

Water Data Collection and Management Subactivity

Program	1999 Estimate	Uncontrol. & Related Chgs	Program Redirect	Program Changes	FY 2000 Budget Request	Change from 1999
Hydrologic Networks & Analysis	25,299	782	-9,357	58	16,782	-8,517
Water Information Delivery	4,229	220	-691	250	4,008	-221
Total Requirements \$000	29,528	1,002	-10,048	308	20,790	-8,738

Note: The Program Redirect column reflects the redirection of funds to the Integrated Science, Science Support, and Facilities activities.

Water Information Delivery

Current Program Highlights

The Water Information Delivery program funds a small but vital portion of the overall information delivery activity of the USGS water resources programs. Delivery of basic hydrologic data is funded directly as a part of the overall cost of the data collection activity (funded by the Federal or State portions of the Federal-State Cooperative Water Program, by other Federal agencies, or by the Hydrologic Networks and Analysis Program). Also, publication of project-specific findings is funded within the cost of each project. The purpose of the Water Information Delivery program is to assure adequate delivery of results beyond the immediate needs of funding agencies. In particular, it funds the extra costs (beyond the costs of producing a product required for immediate local needs) of preparing and printing USGS professional papers, hydrologic atlases, and circulars.

Scientific and technical information products are central to the accomplishment of the USGS mission and provide the most important vehicle by which the results of research and investigations are made available for use by other governmental agencies, the private sector, and the general public. For over a century, the USGS has been collecting, compiling, and archiving basic information on the water resources of the United States in National databases. The USGS and others use these data to create products that address significant and emerging regional and national water resource issues. In addition to synthesis activities, advances in technology have made it possible to put the USGS national databases at the fingertips of every American via the Internet. The USGS makes data that is being collected in real time available to all within a few minutes or hours. During times of crisis, managers and emergency management agencies can now make critical decisions for saving lives and property based on up-to-date information.

Regional and National Synthesis Activities — Scientific data and interpretations from USGS water resources programs are synthesized to create products that address significant regional and national water resources topics. These products will present regional or national perspectives and describe the current thinking on specific and relevant water resources issues. Products are customized to convey the appropriate information to targeted audiences. Target audiences for synthesis products range from technical to general audiences. Products resulting from this synthesis effort include specialized databases, maps, and brief reports.

Reports Process Streamlining — USGS publications such as professional papers, hydrologic atlases, and circulars remain important vehicles for releasing the results of water resources investigations. These products are a critical link to many USGS customers. The USGS Water Resources Investigations Activity is continually evaluating and improving its publications process to reduce costs and provide greater efficiencies in the approval and preparation process. The effort is resulting in the decentralization of publication procedures and greater use of new technologies such as desktop publishing. As part of this ongoing streamlining effort, customers are systematically queried for their opinions about USGS water resources products. The results from these customer surveys are being used to improve the delivery and quality of USGS information products.

Data System Enhancement — In the past, requests for USGS hydrologic data came in a variety of forms: telephone, mail, e-mail, and walk-in. Virtually all of these data required individual attention, with USGS staff making data retrievals from our databases, and then tailoring a product to the users' needs. These products took many forms: paper, magnetic tape, floppy disks, or files delivered electronically. The data delivery systems for USGS hydrologic data are being reengineered so that in many cases customer needs can be filled without any direct intervention by USGS staff. This is accomplished by using the WWW) as the retrieval mechanism. Use of the WWW to provide hydrologic data is beneficial for two reasons. The timeliness of data delivery is greatly enhanced. Response is now virtually instantaneous. It is also a great cost savings for the USGS, because USGS staff time is not consumed with filling and tailoring individual requests. At the present time, data sets accessible on the WWW include almost all USGS historical streamflow daily values, water use data, and continuous records of the past 7 days for many streamflow stations. The capability does not exist for such automatic delivery of water quality data or data on wells and springs. Within the Water Information Delivery Program, initial capabilities for WWW delivery of water quality data and data on wells have been planned and developed and are under review and testing.

Feedback from users of USGS information on the World Wide Web

"I have been a paramedic firefighter with Salem Fire Department (Salem, Oregon) for 13 years, and am a member of the SFD Water Rescue Team. I am in the process of developing a comprehensive report on the need for improvements to our flood response capability. While searching the Internet for information I discovered your watershed maps and a wealth of historical water flow data. I would love to incorporate these images and portions of your historical data into my report My compliments on your web site!"

Recent Accomplishments

Daily Suspended-Sediment Data on the Internet — An online database, accessible through the Internet, has been created for all daily suspended-sediment stations available in the USGS database. Transport of sediment and associated contaminants in streams is a water-quality issue of national concern. Toxins attached to sediments can be a large public health risk and can be expensive to remediate; sediment erosion causes extensive damage to man's works in the river environment. These data are used to determine contaminant flow, an important step in evaluating remediation priorities and assessing progress in solving water-quality problems.

Water Science for Schools

The USGS has established a "Water Science For Schools" World Wide Web site, a topic-based site aimed at students aged 9 to 90, who want to find out more about the many aspects of water. Topics include Water Basics, Earth's Water; and Special Topics such as Water Quality, Acid Rain, Water Use, and Water Data and Maps. The Web site also includes a Water Question-and-Answer section, a Picture Gallery; and an Interactive Activity Center where students can answer Challenge Questions, Opinion Surveys, and Questionnaires. The site is available at <http://www.wga.usgs.gov/edu/>.

Streamflow Data on the Internet —

Virtually all USGS historical streamflow data are available on the Internet. This consists of data for 19,000 stations--over 140 million values--from across the United States. Having this information available is a valuable tool for Federal, State, and local agencies for designing water resources projects and making water resources decisions. Real-time streamflow information is available on the Internet for about 4,000 stations, for all States and the Caribbean District. The real-time streamflow sites are the most popular and useful sites on the USGS water resources Internet pages; about 250,000 real-time hydrographs are

downloaded each month. Not only is this information critical to resource managers and emergency management coordinators during times of flooding, but average citizens also use the information for making decisions about when and where to repair the dikes and levees on their farms, when it is safe to recreate, when to move their property to higher ground, and when to evacuate.

National Water Information System (NWIS) — Two major scheduled upgrades of the NWIS software, released in 1998, gave users enhanced data management capabilities. Enhanced web display of discharge plus improved performance of the data delivery system bolstered the delivery of data on the WWW. New programs for storing peak flow data and for graphical editing of time series data, plus the conversion of the site file and ground water data to a relational structure, delivered new data analysis and processing tools to users. The effort for the upgrades includes modification of over 2 million lines of code, preparing programs for the transfer of the data from the old data structures to the new data structures, a formal testing program to verify the updates are ready for release, and implementation of the updates at 50 locations.

Justification for Program Change

As a participant in the interagency Community/Federal Information Partnership (C/FIP), the USGS will work with State, local, and Tribal governments, the private sector, and others to advance the capacity of communities to create and use geospatial data, and to improve the USGS's ability to meet communities' needs for spatially referenced earth science information. The purpose of this increase is to accelerate the process of providing more detailed stream and watershed "addresses" for the Nation. Much like a street address provides a commonly used means for locating buildings, standardized stream and watershed addresses provide a means for locating and sharing observations of the quantity or quality of surface waters and watershed conditions. The standard meets a critical need for improving the ability of Federal, State, local, and watershed based organizations to exchange information for improved watershed management.

	FY 2000 Request	Program Change
\$(000)	4,008	+250

Much of the work performed within this program would be aimed at defining a "watershed address" for every location in the U.S., beginning with a few selected basins in FY 2000. It would build upon the already accepted standard of the 8-digit hydrologic unit codes to a smaller, more usable watershed scale--the 12-digit unit code. The greater specificity of new codes for local watershed addresses will give much more detail in defining watershed information, thus helping citizens, scientists, and public officials to organize information about watershed conditions much more effectively.