting system from research to application in its tsunami warning centers. Only after NOAA developed a transition plan in 2009 that was consistent with the agencywide policy did the transition of the system begin to move forward more efficiently.