Long-term Hydrologic Monitoring by the U.S. Geological Survey (USGS)

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Abstract. The U.S. Geological Survey (USGS) operates a network of streamflow and water-quality monitoring stations along the Savannah River and in the Savannah River estuary in cooperation with the U.S. Army Corps of Engineers (USACE) to support the monitoring requirements for the USACE's Savannah Harbor Expansion Project (SHEP). The goal of the SHEP is to deepen the shipping channel to a new depth of 47 feet to allow larger ships to use the port. The primary concerns regarding the harbor deepening project are: (1) the consequent potential for increased upstream salinity encroachment which may damage fragile ecosystems in the Savannah Wildlife Refuge and threaten fresh-water intakes, and (2) the decrease in ambient dissolved-oxygen levels. The SHEP streamflow and water-quality monitoring network is comprised of 15 monitoring stations, 4 of which have been in operation since the mid-to-late 1980's. These stations are located upstream and downstream of Port of Savannah operations and represent Savannah Harbor model nodes, salinity-intrusion monitoring points, chloride monitoring locations in the upper estuary, and dissolved oxygen mixing-zone locations. The hydrologic-monitoring objectives of SHEP are designed to occur in three phases of channel construction: a 1-year pre-construction phase, a 4-year construction phase, and a 10-year post-construction phase. A subset of the current monitoring locations will continue to be operated well beyond the project timeframe. All data are available in real-time on the USGS National Water Information System Web Interface (NWIS-Web) at http://waterdata.usgs.gov, and are provided to the SHEP database (http://www.shep.uga.edu) managed by the USACE for frequent modeling updates.