

Gulf of Mexico Sediment Source Identification for Texas Coastal Storm Risk Management and Ecosystem Restoration (SWG)

ERDC Dredging Operations Technical Support Program (DOTS)

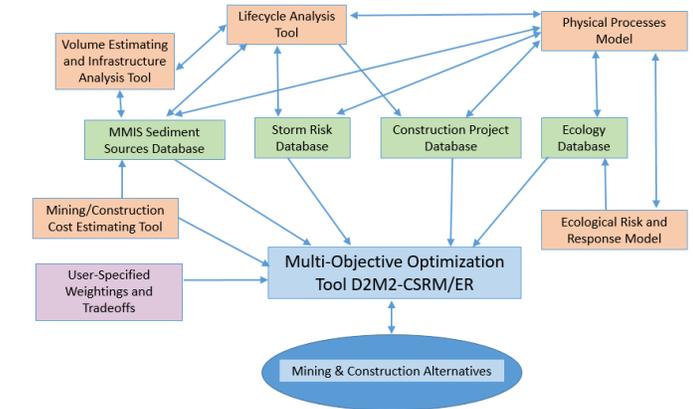
U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The US Army Corps of Engineers (USACE), Galveston District (SWG) Civil Works mission includes Coastal Storm Risk Management (CSRM) and ecosystem restoration (ER). A series of ongoing geophysical and oceanographic phenomena are reducing the effectiveness of coastal features to protect people and land-based infrastructure from future storms. USACE-SWG collaborated with multiple agencies and stakeholders to develop a Recommended Tentatively Selected Plan (TSP) for CSRM/ER on the Texas Coast that proposes a combination of gray infrastructure and natural or nature-based features to protect people and infrastructure from storms. USACE-SWG submitted a DOTS Request for ERDC participation in a workshop to formulate and subsequently produce a Scope of Work that specifies the collaborative activities between USACE-SWG and the US Department of Interior, Bureau of Ocean Energy Management (BOEM) to identify offshore sediment sources and develop a sustainable methodology to extract sediment resources for construction and maintenance of coastal features required for CSRM/ER.

This response generated a proposal for developing a framework to optimize engineering, economic and environmental criteria by matching sediment sources with designated construction projects in the TSP as well as post-construction renourishment requirements for 50-100 years. The specified methods are to be based on existing tools and databases developed and managed by USACE and BOEM with the framework to be demonstrated for CSRM/ER on the Texas coastal reach from Galveston to Bolivar peninsula. In subsequent studies, the framework will be applied to other sections of the Texas coast. The framework will provide BOEM and USACE with robust methods to evaluate alternatives for utilizing offshore resources for CSRM/ER anywhere in the United States.



Period of Performance:

28 Oct – 15 March 2019

Benefits of the Response to the USACE Dredging/Navigation Program:

The framework will provide USACE and BOEM with robust methods to evaluate alternatives for utilizing offshore resources for CSRM/ER anywhere in the United States.

Deliverable:

A proposal specifying a framework and activities for USACE and BOEM to collaboratively develop a sustainable methodology to extract sediment resources for construction and maintenance of coastal features that optimizes engineering, economic and environmental criteria by matching sediment sources with designated construction projects.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance navigation and dredging missions

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