

Modernizing Hydrographic Survey Management with an Interactive web GIS

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Planning and execution of large-scale hydrographic surveys is a highly complex and demanding task. Ships, survey launches, and autonomous survey vehicles, each configured with various sensors must work together strategically to ensure efficient, accurate, and complete data acquisition. Conventional procedures for mission planning, tracking, and management are manual and time-consuming, but survey managers can greatly improve the efficiency of workflows by harnessing Enterprise GIS and web applications. A suite of web maps, apps, and services overhauls traditional desktop survey planning and management into an interactive online platform, creating a flexible environment where surveyors, managers, and stakeholders optimize mission planning and collaboration. Real-time survey progress and asset tracking is further enhanced with an interactive statistical and map-driven dashboard, providing automated reporting, survey guidance, and project situational awareness. Field observations such as dangers and aids to navigation, protected species observations, and survey features and obstructions are geotagged and available in real-time for quality control and reporting. Hosted in a comprehensive web application these data are available for multidimensional analysis across various spatial datasets. Utilizing a multi-faceted GIS approach not only increases efficiency and facilitates organization, it also reduces errors and promotes transparency in quality control and management of large-scale hydrographic surveys.