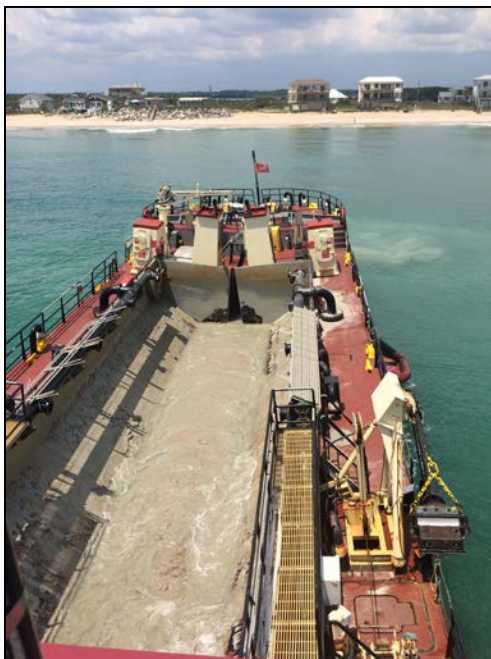




Advancing Nearshore Berm Research with Tool Development

Description

The Sediment Mobility Tool (SMT) is a scoping level tool for siting nearshore berms. In FY16, the tool was converted into an interactive web application using WIS hindcast data. In FY17, we propose to extend the capabilities of the web application by incorporating storm wave conditions from the North Atlantic Coast Comprehensive Study (NACCS).



SAW Dredge *Murden* placing material in the nearshore of Vilano Beach, Florida.

Issue/Challenge To Address

Nearshore placement of dredged material for beneficial use is a common practice for Operations & Maintenance (O&M) within the U.S. Army Corps of Engineers. The nearshore placement design concept has been recognized to follow the goals of Engineering with Nature (EWN) and Regional Sediment Management Program (RSM) principles by allowing waves and tidal forces to winnow fine material and move sediment into alignment with the natural environment. General design guidance for nearshore berm placement was produced in the 1980's and 1990's, but is not adequately sophisticated for District needs as shown by several Statements of Need (SoN) submitted to the Navigation R&D Portfolio in recent years. Historically, the Coastal Inlets Research Program (CIRP) and the RSM Program collaborated on a multi-faceted RD&T effort to advance our understanding on design and assessment of project performance for nearshore berms that included field data collection and numerical modeling assessment, guidance development, and a web-application to serve as a tech-transfer tool.

Successes Lessons Learned

Lessons learned will be compiled during the duration of this study.



Regional Sediment Management Program U.S. Army Engineer Research and Development Center (ERDC):



Advancing Nearshore Berm Research, Guidance, and Tool Development

Expected Products

- Web Application updated with NACCS storm data
- Technical Note on web application update and SMT uncertainty
- Advocacy Group Newsletter Article
- Final Presentation at RSM IPR

Stakeholders/Users

Stakeholders include the coastal districts within USACE.

Projected Benefits

This project will allow Districts and other users of the Sediment Mobility Tool (SMT) web application a better understanding of sediment mobility of dredged sediment placed in the nearshore under storm wave conditions. Additionally, the uncertainties in the SMT calculations and results will be described in a technical note.

Leveraging Opportunities

This project is intended to be worked in conjunction CIRP. Additional leveraging with OP-J will also occur.

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Participating Partners

CIRP, SAJ, and OP-J.