



# Develop Scope of Work to Perform Modeling Efforts Supporting Norfolk Harbor Deepening

## ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

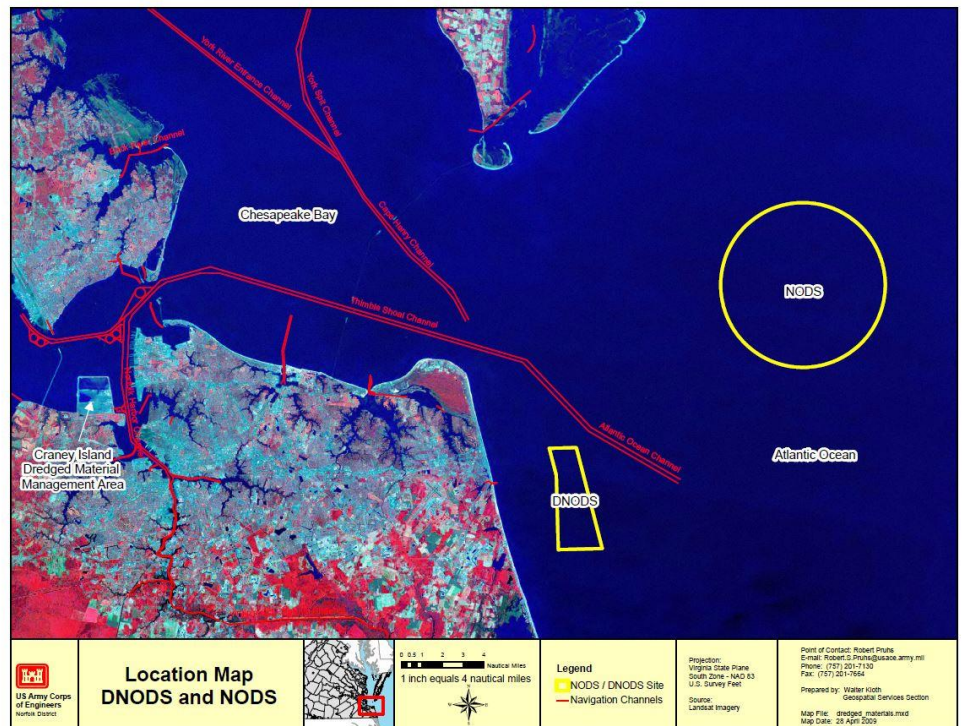
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### Response Summary:

Along with the NAO technical POC, I attended a meeting at the Virginia Port Authority's consultant's office on July 30 to discuss the requirements for the modeling study to be performed in support of the Norfolk Harbor deepening. In conjunction with the NOA POC, the Scope of Work was developed for ERDC (EL and CHL) to perform the necessary sediment testing and modeling associated with the placement of dredged material from the harbor and navigation channel at the Dam Neck Ocean Disposal Site (DNODS in the figure).

### Period of Performance:

July 30 – August 10, 2018



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

Briefly summarize the benefits of the technical response to the Dredging /Navigation program(s).

### Deliverable:

The Scope of Work (SOW) was delivered to the Norfolk District technical POC, and was also submitted (along with the PSWA) to the Environmental Laboratory for approval. The SOW described the following three modeling studies needed to accomplish NAO's objectives:

- 1) Use the Multiple Placement FATE (MPFATE) model to determine the optimal placement plan for the estimated 21 MCY of dredged material from the harbor and the three reaches of the navigation channel in the different cells at the DNODS.
- 2) Use the long-term transport and fate Geophysical Scale Multi-block (GSMB) modeling system to simulate the long-term (*i.e.*, one to two years) fate of the placed material when subjected to multiple storm events (e.g., nor'easters, tropical storms). This would include determining the change in morphology at the DNODS over the one- to two-year modeling period as well as the fate of material eroded from the DNODS.
- 3) Use GSMB and MPFATE to perform a life cycle analysis of the DNODS to estimate how long the DNODS will be a viable ocean disposal site for dredged material from Norfolk District and Baltimore District federal navigation channels that utilize DNODS.



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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