

Why GAO Did This Study

The Federal Emergency Management Agency (FEMA), a component of the Department of Homeland Security (DHS), maps flood hazard areas across the country and makes flood insurance available to more than 20,100 communities through the National Flood Insurance Program. From 2003 through 2008, FEMA spent \$1.2 billion in a comprehensive effort to update the nation's flood insurance maps. In 2009, FEMA began an annual review of 20 percent of the nation's flood maps, for which Congress allocated \$440 million in 2009 and 2010. As requested, GAO reviewed the actions FEMA has taken to enhance the accuracy of updated flood maps, and FEMA's outreach efforts in conducting flood mapping activities. GAO analyzed FEMA's mapping standards and information systems, tested quality assurance processes, and interviewed FEMA officials and contractors.

What GAO Recommends

Among other things, GAO recommends that FEMA establish guidance for validating data, transfer responsibility for verification audits to an independent entity, and establish goals and measures for promoting public acceptance of mapping. FEMA concurred with 10 of the 11 recommendations in this report, but disagreed with transferring verification audit duties to an independent entity because it believes its program management contractor is sufficiently independent. GAO believes this recommendation remains valid as stated in this report.

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FEMA FLOOD MAPS

Some Standards and Processes in Place to Promote Map Accuracy and Outreach, but Opportunities Exist to Address Implementation Challenges

What GAO Found

FEMA has taken a number of steps to enhance the accuracy of flood maps, but challenges related to implementing standards to ensure map accuracy remain. Steps FEMA has taken include adopting a risk-based method to prioritize mapping projects, implementing mapping standards and guidance, establishing risk-based standards for topographic detail to ensure that the highest risk areas have the most accurate topographic data, and implementing quality control processes for ensuring engineering data is collected and used in accordance with standards. However, FEMA's mapping standards could be improved. For example, FEMA has standards for determining the extent to which new and updated flood mapping data are sufficiently current to promote map accuracy, yet FEMA has not developed uniform guidance for the validation of existing mapping data. Doing so could help FEMA both track and report the accuracy of maps at the national and regional levels and better assess mapping data needs. FEMA's quality control process for ensuring the accuracy of flood maps could also be improved. Audits of FEMA's mapping contractors' efforts have been conducted since 2006 by an independent verification contractor; however, FEMA officials said they planned to transfer responsibility for the verification audits, part of its independent verification and validation process, to its program management contractor by the end of this year, who will then monitor FEMA's mapping contractors. The transfer of these responsibilities creates a potential conflict of interest because the program management contractor is to monitor the results of its program management efforts. According to industry best practices, verification and validation efforts should be independent and reported directly to senior management to provide added assurance that reported results on the project's status are unbiased. The performance of the verification and validation function by an entity that is technically, managerially, and financially independent of the organization in charge of what it is assessing could better position FEMA to help ensure the independence of the verification and validation function, both in appearance and in fact.

FEMA has taken a variety of steps to conduct outreach to state and local officials, including developing a national outreach strategy, but could enhance its efforts to improve public awareness and promote map acceptance. For example, FEMA has not developed performance goals or measures, or identified the resources needed for its flood mapping outreach efforts, which could help FEMA better determine whether its outreach efforts are achieving their intended results. In addition, FEMA could better quantify, allocate, and leverage resources needed to support national outreach efforts. For example, by tracking spending and using risk in its decisions for allocating outreach resources, FEMA could better allocate resources for flood mapping outreach efforts. In addition, FEMA could enhance its outreach efforts by leveraging existing flood insurance marketing resources and expertise during the mapping process to increase public acceptance of flood maps.