

# Implementing a Network-Based Water-Use Data System for Georgia

Nancy L. Barber

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**Affiliation:** Hydrologist, U.S. Geological Survey South Atlantic Water Science Center, Norcross Georgia 30093

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**Abstract.** The U.S. Geological Survey, in cooperation with the Georgia Environmental Protection Division, has developed county water-use estimates for Georgia every five years since 1980. These estimates are based on reported water use compiled from regulatory programs, supplemented by estimates of uses not covered by permit reports. An effort is underway to integrate these compiled water-use reports into the USGS National Water Information System (NWIS) in the Site-Specific Water-Use Data System (SWUDS) subsystem. Public supply, industrial, thermoelectric and hydroelectric power, mining, and commercial sites are included; irrigation and livestock are not. Currently about 3,250 users are represented in the Georgia SWUDS, some with monthly and annual data from 1980 (or earlier) to 2012. SWUDS is a tracking database—measurements of water withdrawals, transfers, and return flows can be stored as a network of points (sites) with connections showing the direction of movement and other characteristics of water being used. For example, SWUDS may store individual well locations (with additional data in the NWIS groundwater subsystem), one site representing all wells for a single permit, or a surface-water intake. SWUDS can then track water from the source to a water distribution system; treated water can be tracked to customers or customer groups. If water use can be tracked from withdrawal point to return location, retrievals can summarize data for interbasin transfers and consumptive use. With the implementation of SWUDS in Georgia, water-use information can be retrieved in conjunction with sites for stream gages, water-quality sampling, and groundwater-level monitoring.