

WATER BUDGET FOR THE FLORIDAN AQUIFER SYSTEM

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The first successful attempt to extract water from the Floridan aquifer system was in 1881 when a 550-foot deep well was completed west of Albany, Ga; municipal wells were dug soon after in 1887 as the City of Savannah, Ga. moved to supplement its supply of freshwater from the Savannah River. Since then the Floridan aquifer system has become the primary source of potable water for more than 10 million people across Florida and parts of Georgia, Alabama, and South Carolina. In 2000, an assessment of overall groundwater withdrawals by the U.S. Geological Survey ranked the Floridan aquifer system 5th out of all principle aquifers of the Nation. The water withdrawn is supplied from storage (decreased water levels) and by increased recharge (reduced discharge to streams and lakes, reduced discharge to springs, reduced coastal discharge, and increased leakage from adjacent aquifers).

To help water-resource managers address these regional challenges, the U.S. Geological Survey Water Availability and Use Science Program began assessing groundwater availability of the Floridan aquifer system. A preliminary water budget indicates that much of the groundwater extracted from the Floridan aquifer system is associated with 1) reduced storage, 2) downward leakage from the surficial aquifer system, and 3) reduced discharge to springs. Many of the components of this preliminary water budget are highly uncertain and will be refined by a numerical model analysis of the groundwater flow system encompassing the extent of the Floridan aquifer system throughout the southeastern United States.

PRESENTER BIO: Jason Bellino is a hydrologist with 15 years of experience conducting field work and project management at the Caribbean-Florida Water Science Center.