

## THE COOPERATIVE PROGRAM

The USGS collects data and conducts studies in partnership with many Federal, State, and local governmental agencies under the Cooperative Program. Studies with other Federal agencies are usually performed on a reimbursable basis, whereas studies with State and local agencies are conducted on a matching funds basis—that is, the USGS and the cooperating agency share the costs. The Water Resources Division of the USGS conducts work in partnership with about 50 Federal, State, and local agencies in Tennessee.



## FOR ADDITIONAL INFORMATION

### For water information:

District Chief  
U.S. Geological Survey  
810 Broadway, Suite 500  
Nashville, Tennessee 37203  
(615) 736-5424, extension 3124 or 3129

More information on the activities of the U.S. Geological Survey in Tennessee can be obtained by accessing the Tennessee home page on the World Wide Web at <http://www.dtnnsh.er.usgs.gov>.

## FOR ADDITIONAL INFORMATION

### For map information:

Chief, Mapping Applications Center  
U.S. Geological Survey  
567 National Center  
Reston, Virginia 22092  
(703) 648-6002

### For geologic information:

Assistant Chief Geologist  
U.S. Geological Survey  
953 National Center  
Reston, Virginia 22092  
(703) 648-6660

U.S. Geological Survey  
Center for Earthquake Research and  
Information  
The University of Memphis  
Memphis, Tennessee 38152  
(901) 678-2007

### For biologic information:

National Biological Service  
1849 C Street N.W. MS 3660  
Washington, D.C. 20240  
(202) 482-3980

*For information on all USGS reports and products (including maps, images, and computerized data), call 1-800-USA-MAPS.*

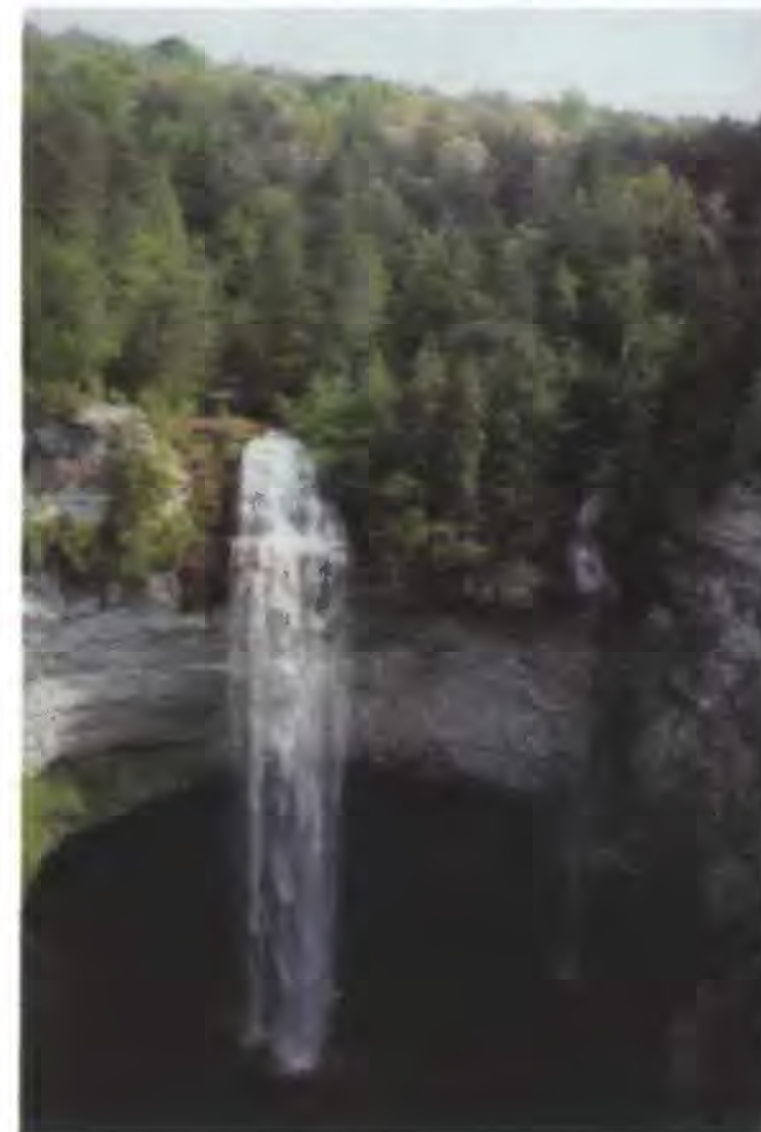
Cover photograph: Fall Creek Falls State Park, Tennessee



U.S. Geological Survey  
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## U.S. GEOLOGICAL SURVEY

# TENNESSEE



The U.S. Geological Survey (USGS), established in 1879, is an agency of the U.S. Department of the Interior. For more than a century, the USGS has provided reports, maps, data, and other information to aid in the development, management, and protection of the Nation's water, energy, mineral, and land resources. This brochure outlines the USGS in Tennessee and highlights hydrologic investigations.





## DATA COLLECTION

The USGS collects hydrologic data to meet the needs of many users. These data document current conditions and provide the cornerstone for understanding hydrologic systems and solving hydrologic problems. Data-oriented activities include:

- Continuous measurement and recording of streamflow at more than 100 gaging stations statewide
- Satellite transmission of streamflow data from about 60 gaging stations
- Monitoring of ground-water levels at 30 to 35 wells
- Analyses of the physical, chemical, and biological characteristics of surface and ground waters
- Documentation of extreme hydrologic events (floods and droughts)
- Compilation of water-use data
- Participation in various National water-level networks
- Operational support for hydrologic studies of the USGS



Satellite-transmitted data are used to manage and operate the reservoir systems on the Tennessee and Cumberland Rivers, to respond quickly to floods, and to determine permissible windows of time for waste discharges to rivers. The longer term record of data—going back in time for more than 100 years—is a priceless asset used for such purposes as designing bridges, levees, and other river-related structures, managing river flood-plain development, determining flood-insurance rates, establishing trends in water use and quality, projecting and planning for future water demand, and conducting interpretive studies.

## HYDROLOGIC INVESTIGATIONS

Hydrologic investigations of the USGS are conducted in partnership with other governmental agencies and as mandated by Congress. The studies provide information necessary to solve National, regional, and areal water-resource problems. Some typical studies in progress and studies recently completed are:

- Potential for interaquifer leakage in the Memphis area
- Ground-water resources of Hamilton County
- Regional aquifer system analyses for the Mississippi River Valley and the Appalachian Valley-Piedmont
- Hydrology of wetlands
- Flood frequencies for gaged and ungaged streams
- Low-flow and flow-duration characteristics of Tennessee streams
- Potential for scour around bridge-support structures
- Quality of ground and surface waters in the upper Tennessee River basin
- Effect of agricultural best management practices on water quality
- Quality of stormwater runoff in urban areas
- Quality of ground water in rural areas
- Contaminant hydrology on military bases
- Computer-model adjustment procedures for estimating urban-runoff quality
- Development of geographic information system coverages



## INFORMATION AVAILABILITY

Hydrologic data collected under the basic data program are published in the series of annual reports titled "Water Resources Data for Tennessee." The data are also readily available as computer printouts and in disk format, and are obtainable upon request. Results of interpretive studies are published in one of the several USGS report series. Results may also be reported in journals of professional societies.

Copies of USGS reports are available for inspection at the U.S. Geological Survey office in Nashville and at selected libraries. Copies of reports can be purchased by calling 1-800-USA-MAPS.

