NAVAL RESPONSE TO A CHANGED SECURITY ENVIRONMENT

Maritime Security in the Mediterranean

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EUCOM's greatest contribution to security and stability lies as much in preventing conflict as it does in prevailing on the battlefield.

GENERAL JAMES L. JONES

The capacity of the European Command to contribute to security and stability in its Mediterranean area of responsibility depends on its ability to develop and execute operational concepts and capabilities that are appropriate to the security environment in which it operates.[1] In the maritime domain of the Mediterranean, the threats are largely transnational in character and can be effectively dealt with only in cooperation with regional partners. The central challenge is not in locating and destroying enemy naval forces but in maintaining good order at sea.[2] Essentially, the task is to ensure access to the maritime commons by all lawful actors and to inhibit the activities of illegal or hostile ones. If European Command (EUCOM) and its partners are able to do that, the common interests of security and peaceful economic use of the Mediterranean Sea will be advanced.

The key issue for EUCOM is: What concepts and type of forces should it pursue in this connection? This question is best answered through the logic depicted in figure 1.[3] By following this logic, strategic and operational planners should be able to assess where they are today and determine what type of forces will be needed in the future. The first step consists of two parts: assessing the security environment and determining strategic objectives and requirements. Requirements are derived from objectives and are based on threats. Typically they come from official security strategies or policy statements. The next step is to determine the nature of the strategic and operational challenges that must be overcome. The planner can

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then go about how to deal with them. This is done by developing operational concepts.[4] The operational concept, in turn, gives rise to required capabilities, which can, finally, be used to determine the forces or means the combatant commander will need.

FIGURE 1
PLANNING METHODOLOGY AND PROCESS

Note: An expanded view of the third box in Owens, "Strategy and the Logic of Force Planning," fig. 2, "The Logic of Force Planning," p. 490.

This article applies that methodology to the role of naval power in the Mediterranean over the next five to fifteen years. In doing so, it will address the following questions:

- What operational concepts should be developed to meet the operational challenges of a security environment largely determined by transnational threats and globalization?

- What capabilities do such concepts require the United States and its partners to develop?

The goal of this paper is to come to grips with how to think about the process of developing operational concepts for the use of naval power in the Mediterranean area.

NATURE OF THE MARITIME SECURITY ENVIRONMENT IN THE MEDITERRANEAN

The Mediterranean Basin is geographically, culturally, and politically diverse (see table 1). At its center is the Mediterranean Sea itself, which connects the

TABLE 1
PHYSICAL AND POLITICAL GEOGRAPHY OF THE MEDITERRANEAN

Features	Data
Countries (21)	Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Serbia and Montenegro, Syria, Turkey, and Tunisia, plus the Gaza Strip
Sea surface	965,000 sq. miles or 2,500,000 km^2
Length (east–west)	2,500 miles or 4,000 km
Width (north–south)	500 miles or 800 km
Total length of coastline	27,963 miles or 45,000 km
Population of coastal nations (mid-2005)	461,300,000
Depth of water	Average 1,500 meters, deepest point 5,267 meters (about 3.27 miles) in the Calypso Deep in the Ionian Sea
Urbanization of coastline	65 percent in 2000
Major straits	Strait of Gibraltar, Dardanelles and Bosporus Straits, Suez Canal
Institutions involved in security	NATO, EU, UN, OSCE, International Maritime Organization (IMO)

Source: United Nations Environmental Program, *White Paper: Coastal Management in the Mediterranean* (Split, Croatia: Priority Actions Programme, 2001), p. 7; Population Reference Bureau, *2005 World Population Data Sheet* (Washington, D.C.: 2005), pp. 6–12.

Atlantic Ocean to the Black Sea and Red Sea variously through the Strait of Gibraltar, the Dardanelles and Bosporus, and the Suez Canal. Along its northern shore are several liberal democracies, of which Turkey is the region's only secular democracy with a Muslim majority. Its eastern shore is occupied by two liberal democracies, Israel and Lebanon, and the authoritarian state of Syria. Several authoritarian and semi-authoritarian states dominated by large Muslim populations occupy the Mediterranean's southern shores.

The basin's diversity and history have created two distinct approaches to dealing with security challenges. Northern states generally take a cooperative-security approach, creating a web of institutions, organizations, and frameworks—for instance, NATO, the European Union (EU), Council of Europe, Organization for Security and Co-operation in Europe, Barcelona Process (Euro-Med partnership), 5+5 Dialogue, and Conference of Interior Ministers of the Western Mediterranean. Southern states, which generally distrust their neighbors, historically have tended either to go it alone or form short-term alignments with like-minded states. They have generally viewed cooperative-security forums and arrangements with suspicion due to their strong focus on national sovereignty.[5] However, over the last decade, as problems fueled by globalization have arisen, intraregional political and security cooperation has increased on both sides of the Mediterranean, especially through the Barcelona Process and NATO's Mediterranean Dialogue.[6]

MAP 1
MEDITERRANEAN REGION

Economically, the Mediterranean Sea functions mainly as a resource and a medium of transportation. As a resource, it provides food and supports local economies through its fisheries and mineral resources in the seabed. Over forty thousand boats fish the waters of the Mediterranean, harvesting around 500,000 tons annually.[7] The primary minerals extracted are oil and natural gas, mostly found off the shores of North African states, with smaller amounts near southern Europe.[8]

The Mediterranean's importance as a maritime highway has increased over the last two decades due to globalization. Between 1990 and 2004, American, European, and North African seaborne trade increased 71, 45, and 9 percent, respectively. The quantity of crude oil and crude-oil products—which constitute over 40 percent of world seaborne trade—increased by 42 percent during the same period.[9] Approximately 7.3 million barrels per day of oil (17 percent of seaborne oil) transits the Mediterranean via the Suez Canal, Sumed pipeline, and Bosporus Strait.[10] In addition to oil, large amounts of natural gas are moved across the Mediterranean.[11] According to the European Commission, nearly 90 percent of the external trade of the EU and 40 percent of its internal trade goes by sea.[12]

The globalization of trade has not only driven up the volume of Mediterranean seaborne transport but changed its nature. Mediterranean transport is no longer primarily regional or even European; it is now an integral part of a transnational global maritime system. This development has decreased the cost of

sea-based trade; dramatically increased the volume of goods moved by sea;[13] facilitated a "just enough, just in time" operating philosophy;[14] and dispersed the ownership of the world's merchant fleet away from major traders like the United States.[15]

Past and Current Threats

Until the 1990s, the operational priority of the U.S. and Mediterranean navies was finding and defeating hostile naval forces of other states. In World War II, this involved everything from escorting merchant ships to sinking warships and submarines. During the Cold War, missions evolved to locating, tracking, and collecting intelligence on other naval forces, primarily those of the Soviet Union, but they still focused on state actors and the threats they posed.

Since the end of the Cold War, the focus has been changed by globalization and the demise of great-power competition among European states. These phenomena have moved the security focus to threats emanating from weak states and transnational actors. In March 2005, General James L. Jones, the EUCOM commander, described the changed security environment in this way: "The new security menace is transnational and characterized by enemies without territory, borders, or fixed bases. Threats include the export and franchising of terrorism, proliferation of weapons of mass destruction, narco-trafficking, uncontrolled refugee flow, illegal immigration and piracy on the seas."[16]

While these transnational threats have, of course, existed for some time, the changing structure of the international economic and political system has rendered them more likely to affect adversely the security and the economic prosperity of the United States and Mediterranean nations.

Specific Maritime Security Threats and Challenges

Mediterranean maritime threats and challenges fall into four broad areas: terrorism, immigration and human trafficking, illicit trafficking in drugs and conventional weapons, and the proliferation of weapons of mass destruction (WMD).

Terrorism. Maritime terrorist attacks have been rare, especially in the Mediterranean. Yet terrorists have been active in the region. Such groups as the Kurdish PKK, Hezbollah, and Hamas have used the sea to channel funds and materiel for operations in Turkey, Lebanon, and Israel and the Palestinian territories, respectively. More recently, al-Qaʿida has used the Mediterranean to support operations ashore and has planned attacks on ships in the Mediterranean.

In February and August 2001, al-Qaʿida operatives were found by Italian authorities aboard two Tonga-flagged vessels. In May and June 2002, Morocco captured three Saudi men—led by Abdul Rahim Mohammed Hussein Abda Al-Nasheri, Osama Bin Laden's former chief of maritime operations—who were actively plotting suicide attacks against U.S. and British warships in the Strait of

Gibraltar.[17] According to intelligence officials, Al-Nasheri's maritime strategy had four major elements. The first was to use inflatable Zodiac-type speedboats to attack ships. The second was to blow up medium-sized vessels near other ships, including passenger liners if warships became too difficult to approach. The third involved private planes (bought or stolen from flying clubs and small airports) loaded with explosives. The last called for training underwater demolition teams to attack ships.[18]

An additional concern is that al-Qaʻida and other terrorist groups might procure commercial vessels to carry legitimate cargo in order to raise money for their operations. These vessels could ferry personnel, weapons, and information for their organizations or other paying terrorist groups. Terrorists and other illegal actors might also infiltrate the ranks of the world's 1.2 million seafarers. Recent International Maritime Organization (IMO) studies have shown that it is fairly easy for unscrupulous persons to acquire forged or falsified seafarer certificates and identity documents.[19] Governments have traditionally granted relatively liberal travel rights to seafarers through non-immigrant crew-list visas or simply upon presentation of their documents, potentially affording terrorists a way to bypass normal immigration and visitor controls.

Immigration and Human Trafficking. A major humanitarian, economic, and security challenge for the Mediterranean region is the movement of people. Every year hundreds of millions pass through the region's ports.[20] Most are legal travelers, but hundreds of thousands attempt to cross borders illegally. Italy estimates that approximately seventy thousand illegal aliens enter across its sea borders annually.[21] Morocco arrested 28,500 illegal immigrants between January and November 2005, and Libya stopped over forty thousand that year. The majority originate from sub-Saharan Africa, but they also come from Asia, the Maghreb, Syria, Libya, Egypt, Palestine, and India. The major transit routes are across the Strait of Gibraltar, especially through the Spanish enclaves of Ceuta (a ninety-minute ferry ride to the Spanish coast) and Melilla, from Libya and Tunisia (via the island of Lampedusa and Malta to Italy), from the Canary Islands, from Albania and the Balkans (across the Adriatic to Italy, from Turkey toward Calabria and Sicily), and across the Adriatic from Greece. Several thousand vessels smuggle illegals across the Mediterranean each year.[22] Many are overloaded or in poor condition, resulting in hundreds of immigrant deaths every year.

Human trafficking is big business in the region. Those seeking illegal passage reportedly pay between two and six thousand euros to cross the Mediterranean from North Africa.[23] Spanish authorities estimate that attempts to cross the Strait of Gibraltar generate annual net turnover of thirty million euros.[24] Transporters range from small-time operators in the west to transnational criminal networks in

the east. Terrorist organizations like the Kurdish PKK and al-Qaʻida reportedly engage in human trafficking to fund their primary operations.[25]

Illicit Trafficking in Drugs and Conventional Weapons. Migrants are not the only illicit traffic in the region; also in play are drugs and conventional weapons. Europe consumes approximately 33 percent of the world's illicit drugs.[26] Most of its drugs transported by sea flow into southern Europe. Some, like cocaine, come from as far away as Colombia. Cocaine shipments usually travel through Brazil to the Canary Islands, where they are typically smuggled by Moroccan middlemen into Spain. Other drugs, such as cannabis resin, originate mainly in Morocco. Heroin is customarily routed by sea from Asia through Turkey to Italy and other parts of Europe.[27] Drug trafficking, based on cases recorded, is one of the most important activities of organized crime groups and networks in Europe; it is a major criminal problem in Armenia, Croatia, the Czech Republic, Germany, Monaco, the Netherlands, Norway, Poland, Spain, and the United Kingdom.[28]

The Mediterranean also has a long history of trafficking in conventional weapons and explosives. In recent years most of this activity has occurred in the eastern Mediterranean, due to armed conflicts in the Balkans and the Palestinian territories.[29] Weapons traffickers include small freelancers as well as larger and more sophisticated transnational criminal organizations and terrorist groups. Evidence of illicit weapons trading includes the April 2004 seizure by Italian police of a United States–bound Turkish-flagged ship carrying eight thousand AK-47 rifles and the discovery by Turkish authorities of a Paraguay-bound container holding five hundred AK-47s. Perhaps the largest case involved the Comoros-flagged vessel *Baltic Sky* in June 2003. Acting on intelligence from NATO, the Greek coast guard seized the *Baltic Sky* en route from Tunis to Sudan and found undeclared cargo comprising 680 tons of industrial-grade explosives and eight thousand detonators.[30]

Proliferation of Weapons of Mass Destruction. A major security objective for the United States and its regional partners is nonproliferation. In the maritime domain, the problem has two dimensions. First, hostile nonstate actors may exploit the sea to transport WMD for use against the United States and its allies.[31] Second, states and entities acting under state cover could use the sea to transport WMD materials. A good example was the network run by Pakistani nuclear scientist A. Q. Khan; it frequently used merchant vessels to transport WMD materials between states and other entities.[32]

STRATEGIC OBJECTIVES AND REQUIREMENTS
In addition to understanding the security environment, planners must identify the strategic objectives and requirements they must pursue. The two sources of

strategic guidance for European Command planners are American and NATO security strategies and policies. Consideration should also be given to the security strategies of U.S. partners, in order to identify where they are consistent with or conflict with U.S. and alliance documents.[33]

The primary unclassified American strategic documents relevant to naval planners are the *National Defense Strategy, 2006 Quadrennial Defense Review, National Military Strategy, National Strategy for Maritime Security,* and *National Plan to Achieve Maritime Domain Awareness.*[34] The key NATO policy documents are the NATO *Partnership Plan against Terrorism, NATO's Military Concept for Defense against Terrorism, Istanbul Summit Communiqué,* the alliance's *Strategic Concept,* and the *Expanded Framework for the Mediterranean Dialogue.*[35] The *EU-NATO Declaration on ESDP* (European Security and Defense Policy) of 16 December 2002 and *European Security Strategy* of 12 December 2003 also provide valuable information on EU and NATO cooperation and security priorities.

American strategic requirements are threefold.* The first requirement is to prevent the maritime domain from being used by terrorists, criminals, or hostile states to commit terrorist, criminal, or hostile acts against the United States, its people, economy, property, territory, allies, or friends.[36] Strengthening alliances and partnerships is the second requirement.[37] The third requirement is to defend the United States forward—that is, to prevent enemies from attacking the homeland by defeating them overseas.[38]

NATO requirements since 2001 have focused heavily on the threat of terrorism and WMD.[39] Like the United States, NATO views the security environment as changed and the main security threats as stemming from nonstate actors and weak or failing states. A primary objective of the alliance is to detect and deter terrorist activity and prevent the proliferation of WMD. A second objective is to strengthen security and build stability through stronger relationships and cooperation on security concerns that NATO shares with the EU, Russia, Ukraine, the states of Central Asia and the Caucasus, and those of the Mediterranean and broader Middle East.[40] A major NATO goal for cooperation is to develop the capabilities of its partners to deal with security threats, whether in partnership with NATO or by themselves. Improving interoperability and transforming existing military capabilities to meet the changing security environment is the alliance's final objective.†

Strategic guidance is important because it tells EUCOM planners what is important and in what priority. By matching the strategic guidance against an

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* U.S. strategic requirements are presented in more detail in table A-1, available in the online version of this article.

† For additional detail on NATO requirements, see table A-2 in the online version of this article.

assessment of the security environment, planners can determine the nature and types of challenges they must overcome. Some of the challenges will be strategic, others operational.

STRATEGIC AND OPERATIONAL CHALLENGES

Many of the maritime challenges facing EUCOM arise from the nature of the security environment in the Mediterranean. The first challenge is geography. The Mediterranean Sea has twenty-eight thousand miles of coastline. Any effort to try to control or regulate it has to deal with the reality of hundreds of points from which vessels can get to sea.

The second challenge concerns the type of threats that must be combated. Essentially there are two, threats to vessels on the sea and threats from the sea. Though related, they require different responses. Protection of vessels at sea, due to the globalization of maritime transport and trade system and the transnational nature of the threat, is no longer just about protecting vessels flagged by one's own country. Because goods transported to a country are often not carried by vessels flying that nation's flag, major trading nations like the United States must now be concerned about vessels under the flags of states like Panama, Bahamas, Cyprus, and Liberia, with neither the means nor will to protect them.[41] This means the challenge is about how to ensure that vessels vital to the global economy and the prosperity of the United States can transit the maritime commons without being harmed. Relatedly, it is about how the United States and its partners can prevent terrorists and other hostile actors from using the sea to do harm ashore or to fund their operations.

In both cases the maritime paths and means employed by criminals and illegal immigrants are likely to be the same ones used by terrorists and WMD proliferators, all these among the tens of thousands of ships navigating the waters of the Mediterranean every year. Sorting through thousands of contacts to identify the handful engaged in harmful or illicit activities can be very problematic.[42]

The third challenge is political. The Mediterranean Sea is bordered by twenty-one countries. Their national governments and numerous organizations, such as NATO, the EU, and IMO, deal with security in the Mediterranean. Any effort to secure the maritime commons will involve multiple jurisdictions and stakeholders. In this light, a central question arises: Are there common interests sufficient to generate the political will that can bring cooperation and action? Two common interests that might anchor a "maritime consortium" as a basis for action are prosperity and security.[43] Even if all parties agree to take such action, however, there remains the challenge of developing a strategy that will assure interoperability among numerous civilian and military security organizations and national jurisdictions.

Interoperability is largely a political problem that manifests itself in rules of engagement, legal structures, and resource allocations, but it also has an important technical component.[44] Any concept of operations that relies on cooperation to deal with maritime threats in the Mediterranean must not only be able to generate and sustain the political will to act but address the technological issues that follow.

As figure 2 shows, the technical impediments to interoperability are numerous. The main challenge is how to create, with current and future technologies, "situational awareness," which in this connection is the ability to identify, process, and comprehend critical elements of information in and around the maritime domain.[45] Two elements are needed: a complete intelligence picture and a real-time operational picture. Information, data-management, and communications systems support both. The problem is connecting the sources of information to decision-support systems in ways that enable decision makers to deploy

FIGURE 2
TECHNOLOGICAL CHALLENGES TO CREATING INTEROPERABILITY

- Technology gap between the United States and its partners

- Multiple communications systems and a lack of common IT architecture accessible by the United States and partners

- Correlation of data from multiple sources and types of databases (civilian, government agencies, military, and coast guards)

- Information systems that can be controlled, handled, or used with ease by coalition partners

- Information systems unable to display or manage details on vessels or their cargoes, crews, and passengers

- Displaying, tracking, and providing real-time information on thousands of maritime contacts

- Decision-making tools able to distinguish abnormal, hostile, or illegal activity from peaceful/lawful

- Information assurance that supports the sharing of information across classified and unclassified systems

- Rapid communication of transit information between commercial vessels and military, coast guard, and customs units

- Operational units without broadband systems or the bandwidth needed to access the COP

- Response forces with the right technologies to respond rapidly with the correct level of force.

operational forces against correct targets at the right time. In an ideal world, a single database would contain all information on the maritime domain, and a single communications system would give decision makers and operational units access to a common operational picture (COP) and associated intelligence.[46] For EUCOM and NATO to create such a network, connecting all twenty-one regional nations, NATO, the EU, and numerous private-sector actors, may be a "bridge too far," for both political and technical reasons. If so, a less centralized network will be needed that is capable of getting the right information to the right decision makers in a timely manner. Either way, the technology used needs to be interoperable across the entire spectrum of cooperation. This means it must be able to connect information from commercial sources to police and naval forces at the national, regional, and international levels.

A subelement of the technological problem is classification and protection of sensitive information. The United States and every other nation operating in the Mediterranean uses classified display and information systems; many NATO and other partners cannot access certain alliance or other national systems. So the network to be created must operate at the unclassified level and protect sensitive information.

Once the political and technological obstacles to a COP and complete intelligence picture are solved, there remains the challenge of how to preempt or rapidly respond to threats at sea and from the littorals. One answer might be a larger U.S. naval presence. However, much of the work will likely take place in territorial waters (within twelve nautical miles of land). Even if coastal nations let American or NATO units take initial action in their territorial waters, legal disposition of apprehended vessels and persons presents a problem. It requires legal authority and a place to incarcerate persons and securely store seized material. NATO, per se, does not have territory on the Mediterranean—its members do; therefore, it must rely on the willingness of its members to act and follow through—which is not always forthcoming.

The last challenge EUCOM must address is resources. European Command and its partners operate in a resource-constrained environment. Defense spending in Europe is down, and the U.S. defense budget, while it has increased dramatically since 2000, is not likely to continue to rise.[47] EUCOM, NATO, and EU planners will have to find a way to use current assets more effectively and apply future resources to the capabilities needed to support the operational concepts they develop.

CURRENT MARITIME SECURITY OPERATIONAL CONCEPT

European Command's current operational concept for maritime security is to use existing operations and security arrangements to improve cooperation in

order to combat terrorism and other illicit activities at or from sea, build the capacity of partners, and improve information sharing. By leveraging such security frameworks as NATO's Partnership for Peace (PfP), Mediterranean Dialogue, and bilateral arrangements, EUCOM is attempting to build on past cooperation and common interests.[48]

The main operation being used is Operation ACTIVE ENDEAVOUR (OAE). OAE was launched in October 2001 by NATO, under Article V of the Washington Treaty, as a part of its response to the September 11th terrorist attacks in the United States.[49] OAE's stated purpose was to detect, deter, and protect against terrorist activity. Initially, ACTIVE ENDEAVOUR focused on naval presence and surveillance operations in the eastern Mediterranean Sea using naval forces assigned to the Standing Naval Force Mediterranean and Standing Naval Force Atlantic.

In February 2003, the North Atlantic Council (NAC) expanded the operation to include escorting merchant shipping through the Strait of Gibraltar.[50] One of the main reasons was to prevent further terrorist operations like the attack on the French oil tanker *Limburg* off the coast of Yemen on 6 October 2002. The thirty-six-mile-long Strait of Gibraltar is vulnerable due to its narrowness and the large volume of commercial traffic.[51] Escort operations were suspended on 10 December 2003, recommenced on 29 January 2004, and were again suspended on 29 May 2004.[52]

In April 2003, the NAC decided to expand OAE's mandate to vessel queries and compliant boardings.[53] Typically, queries are conducted by aircraft and surface units assigned to Joint Task Force ENDEAVOUR. All information gathered is passed to the Maritime Component Command Headquarters in Naples (CC-MAR Naples) and the NATO Shipping Centre in Northwood, United Kingdom. If anything suspicious is learned, the vessel in question may be boarded and inspected by NATO forces. Where there is intelligence or evidence of terrorist-related activity, OAE forces are deployed to the area and readied for action, which must be authorized by the NAC. During compliant boardings, if irregularities unrelated to terrorism are found the information is passed to law enforcement authorities for action at the vessel's next port of call. OAE forces shadow the vessel until action is taken or it enters territorial waters on its way into port. When a vessel refuses boarding, NATO works with national authorities to see that it is inspected once it enters an alliance member's territorial waters.[54]

On 16 March 2004, the NAC expanded OAE operations yet again to cover the entire Mediterranean Sea, and in October NATO adopted a new operational pattern. Since then, according the joint task force commander, Vice Admiral Roberto Cesaretti,

the focus has been on gathering and processing information and intelligence so as to target specific vessels of interest. In this way, it is now possible to deploy surface forces as reaction units to conduct specific tasks such as tracking and boarding of vessels. The new operational pattern maintains a proactive posture. Moreover, resources may be supplemented in periodic surge operations. At these times, augmentation forces, such as one of the Standing Maritime Groups of the NATO Response Force, join Task Force Endeavour to provide an enhanced presence and more intensive surveillance capability.[55]

Based on this pattern of operations, OAE forces are utilized for the following tasks: helping deter and disrupt any action supporting terrorism at or from the sea; controlling choke points—the most important passages and harbors—by deploying minehunters from Standing NATO Mine Counter-Measures Groups to carry out preparatory route surveys; providing escorts through the Strait of Gibraltar when necessary; and enhancing the Mediterranean Dialogue and other NATO programs to promote bilateral and multilateral relations.[56]

Typically around a dozen ships from NATO navies are assigned to Joint Task Force ENDEAVOUR. This dedicated force gives NATO a visible presence at sea to deter terrorism and other illicit activities in the sea lanes and to react to a broad range of contingencies, including search and rescue, humanitarian assistance, and disaster relief.[57] In addition, the operation also improves interoperability, builds capacity, and generates cooperation and information sharing.

At the strategic level, NATO also uses ACTIVE ENDEAVOUR as a vehicle for political engagement with non-NATO states. The June 2004 NATO Summit in Istanbul invited non-NATO countries (among them Russia, Ukraine, and Mediterranean Dialogue countries) to participate in OAE. Since then, Russia, Ukraine, Georgia, Israel, Algeria, Morocco, Tunisia, Albania, Croatia, Sweden, and Finland have expressed interest in joining the operation on some level. Levels of participation include political discussions and intelligence sharing as well as providing forces. Ukraine formally agreed to participate in OAE at the 21 April 2005 meeting of the NATO-Ukraine Commission in Vilnius.[58] It will share intelligence and send surface units to OAE and Strait of Gibraltar operations in 2007.[59] Russian participation has consisted of the assignment of a liaison officer to the Joint Informational Analysis Center (JIAC), at-sea training, and surface patrols by the Black Sea Fleet frigate *Pitlivy* in September 2006. Russia has also delegated to the commander of the Black Sea Fleet authority to approve compliant boardings of Russian vessels by OAE forces. Georgia's participation so far has been limited to coordination and information sharing. The Albanian military has committed itself to sharing of intelligence with NATO. Of the Mediterranean Dialogue countries, Israel and Morocco have been the most active. In February 2006, Israel agreed to share intelligence with NATO, send an officer to

the JIAC, and provide logistical support by allowing OAE forces to make port calls in Haifa without diplomatic clearance. It also finalized an Individual Cooperation Program with NATO, under an enhanced Mediterranean Dialogue arrangement, on 16 October 2006. Morocco has been sharing information with NATO. Tunisia has established daily information sharing via secure fax between its maritime operations center and CC-MAR Naples. Finally, at a 7 April 2006 meeting in Rabat between NATO and its seven Mediterranean partners, Algeria, Israel, and Morocco agreed to join in naval counterterrorism patrols.

An OAE-affiliated undertaking, Operation BLACK SEA HARMONY (OBSH), was launched on 1 March 2004 by the Turkish navy. The objective is to ensure the "smooth flow of shipping through the Turkish straits as well as maintaining navigational order along the vital sea lines of communication in the Black Sea maritime domain" until a Black Sea Force is able to assume this and other maritime security duties on a permanent basis.[60] Turkey is attempting to use OBSH as a way to bring regional cooperation to the support of security and stability in the Black Sea. Russia and Ukraine have formally announced their intentions to participate.

OAE-OBSH cooperation consists of shadowing and trailing contacts of interest and suspect ships, as well as information exchange—primarily via NATO C4I* channels. In this way the United States is able to leverage its NATO relationship with Turkey to obtain more information on Black Sea traffic before it arrives in the Mediterranean. NATO also uses OBSH as another way to build capacity within regional navies (in this case, those of Bulgaria, Romania, and Ukraine).

Both the United States and NATO have been hoping to expand OAE into the Black Sea since 2005. The United States officially requested that OAE's mandate cover the Black Sea on 23 February 2006. Two months later Washington reversed its position and dropped the idea.[61] Turkey has opposed such an expansion, fearing it would threaten the 1936 Montreux Treaty, and has declared that existing Black Sea naval structures are more than able to provide security in the region.[62]

Another significant government activity in the Mediterranean is the Proliferation Security Initiative (PSI). The focus of the PSI is to prevent the proliferation of WMD, their delivery systems, and related materials. So far, over sixty countries have indicated support and over forty have participated in nineteen training exercises.[63] Between September 2003 and June 2006, six PSI maritime exercises took place in the Mediterranean.[64] PSI represents another way in which European Command can generate practical cooperation and interoperability with NATO and non-NATO partners in the Mediterranean.

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* C4I: command, control, communications, computers, and intelligence.

An international initiative by which EUCOM is attempting to improve its maritime domain awareness is the International Maritime Organization's Automatic Identification Systems (AIS) initiative. Regulations adopted by the IMO in 2000 required ships to carry AIS—a shipboard broadcast system, a continuous and autonomous transponder, operating in the VHF maritime band.[65] AIS allows ships to track and identify each other and exchange pertinent navigation information with one another or facilities ashore. Transmissions vary from two seconds to six minutes depending on the ship's speed and the type of data. AIS information can be graphically displayed on a computer or overlaid onto a radar display or electronic chart display and information system. Many coastal countries and commercial companies maintain shore-based AIS receivers to monitor shipping traffic. Several commercial companies also provide access to near-real-time AIS data over the Internet for an annual fee.[66]

By providing valuable information about routes, cargo, and ships themselves, AIS can increase situational awareness, efficiency, and safety, and decrease the burden of monitoring and controlling coastal and offshore waterways. Naval forces and command centers can merge AIS into the common operational picture. Since 2006 European Command, with the assistance of the Department of Transportation's Volpe Center, has been testing ways to integrate AIS data and other commercial data streams into American and NATO C4I systems. Recent successes include live transmission of data from a cell phone in Egypt and the direct feed of AIS data from a submarine under way.

The use of Automatic Identification Systems does not guarantee "visibility" of all vessels; ships engaged in illicit activity can always turn their AIS off. Even if all vessels keep their AIS on, there is no guarantee that their transmissions will be picked up, for two reasons. First, AIS transponders transmit their information in the VHF band, meaning that vessels well out to sea may not be in range of a shore station; second, no international mandate requires countries to build such stations, and there are not now enough to provide for 100 percent coverage. Nevertheless, by comparing whatever AIS data is received to other sensor input, maritime security forces can identify neutral and friendly contacts and eliminate them from consideration, focusing on a smaller number of unidentified contacts.

FUTURE EUCOM MARITIME SECURITY OPERATIONAL CONCEPT

Any future operational concept for maritime security must make assumptions and predictions on how future security trends and strategic requirements may evolve. The best way to reduce uncertainty in this process is to examine how the sea has been used in the past and is being used at present for human development. As depicted in figure 3, there are five such means, or ways. By examining

how society values each use, planners can make reasonable projections on the capabilities required in the near and middle terms.

If society is to enjoy all five uses, someone must maintain good order at sea. "Good order at sea requires a range of activities extending from law enforcement at one end of the spectrum to the defense of security at the other."[67] Naval and coast guard forces and civilian agencies all have responsibilities along this spectrum. The key challenge for naval planners and their partners is to determine which should be conducted by naval forces and which by others.

**FIGURE 3
GOOD ORDER AT SEA**
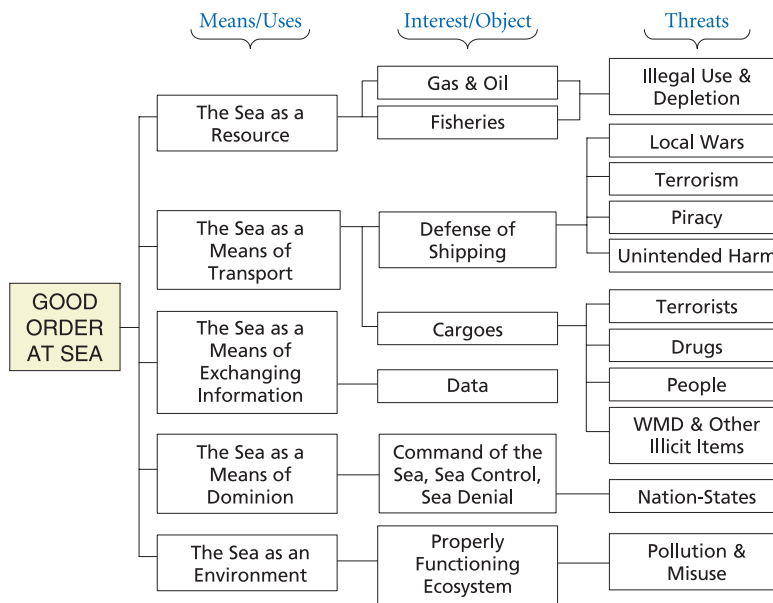
Note: How the sea has been and is now used to advance human development. Threats to the use of the sea for exchanging information not listed; they would include anything that impedes the passage of vessels. Adapted from figure 10.3 in Till, *Seapower,* p. 310.

Traditionally the focus for Western navies has been the use of the sea to advance political power or dominion. The sea has typically been seen as a battleground in the struggle for power between states, or occasionally nonstate entities. The business of navies was to fight other navies and carry out naval diplomacy;[68] responsibility for ensuring good order for all other purposes has been generally assigned to coast guards and civilian agencies. Historically this outlook dominated the creation of maritime operational concepts for Western navies, but since the end of the Cold War and especially since 2001, operational concepts have changed.[69] Of the remaining uses of the sea, two—the sea as an environment and a resource—have increased in importance over the last several decades.[70] The last use—the sea as a primary means of exchanging information and values between societies and nations—has decreased in importance, and its influence will be more indirect than in the past, due to the advent of inexpensive air travel, television, satellite communications, large undersea cable networks, and cyberspace.[71]

Recent maritime operations in the Mediterranean have reflected the changing order of importance in the five uses of the sea. As a result, EUCOM's maritime

concept of operations has been changing. In the next decade it is likely that a new operational concept will emerge, one built on three pillars. The first pillar, leveraging existing security frameworks to build cooperation and capacity, will be a continuation of the current concept. NATO will continue to be central to this pillar, and a further maturing of cooperation between NATO, the European Union, and other partners can be expected.
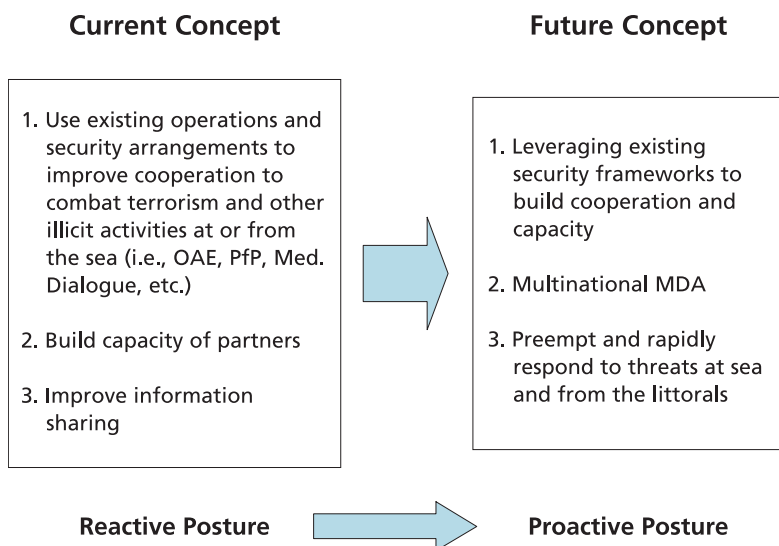
Pillar two—creating maritime domain awareness, or MDA, in a coalition environment—will be at the heart of any new concept of operations. MDA is the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of the nation.[72] It creates the situational awareness needed to allow the United States, its allies, and its partners to take early actions against hostile actors and guarantee access to the maritime commons.

The third pillar, the ability to preempt and respond rapidly to threats at sea and from the littorals, is enabled by the first two: cooperation and MDA together create the ability to deter, preempt, interdict, and respond to maritime threats. Some of this capacity will reside in American units, but the majority will have to come from regional navies, coast guards, customs services, and other national security services.[73] As we have seen, a larger U.S. naval presence in the Mediterranean region will not, of itself, dramatically improve the ability of the United States or the alliance to preempt, interdict, or respond to maritime threats, because most of the work would take place in territorial waters. European Command's capacity to respond will therefore depend on its own ability to conduct combined operations and on the capabilities of its partners.

If this concept (figure 4) is to work, several things need to happen. First, cooperation and information sharing between Mediterranean nations, private shipping companies, port authorities, NATO, EU, EUCOM, and international institutions and agencies will have to become routine, the normal way of doing business. The military task of collecting knowledge about maritime activity, establishing a baseline upon the basis of which intelligence can be analyzed and unusual activity be revealed, can be completed only in close cooperation with the commercial sector.[74]

Second, the United States, either the European Command or working in the NATO framework, will need to take the lead in creating a multinational interagency network that links all the elements, from sensors to decision makers to operational forces. Central to this process will be improving the effectiveness of the Joint Information Analysis Center in Naples.[75] JIAC will need to capitalize upon initiatives like the Italian navy's Virtual-Regional Maritime Traffic Centre;[76] it must also connect with regional military command centers and such nonmilitary entities as the Western Sea Border Centre, Eastern Mediterranean

**FIGURE 4
CURRENT AND FUTURE MARITIME SECURITY
OPERATING CONCEPTS**

Current Concept

1. Use existing operations and security arrangements to improve cooperation to combat terrorism and other illicit activities at or from the sea (i.e., OAE, PfP, Med. Dialogue, etc.)

2. Build capacity of partners

3. Improve information sharing

Reactive Posture

Future Concept

1. Leveraging existing security frameworks to build cooperation and capacity

2. Multinational MDA

3. Preempt and rapidly respond to threats at sea and from the littorals

Proactive Posture

Sea Borders Centre, and the European Union's FRONTEX.[77] So far, JIAC's ability to collate and analyze data and disseminate it as actionable intelligence has not met expectations, largely as a result of a lack of focus on the maritime domain and small maritime analysis capability.[78]

Third, the concept should not solely focus on terrorism. The sea is a medium for transport and, inevitably, numerous illicit activities. Often the means and paths traveled by criminals and illegal immigrants are used also by terrorists and WMD proliferators. It can be hard from a distance to distinguish one illicit activity from another. Making good order at sea—that is, the elimination of illicit activity—the objective of the concept is likely to produce better results and may be the best way to guarantee long-term political buy-in by Mediterranean states.[79]

Fourth, the concept needs to develop technological and political means to generate complete operational and intelligence pictures. The system will have to operate at the unclassified level but use secure links, processing large volumes of information and passing it quickly to a large number of users. Traditional classified systems are not a viable option; classified information is not actionable in the multinational and interagency environment. Whether the network uses commercial encryption methods, Internet protocols, or some other technology, it must be affordable, reliable, easy to use, and widely accessible, and it must provide enough security to allow confidence in the data it contains. The United States and other nations will still have and use their own classified systems, but the network that enables MDA cannot be based solely on them. How well its protocols and procedures handle sensitive and classified information will be critical to success.

Lastly, political understandings and legal authorizations need to be in place at the international, regional, and national levels. The situational awareness offered by MDA is of no value if executives lack legal authority or organizational

arrangements to take action. Operationally, this means military and civilian forces must be free to cooperate across jurisdictions without constant requests for permission. Considerable progress has been made over the last few years, but much more work needs to be done.[80]

Required Capabilities and Attributes

Future American and allied forces will need a wide range of capabilities to implement such a maritime security operational concept.[81] These capabilities must lead to unity of effort between U.S. forces and their partners and to a focus on good order at sea. They fall into four areas. The first is cooperation and integration between U.S. forces and their military and civilian partners. Knowledge of capabilities, political restrictions, and legal authorities is the second capability area.

Generating actionable intelligence through MDA is the third.[82] Within it are eleven subordinate capabilities:

- "Long-dwell-time" surveillance of major choke points, high-traffic zones, and areas of interest

- Detection and monitoring of a large number of vessels, people, cargoes, and activity at sea and in port, in real or near-real time

- Integration of JIAC with other regional maritime command and coordination centers and development of a maritime analysis capability at the JIAC

- Information connectivity to decision makers and operating forces in a multinational and interagency environment

- Analysis and decision-making tools to sort abnormal from normal activity (e.g., unclassified data mining and anomaly detection)

- Wide-area telecommunications

- Common database sharing

- Fusion of the intelligence picture with the common operational picture

- Accessibility of the COP to all partners (civilian and military)

- Display and integration of commercial AIS data in the COP

- Real-time access by boarding teams to biometric and other databases allowing them to identify terrorist and criminal suspects immediately (implying an ability to collect biometric information).[83]

The last capability needed to support a maritime security operational concept as envisioned here is deterrence, preemption, and interdiction of, and response to, illicit activity at sea and in the littorals. This point too has subordinate capabilities. The first is the ability to deploy force packages tailored to specific

threats (right type and amount of force at right time). To this end operational forces need to be fast, scalable, networked, and interoperable. Interoperability between U.S. naval forces and the NATO Response Force is a subcapability in itself, as would be a NATO Response Force capable of operations at sea ranging from law enforcement–related actions, such as boardings, to more traditional combat missions. Response forces generally must be able to respond to threats in the littorals, close to shore, in straits, pierside or at anchor, and, as noted, must be able to receive and transmit biometric data.

These capabilities and their component tasks constitute a framework upon which planners can determine what they will need to combat maritime threats in the Mediterranean. Force structures may vary, but all will have to be networked, interoperable, and adaptable.[84]

Risks and Uncertainty

No operational concept can be complete without addressing risk and uncertainty. Clearly, no one can predict the future with complete accuracy.[85] However, the central challenge of ensuring good order at sea will remain. The tools that globalization provides transnational actors will continue to challenge states. Accordingly, the number of different paths that events will take over the next five to fifteen years is limited. The real uncertainty lies not in what will need to be done but in the ability of the United States to create a maritime coalition capable of dealing with what the future brings.

So the question is: Can the United States, specifically European Command, create a coalition with the right capabilities to deal with maritime threats to American and allied interests? The answer depends on how well EUCOM understands the limitations of the United States and of its partners and how well it mitigates risk. The cooperation needed to build domain awareness and the capacity to respond to threats in a multinational environment are difficult to create. Any concept of operations that relies on multiple partners to deliver on their promises is bound to be problematic, for reasons ranging from a lack of political will to a lack of resources on the part of any player, including the United States. Local corruption, bureaucratic inefficiencies, friction, chance, differing interests, and the difficulty of keeping track of constantly moving vessels, cargoes, and people at sea also threaten the ability to execute the concept.[86]

The risk can be reduced and chances of success improved by a combination of strategies. First, the concept should not have an "American face": U.S. planners should support NATO, allied, and private initiatives whenever possible. Second, priority for resources should go to assets that will enable others to succeed and to capabilities partners cannot develop themselves—for instance, bandwidth needed to connect a regional MDA network, software to manage and

disseminate (without cost to users) a common operational picture, AIS stations, and certain operational expenses of partners. Third, surveillance and tracking should focus on contacts of interest and anomalies, not attempt to follow every vessel under way in the Mediterranean; normal behavior and lists of trusted vessels can filter out vessels that need not be watched. Fourth, international and regional maritime initiatives (like AIS and the Marine Electronic Highway program) that create greater transparency in the maritime domain and promote cooperation between commercial and government sectors should be encouraged and supported.[87] Lastly, the decision-making process in planning and execution should be open, including partners at all levels and stages and respecting their interests and sensitivities.

Today's security environment presents many challenges for U.S. combatant commands. To overcome them these commands must craft and execute operational concepts that align strategic requirements with resources. In the maritime domain, their concepts should produce forces and procedures flexible enough to respond to changes in how the sea is used for human development. Naval planners need to develop a broader perspective of maritime activities; all are interrelated. They also need to remember that naval forces are a means to an end—to advance American interests. In the Mediterranean, this means maintaining good order at sea in order to ensure economic prosperity and defense of the United States and its regional allies against those who threaten them. This task is not one the United States can accomplish on its own.[88] NATO, regional states, commercial enterprises, and other regional and international entities all have roles to play.

NOTES

1. Epigraph: James L. Jones, Commander United States European Command, *Statement before the Senate Armed Services Committee, March 1, 2005,* p. 3, available at www.globalsecurity.org/military/library/congress/.

2. Good order at sea is about safeguarding the sea from misuse of all sorts. In some cases this means protecting commercial vessels from piracy and in others it may mean protecting fisheries or interdicting terrorists. Good order at sea is grounded in the historical fact that human development has always been and continues to be tied to the sea. The sea's past and continuing contribution to human development is based on how the sea has been used, namely: for the resources it contained; for its utility as a means of transportation and trade; for its importance as a means of exchanging information; and as a source of power and domination. Geoffrey Till, *Seapower: A Guide for the Twenty-first Century* (London: Frank Cass, 2004), pp. 310–50.

3. The logic of figure 1 is described in greater detail in Mackubin Thomas Owens, "Strategy and the Logic of Force Planning," in *Strategy and Force Planning,* ed. Security, Strategy, and

Forces Faculty, 4th ed. (Newport, R.I.: Naval War College, 2004), pp. 488–90.

4. "A concept is a notion or statement of an idea—an expression of how something might be done. A concept may, after further development, experimentation, assessment and refinement, lead to an accepted way of doing something." U.S. Defense Dept., *Capstone Concept for Joint Operations* (Washington, D.C.: Joint Staff, August 2005), p. 3.

5. Fulvio Attinà, "The Building of Regional Security Partnership and the Security Culture Divide in the Mediterranean Region," *Institute of European Studies,* Paper 040508 (8 May 2004), p. 24, available at repositories.cdlib.org/ies/040508.

6. Globalization is best viewed as a spatial phenomenon in which individual, local, national, regional, and global forces "are all in play, often at the same time." It refers to network connections and relationships at multicontinental distances. Basically, globalization is a "worldwide network of interdependence" that is creating increasingly complex networks and linkages at all levels. Victor D. Cha, "Globalization and the Study of International Security," *Journal of Peace Research* 37, no. 3 (May 2000), p. 392; Ellen L. Frost, "Globalization and National Security: A Strategic Agenda," in *The Global Century: Globalization and National Security Volume I*, ed. Richard L. Kugler and Ellen L. Frost (Washington, D.C.: National Defense Univ. Press, 2001), p. 37; Joseph S. Nye, Jr., *The Paradox of American Power* (New York: Oxford Univ. Press, 2002), pp. 81, 190.

7. EUROSTAT, *Fisheries Statistics: Data 1994–2004* (Luxembourg: Office for Official Publications of the European Communities, 2005), pp. 24, 46.

8. Italy extracts around 200 billion cubic feet (bcf) of natural gas from the Adriatic Sea, and Greece extracts small amounts of oil from the Aegean Sea. In 2005, Algeria and Egypt were the fourth- and sixth-largest producers of liquefied natural gas (LNG) in the world, respectively. Over 96 percent of Algeria's export earnings come from hydrocarbon exports. Egypt did not start exporting LNG until 2005. Some 24 percent of the world's LNG originated in the Mediterranean in 2004. Approximately 8 percent of it goes to the United States,

with most of the remainder going to European countries. These figures are the author's calculations based on Energy Information Administration data sheets available at www.eia.doe.gov/emeu/international/gastrade.html.

9. Two-thirds of the world's crude oil, approximately 43 million barrels per day (bbl/d), travels by sea. United Nations Conference on Trade and Development, *Review of Maritime Transport, 2005*, document UNCTAD/RMT/2005 (New York: 2005), pp. 16–17.

10. The Sumed pipeline links the Ain Sukhna terminal in the Gulf of Suez with the Sidi Kerir terminal in Egypt. It allows oil aboard tankers too large to pass through the Suez Canal to reach the Mediterranean for further transport. Most of its oil originates in Saudi Arabia (2.5 million bbl/d). Energy Information Administration, *World Oil Transit Chokepoints,* Country Analysis Briefs (Washington, D.C.: U.S. Energy Dept., November 2005), available at www.eia.doe.gov/emeu/cabs/World_Oil _Transit_Chokepoints/Background.html.

11. While most of the region's natural gas moves through undersea pipelines from Libya, Algeria, and Tunisia to Spain and Italy, the region has also seen a large growth in the movement of natural gas in the form of LNG on tankers.

12. European Commission, *Overview: Maritime Transport* (Brussels: 2005), available at europa .eu.int/comm/transport/maritime/index_en.htm.

13. In 1991 the world merchant fleet was 436,027 gross tons (GT). By 2004, it had increased to 633,321 GT, or by 145 percent, for an average yearly increase of 3.2 percent. "The U.S. and World Fleets, 1914 to the Present," *Maritime Business Strategies, LLC,* www.coltoncompany .com/shipping/statistics/wldfltgrowth.htm.

14. Till, *Seapower,* p. 314; Andrew Krepinevich, *The Quadrennial Defense Review: Rethinking the U.S. Military Posture* (Washington, D.C.: Center for Strategic and Budgetary Assessments, 2005), p. 70. According to Till, these characteristics make today's shipping system much more fragile and less resilient than it once was.

15. In 2004, only 2 percent of the world's merchant fleet was U.S. flagged. "The U.S. and World Fleets, 1914 to the Present," *Maritime Business Strategies, LLC,* www.coltoncompany.com/shipping/statistics/wldflt.htm.

16. Jones, *Statement,* p. 3.

17. Al-Nasheri was captured in Yemen in November 2002. He has reportedly admitted playing a key role in organizing the attacks on the USS *Cole* and M/V *Limburg.* U.S. Justice Dept., statement, "Al Qaeda Associates Charged in Attack on USS *Cole*, Attempted Attack on Another U.S. Naval Vessel," 15 May 2003, available at www.usdoj.gov/opa/.

18. Christopher Dickey, "High-Seas Terrorism," *Newsweek,* 27 January 2003, p. 8.

19. Organization for Economic Co-operation and Development, *Security in Maritime Transport: Risk Factors and Economic Impact* (Paris: OECD, July 2003), p. 14.

20. In 2001, of the 325 million people who transited through European ports, 7.3 million came from non-European ports. About 2.8 million passengers pass through Spain's North African ports of Ceuta and Melilla every year. Council of Europe, "Feasibility Study of the European Union's Maritime Borders," Project 114410 (Brussels: 19 September 2003), p. 4.

21. Vincenzo Delicato, "National Legislation and Good Practices in the Fight against Illegal Migration—Italian Model," paper presented at CARDS Police Regional Project, "Development of Reliable and Functioning Policing Systems, and Enhancing of Combating Main Criminal Activities and Police Co-operation," Study Visit in Rome, 1 October 2004, available at www.belgium.iom.int/CardsRegional2002/.

22. In 2003, more than 650 vessels were intercepted with illegal immigrants by Spain. Council of Europe, *Organized Crime Situation Report 2005* (Strasbourg, Fr.: Department of Crime Problems, December 2005), p. 39.

23. Ibid.

24. Council of Europe, "Feasibility Study of the European Union's Maritime Borders," p. 19.

25. Ali M. Koknar, "Maritime Terrorism: A New Challenge for NATO," *Energy Focus,* 24 January 2005, available at www.iags.org/n0124051.htm; Luke Baker, "Italy Study Sees Al Qaeda Link to Human Trafficking," Reuters, 7 August 2003.

26. Office of Drug and Crime, *2005 World Drug Report* (New York: United Nations, 2005), p. 128.

27. Ibid, p. 89.

28. Council of Europe, *Organized Crime Situation Report 2005,* p. 30.

29. Since 1997 Albania has had a flourishing weapons trade. In 1997 hundreds of thousands of weapons were looted from government stockpiles during riots from antigovernment protests. Over 300,000 weapons and 700 million rounds of ammunition are still unaccounted for. Center for Peace and Disarmament Education and Saferworld, *Turning the Page: Small Arms and Light Weapons in Albania* (London: December 2005), p. 7, available at www.saferworld.org.uk/.

30. According to *Baltic Sky*'s manifest, the cargo was destined for a company with a nonexistent Khartoum post office box. Helena Smith, "NATO 'Terror' Tipoff on Explosives Ship Sailing to Sudan," *Guardian Unlimited,* 24 June 2003, available at www.guardian.co.uk/.

31. "Maritime Security Policy," in *National Security Presidential Directive NSPD-41/Homeland Security Presidential Directive HSPD-13* (Washington, D.C.: White House, 21 December 2004), p. 4.

32. In October 2003, the M/V *BBC China* was intercepted carrying a shipment of thousands of centrifuge parts bound for Libya.

33. In many ways, U.S. and European perceptions are very similar. They both see terrorism and proliferation of WMD as their greatest threats and are concerned that terrorists may acquire and use WMD. Both see regional conflicts and weak/failed states as major threats. Europeans have a more "expansive" view of the security challenges, including also organized crime and problems like global warming. Europeans also view security more from a standpoint of human security than of traditional security. European Union, *A Secure Europe in a Better World: European Security Strategy* (Brussels: 2003), pp. 3–4; *National Security Strategy of the United States* (Washington, D.C.: White House, 2006), p. 12.

34. Two other subordinate strategies related to terrorism and WMD include U.S. Defense Dept., *National Military Strategic Plan for the War on Terrorism* (Washington, D.C.: 1 February 2006), and *National Military Strategy to Combat Weapons of Mass Destruction* (Washington, D.C.: 13 February 2006).

35. All of these documents can be found in the documents section of NATO's website, www.nato.int.

36. "Maritime Security Policy," p. 2.

37. U.S. Defense Dept., *The National Defense Strategy of the United States* (Washington, D.C.: 2005), p. i.

38. Ibid.; *The National Strategy for Maritime Security* (Washington, D.C.: White House, 2005), p. 9; U.S. Defense Dept., *National Military Strategy of the United States* (Washington, D.C.: 2004), p. 2.

39. NATO's Strategic Concept, approved in April 1999, also provides policy guidance. Specifically, "[the alliance] must safeguard common security interests in an environment of further, often unpredictable change. It must maintain collective defence and reinforce the transatlantic link and ensure a balance that allows the European Allies to assume greater responsibility. It must deepen its relations with its partners and prepare for the accession of new members. It must, above all, maintain the political will and the military means required by the entire range of its missions." *Readers Guide to the NATO Summit in Washington* (Brussels: NATO, 1999), p. 47.

40. *Istanbul Summit Reader's Guide* (Brussels: NATO, 2004), p. 8.

41. As of 1 January 2005, 14,480 merchant ships, 65.1 percent of total tonnage, were not registered in the country of domicile of the owner but flagged out. Institute of Shipping Economics and Logistics, "Ownership Patterns of the World Merchant Fleet," *ISL Market Analysis 2005,* available at www.isl.org/products _services/shop/enindex.htm.

42. Approximately eighty-two thousand vessels transit the Strait of Gibraltar every year (Admiral Fernando Armada Vadillo, "Active Endeavor in the Strait of Gibraltar," presentation to the Fifth Regional Seapower Symposium, 14 October 2004, available at www.marina.difesa .it/symposium/programma14.htm). Fifty thousand vessels annually, including 5,500 oil tankers, transit the Bosporus Strait (Energy Information Administration, *World Oil Transit Chokepoints*).

43. Till, *Seapower,* pp. 361–66.

44. Ibid., p. 364; Eric Larson, Gustav Lindstrom, Myron Hura, Ken Gardiner, Jim Keffer, and Bill Little, *Interoperability of U.S. and NATO Allied Air Forces: Supporting Data and Case Studies* (Santa Monica, Calif.: RAND, 2003), p. 46.

45. A widely used definition describes situational awareness as "the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future." M. R. Endsley, "Design and Evaluation for Situation Awareness Enhancement," *Proceedings of the Human Factors Society 32nd Annual Meeting* (Santa Monica, Calif.: Human Factors Society, 1988), pp. 97–101.

46. Common operational picture is defined as "a single identical display of relevant information shared by more than one command. A common operational picture facilitates collaborative planning and assists all echelons to achieve situational awareness." U.S. Defense Dept., *Department of Defense Dictionary of Military and Associated Terms,* Joint Pub. 1-02 (Washington, D.C.: Joint Staff, 12 April 2001, amended through 31 August 2005), p. 105.

47. In October 2005 Deputy Secretary of Defense England signed a memorandum instructing the services to cut some $32 billion in projected spending through 2011. European defense spending has been decreasing as a percent of GDP since 1997. In 1997, EU nations spent 2 percent of their GDP on defense; by 2003 it was down to 1.7 percent. Jonathan Karp, Andy Pasztor, and Greg Jaffe, "Pentagon Weighs Personnel Cuts to Pay for Weapons," *Wall Street Journal,* 5 December 2005, available at online.wsj.com; Gustav Lindstrom, *EU-US Burdensharing: Who Does What?* Chaillot Paper 82 (Paris: Institute for Security Studies, 2005), p. 28.

48. The Partnership for Peace (PfP) is a program of practical bilateral cooperation between individual partner countries and NATO. It allows partner countries to build up individual relationships with NATO, choosing their own priorities for cooperation. PfP was launched in 1994; currently, twenty countries participate. "Partnership for Peace," *NATO Topics,* www.nato.int/issues/pfp/. Mediterranean Dialogue partners include Algeria, Egypt, Israel, Jordan, Mauritania, Morocco, and Tunisia.

49. Article V states that "an armed attack against one or more of them in Europe or North

America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defense recognized by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area." Article V, "North Atlantic Treaty," 4 April 1949, available at www.nato.int/docu/basictxt/treaty.htm.

50. The NAC is the most important decision-making body within NATO. The only body established by the North Atlantic Treaty (under Article 9), it is invested with the authority to set up such subsidiary bodies as may be necessary for the purposes of implementing the treaty. It oversees political and military process relating to security issues affecting the whole alliance. *NATO Topics,* available at www.nato.int/issues/nac/.

51. The strait's width ranges from eight miles (12.9 kilometers) off Point Marroquí to twenty-seven miles (forty-three kilometers) at the western entrance. Approximately three thousand vessels transit the Strait of Gibraltar every day. "Combating Terrorism at Sea," NATO Briefing, April 2004, p. 3, available at www.nato.int/docu/briefing/terrorism_at_sea-e.pdf.

52. As of 15 September 2005, 488 noncombatant escorts had been conducted through the Strait of Gibraltar. Roberto Cesaretti, "Combating Terrorism in the Mediterranean," *NATO Review* (Autumn 2005), available at www.nato.int/docu/review/2005/issue3/english/art4.html.

53. The first compliant boarding was conducted on 29 April 2003. As of January 2006, approximately seventy-four thousand vessels had been queried and a hundred boarded. NATO, "Operation Active Endeavour Boardings Reaches 100," Allied Maritime Component Command Naples Press Release, 16 January 2006, available at www.afsouth.nato.int/organization/CC_MAR_Naples/PressReleases/.

54. Cesaretti, "Combating Terrorism in the Mediterranean."

55. Ibid.

56. Ibid.

57. It was not the original purpose of OAE to conduct search-and-rescue, humanitarian, or disaster-relief operations; the ability to conduct such operations is an unexpected benefit. An example took place on 4 December 2001, when the Standing Task Force Mediterranean ships *Aliseo, Formion,* and *Elrod* were called to assist in the rescue of eighty-four civilians from a stricken oil rig in high winds and heavy seas. *Aliseo*'s embarked helicopter removed all eighty-four in fourteen flights. NATO ships have also been involved in the countering of illegal immigration. On 23 March 2006, OAE ships conducting counter-terrorist patrols in the Mediterranean spotted suspicious movement on the M/V *Crystal* and began tracking the vessel. They notified the Hellenic Coast Guard, which intercepted the vessel as it approached Greek waters. Greek authorities boarded the vessel and subsequently arrested the captain, crew, and 126 illegal immigrants.

58. In December 2005, NATO officials visited Sevastopol to discuss Ukrainian fleet preparations for participation in OAE. On 27 January 2006, Ukrainian president Viktor Yushchenko signed a decree approving the Vilnius agreement, which will allow Ukrainian forces to participate in OAE.

59. If Strait of Gibraltar escort operations recommence, Ukraine has pledged to contribute forces.

60. Cem Gürdeniz, "Transformation in the Black Sea and Caucasus Regions," speech to the Third Annual Security Conference: Security Risks and Transformation-Euro-Atlantic and Regional Perspectives, Center for the Study of Democracy, 19 November 2005, available at www.csd.bg/artShow.php?id=6781. The Black Sea Group of the Navy Forces partnership was created by a 2000 treaty between Turkey and other states of the region. Its tasks were search and rescue, humanitarian assistance operations, mine countermeasures, environmental protection operations, goodwill visits, and other tasks, like peace support operations, agreed by all parties.

61. Russia also opposes an expanded U.S. or NATO role in the Black Sea. The real reason behind Turkish and Russian opposition to

Washington's plan may be that both countries "likely perceive U.S. policies in the Black Sea and Caucasus region as being potentially destabilizing to their vital interests." Igor Torbakov, "Turkey Sides with Moscow against Washington on Black Sea Force," *EURASIA Daily Monitor,* 3 March 2006, available at www.jamestown.org/.

62. Turkey attaches great importance to the 1936 Montreux Convention, which limits the access of the warships of nonlittoral states to the Black Sea. The treaty guarantees free passage to all merchant vessels and defines the terms and sets tonnage limits (fifteen thousand tons per ship, aggregate not to exceed thirty thousand tons) on the passage of military vessels through the Bosporus and Dardanelles. Matt Bryza, U.S. Assistant Secretary of State for European and Eurasian Affairs, stated on 29 March 2006 that even though the United States seeks to improve security in the Black Sea region, it has no intention of violating the convention.

63. The PSI is not a formal institution, nor is it a treaty body. It is a statement of purpose, an activity. The PSI seeks to involve in some capacity all states able and willing to take steps to stop the flow of WMD, their delivery systems, and related materials at sea, in the air or on the land. "Proliferation Security Initiative: Statement of Interdiction Principles," 4 September 2003, available at www.state.gov/t/np/rls/fs/23764.htm; "Exercises," *Proliferation Security Initiative,* www.proliferationsecurity.info/exercises.html.

64. Mediterranean PSI exercises conducted were SANSO '03 (Spain), BASILIC '03 (France), AIRBRAKE '03 (Italy), CLEVER SENTINEL (Italy), BLUE ACTION '05 (Spain), and ANATOLIAN SUN '06 (Turkey).

65. Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) states that AIS shall provide information—including the ship's identity, type, position, course, speed, navigational status, and other safety-related information—automatically to appropriately equipped shore stations, other ships, and aircraft; receive automatically such information from similarly fitted ships; monitor and track ships; and exchange data with shore-based facilities. All vessels built after 1 July 2002 and those built before then that are engaged in international voyages, with the exception of ships less than three hundred gross tons (other than passenger vessels and tankers), are required to carry AIS. International Maritime Organization, "AIS Transponders," www.imo.org/Safety/.

66. For example, AISLive provides this service for $1,320 per user per year. The five-user license costs $2,275.

67. Till, *Seapower,* p. 342.

68. This does not mean navies did not conduct other actions, like patrolling fisheries and intercepting drug smugglers, only that such missions have not shaped naval strategy and operational concepts.

69. The rise of a near-peer competitor could bring dominion once again to the forefront of naval planning, but most experts do not see the rise of a military peer competitor in the Mediterranean any time soon. Douglas E. Streusand, "Geopolitics versus Globalization," in *Globalization and Maritime Power*, ed. Sam J. Tangredi (Washington, D.C.: National Defense Univ. Press, 2002), pp. 49–53.

70. U.S. Commission on Ocean Policy, *An Ocean Blueprint for the 21st Century* (Washington, D.C.: U.S. Government Printing Office, 2004), pp. 1–16, 384; Till, *Seapower,* pp. 311–14.

71. The function of the sea as a means of exchanging information and values has largely been overtaken by the globalization of modern information technology and aviation transportation systems. Cyberspace is now the dominant medium of global communications. See Till, *Seapower,* p. 353; James J. Wirtz, "Will Globalization Sink the Navy?" in *Globalization and Maritime Power,* ed. Tangredi, p. 556.

72. *National Plan to Achieve Maritime Domain Awareness* (Washington, D.C.: White House, 2005), p. 1.

73. As of late 2006 the U.S. Navy had only two ships permanently stationed in the Mediterranean, a command ship and a tender; all other U.S. naval combatants in the Mediterranean deploy there from elsewhere. Typically at least one ship is assigned to Standing Naval Force Mediterranean. Often naval forces deployed to the Mediterranean are redeployed to other theaters, especially the Arabian Gulf. Typically, the only time aircraft carriers spend in the Mediterranean is in transit to the Arabian Gulf.

74. Vice Admiral Timothy P. McClement, OBE, "The Asymmetric Threat in the Maritime Environment—a Military Perspective," presentation to the Fifth Regional Seapower Symposium, 14 October 2004, available at www.marina.difesa.it/symposium/programma14.htm.

75. The purpose of the JIAC is the active promotion of common information collection and reporting and coordination. Cesaretti, "Combating Terrorism in the Mediterranean."

76. According to Admiral Sergio Biraghi, the chief of staff of the Italian navy, the purpose of the Virtual Regional Maritime Traffic Centre (V-RMTC) is to increase coordination of maritime surveillance in the Mediterranean. V-RMTC is intended to provide naval forces with information on traffic in the Mediterranean in real time, by secure Internet links. As of late 2006, twenty-six navies were participating in the project. Assembly of the Western European Union, "The Assembly Advocates the Use of Naval Defence Forces in Missions That Are Not Strictly Military in Character," WEU press release, 7 December 2005, available at www.assemblee-ueo.org/en/presse/cp/2005/44.html. See also www.marina.difesa.it/vrmtc/en/vrmtc.htm.

77. The Western Sea Borders Centre (WSBC) in Madrid, Spain, is responsible for surveillance of the Baltic and western Mediterranean. The Eastern Sea Borders Centre (ESBC) in Piraeus, Greece, is responsible for the eastern Mediterranean. FRONTEX (European Agency for the Management of Operational Cooperation at the External Borders of the Member States of the European Union) became operational on 1 May 2005. Its purpose is to coordinate among and assist the competent services of the member states responsible for implementing the Schengen *acquis* on control of persons at the external borders. Its tasks include coordinating operational cooperation between member states in the field of management of external borders (land and sea); cooperation is envisaged with Europol, international organizations, and third countries. Interparliamentary European Security and Defense Assembly, *Surveillance of the Maritime and Coastal Areas of European States,* Document A/1920 (Paris: Assembly of Western European Union, 6 December 2005), pp. 8–9.

78. Operational effectiveness in maritime areas largely depends on having the right personnel in place at the JIAC. The JIAC has done a much better job of collating, analyzing, and disseminating data as actionable intelligence for Balkan, Afghanistan, and other primarily land operations.

79. Most Mediterranean navies view terrorism as a threat, but more often than not they see the threat in the much broader context of illicit activity in general. See presentations by General Mohand Tahar Yala (commander of Algerian naval forces), Rear Admiral Abdelaziz Aichouche (Royal Moroccan Navy), Rear Admiral Mohamed Kamel Bouhaouala (Tunisian navy), and several of the other presenters at the Fifth Regional Seapower Symposium in Venice, Italy, on 14 October 2004, available at www.marina.difesa.it/symposium/programma14.htm.

80. Examples of the progress in this area include the 2005 amendments to the Suppression of Unlawful Acts at Sea Convention, consensual boarding agreements with flag-of-convenience countries like Panama as part of the PSI, and the signing of numerous memorandums of understanding on sharing classified information among the United States, NATO, and most of the states that border the Mediterranean.

81. A capability is "the ability to achieve desired operating effects under specified standards and conditions through combinations of means and ways to perform a set of tasks." Ryan Henry, "Defense Transformation and the 2005 Quadrennial Defense Review," *Parameters* (Winter 2005/06), p. 12.

82. Capability 3 (develop and maintain shared situational awareness and understanding) in section 5 of the *Command and Control Joint Integrating Concept* contains a more detailed discussion on this capability. U.S. Defense Dept., *Command and Control Joint Integrating Concept* (Washington, D.C.: Joint Staff, 2005), pp. 23–24.

83. *National Plan to Achieve Maritime Domain Awareness,* p. 16.

84. Examples of this process and a more detailed discussion of many of the above capabilities can be found in the *National Strategy for Maritime Security*, U.S. Navy's *FORCENet Functional Concept*, *Command and Control*

Joint Integrating Concept, and *Command and Control Joint Functional Concept*. All joint concepts are available at www.dtic.mil/ futurejointwarfare/index.html#, and *FORCENet Functional Concept* at forcenet.navy.mil/ concepts/fn-concept-final.pdf.

85. Colin Gray, "How Has War Changed since the End of the Cold War?" *Parameters* (Spring 2005), p. 16.

86. Friction "is the force that makes the apparently easy so difficult." Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton Univ. Press, 1976), p. 121.

87. A marine electronic highway (MEH) is a system of technology, people, and processes that enables third-party access to marine environmental and operational data and information in real or near-real time. It embodies tools to record, store, manage, model, analyze, and access oceanographic and other data and to present the results as textual and graphical information to a broad base of expert and nonexpert users. The first MEH demonstration project (2004–2008) is being conducted in the Straits of Malacca by the IMO, Singapore, Malaysia, and Indonesia, funded by the World Bank's Global Environmental Faculty. Randy Gillespie, "Global Marine Electronic Highway: Proposed Vision and Architecture," Canadian GeoProject Centre, available at www.acops.org/Gillespie.pdf.

88. U.S. Defense Dept., *The National Defense Strategy of the United States,* p. 19.