



North Head Argus Tower Collaboration and Tool Coordination

ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

Drs. Kate Brodie and Ty Hesser traveled to the Portland District Office (NWP) and Oregon State University (OSU) to discuss interpretation of Coastal Imaging Data (CID) from the North Head Argus Station and identify automated web-based tools to improve use of coastal imagery for quantitative engineering analysis. This effort facilitated the ability of ERDC scientists to work with OSU and NWP personnel to develop engineering analysis tools that exploit Argus data products at the mouth of the Columbia River (MCR) in near-realtime to determine conditions near dredge disposal sites and the evolution of adjacent shorelines. Prior to the meeting Dr. Brittany Bruder converted the data into easily accessible formats (e.g. netcdf) which could be exploited by web-based visualization tools. The site visit and meeting were used to refine products generated by the Argus Beach Monitoring Systems operated by both ERDC-FRF and OSU for NWP. These products will be designed in a manner that will enable transition to other coastal monitoring video stations.

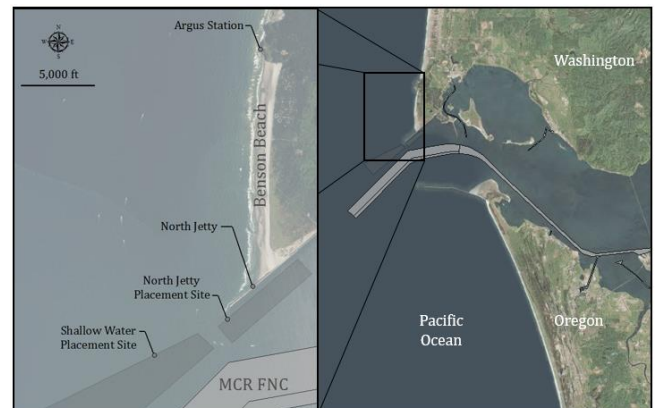


Period of Performance:

July 23 – 27, 2018

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

Benefits include both direct cost savings as well as scientific added value through improved understanding of regional sediment dynamics at the MCR. In-situ surveys of coastal areas are both expensive (20-30K per survey) and dangerous, often preventing the necessary monitoring of navigation channels or placement site. Without monitoring, NWP is often forced to rely on numerical modeling results in complicated systems which prevent accurate planning and assessment. The meeting is supporting the transition of sediment management associated data into actionable information for NWP and removing the reliance on contractor support for data analysis. By leveraging the data formats developed under ERDC CHL's data integration framework to store all products on a THREDDS server for easy access, the effort will markedly improve the district's ability to monitor the placement of material in the MCR region.



Deliverable:

Site visit discussions of Argus tower system data system and optimization along with preparation on sharing this knowledge. Meeting on developing/refining Argus tools for analyzing coastal video and images from the North Head Argus tower.



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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