Security Review

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The Black Sea – Interests and Capabilities of the Players
General Situation

The developments of recent years such as the approximation between Russia and Turkey as well as the annexation of Crimea by Russia have significantly changed the attitude of the Euro-Atlantic space towards the Black Sea and its adjacent region. NATO sees the weakening of its positions there and tries to resist this; however, substantial steps are so far only being taken by the United States and more recently – the United Kingdom, by strengthening the military capabilities of Romania and Ukraine, respectively.

Both before and now, one of the main problems with the unspecified position of NATO and the West towards the region is the differing national interests of the allied states and their attitudes towards Russia. The differing interests of the countries in the region also complicate the formation of a unified approach. The states are concentrated on different threats which is the main obstacle for cooperation in the field of defense. Sometimes NATO partners such as Ukraine and Georgia are more consistent in this regard than the member states.

Generally, NATO’s leading European players are less interested in this region. This manifests, for example, in the refusal to participate in the multi-national brigade in Romania. The presence of the US forces and assets in Romania is more of a result of these two states being active.

Europe is also not clear on the issue of whether or not the Black Sea region is part of Europe or rather a neighboring region. Therefore, some states support strengthening the capacities of partner countries for them to be able to free themselves from Russia’s influence while others believe that this will provoke Russia and cause aggressive action.

A separate issue is the limited military capabilities that NATO’s new members have within the region, complemented by the suspension of the US-Turkey military-technical cooperation and the purchase of Russian C-400s by Turkey which in a way determines the military-technical cooperation between these states in the future.

The statements by Romania’s political leadership constantly feature reference to the issue of Russian threats. They believe that the West’s naïve approach towards this topic that prevailed at the end of the past century and the beginning of the current one turned out to be incorrect. Romania supports bilateral cooperation with the United States as well as a meaningful military positioning of the US and NATO on its territory. Romania’s National Defense Strategy identifies one of the priority tasks to be neutralizing asymmetrical and hybrid threats. The document says that it is impossible to draw clear borders between these and classical threats; therefore, requiring the united efforts of various state institutions and society to evade them.

Bulgaria has a different situation. This country has strong cultural and historical ties with Russia. Apart from this, they have rather powerful left-wing political forces which are also historically connected to Russia’s political leadership. Bulgaria’s economic and energy dependence on Russia is also higher. Bulgaria tries to deepen bilateral cooperation with Russia, including military-technical issues. Also it remains cautious with regard to the
militarization of the Black Sea, opposing Romania’s push for expanding NATO’s naval exercises.

Taking all of this into account, the more recent versions of the guideline documents on Bulgaria’s national security point to the deterioration of the security situation and the violation of the balance of power within the region while there is no mention of Russia at all. Russia considers this region to be highly significant for its national security. From here, it has the opportunity to project power in the Middle Eastern and Mediterranean theatres (perhaps even further). It assesses the Western political orientation of the Black Sea basin states such as Ukraine and Georgia as a threat, attempting to hinder this through its actions within the Black Sea. Russia’s dominance on the Black Sea also contains Moldova, Azerbaijan and Armenia, despite the fact that they have no direct access to the sea.

After the Russia-Georgia war and the annexation of Crimea, the leaders of other post-Soviet states in the region raised questions about the pragmatic nature of seeking a support axis from outside the region. The events of Nagorno-Karabakh have further strengthened this trend.

Russia is bolstering its military district: renewing the Black Sea Fleet, creating new military infrastructure in Crimea and strengthening the land component. This could have the following purposes: defending the southwestern part itself, access to important communications and the projection of power in order to both influence the countries in the region as well as increase the strategic access in these directions.

**Military Capabilities of the Countries in the Region**

In any case, the military component plays an important role in implementing the interests of local, regional or global players in the Black Sea region. The naval, land-based and aviation components of the armed forces can restrict sails, block ports and straits, damage or destroy submarines and surface naval vessels as well as attack land targets deep into the territory of a state.

From the countries in the region, Russia and Turkey can project the most amount of power in the Black Sea (the Black Sea in this case encompasses its surface, sub-surface waters and airspace). Bulgaria and Romania have relatively modest military capabilities, even though the role of the latter has been growing recently. Ukraine’s navy and coastal infrastructure was significantly damaged as a result of Russia’s annexation of Crimea; however, one can say that even before that, Ukraine was not able to project much power on the Black Sea.

For various reasons, Georgia does not have a military navy at all. The coastal defense forces under the auspices of the border police should not be counted in this regard. They do not even have the capacities to effectively control Georgia’s special economic zone. Moldova’s military potential in this regard can also be discounted.
The presence of the military naval forces of the non-adjacent states in the Black Sea is restricted through the Montreux Convention which envisages restrictions on the overall simultaneous displacement tonnage to 30,000 tons (in special cases – 45,000 tons) with the length of stay of an individual ship in the sea limited to 21 days. That said, the Black Sea and its adjacent areas can be influenced not only from within the sea and not only from the forces and capabilities stationed in its adjacent countries.

The balance of power in the region depends on the existing situation. This can differ radically in peacetime, during a crisis or during a wartime situation as the deterioration of the situation can be followed by the mobilization of resources and the projection of additional military power.

In order to assess the ratio of military capabilities it will be necessary to look at the capabilities of individual players separately as well as in various combinations.

**Russia**

Russia’s main resource on the Black Sea is the Black Sea Fleet of the Russian Federation which is part of its Southern Military District. Apart from the Black Sea Fleet and its coastal army units, other components of the military district can also act on the Black Sea such as military aviation, air defense and missile forces and capabilities.

The main attacking power of the Black Sea Fleet is as follows:

- Flagship of the Black Sea Fleet, Guided Missile Cruiser Moskva;
- Frigates: Admiral Essen, Admiral Grigorovich, Admiral Makarov;
- Guard ships: Ladnyy and Pytlivyy;
- Patrol ship Vasily Bykov;
- Small missile ships: Bora, Samum, Vyshniy Volochyok, Orekhovo-Zuyevo, Ingushetiya, Grayvoron;

There are diesel-electric attack submarines:

- Alrosa, project B-877B Paltus, NATO codification KILO II.
- Rostov na Donu, Novorossiysk, Staryy Oskol, Krasnodar, Velikiy Novgorod, Kolpino. Project 636.3 Varshavianka, NATO codification Improved KILO.

Other combat vessels on the Black Sea are mostly anti-submarine ships and minesweepers that perform the tasks of defending various ship groupings, individual vessels, sea regions and coastal infrastructure. They are not in possession of long-range capabilities.

The main attacking instruments of the surface combat vessels are the missile launching system Vulcan (Guided Missile Cruiser Moskva), Kalibr (frigates and small missile ships), Uran (patrol ship), Rastrub (guard ships), Termit and Moskit (missile boats). They have various
missiles in the arsenal that can inflict differing amounts of damage and have a varying radius of action.

According to the information from open sources, the radius of the missiles of the Guided Missile Cruiser Moskva is around 1,000 kilometers. The maximum radius of the action of the missile systems Uran, Moskit, Rastrub and Termit are respectively: 260 km, 250 km, 90 km and 80 km. The Kalibr type cruise missiles are relatively modern. According to the data of their tactical-technical specifications available in open sources, the maximum action radius of the missiles varies from 700 to 2,600 km. There are numerous modifications of this type of missiles and, therefore, their specifications differ from one another significantly. On October 7, 2015, the missile ships and small missile ships of the Russian Federation’s Caspian Sea Flotilla performed missile strikes on targets located on the territory of Syria. The cruise missiles flew over 1,500 km at an altitude of 50 meters from the Earth’s surface. We can presume that this is the estimated range of the action of these rockets when launched from the surface of the water towards land-based targets.

Part of the vessels in the fleet can also carry the anti-submarine helicopters K-27M which, in the case of weak anti-aircraft capabilities on the part of the opponent, increases the effective action radius of the vessels by about 200 km.

The missile equipment of the submarines in the Black Sea Fleet also includes Kalibr missiles of various modifications. Their maximum damage radius can be considered based on the September 14, 2017 strikes performed by the Black Sea Fleet submarines Velikiy Novgorod and Kolpino on the range of 500-670 km. It must be noted that up until that instance, the information in open sources about such missile strikes performed from under the water indicated a much lower radius of action.

Given this data, the surface vessels of Russia’s Black Sea Fleet cannot only damage and destroy vessels in the entire Black Sea without entering foreign territorial waters but also damage land targets deep into the territory of the countries adjacent to the Black Sea. Practically, the Kalibr type missiles can reach and act on targets outside of the region as well: the southern districts of the Baltic Sea, the eastern part of Germany, Switzerland, Italy (apart from its northwestern part and Sardinia) and also all of the countries of Central, Southern and Eastern Europe. From the submarines, on the other hand, the countries adjacent to the Black Sea are within reach, as well as Serbia, Albania, much of Greece and those more closely situated countries.

It must be pointed out that technically an attack can be performed during peacetime as well and without any prior preparation.

Air support to the combat operations can be provided from the airbases situated on the Crimean peninsula and in the North Caucasus with the following types of bombers, multi-functional and conventional destroyers: Су-34 (radius of combat operations – 1,100 km, range of usage of weapon– 250 km), Су-30CM; Су-30М2 (radius of combat operations – 1,500 km,
range of usage of combat materials – 100 km), Су-27, Су-27П, Су-27СМЗ, Су-27УП (radius of combat operations – 1,400 km, range of usage of combat materials – 100 km), Су-24М (radius of combat operations – 560 km). The actionable territory of the aviation is almost the same as that of the missiles; however, the airspace of the countries that fall under the actionable territory is protected by the NATO air defense umbrella which significantly reduces the effectiveness of airstrikes and would be very risky for the Russian aviation. Therefore, action by air forces is less likely (apart from the Black Sea itself as well as Georgian and Ukrainian airspaces).

Apart from the abovementioned, the Russian Federation is also able to use tactical-operative missile complexes like the Southern Military District’s Iskander and Iskander-M. The radius of their combat action is 500 km.¹ From their starting positions of Crimea and the North Caucasus, these mobile missile complexes can cover central, southern and eastern Ukraine, Georgia entirely and the territory of Turkey up until the confines of Sinop-Erzincan-Van Lake. This capability can technically also be used during peacetime and without any preparation.

The absolute majority of the ships of the Black Sea Fleet have air defense capabilities of extremely short, short and medium range. Only the Guided Missile Cruiser Moskva possesses a long-range C-300Ф “ФОРТ” (NATO classification – SA-N-6 Grumble) air defense missile complex. The short radius of anti-aircraft capabilities and the low number of targeting channels leaves the vessel grouping without land-based support somewhat vulnerable. Modern military aircraft have the ability to perform mass attacks in echelon formation without entering the coverage area of the anti-aircraft systems of naval vessel groupings which will cause the latter to expend their air defense resources on the first echelons, leaving them defenseless from the attack of the following echelons.

Russia has the ability to cover most of the airspace over the Black Sea with its C-300 and C-400 air defense complexes stationed in Crimea, the coastal zone of the North Caucasus and Georgia, approximately up until the Mangalia (Romania)-Zonguldak (Turkey) junction. With the Guided Missile Cruiser Moskva, it can further expand the coverage zone by 100 km; however, with this it cannot cover the straits and, apart from this, the Cruiser itself then ends up in a zone of vulnerability at the edge of air defense missile radius. Here it must also be pointed out that according to a number of experts, the declared specifications of the C-400 complexes are exaggerated and in reality their actionable radius in 200 km, dropping as low as 20 km for lower altitude targets.

**Turkey**

The main attacking power of the surface vessels of Turkey’s naval forces is as follows:

- Eight G type frigates. These are vessels received from the US fleet reserve from 1997 to 2003 which have then been modernized;

¹ A number of Western experts believe that in order to evade the USA-USSR Intermediate-Range Nuclear Forces Treaty (IRNFT), this specification is artificially reduced by four to five times.
Four DE MEKO Track I type frigates. The first two units were built in Germany while the remaining two were built in Turkey;

Four DE MEKO Track IIA type frigates which are the altered versions of a German MEKO 2000 project equipped with improved navigation, radio-electronic, combat and artillery management systems.

**Corvettes**

- Four MILGEM (ADA) type vessels, designed in cooperation with Ukraine;
- Six A69s given by France, improved versions.

**Patrol ships**

- Sixteen Turkish-made Tuzla type vessels.

**Missile boats, German project. First units built in Germany and the rest of the units in Turkey.**

- Nine KILIC type vessels;
- Two modernized German FPB-57 Yildiz type vessels;
- Four FPB-57 Dogan type vessels;
- Four Ruzgar class vessels.

In terms of anti-vessel weaponry, Turkey possesses Harpoon and Exocet missiles of various modifications with the action radius of 280 km (on frigates) and 180 km (on other types of ships and boats). It is planned to equip all types of vessels with Turkish-produced Atmaca anti-vessel missiles that underwent testing at the beginning of February 2021. The action radius of these missiles is over 220 km.

The frigates carry SH-2F Seaspirite and AB.212 type helicopters while part of the corvettes carry S-70B-2 Hawk type helicopters equipped with anti-vessel missiles, torpedoes and anti-boat bombs. Also, the floating vessels can house Anka, Bayraktar and GNAT type attack drones. This substantially increases the combat action radius of these vessels. That said, using helicopters in the airspace controlled by the opponent is problematic and they can only be effective in intensive combat action when the air defense and anti-missile capabilities of hostile vessels and coastal armies are overloaded with other tasks.

**Submarines:**

- Five units of Atilay class vessels, German 209 project;
- Four units of Preveze class vessels, German 209T1 project;
- Four units of Gur class vessels, 209T2 project.

The latter can equip Sub Harpoon anti-vessel missiles used against surface vessels, submarines, land and air targets (damage radius up to 130 km). All of them are equipped with 533 mm torpedo systems.
Part of the frigates are equipped with middle-range (170 km) US-produced SM-1 MR air defense systems while others equip short-range air defense missile complexes as well as anti-aircraft artillery.

The Turkish military navy also possesses other types of combat, combat support and general support vessels, although they do not have long-range damage capabilities.

Turkey has an ambitious plan of developing its armed forces, including the navy. One of the projects is a light aircraft carrier, Anadolu. According to the information available in open sources, it can carry planes, helicopters and drones. This will significantly increase the depth of operational access. Currently, the procedures for testing this vessel and enlisting it in the military navy are taking place.

Turkey’s main military naval forces are stationed on 15 military naval bases and base points. Of this, the following forces are responsible for overseeing the straits and the Black Sea district:

- Geljuk - the main military-naval base of the Turkish navy. It houses all classes of vessels and submarines, with an overall number of 70, also the coastal defense unit;
- Erdek military-naval base (Marmara Sea) is the main base of the Turkish minehunter and minesweeper flotilla. It houses up to 15 minesweepers and up to ten patrol vessels;
- Umuryeri naval base point (Bosporus strait). Forces are stationed here for the defense of the Bosporus. The operational coverage forces for the Black Sea are also stationed here consisting of assault and patrol ships, missile boats and support vessels, up to 25 units;
- Çanakkale naval base point (Strait of Dardanelles). It houses patrol boats;
- Ereğli naval base point (Black Sea). It serves as a maneuver point. Here, corvettes, frigates, missile boats and submarines are stationed on a rotational basis;
- Sinop, Samsun, Çamburnu and Bartin naval base points (Black Sea). Serve as maneuver points. Here, naval forces are stationed on a rotational basis on the Black Sea.

The number of forces and capabilities at the listed bases and base points is not constant. Turkey as a state that controls the straits can easily perform any maneuver in a short period of time and gather all of the required resources wherever necessary. That said, any serious regrouping will not be missed by other states and will be followed by an adequate reaction.

The main attacking power of Turkey’s military air force are the F-16C/D Fighting Falcon fighters. The radius of their combat action is around 600 km. Turkey produces them itself. They can attack both air as well as land-based and naval (including sub-surface) targets. Turkey was supposed to receive and later produce the F-35 type jets; however, after purchasing the C-400 air defense missiles from Russia, this program was suspended. The attack drones, such as Anka, Bayraktar and GNAT, must also be taken into account.
The Boeing 737 AEW&C E-7T Peace Eagle early warning and management planes perform airspace reconnaissance (and not only). They can observe airspace and land (as well as the sea) with a depth of 600 km and perform electronic intelligence with a depth of 850 km.

The Merzifon, Akinci, Etimesgut, Eskişehir, Bandırma and Balıkesir military aerodromes can be used on the direction of the Black Sea together with the civil aerodromes located in these parts as well.

Before purchasing the C-400 air defense missile complexes, Turkey’s air-defense forces consisted of short and medium-range capabilities. Purchasing the C-400 enabled the country’s armed forces to organize air and anti-missile defense (given the missile types): with a depth ranging from 40 km to 400 km, with an altitude ranging from 20 km to 30 km on the targets with a speed ranging from 2,800 m/s to 4,800 m/s. These complexes are stationed in Ankara, Istanbul, Urfa and in the future perhaps in the Mersin districts as well; however, these are mobile missile complexes that can be moved in any direction.

The action area of Turkey’s military-naval forces is the entire Black Sea. From neutral waters, they can also perform missile strikes on the opponent’s land-based targets with the full depth of the formation of their first operative echelon. That said, the naval vessel grouping cannot be sufficiently secure from aviation and missile strikes.

During peacetime, Turkey has the advantage of maneuvering forces and capabilities as it controls the straits. In a period of crisis and war, this advantage is removed as Russia can lock down the straits (from both sides) and outside players can do so as well (from the side of the Mediterranean).

**Bulgaria and Romania**

Bulgaria’s military naval forces are stationed at the Varna and Burgas military naval bases. They consist of:

- Four frigates. Three of them of Wielingen class given by the Belgian navy and one of the Soviet 1159 type;
- Two corvettes (Soviet-produced, 12412 project);
- Three missile boats (Soviet-produced 1241.1T and 205 projects).

Also other combat, combat support vessels, boats and ships.

The Belgian frigates are equipped with Exocet anti-vessel missiles while the Soviet-produced boats have П-15 Термит type missiles as well as other short-range artillery, air defense, torpedo and mine-laying capabilities.

Bulgaria is negotiating with a German company, Lürssen, on the construction of two multifunctional corvettes.

Bulgaria’s military air forces consist of 15 units of Soviet-produced МиГ-29 fighters. They are stationed near Plovdiv at the Graf Ignatievo military air base.
Military air defense forces consist of Soviet-produced short and medium-range air defense missile complexes such as C-300, C-200, C-125 and КУБ.

Romania’s military naval forces consist of:

- Frigates: Mărăşeşti, Regina Maria and Regele Ferdinand given by the United Kingdom;
- Corvettes: Soviet-produced (1241 project) Zborul, Pescăruşul, Lăstunul; Romanian-produced (Tetal and improved Tetal class) - Amiral Petre Bărbuneanu, Vice-Amiral Vasile Scodrea, Vice-Amiral Eugeniu Roșca, Contraamiral Eustațiu Sebastian, Contraamiral Horia Macellariu.

Also other combat, combat support vessels and boats.

Part of the frigates and corvettes are equipped with Soviet-produced П-15 Термит type anti-vessel missile systems (action radius up to 40 km). Also, they feature short-range artillery, torpedo and mine-laying capabilities. Frigates house IAR 316 Alouette and IAR 330 Puma helicopters (tactical radius of 200-250 km) equipped with short-range weaponry.

Romania’s military air forces consist mainly of Soviet-produced МиГ-21 (35 units) and F-16 (16 units) fighters purchased from Portugal. They are stationed at the Câmpia Turzii and Feteşti military aerodromes. They can perform both air defense tasks as well as inflicting damage on land-based and naval targets.

Romania’s air defense forces consist of medium and short-range air defense complexes such as MIM-104 Patriot, MIM-23 Hawk and the Soviet-produced С-75 and КУБ. Apart from this, Romania, as a member state of NATO, is under the alliance’s air defense system umbrella.

In recent years, Romania has been becoming the most active US ally in the Black Sea region. The Deveselu military air base already houses Aegis Ashore anti-missile defense complexes - specifically radar and launching devices for Standard SM-3 Block IB missiles. Romania also received the Patriot PAC-3+ air defense missile complex from the US. It has been decided to place US-Norwegian anti-vessel Naval Strike Missiles on the territory of Romania with the missile action radius being up to 300 km.

The Câmpia Turzii military air base also houses MQ-9 Reaper type reconnaissance-attack drones which represent a serious danger for land-based and naval targets.

Bulgaria and Romania have modest resources for action on the Black Sea. As for the territorial waters, coastal infrastructure and general territorial defense, they have sufficient resources for effective action, especially taking the NATO umbrella into account.

Ukraine

After the dissolution of the Soviet Union, Ukraine got a substantial part of the Black Sea Fleet, both in terms of the floating vessels as well as coastal infrastructure. Ukraine also had
important shipbuilding enterprises; however, in the years following the dissolution, the Ukrainian navy gradually lost its capabilities due to the lack of sufficient funding. The 2014 Russia-Ukraine war and the loss of Crimea was a huge blow to the country. A very large part of the ships and infrastructure ended up in Russian hands. Russia was supposed to return the vessels; however, this process was halted due to political problems. These vessels, that are practically not being serviced at all, gradually lose their resources and the country can probably no longer rely on them. Currently, the Ukrainian navy consists of one frigate, one corvette, several patrol boats and a minesweeper as well as support vessels. The Giurza type patrol boats built in Ukraine merit mentioning separately.

The southern command of Ukraine’s military air forces possesses МиГ-29 fighters stationed at the Mykolaiv, Kulbaniko air base. From air defense capabilities, Ukraine has С-300ПМ and С-300ПС air defense complexes stationed in Odessa, Kherson and Pervomaysk. In the case of a crisis, Ukraine can mobilize aviation and air defense resources from other commands; however, it must be pointed out that Ukraine’s aviation is practically locked in by the air defense systems in Crimea and, therefore, has no freedom to operate on the Black Sea.

Ukraine is also vulnerable from the side of the Sea and the east as well, especially since it is not protected by the NATO umbrella. That said, Ukraine could mount a serious resistance to an aggressor on land and in the air.

Ukraine is taking meaningful steps in terms of restoring and re-equipping its military naval forces. Military-technical cooperation is on-going with Turkey which consists of the purchase of Ada class corvettes and Bayraktar type drones for military naval forces. The United States is also running a program of handing over Island class patrol boats to Ukraine. Apart from this, the US State Department approved the sales of 16 units of Mark VI class patrol boats and respective equipment to Ukraine.

A memorandum of intent was signed with the United Kingdom that envisages the credit of GPB 1.25 billion for Ukraine to purchase modern equipment for military naval forces as well as high precision weaponry and the creation of infrastructure. Through this program, the purchase of eight missile boats is envisaged.

**Outside Powers**

Due to the restrictions laid down by the Montreux Convention, only three Arleigh Burke class vessels can simultaneously be present on the Black Sea. These could be, for example, the USS Donald Cook (DDG-75) that has very powerful missile weaponry (BGM-109 Tomahawk or RUM-139 VL-ASROC). Additionally, and what is no less important, it also has strong resources for intelligence and EW. The presence of three such vessels on the Black Sea will significantly influence the balance of power. That said, without accompanying forces they will be relatively vulnerable and in the case of expending their combat materials, they will be unable to resupply and will have to return to their bases.
Conclusion

From 2014, Russia has substantially increased its forces and capabilities on the Black Sea, becoming a dominant power, which it needs to be able to project power on the Middle Eastern and Mediterranean theatres (perhaps ever further) and also to hinder the Western orientation of Ukraine and Georgia.

In peacetime, and without any prior preparation, the Russian, Turkish and US (or NATO) forces can restrict sails in the Black Sea, fully block ports and straits, damage or destroy surface and sub-surface vessels and also attack land-based targets deep into the territories of the adjacent countries. Doing so may not be beneficial for any of the mentioned parties yet; however, it cannot be excluded that a specific state may decide to do this in pursuit of its national interests.

At the initial stages of the crisis caused by these actions, these countries will themselves be unable to ensure the free maneuverability of their forces and capabilities. The situation on the following stages will depend on who manages to secure an advantage from the very beginning.

In the time of crisis, mobilizing additional naval components on the Black Sea will be problematic as the straits will be under triple control. Russia can mobilize aviation and missile forces and capabilities at the expense of other military districts and the US (or NATO) can also do this by using the aircraft carriers in the Mediterranean and aerodromes of allied countries.

Due to Turkey’s position, it will be necessary to increase the US and NATO presence in the Black Sea and its adjacent countries in order prevent or contain forceful actions by Russia which is already taking place in Romania and will probably also happen in Ukraine. In this regard, it may also be important for the US and NATO to use Georgia’s coastal zone for creating its military naval infrastructure.