Floods

Less than half of the 18,000 communities that participate in the National Flood Insurance Program have adequate information to know their risk from flooding. In addition, many communities in flood-prone areas do not have access to real-time streamflow data that are critical for advance warning of flooding. A November 1998 report to Congress (available at http://water.usgs.gov/) identified deficiencies in the ability of the USGS streamgaging network to meet both the flood mitigation and flood warning needs of the Nation.

The proposed FY 2001 increase of $4 million will improve the existing USGS streamgaging network in two important ways. First, it will add stations to address the current shortfall of 800 National Weather Service (NWS) flood forecast points that do not have a nearby streamgage. Second, it will upgrade existing gages to provide the real-time information that is critically important to local emergency managers and the public during floods. The USGS is working with the NWS and many other partners to determine the best location for these improvements. Among the areas under consideration are the Appalachian Region, the Lower Mississippi and the Pacific West. A list of gages to be added or reactivated will be available from the USGS by mid-March 2000.

Funding for these improvements will make streamflow information more reliable and more available during flood events. The proposed increase for FY 2001 would provide:

"Today, floods are more destructive to the Nation than any other natural disaster, estimated by the U.S. Army Corps of Engineers to cost an average of $5.1 billion in damage each year."

Jo Ann Howard, Federal Insurance Administrator, testimony to Congress August 25, 1999

More and better information for flood warnings. The increase will allow the USGS to build 25 new streamgaging stations, to reactivate 25 former stations, and to upgrade 100 existing streamgaging stations in three ways: Stations need to be flood "hardened" to withstand 200-year floods so that the gages remain in service when they are most needed. Satellite telemetry for transmitting real-time information and other instruments need to be added to stations. Rating curves, which calibrate the gage information, need to be extended to the 200-year level so that the gages will provide a greater degree of certainty about flood potential at given sites.

Faster flood and drought information to the people who need it. Real-time and historical streamflow information is needed to cope with the impacts of floods and droughts. The first phase of the implementation will increase the reliability of real-time data delivery to the NWS, water and emergency management agencies, and the public. People will be able to get current streamflow data for all streamgaging stations. It will also provide updated regional analyses of flood and drought characteristics and their changes over time.

Safer communities. With new funding, the USGS will conduct systematic field studies to document the magnitude and extent of floods. This flood delineation information is essential for supporting local communities and the National Flood Insurance Program and the Federal Emergency Management Agency map modernization program. The USGS will

	(Dollars in Thousands)
Water Resources Investigations	
Water Data Collection and Management	
Hydrologic Networks and Analysis (Hazards component)	+$ 4,000

also develop new technology for measurement during floods and will improve methods for assessing flood hazards. These enhancements will provide more reliable information during floods and more accurate estimates of how often a flood may occur.

In FY 2000 the Congress approved a $2 million increase to begin to deal with these issues. This was the first real increase in Federal funding for streamgaging in over a decade. The FY 2000 increase allows the USGS to start or reactivate about 15 gages nationwide and to enhance the capabilities of about 100 other gages. It also provides operational funding for these new gages. The proposed FY 2001 increase of $4 million builds on the FY 2000 increase and allows for the additional enhancements described above.

All of these enhancements to the network are part of a plan for a National Streamflow Information Program that the USGS has developed and is discussing with its stakeholders. This plan focuses on the need for streamgages to support flood warning and flood and drought hazard evaluation and also considers other major Federal needs for gaging, such as monitoring compacts and court decrees, evaluating water quality, evaluating long-term environmental trends, and assessing the resources of the Nation's major river basins. Although the proposed increase for FY 2001 focuses on flood and drought information needs, it will be implemented in a way that will benefit these other Federal needs. These enhancements will also help the water recreation community, which depends on USGS streamgage data to determine if conditions are safe and desirable for boating or fishing. Finally, enhancements will be implemented in a manner that helps fulfill the needs of the 800 agency partners that contribute two-thirds of the funding for the national streamgaging program.

Flood data collected at the USGS streamgaging stations are transmitted to State and local water managers and emergency managers, the NWS, and the U.S. Army Corps of Engineers. The NWS has the responsibility for forecasting floods and issuing warnings. The USGS currently operates streamgaging stations at 2,124 of the 2,929 NWS service locations on major streams and rivers in the conterminous United States.

As the nation's largest water, earth and biological science and civilian mapping agency, the USGS works in cooperation with more than 2000 organizations across the country to provide reliable, impartial, scientific information to resource managers, planners, and other customers. This information is gathered in every state by USGS scientists to minimize the loss of life and property from natural disasters, contribute to sound economic and physical development of the nation's natural resources, and enhance the quality of life by monitoring water, biological, energy, and mineral resources.