

MULTINATIONAL MINE COUNTERMEASURES OPERATION IN THE BLACK SEA

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The launch of sea mines anchored in the coastal maritime areas of the Gulf of Odessa, at the beginning of the war between the Russian Federation and Ukraine, led, in the immediate aftermath, to the transformation of the western basin of the Black Sea, an area with important critical infrastructure, into a maritime area at risk from mines.

The appearance of the first active sea mines, drifting from north to south at the end of March 2022, prompted the authorities of the NATO member states bordering the Black Sea to take measures to prevent disasters at sea that could be caused by the explosion of drifting mines upon contact with a ship or a maritime industrial structure.

Since then, the naval forces of Romania, Bulgaria, and Türkiye have begun to conduct their own mine countermeasures operations. The effort required to combat the danger posed by active sea mines drifting in the Black Sea is substantial and must be sustained over a long period of time.

In order to reduce resource consumption and increase the efficiency of their actions, the three allied NATO member states bordering the Black Sea have identified, negotiated, developed, and established a joint solution to the situation: joint actions within a Mine Countermeasures Black Sea Task Group.

Keywords: drifting mines; NAVAREA III; maritime traffic; mine barriers; Black Sea;

INTRODUCTION

One of the major negative effects of the war in the northern Black Sea is *the danger posed by drifting mines*, which significantly affect the freedom and safety of navigation for both civilian and military vessels¹.

Since March 2022, when the first mine was discovered drifting from north to south, each of the three countries, Romania, Bulgaria, and Turkey, organized and began to carry out their own drifting mine countermeasures operation in their area of responsibility with the forces and means at their disposal, while also continuously exchanging information on the situation in the Black Sea.

Since then, the danger of mines in the western Black Sea basin has become permanent, posing a direct threat to the safety of commercial traffic. Military vessels have also limited their presence in the area of responsibility at night, during the execution of specific training activities.

To date, 18 mines originating from minefields laid by belligerents in the Gulf of Odessa have been discovered and neutralized in the area of responsibility of Romania, Bulgaria, and Turkey (Sofia Glob, 2025). In addition, an impressive number of mines have washed up on the beaches of the Ukrainian coast, exploded near the shore, or been discovered and destroyed by the Ukrainian Navy. Of the 18 drifting mines mentioned above, 7 were destroyed by EOD divers from Turkey and 5 by those from Bulgaria. Public reports on drifting sea mines show that the last drifting sea mines were discovered and destroyed by the Turks on March 27, 2025, and by the Bulgarians on May 14, 2024 (Ib.).

In Romania's case, EOD combat divers from specialized units belonging to the Romanian Navy destroyed 5 mines, while the 6th exploded upon contact with the hull of the ship "*Lt. Dimitrie Nicolescu*" – 29". The last mine was discovered and destroyed in Romania's area of responsibility on August 13, 2024. The figures made public show that only half of the total number of mines estimated to have been

¹ The letter of the President of Romania addressed to the Chamber of Deputies reads: „*Due to the aggression of the Russian Federation against Ukraine, the threat of drifting mines installed by both states has increased, affecting the safety of navigation and population, as demonstrated by the numerous incidents recorded in the Black Sea, near the borders of Romania.*”. See: Request with no. DSN1/551 of April 3, 2024, addressed to the Chamber of Deputies, <https://www.cdep.ro/co/sedinte.lista?tip=1&an=2024>.

launched in the Gulf of Odessa have been neutralized or destroyed². Thus, the mines still remaining in the minefields in the northwestern Black Sea are a significant source of mine danger on recommended shipping routes and passages, in areas with critical infrastructure, and even along the western coast of the Black Sea.

MANIFESTATION OF THE MINES DANGER IN THE BLACK SEA

On the morning of February 24, 2022, the Russian Federation began its invasion of Ukraine. Immediately, the maritime area in the northwestern basin of the Black Sea, located north of the 45°05' parallel, was declared by international authorities responsible for navigation safety to be a “war risk area” (apud Tănase, 2022, p. 34)³.

Almost a month later, information was released to the public that several hundred sea mines had been launched near the Ukrainian coast in the Gulf of Odessa⁴.

² According to the statement of the commander of the Ukrainian Naval Forces, vice-admiral Oleksiy Neizhpapa, made at the 4th meeting of the „Black Sea Maritime Forum”, held in Naples, Italy, on 15-17 April 2025, the Ukrainian navy discovered and destroyed or recorded the explosion of 200 mines. On the other hand, Romanian open sources mention that, until June 2025, around 130 marine mines, <https://www.navy.ro/comunicat.php?id=925>; apud Tanase, 2023, pp. 22-39 were discovered and destroyed in total.

³ NAVAREA III specified, by notification no. 093/20222, that starting with 24.04.2022, 04:00, the north-west area of the Black Sea, north of the parallel 45°21', is a war risk zone. By the following messages on this subject, the Spanish hydrographic authority maintained the classification of the Gulf of Odessa as a war-risk area but corrected the parallel to the south, which intersects the territorial waters of Romania, at 45°05' (north of the line determined by the following coordinates: φ: 45°12'12" N, λ: 2941°06" E; 4511°30" N, λ: 2941°24" E; 4511°30' N, λ: 3310°30" E). The notification no. 0124/2022 was in force at the end of September, this canceling the previous one. See NAVAREA III notifications under no. 0093/2022, 0119/2022 and 0124/2022, in the Naval Forces Bulletin/BFN, no. 35/2022; Tanase, 2023, ib.

⁴ On March 18 and 19, 2022, the Russian authorities made public, but also informed the Spanish Hydrographic Office, in charge of NAVAREA III, that Ukraine, in order to strengthen its defense system from the sea, launched chaotic naval mines produced in the first half of the XX century, mines in a poor technical condition and which cannot be controlled at their exit from the dam and when they break away from their anchoring system, being active, they will drift south, influenced by the current of the sea and the wind, and the danger of mines will become a threat to the safety of navigation throughout the western basin of the Black Sea. At that time, the Russians appreciated that the Ukrainians launched in the Gulf of Odessa about 370 mines of the type YAM (town), an anti-desant mine, and of the type YARM (town), anchored river mines. See the text of the press release: <http://www.fsb.ru/fsb/press/message/single.html?id=10439461@fsbMessage.html>.

The hydrographic authorities of Spain, responsible for NAVAREA III, Romania, Bulgaria, and Turkey issued navigational warnings regarding the existence of mines in the Black Sea. Some of these warnings are still in effect today⁵.

On the morning of March 26, 2022, the first sea mine drifting from north to south in the Black Sea was discovered near the entrance to the Bosphorus Strait. This event is extremely important because, in one way or another, the statement issued by the Russians a week earlier has come true. Turkey's announcement that it had discovered and destroyed a (possibly active) mine in its territorial waters made headlines around the world. Both the Black Sea littoral states and the international community realized that what was possible had become a reality.

Immediately, the authorities of the countries bordering the southwestern Black Sea basin took measures to monitor and search for mines in the recommended areas and road and passage systems with the forces and means at their disposal. Since then, ships and helicopters of the naval forces and coast guards of Romania, Bulgaria, and Turkey have been constantly carrying out surveillance and search missions, while also sharing information with each other. Upon discovering the mines, specialized forces from the three NATO member states took action to neutralize/destroy them.

Between March 2022 and August 2025, around 130 sea mines (approximately 30% of the number reported by the Russians regarding mines launched by Ukraine) were neutralized/destroyed in one way or another⁶.

Of these, 6 were discovered and destroyed in Romania's area of responsibility, 5 in Bulgaria's, and 7 in Turkey's, while the rest were discovered and destroyed by the Ukrainians or exploded spontaneously on the Ukrainian coast in or near the Gulf of Odessa.

⁵ On March 19, 2022, the notification of NAVAREA III with no. 0118/2022 took over the information made by the Russian authorities on the discovery of dangerous mines drifting in the area of the NV, west and SV of the Black Sea. The next notification on this topic was the one with no. 0121/2022, stating that drifting marine mines were detected in the same area, without containing the word „possible”. This notice cancelled the previous one. The following notification, under no. 0122/2022, cancelled the one issued earlier and stated that drifting mines are possible in the NV, west and SV of the Black Sea. The port administration of Samsun (province of northern Turkey) issued (19.03.2022/12.15) a NAVTEX message (0279/2022) warning Black Sea merchant ships of the possibility of mine drift and asking them to report any object observed and classified as a possible drift mine. In turn, the Romanian national authority on hydrography, the Maritime Hydrographic Directorate, issued on March 18, 2022, the radionavigation notice no. 12/2022 informing the Romanian authorities and ships in ports and at sea about the existence of the danger of mines in the north-west of the Black Sea and asking them to report any floating object similar to mines. At the beginning of August 2022, the Maritime Hydrographic Directorate issued a new warning, reminding ships sailing in the area of responsibility of Romania that the danger of mines remains high and recommending them to apply the provisions of the notice for seafarers no. 41/4 of the current year (See: RNA no. 60 of 02.08.2022; apud Tănase, 2022).

⁶ Press release no. 8 of 27 January 2023 of the Staff of the Naval Forces (<https://www.navy.ro/comunicat.php?id=680>).



Mission to destroy a marine mine, Eforie marine rayon
 (https://www.navy.ro/eveniment.php?id=1565; 15660)

Public information shows the following breakdown by year and area of incidents related to sea mines that drifted in the Black Sea.

Table 1: Statistics on drifting sea mine events in the Black Sea (author's conception)

Year/Country	Romania	Bulgaria	Turkey	Ukraine	Russia	Georgia	Total
2022	4	1	4	31	0	0	40
2023	1	2	2	46	1	1	53
2024	1	2	0	14	0	0	17
2025	0	0	1	20	0	0	21
Total	6	5	7	111	1	1	131

We can see from the *table 1* above that there was a peak at the end of 2023, and the annual average is 30. The last mines were discovered and neutralized in the areas of responsibility of Bulgaria on May 14, 2024, Romania on August 13, 2024, Turkey on March 27, 2025, and Ukraine on August 10, 2025.

Based on public information, we estimate that there are at least 250 mines still anchored in minefields in the waters of the northwestern Black Sea basin, which must be neutralized through ongoing mine detection and surveillance in offshore areas with critical infrastructure, on passages and routes recommended for maritime traffic and near the coastline on the western coast of the Black Sea, and when a mine clearance operation becomes possible, the involvement of Romania, Bulgaria, and Turkey will also be necessary.

The legal issue of active sea mines that have been found floating adrift, far south of the war zone, has not been discussed for various reasons, although international law provides for specific responsibilities⁷.

Awareness of the risk posed by mines to the safety of navigation in the western Black Sea basin has been raised by the authorities of the riparian countries, the International Maritime Organization, the Spanish hydrographic authority responsible for the NAVAREA III area, companies owning drilling and extraction facilities in the Black Sea, and shipping companies with interests in the Black Sea, was followed by the implementation of specific measures to avoid disasters as far as possible, including:

- *issuing radio warnings to navigators and navigational notices;*
- *restricting certain areas to maritime traffic;*
- *navigating during daylight hours and intensifying visual observation of the maritime space ahead of the ship;*
- *establishing recommended routes and access passages;*
- *conducting research on the recommended routes and passages with ships, aircraft, and drones;*
- *maintaining a high state of readiness, ready for action, of the forces and means for intervention in the event of a drifting mine being discovered (ships and EOD combat diver teams);*
- *negotiating and implementing a format for cooperation and joint action between the three NATO member states bordering the Black Sea: Romania, Bulgaria, and Turkey.*

⁷ No active naval mine shall end up drifting, in international waters or in territorial waters of other states, whether or not neighbouring the war zone, if they have left the mine dam, as they are non-discriminatory weapons. In order to comply with international law, the state which, for one reason or another, resorts to the solution of launching mine dams to strengthen the defence of its maritime coasts must launch mines that become inactive when escaping the dam – to self-destruct or self-inundate. The mines that drifted through the Black Sea in the last year were active mines that did not comply before the launch of the conditions imposed by international law. Consequently, *the person who launched them consciously assumed this fact*. See more: Marian Tănase, *Constraints imposed by international law on naval mine warfare*, in NFB (Buletinul Forțelor Navale), no. 17 (2/2012), pp. 37-49; *Idem*, *Operational and legal considerations on the use of naval mines by the Russian Federation and Ukraine in their confrontation in the Black Sea: From the means of making the A2AD device to the instrument of disinformation and deception*, in NFB no. 35 (2/2022), pp. 22-55.

CHALLENGES IN THE FIGHT AGAINST DRIFTING SEA MINES

The fight against active drifting sea mines, a particular case of mine warfare generated by the need to act in unusual conditions, represents a real challenge for planners, commanders, and the forces at their disposal. Why is it a challenge? This question requires a response in several sentences.

First, the challenge is related to eliminating the danger posed by active sea mines that are drifting, for one reason or another, at a given moment, in a legally confusing situation, where there is no war, but also no crisis, but rather peace, but the situation requires planning and conducting a full-scale war operation to eliminate the mine hazard in the space to be controlled, declared an area of national interest and an area of responsibility for the category of forces – Naval Forces.

Secondly, the entire doctrinal construct relating to mine warfare over the last 50 years has been based on the fact that the dedicated forces and means will act on minefields/barrages launched by the probable enemy to strengthen its defense system from the sea, as part of a defensive operation, which implies the existence of a large number of sea mines, diversified in type, arranged in areas of varying depths, *waiting actively underwater in fixed positions*. The same situation is specific to one's own defense operation, as well as to situations where the probable enemy carries out offensive or maneuvering mining, even if in the latter situation a small number of mines are usually used, which in most cases are of the same type. In most situations, sea mines are weapons that await contact with a ship/submarine or the influence of their physical field.

In almost all navies around the world, the forces and means, as well as the tactical procedures for their use in combat, have been established and designed to act against a *"static enemy"*. Mines are somewhere underwater, and to neutralize/destroy them, their position must be discovered with specific equipment, without endangering the platform and its crew. Mine danger areas are determined based on information about the mining activities carried out by those who launched them. *You know they are there somewhere, but the degree of uncertainty is high.*

Thirdly, the issue of active sea mines drifting in a maritime area has not been sufficiently addressed. It was considered a special case that did not require a special approach in the broader context of naval warfare. Therefore, in combat manuals, references to how to act when a drifting mine is discovered are few and unclear. For situations in which a ship discovers an active naval mine drifting during its action in a district or on recommended routes and passages, specific manuals only stipulate *that the mine should be avoided, fired upon with medium-caliber artillery (greater than or equal to 30 mm), or destroyed with demolition equipment.*

This way of looking at things was not a problem as long as there was no real situation to deal with. However, the current situation in the Black Sea is forcing planners and decision-makers to take a different approach to the fight against drifting mines.

The main operational problem to be solved in mine warfare is *the discovery of the position of mines*/determination of the limits of minefields/mine barriers, both in situations where *mines are waiting underwater in a well-established location*, positioned in the water according to their destination, on the seabed at depths less than or equal to 50 m or at a depth determined by the draft of the ships against which they were launched, as well as *mines that float adrift*, intentionally launched in this mode of operation, mines that have left the dam due to the breaking of the mooring rope or its cutting by the mechanical dredgers of specialized ships during planned actions/operations.

In most situations, a mine that has left the barrier unnoticed or has been deliberately launched adrift moves as an indiscriminate weapon in a direction determined by the combined action of the current, waves, and wind, environmental factors that change depending on hydro meteorological conditions.

Finding a drifting mine is a complex and lengthy process, as there is a high degree of uncertainty. Success in searching for and finding drifting mines in a given maritime area depends on several factors, such as:

- who is conducting the search and what detection equipment they have at their disposal (ships, helicopters, drones, etc.);
- how trained the team in command is in observing floating objects;
- when the search is conducted, day or night;
- what the hydro meteorological conditions are in the search area.

Since there is a large disproportion between the maritime area that needs to be systematically searched and the forces and means available, solutions are needed to ensure an acceptable probability of early detection of drifting mines.

The classic solution is to narrow the search area by establishing a system of recommended passages and routes for navigation and conducting the search with forces and means in the vicinity of these routes according to a set schedule that combines detection capabilities. The effort is great and requires an impressive consumption of resources.

Aerial search with helicopters and drones or other aircraft has the advantage of high speed of movement on established routes, but because the mission is carried out from relatively high altitudes, it is possible that a drifting mine on these routes may be missed.

Systematic search by ship has its advantages and disadvantages. On the one hand, detection is more reliable, but on the other hand, it takes longer and requires more effort.

To detect a drifting mine on board ships, measures have been taken to intensify visual and radio observation on both sides of the ship. As a rule, visual observation is carried out by dedicated observers, who observe the area in front of the ship, on both sides, in a sector from 0 to 30 degrees, with the naked eye and with the aid of binoculars. The observation sector extends to 90 degrees on both sides when dedicated video camera systems or other surveillance or weapon systems are available.

Visual observation is difficult when weather conditions are severe (rough seas, rain, fog, or other phenomena), but especially when performed at night.

Practice has shown that a drifting mine generally has only one-third of its body above water. This means that mines, which are usually painted a dark color, most often black, are only visible at a very short distance from the ship. The distance from which a drifting mine can be observed is significantly reduced when the sea is rough or other hydrometeorological phenomena are present.

An essential condition for protecting the ship and avoiding contact with a drifting naval mine is to detect it at a distance at least equal to the length of the ship. At the same time, in order to ensure that the watch team on the bridge has the necessary time to react and execute the avoidance maneuver, it is imperative that the ship travel at a low speed, between 6 and 12 knots.

As can be seen from the *table 2*, the reaction time for executing the avoidance maneuver is less than one minute when the mine is observed within a distance of 1 cable (180 m).

Table 2: Mine avoidance time depending on detection distance and ship speed.

Discovery distance/ ship speed	6 Nd (3m/s)	8 Nd (4m/s)	10 Nd (5m/s)	12 Nd (6m/s)	Observations
50 ÷ 60 m	15 ÷ 20 s	12 ÷ 15 s	10 ÷ 12 s	8 ÷ 10 s	Length of a minesweeper or sea dredger type vessel
80 ÷ 120 m	26 ÷ 40 s	20 ÷ 30 s	16 ÷ 24 s	13 ÷ 20 s	Length of a minelayer or corvette type vessel
180 ÷ 200 m	60 ÷ 66 s	45 ÷ 50 s	36 ÷ 40 s	30 ÷ 33 s	A frigate-type ship length

Practice has also shown that it is impossible to detect a drifting sea mine with navigation radar, as the mine's radar signature is virtually non-existent.

One solution that can be adopted for the early detection of a drifting mine by a ship performing a dedicated mission or other activities is to equip it with high-performance electro-optical systems that ensure a high probability of detection at a distance that facilitates the safe maneuvering of the ship, both during the day and at night. Eventually, artificial intelligence solutions could be implemented within these systems to train them to detect and identify objects floating at sea, especially in difficult weather conditions.

Another solution is *to ensure air coverage* during the ship's operation in the area or on the recommended routes and paths with dedicated drones for surveillance of the bow area at a safe distance and from low altitudes. The number of drones available on board the ship must ensure that the surveillance cycle can be resumed without interruption. The performance of the drone's video camera must ensure the detection of small objects floating adrift, both during the day and at night, and if possible, in foggy conditions. On the one hand, the drone used must have sufficient autonomy, and on the other hand, the limits of the drone's flight conditions must be at least the same as the ship's navigation limits.

The early detection of a drifting mine in the bow area of the ship by observers or with the aid of on-board electro-optical systems requires, as a first measure, avoiding it and bringing the ship into a position that ensures the safe stationing of the ship and keeps the mine within visual range. This should be followed by reporting the position of the discovered mine, keeping it within sight, and, if possible, carrying out destruction procedures.

A mine discovered by a ship can be destroyed by the dedicated destruction team on board, consisting of EOD combat divers. However, not in all situations do ships conducting mine countermeasures have such specialized teams on board. This requires monitoring the mine for a period of time equal to that required to deploy such a team to the area, with another ship or helicopter. At the same time, the process of monitoring a drifting mine by the ship that discovered it is not at all simple, especially if the hydro meteorological conditions are not favorable.

The procedure for avoiding a discovered drifting mine is the classic procedure for avoiding any dangerous floating object, except for ships. The avoidance maneuver is performed, on one side or the other, at a distance of at least 50 m or at least equal to the length of the ship. If there is wind, the maneuver is performed so that the mine is left on the windward side, at a safe distance.

The maneuver is considered complete when the mine has been left astern and the ship has returned to its previous course, from where it continues on its way, takes its place in formation, if it was previously sailing in a specific formation, it takes up a surveillance position or a position for lowering the demolition team's boat, which will carry out the mine intervention, a position that will keep the mine within visual range and ensure that the ship remains at a safe distance from the mine.

The destruction of a drifting sea mine by a demolition team is a classic procedure. It has been applied both in the case of the accidental discovery of a drifting mine, when time allowed, and in the case of mines that have been dredged and have not self-destructed. The emergence and development of the EOD combat diver specialty has made it possible to intervene on a drifting mine to neutralize/destroy it with specially trained teams, rather than with teams made up of ship crew members trained in underwater weapons. This procedure applies when the sea state is a maximum of 2.

Mine warfare manuals provided and still provide for a procedure for neutralizing mines from a distance with medium-caliber artillery installations by shooting. The purpose of this procedure was justified by the fact that, in wartime, ships generally sail in formation, and the mission they have to carry out is more important than the need to destroy a drifting mine discovered in the vicinity of the formation, there is not enough time to use the destruction team, or the sea state does not allow the destruction team to intervene, and firing the ship's artillery, which is always ready to fire, would ensure that the mine is hit and sunk in a short time. Although there are still specific procedures for firing weapons larger than 20 mm at targets that mimic a drifting mine, and training is conducted in this regard, practice has shown that the probability of hitting a mine whose body floats on the surface is only 1/3, which results in a large and unnecessary consumption of ammunition. In the absence of an emergency situation, it is better to avoid adopting this ineffective solution.

In many situations, it is possible that neither of the two procedures can be applied nor have been applied unsuccessfully, which forces the postponement of the moment when the mine can be neutralized or destroyed. In these situations, knowing the position of the mine for a longer period of time (e.g., at least 24 hours) is essential for successfully eliminating the danger posed by the mine. How can such a problem be solved, especially in difficult weather and sea conditions, when the ship cannot remain in the vicinity of the mine and is forced to retreat to port?

One solution that can be adopted is *to mark the mine* with a device that tracks its position using the GPS system. To do this, you need to approach the mine and place the GPS tracking device on it, which will remain on the mine for a long time (until the battery life expires). This device is attached to a net that is launched onto the mine by a drone controlled from the ship. The net remains on the mine by means of a device that tightens its edges around the mine. This is the operating principle of the *prostovol*, a classic fishing tool. In this way, by periodically transmitting the position of the mine by the device remaining on the mine, a drifting mine can be tracked from the ship or from another operations center, especially in bad weather or at night.

The fight against active drifting sea mines should no longer be seen as a rare occurrence in mine warfare, but requires a special approach, both theoretical and practical. It is imperative to equip combat ships with high-performance observation and search systems, as well as to find the most effective and safe solutions for eliminating/managing the mine hazard generated by drifting sea mines.

In the fight against active drifting sea mines, it is very important to detect them early, but also to intervene as quickly as possible to destroy them or keep them under continuous observation until specialized forces can intervene.

Systematic naval reconnaissance of recommended passages and routes, as well as areas with critical infrastructure, is an important part of an operation to combat drifting mines. It requires a significant amount of forces to be present at sea and a long period of action.

While each Black Sea littoral state is responsible for its own territorial sea and each has its own interagency mine countermeasures operation in place, for the high seas, a mine countermeasures operation undertaken by the littoral members of the North Atlantic Alliance is an effective and important solution, a component of cooperation, interoperability, and unity on NATO's eastern flank, given the deteriorating and volatile security environment in the wider Black Sea area.

MINESWEEPING OPERATION IN THE BLACK SEA

Given the permanent deterioration of the security environment in the Black Sea, the three NATO allies bordering the Black Sea sought a common solution to respond to an important real problem – drifting mines.

Towards the end of 2023, Turkey invited Romania and Bulgaria to form a *joint mine countermeasures task force* as a common measure to ensure the security and safety of navigation in the Black Sea.



Romanian Minister of Defense Angel Tîlvăr, Turkish Minister of Defense Yasar Guler, and Bulgarian Deputy Minister of Defense Atnas Zaprianov at the ceremony in Istanbul, Daily News, 2024

Following their positive response, on January 11, 2024, the Ministers of National Defense of Bulgaria, Romania, and Turkey, meeting in Istanbul, signed, during a ceremony, the *“Memorandum of Understanding on the Establishment of the Task Group for Combating Sea Mines in the Black Sea – MCM Black Sea TG”*⁸. This extremely important document forms the basis for the deployment of the *multinational mine countermeasures operation in the Black Sea*, starting on July 1, 2024. This political-military action was not only a first for the NATO member states bordering the Black Sea, but also the most important political-military action relating to the security situation in the Black Sea region since Bulgaria and Romania became members of the North Atlantic Alliance (2004).

Furthermore, the MCM Black Sea Task Group is of particular strategic importance because:

- the security of the Black Sea region is an absolute priority for the three coastal countries;
- the three allies have demonstrated to the Euro-Atlantic community that they are united in their common commitment to combat the danger posed by sea mines drifting in the Black Sea from north to south;

⁸ Press release no. 6 of 11 January 2024 of M.Ap.N., <https://www.mapn.ro/>.

- the foundations have been laid for a security arrangement open to NATO partners bordering the Black Sea and other allied states, as well as to permanent NATO structures such as permanent naval groups such as SNMCMG2.
- The three allies expressed their confidence that the measures taken would contribute to the development of cooperation and increased interoperability of their naval forces, but not only that, by participating significantly in ensuring the security of the Black Sea and the entire Euro-Atlantic region.
- The joint mine countermeasures operation in the Black Sea has been added to other initiatives that play an important role in maintaining regional security, such as *air policing*⁹.

In regard to Romania, following the president's request, on April 22, 2024, Parliament approved by a decision the participation of the Romanian Naval Forces in the operations carried out within the Operational Group for Combating Sea Mines in the Black Sea - MCM BLACK SEA, which came into force the following day, upon its publication in the Official Gazette¹⁰. Based on the Memorandum and national approvals, the naval staffs of Bulgaria, Romania, and Turkey negotiated and drafted the documents underlying the joint mine countermeasures operation in the high seas area of the western Black Sea basin.

The operational structure of MCM Black Sea consists of the Black Sea Mine Countermeasures Committee (*MCM Black Sea Committee*), made up of the chiefs of the navies of the participating countries, and the Black Sea Mine Countermeasures Task Group (*MCM Black Sea Task Group*).

The *MCM Black Sea TG* consists of the group commander (CTG) with his staff, the ship unit commander (CTU) with his staff, a command ship, and at least three ships specialized in mine countermeasures, such as mine hunters or sea minesweepers.

The main missions of the MCM Black Sea TG are:

- ensuring the safety of navigation in the Black Sea;
- strengthening the allied deterrence posture;
- contributing to the defense of the southern flank.

The MCM Black Sea TG has a rotating command every six months and two planned activations, each lasting 15 days.

⁹ For Romania, „the creation of a task force is both a way to develop regional cooperation with its rival allies, and an opportunity to increase the participation of NATO and non-riveran allies in ensuring the security of the Black Sea”. See: Decision no. 9 of 22 April 2024 published in the Official Gazette, Part I, no. 377, April 23, 2024.

¹⁰ *Ib.*, Decision no. 9 of 22 April 2024 published in the Official Gazette, *loc. cit.*

During a rotation, one of the countries is responsible for providing the command positions and the group's command ship. Command of the group is held by an officer with a minimum rank of commander. This is handed over/received in the presence of the *MCM Black Sea Committee*, during a dedicated ceremony.

Within the ship group, each country provides at least one ship specialized in mine warfare, and the country responsible for the rotation allocates a command ship on board which the ship group commander (CTU) and his staff embark.

The functions within the CTG and CTU staffs are allocated to each country based on an algorithm agreed upon in the operation documents.

As regards Romania, participation has been approved with a force package consisting of a military vessel with MCM capabilities and an EOD team on board, with a crew of up to 85 military personnel and staff (up to 6 military personnel).

The periodic reconfiguration of Romania's contribution to MCM BS TG, within the limits of the initially established force package, is periodically approved by the Ministry of National Defense, depending on operational needs and the evolution of the operation¹¹.

On July 1, 2024, the first meeting of the Black Sea Mine Action Committee was held in Istanbul, followed by the assumption of command of the group (MCM BS TG) by a Turkish admiral, Rear Admiral Selcuk Akari, in the presence of the admirals, heads of the navies of Bulgaria, Romania, and Turkey. For the first rotation, the MCM BS TG consisted of the following ships:

- Turkey: the logistics support ship "*GÜNGÖR DURMUŞ*" (A-574); the minesweeper "*AKÇAY*" (M-270);
- Romania: the sea minesweeper "*Sublocotenent Alexandru AXENTE*" (DM-30);
- Bulgaria: minesweeper "*STRUMA*" (M-33)¹².

During this first rotation, MCM BS TG was active from July 2 to 16, 2024, September 19 to 29, 2024, and November 1 to 13, 2024. For the first activation, from July 2 to 4, 2024, the ships joined the group in the Turkish port of Umuryeri (Istanbul), where they underwent their first joint training under the conditions set out in the basic documents resulting from the Memorandum, and carried out a joint march to the Bulgarian port of Burgas from July 4 to 6, during which joint mine countermeasures were carried out. MCM BS TG participated for the first time in a multinational exercise organized and conducted in the Black Sea, the "*BREEZE 24*" exercise.

¹¹ *Ib.*

¹² Press release no. 53 of 1 July 2024 of SMFN, <https://www.navy.ro/>.

Multinational Mine Countermeasures Operation in the Black Sea



Left: MCM BS group vessels docked in Umuryeri port
Right: Chiefs of the General Staff of the Naval Forces of Romania, Turkey, and Bulgaria
(<https://www.navy.ro/eveniment.php?id=1998>)

After several days of stationing in Burgas, MCM BS TG conducted mine countermeasures on recommended passages and routes in the area of responsibility of the Bulgarian Navy, in accordance with the exercise documents, between July 8 and 12. After completing its mission at sea and restoring its combat capability in the port of Burgas, MCM BS TG carried out activities specific to maintaining the safety of navigation routes during the voyage from Burgas to Constanța (July 14-15), and between July 15 and 17, 2024, the group's ships docked for the first time in Constanța, where their combat capability was restored.

During their visit to the Port of Constanța, representatives of the group were received at the “Vice Admiral Vasile Urseanu” Fleet Command and at local public institutions in the Municipality of Constanța, and participated in a media event promoting the missions of the operational group for combating sea mines in the Black Sea¹³.

The first activation ended on July 16, 2024, at midnight, and the Turkish and Bulgarian ships left the port of Constanța the following morning.

During the two weeks they operated together, the ships and their crews worked to increase their level of interoperability and rapid response capability.

The MCM BS group ships met in the port of Burgas on September 19, 2024, to begin their second activation. Until September 29, 2024, MCM BS TG conducted mine countermeasures during transit from Burgas to Eregli (September 22-24, 2024), during participation in the multinational exercise “NUSRET 24” organized by the Turkish Naval Forces in the areas near the port of Eregli, and during

¹³ Naval Forces Staff, Press release no. 98, 14.11.2024.

the redeployment march to their permanent stations¹⁴. During the exercise, EOD divers aboard the ships worked together to neutralize drifting mine simulators.

In its third activation, from November 1 to 13, 2024, MCM BS TG participated in the multinational exercise “POSEIDON 24” organized by the Bulgarian Navy in the port of Burgas and in the maritime areas nearby (November 4-9, 2024).

The Romanian Navy participated in the third activation of MCM BS TG with the maritime minesweeper “*Lieutenant Dimitrie NICOLESCU (DM-29)*”.

During the “POSEIDON 24” exercise, the mine countermeasures group carried out specific missions to search for, detect, and identify historical and exercise mines, both anchored and bottom-laid.

After leaving the port of Burgas, during the transit to the port of Constanța, the ships of the Black Sea mine countermeasures task force conducted drift mine search on the recommended routes in the areas of responsibility of the Bulgarian and Romanian navies.

From November 12 to 14, 2024, the second stopover of the MCM BS TG took place in the military port of Constanța¹⁵. Bulgaria was the country responsible for the second rotation. On January 15, 2025, the MCM Black Sea Committee meeting and the ceremony for the change of command of the Black Sea Mine Countermeasures Task Group took place in Varna.

Command of the group was taken over by Captain I (Commander) Pavlin Petkov, and the flagship was the auxiliary ship “*Captain I Dimitar Dobrev*”.

This time, all three ships specialized in mine warfare were mine hunters. The Bulgarian Navy continued to assign the “*STRUMA*” (M-33), and the Turkish Navy assigned another ship, the minesweeper “*AKCAKOCA*” (M-268). The Romanian Navy also provided the MCM BS TG with a minesweeper. Romania’s efforts to acquire operational mine countermeasure capabilities came to fruition with the commissioning of the first minesweeper from a package of two purchased from the United Kingdom. The minesweeper “*Sublocotenent Ion GHICULESCU (M-270)*” received the national flag on September 27, 2023, entering the service of the Romanian Naval Forces, and arrived in the country on December 19, 2023¹⁶.

After undergoing a process of operationalization, the mine hunter “*GHICULESCU*” was ready for mission at the beginning of 2025 to be made available to the Black

¹⁴ Maritime dragon “*Sub-lieutenant Alexandru AXENTE*” (DM-30) left the port of Eregli on 28 September 2024 and entered the port of Constanta the next day.

¹⁵ Naval Forces Staff, Press release no. 53/01.07.2024.

¹⁶ Defence Staff, Press release no. 156, 18.12.2023.



MCM Black Sea Committee, January 15, 2025, Varna

Sea mine countermeasures task force. Thus, Romania's contribution to maintaining the safety of navigation in the Black Sea has been taken to a higher level thanks to the specific operational capabilities of minesweepers.

At the MCM Black Sea Committee meeting in Varna, the activity of the MCM BS group in the first six months was analyzed, conclusions were drawn, and some amendments were made to the planning documents.

Under Bulgarian command, the MCM BS TG was activated twice as planned.

The first activation in 2025, the fourth for the group, took place between April 3 and 17, 2025. The group's ships gathered on April 2, 2025, in the Bulgarian port of Varna, and on April 5, they arrived in the port of Constanța to participate in the multinational exercise "SEA SHIELD 25", organized by the Romanian Naval Forces, between April 5 and 11, 2025¹⁷.

¹⁷ Naval Forces Staff, Press release no. 22, 02.04.2025.

During the exercise, for three days (April 8-10, 2025), the three minesweepers carried out specific missions to search for historical bottom mines and anchored exercise mines.

MCM BS TG continued its mine surveillance and search mission on the recommended routes and roads between the parallels of the ports of Constanța and Varna (April 12-16, 2025). After restoring their combat capability, the minesweepers “AKCAKOCA” (M-268) and “*Second Lieutenant Ion GHICULESCU*” (M-270) departed for their permanent stations.

The second activation of the MCM BS group took place between June 11 and June 26, 2025. It began in the Bulgarian port of Burgas and ended in Istanbul, Turkey. During this period, the ships of the MCM BS TG also stationed in Constanța and participated in the multinational exercise “*EP MCM DIVE-25*” organized by the Romanian Naval Forces.

The ships of the MCM BS TG gathered in the port of Burgas (June 10, 2025). After participating in the opening ceremony of the fifth activation (June 11, 2025), the MCM BS TG was present at sea for two days, conducting mine countermeasures and surveillance of important maritime communication routes between Burgas and Constanța.

The participation of the MCM BS TG in the multinational exercise “*EP MCM DIVE-25*”, organized by the Romanian Naval Forces between June 15 and 19, 2025, provided the ships, crews, and EOD divers with the opportunity to jointly perform specific procedures for neutralizing drifting mines, as well as to exchange experiences in performing specific missions among participants.

The search for drifting mines, an essential task of the MCM BS group, was also carried out during the transit from Constanța to Umuryeri (Istanbul) between June 22 and 24, 2025.

Starting on July 9, 2025, Romania is responsible for commanding the Black Sea Mine Countermeasures Task Group (MCM BS TG).

For the third rotation of the MCM BS TG, the Naval Forces General Staff provided the mine countermeasures vessel “*Vice Admiral Constantin BĂLESCU – 274*” as the command ship of the group of ships and the mine countermeasures vessel “*Second Lieutenant Ion GHICULESCU*” (M-270). They were joined by the minesweepers “*STRUMA*” (Bulgaria) and “*AMASRA*” (Turkey). The foreign ships arrived in Constanța on July 8 for integration and the handover ceremony of the group’s command.



MCM Black Sea Committee, July 9, 2025, Constanța

During the meeting of the Black Sea Mine Countermeasures Committee (MCM Black Sea Committee) held on July 9, 2025, the Chiefs of Staff of the Naval Forces of Romania, Bulgaria, and Turkey analyzed the group's activity under Bulgarian command, signed the official declaration of command takeover for a period of six months, and approved the organization and planning documents for the next six months, as well as some specific procedures necessary to strengthen the joint action of the forces made available within the group¹⁸.

On the same date, in the Port of Constanța, at the passenger terminal, the handover ceremony of the MCM Black Sea Task Group command took place. Captain I Pavlin Petkov of the Bulgarian Navy handed over the command to Commander Marian Tănase of the Romanian Navy. The ceremony was attended by the Minister of National Defense, the Chief of Defense Staff, the Chiefs of Staff of the Naval Forces of Romania, Bulgaria, and Turkey, ambassadors, military attachés, representatives of local authorities, commanders of ships participating in the 2nd and 3rd rotations, commanders of units and large units of the Romanian Naval Forces, and other guests.

¹⁸ Defence Staff, Press release no. 62, 07.07.2025.



Delivery-receipt of order MCM BS TG, July 9, 2025, Constanța

During this rotation, the ships of the MCM Black Sea Task Group participated in the first planned activation (July 2025) in the multinational exercise “BREEZE” organized by the Bulgarian Naval Forces, and during the second activation (October 2025) they will participate in the multinational exercise “POSEIDON” organized by the Romanian Naval Forces, an exercise focused on mine warfare.

During the first planned activation (the 6th activation), July 10-24, 2025, the ships of the MCM Black Sea Task Group participated in the multinational exercise “BREEZE” from July 11 to 20. During the transit from Constanța to Varna, the sea training period within the multinational exercise “BREEZE”, and the transit from Varna to Umuryeri, the MCM Black Sea Task Group conducted drift mine countermeasure research with its ships on recommended routes and passages in the areas of responsibility of the three navies.

As part of its seventh planned activation in October 2025, the MCM Black Sea Task Group will be present in Constanța to participate in the multinational exercise “POSEIDON” organized by the Romanian Naval Forces.

In the first 15 months since its establishment, the MCM Black Sea Task Group has demonstrated the willingness of the three Black Sea allied countries to participate in the joint effort to combat the mine threat in the Black Sea.

The main purpose of the Task Group is to maintain the safety of maritime traffic in the Black Sea by conducting surveillance, reconnaissance, and neutralization of sea mines, as well as related search and rescue operations at sea.

Mine countermeasures on recommended routes and passages in the territorial waters of MCM BS participating countries, carried out by the group’s specialized vessels, are a core mission during multinational exercises, but also during voyages from one port to another.

Typically, during an activation, the group’s specialized mine countermeasure vessels travel around 1,000 nautical miles, are present at sea for around 300 hours, cover an area of around 400 square nautical miles searched for drifting mines, and search an area of several tens of square nautical miles for bottom mines.

This joint effort contributes continuously to the integration of forces, facilitates the real exchange of experience, and encourages the navies of the three states to improve the level of interoperability of the capabilities made available to the MCM BS Group, which together contribute to a better understanding of the maritime situation in the Black Sea by both the three states and NATO.

Improving joint action procedures and those related to command and control in an international environment, combat readiness, strategic communication, and mutual support are important factors in increasing the operational efficiency of the MCM Black Sea Task Group. The observation has been made from one activation to another

CONCLUSIONS

Since the adoption of the Hague Convention (1907), the operational use of sea mines has been regulated by international law, but this has not guaranteed, nor will it guarantee in the future, full compliance with these rules by the belligerents.

The lessons learned from maritime operations in previous conflicts oblige military planners not to remove from the list of analysis assumptions for taking specific measures or planning the actions/operations necessary to ensure maritime

security in their area of responsibility the fact that a state or non-state actor may not comply with the legal norms of maritime law, both general and specific to the use of sea mines, when it has divergent interests with its neighbors or with the international community. One of the important consequences with a major impact on the safety of commercial maritime traffic, the protection of critical infrastructure, and the marine environment, both in territorial waters and on the high seas, is the use of mines.

One of the important consequences with a major impact on the safety of commercial maritime traffic, the protection of critical infrastructure and the marine environment, both in territorial waters and on the high seas, is the danger posed by sea mines detached from minefields/mine barriers launched for operational purposes or sea mines that have been deliberately launched without anchors, which drift in directions determined by the combined action of currents, waves, and winds passing through areas far from the actual conflict/war zone.

A telling example in this regard is the war between the Russian Federation and Ukraine, which began on February 24, 2022, and continues today.

The war between Russia and Ukraine has created a situation in the Black Sea that was not anticipated 10 years ago. Although it should not have happened, the use of conventional sea mines took many people by surprise.

An important consequence of the use of sea mines in the northwestern basin of the Black Sea is the manifestation of the danger of mines in maritime areas located at a considerable distance from the war zone, due to the presence of active sea mines adrift.

This poses a real danger to both maritime traffic safety and the integrity of critical infrastructure, but also a flagrant violation of international maritime law, as it requires that a sea mine that has left the barrier for a specific reason must self-destruct or self-inundate.

The launch of the *“special military operation”* in Ukraine by the Russian Federation constituted a justified, operational, and legal reason for Ukraine to use, among other means, the sea mines in its navy’s depots to establish an A2AD zone in its territorial sea.

In the case of the Russian Federation, it can be argued that if it had any operationally justified reasons for launching sea mines in areas near Ukraine’s territorial sea, it did so without complying with international maritime law.

On the other hand, given the type of mines discovered floating adrift south of parallel 45°05' and that they were active, it follows that whichever party launched them, anchored in a barrage or intentionally adrift, violated the rules imposed by the Hague Convention. Determining responsibility for their deployment will be a matter to be resolved according to the political decisions taken by the two states involved, the Black Sea littoral states affected by the mine hazard, the states under whose flags the damaged ships were sailing, and even by other members of the international community.

If we assume that the mine that appeared in March 2022 near the coast of Turkey was a mine that came out of a dam launched in the Gulf of Odessa by one of the parties, then it follows that it floated through the Black Sea in a general north-south direction for several days without being detected by any ship or other surveillance system. At that time, commercial shipping in the Black Sea was extremely limited due to the ban on entering Ukrainian ports and the danger in the war zone.

During the three and a half years of war in the northwestern Black Sea, 17 other sea mines followed the same route as the one discovered in March 2022, and around 110 appeared on the beaches of Odessa Bay, were destroyed, or exploded upon colliding with various obstacles.

If we take into account the information on the number of mines launched near Ukrainian ports, provided by the Russian secret service, around 370, and the fact that around 30% of these have left the barrier within 3 years, we estimate that in the coming period other sea mines will be discovered floating adrift as a result of their detachment from the mine barriers due to hydro meteorological conditions and the impact of time on underwater mine systems.

The use of sea mines during an international crisis in a maritime area between two neighboring states, as is the case with the conflict between Russia and Ukraine, obliges the international community to intervene to control, reduce, and/or eliminate the danger of mines in the region.

As we have already argued and as practice shows, the effort required to successfully conduct a mine clearance operation against drifting mines is considerable and consumes significant resources.

The fight against active naval mines drifting in the Black Sea is a full-fledged war operation and, as a result, must be approached, recognized, and treated as such,

even though none of the NATO member states with significant territory in the Black Sea basin are at war.

Romania's area of responsibility, more so than that of the other two NATO member countries, Turkey and Bulgaria, is exposed to the danger of mines, given its position in the Black Sea, close to the war zone.

On the other hand, none of these countries can undertake such an operation on its own, but each is obliged, in one form or another, to conduct its own mine warfare operation.

The fight against sea mines in the Black Sea to eliminate the mine threat south of the Russian-Ukrainian conflict zone requires the planning and execution of a real combat mission in peacetime conditions.

The fact that the three neighboring allies in the Black Sea, Romania, Bulgaria, and Turkey, have managed to establish the legal framework for conducting a joint operation against active sea mines drifting in the Black Sea, to form a group of ships specialized in mine warfare, with relational command and planned periodic activations, and to periodically carry out mine search missions on recommended routes and passages in the areas of responsibility of the three states is a diplomatic and military success that expresses the political will of Romania, Bulgaria, and Turkey to work together to ensure the safety of maritime traffic and the protection of critical infrastructure in the western Black Sea basin.

Since the beginning of July 2025, for a period of five months, the MCM Black Sea Task Group has been under the command of a Romanian officer. The ships made available to the group commander by the three signatory states are minesweepers, ships specialized in mine countermeasures. They have important specific operational capabilities, and their crews carry out their mission within the group based on common operational procedures, practiced during regular training.

The MCM Black Sea Task Group has the necessary capabilities and sufficient combat experience to successfully carry out its assigned missions.

BIBLIOGRAPHICAL RESOURCES:

1. Daily News (2024), <https://www.hurriyetdailynews.com/turkiye-bulgaria-romania-sign-black-sea-demining-deal-189593>, retrieved on 22 August 2025.
2. Hotărârea nr. 9 din 22 aprilie 2024, in *Monitorul Oficial*, Part I, no. 377, 23 April 2024.
3. Sofia Glob (2025), <https://sofiaglobe.com/2025/02/04/bulgarian-navy-chief-18-mines-destroyed-in-black-sea-since-start-of-russias-war-on-ukraine/>, retrieved on 22 August 2025.

4. Solicitarea nr. DSN1/551/ 3 April 2024, adresată Camerei Deputaților, <https://www.cdep.ro/co/sedinte.lista?tip=1&an=2024>, retrieved on 12 august 2025.
5. Tănase, M. (2023). *Lupta contra minelor navale aflate în derivă: considerații operaționale privind adoptarea viitoarelor soluții pentru restabilirea statutului de „ape sigure” al Mării Negre*, in *Buletinul Forțelor Navale*, no. 36, pp. 22-39.
6. <https://www.navy.ro/comunicat.php?id=925>, retrieved on 12 August 2025.
7. <http://www.fsb.ru/fsb/press/message/single.htm%21id%3D10439461%40fsbMessage.html>, retrieved on 22 August 2025.