



# Rapid Tools for Nearshore Placement of Dredged Material

## Dredging Operations Environmental Research (DOER) Program

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

### Focus Area

Dredged Material Management

### Problem

In the last 20 years, the US Army Corps of Engineers (USACE) has placed more than 350M cu yds of dredged material in the nearshore. This popular beneficial-use (BU) option keeps dredged sediment within the coastal sediment system by placing it between the swash zone and the depth of closure.

These projects frequently require rapid estimates for complex processes early in the scoping and planning process. The currently available rapid predictive tools, such as the Sediment Mobility Tool, do not capture temporary impacts on wave conditions and shoreline response to the nearshore placement of dredged sediment.



### Study Description

This study will update how nearshore placements are predicted to be active or stable nearshore placement. It will also apply predictive techniques for wave characteristics and shoreline response from submerged breakwaters to nearshore berms (artificial sandbar) created from dredged sediment.

### Products

Successful techniques developed from this project will be included in the Sediment Mobility Tool web application and documented in a journal publication.

### Summary

By developing rapid tools to predict whether dredged sediment placed in the nearshore will be active and how the shoreline will respond, this project will improve the enterprise's ability to rapidly scope nearshore placement alternatives for dredged sediment on the open coast, and support the USACE goal to beneficially using 70% of dredged sediment by 2030.



*Balancing operational and environmental initiatives and meeting complex challenges of dredging and dredged material placement in support of the navigation mission.*

