

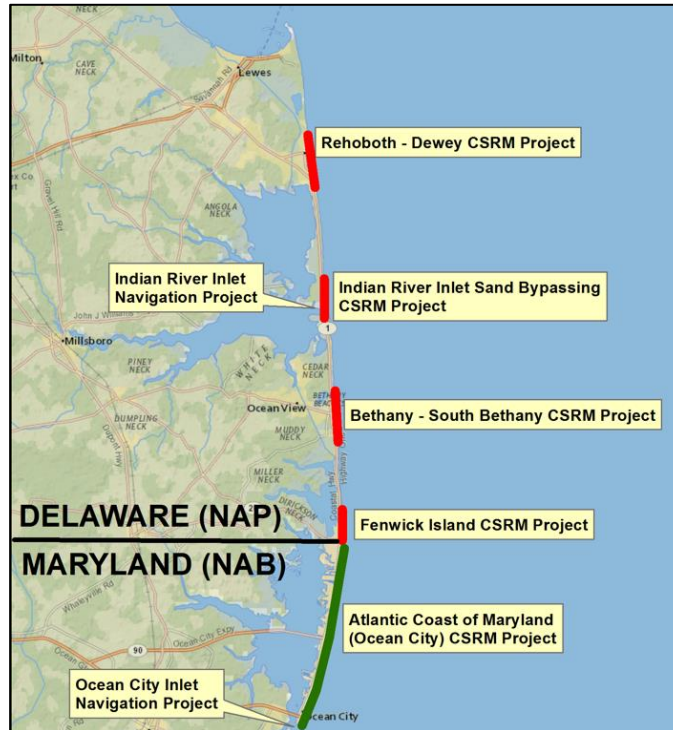


RSM Strategies for USACE Projects along the Delaware and Maryland Coasts

Description

The Philadelphia District (NAP) will develop a regional sediment budget for the 25 miles of Atlantic Ocean coast in Delaware and integrate it with the existing sediment budget for the 31 miles of coast in Maryland (managed by the Baltimore District (NAB)). This regional sediment budget will provide a quantitative understanding of sediment transport along the DE-MD portion of the Delmarva Peninsula and enable improved management strategies for USACE Coastal Storm Risk Management and Navigation projects in NAP and NAB.

Issue/Challenge To Address



Location map

Since 2005, NAP has placed 10.6 MCY of sandy beachfill to construct and maintain three CSRM projects on the Atlantic Coast of Delaware. The southernmost project, Fenwick Island, extends to the DE-MD state line and abuts the Atlantic Coast of Maryland (Ocean City) CSRM project managed by NAB. As of the fall 2016 monitoring surveys, only 40% of the sand placed at the three CSRM projects in DE can be accounted for within project limits.

NAP is also responsible for the Indian River Inlet navigation project, which lies midway along the DE coastline. In 1990 NAP constructed a sand bypassing project that transports (i.e., bypasses) sand

from the southern, updrift beach to the northern, downdrift beach. Each of these projects was designed, authorized, constructed, and maintained independently. No previous attempt has been made to analyze the interactions of this group of projects, in order to optimize management of sediment within this coastal system.

Successes Lessons Learned

Lessons learned will be compiled during this study.

Expected Products

- Sediment budget for DE coast integrated with existing MD coast sediment budget
- Recommendations for systematic management of DE and MD coastal projects
- Final Report and Presentation

Stakeholders/Users

Stakeholders include the Delaware Department of Natural Resources and Environmental Control (DE DNREC), the University of Delaware (UD), USACE Baltimore District (NAB), and Ocean City, Maryland.



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National Regional Sediment Management Program Philadelphia District (NAP)



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Projected Benefits Value Added

Benefits will include development of an improved, optimized plan for periodic nourishment of the three CSRSM projects in DE along with the Ocean City project in MD.

The project will also evaluate performance of the Indian River Inlet sand bypassing project and attempt to determine if the ebb shoal can be utilized as a borrow area for CSRSM projects in the vicinity.

Leveraging Opportunities

NAP is performing this RSM investigation with full-partner involvement by DE DNREC, which is the non-Federal sponsor for all CSRSM projects in Delaware. The investigation will include collaboration between NAP, DNREC, UD, and NAB and will leverage the extensive research performed to date by UD at IRI. This effort will also incorporate and leverage data from ongoing annual NAP monitoring of the Indian River Inlet sand bypassing project, the three DE coast CSRSM projects, and the IRI navigation project condition surveys, which total about \$200K annually. NAP is coordinating with ERDC to implement a robust application of SBAS to the DE coast, in addition to scoping additional ERDC process modeling (GenCade) to assist in improving sediment management within the DE and MD coastal region.

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Participating Partners

Delaware Department of Natural Resources and Environmental Control, USACE NAB, and ERDC.