Since the disaster of September 11, 2001, greater emphasis has been placed on understanding the “new” maritime environment … an environment in which terrorists are capable of exploiting access to open societies and economies, and the vast commercial systems of the world’s nations to bring about damaging effects. Since then, ensuring a safe and secure maritime environment is critical to national security and economic well-being.

The security environment of today, therefore, includes a wide range of “targets” that the United States and Canada must track: potential terrorists, pirates, smugglers, paramilitary naval forces, etc., both on the domestic and international fronts. Dealing with this security environment requires an awareness of the maritime domain; often referred to as Maritime Domain Awareness (MDA). Generically, MDA can be defined as:

*The effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of a nation.*

The challenge of achieving MDA is of a particular concern to the US Department of Defense and to the Canadian Department of National Defence. Consequently, there is a real need for the military operational research and analysis (OR&A) community to provide the necessary analytic support to ensure that MDA generation efforts mature in support of our national objectives.

Compounding the problem is that no nation, let alone a single agency, has the capability or capacity to achieve MDA unilaterally. MDA requires broad collaboration among many partners, each with a potentially vital contribution to effective understanding of the maritime domain. Since 2002 government agencies within the United States and Canada have promulgated strategies for homeland security from a maritime perspective.

October 2005 saw the publication of the National Plan to Achieve Maritime Domain Awareness which stated, “Maritime domain Awareness is the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of the United States.” Also, in 2006 a maritime warning mission was added to the North American Aerospace Defense Command (NORAD) mission set under the NORAD Agreement Renewal. This was done to capitalize on the existing information sharing processes in place at NORAD and allows multiple government agencies in both Canada and the United States to determine their response based on a greater information set. At the same time, the Bi-National Planning Group (BPG), which was formed in response to the events of September 11, 2001, was concluding four years of work (2002-2006) with a report that recommended that the governments of Canada and the United States establish agreements that would facilitate better information and collaboration, including within the maritime domain.

Canada, with the world’s longest coastline bordering on three oceans, is investing heavily in improving its ability to deliver relevant domestic maritime surveillance to identify and act on activities which impact upon its national interests. After 9/11, and in light of other challenges to Canadian sovereignty that have occurred in recent years, the types of threats that Canada is focused on are multi-dimensional and include economic, environmental and criminal activity, as well as terrorist attacks and military activity. In addition, Canada has equally important roles in the defence of North America and in contributing to global security which now includes counter-piracy operations as a priority. These roles have been reaffirmed as recently as May 2008 with the publication of the Canada First Defence Strategy. To help fulfill these roles, Canada is upgrading its capabilities to develop and maintain MDA both for North American security as well as for Canadian assets engaged in deployed operations. Investments in MDA include improvements in gathering, analysis, integration, use, dissemination and sharing of decision quality information gained from a combination of maritime, land, air and space surveillance systems as well as the integration of intelligence and information available from major stakeholders in maritime security such as other government departments, allies and the commercial sector as well as a host of other non-governmental agencies and stakeholders.

In line with this year’s MORS theme, Leveraging Operations Research for Global Security Operations, MORS and DRDC/CORA (with NORAD-USNORTHCOM J-84 Analysis Division as proponent) are teaming to hold the first-ever MORS special meeting outside of the United States. This special meeting, Analytic Support for Maritime Domain Awareness and Counter-Piracy, will explore and identify ways in which OR&A supports the activities related to the generation of MDA. Critical to the success of this workshop will be the participation of the operational and policy communities. In an attempt to maximize international participation, the meeting will be unclassified.

Goals, Objectives, and Workshop Organization

The meeting will bring together analysts specializing in a variety of OR applications capable of providing insight and direction to the MDA process. Primarily, this workshop will be of interest to the MDA communities within North America. Given that many other nations have valuable experience in this area, international experts will also be invited to participate. Keynote speakers, panelists and attendees will be invited from the agencies such as the Departments of Defense and Homeland Security, and the Canadian Department of National Defence.
There are three desired outputs from this workshop:

1. Identification of the analysis requirements that are required to answer the operational questions regarding MDA. What are the questions that need to be answered by the analysis community?
2. Identification of current and new analytic tools (models, techniques, etc) that can be used to help answer the operational questions. As an example, measuring the “awareness” in MDA and understanding the key elements of situational awareness as they apply to Fourth Generation Warfare at sea. What types of analysis and what tools/models are required to help the operational community answer the operational questions, and do they currently exist?
3. Build an analysis community for MDA. Efforts made towards establishing and maintaining and adequate level of MDA require a multi-disciplinary and interagency effort. Currently international organizations, navies, and law enforcement are only a few of the groups struggling to establish a global MDA capability. Just as diverse will be the analytic resources needed to support this effort and there exists the need to build a community of interest (COI) in MDA-related analysis. This multi-disciplinary group will come from a variety of backgrounds with disparate analytic skills that need to be integrated in their support of MDA. What skill sets, agency representation, etc. should be part of an MDA analysis community? What type of forum is suitable to ensure that proposed initiatives do not fail?

Five working groups have been set up as follows:

**Working Group One: MDA Policy and Laws:** This working group will review policies peculiar to the US and Canada as well as those common to both countries. International participation will broaden the discussion to include the spectrum of MDA challenges. It is hoped that products of this working group will be:

1. Identification of policies and laws that enable MDA and promote the goal of domestic maritime security.
2. Recommendations to improve policy and cooperation between Canada and the US as well as within the international community; and
3. Identification of national and international policy and legal gaps in the development of MDA and the execution of marine security operations.

**Working Group Two: Blue Water MDA:** This working group will examine the problem of developing MDA and conducting operations on the open ocean.
Working Group Three: MDA in the International Littoral: This working group will examine the problem peculiar to developing MDA and conducting operations in the littoral outside of North America.

Working Group Four: MDA in National Waters: This working group will examine the problem of developing MDA and conducting operations within the territorial waters of the US and Canada and other nations.

Possible subjects of discussion for working groups 2 through 4 are:

- The development of MDA requirements;
- The identification, tasking, scheduling and coordination of available surveillance assets;
- The processing, analysis and exploitation of available sensor, information and intelligence;
- The exploitation of information to develop and disseminate decision quality MDA;
- The sharing of information across domestic and international organizations;
- The identification of training/career profiles for MDA analysts of the future;
- The identification of systems-level solutions to MDA; and
- The execution of marine security operations enabled by MDA in these three domains.

Working Group Five: Counter-Piracy: This working group will examine the requirements for MDA to combat piracy on both a large and small scale, to include a review of costs (damages, insurances, broader economic impacts, prevention, dissuasion, mitigation, recovery, hostages, etc.), measures (prevention, dissuasion, mitigation, recovery, hostages, intelligence, targeting, countermeasures, etc.), and relationships to other criminal activities (insurgencies, combating WMD, drugs, immigration flows, smuggling, etc.).

The workshop itself is to be conducted at the Chateau Cartier (www.chateaucartier.com), located in Gatineau, Ottawa, Canada, just ten miles from the city of Ottawa. MORS and DRDC/CORA are working to acquire a block of rooms for attendees. The dates for the meeting are 26-29 October 2009.

The organizing committee is already assembling a great set of plenary speakers from across Canada and the US. If you would like to help the planning committee, contribute technically, know of someone who should be invited to attend and/or present, please contact the authors of this article. Stay tuned to the MORS website (www.mors.org) for additional details. For information on the sites and attractions of Ottawa, as well as seasonal information, please visit the Ottawa Tourism link www.ottawatourism.ca.