Savannah Harbor Expansion
Environmental Impact Statement
Savannah, Georgia

Services Rendered

- 3-D Hydrodynamic and Water Quality Modeling
- Dredge Material Assessment and Management
- Tidal Marsh Studies
- Wave and Coastal Processes Modeling
- Sediment Transport Modeling
- Biological Assessments and Study Management

Project Summary

ATM developed a 3-D hydrodynamic and water quality model to support decision making in the Tier II Environmental Impact Statement (EIS) process. In order to support the calibration of the 3-D model, ATM designed and performed an extensive data collection on the Lower Savannah River Estuary in 1999. The number of monitoring stations, locations of the continuous monitoring stations, and the amount of simultaneous water chemistry samples make the collection effort one of the most extensive data sets ever collected. Monitoring plans, data QA/QC, and model calibration were all coordinated with federal, state, and local regulating agencies to address concerns raised in the tier I EIS. ATM also developed a marsh vegetation model which is capable of predicting the changes in vegetation resulting from potential impacts from salinity intrusion resulting from channel deepening and as predicted by the 3-D hydrodynamic model. A variety of channel design alternatives have been evaluated to support discussions of potential impacts to the existing freshwater marsh. Salinity intrusion is a concern because of the Savannah Wildlife Refuge located upriver of the Federal Navigation Project, as well as the presence of tidal freshwater marshes.

ATM also performed wave and coastal processes modeling to evaluate the potential shoreline changes resulting from deepening the bar channel. Coupling of the 3-D river hydrodynamic and the coastal processes models will enable agencies to evaluate potential impacts of the harbor expansion project.