



## ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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### Response Summary:

Several deployment options were identified including navigational and non-navigational structures used to determine the numerical modeling teams preferences followed by a request to the US Coast Guard for permission. The US Coast Guard has provided consent to using the navigational structures, which was a preference for the modeling team. The Field Data Collection and Analysis Branch (FDCAB) team members have identified ideal deployment strategies and materials. These include a combination of diving operations to attach CTDs (Conductivity, Temperature, and Depth sensors) to navigational buoys and surface installation from a vessel at all other locations.

### Period of Performance:

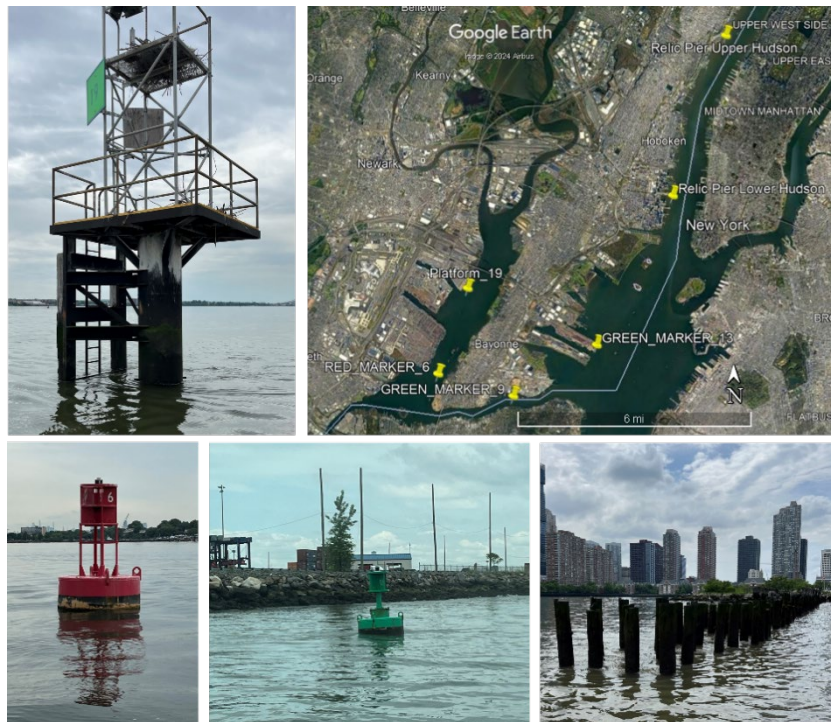
Start date: 5/7/2024 and Due date: 9/30/2024.

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

The overall benefit of the funded activity is project cost savings. The team was successfully able to identify options for the deployment locations, which will allow for the pre-fabrication of instrument mounting materials. This will lead to less time required for the field deployment.

### Deliverable:

A team from FDCAB at ERDC-CHL performed a site visit to the Newark Bay, New York Harbor and lower Hudson River to identify potential deployment locations and existing infrastructure. Photos, videos of underwater conditions, water depths, and measurements on existing structures were recorded to determine mounting strategies and materials. Upon returning to ERDC, the numerical modeling team was consulted and preferred locations were determined. The team has worked with US Coast Guard and determined instruments will be deployed on navigational buoys at three locations and mounted on two-inch diameter stainless-steel pipe then secured to existing infrastructure at three locations. Divers will install the instruments being placed on the navigational buoys and from a vessel at the remaining three locations. An instrument will be deployed in the lower, middle, and upper water column at each location with a total of eighteen instruments to be deployed. The FDCAB technical lead was able to determine ideal deployment and mounting materials required. Materials are being ordered and preparations are being made for a late September to early October deployment.



*Figure 1. Possible deployment locations including a navigation platform and buoys, and relic pier structures in the Hudson River with a map of the locations (upper right).*



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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