Waterway Risk Assessment

Science and Technology

SAFEGUARDING OUR NATION'S RAPIDLY CHANGING MARINE TRANSPORTATION SYSTEM

The United States Maritime Transportation System (MTS) is rapidly evolving due to changes in technology and emerging industries. The United States Coast Guard (USCG) needs to respond to the impacts of these changes as well as to other national-level challenges. Within the MTS, the USCG has the statutory responsibility to promote marine safety, prevent disasters and collisions/wrecks, facilitate lawful maritime commerce, and serve the needs of the armed forces. Ultimately, the reduction of maritime transit risks is paramount to the success of these USCG missions and the protection of national interests by ensuring the safe and efficient flow of commercial and recreational vessel traffic through the MTS.

The USCG strives to transform the USCG workforce by sharpening the competitive edge, and advancing mission excellence. Quantifying the waterway risk assessment framework contributes to all three goals. The second goal of sharpening the USCG competitive edge specifically addresses the need to make waterways safer by creating data-informed investment decisions through integrated systems, analytics, and critical infrastructure. Creating a unified and quantitative risk assessment process will provide the USCG with a consistent framework that could be applied rapidly, and allow for easier comparison year over year to track evolving threats, risks, and improvements to the MTS.

DEVELOPING ANALYTICAL METHODS TO STRENGTHEN MARITIME SECURITY POSTURE

The objective of the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Waterway Risk Assessment effort is to develop a quantitative risk analysis modeling framework that will calculate existing risk indicators in a new mathematical model that can be used across the USCG's area of responsibility. The new model will be incorporated into a dashboard that allows the USCG to compute risk across various indicators and visualize risk through a virtual dashboard. This updated and enhanced risk modeling capability will improve the USCG's risk modeling ability, allowing the agency to better allocate resources and monitor the MTS, which is a vital part of the U.S. economy.

ADVANCING USCG'S MISSION EXCELLENCE

In collaboration with a federally funded research and development center (FFRDC), S&T will create this standardized risk assessment framework to provide a defensible, repeatable, and transparent means of quantifying risks within the MTS. The outputs of this framework will enable the USCG to make strategic-level decisions and inform USCG leadership as they conduct waterway planning and management activities. Additionally, the Waterway Risk Assessment will help to reduce the risk of Collision, Allision and Grounding and environmental incidents. This effort is one of many tools that will help the USCG achieve its maritime safety mission moving forward and meet the challenges of tomorrow.

PERFORMER

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