

June 2011

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

DOD Needs a Strategic, Risk-Based Approach to Enhance Its Maritime Domain Awareness



G A O

Accountability * Integrity * Reliability

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE JUN 2011		2. REPORT TYPE		3. DATES COVERED 00-00-2011 to 00-00-2011	
4. TITLE AND SUBTITLE Intelligence, Surveillance, and Reconnaissance: DOD Needs a Strategic, Risk-Based Approach to Enhance Its Maritime Domain Awareness				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Government Accountability Office, 441 G Street NW, Washington, DC, 20548				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 38	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Why GAO Did This Study

Maritime security threats to the United States are broad, including the naval forces of potential adversary nations, terrorism, and piracy. The attacks on the USS *Cole* in 2000, in Mumbai in 2008, and on the *Maersk Alabama* in 2009 highlight these very real threats. The Department of Defense (DOD) considers maritime domain awareness—that is, identifying threats and providing commanders with sufficient awareness to make timely decisions—a means for facilitating effective action in the maritime domain and critical to its homeland defense mission. GAO was asked to examine the extent to which DOD has developed a strategy to manage its maritime domain awareness efforts and uses a risk-based approach. GAO analyzed national and DOD documents; interviewed DOD and interagency maritime domain awareness officials; and conducted site visits to select facilities engaged in maritime related activities. This report is a public version of a previous, sensitive report.

What GAO Recommends

GAO recommends that DOD (1) develop and implement a strategy with objectives, roles, and responsibilities for maritime domain awareness, aligns with DOD's corporate process, identifies capability resourcing responsibilities, and includes performance measures; and (2) perform a comprehensive risk-based analysis, including prioritized capability gaps and future investments. DOD agreed with the recommendations.

View [GAO-11-621](#) or key components. For more information, contact Davi M. D'Agostino at (202) 512-5431 or dagostinod@gao.gov.

INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

DOD Needs a Strategic, Risk-Based Approach to Enhance Its Maritime Domain Awareness

What GAO Found

DOD has identified numerous maritime capability gaps and developed documents that articulate a broad strategy for maritime domain awareness. However, DOD does not have a departmentwide strategy that adequately defines roles and responsibilities for addressing gaps, aligns objectives with national strategy, and includes measures to guide the implementation of maritime domain awareness efforts, and to assess and manage risk associated with capability gaps. GAO has previously reported that it is standard practice to have a strategy that lays out goals and objectives, suggests actions for addressing those objectives, allocates resources, identifies roles and responsibilities, and measures performance against objectives. DOD and its components have developed a number of documents that incorporate some of these key elements of an overall strategy for maritime domain awareness such as a definition of the problem. However, collectively they do not have several key elements a strategy should contain. For example, neither DOD's *Maritime Domain Awareness Joint Integrating Concept* nor the DOD's Executive Agent Assessment of U.S. Defense Components Annual Maritime Domain Awareness Plans fully address organizational roles and responsibilities and resources, investments, performance measures, and risk management.

Additionally, DOD leverages numerous capabilities to collect, fuse, and share maritime information to respond to global maritime challenges. DOD components have identified and started prioritizing capability gaps; however, DOD does not have a departmentwide risk assessment to address high priority capability gaps. DOD combatant commands and components prioritize maritime domain awareness differently based upon their respective missions and these component-level views may not provide a full view of the risks associated with these gaps at a departmentwide level. Prior GAO work has emphasized the importance of using a comprehensive risk assessment process. A strategy that includes a comprehensive, risk-based approach to managing maritime domain awareness may provide better information to decision makers about the potential implications of policy and resourcing decisions both within DOD and across the interagency. In the absence of a departmentwide strategy, DOD may not be effectively managing its maritime domain awareness efforts.

This report is a publicly releasable version of a previously issued, sensitive report.

Contents

Letter		1
	Background	4
	DOD Identified Numerous Maritime Capability Gaps, but Does Not Have a Comprehensive, Departmentwide Strategy to Manage Risk Associated with These Capability Gaps and Guide Future Investments	10
	Conclusions	22
	Recommendations for Executive Action	23
	Agency Comments and Our Evaluation	23
Appendix I	Scope and Methodology	26
Appendix II	Comments from the Department of Defense	30
Appendix III	GAO Contact and Acknowledgments	33
Tables		
	Table 1: The Extent to Which DOD’s <i>Maritime Domain Awareness Joint Integrating Concept</i> and the DOD Executive Agent’s <i>Assessment of the U.S. Defense Components Annual MDA Plans 2009</i> Address GAO’s Desirable Characteristics for National Strategies	12
	Table 2: The Extent to Which DOD Documents Meet GAO Risk Assessment and Management Criteria	21
Figures		
	Figure 1: Maritime Challenges	8
	Figure 2: GAO Risk Management Framework	19
	Figure 3: Extent to Which Maritime Domain Awareness Covers Several Joint Requirements Capability Integration System Process Functional Capabilities Boards	20

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



United States Government Accountability Office
Washington, DC 20548

June 20, 2011

Congressional Requesters

Security threats to the United States from the maritime domain include the naval forces of potential adversary nations as well as terrorism and piracy. Historical and potential threats include the use of large merchant vessels to transport weapons of mass destruction; explosive-laden suicide boats as weapons; and vessels to smuggle people, drugs, weapons, and other contraband. The attacks on the USS *Cole* in 2000, in Mumbai in 2008, and on the *Maersk Alabama* in 2009 highlight these very real threats to U.S. interests and persons. The September 2005 *National Strategy for Maritime Security* identifies as a key national security requirement the understanding of all the activities, events, and trends within the maritime domain that could threaten the safety, security, economy, or environment of the United States and its people.

The Department of Defense (DOD) considers maritime domain awareness—that is, identifying threats and providing commanders with sufficient awareness to counter those threats—a means for facilitating effective action in the maritime domain. DOD does not consider maritime domain awareness to be a distinct mission, but rather an enabler for the range of military operations performed in the maritime domain. Maritime domain awareness is also a critical supporting pillar for DOD’s maritime homeland defense mission and for the execution of the *National Military Strategy of the United States of America*.¹ In addition, the February 2010 Quadrennial Defense Review called for DOD and its interagency partners to more comprehensively monitor the air, land, maritime, space, and cyber domains for potential direct threats to the United States. As we have previously reported, the federal government is facing serious long-term fiscal challenges, and DOD may confront increased competition over the next decade for federal discretionary funds.² In this environment, it will be

¹Department of Defense, *The National Military Strategy of the United States of America* (Washington, D.C.: 2004). The *National Military Strategy* is the Joint Chiefs of Staff’s document that establishes three military objectives: (1) protect the United States against external attacks and aggression, (2) prevent conflict and surprise attack, and (3) prevail against adversaries.

²GAO, *Quadrennial Defense Review: 2010 Report Addressed Many but Not All Required Items*, [GAO-10-575R](#) (Washington, D.C.: Apr. 30, 2010); *The Federal Government’s Long-Term Fiscal Outlook: January 2010 Update*, [GAO-10-468SP](#) (Washington, D.C.: Mar. 2, 2010).

increasingly important for DOD decision makers to evaluate competing priorities and alternatives to determine the most cost-effective solutions for providing needed capabilities, including capabilities to enhance maritime domain awareness.

The federal government has actively sought to enhance maritime security and has established entities dedicated to maritime domain awareness. DOD, the Department of Homeland Security, and the Department of Transportation have all appointed executive agents for the federal government's maritime domain awareness efforts. No single department, agency, or entity holds all of the authorities and capabilities necessary to fully achieve effective maritime domain awareness, and the cost associated with maritime domain awareness efforts is spread across multiple agencies, making the total cost difficult to determine. In addition, resources and funding for maritime capabilities can come from a number of sources including national intelligence funding, military intelligence funding, military service funding, and funding from other interagency partners such as the U.S. Coast Guard and Customs and Border Protection. Additionally, the intelligence community's diverse organizational cultures, funding arrangements, requirements processes, and missions that DOD supports present a challenge for DOD in prioritizing its intelligence, surveillance, and reconnaissance capabilities, including capabilities that support maritime domain awareness.

Combatant commands use maritime domain awareness to support their key missions. For example, for U.S. Northern Command and North American Aerospace Defense Command, maritime domain awareness is critical for meeting the maritime homeland defense and maritime warning missions, respectively. For U.S. Pacific Command, maritime domain awareness supports overall awareness of its extremely large area of responsibility, including location of friendly forces, force projection, and theater security. U.S. Southern Command and Joint Interagency Task Force-South both use maritime intelligence capabilities to aid in locating and tracking highly mobile illicit traffickers.

DOD considers the ability to monitor activity around the globe in order to identify unknown threats to be a key aspect of maritime domain awareness. The *National Plan to Achieve Maritime Domain Awareness* refers to this ability as persistent monitoring, which is defined as the integrated management of a diverse set of collection and processing capabilities, operated to detect and understand the activity of interest to expeditiously assess adversary actions, predict adversary plans, deny sanctuary to an adversary, and assess results of U.S. and partner actions.

DOD relies on both its own and national intelligence, surveillance, and reconnaissance assets to provide comprehensive intelligence to the joint warfighting forces.

Our prior work relating to maritime domain awareness focused on the role of the U.S. Coast Guard, which uses maritime domain awareness particularly to protect U.S. ports and waterways.³ You asked us to examine DOD's current and planned maritime domain awareness capabilities and maritime homeland defense efforts. This is a public version of a sensitive report, issued in November 2010 and examines the extent to which DOD has developed a strategy and uses a risk-based approach to manage its maritime domain awareness efforts. This version omits information on specific DOD intelligence, surveillance, and reconnaissance capabilities; capability gaps; and operations. As we agreed with your offices, we will address maritime homeland defense and report separately in 2011 on those issues.

To address this objective, we analyzed national and DOD maritime domain awareness planning documents; interviewed DOD and partner agency maritime domain awareness officials; and conducted site visits to facilities, such as operations centers and combatant commands engaged in maritime domain awareness and homeland defense activities. We selected these visits based on interviews with DOD officials and reviews of relevant maritime domain awareness policy and strategy documents and combatant command documents. To determine the extent to which DOD has developed a strategy to guide implementation of maritime domain awareness, we assessed information in the *Department of Defense Maritime Domain Awareness Joint Integrating Concept* and the DOD Executive Agent's *Assessment of U.S. Defense Components Annual Maritime Domain Awareness Plans 2009* against our prior work on desirable characteristics of national strategies. We also assessed the documents against information obtained from interviews with combatant command, Navy, intelligence agency, and Coast Guard officials. In addition, we evaluated DOD efforts to allocate resources, measure

³For example, see GAO, *Maritime Security: Vessel Tracking Systems Provide Key Information, but the Need for Duplicate Data Should Be Reviewed*, [GAO-09-337](#) (Washington, D.C.: Mar. 17, 2009); *Maritime Security: New Structures Have Improved Information Sharing, but Security Clearance Processing Requires Further Attention*, [GAO-05-394](#) (Apr. 15, 2005); and *Maritime Security: Partnering Could Reduce Federal Costs and Facilitate Implementation of Automatic Vessel Identification System*, [GAO-04-868](#) (July 23, 2004).

performance, and monitor progress in addressing maritime domain awareness capability gaps. We compared information found in relevant DOD and DOD component-level plans and strategies with GAO criteria on management best practices. To determine what capabilities DOD currently uses to support maritime domain awareness, what gaps still exist, and how these gaps are prioritized, we assessed information we received in interviews and site visits with combatant command, military service, and supporting intelligence agencies' officials. We compared this information with capability needs established in national guidance such as the *National Strategy for Maritime Security* and the *National Plan to Achieve Maritime Domain Awareness* and DOD guidance such as the *Maritime Domain Awareness Joint Integrating Concept* and DOD Directive 2005.02E, which establishes DOD policy for maritime domain awareness. We reviewed prior GAO work on risk management and compared it to existing DOD maritime domain awareness capability documents to determine the extent to which DOD applies a risk-based approach to managing capabilities related to maritime domain awareness. Appendix I provides additional details regarding the scope and methodology of this report.

We conducted this performance audit primarily from June 2009 through November 2010, and coordinated with DOD from January to June 2011 to produce this public version of the prior, sensitive report issued in November 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

DOD Shares Responsibility for Maritime Domain Awareness with Other Interagency Partners

Since September 11, 2001, the federal government has emphasized the need for a coordinated response to maritime threats. In December 2004, the White House issued National Security Presidential Directive 41 (NSPD-41)/Homeland Security Presidential Directive 13 (HSPD-13), *Maritime Security Policy*, defining maritime domain awareness as the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy, or environment of the United States. NSPD-41/HSPD-13 also directed the Secretaries of Defense and of Homeland Security to jointly lead an interagency effort to prepare a

National Strategy for Maritime Security to align all federal government maritime security programs and initiatives into a comprehensive and cohesive national effort involving appropriate federal, state, local, and private sector entities.⁴

Interagency coordination for maritime domain awareness is primarily exercised within the Maritime Security Interagency Policy Committee, which reports to the National Security Council Deputies Committee. A Maritime Domain Awareness Stakeholders Board consists of representatives from all departments and the intelligence community advises the Maritime Security Interagency Policy Committee through its Executive Steering Committee. DOD, the Department of Homeland Security, and the Department of Transportation have all appointed executive agents for maritime domain awareness who, together with a representative of the intelligence community, constitute the Maritime Domain Awareness Stakeholder Board Executive Steering Committee.

DOD Directive 2005.02E establishes policy and roles and responsibilities for maritime domain awareness within DOD. This directive designated the Under Secretary of Defense for Policy as Office of the Secretary of Defense Principal Staff Assistant to oversee the activities of the DOD Executive Agent for Maritime Domain Awareness and designated the Secretary of the Navy as the DOD Executive Agent for Maritime Domain Awareness. In addition, the directive establishes several management functions that the Executive Agent is required to conduct for maritime domain awareness, including:

- Overseeing the execution of maritime domain awareness initiatives within DOD and coordinating maritime domain awareness policy with the Under Secretary of Defense (Policy);
- Developing and distributing goals, objectives, and desired effects for maritime domain awareness, in coordination with the Under Secretary of Defense (Policy) and the Under Secretary of Defense (Intelligence);
- Identifying and updating maritime domain awareness requirements and resources for the effective performance of DOD missions; and
- Recommending DOD-wide maritime domain awareness planning and programming guidance to the Under Secretary of Defense (Policy) and

⁴*The National Strategy for Maritime Security*, Sept. 2005.

the Director of Programming, Analysis, and Evaluation (now the Office of Cost Assessment and Program Evaluation).⁵

The Secretary of the Navy issued an instruction in January 2009 that assigned the Chief of Naval Operations with responsibility for achieving maritime domain awareness within the Navy. This responsibility includes aligning Navy guidance with DOD policy guidance and coordinating with the Joint Staff to ensure that combatant commands have the necessary Navy resources to support their respective maritime domain awareness requirements.⁶

In May 2009, the DOD Executive Agent for Maritime Domain Awareness requested that the Joint Staff solicit maritime domain awareness annual plans from the military services, combatant commands, and defense intelligence components, as required by DOD Directive 2005.02E. In December 2009, the DOD Executive Agent completed an assessment of DOD components' annual maritime domain awareness plans.⁷ The effort was intended to provide the Executive Agent with a "horizontal look" at maritime domain awareness concerns across DOD. The Executive Agent used information from the plans to: (1) gather program and project priorities, (2) formulate and update overarching DOD maritime domain awareness goals and objectives, (3) craft programming and planning recommendations, and (4) synchronize and align combatant command and component efforts and resources. The DOD Executive Agent is currently conducting an assessment of 2010 component plans.⁸

DOD relies on organizations both within and outside of the department to achieve maritime domain awareness. The Office of Naval Intelligence is a core element of Global Maritime Intelligence Integration, whose goal is complete maritime domain awareness and their primary mission is to produce meaningful maritime intelligence. The Office of Naval Intelligence produces a Common Operating Picture and Common Intelligence Picture,

⁵DOD Directive 2005.02E, *Maritime Domain Awareness (MDA) in the Department of Defense* (Aug. 27, 2008).

⁶Secretary of the Navy Instruction 3052.1, *Maritime Domain Awareness in the Department of the Navy* (Jan. 30, 2009).

⁷Department of Defense Executive Agent for Maritime Domain Awareness, *Assessment of the U.S. Defense Components Annual Maritime Domain Awareness Plans 2009*, (Washington, D.C.: Dec. 31, 2009).

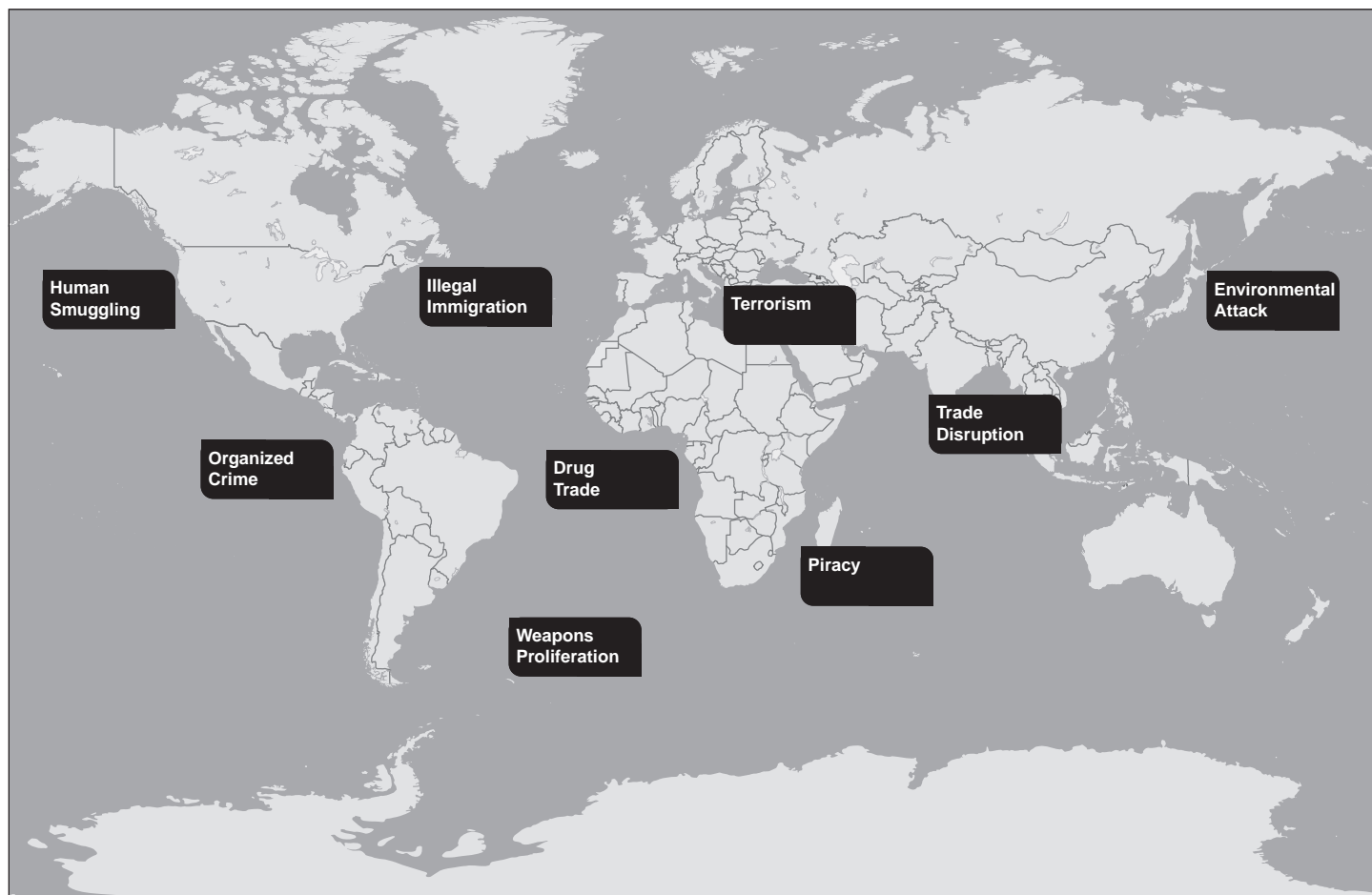
⁸The DOD Executive Agent completed its assessment of 2010 component plans in January 2011, subsequent to the issuance of the original, sensitive version of this report.

both of which are compiled from multiple sources of intelligence. The Office of Naval Intelligence, together with the Coast Guard's Intelligence Coordination Center, compiles and provides a list of vessels of interest to DOD and Department of Homeland Security (DHS) components. In addition, the National Maritime Intelligence Center, created by the Director of National Intelligence, serves as the integration point for maritime information and intelligence collection and analysis in support of national policy and decision makers, maritime domain awareness objectives, and interagency operations at all levels.

DOD Leverages Numerous Capabilities to Collect, Fuse, and Share Maritime Information to Respond to Global Maritime Challenges

DOD, combatant commands, and joint task forces leverage numerous capabilities to enhance maritime domain awareness, including intelligence, surveillance, and reconnaissance collection platforms; intelligence fusion and analysis; and information sharing and dissemination. These capabilities assist DOD in responding to the range of maritime challenges, some of which are identified in figure 1.

Figure 1: Maritime Challenges



Source: Department of the Navy.

A range of platforms, such as sensors on naval vessels and aircraft, provide intelligence, surveillance, and reconnaissance collection capabilities. Once maritime domain awareness related data is collected, fusion and analysis capabilities assist DOD combatant commands and joint task forces to combine data from a variety of sources to provide information that may include location, course, destination, cargo, crew, and passengers of a given vessel. In addition, DOD uses a number of capabilities to promote the sharing and dissemination of maritime domain awareness information. For example, the Maritime Safety and Security

Information System uses an existing, worldwide vessel safety system—the Automatic Information System—to produce an unclassified, Internet-based, password-protected ship tracking system.⁹ Currently, more than 50 nations participate in the Maritime Safety and Security Information System. In addition, DOD is working with other international partners to set up more advanced networks to share information.

To validate joint warfighting requirements, including those associated with maritime domain awareness, DOD uses its Joint Capabilities Integration and Development System. The primary objective of the system is to ensure the capabilities required by the joint warfighter are identified with their associated operational performance criteria in order to successfully execute assigned missions.¹⁰ The Joint Requirements Oversight Council oversees this system and Functional Capabilities Boards, headed by a general, admiral, or government civilian equivalent, support the council by evaluating capability needs, recommending enhancements, examining joint priorities, and minimizing duplication of effort across the department. There are eight Functional Capabilities Boards: Battlespace Awareness, Building Partnerships, Command and Control, Force Application, Force Support, Logistics, Net-Centric, and Protection.

⁹Automatic Identification System equipment transmits information such as the name of the vessel, its position, speed, course, and destination to receivers within range of its broadcast, allowing these vessels to be tracked when they are operating in coastal areas, inland waterways, and ports. Automatic Identification System requirements apply in general to larger commercial vessels, such as those 300 gross tons or more, not to smaller vessels, such as most commercial fishing boats or recreational boats.

¹⁰Chairman of the Joint Chiefs of Staff, Instruction 3170.01G, *Joint Capabilities Integration and Development System* (Washington, D.C.: Mar. 1, 2009).

DOD Identified Numerous Maritime Capability Gaps, but Does Not Have a Comprehensive, Departmentwide Strategy to Manage Risk Associated with These Capability Gaps and Guide Future Investments

DOD has articulated a broad strategy for maritime domain awareness and identified numerous maritime capability gaps through various documents. However, DOD does not have a departmentwide strategy that adequately defines roles and responsibilities for addressing gaps, aligns objectives with national strategy, and includes measures to guide the implementation of maritime domain awareness efforts, measure progress, and assess and manage risk associated with capability gaps.

DOD Strategy Documents Does Not Have Departmentwide Objectives, Identify Roles and Responsibilities, and Align with National Strategies

We previously reported that it is standard practice to have a strategy that lays out goals and objectives, identifies actions for addressing those objectives, allocates resources, identifies roles and responsibilities, and measures performance against objectives.¹¹ The federal government, DOD, and its components have developed a number of documents that incorporate some of these key elements of an overall strategy for maritime domain awareness. Examples include the following:

- *The National Strategy for Maritime Security* broadly identifies threats to maritime security and strategic objectives and actions needed to achieve maritime security.¹²
- *The National Plan to Achieve Maritime Domain Awareness* is intended to guide the execution of the security plans tasked in NSPD-41/HSPD-13. It supports the *National Strategy for Maritime Security* by outlining broad goals, objectives, threats, and priorities in order to coordinate maritime domain awareness efforts at the federal level.¹³

¹¹GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004).

¹²*The National Strategy for Maritime Security*, Sept. 2005.

¹³*The National Plan to Achieve Maritime Domain Awareness*, Oct. 2005.

-
- U.S. Northern Command and U.S. Pacific Command worked with the Joint Staff to develop DOD's *Maritime Domain Awareness Joint Integrating Concept* to, among other things, provide a common vision for the future of maritime domain awareness related operations within DOD, identify maritime domain awareness capabilities and tasks and conditions for each capability, and inform future capability analyses.¹⁴
 - The DOD's Executive Agent for Maritime Domain Awareness completed an annual assessment of maritime domain awareness plans prepared by several DOD commands, military services, and defense intelligence components.¹⁵ The assessment organized the analyzed information from the plans into three critical areas where it determined that DOD must focus and expand its efforts: increased information sharing, enhanced situational awareness, and enhanced data on vessels, cargo, and people.

We found that these documents and others DOD and the Navy have developed demonstrate a considerable amount of effort toward defining and organizing DOD's maritime domain awareness efforts, but we determined that they do not have several key elements that a strategy should contain. DOD's *Maritime Domain Awareness Joint Integrating Concept* and the *Assessment of U.S. Defense Components Annual Maritime Domain Awareness Plans* are two of the key documents used to guide current maritime domain awareness efforts and execute the national strategies. Table 1 summarizes the desirable characteristics of a strategy and compares the elements contained in DOD's *Maritime Domain Awareness Joint Integrating Concept* and the DOD Executive

¹⁴Department of Defense, *Department of Defense Maritime Domain Awareness Joint Integrating Concept* (Washington, D.C.: Sept. 15, 2009).

¹⁵The following components were requested to submit maritime domain awareness plans to the DOD Executive Agent: the Departments of the Navy and Air Force, U.S. Africa Command, U.S. Central Command, U.S. European Command, U.S. Northern Command, U.S. Pacific Command, U.S. Southern Command, Joint Forces Command, U.S. Transportation Command, U.S. Special Operations Command, U.S. Strategic Command, the Defense Intelligence Agency, the National Geospatial-Intelligence Agency, the National Reconnaissance Office, and the National Security Agency.

*Agent's Assessment of the U.S. Defense Components Annual Maritime Domain Awareness Plans 2009.*¹⁶

Table 1: The Extent to Which DOD's *Maritime Domain Awareness Joint Integrating Concept* and the DOD Executive Agent's *Assessment of the U.S. Defense Components Annual MDA Plans 2009* Address GAO's Desirable Characteristics for National Strategies

Desirable characteristic	Description	<i>Maritime Domain Awareness Joint Integrating Concept</i>	<i>Assessment U.S. Defense Component Annual MDA Plans</i>
Problem definition and risk assessment	Addresses the particular national problem and threats the strategy is directed toward.	Partially addresses—This document discusses risk and defines the problem, but does not provide threat, criticality, or vulnerability assessments for each capability or task that needs to be addressed.	Partially addresses—This document defines the problem, but does not provide an analysis of threats to and vulnerabilities of critical assets and operations.
Purpose, scope, and methodology	Addresses why the strategy was produced, the scope of its coverage, and the process by which it was developed.	Partially addresses—The document identifies the purpose of the document along with the purpose and scope of maritime domain awareness; however the purpose and methodology of the strategy are not specifically identified.	Addresses.
Organizational roles, responsibilities, and coordination	Addresses who will be implementing the strategy, what their roles will be compared to others, and mechanisms for coordination of efforts.	Does not address.	Partially addresses—The assessment generally states who is responsible for implementing maritime domain awareness but does not assign specific responsibility for the critical areas.
Integration and implementation	Addresses how the strategy relates to other strategies' goals, objectives, and activities.	Partially addresses—The document states that capabilities and tasks cited were informed by national and interagency documents, but the alignment between the <i>Joint Integrating Concept's</i> tasks and national-level gaps and tasks is not clearly identified.	Partially addresses—The assessment identifies joint concepts, plans, and policies each critical area relates to, but does not clearly align future goals and objectives with those listed in national strategies and plans.

¹⁶We assessed these two documents against GAO criteria for national strategies. The criteria are cited in GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004). Given the size and complexity of DOD, a broad strategy for maritime domain awareness would be similar in scope to a national strategy. Of all the documents DOD and its components provided GAO, these were the two that were departmentwide documents. Other related documents, such as the Department of the Navy's roadmaps, strategies, and capability assessments and the defense component maritime domain awareness plans are limited to that particular component.

Desirable characteristic	Description	<i>Maritime Domain Awareness Joint Integrating Concept</i>	<i>Assessment U.S. Defense Component Annual MDA Plans</i>
Goals, subordinate objectives, activities, measures of performance, and monitoring of progress	Addresses what the strategy is trying to achieve, steps to achieve those results, as well as the priorities, milestones, and measures to gauge results and monitor progress.	Partially addresses—The document lists capabilities and tasks that need to be addressed but does not contain mechanisms for monitoring progress.	Partially addresses—The document contains goals and objectives, and priorities DOD should focus on; but does not contain specific performance measures or mechanisms for measuring progress.
Resources, investments, and risk management	Addresses what the strategy will cost, the sources and types of resources, and where resources and investments should be targeted.	Does not address.	Does not address.

Source: GAO analysis of departmentwide maritime domain awareness strategy documents.

Note: Explanations are provided only for why an element partially meets GAO criteria for desirable characteristics of strategy documents. A document “addresses” a characteristic when it explicitly cites all elements of a characteristic, even if it lacks specificity and details and thus could be improved upon. A document “partially addresses” a characteristic when it explicitly cites some, but not all elements of a characteristic. Within our designation of “partially addresses” there is a wide variation between a document that addresses most of the elements of a characteristic and a document that addresses few of the elements of a characteristic. A document “does not address” a characteristic when it does not explicitly cite or discuss any elements of a characteristic, and/or any implicit references are either too vague or general.

DOD and its components have completed or are developing additional efforts that may assist the department in organizing its maritime domain awareness efforts. The Department of the Navy developed a strategy for maritime domain awareness in response to a congressional committee report requirement, and several draft maritime domain awareness roadmaps to guide the Navy’s implementation of maritime domain awareness. Additionally, as of November 2010, the Chief of Naval Operation’s Information Dominance Office was developing a Navy Intelligence, Surveillance, and Reconnaissance Roadmap that outlines the Navy’s vision for capabilities needed to fulfill its missions and priorities, including maritime domain awareness. As of November 2010, U.S. Pacific Command was in the process of drafting a maritime domain awareness concept of operations. This concept of operations is intended to provide a common understanding of intelligence support to maritime domain awareness throughout the combatant command. In June 2010, an interagency working group issued the *Current State Report*, a reference document which identifies maritime domain awareness tasks, capabilities gaps, and ongoing efforts related to each gap. Finally, in July 2010, the DOD Executive Agent for Maritime Domain Awareness developed maritime domain awareness planning and programming recommendations, which were based, among other things, on the 2009 annual maritime domain awareness plans submitted by DOD components

to the Executive Agent. While these efforts may help the individual components work towards more effective maritime domain awareness, developing a departmentwide strategy that clearly outlines objectives and roles and responsibilities will better position DOD to align more detailed objectives with national strategies and coordinate the results of ongoing and future efforts across the department.

National and DOD Strategy Documents Also Do Not Have Provisions for Allocating Resources, Measuring Performance, and Monitoring Progress

As part of the overall framework for successful strategies, prior GAO work has also emphasized the importance of allocating resources, measuring performance, and monitoring progress as sound management practices critical for decision making and achieving results in specified time frames.¹⁷

While DOD, its interagency partners, and other DOD components have identified numerous capability gaps, DOD does not have a risk-based approach for assessing its maritime capabilities and gaps. Although some interagency-level and DOD component-level documents have prioritized maritime domain awareness capability gaps in comparison to other maritime gaps, the identified gaps have not been allocated resources within DOD. Additionally, DOD does not measure performance and monitor progress in implementing maritime domain awareness and addressing these gaps.

We assessed a number of DOD and interagency documents to determine the extent to which resource allocation and performance measurement were incorporated and found mixed results. Examples include:

- *National Maritime Domain Awareness Interagency Investment Strategy*. DOD representatives collaborated with interagency stakeholders to develop a document that identified critical tasks and recommended lead and supporting federal agency stakeholders to coordinate interagency activities to address these tasks. However, the Interagency Investment Strategy is not what is traditionally considered an investment strategy with developed cost estimates or proposed dollar amounts for each agency to invest. Instead, it identifies critical capability gaps and makes recommendations on areas for interagency

¹⁷See GAO, *Standards for Internal Controls in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: Nov. 1999); *Performance Plans: Selected Approaches for Verification and Validation of Agency Performance Information*, [GAO/GGD-99-139](#) (Washington, D.C.: July 30, 1999).

efforts. For example, it recommended that DOD work with DHS and the Office of the Director of National Intelligence to establish national data standards for maritime domain awareness.

- *Interagency Solutions Analysis Current State Report*. The *Current State Report* provides the status of maritime domain awareness capability gaps, solutions, and tools in use to address those gaps and the effectiveness of those solutions to mitigate the gaps. This document is an output of the Interagency Solutions Analysis Working Group, a group of interagency subject matter experts that are comparing current capabilities against scenarios that required, among other things, information sharing and other capabilities in the maritime domain. The DOD Executive Agent for Maritime Domain Awareness, the Department of the Navy, and the Office of Naval Intelligence participated in this process. However, this document does not identify resources to address identified gaps. Additionally, this document does not provide metrics to assess performance or monitor progress in addressing identified gaps.
- *Department of Defense Maritime Domain Awareness Joint Integrating Concept*. This document identifies required capabilities, associated tasks, and the DOD joint capability area for each required capability and each associated task.¹⁸ However, it does not identify how resources should be targeted to address the capabilities and tasks nor does it assign specific components within DOD to address each capability and task. Additionally, this document does not contain milestones for measuring progress in addressing the capability gaps and tasks will be measured.
- *Assessment of the U.S. Defense Components Annual Maritime Domain Awareness Plans 2009*. The DOD Executive Agent solicited maritime domain awareness annual plans from DOD combatant commands, military services, and defense intelligence components. The plans outlined each component's planned maritime domain awareness capabilities and described current gaps. The Executive Agent assessed the plans and listed critical areas for expanded focus and efforts. However, several DOD components did not submit plans, so the assessment may not include departmentwide data. Also, as identified in table 1, this assessment does not incorporate several key

¹⁸ Joint capability areas are collections of like DOD capabilities functionally grouped to support capability analysis, strategy development, investment decision making, capability portfolio management, and capabilities-based force development and operational planning. DOD Functional Capabilities Boards are organized around joint capability areas and are responsible for ensuring that the joint force is best served through the Joint Capabilities Integration and Development System and acquisition process in each assigned functional area.

elements that would help guide DOD's implementation of maritime domain awareness including an allocation of resources and investments, performance measures, and a mechanism to monitor progress.

- *Department of the Navy Initial Capabilities Document for Data Fusion and Analysis Functions of Navy Maritime Domain Awareness*. This 2009 Navy document summarized a capabilities-based assessment that identified capability shortfalls and recommended approaches to improve Navy's overall maritime domain awareness capability. According to some DOD officials this initial capabilities document reflects the Navy's view, but not necessarily the views of other DOD components and interagency stakeholders. For example, many Navy maritime domain awareness documents are Navy-centric and it is unclear how they align with interagency efforts. Lastly, the Navy initial capabilities document does not resource identified gaps.

These documents articulated broad strategic goals for maritime domain awareness and identified several critical capability gaps; however, DOD has not allocated resources to these efforts. Additionally, the Department of the Navy initial capabilities document, DOD's *Maritime Domain Awareness Joint Integrating Concept*, and the National Maritime Domain Awareness Working Group *Interagency Investment Strategy* gaps were separately approved by DOD's Joint Requirements Oversight Council, but DOD has not developed a departmentwide capability gap assessment for approval by the council. We also previously reported that the requirements determination process is more focused on the needs of military services than the joint warfighter, and combatant commands and defense intelligence agency needs are often not incorporated into this process.¹⁹ A departmentwide strategy, including a capability gap assessment, would assist DOD in assessing and prioritizing maritime domain awareness capability gaps that have already been identified through various service and interagency efforts in order to integrate them into its corporate processes—such as the Joint Capabilities Integration Development System—for determining requirements and allocating resources.²⁰

¹⁹GAO, *Defense Acquisitions: DOD's Requirements Determination Has Not Been Effective in Prioritizing Joint Capabilities*, [GAO-08-1060](#) (Washington, D.C.: Sept. 25, 2008).

²⁰DOD refers to these corporate processes as the Planning Programming, Budgeting, and Execution System.

Multiple DOD and Interagency Documents Have Identified Maritime Capability Gaps Primarily in the Areas of Collection, Fusion and Analysis, and Information Sharing

Interagency maritime domain awareness documents identified maritime capability gaps and designated DOD as the lead agency to address some of these gaps. For example, in October 2005, the *National Plan to Achieve Maritime Domain Awareness* identified numerous near- and long-term maritime domain awareness priorities relating to maritime capabilities, and listed DOD as the lead agency for 22 of these priorities. In May 2007, the National Maritime Domain Awareness Requirements and Capabilities Working Group developed the *National Maritime Domain Awareness Study Interagency Investment Strategy*, which prioritized capability gaps.²¹ The *Interagency Investment Strategy* listed DOD as the lead or co-lead agency to address a majority of the prioritized gaps. The Maritime Domain Awareness Steering Executive Steering Committee approved an execution plan for a maritime domain awareness Interagency Solutions Analysis which would develop a coordinated, interagency approach for addressing previously identified gaps. In April 2010, the Interagency Solutions Analysis Working Group decided to focus immediate efforts on closing existing gaps related to information about the three areas of people, cargo, and vessels for the interagency group to initially address.

In addition to interagency efforts, DOD and Navy documents have identified maritime domain awareness capability gaps related to the department's ability to collect, analyze, and share information on maritime vessels. For example, DOD's *Maritime Domain Awareness Joint Integrating Concept* identified required capabilities that the joint forces will need to address in order to conduct future operations to develop and maintain awareness of the maritime domain. In addition, DOD is conducting a *Maritime Domain Awareness Joint Integrating Concept* capabilities-based assessment that is considering current and programmed capabilities through 2012 in addition to projections of future programs. An initial capabilities document for this assessment was approved on November 29, 2010. This capabilities-based assessment is also intended to validate the *Maritime Domain Awareness Joint Integrating Concept* and provide a baseline of maritime domain awareness elements to inform interagency efforts.

Key themes have emerged through the identification of capability gaps in several national, interagency, and department documents that DOD may need to address to support maritime domain awareness. DOD components

²¹This strategy did not include developed cost estimates that typically are included in an investment strategy.

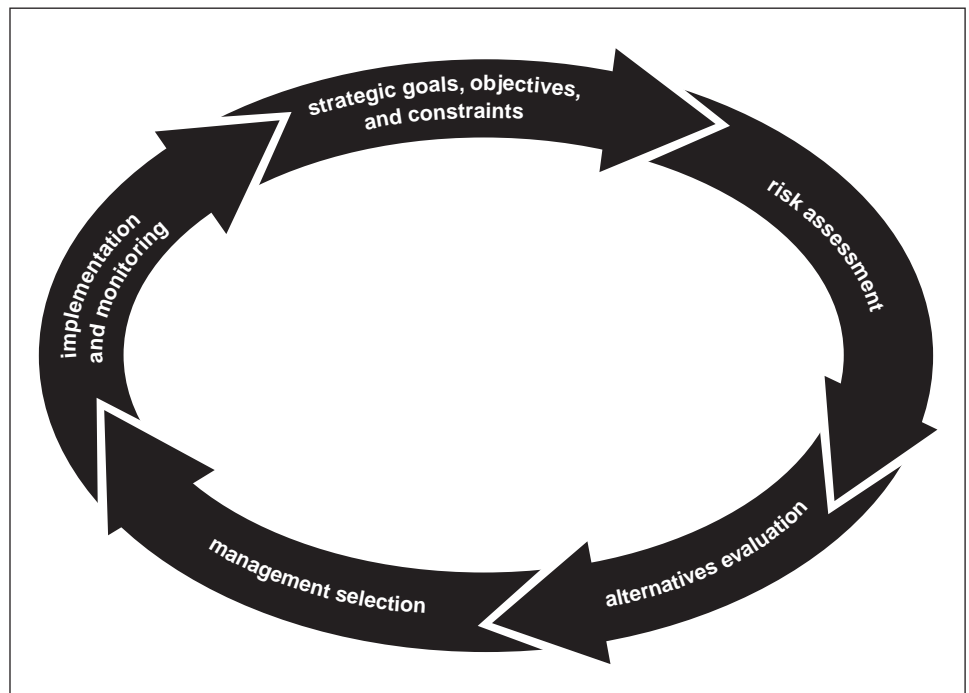
DOD Does Not Have a Comprehensive, Risk-Based Approach to Assessing Maritime Domain Awareness Capability Gaps

have also identified maritime domain awareness capability gaps. While initial capability assessments share common themes, there has not been a departmentwide prioritization of these capability gaps. As DOD components start developing solutions for these gaps and allocating resources, the absence of a departmentwide prioritization may result in unnecessary duplication of efforts or redundancy in addressing shared capability gaps. A departmentwide prioritization, determined by a comprehensive, risk-based approach would assist decision makers in more effectively allocating resources to the joint forces departmentwide and contribute to interagency efforts to prioritize maritime capability gaps.

DOD has not assessed the risk associated with its maritime capability gaps, in addition to not prioritizing these gaps. As we have previously reported, an agency's strategic plan should, among other things, address risk-related issues that are central to the agency's mission.²² To provide a basis for analyzing these risk management strategies, we have developed a framework based on industry best practices and other criteria. This framework, shown in figure 2, divides risk management into five major phases: (1) setting strategic goals and objectives, and determining constraints; (2) assessing risks; (3) evaluating alternatives for addressing these risks; (4) selecting the appropriate alternatives; and (5) implementing the alternatives and monitoring the progress made and results achieved.

²²[GAO-04-408T](#). For discussions on GAO criteria for risk management, see *Homeland Security: Key Elements of a Risk Management Approach*, [GAO-02-150T](#) (Washington, D.C.: Oct. 12, 2002).

Figure 2: GAO Risk Management Framework



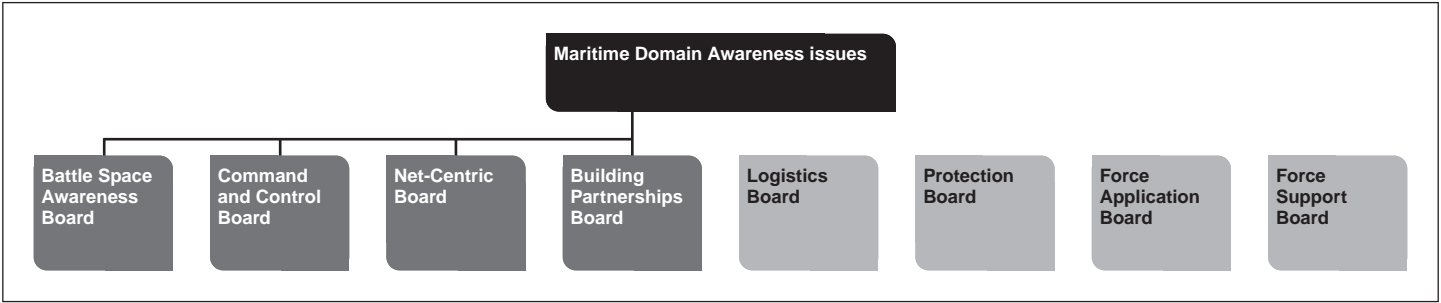
Source: GAO.

Even though DOD, its interagency partners, and its components have made efforts to identify and start prioritizing capability gaps, DOD does not have a departmentwide risk assessment to address high priority capability gaps. DOD Directive 2005.02E, which establishes the department's policy for maritime domain awareness, states that the department will determine its resource priorities and awareness levels needed to persistently monitor the maritime domain. The 2010 Quadrennial Defense Review states that risk management is central to effective decision-making. As shown in table 1, we have previously reported that risk assessment and risk management are desirable characteristics of national strategies. We have described risk assessments as including an analysis of threats to, and vulnerabilities of, critical assets and operations. The results of risk assessments may be used to define and prioritize related resource and operational requirements.

Currently, maritime domain awareness is prioritized through various mechanisms across DOD, instead of through a departmentwide approach. For example, DOD's combatant commands and components prioritize maritime domain awareness differently based upon their respective

missions. Additionally, when prioritizing capabilities across DOD, maritime domain awareness falls into multiple capability areas. For example, according to DOD documents and DOD officials, maritime domain awareness capabilities are assessed under multiple joint capability areas and functional capability boards through the Joint Capabilities Integration and Development System process. Figure 3 illustrates this.

Figure 3: Extent to Which Maritime Domain Awareness Covers Several Joint Requirements Capability Integration System Process Functional Capabilities Boards



Source: GAO analysis of DOD documents and interviews with DOD officials.

The various interagency and DOD views on capability gaps and priorities may not provide a full assessment of the risks associated with these gaps at a departmentwide level. Table 2 illustrates that current DOD-wide documents do not meet all of GAO’s criteria for a risk assessment. Prior GAO work has cited that while principles of risk management acknowledge that risk generally cannot be eliminated altogether, enhancing protection from known or potential threats can serve to significantly reduce risk.

Table 2: The Extent to Which DOD Documents Meet GAO Risk Assessment and Management Criteria

GAO risk management criteria^a	<i>Maritime Domain Awareness Joint Integrating Concept</i>	<i>Assessment of U.S. Defense Component Annual Plans</i>
Assess threats: identify and evaluate potential threats based on factors such as capabilities, intentions and past activities.	Partially addresses—Maritime domain threats are identified but not evaluated.	Partially addresses—This document addresses the mission impact of not addressing each critical area but does not provide a specific threat assessment.
Assess vulnerabilities: identify weaknesses that may be exploited by identified threats and suggest options to address these weaknesses.	Partially addresses—The document identifies broad solutions and discusses risk, but does not include specific threat and vulnerability assessments. It also broadly discusses risk mitigation.	Partially addresses—The mission impact of not addressing each critical area is discussed; but threat, vulnerability and criticality assessments are not identified.
Assess the criticality of assets and functions: evaluate and prioritize important assets and functions in terms of factors such as mission and target significance.	Does not address.	Does not address.
Use assessment results to balance threats and vulnerabilities, and to prioritize related resource and operational requirements.	Does not address.	Does not address.

Source: GAO analysis of DOD documents.

Note: A document “addresses” a characteristic when it explicitly cites all elements of a characteristic, even if it lacks specificity and details and thus could be improved upon. A document “partially addresses” a characteristic when it explicitly cites some, but not all elements of a characteristic. Within our designation of “partially addresses” there is a wide variation between a document that addresses most of the elements of a characteristic and a strategy that addresses few of the elements of a characteristic. A strategy “does not address” a characteristic when it does not explicitly cite or discuss any elements of a characteristic, and/or any implicit references are either too vague or general.

^aFor more information on these criteria, see [GAO-02-160T](#).

Efforts such as *The Maritime Domain Awareness Joint Integrating Concept* and *Assessment of U.S. Defense Component Annual Maritime Domain Awareness Plans* have demonstrated DOD’s progress in identifying capability gaps related to maritime domain awareness, but have not been included in a larger, departmentwide maritime domain awareness risk assessment. As a result, DOD may lack the insight needed to actively manage the risk associated with identified capability gaps.

Additionally, because maritime domain awareness is a broad interagency effort, DOD may be unable to effectively coordinate with its interagency partners in the absence of a clear departmentwide strategy for maritime domain awareness. Consolidating these component efforts to prioritize capability gaps into a comprehensive departmentwide approach to risk management may facilitate developing solutions for each gap. A strategy that includes a comprehensive, risk-based approach to managing maritime domain awareness, including a departmentwide assessment of the critical

capabilities, may also provide better information to decision makers about the potential implications of policy and resourcing decisions both within DOD and across the interagency.

Conclusions

Our prior work has shown that a strategy including goals, roles, and responsibilities; resource allocation; and performance measures can help ensure that agencies are supporting national and interagency objectives. Achieving maritime domain awareness requires cooperation across a range of agencies throughout the federal, state, and local levels. DOD has a lead role in maritime domain awareness both because it serves as a key enabler for its own maritime activities and because DOD is positioned to provide so many of the resources which assist other agencies in meeting their respective maritime domain awareness needs. It is important that DOD components' efforts are consolidated together and aligned amongst each other to ensure that departmentwide maritime domain awareness needs are met and appropriate contributions to the efforts of its interagency partners are made. In the absence of a departmentwide strategy for maritime domain awareness, including the prioritized allocation of resources to maritime domain awareness, measures of performance in meeting the goals and objectives, monitoring of progress in addressing capability gaps, and assessing risk, DOD may not be effectively managing its maritime domain awareness efforts. Efforts on the part of DOD combatant commands, military services, the DOD Executive Agent for Maritime Domain Awareness, and interagency working groups resulted in the identification of several capability gaps, some identified by multiple components. The next step in achieving effective departmentwide maritime domain awareness would be a departmentwide strategy and risk assessment that incorporates these efforts. As DOD and the rest of government face increasing demand and competition for resources, policymakers will confront difficult decisions on funding priorities. Threats to the maritime domain are numerous and include the use of large merchant vessels to transport weapons of mass destruction; explosive-laden suicide boats as weapons; and vessels to smuggle people, drugs, weapons, and other contraband. The importance and vulnerabilities of the maritime domain require that efforts be made to reduce the risk of maritime threats and challenges, such as a terrorist attack or acts of piracy. Additionally, a comprehensive, risk-based approach would help DOD capitalize on the considerable effort it and its components have already devoted to maritime domain awareness, make the best use of resources in a fiscally constrained environment, and contribute to interagency efforts to address maritime threats. A strategic, risk-based approach is particularly important in light of emerging threats in the

maritime domain and an increased strain on government resources. Such a departmentwide approach will provide DOD with important tools that can assist in confronting the myriad policy and fiscal challenges the department faces.

Recommendations for Executive Action

To improve DOD's ability to manage the implementation of maritime domain awareness across DOD we recommend that the Secretary of Defense direct the Secretary of the Navy, as DOD's Executive Agent, to take the following two actions:

- Develop and implement a departmentwide strategy for maritime domain awareness that, at a minimum
 - Identifies DOD objectives and roles and responsibilities within DOD for achieving maritime domain awareness, and aligns efforts and objectives with DOD's corporate process for determining requirements and allocating resources; and
 - Identifies responsibilities for resourcing capability areas and includes performance measures for assessing progress of the overall strategy that will assist in the implementation of maritime domain awareness efforts.
- In collaboration with other maritime interagency stakeholders, such as the Coast Guard and the National Maritime Intelligence Center, perform a comprehensive risk-based analysis to include consideration of threats, vulnerabilities, and criticalities relating to the management of maritime domain awareness in order to prioritize and address DOD's critical maritime capability gaps and guide future investments.

Agency Comments and Our Evaluation

In written comments on a draft of the prior, sensitive report, DOD concurred with our recommendations and discussed actions they are taking—or plan to take—to address them. DOD's written comments are reprinted in their entirety in appendix II. DOD also provided technical comments, which we have incorporated into the report where appropriate.

In concurring with the first recommendation, DOD stated that they have completed the initial policy, goals, and objectives for maritime domain awareness and promulgated it in a document to all DOD components. DOD also stated their intent to identify responsibilities for resourcing capability gaps and performance measures for assessing progress in achieving maritime domain awareness. DOD identified further steps it is taking to establish objectives for maritime domain awareness, assign appropriate roles and responsibilities, and conduct a second assessment of annual maritime domain awareness plans to inform DOD's overall effort

to develop a departmentwide strategy. We believe these actions will address the intent of our recommendation and better enable DOD to address maritime capability gaps.

DOD also concurred with our second recommendation. DOD stated that it will collaborate with the other principal members of the National Maritime Domain Awareness Coordination Office to develop a comprehensive, risk-based approach for maritime domain awareness. The DOD Executive Agent is also requesting that DOD components include risk assessments in their annual maritime domain awareness plans. We believe these actions will address the intent of our recommendation and help DOD prioritize its maritime capability gaps and guide future investment decisions.

We are distributing this report to the Secretary of Defense, the Secretary of the Navy, and other relevant DOD officials. We are also sending copies of this report to interested congressional committees. The report is also available on our Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-5431 or dagostinod@gao.gov. Contact points for our offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

A handwritten signature in black ink, reading "Davi M. D'Agostino". The signature is stylized with large, flowing loops and a cursive script.

Davi M. D'Agostino
Director
Defense Capabilities and Management

List of Requesters

The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Mac Thornberry
Chairman
The Honorable James R. Langevin
Ranking Member
Subcommittee on Emerging Threats and Capabilities
Committee on Armed Services
House of Representatives

The Honorable Loretta Sanchez
House of Representatives

Appendix I: Scope and Methodology

We were initially asked to look at four questions: (1) to what extent has the Department of Defense (DOD) developed the capability to perform intelligence, surveillance, and reconnaissance (ISR) activities in the maritime domain; (2) to what extent has DOD integrated the maritime domain awareness investment strategy into its overall ISR capability investment strategy; (3) to what extent does DOD have operational plans, planning and coordination structures in place to meet maritime domain awareness and maritime homeland defense requirements; and (4) what gaps, if any, exist in DOD's ability to identify maritime threats, achieve fusion of information sources from interagency and international partners, coordinate a response, and deploy forces to address identified threats at all relevant distances from the United States. We agreed with the requesters to respond to this request with two reports. The first report focuses on maritime capabilities and the second report will focus on maritime homeland defense. However, we considered the homeland defense perspective when we determined our site visits so we could gather relevant data on maritime homeland defense where possible and feasible to support the second report. As a result, we focused the scope of this audit on geographic combatant commands that had both a maritime focus and a homeland defense mission set. We determined that U.S. Northern Command, U.S. Southern Command, and U.S. Pacific Command met this criteria, and we conducted site visits to a facilities, such as operations centers, engaged in both maritime domain awareness and homeland defense that support these combatant commands.

To determine what capabilities DOD currently uses to support maritime domain awareness, what gaps still exist and how these gaps are prioritized, we assessed capability needs established in national guidance such as the *National Plan to Achieve Maritime Domain Awareness* and DOD guidance such as the *Joint Integrating Concept* and DOD Directive 2005.02E, which establishes DOD policy for maritime domain awareness. We compared this information with current capabilities and gaps described by combatant command, military service, and supporting intelligence agency's officials during interviews and site visits. For example, we visited several combatant and joint operation centers to observe what capabilities were used at maritime operations centers. In addition, we evaluated DOD's efforts to prioritize capability gaps against established DOD acquisition processes such as the Joint Capabilities Integration and Development System. We reviewed prior GAO work on risk management and compared it to existing DOD maritime domain awareness capability documents to determine the extent to which DOD applies a risk-based approach to managing capabilities and identified gaps related to maritime domain awareness.

To determine the extent to which DOD developed a strategy to address maritime domain awareness capability gaps, we reviewed prior GAO work on strategic planning including GAO's work on assessing specific components of national strategies. Given that there is no established set of requirements for strategies, we relied on GAO assessments of national strategies and the criteria that were applied to assess these strategies.¹ We identified six desirable characteristics that national or departmentwide strategies should contain. We assessed these criteria against existing DOD and component-level documents such as the *Joint Integrating Concept*, the DOD Executive Agent's *Assessment of the U.S. Defense Components Annual Maritime Domain Awareness Plans 2009*, and the Department of the Navy's capability assessment and roadmaps to determine the extent to which these documents contain the elements of a departmentwide strategy. We specifically focused our assessment on the two departmentwide efforts to identify a maritime domain awareness strategy, DOD's *Maritime Domain Awareness Joint Integrating Concept* and DOD's Executive Agent for Maritime Domain Awareness's *Assessment of U.S. Defense Components Annual Maritime Domain Awareness Plans 2009*. To determine the extent to which DOD has allocated resources, measured performance and monitored progress in addressing identified capability gaps, we reviewed the same documents noted above to see if identified gaps were resourced within DOD, and if implementation and monitoring programs were discussed in relation to these gaps. We also assessed the information described in these documents against information obtained from combatant command, military service, and supporting intelligence agency's officials during interviews and site visits.

To evaluate our reporting objectives, we obtained relevant national, interagency, and DOD-level documentation and interviewed officials from the following DOD components and interagency partners:²

- Under Secretary of Defense (Intelligence)
- Office of the Assistant Secretary of Defense for Homeland Defense and America's Security Affairs
- Defense Intelligence Agency
- Defense Intelligence Operations Coordination Center

¹GAO-04-408T.

²While the audit included visits to some joint DOD and Coast Guard operation centers and meetings with Coast Guard officials, we primarily focused on DOD entities involved with maritime domain awareness and maritime homeland defense.

- National Geospatial-Intelligence Agency
- Under Secretary of Defense (Acquisition, Technology and Logistics)
- Joint Chiefs of Staff
- Department of the Navy
- Executive Agent for Maritime Domain Awareness
- Office of the Chief of Naval Operations (N3/N5)
- Office of the Chief of Naval Operations, Information Dominance Division (N2/N6)
- Office of the Chief Information Officer
- Office of Naval Intelligence
- Office of Naval Research
- U.S. Navy Pacific Fleet
- U.S. Navy Third Fleet
- Naval Air Systems Command
- Space and Naval Warfare Systems Command
- Combatant Commands
 - Headquarters, U.S. Pacific Command
 - Headquarters, U.S. Northern Command
 - Headquarters, North American Aerospace Defense Command
 - Headquarters, U.S. Southern Command
 - Headquarters, Fleet Forces Command
- Joint Forces Component Command for Intelligence, Surveillance and Reconnaissance, U.S. Strategic Command
- Joint Interagency Task Forces
 - Joint Interagency Task Force-South
- The United States Coast Guard
 - Headquarters
 - District Five, Sector Hampton Roads
 - District Eleven, Sector San Diego
 - Intelligence Coordination Center
 - Maritime Intelligence Fusion Center (Atlantic Area)
 - Maritime Intelligence Fusion Center (Pacific Area)
 - Joint Harbor Operations Center, Port of San Diego
 - The Office of Global Maritime Situational Awareness / National Maritime Domain Awareness Coordination Office
- National Maritime Intelligence Center

We conducted this performance audit primarily from June 2009 through November 2010, and coordinated with DOD from January to June 2011 to produce this public version of the prior, sensitive report issued in November 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We

believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Comments from the Department of Defense



INTELLIGENCE

OFFICE OF THE UNDER SECRETARY OF DEFENSE
5000 DEFENSE PENTAGON
WASHINGTON, DC 20301-5000

OCT 14 2010

Ms. Davi M. D'Agostino
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. D'Agostino,

This is the Department of Defense (DoD) response to the Government Accountability Office (GAO) draft report [REDACTED], "INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE - DoD Needs a Strategic, Risk-Based Approach to Enhance its Maritime Domain Awareness", dated 11 September 2010 [REDACTED]. The Department of Defense acknowledges receipt of the DRAFT report and concurs with the recommendations. The Office of the Under Secretary of Defense for Intelligence response is attached.

Sincerely,

John B. Salvatori
Deputy Under Secretary of Defense
for Technical Collections and Analysis

Enclosure:
As stated



GAO DRAFT REPORT DATED SEPTEMBER 11, 2010

**"INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE:
DOD Needs a Strategic, Risk-Based Approach to Enhance its Maritime
Domain Awareness"**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy, as DOD's Executive Agent, develop and implement a department-wide strategy for maritime domain awareness that, at a minimum:

- Identifies DOD objectives and roles and responsibilities within DOD for achieving maritime domain awareness, and aligns efforts and objectives with DOD's corporate process for determining requirements and allocating resources; and
- Identifies responsibilities for resourcing capability areas and includes performance measures for assessing progress of the overall strategy that will assist in the implementation of maritime domain awareness efforts.

DoD RESPONSE: Concur. On 22 September 2009, the Director of the Office of the DoD Executive Agent for Maritime Domain Awareness (DoD EA for MDA) promulgated to all DoD components the initial Policy, Goals and Objectives (PGO) for MDA within DoD. On 29 July 2010, the Under Secretary of the Navy signed the initial MDA Planning & Programming Recommendations (PPR). Both documents, called for in DoD Directive 2005.02E, provide the foundation for developing and implementing a department-wide strategy for maritime domain awareness.

The current PGO identifies DoD objectives for achieving maritime domain awareness and will be forwarded for signature by the DoD EA for MDA and re-issuance by the end of 2010. Also, the Office of the DoD EA for MDA has begun work to update and re-issue the PPR by mid-2011 and the PGO by the end of 2011. These revised documents will assign roles and responsibilities within DoD for achieving maritime domain awareness and align efforts and objectives with DOD's corporate process for determining requirements and allocating resources. These documents will also identify responsibilities for resourcing capability areas and include performance measures for assessing progress of the overall strategy that will assist in the implementation of maritime domain awareness efforts. In the interim, the Office of the DoD EA for MDA plans to include an assessment of progress made against the current PGO as part of its Semi-Annual Report.

Additionally, by the end of 2010, the Office of the DoD EA for MDA will complete its second Assessment of Annual MDA Plans (A2MP) and begin the cycle for submission of the 2011 AMPs. The AMP and A2MP serve as key tools to inform the PGO, PPR and other documents in developing and implementing a department-wide strategy for maritime domain awareness.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Secretary of the Navy, as DOD's Executive Agent and in collaboration with other maritime interagency stakeholders, such as the Coast Guard and the National Maritime Intelligence Center, perform a comprehensive risk-based analysis to include consideration of threats, vulnerabilities, and criticalities relating to the management of maritime domain awareness in order to prioritize and address DOD's critical maritime capability gaps and guide future investments.

DoD RESPONSE: Concur. The Director of the Office of the DoD EA for MDA serves as one of the four principal members of the interagency National MDA Coordination Office (NMCO) and will present this matter for further consideration and development of a collaborative way forward with the other NMCO Principals from the Department of Transportation, Department of Homeland Security/United States Coast Guard and National Maritime Intelligence Center.

Additionally, within DoD as part of the cycle for collection of the 2011 Annual MDA Plans (AMP), the Office of the DoD EA for MDA will request that DoD Components report on threats, vulnerability and criticality as well as provide insight as to how threats and vulnerabilities are balanced. The Office of the DoD EA for MDA is also working with the National Maritime Intelligence Center to include their requirements in the 2011 AMP cycle. Information gathered from the 2011 AMP submissions will serve to enable a comprehensive risk-based analysis that will further inform DoD prioritization and investment decisions.

Appendix III: GAO Contact and Acknowledgments

GAO Contact

Davi M. D'Agostino, (202) 512-5431 or dagostinod@gao.gov.

Acknowledgments

In addition to the contact named above, Joseph Kirschbaum (Assistant Director), Alisa Beyninson, Christy Bilardo, Stephen Caldwell, Gina Flacco, Brent Helt, Greg Marchand, Timothy Persons, Steven Putansu, Amie Steele, and Cheryl Weissman made key contributions to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select "E-mail Updates."

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's Web site, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

