



ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

Recently, the Corps Los Angeles District (SPL) Regulatory Division has received requests by the California Department of Transportation (Caltrans), and other parties, to modify the coastal environment in order to protect State Route 1. Specifically, Caltrans has submitted scoping notification to construct secant walls in two locations along the seaward side of State Route 1 (Pacific Coast Highway). Caltrans has previously discharged unauthorized rock (Figure A) along the slopes and beach in response to a large storm event that had damaged and flooded the highway in November 2014. Caltrans has used rock rip rap to address local coastal erosion and flooding problems for decades, and continues to propose discharges of large rocks to protect the highway embankment in response to storm events, in order to protect or repair the highway all along the coast in Malibu and into Ventura County. The rock Caltrans has placed has caused noticeable disruption of sediment transport to the nearby beaches. In addition to Caltrans, local homeowners, businesses, and agencies have conducted or are proposing activities that affect coastal shoreline processes and resources along some of the most expensive real estate in the world. SPL thus requested a technical assistance workshop on coastal processes for training purposes, for both SPL and Caltrans employees, in order to more fully understand the potential



impact of various protection strategies on the larger coastal environment. It is hoped that this training will not only provide critical information to improve SPL and Caltrans' response to regulatory challenges, but that it will also facilitate collaboration and discussion between the two groups. ERDC researchers Dr. Jane Smith, Dr. Katherine Brutsche, and Dr. Heidi Wadman responded to the request by holding a 3-day short course on coastal processes, followed by a 2-day

field trip and planning discussion to address specific concerns in the Malibu and Ventura, CA regions (Figure B).

Period of Performance:

September 6-15, 2018

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

An improved understanding of the potential impact of coastal structures on local and regional coastal processes prior to construction will assist in predicting and mitigating potential adverse effects of the structures before they occur.

Deliverable:

A three-day workshop on coastal processes, complete with lectures and field assignments, was provided by the ERDC researchers to the SPL and Caltrans group. A full day of field trips followed, with the sites pre-determined by SPL to represent various coastal challenges that SPL and Caltrans are addressing. The final day consisted of presentations of related projects by SPL and Caltrans, and group discussion of the coastal processes potential impacted, as well as pros/cons of various potential solutions.



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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