



ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The New Orleans District requested a visual and numerical analysis on shoaling rates in the Calcasieu River south of Mile Marker 36 for time periods 2010 to 2015, 2016 to 2020, and 2010 to 2020. Researchers used the Corps Shoaling Analysis Tool (CSAT) to process 17,000 historic hydrographic surveys maintained by eHydro for the desired time frames. CSAT was developed by ERDC-CHL, and is available at <https://cirp.usace.army.mil/products/csat.php>. Output for CSAT included raster file generation of average shoaling rates for all reaches of the Calcasieu River. An example of the average shoaling rasters is shown in the figure to the right.

Period of Performance:

The study included the years 2010 through 2020, which was based on hydrographic survey availability and consultation with New Orleans District staff. The request was fulfilled in August 2020.

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

This DOTS request benefits the USACE Navigation program by quantitatively analyzing historic survey data to better understand the shoaling characteristics in the Calcasieu River. New Orleans District staff can use this data to evaluate future channel maintenance needs and prioritize high shoaling rate areas within the channel. The analysis of different time intervals provides the district a capability to investigate changes in shoaling rates between the different periods.

Deliverable:

Raster files and summary shoaling analysis spreadsheets were delivered to the districts for the three requested date timeframes. The georeferenced raster files can be easily loaded into GIS to support further analytical needs of the District and for customized visualization. The summary shoaling analysis spreadsheets offer reach level statistics in a readily understandable format without the requirement for any additional software.

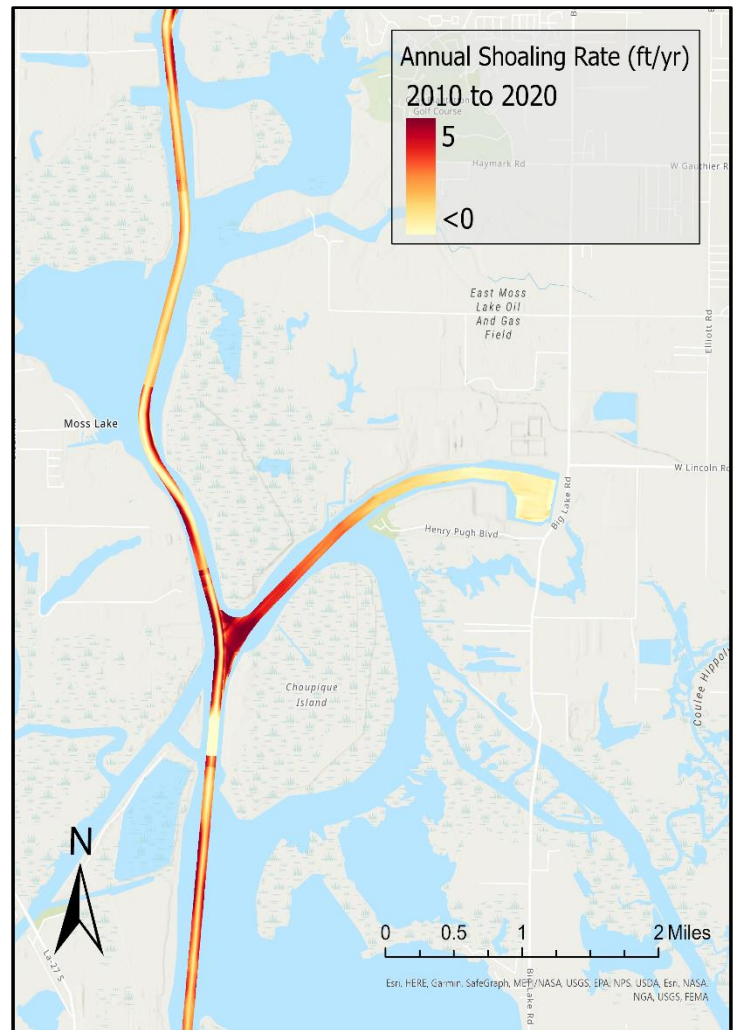


Figure 1: Annualized shoaling rates in the Calcasieu River near Devil's Elbow, LA based on hydrographic surveys from 2010-2020.



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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DOTS ID: DOTS-20-R7