



MARITIME SECURITY CENTER

A DEPARTMENT OF HOMELAND SECURITY CENTER OF EXCELLENCE

Maritime Security Center (MSC)

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MSC - Email

MSC- Website

Research Areas

- Maritime Risk, Threat Analysis, and Resilience
- Mobile Maritime Domain Awareness (MDA)
- Integrated Education

Mission: To enhance our nation's Maritime Domain Awareness (MDA), the resiliency of our Marine Transportation System (MTS), and the technical skills and leadership capabilities of our current and prospective maritime security workforce.

Quick Facts

- Established in 2014, the new Center builds on knowledge gained under the Center for Maritime, Island and Remote and Extreme Environment Security (MIREES).
- MSC has 50 research partners nationwide.
- The Center will develop and apply a multi-sensor layered approach to enhance MDA and MTS resiliency.
- MSC will leverage established test beds in New York Harbor and the Caribbean.
- The Center will offer maritime security-centric educational programs tailored to college-level and professional development audiences.

Research Focus Areas

- Maritime Risk, Threat Analysis, and Resilience Research
 - Develop Port Resiliency Assessment Tools to assist MTS stakeholders in preparing for port and supply chain disruptions
- MDA Research
 - Expand situational awareness for all-hazards incidents in the maritime homeland security realm for inland and coastal water applications
- Integrated Education
 - Transfer research and expertise into highly relevant, innovative maritime security-centric educational programs.



Deploying acoustic detection devices in New York Harbor, with the assistance of the U.S. Coast Guard Auxiliary

Academic

Research Partners

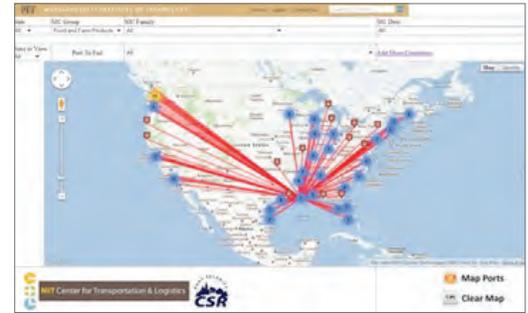
Stevens Institute of Technology
Massachusetts Institute of Technology
University of Miami
University of Puerto Rico – Mayaguez
Louisiana State University
Elizabeth City State University
Florida Atlantic University

Industry and Government Partners

Mattingley Group
Pacific Basin Development Council Port
Authority of New York
and New Jersey

MSC Highlights

Port Mapper Tool is a web-based visualization and decision support tool designed to aid maritime stakeholders in the event of U.S. port closures and disruptions. MSC researcher Jim Rice, deputy director of the MIT Center for Transportation & Logistics and his colleagues on the Port Resiliency team, have developed the Port Mapper tool to assist stakeholders in developing response and resiliency plans in the event of port and supply chain disruptions. The tool allows end-users to conduct scenario-based analysis on the implications and repercussions of disruptions and closures of U.S. ports.



Satellite Sensing – Center for Southeastern Tropical Advanced Remote Sensing (CSTARS) at the University of Miami leads the Center’s research in the area of Satellite synthetic aperture radar systems for enhanced MDA. Open ocean satellite-based surveillance is a key capability in the development of MDA, particularly with respect to ship detection, classification and identification. Satellite synthetic aperture radars (SARs) have been demonstrated to be able to detect vessels of medium to large lengths. New satellite systems have improved imaging modes and spatial resolutions to allow detections of even smaller boats and non-emitting targets.

The Center’s Satellite MDA research includes the testing of satellite data and products for integration into DHS’s Coastal Surveillance Systems operating at the Air & Marine Operations Center (AMOC).

The Summer Research Institute (SRI) is designed to provide high-achieving undergraduate and graduate-level students with a unique opportunity to learn about the maritime domain and the MTS, through relevant, hands-on research projects in conjunction with MSC researchers and the center’s industry and government homeland security partners.

Over the next two years, the SRI will build upon MSC’s ongoing research to enhance MDA and maritime system resilience, and will incorporate the Center’s emerging projects in the areas of mobile MDA and MTS resiliency.

