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Center for Homeland Defense and Security (CHDS)

SITREP: The Maritime Defense and Security Research Newsletter

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Naval Postgraduate School (U.S.). Maritime Defense and Security Research Program



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"To dissuade and defeat threats as early and as far from U.S. borders as possible."



SITREP

THE NPS MARITIME DEFENSE AND SECURITY RESEARCH
PROGRAM NEWSLETTER

www.nps.edu/research/mdsr

Volume 36
Jan/Feb 2009

Dear Readers,

If you would like to submit a short 200-300-word article introducing your organization's Maritime Security and Defense-related mission and activities, or wish to add an event to our calendar, please contact Ms. Rita Painter at rpainte@nps.edu.

HIGHLIGHTED RESEARCH

Research and Education for Port Security at Stevens Institute of Technology

The DHS National Center for Secure and Resilient Maritime Commerce and Coastal Environments (CSR), located at the Stevens Institute of Technology in Hoboken, NJ is providing education and research for examining the use of a system of nested sensors and technologies that can provide continuous, high resolution, all-weather surveillance from the inshore and coastal areas to the maritime approaches of the entire Exclusive Economic Zone and ultimately extending to the high seas.

CSR members are working to improve Maritime Domain Awareness by nesting multi-sensor technologies including (i) underwater acoustic instruments and video and IR cameras operating at different wavelengths for harbor intruder detection, e.g., small vessels and divers, (ii) High-Frequency radar for over-the-horizon ship detection and tracking, and (iii) high-resolution satellite-based maritime surveillance.

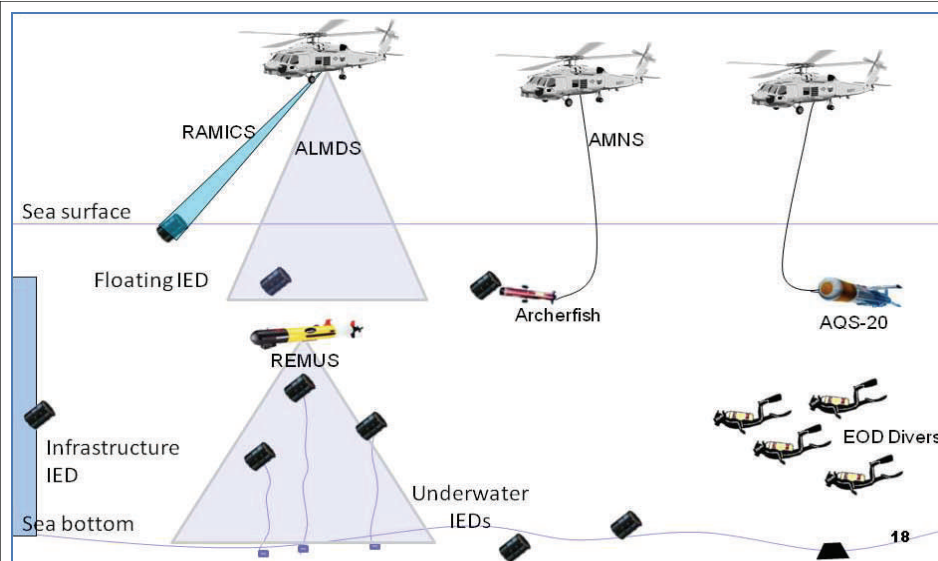
Port and supply chain resiliency is another facet of ongoing CSR research. CSR is examining the human and organizational factors that enhance and constrain the effectiveness of existing and future security systems and policies related to preparedness, response and recovery of the Marine Transportation System and its functions. The Center is developing the essential tools and processes necessary to create a capability to "design for resilience".



In addition to Stevens Institute, the CSR team includes the following academic institutions: Rutgers University, University of Miami, University of Puerto Rico, Massachusetts Institute of Technology, Monmouth University, and the U.S. Merchant Marine Academy's Global Maritime and Transportation School. The non-university partners include the Port Authority of New York and New Jersey, the Mattingley Group, Lockheed Martin Maritime Systems, the Pacific Basin Development Council, and the Nansen Environmental Remote Sensing Center.

Contributed by Hady R. Salloum, PhD, email: csr@stevens.edu

Systems Engineering Analysis Cohort 14 (SEA 14) Research Results



The study results showed that increases in performance are attainable with mixed results in cost and risk, and highlighted necessary actions and considerations that must be taken by military and civilian leaders in order to adequately prepare for and counter UWIEDs in U.S. Ports.

Contributed by LT Bobby

Rowden, USN

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[Capstone final report.pdf](#)

Insight gained from terrorist attacks, training exercises, and intelligence intercepts over the past few years has shown a renewed interest in the use of mining as an effective means of disrupting commerce and damaging critical infrastructure. The Systems Engineering Analysis Cohort 14 (SEA 14) at the Naval Postgraduate School's Meyer Institute was tasked with developing a system of systems that would combat and defeat mines and underwater IEDs (UWIED) placed in US ports.

In that pursuit, SEA 14 utilized the Systems Engineering Design Process (SEDP) as a means of bounding the problem, integrating stakeholder input, developing alternatives, and conducting detailed analysis. SEA 14 developed several system alternatives, or Adaptive Force Packages, that incorporate both existing systems and emerging technologies. Some existing systems considered include REMUS unmanned underwater ve-

hicles, EOD dive platoons, and LCS mission module components such as the AN/WLD-1, RAMICS, and ALMDS. Emerging technologies considered include SeaWeb acoustic underwater networks, chemical and other non-explosive forms of neutralization, and advanced computer aided detection/computer aided classification software packages.

Overall performance of each Adaptive Force Package was assessed using a US Joint Forces Command sponsored wargame simulating an MIED attack on ports based on the geography of Seattle and Tacoma. A critical analysis of the alternatives based on performance, suitability, cost, and risk was conducted.

Although outside the scope of the SEDP, SEA14 also addressed non-technical issues that must be worked through in order to develop a national counter-UWIED capability.



Systems Engineering Analysis

SEA 14

Tackling the M-IED Problem



The LIBRARIAN'S CORNER— Greta Marlatt, gmarlatt@nps.edu

Recent NPS Theses and Reports

Dooris, Matthew, D. [Enhancing Recruitment and Retention of Volunteers in the U.S. Coast Guard Auxiliary](#).
 Hill, Brian. [Maritime Terrorism and Small Boat Threat to the United States: A Proposed Response](#).
 Kizanis, Ioannis. ['Probable Cause' for Maritime Interdictions Involving Illicit Radioactive Materials](#).
 Thomas, Brandon K. [Improving Maritime Prepositioning Force \(MPF\) Offloads Using Modeling and Simulation](#).
 Guttieri, Karen and Don Brutzman. NPS-CI-2009-1 [Globalization & Maritime Security Conference Report](#).
 Schacher, Gordon. NPS-IS-08-001 [MDA Program Test Structure and FIRE Implementation](#).
 Freeman, Jared. NPS-IS-08-002 [Maritime Domain Awareness \(MDA\) Workflow Model Status Report](#).
 Schacher, Gordon. NPS-IS-08-003 [Maritime Domain Awareness Risk Reduction Limited Objective Experiment](#).
 MacKinnon, Douglas J. NPS-IS-08-004 [Maritime Domain Awareness FY08 Assessment Report](#).
 Freeman, Jared. NPS-IS-08-007 [Maritime Domain Awareness \(MDA\) Process Engineering Workshop 15-17 January 2008: Summary Report](#).

Other Recent Items of Interest

[Combating Maritime Piracy](#)
[An Evaluation of Maritime Policy in Meeting the Commercial and Security Needs of the United States Intelligence Community Directive \(ICD\) 902 - Global Maritime and Air Intelligence Integration](#)
[Maritime Security Partnerships](#) [free to download but registration required]
[MaritimeTerrorism.com](#)
[SecNav Instruction 3052.1 Maritime Domain Awareness in the Department of the Navy](#) [January 30, 2009]
[Shipping: Piracy](#)

HOMELAND SECURITY AFFAIRS

THE JOURNAL OF THE NAVAL POSTGRADUATE SCHOOL CENTER FOR HOMELAND DEFENSE AND SECURITY

The Center for Homeland Defense and Security is pleased to announce the publication of *Homeland Security Affairs* Volume V No 1. To view the new issue, please visit www.hsaj.org. There you will find the following just-published articles:

- ["Changing Homeland Security: The Year in Review — 2008,"](#)Christopher Bellavita
- ["Beyond the HSC/NSC Merger: Integrating States and Localities into Homeland Security Policymaking,"](#)Paul N. Stockton
- ["Merging the HSC and NSC: Stronger Together,"](#)Christine E. Wormuth and Jeremy White
- ["Technology Strategies for Homeland Security: Adaptation and Coevolution of Offense and Defense,"](#)Brian A. Jackson
- ["The Terrorist Threat to Inbound U.S. Passenger Flights: Inadequate Government Response,"](#)Anthony Fainberg
- ["Just How Much Does That Cost, Anyway? An Analysis of the Financial Costs and Benefits of the "No-Fly" List,"](#)Marcus Holmes
- ["Competing with Intelligence: New Directions in China's Quest for Intangible Property and Implications for Homeland Security,"](#)Robert C. Slate
- ["Community Health Centers: The Untapped Resource for Public Health and Medical Preparedness,"](#)Karen M. Wood

For an overview of these articles, please see the [Notes from the Editor](#). We hope you enjoy these latest offerings from *Homeland Security Affairs*. We look forward to receiving your comments at www.hsaj.org.

Future Events:

- **March**

18-19 Tackling Piracy at Sea" conference in London U.K

19 NAVY/NRO Conference at Jimmie D. Hill Conference Room, NRO, Chantilly VA

22-25 Coastal Surveillance Middle East-Bahrain

<http://www.asdevents.com/event.asp?ID=230>

26-27 Maritime Security & Domain Awareness, Alexandria Va

<http://www.ttcus.com/view-conference.cfm?id=96>

- **April**

27-30 7th Annual Maritime Homeland Security Summit in Jacksonville, FL

<http://www.maritimehssummit.com/ShowEvent.aspx?id=152706>

- **May**

12-14: International MD Exhibition & Conference for the Asian Market <http://www.asdevents.com/event.asp?ID=281>

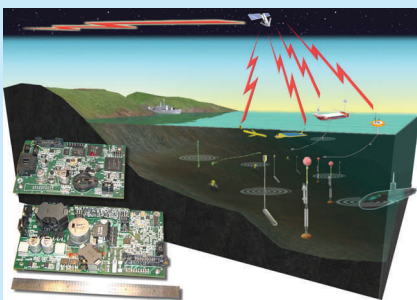
- **June**

- **July**

15-17 NPS-TDSI Summer 2009 meeting in Singapore

27-31 Classified Advanced Technology Update Short Course www.nps.edu/catu

SEAWEB MARITIME NETWORK SCHEDULE



1. Jan 29. Joe Rice is chairing a Session on Unmanned Sensors at a US-France Bilateral Maritime Domain Awareness (MDA) Working Group convening at the Pentagon Conference Center. POC is Mr Randy Unger, OASD Homeland Security.

2. Feb 4-5. Joe Rice is participating in the NATO NGAS'09 experiment planning meeting hosted by the Command of the Italian Submarine Forces (COMFORSUB), Taranto, Italy. The experiment will involve autonomous ASW sensors from the US, Norway, and Canada networked together with NPS Seaweb technology and operating against a cooperative diesel-electric submarine. POC is Cdr. Caramia, COMFORSUB.

3. April 20 - May 1. NPS will lead the San Francisco Bayweb experiment. This is a collaboration with SPAWAR Systems Center Pacific, USCG, MBARI, UC Berkeley, UC Davis, and SFSU. POC: Joe Rice.

4. May. NATO NGAS'09 Trial. Golfo di Taranto, Italy.

Contributed by:

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