Water Resources Investigations

Program	FY 2000 Estimate	Uncontrol. & Related Changes	Program Changes[1]	FY 2001 Budget Request	Change from FY 2000
Water Resources Assessments & Research	91,037	+2,012	-2,694	90,355	-682
Water Data Collection & Management	29,167	+949	+9,159	39,275	+10,108
Federal-State Cooperative Water Program	60,553	+2,326	0	62,879	+2,326
Water Resources Research Act Program	5,062	+5	0	5,067	+5
Total Requirements $000	**185,819**	**+5,292**	**+6,465**	**197,576**	**+11,757**

[1] See Program Change section for details.

Activity Summary

Introduction

The programs funded under the Water Resources Investigations Activity are designed to provide the information and scientific understanding needed for the best use and management of the Nation's resources. To accomplish this mission, the USGS cooperates with State and local governments, and with other Federal agencies, in a broad program of research, interpretive water-resources studies, and data collection and dissemination.

- The Ground-Water Resources Program evaluates ground water in the Nation's major aquifer systems, assesses the interactions of ground water with surface water, and evaluates the various factors that govern the response of aquifer systems to pumping, droughts, and other stresses.

- The National Water-Quality Assessment Program provides nationally consistent data and information on the quality of the Nation's most important water resources, identifying status and trends, determining cause and effect, and eventually providing forecasting or prediction.

- The Toxic Substances Hydrology Program provides resource managers with earth science information on the behavior of toxic substances in surface water and ground water.

- The Hydrologic Research and Development Program focuses on long-term investigations that integrate hydrologic, geologic, chemical, climatic, and biological information related to water resources issues.

- As the Federal Government's primary water resource agency, the USGS maintains national networks for collecting long-term, comprehensive data on water quantity and quality, and atmospheric deposition. The Federal funds appropriated through the Hydrologic Networks and Analysis Program support the parts of the national water data collection networks that are not funded by other agencies for a specific purpose.

- The Water Information Delivery Program funds a small but vital portion of the USGS's information dissemination efforts in the area of water resources. In recent years, the USGS has greatly expanded its information dissemination capabilities through use of the Internet. Historic and current real-time hydrologic data, and results of research and investigations are available online, free of charge, to water managers and land use planners, flood forecasters, emergency response teams, engineers, educators, and private citizens.

- Much of the water resources work that the USGS performs is accomplished with funding from State and local government agencies, and from other Federal agencies; nearly half of the USGS's operating budget for water resources programs comes from these non-appropriated sources. About 65 percent of streamgaging activity is funded by the Federal-State Cooperative Water Program, in which States and localities pay half the cost of the work that the USGS performs. The Cooperative Program also funds technical assistance to State and local water management agencies (including Indian Tribes) in seeking solutions to water-resources issues of national concern.

- The USGS administers grants for 54 State Water Resources Research Institutes designated by the Water Resources Research Act: one at the land grant college in each State, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam, which also serves the Federated States of Micronesia and the Commonwealth of the Northern Mariana Islands. The program supports academic research to aid in the resolution of State and regional water problems and related land problems, promotes technology transfer, and provides for the training of scientists and engineers.

Florida Water Management District Support for the USGS Cooperative Water Program

The St. Johns Water Management District in Florida has actively cooperated with the USGS since the District was created. A September 9, 1999, letter from the District's Executive Director offers support for USGS, stating:

"The Geological Survey is uniquely qualified to conduct long term water resource assessments that meet the pressing needs of state and local level water managers. The District urges an increased emphasis on federal funding for cooperative data collection programs."

Federal Role

The USGS Water Resources Investigations Activity is the primary source of scientific information on one of the Nation's most important natural resources--water. The Activity fulfills a unique Federal role by providing standardized, objective information for the entire country through long-term hydrologic data, interpretive reports, and new analytical methods. Under the authority of Office of Management and Budget Memorandum 92-01, the USGS has the primary responsibility for coordinating water data activities in the Federal Government. Because river basins and aquifers cross many jurisdictional boundaries there is great efficiency in having one national agency provide standardized regional water information to all interested groups through cost-sharing arrangements.

In addition, because many water issues involve interjurisdictional disputes, it is very important that the data and conclusions be viewed as credible by all parties involved. This includes adjudication of water rights within a State, among States, or at international boundaries. The

USGS is accepted as a credible source by parties involved in disputes. The USGS provides standardized information to all, making it unnecessary for each State or locality to create its own infrastructure for data collection, data handling, interpretation, and information dissemination. The basis for this national information program is analogous to the basis for other national information agencies such as the National Weather Service and National Centers for Disease Control and Prevention.

To promote management efficiency, sharing of common resources, and valuable interaction among scientific disciplines, the USGS has organized water resources research activities into a National Research Program, which has existed as an organizational element of the USGS since the late 1950's. Support for water resources research and methods development is provided from nearly all of the major program elements/line items of the USGS Water Resources Investigations Activity. Discussions of research activities are included in the budget justification narratives for each of these line items. Additional funds for the National Research Program are provided through reimbursements from other Federal agencies to support research.

Customers and Partnerships

The USGS relies on more than 1,200 State and local partners and about 30 Federal partners in developing its water information. In FY 1999 the $209.4 million appropriation for the USGS Water Resources Investigations Activity was leveraged with $201.2 million in reimbursements ($111.7 million from non-Federal sources and $89.5 million from other Federal agencies) to advance the knowledge of the Nation's water resources.

The USGS is able to leverage its funds this way because it serves as the primary source of hydrologic information to many other Federal agencies and to American Indian/Alaska Native governments. For example, the USGS:

- provides to the Department of Energy most of the hydrologic and geologic capability for evaluating the suitability of Yucca Mountain (Nevada) as the site of the Nation's high-level nuclear waste repository;
- collects data for Federal water management agencies (the Army Corps of Engineers and Bureau of Reclamation);
- conducts studies at the request of many land and water management agencies, including research on optimal management of dams (such as Glen Canyon Dam) and evaluation of aquatic habitat changes due to water regulation and consumption; and
- characterizes the hydrogeologic settings for use by the Department of Energy, Department of Defense, and the U.S. Environmental Protection Agency (USEPA) at many sites where they have responsibility for ground-water contamination cleanup.

USGS participation in activities such as these prevents the need to duplicate a hydrologic staff in these agencies and assures that the collected data will be entered into a standardized national database so the information will be readily available to all potential users. These diverse programs with other Federal agencies result in new techniques and capabilities that are then put to use in the appropriated programs of the USGS and in the Cooperative Program with the States.