

Regional Sediment Management (RSM) Dredge Optimization for USACE South Atlantic Division

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Topic: Regional Sediment Management

Speaker Bio:

Dr. Clay McCoy is a Project Manager for the USACE RSM Regional Center of Expertise in Jacksonville, Florida. Dr. McCoy has worked with at the Jacksonville District for five years focusing on coastal navigation and flood risk management projects. Prior to working at the Jacksonville District, he worked as a Coastal Process Extension Specialist for South Carolina Sea Grant and a Senior Research Scientist for Coastal Carolina University. He received his undergraduate degree from Clemson University in 1999 and PhD from East Carolina University in Coastal Resources Management in 2006.

Abstract:

The South Atlantic Division (SAD) RSM Optimization Pilot (OP) was developed to help define sustainable solutions across United States Army Corps of Engineers (USACE) missions and support RSM implementation strategies across project business lines. The goals of the OP were to: (1) develop and provide an actionable and optimized RSM strategy to most efficiently execute Navigation and Flood Risk Management program budgets, and (2) maximize the amount of dredging while also increasing the amount of RSM opportunities implemented. Funding saved and value created through RSM and optimization will allow USACE to execute a greater number of projects under flat-lined or reduced budgets. While RSM principles and strategies have been explored and implemented in many districts, this OP is the first comprehensive approach to define RSM opportunities for all projects and to quantify economic and environmental benefits at a regional scale.

SAD (coastal North Carolina through Mississippi) dredges approximately 60 million cubic yards of sediment per dredging cycle and the OP identified roughly \$100 million in annual value associated with RSM implemented projects and opportunities. The presentation will highlight and summarize economically and environmentally optimized dredging and placement strategies throughout SAD. Value associated with the strategies is categorized by program (Navigation, Flood Risk Management, Combined Programs, Other-other federal agencies, state/local government) and dredged material type (beach quality sand, nearshore quality material, silt/mud/clay/rock). Value is primarily a function of quantified beneficial use and lower cost placement strategies relative to traditional upland or offshore placement. Examples of beneficial use includes placement of material on beaches or in nearshore environments that provides shore protection benefits and development of wetland habitat. Examples of lower cost placement

strategies include thin layer placement in estuarine and shallow nearshore environments and open water placement in offshore environments.