

# MARITIME STRATEGIC EVALUATION FOR ISRAEL 2017/18

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# Foreign Affairs and Defense

## Global Developments in the Maritime Domain

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### General

Although the 2017 annual strategic evaluation by the Haifa Research Center for Maritime Strategy focuses on the Eastern Mediterranean and the Red Sea, the events in these two regions are linked to recent global developments in the maritime domain, since there are close connections between events in the global domain and those in Israel's vicinity. This chapter will discuss those connections.

As mentioned in the previous report,<sup>1</sup> we are witnessing a gradual change in the global center of gravity—from the geopolitical, economic and geostrategic perspectives—from the West towards the East and Asia. This change is a result of the growing importance of the East in terms of the global economy.

In this context, it is worth mentioning that China is the main contributor to this shift towards East Asia and in China itself the economy is the main component in the country's growing power. It appears that China will continue to seek ways in which to expand its economic leadership by means of regional development and this will be dictated by the One Belt One Road Initiative, known as the BRI) which currently involves 64 countries. China will try to promote the free trade region (called the Regional Comprehensive Economic Partnership – RCEP) that it has initiated without the involvement of the US. As part of this effort, in May 2017 Chinese President Xi Jinping invited the heads of 28 countries as part of the Belt and Road Forum in order to celebrate the One Belt One Road initiative to which they belong. His ambitious goal is to transform the Eurasia region—in which China is the dominant nation—into an alternative trade and economic bloc to that on the other side of the Pacific, which is led by the US. This is being accomplished by means of this forum of countries, in which China takes the leading role.<sup>2</sup> The expansion of the BRI and its possible implications for Israel can be found in a different chapter of this report. India, whose economy is developing even faster than that of China, is hot on China's heels. On the assumption that this trend indeed continues in coming decades, the region will be responsible for the largest contribution to global GDP.<sup>3</sup>

China with a population of 1.4 billion and India with 1.3 billion remain the largest countries in the world (together accounting for more than one-third of the global population) and the expectation is that within seven years India will overtake China to become the most

1 Maritime Strategic Evaluation for Israel 2016.

2 J.P. What is China's belt and road initiative? The Economist, May 15, 2017, <https://www.economist.com/blogs/economist-explains/2017/05/economist-explains-11>

3 UN Department of Economic Affairs, 21 June 2017, New York <https://www.un.org/development/desa/en/news/population/world-population-prospects-2017.html>

populous nation in the world. It is estimated that in two decades the East/Southeast Asia region will account for more than half of the global population. Therefore, it is reasonable to assume that any major change in the region will have implications for global security.

Despite short-term economic fluctuations, it is expected that the economies of the US, China and India will in the future constitute the Group of 3 (G3) – the three largest economies in the world. Each of them will in the future have to deal with a spectrum of challenges, including defense, climate change and sustaining rates of economic and industrial growth.

Although there is a new US administration, it has yet to formulate a clear foreign policy, and there is disagreement between supporters of an active foreign policy (known as internationalists) and supporters of an "America First" policy.

From the American perspective, China is identified as an aggressive and provocative nation, following "the transformation of islands built on reefs in international waters into military bases and the positioning of new systems, most of which are components of maritime power, with prime importance in the shaping of the maritime domain in the Western Pacific in a way that will serve Chinese interests."<sup>4</sup> Also in the case of India, China has not been idle and during the summer of 2017 there were two border incidents between the two in the Sikkim region and in Bhutan whose security is guaranteed by India. In the two incidents, the Chinese challenged the Indians by means of a limited penetration into their territory in order to complete the paving of a local road. North Korea, led by Kim Jong-un, continues to act like a rogue state and is carrying on with the development of its nuclear program. This includes its array of ballistic missiles and the capability of submarine launch.<sup>5</sup> In July 2017, North Korea successfully launched two ballistic missiles with a range that includes the West Coast of the US and has threatened to fire missiles armed with nuclear warheads at the American island of Guam.

In an attempt to coopt China into the effort to resolve the crisis on the Korean peninsula, President Trump hosted the Chinese president at his estate in Florida for a summit meeting. At the conclusion of the meeting, he expressed optimism with regard to the relations with China (including a trade agreement between the two countries). It is worth mentioning that the US has applied pressure (both direct and indirect) on China in order for it to use its influence on North Korea to halt its nuclear program, although it appears that up to the time of writing this effort has not produced any results. The election of Tsai Ing-wen as President of Taiwan and her conversation with President Trump after his swearing in has led to an undeclared change in the traditional American policy towards the issue of "one China", a subject that has been one of the foundations of Chinese policy and has created a great deal of tension between the US and China.

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4 2017 Index of US Military Strength, Conclusion: Global Threat Level, 2016 Assessment, <http://index.heritage.org/military/2016/assessments/threats/conclusion-global-threat-level>

5 Ibid.

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There were high hopes for an improvement in the relations between the US and Russia following Trump's inauguration at the beginning of 2017. So far, these hopes have not been realized. The long meeting between Trump and Russian President Putin, which took place at the G-20 Summit Meeting held in Hamburg, Germany in June 2017, did not lead to a joint statement on any material issues related to the relations between the US and Russia. Furthermore, the imposing of new American sanctions on Russia by the Trump administration in August 2017 increased the tension in relations between the two superpowers, including a Russian announcement of its intention to expel hundreds of American diplomats from Russia as retaliation for the sanctions.

The visit of President Trump to the Middle East in 2017 was meant to, among other things, brand him as an authoritative leader of a superpower; to create a consolidated front against Iran and its activities in the Middle East; and to strengthen and deepen the partnership with a number of Islamic nations against ISIS. In addition, the visit was meant to emphasize that the partnership with Saudi Arabia and the Gulf states is already making a major contribution to the American economy (including the signing of a huge weapons deal in the amount of \$110 billion), which is the fulfilment of the President's campaign promises to create new jobs.

The American attempt to change its image as a weak and indecisive superpower—which was created toward the end of Obama's tenure—has only been partially successful. Thus, the attack on the Assad regime's airport facilities by means of 59 Tomahawk cruise missiles in the spring of 2017—fired from ships of the Sixth Fleet in response to the use of chemical weapons by President Assad against Syrian citizens—and the power projection responses to the provocative testing by North Korea of intercontinental ballistic missiles were primarily intended to convey a message but did not restore the image of US deterrence.

The nuclear agreement with Iran has so far survived in its current form. The Iranians are continuing to develop ballistic missiles (an activity not explicitly mentioned in the agreement with the P5+1, but which does violate a Security Council resolution) and in August 2017 the US expanded the sanctions on anyone connected to this program. In the Persian Gulf region and the Strait of Hormuz, vessels of the Iranian Revolutionary Guard continue to provoke ships of the US Fifth Fleet, which so far has reacted with restraint.

The superpower spheres of influence: China continues to expand its influence in Africa and Asia and its trade balance with Africa came to more than \$200 billion in 2015 while US trade totaled only \$85 billion.<sup>6</sup> Additional countries are trying to expand their spheres of influence: Russia in Eastern Europe, the Caucasus and the Middle East and India in

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6 Yvan Yenda Ilunga, America and China's competition for influence in Africa, The World Economic Forum, 27 Feb 2015 <https://www.weforum.org/agenda/2015/02/america-and-chinas-competition-for-influence-in-africa>

Asia and Africa. India is trying to become a counterweight to the Chinese influence in Africa and in terms of investment and trade it ranks third after China and the US.<sup>7</sup> The focus of the Trump administration on the target of "America first" as a prism through which issues like global security, diplomacy and foreign trade are viewed has raised questions (and sometimes even a downgrading of importance) regarding traditional US allies, from NATO to the South American nations. These allies and in particular those in Europe have declared that they do not view the White House as having moral or leadership authority with respect to what is happening globally.

**Military power:** It is expected that the US will continue to maintain its position as a superpower in coming decades. The Trump administration has announced its intention to increase the defense budget by \$52 billion. It should be mentioned that this move was already planned by the Obama administration and that it is less than the approximately 10 percent increase in the budget that was expected by defense officials and in actuality the increase is only 3 percent. Figure 1 describes the breakdown between the various branches and uses.

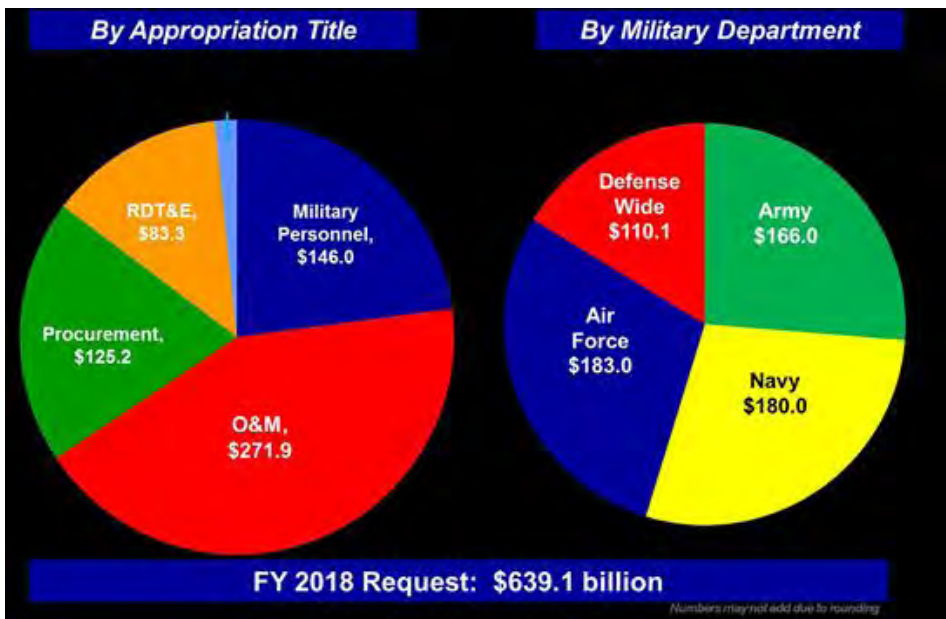


Figure 1 – The Defense Department's requested budget for 2018

China and India, which are continuing to equip themselves with advanced weapon systems of various types, are already considered regional superpowers. The Chinese

<sup>7</sup> Sarah Baynton-Glen, India on a mission to counterbalance China's growing influence in Africa, Standard Digital, July 4<sup>th</sup> 2017 <https://www.standardmedia.co.ke/article/2001245995/india-on-a-mission-to-counterbalance-china-s-growing-influence-in-africa>

defense budget for 2017 was 7 percent larger than in the previous year and totaled \$152 billion (about one quarter of the US defense budget). China's increasing military power alongside its policy of power projection in the maritime domain is causing concern in the region and particularly with respect to its uncompromising position in the dispute over marine sovereignty in the South China Sea. The Indian defense budget for 2017-18 stands at \$53.5 billion. The budget of the Indian navy has declined by about 12 percent relative to the previous budget year.<sup>8</sup>

Although the EU continues to be a significant economic power and also the fourth largest economy in the world, in the absence of any significant ability to project power it does not appear that its status in the international area will meet that of the G-3 superpowers. Despite the British decision to withdraw from the EU, it has promised to remain in NATO, although there are questions regarding the centrality of its position in the alliance. At the time of writing, the EU faced three main challenges: in the East, in response to the possibility of a Russian invasion of the Baltic states; in the South, dealing with the flow of refugees arriving on the Mediterranean shores of the EU; and in the eastern Mediterranean, dealing with the unresolved crisis in Cyprus. President Trump is demanding that the NATO nations increase their defense expenditures and take on a larger role in NATO (while implicitly threatening not to fulfill American commitments to protect the NATO countries from a Russian invasion).<sup>9</sup> Figure 2 presents the proportion of defense spending within the GNPs of the NATO countries over the years and the significantly higher proportion in the US relative to the other NATO members. At a meeting of the EU defense ministers in Munich in February 2017, and in response to pressure from the Trump administration, all of them agreed to increase the size of their defense budgets to 2 percent of GNP. Accordingly, Jens Stoltenberg, the Secretary General of NATO, announced in June 2017 that the NATO countries, including Canada, have increased their defense expenditure by 4.3 percent and in comparison to 2014 it has grown by \$46 billion.<sup>10</sup> The political and military implications of Britain's withdrawal from the EU are still unclear, particularly in view of the fact that it is one of the two leading countries (together with France) in NATO with respect to military power, but it will certainly have an effect on NATO.

8 Laxman K. Behara, India's Defence Budget 2017-18: An Analysis, Institute for Defence Studies and Analyses, New Delhi, February 03, 2017, [http://www.idsa.in/issuebrief/india-defence-budget-2017-18\\_lkbehera\\_030217](http://www.idsa.in/issuebrief/india-defence-budget-2017-18_lkbehera_030217)

9 Sanger David and Habermann Maggie, "Donald Trump Sets Conditions for Defending NATO Allies against Attack", New York Times, July 20, 2016. <http://edition.cnn.com/2017/06/29/politics/nato-members-increase-defense-spending/index.ht>

10 Browne Ryan, NATO members to increase defense spending, CNN Politics, June 29, 2017, <http://edition.cnn.com/2017/06/29/politics/nato-members-increase-defense-spending/index.html>



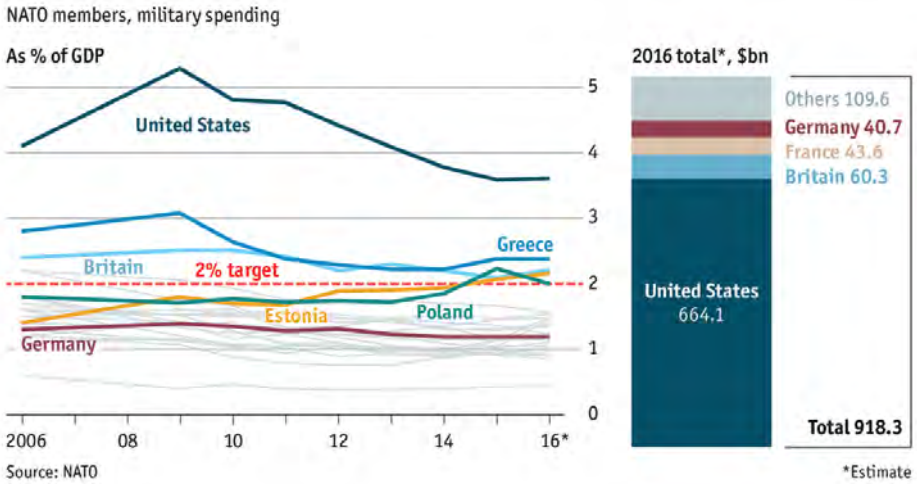


Figure 2 – The contribution of the NATO countries to the organization's budget – long-term trends

The Russian Federation continues to maintain its image and status as a global and regional power despite its political, economic, social and demographic problems. The hope that Putin pinned on the election of Donald Trump as president have not been realized thus far and in particularly with respect to the cancelation of the economic sanctions imposed on Russia. In this context it is worthwhile mentioning that Trump—under pressure from Congress—was forced in early August 2017 to approve new sanctions against Russia as a result of its involvement in the American election campaign. Following several years (since 2011) in which the Russian defense budget increased at a rate of about 20 percent annually, the Russian government decided on a fixed cut during the years 2017-19. There are various estimates of the size of the cut in 2017, from 25 percent (from \$65 billion to \$48 billion), according to the publication HIS Jane's, to only 7 percent according to other estimates. Whatever the case, this reflects the general crisis in Russia, which is partly due to the drop in oil prices. Even in its current economic situation, Russia continues to use the means at its disposal to maintain an opportunistic geopolitical policy and to position itself as a global superpower, particularly in the maritime domain.<sup>11</sup>

Russia's new military doctrine, which was approved by Putin in 2014 was revised on July 20<sup>th</sup> 2017 when President Putin approved the document "Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period Until 2030" (for further details, see the section in the report on "The Foundations of Russia's Maritime

11 Craig Caffrey, Russia announces deepest defence budget cuts since 1990s, IHS Jane's Defence Weekly, 16 March 2017, <http://www.janes.com/article/68766/russia-announces-deepest-defence-budget-cuts-since-1990s>

Policy – Continuation of the Soviet and Russian Bureaucratic-Military Tradition"). The doctrine reflects the influence of the crisis in the Ukraine and the Russian reaction to the positions of the US and NATO regarding that conflict. Accordingly, it is expected that from time to time Russia will try to generate dissent among the EU countries with the goal of undermining its unity. Russia will continue to influence the former Soviet countries, by means of both soft power and hard power.<sup>12</sup> Russia will continue to intervene in Ukraine, in the Caucasus and in Central Asia and will oppose any attempt by NATO to expand its influence in the former Soviet countries. In this context, tension increased during the summer of 2017 between Russia and Estonia as a result of concern that Russian forces would invade the country. In response, the US Vice President made a tough statement with the goal of discouraging Russia from making such a move.<sup>13</sup> In mid-September 2017, Russia, together with Belarus, carried out its largest military exercise since annexing the Crimean peninsula in 2014. The exercise was called "Zapad (West) 2017" and was held in Belarus, eastern Russia and the area of Kalingrad, which serves as a Russian enclave. In the West, there was concern as a result of the large scale of the maneuver, which included about 13 thousand soldiers, armored divisions, destroyers and fighter aircraft. Also in East Asia, Russian has adopted an opportunistic policy with the goal of separating between the US and its traditional allies in the region. An example is the visit in July 2017 of Russian vessels in the Philippines for joint exercises with the Philippine navy, which exploited the policy change by Philippine President Rodrigo Duterte regarding relations with the US, the Philippines' traditional ally.<sup>14</sup>

Russia will seek control in the Arctic region, based on the understanding that this territory is essential for its economic and military future. Europe will remain at the focus of Russian economic activity, with Russian emphasis on the European markets for its energy resources. The drop in the prices of energy, which accounts for about 80 percent of Russian exports, and the sanctions imposed by the West as a result of its takeover of the Crimea have exacerbated the economic crisis in Russia. Russia will continue to be one of the largest exporters of weapons in the world and as a result of its difficult economic situation will be prepared to offer highly sophisticated weapon systems, some of which are even more advanced than those of the West.

The Middle East continued to suffer from instability. The demise of the ISIS caliphate in the Middle East; the alliance between a number of Sunni nations led by Saudi Arabia, particularly against Qatar; and the creation of a Russia-Iran-Syria axis creates a new reality. The combination of the Iranian effort to create a land bridge to the Mediterranean

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12 Soft power: an approach in international relations that is used to achieve economic or cultural influence over a rival country in order to achieve objectives, in contrast to hard power that involves, among other things, the use of military power to achieve objectives.

13 McNeill, Sophie, US Vice President Mike Pence reassures NATO allies in Estonia amid Russian threat, ABC News, July 31, 2017, <http://www.bbc.com/news/world-europe-40779184>

14 Reuters World News, Russian navy visits Philippines as Duterte tightens ties with U.S. foes, April 20, 2017, [www.reuters.com/article/us-philippines-russia-idUSKBN17M0SJ](http://www.reuters.com/article/us-philippines-russia-idUSKBN17M0SJ)



and the conflict between Shiites and Sunnis in the Middle East and the various decisions in response to the crisis will have a significant long-run effect on the Middle East as a whole, particularly on the status of the Iranians and the hopes of the Kurds, and incidentally on the security of the State of Israel.

Defense and security will continue to be the most important issue in both the virtual and physical domains, including space and the cyber domain. The demand to defend the citizens of the various countries will increase its importance as a result of the increase in global population, climate change, the shortage in resources and the lack of stability in the international arena. As a result of these demands, governments will expand their defense capabilities in order to meet the physical needs of existence. Many of these needs are international in nature and are related to the phenomenon of globalization.<sup>15</sup>

In contrast to 2016, during which not a single vessel was seized by pirates, during the first half of 2017 the attempted attacks were again on the rise. This is in spite of the continuing activity of the naval forces, primarily in the Indian Ocean and the Gulf of Aden. Notwithstanding the long-term decline in the number of incidents, the economic burden that is the result of the pirate activity remains high (see Figures 10 and 11). It should be mentioned that certain pirate groups have expanded to other illicit maritime activities, such as the smuggling of weapons and refugees.<sup>16</sup>

Currently, there is still a clear distinction between maritime piracy and maritime terror, according to the characteristics of the attack, the methods used and the means used, in addition to the locations in which maritime terror and pirate activities take place. However, in view of the similarity between them in certain characteristics, such as the attacks on ships, the theft of maritime cargo and the taking of hostages, the boundary between the two activities is expected to become less clear.

## The main trends in global sea trade

More than 80 percent of global trade is by way of the sea and the sea route serves as the most important means of transporting goods. In 2015, the scope of global trade crossed the threshold of 10 billion tons. Nonetheless, the relatively moderate increase (3.5 percent) in 2016 in the carrying capacity of the commercial fleet (in terms of tonnage) is the lowest rate of growth since 2003. The growth in the demand for seaborne transport stood at 2.1%, which led to global overcapacity and financial difficulties among some of the shipping companies. Nonetheless, Chinese container shipping to the West Coast of

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15 The Development, Concepts and Doctrine Centre (DCDC) Global Strategic Trends, Programme analyses the future strategic context. Global Strategic Trends out to 2040, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/49954/20121129\\_dcdc\\_gst\\_regions\\_sasia.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49954/20121129_dcdc_gst_regions_sasia.pdf)

16 Piracy and Armed Robbery Against Ships in East Africa 2016.

the US and to European ports grew in 2016 by 8 percent. Figure 3 below describes the changes in the various types of seaborne cargo during the period 2011-2016.

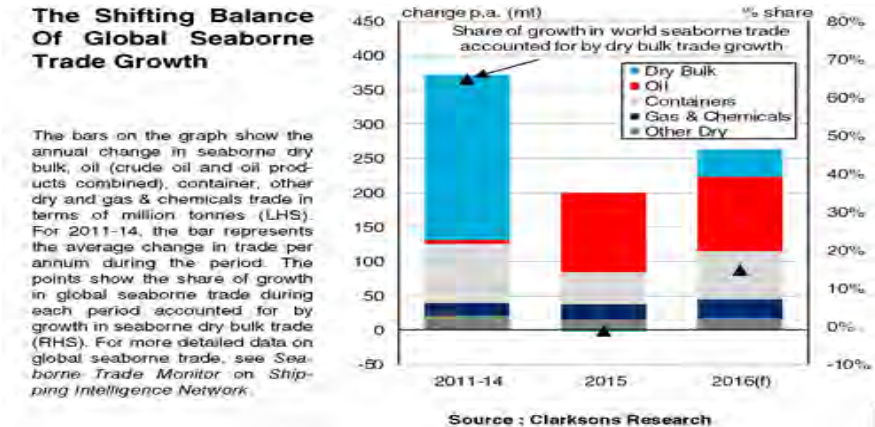


Figure 3 – The changes in global seaborne trade during the period 2011-16

The growth in global demand for seaborne transport in 2011 and 2016 and the main contributors to this growth (i.e. China and India) are presented in Figure 4. The value of annual global trade passing through the South China Sea totals \$5.3 trillion, of which \$1.2 trillion is trade between China and the US. About 80% of China's fuel is transported through the choke points of the Malacca and Lombok Straits, which has led China to consider financing the digging of the Kra canal in the territory of Thailand (see below).

**Global Seaborne Demand: 450 – 550 MTPA Growth Expected by 2016; 8% CAGR** 

**Pacific Demand Growth 85+% of Total Demand Increase**

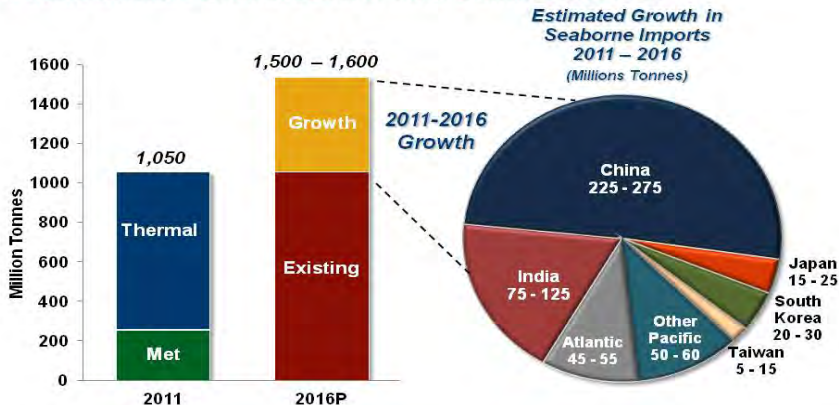


Figure 4 – The global demand for seaborne transport by country/region (MTPA – Millions of Tons per Annum)

The economic situation of container shipping companies has been affected in recent years by the excess supply. This has led to a drop in the prices of transport, which has adversely affected the financial situations of shipping companies and in particular those that transport containers. This has even led to the bankruptcy of Hanjin, a Korean shipping company, in 2016. The leading shipping companies of this type have arrived at the conclusion that in order to survive, and in addition to efficiency measures, they must adopt a policy of mergers and acquisitions. The Hapag-Lloyd company merged in 2016 with UASC (United Arab Shipping Company), thus overtaking Evergreen, a Taiwanese company, to become the fourth largest company in the world, with a market share of more than 20%. COSCO, the Chinese shipping company—which in 2015 merged with the China Shipping Group—is expected to carry out another merger move in 2017. CMA CGM, a French company, has signed an acquisition agreement with Neptune Orient Lines (NOL) and it is reasonable to assume that other companies will join this trend in order to survive in the container shipping business.<sup>17</sup> And indeed, early signs of this can be seen in the fact that shipping prices rose in the second quarter of 2017 by 5.7% relative to the previous year.<sup>18</sup>

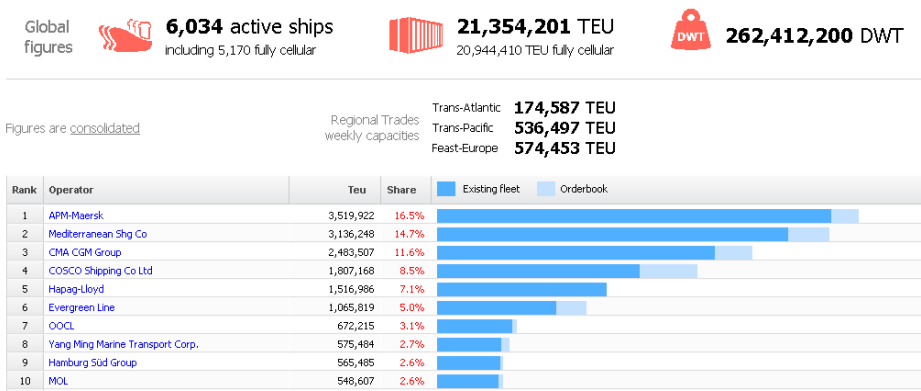


Figure 5: The largest shipping companies and their market share (source: alphaliner)

### New sea routes

The rise in the volume of global trade and the dependency of that trade on choke points has led to a number of initiatives to reduce the pressure, by both increasing the capacity of passage through these points and by creating alternatives to them.

- 17 Handy Shipping Guide, More Container Freight Shipping Line Mergers and Acquisitions, Consolidation is the Name of the Current Game, June 29, 2016, [http://www.handyshippingguide.com/shipping-news/more-container-freight-shipping-line-mergers-and-acquisitions\\_7271](http://www.handyshippingguide.com/shipping-news/more-container-freight-shipping-line-mergers-and-acquisitions_7271)
- 18 Yoram Gabizon, "The efficiency measures at Zim and the improvement in the maritime shipping industry have put the company in black this quarter", The Marker – Capital Market News, p. 29, August 31, 2017. [Hebrew]

The expansion of the Suez Canal in 2015, which added an additional lane of 52 km. thus making the canal two-directional and which increased its capacity, led the EU and OECD in early 2017 to inaugurate a plan in collaboration with the Egyptian government called "Supporting the Development of the Suez Canal Economic Zone". The goals of the plan are to promote investment, to create new jobs and to exploit the advantage created by the fact that 8% of world trade passes through the Suez Canal.

In 2016, work was finished on the expanded Panama Canal. The work included a third lane of traffic that allows for the passage of longer ships, with a displacement of 13 thousand TEU, which will facilitate an increase in China's trade. As a result of the opening of the canal, the shipment of crude oil from Venezuela to China was shortened from 45 days sailing to just 30 and with lower operating costs. The need to deal with the constraints created by choke points both in Central America and in Southeast Asia have led to feasibility studies for the construction of two additional canals: a Chinese-financed plan to dig a canal in Nicaragua that will compete with the Panama Canal and also a plan to dig the Kra Canal in southern Thailand which will compete with the route through the Malacca Strait.

In 2017, work began on the Nicaragua Canal, at an estimated cost of \$50 billion. HKND Group, a Chinese company, has begun the work on the Brito Port on the Pacific Coast side (see Figure 6 below). The canal will be 276 km. long and 230-280 meters wide. The project will include two artificial lakes, two locks, two ports, an airport, a free trade zone and tourist sites.



Figure 6 – The planned route of the Nicaragua Canal

During 2016, an agreement in principle was signed between China and Thailand for the long-term project to build the Kra Canal, which is also called the Thai Canal (see Figure

7 below). The canal, whose planned length is 135 km, is meant to cross the Kra Isthmus in southern Thailand and will provide a new shipping route that shortens the voyage from the East to Europe by about 1200 km, as a result of bypassing the Malacca Strait. The opening of the Kra Canal will enable ships sailing from the Indian Ocean to the Pacific Ocean to avoid using the shipping services provided today by Singapore and will allow the Chinese to establish these services in the vicinity of the canal. The project has not yet been approved by the Thai government, but a group of retired military officers has been formed with the purpose of promoting the project and completing it within five years. The cost of the project is estimated at about \$28 billion and if it is approved some of its components may be financed by Chinese investment through the Maritime Silk Route initiative.<sup>19</sup>



Figure 7 – The planned route of the Kra Canal

The previous report already mentioned the interesting development in the Northwest Passage of the Arctic Ocean. This passage was not feasible for regular commercial ships until now due to the permanent thick layer of ice (see Figure 8 below). In recent years, the ice layer has been reduced in thickness by climate change. If the trend continues, it is predicted that in about two decades it will be possible to sail this route freely most of the year. The voyage along this route from Europe to East Asia will save about 2500 miles relative to the existing route. In addition, the transport of oil from Alaska to the East Coast of the US by tanker will be shortened. In this context, a Russian liquid natural gas (LNG) tanker took this route from Europe to Asia (the Northwest Passage) for the first time in August 2017, without the need for an icebreaker. It completed the voyage in a record time of 6.5 days. The 300-meter ship was built with a lightweight steel reinforced hull that can withstand a layer of ice up to 2.1 meters thick. It is the largest ship to have made

<sup>19</sup> Belmont Lay, Thais called to support S\$38.2 billion Kra Canal construction that will bypass S'pore ports, August 10, 2017, <http://mothership.sg/2017/08/thais-called-to-support-s38-2-billion-kra-canal-construction-that-will-bypass-spore-ports>



this voyage. Nonetheless, it should be mentioned that the voyage was made during the summer.<sup>20</sup>

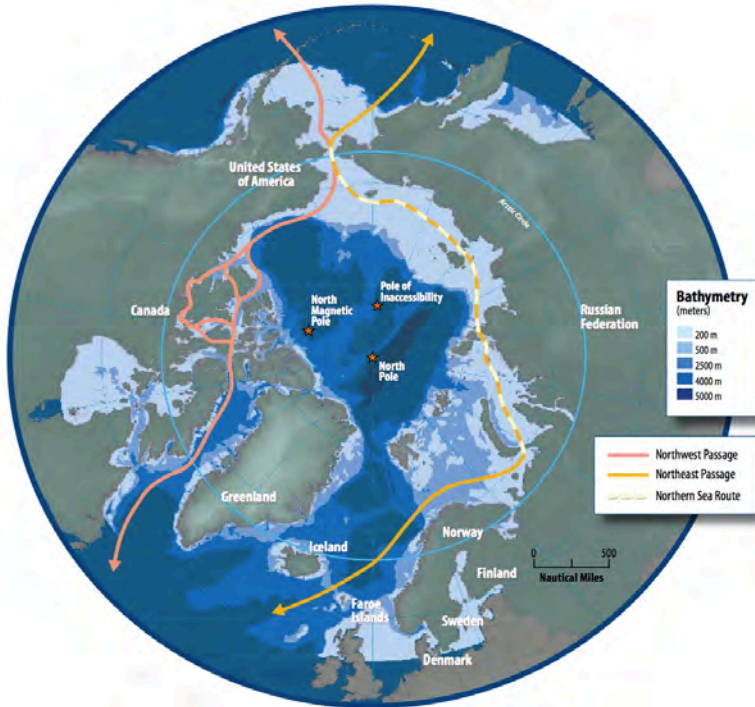


Figure 8 – Possible routes in the Arctic Ocean for the Northwest and Northeast Passages

If indeed the predicted reduction in the thickness of the icecap is realized, it will be possible to save billions of dollars in the costs of shipping. On the other hand, it will be necessary to resolve the dispute between Canada, which views the Northwest Passage as running through its territorial waters, and other countries (including the US). In addition, the challenges involved in protecting the environment and the complex logistic problems in providing technical support and supplies in this region will have to be overcome.

### **The Exclusive Economic Zone – EEZ and the exploitation of seabed resources outside it**

Since the term "Exclusive Economic Zone" was coined in 1982 and since the UN Convention on the Law of the Sea, there have been dramatic developments in underwater technology related to the discovery, development and production of natural resources in deep ocean mining operations. It is expected that by 2040, developments

<sup>20</sup> Matt McGrath, first tanker crosses northern sea route without ice breaker, BBC News, Science & Environment, August 24, 2017, <http://www.bbc.com/news/science-environment-41037071>



in underwater robotics and deep ocean telepresence will provide access to energy and mineral deposits under the seabed, which until now could not be exploited.<sup>21</sup> A number of countries have begun the process of planning in their maritime zones by means of marine spatial planning, which is intended to bridge and coordinate between objectives that are decided on by governments based on economic and social considerations and the preservation of the ecosystem. However, there still remain numerous disputes between states regarding the delimitation of the EEZs and also with respect to fishing rights in these zones. The most prominent dispute of this type exists in the South China Sea and it appears that despite the verdict of the International Court in Hague in July 2016 against China, it is continuing to create facts on the ground. Further discussion of this subject can be found in the section in this report on developments in the South China Sea.

In the Eastern Mediterranean, there are four major disputes that remain unresolved:

- The claim of North Cyprus (ruled by Turkey) to part of the economic waters around Cyprus.
- The claim of Turkey to part of Cyprus' EEZ.
- The claim of Lebanon that the agreement reached between Israel and Cyprus includes part of the territory belonging to Lebanon (definition of the maritime boundary between Israel and Lebanon). In this context, it should be mentioned that in the spring of 2017 the government of Lebanon called on companies that carry out surveys for the discovery of oil and gas to submit their candidacy to carry out underwater surveys in a number of regions, some of which are located in the territory that is claimed by both Israel and Lebanon. Israel has asked that the UN and the US put pressure on Lebanon to change its decision. If Lebanon's demands are not met the issue could lead to a violent confrontation between the two countries, whether intentionally or otherwise.
- The EEZ boundary between Israel and Egypt, which is meant to demarcate the territories of the two countries for future oil and gas exploration: Although the issue was discussed in a meeting between the Israeli Prime Minister and Egyptian President Abdel Fattah el-Sisi, it is related to a broader package deal that will also decide the amount of compensation to be paid to Israel as a result of the verdict of the International Chamber of Commerce (ICC) in Geneva and the purchase of natural gas (by private companies that are operating in Egyptian territory) from the Tamar and Leviathan fields in Israel's EEZ.<sup>22</sup> In Israel itself, proposed legislation on the issue of the economic waters is in the final stages of approval. Activity to exploit deep-ocean resources in territories outside the EEZs is regulated by the International Seabed Authority, which is an intergovernmental authority located in Kingston, Jamaica. It

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21 2040 timeline contents, Deep ocean mining operations are widespread, Future Timeline Net, <http://futuretimeline.net/21stcentury/2040.htm#deep-ocean-mining-2040>

22 Avi Bar Eli, "The Electricity Company will give up on \$500 million in order enable the export of gas from Leviathan", *Haaretz, The Marker*, September 3, 2017, p. 10. [Hebrew]

was created in order to organize, regulate and monitor deepwater exploration and production of minerals outside the national jurisdictions, which is the main territory of the world's seabeds (see Figure 9 below). The source of its authority is the Law of the Sea Convention, which has been signed by 167 countries. As a result of advances in deep-ocean technology, there is increasing activity to exploit natural resources under the seabed and the potential in the Arctic and other regions has increased the fear of uncontrolled exploitation of the seabed and damage to the ecological system.

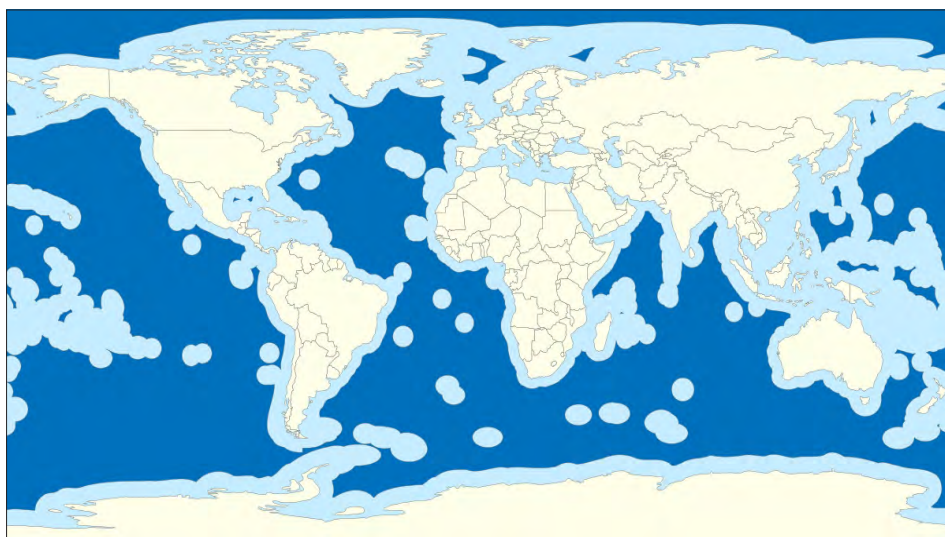


Figure 9 – International waters and their seabeds (in blue)

In recent years, doubts have arisen as to the character and mission of the International Seabed Authority and in particular among countries that are not signed on the Law of the Sea Convention, especially the US. These countries doubt the value of international agreements in this context. They claim that the Authority is not necessary and even that its status is in doubt with respect to its power to grant approvals, its collection of fees related to seabed mining, the distribution of the funds obtained from the granting of licenses and the obligation it imposes for the transfer of technology developed by more advanced countries to less advanced ones. In any case, the ecological damage from uncontrolled exploitation of minerals found under the seabed is a source of great concern among organizations for the protection of the maritime environment. There is no doubt that if this activity is not regulated there will be irreversible damage to the ecological system.<sup>23</sup>

23 Yves Henocque, *The Crafting of Seabed Mining Ecosystem-Based Management, Deep-Sea Mining, Resource Potential, Technical and Environmental Considerations*, Ed. Rahul Sharma, pp 507-526, Springer International Publishing AG 2017

### The main naval fleets – trends and changes

The following surveys the changes and trends in the principal naval fleets with focus on theaters of operation, strategy and plans for the buildup of force.

The US fleet: The US has the largest military budget in the world and as a result the American fleet is also considered to be the most powerful. The US Department of the Navy evaluates the strength of the American fleet on the basis of three indexes: size, capabilities and level of preparedness, which is evaluated as marginal (see Figure 10 below).



Figure 10 – Assessment of the strength of the US navy in 2017 (source: Department of the Navy)

The abovementioned increase of \$52 billion in the defense budget is intended to, among other things, support the long-term program to increase the number of vessels in the US navy to 350. Both the proposed budget and the ability of shipyards to handle the demand cast some doubt on the possibility of realizing this target by the end of the current decade. Figure 11 presents the 2018 budget proposal of the US navy. The request for a budget of \$171.5 billion was submitted for approval to Congress in May 2017. The proposed budget states that it will support the "restoring Navy readiness, and positioning of the Department of the Navy to compete and win against increasingly dynamic, high-tech and aggressive global threats". The budget and the increase implicit within it will enable the navy to acquire two Virginia-class attack submarines at a cost of \$5.5 billion, two DDG 51 destroyers at a cost of \$4 billion and a CVN-78 aircraft carrier at a cost of \$4.6 billion. The Pentagon is meant to be completing its new defense strategy, which apparently will require additional budget starting from 2019.

Richard Spencer, who became the new US Secretary of the Navy on August 1<sup>st</sup> 2017, will need to participate in defining the naval operating priorities for the near future, as well as the requirements of the future navy. The main issues that senior navy officials will have to deal with are the following:

- Space and missile defense.
- The global race in naval capabilities and how they affect the directions for development of the US navy.

- The promotion of international partnerships and particularly in relations with NATO and the order of battle needed by that organization in order to carry out its missions.
- The development of unmanned maritime systems and their ability to play a more significant role in the mission of the Navy.
- Innovation and new systems that are capable of contributing to the execution of the Navy's mission, including new tasks in the civilian domain.

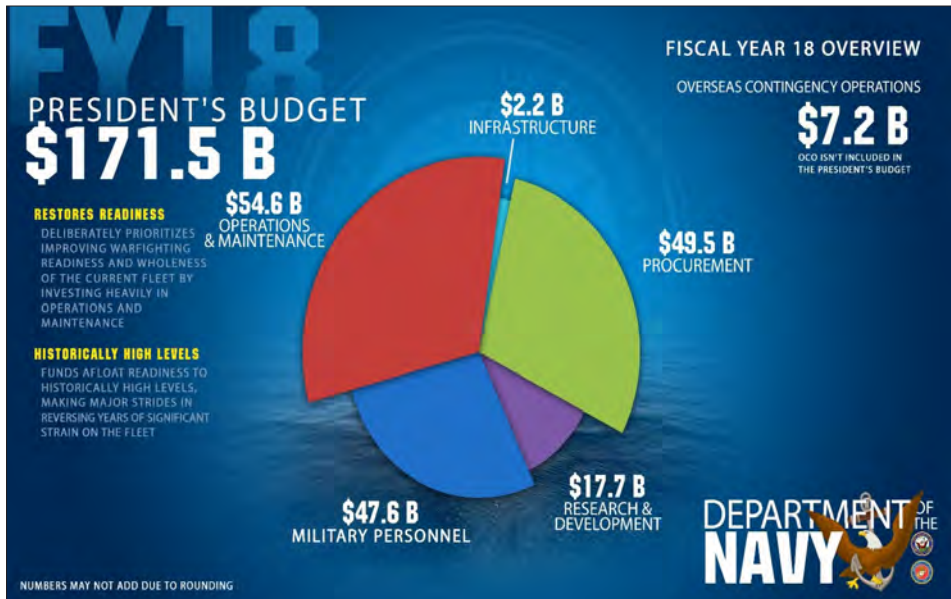


Figure 11 - The US Navy – Requested 2018 budget and its proposed division

In this context, it is worth mentioning that Congress is opposed to the position of the Secretary of the Navy according to which additional budget is to be allocated to increasing the existing types of vessels. Congress has conditioned the additional budget on an analysis to be done by two independent bodies which will determine whether the additional budget will also provide a solution to the new missions in the area of littoral warfare, which the Navy has recently had to deal with in various theaters of operation.<sup>24</sup> Figure 12 below presents the deployment of the US navy in its various theaters of operation in 2016. The chart demonstrates the shift of the US center of gravity towards the Western Pacific and the South China Sea, where about 50 vessels are located. As a result of this shift, the number of warships in the Mediterranean Sea (the Sixth Fleet) has dropped to its lowest level ever and it now includes only one command ship and a number of destroyers.

<sup>24</sup> Phillip Pournelle, A Fleet to do What? War on the Rock, Texas National Security Network, September 14, 2017, <https://warontherocks.com/2017/09/a-fleet-to-do-what>



Figure 12 – The deployment of the US Navy and alternatives for its operations in view of the various threats around the world (source: Department of the Navy FY 2017 President’s Budget)

Figure 13 below presents the estimated strength of the US navy according to type of vessel and the shortfall with respect to the Navy’s requirements. Figure 14 presents the division of the requested budget for 2018 according to use.

Ship Type	Two-Major Regional Contingencies Requirement (plus 20% strategic reserve)	Full Navy Requirement (per 1993 Bottom-Up Review)	FY 2016 Capacity	Score
Aircraft Carriers	13	12	10	3
Surface Combatants	39	124	101	3
Mine Countermeasures Ships	n/a	26	11	2
Amphibious Warships	50	41	31	2
Ballistic Missile Submarines	n/a	14*	14*	5
Attack Submarines	13	55	52	5
Combat Logistics Force	n/a	43	30	2
Support Ships	n/a	22	30	5
Air Wings	13	n/a	10	3
<b>Average: 3.3</b>				

\* Bottom-Up Review stated a requirement of 16 ballistic missile submarines based on strategic guidance, but the subsequent 1994 Nuclear Posture Review reduced this strategic requirement to 14 boats. For more information on fleet requirement adjustments, see Ronald O'Rourke, "Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress," Congressional Research Service, August 10, 2015, <https://www.fas.org/spp/crs/weapons/RL32665.pdf> (accessed August 26, 2015).

Figure 13 – Estimated strength of the US Navy according to type of vessel and shortfalls<sup>25</sup>

25 Chief of Naval Operations (CNO) Admiral John M. Richardson, in the 2016 document A Design for Maintaining Maritime Superiority <http://index.heritage.org/military/2017/assessments/us-military-power/u-s-navy>



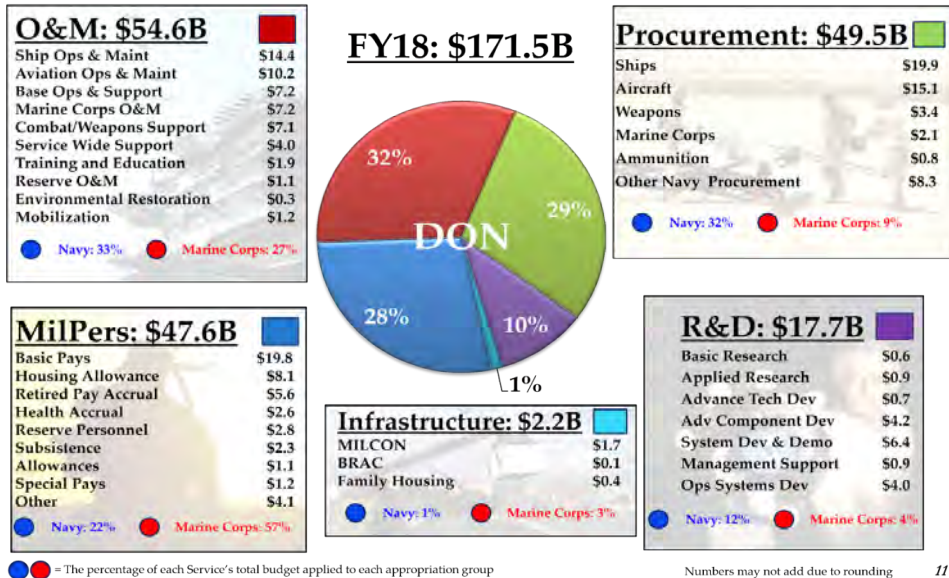


Figure 14 – The US Navy – Breakdown of requested 2018 budget

The US navy is deployed according to the new American maritime strategy entitled "A Cooperative Strategy for 21<sup>st</sup> Century Sea Power", which was published in May 2015 and was jointly written with the Coast Guard and the Marines. The strategy assumes that the navy's forces will need to fulfil a broad spectrum of missions and to prevent war with the same determination as that needed to win a war if it occurs. The strategy mentions the core capabilities needed by the navy in order to achieve the right balance between its peacetime and wartime activities:

- Deployment of forces and presence in distant theaters – forward presence.
- Deterrence.
- Achievement of sea control.
- Power projection.
- Maritime security.
- Humanitarian assistance/disaster response.

The main missions of the US navy during the period 2016-2020 are as follows:

- Protection of the homeland (maintaining nuclear deterrence, fighting terror, protection of the homeland and support for civilian authorities).
- Building security globally (a stabilizing presence all over the globe, activities to maintain this stability, humanitarian and rescue operations in cases of natural disaster).



- Power projection and winning decisively (delay of aggression and its defeat, projection of power despite attempts to deny access to a region, effective activity in the space and cybernetic domains).

The priority assigned by the US to the operations of the Seventh Fleet in the South China Sea region is manifested in two main efforts:

- The creation of a regional coalition with the participation of countries that are a party in the conflict with the Chinese over economic waters.
- Activity of naval vessels and aircraft that will challenge the claim of the Chinese to the economic waters around the series of seven artificial islands that have been and are being built by the Chinese.

During the first few months of the Trump administration, the US navy did not carry out even one freedom of navigation operation in the South China Sea, so as not to disrupt the summit held between President Trump and Chinese President Xi Jinping in Florida in April 2017. At a later stage, the Americans carried out a number of freedom of navigation operations in the South China Sea region. The intensive activity of the Seventh Fleet in East Asia has led to a series of serious maritime accidents. Thus, the USS Antietam ran aground in the Bay of Tokyo; the USS Lake Champlain collided with a Korean fishing vessel and suffered damage; and an American destroyer, the USS Fitzgerald, collided with the ACX Crystal which flies the Philippine flag while leaving the port of Tokyo. Apart from the damage caused to the destroyer, seven American sailors were killed in the accident. Another accident in August 2017 involving an American destroyer, the USS John S. McCain, occurred in the Malacca Strait and resulted in the deaths of ten American sailors. As a result of these incidents, the commander of the Seventh Fleet, Vice Admiral Joseph Aucoin was replaced. The events raise questions as to the level of seamanship of US navy commanders and will undoubtedly require the US navy to draw conclusions with respect to both training and operations.<sup>26</sup>

The possibility of uncontrolled confrontation between the American and Chinese navies in the South China Sea has filtered into the consciousness of senior commanders on both sides. In order to prevent such a situation, the two sides have decided to establish channels of communication that will prevent escalation. In August 2017, General Joe Dunford, the Head of the Joint Chiefs of Staff, and his counterpart, General Fang Fenghui, signed an agreement to maintain communication channels between the two navies for this purpose.<sup>27</sup> The Head of the Joint Chiefs of Staff stated that it is his intention to convince his Russian counterpart to sign a similar agreement.

26 Seth Croysey, Has the Navy Reached Its Breaking Point? Wall Street Journal, August 24, 2017. [https://www.realclearpolitics.com/2017/08/24/has\\_the\\_navy\\_reached\\_its\\_breaking\\_point\\_419219.html](https://www.realclearpolitics.com/2017/08/24/has_the_navy_reached_its_breaking_point_419219.html)

27 Ben Werner, New U.S., Chinese Military Communications Agreement Follows Years of Naval Engagement, USNI News, August 16, 2017, <https://news.usni.org/2017/08/16/new-u-s-chinese-military-communications-agreement-follows-years-naval-engagement>

During 2017, international attention was focused on the Korean peninsula and the US reinforced its naval forces in the region in order to create a large task force. The tension increased as a result of the aggressive policy of North Korea, which is considered to be a rogue state, and its success in testing the Hwasong 12 ballistic intercontinental missiles in July 2017, as well as the completion of development of a hydrogen nuclear warhead, according to North Korean claims. The range of these missiles threatens the West Coast of the US and its military installation on the Island of Guam. North Korea is continuing its nuclear program and in August it carried out its sixth nuclear test. The bomb was exceptionally powerful and was accompanied by a declaration that it was a hydrogen bomb, despite the heavy sanctions imposed on it by the UN. The US navy boosted its forces in the region and starting from August the US presence consisted of two task forces which include aircraft carriers (the Ronald Reagan and the Karl Vinson). On his first foreign visit, US Secretary of Defense Jim Mattis arrived in Japan and Korea in order to provide reassurance of the US commitment to their security; this was after Trump, during his election campaign, had demanded that they participate in financing the defense burden and he has even threatened to dismantle the defense alliances between them and the US. In the months of August-September 2017, the tension in the Korean peninsula reached a new peak and Mattis arrived for another round of talks with regional leaders.

The activity of the Sixth Fleet in the Mediterranean has been influenced in the past by two main factors:

- The Cold War.
- A main source of energy imports (see Figure 15).

The end of the Cold War and the drop in oil and gas prices, including the expanded sources in the US itself, led to a reduction in US naval presence in the Mediterranean. Even though the USS George W. Bush aircraft carrier paid a visit to the Port of Haifa (17 years after the previous visit), this did not change the Sixth Fleet deployment and after its visit the aircraft carrier left the Mediterranean region for a different theater of operations. In May 2017, two destroyers—the USS Porter and the USS Ross—launched 59 Tomahawk cruise missiles at targets in the Syrian Shariat airport, from which President Assad had launched planes to attack targets in the city of Idlib with Sarin gas. This is the first time that American forces have attacked Assad's army since the beginning of the civil war. The damage to the airport was not serious but the purpose was primarily to send a message. The attack itself did not represent a change in American policy with respect to US presence in the Middle East and in the Astana talks between parties involved in Syria the US understood that it is not in a position of strength and its demands were limited. This was also reflected in the strategy of the US navy which is continuing to give priority to its missions in other theaters, such as Southeast Asia and East Asia, the Persian Gulf and the Baltic Sea, together with the NATO navies.



SOURCE: Heritage Foundation research and analysis provided elsewhere in this *Index* and U.S. Department of Energy, Energy Information Administration, "World Oil Transit Chokepoints," December 2014, Table 1, <http://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=WOTC> (accessed August 17, 2015).

Figure 15 – Main choke points in the shipment of oil from the Middle East

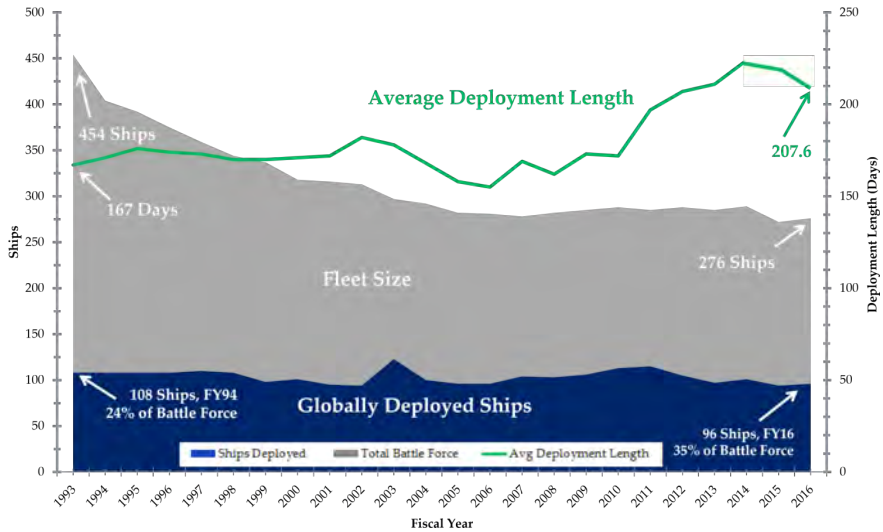


Figure 16 – Trends in the battle force of the US navy from 1993 to 2016 including the average duration of deployment at sea per year

In conclusion, the US Navy is still the largest and strongest navy in the world and also has the largest variety of capabilities. Nonetheless, the budget constraints and the new challenges in the various theaters have forced it to, among other things, set priorities in the use of its strength, to promote new alliances in areas such as Southeast Asia and to urge NATO to adjust its strategy to meet developments in the Atlantic Ocean and the Mediterranean. The tension between the US and North Korea in the second half of 2017 forced the Americans to reinforce their forces also in the region of the Korean Peninsula. The arrival of the new American administration at the beginning of 2017 without a well-formed plan and events in the various theaters led to an ad hoc defense policy in reaction to the various crises that arose.

### **The Chinese navy – (the People's Liberation Army Navy – PLAN)**

The growing importance of Chinese maritime interests and the growth in the Chinese merchant fleet (which is the third largest in the world and numbers 3,600 ships) has led the Chinese navy to increase the frequency of its operations, their duration and their distance from the Chinese mainland. China operates an independent battle force in the Indian Ocean to counter maritime piracy. Following a decade in which the activities of the Chinese navy became more frequent in distant regions and more technically demanding, China published a new strategic White Paper in May 2015 called "Open Seas Protection".<sup>28</sup> Such a drastic change in Chinese strategy—which until now had advocated control over local seas—reflects the growth in China's economic and diplomatic influence throughout the world. China has thus changed its preference for land forces and has essentially abandoned its traditional mentality that land is more important than the sea. The new strategy reflects the growing importance of managing activity in the seas and oceans and effectively protecting China's maritime rights and interests. Accordingly, China must develop a modern naval force that is up to the job of maintaining its national security. In order to allow the Chinese navy to operate far from its coasts, China has completed the construction of its first aircraft carrier, the Lianong, and the second is expected to enter service in 2018.

There appears to be a certain amount of criticism within China regarding the preference given to the navy in the allocation of resources, criticism that the President of China chose to relate to at the meeting of the National Security Council in February 2017. By adopting the concept of "Total Security"—a phrase coined by the President himself in his speech—and giving priority in the allocation of resources to the navy, the President has intensified the debate between the various schools of thought on China's maritime and naval policies. According to him, history has proven that the survival of Communist China

28 Blasko j. Dennis, "The 2015 Chinese Defense White Paper on Strategy in Perspective: Maritime Missions Require a Change in the PLA Mindset." The Jamestown Foundation, May 29, 2015. [http://www.jamestown.org/programs/Chinabrief/single/?tx\\_ttnews%5Btt\\_news%5D=43974&cHash=d67db88687507367b668f71cd4199603#.VjH0IPkrLIW](http://www.jamestown.org/programs/Chinabrief/single/?tx_ttnews%5Btt_news%5D=43974&cHash=d67db88687507367b668f71cd4199603#.VjH0IPkrLIW)

has always been dependent on the balance between naval and land forces, something that should be based on public debate.<sup>29</sup>

The activity of the Chinese navy in the Western Pacific represents a significant step in the realization of a new grand maritime strategy, which also includes elements of defense far from China's shores. This deployment has been carried out at strategic points along essential shipping lanes in the Pacific Ocean (and in the Arctic Ocean in which China has recently shown growing interest) and at choke points in the Indian Ocean and South China Sea.

In recent years, the debate over China's right to define the boundaries of its economic waters has been the center of attention, both on the operative maritime level and on the international level. On July 12th 2016, the international court in The Hague ruled on the ongoing dispute in the South China Sea between the Philippines and China. The verdict rejected China's claim to recognize its control and sovereignty over most of the territory, the islands and the reefs in the South China Sea. China did not accept the verdict and announced on a number of occasions that it does recognize the authority of the court in The Hague. As mentioned, in October 2016 President Rodrigo Duterte of the Philippines decided to change the position of his country and to try to reach a negotiated arrangement with China while at the same time demanding that the Americans evacuate their bases in the Philippines.<sup>30</sup>

In order to facilitate the deployment of the Chinese navy in distant locations, China has been establishing naval bases at various strategic points. In July 2017, the Chinese Ministry of Defense announced the inauguration of the logistic center in the Port of Djibouti which is close to the Horn of Africa and the entrance to the Red Sea. The base is meant to provide logistic support for vessels of the Chinese navy that are patrolling the Gulf of Aden and to provide sailors with rest and rehabilitation during their missions at sea. The vessels of the Chinese navy are involved in broad-scale activities against piracy and some of them also carry hundreds of Chinese marines in the event of a mission that has a land component.<sup>31</sup>

During 2017, the Chinese navy was active in areas where it did not previously have a presence, such as the Baltic Sea, and whose connection to the BRI is unclear. In July 2017, a Chinese force belonging to the South China Sea fleet made up of a missile destroyer, a missile frigate and a supply ship participated in a joint exercise with the

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29 Sherman Xiaogang Lai, The Evolution of Chinese National Security Debates on Maritime Policy, Pt. 2, Center for International Maritime Security, Asia – Pacific, August 10, 2017, <http://cimsec.org/the-evolution-of-chinese-national-security-debates-on-maritime-policy-pt-2/33450>

30 Bodeen Christopher and Wong Gillian, Philippine President announces separation from US, Associated Press, October 21, 2016 <https://www.yahoo.com/news/philippine-leader-meets-Chinas-president-charm-offensive-030041553.html?ref=gs>

31 China Announces Official Opening of Naval Base in Djibouti, Sputnik International, July 11<sup>th</sup>, 2017, <https://sputniknews.com/military/201707111055440843-China-djibouti-naval-base>

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Russian navy in the Baltic Sea. On its way to the joint maneuver, the Chinese task force carried out a live-fire exercise in the Mediterranean against small targets. This voyage was meant to convey three main messages:

- The navy serves as an important component in President Xi Jinping's policy to demonstrate the power of China as a global superpower. In accordance with this policy, the navy will increase its presence in various theaters that are far from China's shores.
- The entry of the Chinese navy into the Baltic Sea proves to the European maritime powers (France and Britain) that they must take into account that if they operate in the South China Sea—"China's backyard"—then China will answer in kind.
- A new configuration of forces that includes the Chinese and Russian navies is taking shape and the two navies will in the future be able to assist one another where their interests converge, such as in the Baltic Sea in the case of Russia and the South China Sea in the case of China.<sup>32</sup>

Another task force of the Chinese navy consisting of three warships visited 20 ports in the Mediterranean during May-July 2017.

In the ongoing conflict between China and Taiwan, the navy has been used to project power a number of times against Taiwan, when the latter has tried to openly demonstrate a policy of secession. In this context, the Chinese aircraft carrier Liaoning carried out a mission of power projection in the Taiwan Strait in June 2017. At the end of the mission, the aircraft carrier went on to convey a message against domestic secession by entering the harbor of Hong Kong in order to participate in the 20<sup>th</sup> anniversary celebration of the return of Hong Kong to Chinese control. In view of the unrest in Hong Kong, the central government exploited the entry of the aircraft carrier into the harbor to convey a forceful message to the citizens of Hong Kong who aspire to achieving independence—as expressed in the violent demonstrations that occurred in the city during 2016—that they will not tolerate separatism of any kind.

## The Indian navy

In 2017, the Indian navy continued to operate according to a maritime strategy that was approved in 2017, called "Ensuring Secure Seas: Indian Maritime Security Strategy".

Accordingly, the Indian navy continued to develop its naval capabilities in order to achieve the following goals:

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32 Goldrick James, Exercise Joint Sea 2017: A new step in Russo-Chinese naval cooperation? Lowy Institute, August 10<sup>th</sup>, 2017, <https://www.lowyinstitute.org/the-interpretor/exercise-joint-sea-2017-new-step-russo-chinese-naval-cooperation>



- Protection of shipping lanes (the sea lines of communication – SLOC) that are utilized to transport India's imports of energy, which essential to India's continued economic growth.
- Expansion of India's political influence.
- To serve as a counterweight to the expanding Chinese activity in the Indian Ocean.

India has made it clear that its navy is not limited to activity in the Indian Ocean and the Bay of Bengal and indeed it has expanded its naval activity to the South China Sea as well. Evidence of this can also be found in the joint declaration of Indian Prime Minister Modi and the US President that was released at the end of the former's visit to the White House, in which he referred to the "Indo-Pacific".<sup>33</sup>

It is India's desire to achieve dominance in the Indian Ocean and the accompanying strategic discourse takes place at the highest levels of the Indian establishment. India's main concern is the territorial aspirations of China, its chief strategic rival, in the Indian Ocean. The Indians are afraid that the Chinese intend to make the Indian Ocean into a "Chinese Lake", by building civilian infrastructures in the ports of other states in the region (such as Seychelles and Sri Lanka) and in this way to expand the ability of the Chinese navy to operate from those ports. In addition, the Chinese are from time to time sending nuclear submarines to patrol the Indian Ocean, which has led India to increase its fleet of marine patrol aircraft with anti-submarine capability. As described at length in the previous report, India is continuing to implement the maritime strategic document published in 2015. Its main components are the following:

- The connection between the Indian Ocean and the Pacific Ocean (Indo-Pacific) and its effect on India's maritime security.
- Expansion of the Indian navy's spheres of interest (both primary and secondary) which reflect India's desire to be a player with a larger number of roles. For example, the Red Sea which was of secondary importance according to the strategy of 2007 has gained primary importance. The Gulf of Aden, the southwest Indian Ocean and East Africa have also gained primary importance for the Indian navy.

In order to successfully implement this strategy, India must tighten its diplomatic ties with countries such as Nepal, Sri Lanka, the Maldives and members of ASEAN with the goal of strengthening its influence in the Indian Ocean.<sup>34</sup> This includes, among other things, the provision of economic assistance to countries such as Sri Lanka in order to prevent them from falling victim to Chinese "debt trap" diplomacy, whereby countries that are in default on their debts receive assistance in exchange for obedience.

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33 Samir Saran and Paul Kapur, How India and the US can lead in the Indo-Pacific, Observer Research Foundation, August 18, 2017, <http://www.orfonline.org/research/how-india-us-can-lead-indo-pacific>

34 ASEAN – The Association of Southeast Asian Nations, Includes: Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei Darussalam, Viet Nam, Lao PDR, Myanmar and Cambodia.

India is adopting pro-active maritime diplomacy in the Indian Ocean theater and is active in maintaining free passage of goods to and from India, particularly at the choke points at the entrances and exits of the Indian Ocean. By means of this strategy and closer relations with the US (without neglecting its special relationship with Russia in the buildup of the Indian navy), India hopes to block the Chinese threat which is perceived by its leaders as the main threat in the Indian Ocean. In order to maintain its economic growth, India must import growing quantities of energy (oil and gas), which has led the Indians to take part in the effort to counter maritime piracy. India is worried by the possibility of terrorist organizations based in Pakistan making use of the sea lanes, as happened in Mumbai in 2014.

India has upgraded its strategic nuclear capability during the past year with the entry into service of the nuclear submarine INS Arihant. It will be outfitted with ballistic missiles with a range of 750 km that were developed by the Indian Defense Research and Development Organization (DRDO) and at a later stage they will be upgraded with K-4 missiles with a range of 3500 km and K-15 missiles with a range of 750 km.<sup>35</sup> India is planning to complete the building of three additional submarines of this class and thus to create a nuclear triad that will provide second strike capability. This ability is important to India since its strategy for the use of its nuclear capability is to prevent first use.

The Indian navy carried out its main annual exercise in January 2017 in the Indian Ocean and its main goal was the detection, identification and destruction of Chinese submarines. There were 60 surface vessels, five submarines and 70 aircraft participating in the exercise.<sup>36</sup> The Indian navy carried out a number of naval exercises in 2017 which demonstrated its desire to create an alliance with regional naval forces with similar foreign policy objectives. In May 2017, an Indian naval task force that included a frigate, a corvette and a refueling ship carried out a week-long exercise with the Australian navy in the area of the port of Fremantle in Western Australia. On its way to Australia, the force carried out a joint exercise with a naval force from Singapore in the South China Sea from May 21-24. Although these exercises have been carried out since 1994, Singapore—which is careful to maintain proper relations with China—made sure to maintain balance by means of a goodwill visit by a Singaporean frigate to the Chinese port of Qingdao.

In view of the efforts by India to increase its influence in the Indian Ocean and the stress it places on its presence and activity in the Indian Ocean, Pakistan initiated an international naval maneuver called "Aman 17" in February 2017, which included vessels from nine navies (American, Australian, Russian, Chinese, British, Japanese, Indonesian, Sri Lankan and Turkish) and a conference that followed which was attended

35 Naval Technology.com, SSBN Arihant Class Submarine, India, Arihant armament, <http://www.naval-technology.com/projects/arihant-class>

36 Franz-Stefan Gady, Indian Navy Practices Sinking Chinese Subs in Largest-Ever Military Exercise, the Diplomat, February 10<sup>th</sup>, 2017, <http://thediplomat.com/2017/02/indian-navy-practices-sinking-chinese-subs-in-largest-ever-military-exercise>

by representatives of 37 navies. The Indian navy did not participate. Nawaz Sharif, the head of the Pakistani delegation, who greeted the participants, stated that "Pakistan, being a major stakeholder in maritime security of the Arabian Sea, is fully committed to ensuring freedom of navigation and lawful maritime order." Sharif mentioned that the security challenges in the Indian Ocean are multifaceted and include terror, drug smuggling and piracy.<sup>37</sup> Sartaj Aziz, the aide to the Pakistani Prime Minister, also spoke at the conference and declared that the "evolving expansionist maritime security strategy is a cause for concern for peace in the Indian Ocean", and that "nuclearisation of the Indian Ocean (led by India – S.H) has also led to further instability in the region."<sup>38</sup>

Buildup of power – The Indian armed forces in general and the Indian navy in particular are the largest importers of arms in the world and they are also making progress towards the creation of their own military industrial infrastructures. The Indian defense budget for 2017-18 is about \$53.5 billion (see Figure 17). The budget grew by about 6.5 percent relative to the previous year (which also reflects the increase in India's GNP); however the budget of the Indian navy is lower this year by about 6.4 percent than in the previous year. It should be remembered that the budget of the research and development organization (which accounts for about 6 percent of the defense budget) includes more than a few projects for the navy (which essentially increases the total budget allocated to the navy).

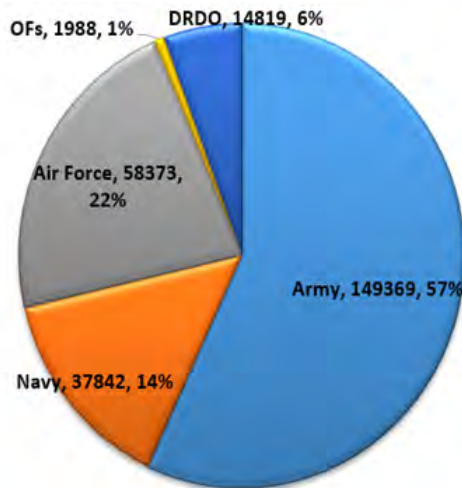


Figure 17 – Breakdown of the Indian defense budget for 2017-18 between the branches of the military (source: Institute for Defense Studies and Analyses, New Delhi)

37 NDTV, Exercise Aman 17: Pakistan Begins Naval Drill In The Arabian Sea, February, NDTV Press Trust of India. 10, 2017, <http://www.ndtv.com/world-news/exercise-aman-17-pakistan-begins-naval-drill-in-the-arabian-sea-1658176>

38 NDTV, India's Maritime Strategy in Indian Ocean 'Expansionist', Alleges Pak, Talks of 'Threat', All India, Press Trust of India, February 13, 2017, <http://www.ndtv.com/india-news/indias-maritime-strategy-expansionist-alleges-pak-talks-of-threat-1658757>

In May 2017, the Indian government launched "The New Strategic Partners Policy" which called for the choosing of international strategic partners that will collaborate with private Indian industry in order to produce weapon systems. Thus, for example, India issued an international tender for the development of a new sea-to-sea missile that will go into service in 2024 with a budget of one billion dollars. The main condition is that the missile will be built by local industry and that India will receive the technology that is developed. The same applies to a procurement deal for 230 naval helicopters at an estimated cost of about \$10 billion.<sup>39</sup>

The program for the buildup of Indian naval power (which by 2027 will reach 197 vessels) is an ambitious plan whose goal is to deal with Chinese expansionism and also to develop deterrence (non-conventional) that will support the maintenance of regional stability. Currently, India has a navy numbering 137 vessels and so far contracts have been signed with local shipyards for the building of another 48. In order to preserve the special relationship between the Indian and Russian navies—or perhaps for some other reason—India decided to build two Krivak-class stealth frigates in Russia and two additional ones in the Goa Shipyards in India.<sup>40</sup>

## The Russian navy

Since the beginning of the last wave of reforms in the Russian armed forces in 2009, the Russian leadership has been broadcasting the message that the Russian navy has come out of its crisis, is returning to its former greatness and is capable of fulfilling the missions of a superpower navy. This was recently manifested in two events:

- The annexation of the Crimea and the achievement of Russian control over the port city of Sevastopol, which is also the home port of the Russian navy in the Black Sea and is close to the navy shipyards that play an important role in the navy's maintenance.
- The expansion of the navy's mission in its six theaters of operation (the Atlantic, the Arctic, Antarctica, the Indian Ocean, the Caspian Sea and the Pacific Ocean) while giving priority to a permanent presence of the Russian fleet in the Mediterranean and increasing its power in the Atlantic Ocean and the Arctic Ocean.

As mentioned in the previous report, President Putin approved "The Maritime Doctrine of the Russian Federation" on July 26<sup>th</sup> 2015. The document describes the strategy of the Russian fleet, its mission and its plan for the buildup of power. The doctrine replaces the previous one approved in 2001. In addition, in July 2017 Putin approved a document

39 Vivek Raghuvanshi, how 'Make in India' could impede India's global hunt for anti-ship missiles, DefenceNews, August 26, <http://www.defensenews.com/naval/2017/08/24/how-make-in-india-could-impede-indias-global-hunt-for-anti-ship-missiles>

40 Vivek Raghuvanshi, Goa Shipyard nominated to build two stealth frigates for the Indian navy, Getac, March 15, 2017, <https://www.defensenews.com/naval/2017/03/15/goa-shipyard-nominated-to-build-two-stealth-frigates-for-the-indian-navy>

entitled "Basic Principles of the State Naval Policy up to 2030". This document replaced the "Basic Principles of Naval Policy" that was approved in 2012 and which was meant to remain valid until 2020. For a survey of the implications of this document, see the section on "The Principles of Russian Maritime Policy" in the current assessment.

With respect to the buildup of power in the Russian navy, there is a conceptual revolution currently taking place which is the result of the fact that maritime warfare is now more focused on littoral warfare. Accordingly, the Russians are preparing to abandon the construction of capital ships and—based on a radical change in operational thinking—to characterize, plan and build smaller vessels that are equipped with advanced warfare systems that will produce an advantage over enemy vessels on the strategic, systemic and tactical levels. In the plan for Russian military buildup for the period 2011-20 the Russian navy was allocated 25 percent of the budget for procurement, modernization and R&D, which is more than any other branch. The navy has become the preferred branch among politicians, which is also a reflection of the Russian maritime strategy published in July 2015 (called *Morskala Strategii*). Despite the aforementioned, the Russian navy possesses seven large vessels that were built prior to the collapse of the USSR: the Admiral Kuznetsov, two nuclear-powered warships and three Slava-class cruisers, all of which are old vessels with high maintenance and operating costs. Nonetheless, these ships are meant to operate in "blue water" and therefore they still enjoy the prestige that comes with their size and the image that creates. Russian President Vladimir Putin who views such vessels as a geostrategic and geopolitical asset would like to build new ships of this type, but Russia's current economic situation does not make this possible and the plan has been deferred into the future. In addition, it is worth mentioning that Russia does not have shipyards of the type that can produce these vessels and in the past these ships were built in Ukraine. Although the capability for producing submarines remained in Russia itself and therefore the program for the buildup of strength is restricted to the capabilities of the Russian shipyards, i.e. submarines (both attack and ballistic), frigates and corvettes.

The second constraint is economic: The budget for the buildup of strength is a constraint, particularly in view of the low price of oil. The third problem is the abovementioned vulnerability of large ships in the absence of appropriate forces to escort and protect them.

Thus, according to the strategy announced in 2015 the Russian navy is focusing on the following three missions: nuclear strike capability by means of submarines carrying nuclear missiles; the integration of the navy within land attacks by means of cruise missiles (as was demonstrated in the attack on targets in Syria); and the protection of the homeland's coasts (including territory held by Russia in the Eastern Mediterranean) by means of anti-access/anti-denial (A2/AD). The former two missions can be carried out well by submarines and by small surface vessels such as frigates and corvettes. Therefore,

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according to the current Russian naval strategy the missions of the aforementioned large surface vessels is quite limited.

In 2017, the Russian navy maintained its presence in the Eastern Mediterranean and further consolidated its presence in Syria. The Russians renewed their lease agreement for the port of Tartus for another 49 years and continued with the construction of infrastructures in the Russian part of the port. The Russian aircraft carrier Kuznetsov, which participated in the Russian operation in Syria in November 2016, left the region at the beginning of January 2017. The Russian navy in the Eastern Mediterranean is based primarily on the Black Sea fleet, which ranges from 8 to 15 vessels of various types. In April 2017, following the American attack on the Syrian airports using Tomahawk cruise missiles fired from two destroyers permanently stationed in Rota, the Black Sea fleet sent the Admiral Grigoriyevich guided missile frigate to the Eastern Mediterranean. The frigate is one of eight Russian vessels outfitted with Kalibr NK cruise missiles used for attacking land targets. In August 2017, the Russian navy reinforced its forces in the Eastern Mediterranean with two Improved Kilo-class conventionally-powered submarines. The Russians have boasted of the stealth abilities of these submarines, although up until their arrival in the Eastern Mediterranean they were tracked continuously by NATO.<sup>41</sup>

Researchers claim that this Russian strategy is intended to transform the Eastern Mediterranean into an inaccessible region for the American fleet and those of its allies during a crisis. If indeed the Russians accomplish this, then the US and its allies will be limited in their access to the Suez Canal, the Black Sea and the Eastern Mediterranean.

The Russian fleet of attack submarines, which is larger than at any time during the last two decades, has in recent years patrolled a number of theaters of operations: off the coasts of Scandinavia and Scotland, in the Mediterranean and in the North Atlantic. This activity is perceived as competing with the dominance of US and NATO submarines in those regions until now. In the autumn of 2015, Admiral Mark Ferguson, the commander of US forces in Europe, remarked that: "The number of patrols by Russian submarines has grown by almost 50% relative to the previous year in these regions."<sup>42</sup> As part of the littoral warfare being carried out by the Russian fleet in the Eastern Mediterranean, it demonstrated its ability to carry out an attack against land targets by launching cruise missiles from both the Caspian Sea and the Mediterranean. American observers point to the fact that the launch of cruise missiles from the Caspian Sea or from the Black Sea

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41 AFP, Russia sends new submarines to Mediterranean, the Economics Time, August 28, 2017, <http://economictimes.indiatimes.com/news/defence/russia-sends-new-submarines-to-mediterranean/articleshow/60263050.cms>

42 Schmitt Eric, Russia Bolsters Its Submarine Fleet, and Tensions with U.S. Rise", The New York Times, April 20, 2016



where the Russians have complete maritime and air control provides these vessels with almost complete survivability.<sup>43</sup>

In sum, despite Russia's economic situation in recent years, the Russian navy has been given priority over other branches in the allocation of resources for the buildup of force and its use. The navy serves geopolitical and geostrategic goals and in some sense exhibits patterns of behavior towards the US and NATO that are reminiscent of the Cold War. Furthermore, the number of vessels in the fleet (272 as of August 2016) is similar to that of the US navy. In 2015 and 2016, the Russian navy upgraded its relations with the Chinese navy and held joint exercises in the Mediterranean, a joint amphibious exercise on the eastern coast of Russia and a joint exercise in September 2016 in the South China Sea. Despite the statement by the Russian navy spokesman that "the joint exercise is not aimed against any third party and is not related to the geopolitical changes in the region", the facts proved otherwise.<sup>44</sup> In July 2017, the Russian and Chinese fleets (including a destroyer, a frigate and a supply ship) carried out a joint maneuver in the Baltic Sea. It followed the annual joint maneuver of the US and NATO (BALTOPS), which was held in 2017 and included about 50 vessels and aircraft. The Chinese presence in the Baltic Sea can be viewed as part of the Chinese desire to demonstrate its global maritime interests, rather than as part of a return to the Cold War that characterizes the behavior of the Russian navy with respect to NATO forces.

As part of the restoration of Russian naval power, President Putin instructed the navy to organize a naval flotilla on Navy Day along the Neva River which connects St. Petersburg to the Baltic by way of the Gulf of Finland. About 50 surface vessels and submarines participated in the special event, which was attended by President Putin on the deck of a coast guard boat. From there, he declared that a great deal of resources are being invested now in order to transform the Russian navy into a modern fighting force. He also mentioned that "The navy is not only dealing with its traditional tasks but also responding with merit to new challenges, making a significant contribution to the fight against terrorism and piracy."<sup>45</sup> Smaller flotillas were organized in the Black Sea and the Crimean Peninsula, which was annexed to Russia, and in the port city of Vladivostok in the Far East.

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43 Fink Andrew, *Troubled Waters, Russia, Iran and Inland Seas – A bastion strategy for the second nuclear age*, *The American Interest*, April 15, 2016

44 Sputniknews, *Russian-Chinese Naval Exercise Cooperation 'Highly Effective'*, *Sputnik Military & Intelligence*, September 12, 2016. <https://sputniknews.com/military/20160912/1045205912/russia-China-naval-cooperation-effective.html>

45 AFP, *Putin displays Russian navy strength in its first ever parade at Syrian base*, *Deccan Chronicle*, July 30, 2017, <http://www.deccanchronicle.com/world/europe/300717/putin-displays-russian-navy-strength-in-its-first-ever-parade-at-syrian-base.html>



Figure 18 – President Putin observes a flotilla of honor on Russia's Navy Day. (Source: Kremlin website)

With regard to the export of naval weapon systems, Russia is still a supplier of vessels and advanced weapons to numerous navies, including the Indian navy, which despite its closer relations with the US navy continues to maintain its special relationship with the Russian navy. As part of the effort to alleviate its economic crisis, Russia is interested in expanding the export of naval platforms and weapon systems. Vladimir Kozhin, the Presidential Aide for Military Technical Cooperation, expressed this in an interview with Russian television in March. Kozhin particularly emphasized Russia's intent to accelerate the export of vessels and naval systems, which today account for the smallest portion of Russia's military exports (aeronautics account for more than 50%, land vehicles for more than 20%, while defense and electronic warfare systems and naval systems are at the bottom of the list).<sup>46</sup>

### The NATO naval forces

A number of events this year had an effect on NATO in general and on its naval forces in particular:

- The continuing shift in the focus of activity of American naval forces in the direction of the Pacific Ocean.
- The demand by the new American President that the NATO nations increase their investment in the defense budget and his attitude toward NATO as an outdated organization.<sup>47</sup>

<sup>46</sup> Russia Plans to Increase Export of Naval Equipment – Putin's Aide, Sputnik International, March 23, 2017, <https://sputniknews.com/russia/201703231051901526-russia-naval-equipment>

<sup>47</sup> Martin Bank, Defense spending increased 'significantly' among NATO allies, defenseneews.com, Europe, June 30, 2017, <https://www.defenseneews.com/global/europe/2017/06/30/defense-spending-increased-significantly-among-nato-allies>

- The expected exit of Britain from the EU by May 2019.

These events are fueling the concerns of NATO leaders and the political leaders of the member nations in dealing with the developing naval challenges on the eastern and southern flanks of NATO. In February 2017, at a conference held in Munich the NATO defense ministers decided to increase their defense budgets to a level of 2 percent of GNP.

The challenges that NATO are meant to deal with in the near future:

- The challenges created by Russia (although it is not an enemy, its policy is confrontational).
- The complicated challenges in Syria and the Eastern Mediterranean.
- The lack of certainty in the region of the Black Sea.
- The deepening instability on the southern coasts of the Mediterranean, including the situation in Libya.
- In the North – the region of the North Sea and the Baltic Sea and its importance to NATO security.

Indeed, there are many challenges which vary in their nature and geographic location and they require the creative use of NATO forces and an appropriate plan for the buildup of force.<sup>48</sup>

One of the questions that arises in view of the planned withdrawal of Britain from the EU is whether its senior status in NATO will remain unchanged (including the location of the Allied Maritime Command in Northwood in Britain) or that France, which rejoined NATO in 2009 after withdrawing in 1966, will exploit the opportunity in order to replace it. Britain has since 1951 filled the position of Deputy Supreme Allied Commander and France has already initiated unofficial enquiries to the US in order to propose its candidacy to replace Britain in this role.<sup>49</sup>

As mentioned already in the previous report, NATO lacks an up-to-date doctrine and method of operation in order to deal with the challenges that have developed, particularly in the Mediterranean. As a result, the leaders of the NATO nations decided at a NATO summit meeting in Warsaw in July 2016 to change their operational plan. The new operational plan (which replaced Operation Active Endeavour from 2001) was given the name Operation Sea Guardian and its goal was defined as "cooperation with Mediterranean stakeholders to deter and counter terror and to mitigate other threats to

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48 France 'aiming to take Nato leadership role from Britain after Brexit', The Telegraph News, January 10, 2017, <http://www.telegraph.co.uk/news/2017/01/10/france-aiming-take-nato-leadership-role-britain-brexit>

49 Vice Admiral Clive Johnstone, CB CBE, Commander Allied Maritime Command, NATO's Maritime Moment: A Watershed Year in Alliance Sea Power, January 13, 2017, <http://mc.nato.int/media-centre/news/2017/nato-maritime-moment-a-watershed-year-in-alliance-sea-power.aspx>

security."<sup>50</sup> The control center for the taskforces which is responsible for making situation assessments is located in Northwood in Britain.

In the Eastern Mediterranean, a NATO naval force carried out an exercise given the name "Sea Guardian". Participating were ships from the French, Spanish and Italian navies. The missions for the exercise were defined as response to terror threats, maritime situation awareness and buildup of naval operating ability in the region. This is the first time that the commander of the exercise was French, which may be an indication of the status that the French navy is seeking in NATO.<sup>51</sup>

During 2017, the Italian navy and coast guard were intensively involved in preventing the flow of refugees from Libya to Italy. In actuality, this mission became an operation to rescue refugees in distress. Up until June 2017, more than 40,000 refugees reached Southern Italy, of which more than 10,000 were rescued from the sea in the area north of the Libyan coast by the Italian coast guard. Italy has initiated activity to strengthen the ability of the Libyan navy to prevent refugees from leaving Libya in the first place, which includes training of its crews and the acquisition of suitable vessels. Ships of the Italian navy even anchored in the port of Tripoli in Libya a number of times in order to encourage cooperation in this effort.<sup>52</sup> Accordingly, it is widely believed that the flow of refugees to Italy will decline by 50 percent relative to the previous year.

In February 2017, NATO and Ukrainian forces carried out a joint naval exercise (called Sea Shield 2017) in the Black Sea under the watchful eye of Russia. There has been tension in the Black Sea region between NATO and Russia since the latter annexed part of the Crimean Peninsula in 2014. Participating were forces from Ukraine, Romania, Bulgaria, Greece, Turkey, the US, Canada and Spain and it included, among other things, warfare against aerial threats, surface vessels and submarines.

In June 2017, a large-scale NATO exercise, called BALTOPS, was completed in the Baltic Sea region. Participating were 50 vessels from 14 countries and it included a variety of missions, including amphibious landings. The exercise was observed by the Russian navy by means of both ships and aircraft and at its conclusion a joint exercise of Russian and Chinese naval forces was carried out in the area (whose goals were mentioned above).

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50 Fact Sheet, Operation Sea Guardian, Allied Maritime Command Northwood UK, Media Center, <http://www.mc.nato.int/media-centre/fact-sheets.aspx>

51 Allied Maritime command, NATO Maritime Task Group in Western Mediterranean for Operation Sea Guardian, June 1, 2017, <http://www.mc.nato.int/media-centre/news/2017/nato-maritime-task-group-in-western-mediterranean-for-operation-sea-guardian.aspx>

52 Libya: Italian navy personnel man ships on migrant 'search-and-rescue' mission, Tripoli's port, Thursday, as part of the Italian mission to give assistance, Ruptly YouTube channel, August 10, 2017.

## Naval warfare to counter terror and piracy in the Indian Ocean

Maritime piracy and terror represent a serious threat to shipping, human life and human welfare and can also cause harm to the relations between countries when the attacks originate from a specific country. At the time of writing, it was still possible to differentiate between pirate activity and terror activity according to the nature of the attack, the methods of attack and the means used, as well as the areas from which the attacks originate, although there is similarity between their methods of operation (attacks on ships, theft of maritime cargo and taking of hostages). Maritime piracy has different goals than maritime terror: terror activities have an ideological motive and therefore the element of publicity is important in order to create psychological pressure on governments and the public, while piracy captures property and hostages for purposes of profit.

During 2017, the activity of the Combined Maritime Force continued in its efforts to prevent maritime piracy and terror in the area of the Persian Gulf, the Indian Ocean and the Horn of Africa. The force is made up of three sub-forces: taskforce 150 which is a joint French-British force that focused in 2017 on projecting power and carrying out patrols in the area of Bab el Mandeb Strait in order to guarantee free passage in the area, following a number of incidents at the beginning of the year;<sup>53</sup> Force 151's mission is to ensure security in the area of the Red Sea, the Gulf of Aden and the Gulf of Oman; and Force 152 operates in the Persian Gulf. It should be mentioned that apart from this force there are a number of countries, such as China, Japan and India, for example, which carry out this mission independently in order to preserve their commercial interests, though they do not hesitate to provide assistance in response to calls of distress by commercial ships from other countries.

During the first six months of 2017, 87 incidents (in all parts of the world) of maritime theft and piracy against commercial ships were reported to the IMB Piracy Reporting Center. As a result of these incidents, four ships were hijacked and 63 crew members were taken hostage. In the area east of the Somali coast, in the Gulf of Aden and in the Red Sea, there was somewhat of an increase during 2017 and there were reports of seven cases of attempted hijacking of ships, as a result of which three ships were actually hijacked by pirates.<sup>54</sup> Figure 19 below presents the areas of pirate attacks in East Africa and the Gulf of Aden during the first half of 2017 and Figure 20 below presents the overall cost of fighting maritime piracy in the Horn of Africa and the Gulf of Aden during the period 2010-16, the cost of hostage taking and the direct economic price.

53 Combined Maritime Forces, Warships Operating in Support of CTF – 150 Continue Presence patrols in the Western Gulf of Aden, August 10, 2017, <https://combinedmaritimeforces.com/2017/08/10/warships-operating-in-support-of-ctf150-continue-presence-patrols-in-the-western-gulf-of-aden>

54 ICC International Maritime Bureau, Piracy and Armed Robbery against Ships, Report for the Period of 1 January – 30 June 2017, Trends, P. 27, July 2017, [https://www.icc-ccs.org/index.php?option=com\\_fabrik&view=plugin&q=form&plugin=redirect&method=displayThanks&task=pluginAjax](https://www.icc-ccs.org/index.php?option=com_fabrik&view=plugin&q=form&plugin=redirect&method=displayThanks&task=pluginAjax)

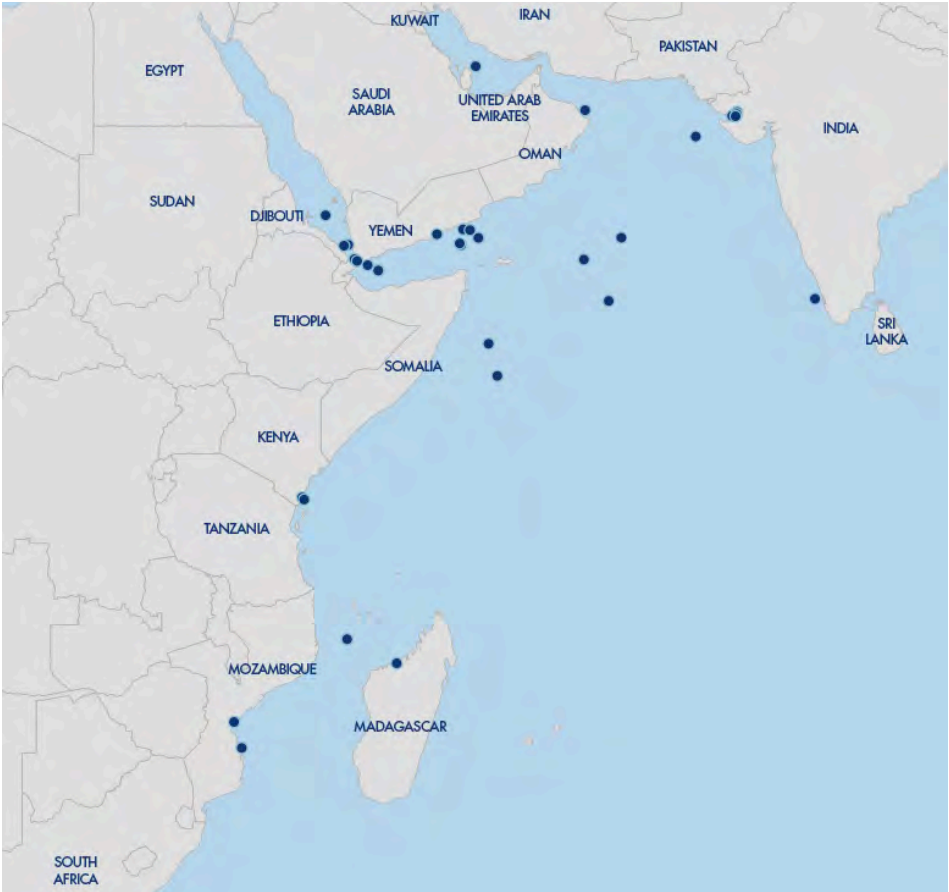


Figure 19 – The areas of pirate attacks in East Africa and the Gulf of Aden (source: <http://oceansbeyondpiracy.org/reports/sop/east-africa>)

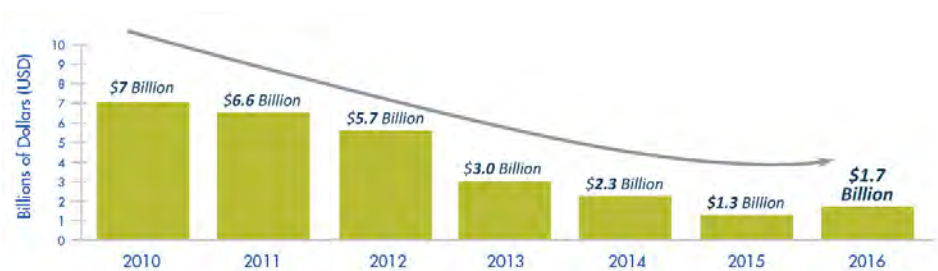


Figure 20 – The cost of countering maritime piracy in the Horn of Africa and the Gulf of Aden during the period 2010-2016, the costs of hostage taking and the direct economic price



The economic price, which includes activity to counter maritime terror in the Western Indian Ocean, is estimated at about \$1.6 billion (as compared to \$1.3 billion in 2015). The coalition forces have begun to reduce their activity, although navies that are operating independently in the region (China, India and Japan) continued to patrol during most of the year. In order to reduce the costs of security, the commercial shipping companies have begun to employ private companies that provide armed guards (3-4 per ship).<sup>55</sup> The conditions and the social-political environment in Somalia (including the lack of economic opportunity, governance and law enforcement) that have allowed piracy to flourish have unfortunately remained basically unchanged.

The probability of terrorist attacks by organizations such as el Qaida and ISIS in this region is estimated to be high and is based on the declared intentions of these organizations to disrupt the movement of commercial ships through critical shipping lanes. The results of a terror attack of this type in the area of the Gulf of Aden are liable to adversely affect trade and the global economy. There are three choke points in this region that are important to global trade: the Suez Canal, the Strait of Bab el Mandeb and the Strait of Hormuz (see Figure 21), through which about 20 percent of the world's oil flows. The shipping at these points can easily be disrupted (for example using sea mines).<sup>56</sup> The war being waged in Yemen has increased the instability in the region. Thus, the blockade imposed by the navies of Saudi Arabia and the Emirates on Yemenite ports in order to prevent supplies reaching the Houthi rebels has been answered by the Houthis with the firing of a C-802 coast-to-sea missile at a ship of the United Arab Emirates which was carrying humanitarian equipment and was sailing near the port city of Mocha. They have also sent explosive boats against a Saudi frigate.<sup>57</sup> In addition, in October 2016 the USS Mason, an American destroyer which was patrolling in the Strait of Bab el Mandeb area, had to defend itself and the USS Ponce against a number of similar missiles fired at them from the coast of Yemen by firing anti-missile missiles and activating a decoy and deception system.<sup>58</sup> In February 2017, the US Office of Naval Intelligence published a warning to all ships of the danger of mines in the area of the Strait of Bab el Mandeb. The Americans believe that in January 2017 the Houthi rebels planted sea mines in the coastal water of the port of Mocha in Yemen. The British government released an advisory in August 2017 that included a warning to commercial ships that were intending to pass through the Strait of Bab el Mandeb and the Gulf of Aden which states that there

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55 Oceans Beyond Piracy OBM, The State of Maritime Piracy 2016, Assessing the Economic and the Human Cost, Executive Summary, <http://oceansbeyondpiracy.org/reports/sop/summary>

56 Church Chris, Naval commanders warn of terror threat against commercial shipping, Stars and Stripes April 9, 2016.

57 Charkatli Izat, UAE warship obliterated off the coast of Yemen, Al-Masdar Al-Arabi AMN, October 1, 2016. <https://mobile.almasdarnews.com/article/uae-warship-obliterated-off-coast-yemen>

58 LaGrone Sam, USS Mason Fired 3 Missiles to Defend From Yemen Cruise Missiles Attack, The US Naval Institute, October 11, 2016. <https://news.usni.org/2016/10/11/uss-mason-fired-3-missiles-to-defend-from-yemen-cruise-missiles-attack>

is a possibility that they will be attacked by remote controlled explosive boats or rockets or grenade launchers.

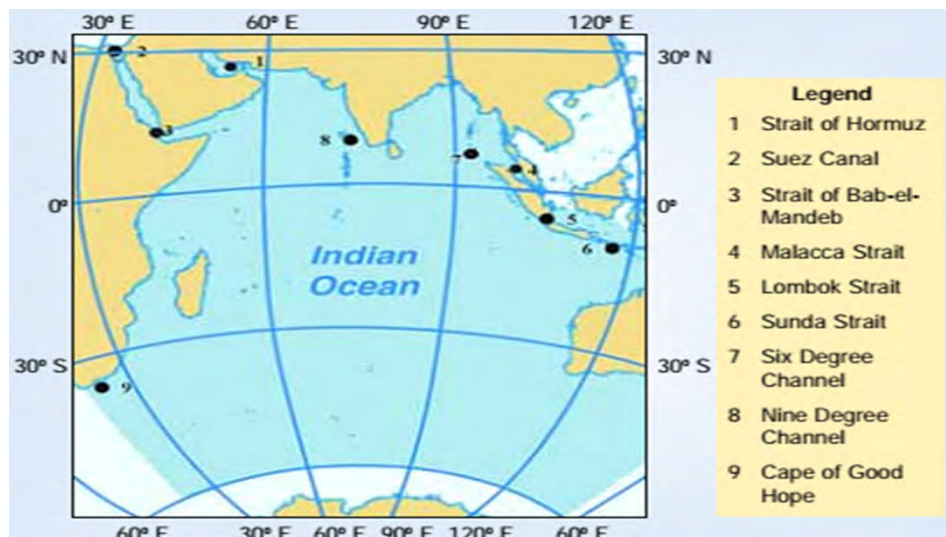


Figure 21 – Main choke points in the Indian Ocean region

The British government released the advisory after two commercial ships were attacked at the southern entrance to the Strait of Bab el Mandeb. The advisory also stated that the two attacks, one near the Strait of Bab el Mandeb and the other in the Gulf of Aden, demonstrate the danger of sailing in the area of the straits. The US navy and Force 150, composed of French and British ships, are busy trying to ensure freedom of passage in the Strait of Bab el Mandeb. It can be said that this situation has all the elements of both asymmetric warfare and littoral warfare.

The forces of rogue nations such as Iran and North Korea are operating in a similar manner to that of terrorist organizations. In spite of the nuclear agreement signed in 2015 between the West and Iran, the aggressive behavior of Iran's Islamic Revolutionary Guard continued this year in and around the Persian Gulf. This activity was backed up by the threat voiced by the Iranian Deputy Chief of the General Staff Ali Shahdmani in July 2016 to close the Strait of Hormuz.<sup>59</sup> In July 2017, an American task force led by the USS Nimitz aircraft carrier, which was sailing in an area near the offshore oil rigs in the Gulf

<sup>59</sup> TheTower.org Staff, Iranian General Threatens to Shut Down Straits of Hormuz if U.S. "Makes a Small Mistake", the Tower Magazine, July 29, 2016, <http://www.thetower.org/3712-iranian-general-threatens-to-shut-down-straits-of-hormuz-if-u-s-makes-a-small-mistake>

was forced to send out helicopters and shoot warning flares when speed boats of the Revolutionary Guard approached them threateningly and at high speed.<sup>60</sup>

In sum, although the frequency of attacks on ships by terrorist organizations has been on a smaller scale than maritime piracy events, a broader view indicates that these organizations have both the ability and the desire to carry out this sort of attack. The existence of three choke points in the Middle East (the Strait of Hormuz, the Strait of Bab el Mandeb and the Suez Canal) near strongholds of ISIS and el Qaida give those organizations easy access to shipping and raises the probability of these attacks. Evidence of the concern among American officials can be seen in the task assigned to the Brookings Institute to produce an assessment of a scenario in which tankers carrying liquefied natural gas, oil and chemicals are attacked, with the goal of producing recommendations of how to deal with this threat.<sup>61</sup>

Immigration by sea routes – The flow of refugees by way of the Mediterranean to Europe is not a new phenomenon in this decade and has already claimed the lives of many refugees. Nonetheless, the flow of refugees has grown in magnitude during the last decade as a result of the civil war in Syria and the African refugees that arrive by way of the Libyan coast. This immigration has been described by the International Organization for Migration "as the biggest movement of people since World War Two."<sup>62</sup> In 2017, the Mediterranean continued to serve as the migration route from the southern Mediterranean countries (primarily Libya) to Europe and although the agreement signed in March 2016 between the 28 EU members and Turkey (the EU-Turkey Refugee Deal) indeed reduced the flow of refugees arriving by sea, and in particular by way of Greece, the ultimate effect of the agreement is still unclear. The crisis in Syria in recent years has had a major effect on the level of migration and its characteristics and it has affected several European countries. The migration from Syria during the period 2010-15 totaled about 4.2 million, the largest part of which arrived in neighboring countries (Turkey, Lebanon and Jordan) while more than one million arrived in Europe in 2015. As a result of the aforementioned agreement, the flow of Syrian refugees by way of Turkey to Europe ceased almost completely in 2017 and some of them even returned to Syria. Nonetheless, there is an attempt to open a new and dangerous route for refugees by way of the Black Sea (from Turkey to the shores of Romania) although at this stage only

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60 France 24, International News, Tense stand-off between US Navy and Iran in Gulf, The Iranian Revolutionary Guards said on Saturday that U.S. Navy ships came close to their vessels in the Gulf and shot flares, July 30, 2017, <http://www.france24.com/en/20170730-tensions-flare-between-iranian-revolutionary-guards-us-navy-trump-administration-hardline-m>

61 Alex Hall, Tess Hellgren. Lucia Retter, Giacomo Persi Paoli, Examining the Possible Consequences of a Deliberate Attack on Tankers, Rand Corporation Europe <http://www.rand.org/randeurope/research/projects/tanker-attack-consequences.html>

62 The Economist, Europe's boat people for those in peril, April 25<sup>th</sup>, 2015

a few hundred refugees have used this option.<sup>63</sup> In contrast, the flow of refugees from the coast of Libya, which is the gathering point for refugees arriving from the southern Sahara or countries such as Eritrea and Sudan, has intensified. In 2016 alone, 181,000 refugees were rescued from the sea and brought to the shores of Italy, at a cost to the Italian government of 3.5 billion euro. If the flow of refugees arriving in Italy remains at its present level, then 2017 may be the record year for refugees arriving in Italy by sea and the cost to the government of Italy may reach 4.5 billion euro.<sup>64</sup> Figure 22 presents the number of refugees arriving by way of the Mediterranean in 2017, including those who drowned or who are missing.



Figure 22 – Number of immigrants arriving by way of the Mediterranean in 2017 including immigrants that drowned or are missing (The Global Migration Data Analysis Centre (GMDAC) of the International Organization for Migration (IOM))

In total, 118,227 refugees arrived in Europe during 2017 up until mid-August (in comparison to 278,201 in 2016), of which 2408 drowned or are missing (compared to 3151 in 2016).

## Protecting the marine environment and global trends in marine planning

Oceans, seas and coastal areas constitute an essential and interconnected component of the global ecosystem and they are crucial to the continuing use of the sea's resources. There is a need to monitor the continuing exploitation of the oceans and seas and

63 BBC News, Syria war: Almost 500,000 refugees return in 2017 – UN, June 30, 2017, <http://www.bbc.com/news/world-middle-east-40460126>

64 Nick Squires, more than 8,000 migrants rescued in Mediterranean and brought to Italy over Easter long weekend, The Telegraph, April 18, 2017 <http://www.telegraph.co.uk/news/2017/04/18/8000-migrants-rescued-mediterranean-brought-italy-easter-long>

the resources they contain, even if it appears that they can provide the means to end poverty, increase economic growth and food security and create employment. Alongside monitoring the use of these resources, there is a need to protect all aspects of the marine environment, including efforts to deal with climate change.

The Regional Sea Conventions and the Three-Year Action Plans are meant to achieve these goals, by deepening the involvement of the signatory countries. This is manifested in appropriate legislation being passed in these countries and their adoption of appropriate mechanisms for monitoring and enforcement. All of this requires the involvement of society, including the private sector, the buildup of capabilities, the earmarking of national and international sources of funding and the creation of mechanisms and processes to assess progress.

The Three Year Program 2013-2016 is about to end and the plan for 2017-2020 has been formulated and approved by 143 member countries in 13 regions throughout the world. The problems in implementing the plan are primarily political and financial. Since this report focuses on the Eastern Mediterranean, the most relevant environmental threat to the sea originates in activities that pollute the marine environment and affect both human quality of life and fisheries in the region.

Israel is signed on the Barcelona Convention whose goal is to prevent pollution in the Mediterranean and which includes six Regional Activity Centers (RAC); however, the civil wars in some of the Eastern Mediterranean countries and/or the hostile relations between countries—particularly between Israel and its neighbors—has hindered the implementation of the plan. Israel has signed the Convention but has not ratified all of its protocols, nor has it declared 10 percent of fisheries in its sovereign waters as protected maritime areas, despite its signing of the Convention on Biological Diversity (CBD) which requires this to be done by 2020.

## Conclusion

The world is in the midst of geopolitical and global changes that will have far-reaching effects on the maritime domain in its widest sense. Furthermore, some of the changes are the result of developments in the maritime domain and particularly the rising status of China and India as naval superpowers in Southeast Asia.

In addition to the US, which remains the strongest naval superpower, China and India are becoming regional superpowers, a trend reflected in their growing number of vessels and their quality. These two superpowers are expanding the nuclear deterrence capability of their submarine fleets. The new interests of their policies, as expressed in the operating strategies they have formulated, emphasize the aspiration to expand their naval activity to the open seas.

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The new US administration has not published a clear statement of their future defense strategy in general and their maritime strategy in particular. This leaves unclear how some of the issues discussed in this report will be dealt with or that the responses to the current situation will be ad hoc, at least until a revised strategy has been put together.

In terms of the classic strategic approaches, the question that arises with respect to China and India (between whom there has been rivalry since the military conflict in the Himalayas in 1962) is whether they both choose to “discard their continental images and envisage a maritime role.” Or alternatively—and in spite of the huge investment of resources in the creation of fleets with the capabilities of deterrence and power projection—they will remain loyal to the land-based element, which has greater geostrategic importance.<sup>65</sup>

In spite of the economic crisis being experienced by Russia, the Russian navy is rebuilding its capabilities and primarily those of its strategic branch (i.e. submarines) and of new vessels that are better suited to littoral warfare. In this way, it is challenging the US and NATO navies in theaters such as the Black Sea and the Eastern Mediterranean, the Baltic Sea and the North Pacific. The Russians are fully exploiting geopolitical opportunities (such as those in Syria and Iran) in order to deploy naval and aerial forces and in this way are creating a situation (even if in appearance only) that the American fleet is being displaced from the region.

During 2017, relations improved between the Russian and Chinese navies and they carried out joint exercises in the Mediterranean, in the South China Sea and on the eastern coast of Russia. Thus, a naval axis is developing that constitutes a counterweight against the coalition that the US is trying to create with the countries in the region.

Climate change in the Arctic Ocean is creating opportunities to exploit resources and to shorten shipping routes. These phenomena serve as a catalyst for countries such as Russia and China who are building up naval forces for future activity in this region, as well as commercial fleets that will use these routes.

The effort to counter maritime piracy in the Indian Ocean was fairly successful in 2016, although in 2017 there was somewhat of an increase in pirate activity. The anti-piracy activity will continue and will require the ongoing investment of resources. Despite the nuclear agreement between the superpowers and Iran, the Revolutionary Guard navy continues to operate in a provocative manner in the Strait of Hormuz and is embarrassing Western navies that are present in the region.

Maritime terror has still not had any significant achievements, as in countries such as Syria, Iraq and Afghanistan, but this is expected to change with support from rogue countries and terror organizations, particularly in the waters of countries such as Yemen,

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65 Zorawar Dault Singh, *India's Geostrategy and China: Mackinder versus Mahan?* *Journal of Defence Studies*, Vol. 7, Issue-3. pp. 137-146, 2013



a failed state where a civil war is being fought. This situation is reflected in asymmetric warfare that is being waged by the Houthis in Western Yemen and it is already affecting shipping in the Strait of Bab el Mandeb.

Cyber warfare has already appeared in the maritime domain when in July 2017 the database of Maersk, the largest shipping company in the world, was attacked. Such attacks have the potential to disrupt global container shipping, which is a major component of global trade.

During 2017, the US fleet experienced four maritime accidents which involved loss of life and raised questions as to the level of seamanship in the US navy. The US navy will undoubtedly have to draw conclusions in this area, especially in view of the increased safety risk in littoral activity.

There is growing activity to mine the seabed for energy and mineral resources and the only factors taken into account in this activity are economic, without any consideration given to the ecosystem. This is liable to bring about irreversible damage and therefore it is important to understand the implications of this activity and its effect on the economic system ahead of time.