Continuous Groundwater Level Monitoring and Water Level Trends in the Principal Aquifers of Georgia

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Abstract. Groundwater-level data in Georgia are collected by the U.S. Geological Survey, South Atlantic Water Science Center in cooperation with local, State, and other Federal agencies. The principal aquifers monitored in Georgia are the surficial aquifer, the Brunswick aquifer system, the Floridan Aquifer system, Claiborne aquifer, Clayton aquifer, Cretaceous aquifer system, Paleozoic-rock aquifers, and the crystalline rock aquifers. Long term continuous water-level data from wells are necessary to monitor seasonal fluctuations and determine long-term trends in groundwater levels. Often water levels are influenced by groundwater withdrawals from aquifers with declines reducing aquifer storage and changing water availability over time. Water levels were monitored continuously at 164 wells during calendar year 2014. One hundred and twenty five wells were equipped with electronic data recorders that recorded water levels at 60-minute intervals and stored the data for bimonthly retrieval. Thirty-nine wells had real-time satellite telemetry that recorded water levels at 60-minute intervals. Four of the real-time sites were equipped to monitor water levels and specific conductance, and at another site only specific conductance was monitored. Real-time satellite telemetry data are transmitted hourly and available at http://waterdata.usgs.gov/ga/nwis/current/?type=gw. To illustrate long-term (period of record) water-level changes, selected hydrographs showing monthly mean water levels with trend lines are presented from the principal aquifers in Georgia.