



Highlights of [GAO-04-417](#), a report to the Chairman, Subcommittee on Housing and Community Opportunity, Committee on Financial Services, House of Representatives

### Why GAO Did This Study

Flood maps identify areas at greatest risk of flooding and provide the foundation for the National Flood Insurance Program (NFIP) managed by the Federal Emergency Management Agency (FEMA). The maps are used by (1) communities to establish minimum building standards designed to reduce the impact of flooding, (2) FEMA to set insurance rates, and (3) lenders to identify property owners who are required to purchase flood insurance. Nearly 70 percent of all flood maps are more than 10 years old, according to FEMA. In an effort to update its flood maps, FEMA is implementing a \$1 billion, 5-year map modernization program. GAO was asked to review the progress of FEMA's map modernization program.

### What GAO Recommends

To help ensure that FEMA's map modernization program achieves its intended benefits, GAO is making several recommendations. FEMA should address differences among the communities for which flood maps are being developed—whether those differences arise from different levels of flood risk or different levels of capacity and resources to assist with flood mapping.

[www.gao.gov/cgi-bin/getrpt?GAO-04-417](http://www.gao.gov/cgi-bin/getrpt?GAO-04-417).

To view the full product, including the scope and methodology, click on the link above. For more information, contact William O. Jenkins, 202-512-8777, [jenkinswo@gao.gov](mailto:jenkinswo@gao.gov).

## FLOOD MAP MODERNIZATION

### Program Strategy Shows Promise, but Challenges Remain

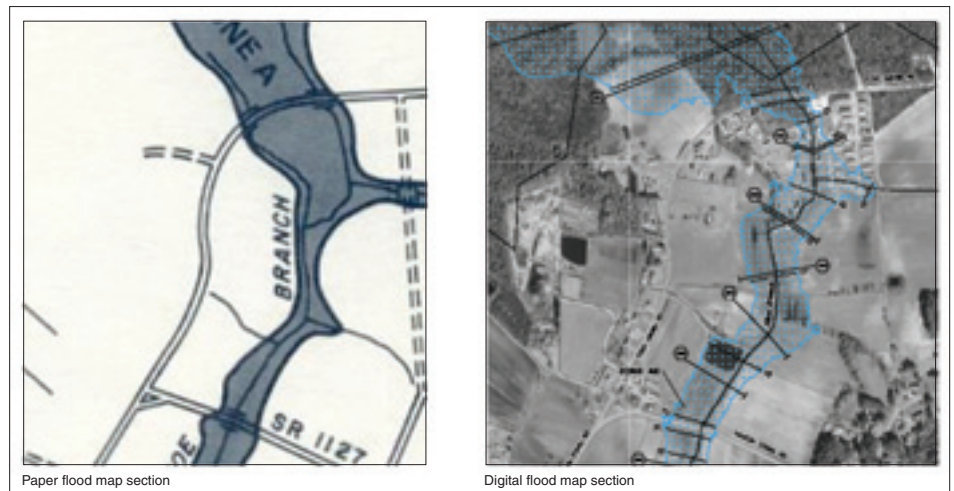
#### What GAO Found

Through its map modernization program, FEMA intends to use advanced technologies to produce more accurate and accessible digital flood maps available on the Internet. These maps are expected to improve community efforts to reduce the impact of floods, increase property owners' use of flood insurance, and improve community, state and federal efforts to reduce the risks of other natural and man-made hazards.

In developing digital flood maps, FEMA plans to incorporate data that are of a level of specificity and accuracy commensurate with communities' relative flood risk. According to FEMA, there is a direct relationship between the types, quantity, and detail of the data and analysis used to develop maps and the costs of obtaining and analyzing those data. Although FEMA ranked the nation's 3,146 counties from highest to lowest risk, it has not yet established data standards that describe the appropriate level of detail, accuracy, and analysis required to develop digital maps based on risk level. Without such standards, FEMA cannot ensure that it uses the same level of data collection and analysis for all communities in the same risk category. Such standards can also help FEMA to target its map modernization resources more efficiently by matching the level of data collection and analysis with the level of flood risk.

FEMA has developed partnerships with states and local entities that have begun mapping activities and has a strategy on how to best work with these entities. However, the overall effectiveness of FEMA's future partnering efforts is uncertain because FEMA has not yet developed a clear strategy for partnering with communities with less resources and little or no experience in flood mapping. By developing such a strategy, FEMA will be better able to identify and use the most effective approaches to engage all of its partners in map modernization.

Comparison of Old Paper and New Digital Map Sections in North Carolina



Source: North Carolina Department of Emergency Management.