



**US Army Corps  
of Engineers®**  
Engineer Research and  
Development Center

# Regional Sediment Management Program



## Advancing Nearshore Berm Research, Guidance, and Tool Development

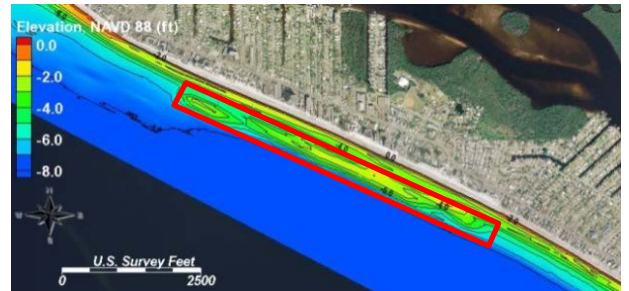
### Description

The Regional Sediment Management (RSM) Program and the Coastal Inlets Research Program (CIRP) have joined efforts to develop improved guidance on nearshore berm challenges. The goal is to identify USACE District's most pressing challenges and topics related to the design and approval for nearshore berm placements around the United States. Whether the challenges are of a physical, biological, or logistical basis, tools, solutions, and answers are needed to support District personnel in their evaluation of the nearshore berm option and in their efforts to respond to stakeholders. Once challenges and topics are defined and categorized, the effort will apply District's success stories, build solution strategies, and evaluate USACE tool and methodologies to identify gaps that must be addressed in support of District needs. Based on the outcome of this effort, research and application development will be focused on the identified gaps.

### Issue

Placement of dredged sediment in nearshore berms is a common practice associated with Operations & Management (O&M) of navigation channels within the USACE. These placements are typically less costly and easier to construct, and are historically not studied in great detail due to their perceived limited impact on beaches or other highly mitigated areas. As a result, Districts are faced with lack of methods for quantifying and answering stakeholder questions. Comparison and collaboration across District offices is needed to identify the questions and topics that plague most nearshore placement options. As well, it is necessary to explore methods to address and solve the identified challenges and to evaluate existing tools and methods for predicting nearshore berm behaviors, impacts and benefits.

The RSM project leverages with the CIRP with a four-part purpose: (1) To query District personnel to determine stop-hold reasons preventing nearshore berm authorization; (2) to organize and categorize stop-hold issues and identify tool and methodology gaps preventing solutions. These stop-holds and gaps will be correlated with District's prioritization input to evaluate need levels; (3) to develop depth of closure mapping for the U.S. coastal and Great Lakes regions for the purpose of illustrating the variance of sediment movement limits around our Nation's shorelines; and (4) to support the planning for FY 2015 and FY 2016 multi-faceted, nearshore placement field-studies at the USACE Field Research Facility in collaboration with the Coastal Working Group.



Location of nearshore placement in the form of a "Swash-zone Berm" in Perdido Key, Pensacola, FL

### Expected Products

(1) The RSM and CIRP Programs "The State of Understanding of Nearshore Berms" working meeting; (2) A technical note summarizing the meeting; (3) Provide visualization of Depth of Closures (DOC) around the U.S; 4) eBerm web-portal.

**Potential Users**

Coastal Districts: Mobile, Jacksonville, Portland, San Francisco, North Atlantic Division, Detroit, Galveston, Baltimore, Buffalo, New England, Philadelphia, and other Districts that have need for guidance documentation and performance metrics of nearshore berm designs and their implementation.

**Projected Benefits**

More effective placement of dredged sediment in the natural form of a nearshore berm to nourish beaches and reduce loss of non-beach quality sand from the regional system; develop design guidance; develop performance metrics for use in Benefit-Cost Analysis; improve numerical modeling for nearshore berm evolution; improve communication between Districts on nearshore berm topics and to increase District abilities to address stakeholders questions regarding nearshore berm placement and performance.

**Leveraging Opportunities**

Leveraged Funding: Coastal Inlets Research Program; Mobile District; Jacksonville District; Portland District; San Francisco District.

**Points of Contact**

Tanya M. Beck, Phone: 601-634-2603; e-mail [Tanya.M.Beck@usace.army.mil](mailto:Tanya.M.Beck@usace.army.mil); Cheryl E. Pollock, Phone 601-634-4029; e-mail [Cheryl.E.Pollock@usace.army.mil](mailto:Cheryl.E.Pollock@usace.army.mil) ; Julie D. Rosati, Phone: 251-694-3719, e-mail [Julie.D.Rosati@usace.army.mil](mailto:Julie.D.Rosati@usace.army.mil).

**Participating Partners**

ERDC-Coastal and Hydraulic Laboratory; ERDC- Environmental Laboratory; Mobile District; Jacksonville District; Portland District; San Francisco District, North Atlantic Division, USACE Field Research Facility; Detroit District; Galveston District; Baltimore District; Buffalo District; New England District, Philadelphia District.