

THE CHALLENGE

The United States Coast Guard (USCG) is responsible for the care and maintenance of maritime aids to navigation (ATON). Much like drivers need stoplights, street signs and universally accepted driving rules, boaters need equivalent nautical navigation rules. This network of signs, symbols, buoys, markers, lighthouses, and regulations must be up to date and functioning properly so that commercial, recreational, military, and government vessels can safely navigate in the marine transportation system. Currently, the USCG expends considerable time and resources to fulfill its mandate to provide for the safety and economic security of United States (U.S.) maritime ports and waterways.

Comprehensive ATON surveys take a long time, which can result in outdated situational awareness, inefficient responses to discrepant ATON, and potentially hazardous waterways. Modern technologies are needed to monitor the status of ATON, conduct port and waterway health assessments, analyze the condition of ports or waterways after incidents or disasters, and develop risk-based approaches for mitigation, response, and recovery.

WATERWAYS ANALYSIS AND MANAGEMENT SYSTEM

The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is developing port and waterway resiliency analytical visualization tools, data, and technologies to provide USCG waterway managers with more effective and user-friendly capabilities. This effort will enhance the USCG's Waterways Analysis and Management System (WAMS) and include research on other capabilities to address DHS maritime challenges, while maintaining fiscal responsibility.

ACTIVITY DESCRIPTION

- Modernizing the USCG systems for managing Aids to Navigation (ATON)
- WAMS is a new tile in the existing user interface system of record, U.S. AIMS (U.S. ATON Information Management System)



- Power database-driven system architecture
- Map- or data-driven displays
- Customizable queries

ACCOMPLISHMENTS

- Development and Delivery of Waterway Health Module
- Ongoing Integration into USCG Systems of Record

UPCOMING MILESTONES

- Completion of Waterway Trends and Analysis Module
- Waterway Performance Module
- Waterway Design Module
- WAMS Training Integrated into USCG Class C Training (ongoing)

PERFORMERS/PARTNERS

- Zekiah Technologies (La Plata, MD) and Synergy (Reston, VA)
- United States Coast Guard