



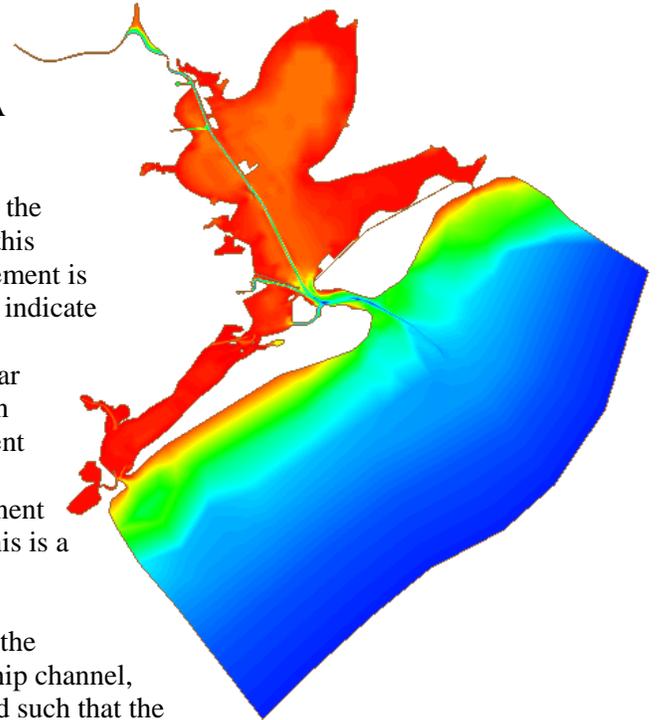
US Army Corps
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Engineer Research and
Development Center

Houston-Galveston Ship Channels Sedimentation Study, Phase 1

Description

The Houston Ship Channel bay section was recently enlarged from a 40 ft depth by 400 ft width to a 45 ft depth by 530 ft width. A 3D numerical model study was implemented at the Coastal and Hydraulics Laboratory to evaluate the salinity and circulation impact of this enlargement. Now that the enlargement is complete, preliminary evaluations indicate a higher than anticipated rate of deposition in the channel reach near Atkinson Island. This project is an initial attempt to develop a sediment model and to determine if this increased shoaling rate is a permanent feature of this new channel or if this is a single anomalous event.



Issue

In order to determine the cause of the increased rate of shoaling in the ship channel, many variables must be considered such that the physics of the system and transported sediment are understood. The project includes field data collection as well as analyses of the field data, hydrodynamic currents, historical dredging records, effects of vessel induced shear, and a sediment tracer simulation.

Products

Final products are a published CHL technical report and a simplified sediment model of the Galveston Bay and Houston Ship Channel area from the Gulf of Mexico inward to approximately Houston, TX.

Supporting Technology

TABS-MDS hydrodynamic, salinity, and sediment model.

Benefits

The results of this project will determine why the shoaling in the Houston Ship Channel has increased since the channel was enlarged and whether this increase will continue or cease with time.

Sponsors

US Army Corps of Engineers, Galveston District.

Point of Contact

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Partners

US Army ERDC; US Army Corps of Engineers; Port of Houston Authority.