MS Daily Brief 23 September 2022

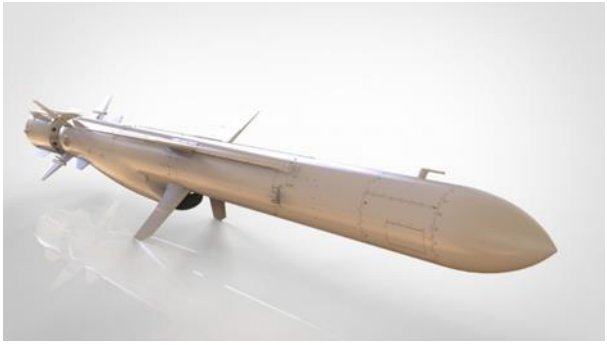
Cupons

Israeli Navy tests Gabriel V anti-ship missiles from Sa'ar 6 corvette

The Israeli Navy corvette (חיל הים הישראלי, Ḥeil HaYam HaYisraeli) of the Sa'ar 6 class, INS Oz, successfully fired the Gabriel V anti-ship missile in August 2022. The Israel Defense Forces (IDF) announced the test firing with a video on Twitter on September 21, 2022.

The Israeli Navy completed a comprehensive test of the Gabriel V anti-ship missile system in August. This was the first anti-ship missile test on the Israeli Navy's new Sa'ar 6 corvette. The IDF announced the successful launch of the test yesterday. According to the IDF, the firing test was also an opportunity to test the combat systems of INS Oz, the second corvette in the Sa'ar 6 class. The video shows that the missile was fired at a simulated ship and successfully hit the target. Officials did not share information about the details of the test firing, such as the firing zone, target range and so on.

About the Gabriel V anti-ship missile



Gabriel 5 is an advanced long-range sea-launched missile system capable of flying hundreds of kilometers in a variety of air and sea conditions. The missile's effectiveness allows it to counter and destroy a wide range of targets and threats. After the Finnish Ministry of Defence reached an agreement with IAI on the purchase of the Gabriel V, the Finnish Navy (Merivoimat) revealed some details of its upcoming anti-ship missile.

Official information released by the Finnish Navy in December 2019 provides the following technical specifications:

Range: over 200 km
Seeker: Active radar seeker with advanced anti-jamming features, all-weather capability, wide search range and good discrimination resolution
Searchlight: Penetrating searchlight
Engine: Jet engine
Navigation: GPS/INS, multiple waypoints
Length: 5.5 m
Weight: 1250 kg
Speed: subsonic
Manufactured by Israel Aerospace Industries, IAI

https://www.navalnews.com/naval-news/2022/09/israeli-navy-test-fires-gabriel-v-anti-ship-missile-from-saar-6-corvette/.

Contract signed for Romania's corvettes? New GEO paves the way for a deal with major changes

Romania's government has adopted an Emergency Ordinance to regulate and adjust the prices of public procurement contracts, including those currently underway.

The reasoning behind this legislative act refers to the prices of raw materials that have increased significantly recently, both in the context of the pandemic and the unprovoked war unleashed by the Russian Federation in Ukraine. At a press briefing, Dan Cărbunaru, spokesperson of the Romanian Government announced:

"The Government has approved the GEO adjusting the prices of public procurement contracts, products, services, sectoral contracts and framework agreements in the fields of

defence and security. This adjustment applies exclusively to the remaining suppliers or service providers existing at the date of entry into force of the regulatory act and will be made at each request for payment for the entire duration of contracts and framework agreements in the fields of defence and security until the supply, full provision and receipt of these products or services. The need for this ordinance is obvious, various circumstances having arisen during this period which the contracting authority could not reasonably have foreseen: the accelerated rise in prices of raw materials, electricity, gas, transport, as well as bottlenecks arising in the context of the pandemic and subsequently the war unleashed in Ukraine by Russian military aggression".

The text of the ordinance states: "(3) The adjustment provided for in para. (1) shall also apply to contracts concluded as a result of tendering procedures in progress on the date of entry into force of this Emergency Ordinance. (1)".

And Art. 4(1) provides:

"Within 45 days from the date of entry into force of this Emergency Ordinance, suppliers/providers may send an address to the contracting authorities/entities requesting adjustment of the price of the products/services to be supplied/provided, for all contracts/framework agreements referred to in Art. 1 to which they are party, by using the formula and the other provisions of this Emergency Ordinance, and the conclusion of additional acts to the contracts". Of course, the most important ongoing contract falling under this ordinance is the "Multipurpose Corvette", also known simply as the 4 corvettes contract for the Romanian Army.In translation, if the corvettes contract will be signed in the next 45 days in the contract provisions in 2019, the time when the winner of the tender was announced, at the first delivery of the technique the agreement will fall under the price adjustment and modifications.

Controversial 4 corvettes contract

We recall that the specific procurement procedure for the product "Multipurpose Corvette" was finalized in 2019 with the declaration of the Association formed by Naval Group from France and S.C. Șantierul Naval Constanța S.A. from Romania as the winning economic operator.

The French were supposed to build the four ships in Romania, and the contract is worth 1.2 billion euros. It has not yet been signed. From 2019 to today, the agreement is not signed due to financial disagreements between the French side and Constanta Shipyard.

On the other side, Damen, the second-placed company, announced earlier this year that it maintains its financial offer and is willing to start building ships in Romania immediately. Damen's offer for Romania are Sigma 10514 corvettes with American armament, the company being present in our country with two shipyards, in Galati and Mangalia.

The Dutch have added to this and announced that in the context of the war unleashed by Russia in the Black Sea, they can make up for lost time, as the corvettes can be built simultaneously in Galati and Mangalia.

Thus, at present, the winning company is unable to sign the contract due to the increase in raw material prices, which makes it impossible for it to meet the price previously offered, while the company in second place has extended its initial offer without increasing the price and with the stipulation that it can build one corvette at the same time in the two shipyards.

As for the new GEO and the possibility for all competitors to change the price, according to official data, the tonnage of the Dutch Sigma ships is 800 tons less than the French Gowind 2500, with a strong point for the Dutch side that through its two yards in Romania could offer a lower price.

Whatever happens with this agreement, the programme also foresees the modernisation of the T22R frigates - the Regina Maria and the King Ferdinand frigates, a necessary modernisation for the Romanian Naval Forces.

The obligation to build the ships in Romania is also an objective of the future contract, on which there have been doubts about whether SN Constanța will be able to carry out the work.

As a result of the uncertain situation within the Association, MApN has even considered cancelling the procedure.

https://www.defenseromania.ro/se-semneaza-contractul-pentru-corvetele-romaniei-noua-oug-deschide-calea-unui-acord-cu-modificari-importante_618321.html.

UNIDENTIFIED UNMANNED CRAFT SPOTTED OFF THE COAST OF SEVASTOPOL IN THE CRIMEAN

On 21 September, two unmanned surface vehicles (USVs) were reportedly found in the Sevastopol area of Crimea. At least one of them was destroyed by Russian forces. The other was washed ashore. The governor of Sevastopol, commenting on the explosion heard near the coast, said it was the result of the destruction a sea drone had been carrying out.

The type of vehicle has not been identified.

Photographs of the second device discovered showed that it was equipped with water jet propulsion, allowing it to develop high speed. The USV has a small size and probably low radar visibility. The UAV was equipped with a camera and a long-range infrared viewing device. Behind the camera is a flat antenna, possibly used for navigation and communication. There is also a smaller camera and two sensors.

Some military experts assume the drone was fitted with a bomb or missile. The USV was probably a kamikaze drone aimed at damaging Russian ships by self-explosion.

The USVs found in Sevastopol could be a variant of the MANTAS vehicles that were previously supplied by the US to Ukraine. In May, Pentagon spokesman Rear Admiral John Kirby said MANTAS T-12s were sent to Ukraine to suppress Russian forces striking Ukraine from the sea.

Ukraine received a batch of MANTAS T-12 unmanned stealth boats. Ukrainian operators of these drones have completed a training course at the US Navy's Little Creek Naval Base in Virginia. These drones are designed for reconnaissance, but can also be used as attack weapons.

The latest T-series USV, the MANTAS T12, was launched in January 2018 at the 2018 Surface Marine Association (SNA) National Symposium in Washington DC, USA.

The MANTAS T-12 craft has a hull length of 3.6 m; a width of 0.9 m; rises just 18 inches above the sea surface; maintains seaworthiness in storm conditions of up to 4 points; cruising range is up to 120 miles; estimated payload is 63.5 kg; maximum speed is 40 knots.

In total, MANTAS USVs are available in eight different configurations.

The craft discovered are not MANTAS T-12. They could turn out to be another weapon secretly supplied to Ukraine without any official statement from Washington.

https://southfront.org/unidentified-unmanned-boats-spotted-on-the-shore-of-sevastopol-crimea/.

How referenda will be conducted in the Donbass, Zaporozhye and Kherson regions

MOSCOW, Sept. 22 /TASS/. Voting on joining Russia as constituent entities will begin on Friday in the Donetsk and Lugansk People's Republics (DPR, LPR), as well as in the Kherson and Zaporozhye regions.

The referenda will take place from 23-27 September. Voting in person will take place exclusively on 27 September, while on the other days, for security reasons, voting will take place in communities and door-to-door.

Polling stations

- Up to 450 polling stations will be set up across the DPR, with a further 200 for Russian evacuees.

- Residents of the DPR will be able to vote at 461 polling stations across the republic, as well as in all Russian regions, where a total of 201 polling stations have been set up.

- Authorities in the Zaporozhye region have announced the establishment of 394 polling stations across the region and a further 58 in Russia in the LPR, DPR and Kherson region.

- Residents of the Kherson region will be able to vote in Crimea and in several Russian cities, including Moscow, in addition to their home region, where eight territorial and 198 district election commissions have been set up.

Voter turnout

- More than 1.5 million ballot papers were printed in the DPR, based on the number of eligible voters.

- More than 500,000 people were included in the electoral registers in the Zaporozhye region, said Galina Katyushchenko, chairwoman of the regional electoral commission.

- The Central Election Commission of Kherson region expects about 750,000 voters to participate in the vote.

- A telephone survey conducted by the Crimean Republican Institute for Political and Social Research on 13-14 September, with nearly 4,000 respondents, showed that voter turnout will be very high. No less than 86% of those surveyed in the DPR and 87% in the LPR said they intended to participate. In the Zaporozhye region, 83% of respondents intend to vote, and in the Kherson region, the percentage is 72%.

Ballot papers

- Printed ballots in the DPR and LPR are in Russian only. DPR People's Council Chairman Vladimir Bidevka explained that Russian was established as the official language of government by the DPR Constitution in 2020.

- Ballots will use both Russian and Ukrainian in the Kherson and Zaporozhye regions.

Observers

- All four regions have declared their commitment to maximum transparency and legitimacy and are open to monitoring by international observers.

- The chairwoman of the Central Election Commission (CEC) in the LPR, Elena Kravchenko, said on Wednesday that the CEC is receiving and "considering" requests from foreign observers, although she did not name their countries. According to the election official, foreign observers and observers representing the Civic Chamber will be present in polling stations as well as outside them on voting days.

- The DPR's CEC said it was expecting foreign observers and promised to provide more information after their accreditation.

- The chairwoman of the election commission in the Kherson region, Marina Zakharova, said invitations had been sent to "a large number of countries".

- The Russian CEC also promised to send its own observers to monitor the referenda. The State Duma (lower house of parliament) said that members of all parliamentary factions will receive invitations to take part in monitoring the vote.

Preparations for the vote

- All district commissions in the LPR have already started their work, received ballot papers and the necessary equipment, the LPR CEC said.

- The DPR CEC has set up a call centre to cover the vote and has approved the use of security bags, which, according to CEC head Vladimir Vysotsky, will make it possible to ensure the security of ballots and prevent third parties from accessing documents.

- Regions are preparing to step up security measures during the referendums because of the threat that Ukrainian armed forces will step up shell attacks. According to the military-civilian administrations of the Zaporozhye and Kherson regions, police officers and members of the Russian National Guard will protect polling stations. Entrances to towns in the Zaporozhye regions will be controlled during the referendum, while groups of polling officials going door-to-door will be accompanied by police officers. The head of the Zaporozhye Region Civil-Military Administration, Yevgeny Balitsky, said canine units checked all polling stations.

- The LPR plans to call on the help of the Defence Ministry forces in security activities alongside the police. DPR authorities said Russian troops will assist law enforcement agencies and the People's Militia in providing security at polling stations.

https://tass.com/politics/1511793

Sarmat ICBM carries most advanced maneuverable warheads

designer

The missile is unique in terms of its unmatched speed, record range, highest accuracy and complete invulnerability while penetrating missile defense systems.

MOSCOW, September 22 /TASS/. The Sarmat intercontinental ballistic missile carries maneuvering warheads, Vladimir Degtyar, director general of the JSC Makeyev Design Bureau (a subsidiary of Roscosmos), told TASS. "Sarmat is equipped with the most advanced maneuvering warheads," Degtyar said. The missile is unique in terms of its unmatched speed, record range, highest accuracy and complete invulnerability while penetrating missile defence systems. Degtyar said the Sarmat intercontinental ballistic missile will be able to leave the silo under any conditions. "According to its current characteristics, the missile will leave the silo under any conditions and will accomplish its task with 100% certainty. This is what its reliability margin shows," Degtyar said. In June, he told TASS that the silo for Sarmat is a complex engineering structure that guarantees the missile's security against strikes by high-precision conventional and nuclear weapons.

Degtyar described Sarmat as the "crowning achievement" in missile technology that the Makeyev centre has achieved in cooperation with a group of subordinate enterprises. This newest missile system will reliably ensure Russia's security against external threats for the

next 40-50 years, Degtyar believes. "In today's unfavourable geopolitical conditions, this is our impregnable shield, the main nuclear deterrent and a guarantee of peace," he added. Degtyar recalled that Sarmat will replace the Soviet-era Voyevoda system. The new missile, he stressed, is not an analogue but a new generation of ICBM with colossal performance characteristics. "This is why it has already been dubbed an "engineering miracle" and "the crowning achievement in missile technology," Degtyar said.

Sarmat features

The Sarmat ICBM was developed at the JSC Makeyev Design Bureau and manufactured at the Krasmash plant (both are affiliated to Roscosmos). According to experts, the RS-28 Sarmat intercontinental ballistic missile is capable of delivering an ICBM of up to 10 tonnes to any point on the globe. Its first launch took place on 20 April from the Plesetsk cosmodrome in the Arkhangelsk region. The test was a success. The design characteristics were confirmed at all stages of the rocket's flight trajectory.

https://tass.com/defense/1511677

How warships hunt enemy submarines from a veteran submariner who has been hunted many times

Anti-submarine warfare, or ASW, is an evolving practice that requires patience and coordination as well as skill and technique. The instruments that today's navies use have a much greater range and are far more capable than the simple sonars of the Cold War era. Artificial intelligence helps operators alert operators to potential threats. Advanced oceanographic modelling of sound propagation and ray trails helps plan highly effective searches over vast expanses of ocean. Complex acoustic pulses at incredible power levels remove the veil of uncertainty from a fleet's face.

In this ASW environment we will review the fundamentals of a basic submarine search, not from the perspective of another submarine, which you can read all about here, but from the point of view of a destroyer or other anti-submarine warfare enabled surface combatant sailing above the waves.

Searching for a submarine is done in two basic ways: active sonar search or passive sonar search. Both methods are capable techniques, but have very different strengths and weaknesses.

Active ASW search

The most common search is full-spectrum active sonar that fills the volume of water around a vessel with acoustic energy for tens of thousands of metres. These updates, or "pings", can be every 10-15 seconds. Each transmission maintains a sound boundary that detects almost everything when two or more sources (active sonars) are used.

A single active sonar will not propagate uniformly in an environment such as seawater. It bends through changes in temperature and density. It bounces off thermal layers as if they were solids. This creates vertical, wedge-shaped blind spots called 'shadow zones'. Coordinated searches with multiple active sounders can see into each other's "shadow zones" to cover an area more effectively. Also, the presence of multiple sonar teams searching the same location increases the probability of detection recognition.

Continuous active sonar (CAS) is a constant loop active transmission cycle. This sonar is very capable in complex coastal or nearshore waters, but does not have the extreme range that traditional complex sonar waveforms can achieve.

The Ticonderoga-class guided missile cruiser USS Cowpens on dry dock in Japan. See the AN/SQS-53B/C/D sonar mounted at the bow, USN

Because of the high accuracy of CAS, a submarine must maintain as much distance from the source as possible while keeping track of the CAS source. CAS is very easy for a submarine to locate because active sonar will provide changes in orientation over time without interruption in transmission. Thus, the trained submarine crew can learn the position of the CAS within minutes of transmission.

The advantage of this type of technique is that it requires a low level of skill on the part of the operator to conduct a successful search. If the sonar operator can locate the bright spot on a dark screen, he can identify a detection. Artificial intelligence automatically marks these potential targets for further evaluation.

Another benefit of active sonar is that the submarine can be detected outside the range of its torpedoes. Early detection by sonar transfers the initiative to the warship and eliminates the submarine's main advantage, an attack from concealment.

U.S. Navy sonar technicians inspect the locking bolts of a multi-functional towed array (MFTA) module during an MFTA recovery aboard the Arleigh Burke-class guided-missile destroyer USS Mason, USN.

Modern active sonars have directional modes. These modes give sonar coordinators flexibility in their sonar search plan. It is not uncommon to have multiple active platforms, in this case surface combatants (warships), assigned to specific sectors around a high-value vessel such as an aircraft carrier. This gives each sonar team a narrower search field, increasing the chances of detection, at the cost of a single point of failure.

This sonar approach has several disadvantages. Coordination between active platforms is extremely important when sonar searches overlap. This technique requires common system timing, a "T-Zero", and accurate positioning of all transmitters so that they can track active propagation from another platform. The inter-fleet communication system is a "Link" system that seamlessly integrates multiple sensors to help solve these coordination problems.

Typically, multiple active platforms operating in the same water space will use different modes to avoid unnecessary interference and confusion due to lack of proficiency or coordination. Naval forces that do not have this high level of integrated ship-to-ship communication can conduct this type of search by manually triangulating detections.

Sonar technicians stand watch in the sonar control room aboard the Arleigh Burke-class guided-missile destroyer USS Jason Dunham. , USN

Triangulation is a simple method of using another platform's sensor bearing (and range, if you have one), knowing their position relative to yours, and searching along that bearing line. If you have contact, the tip of that triangle that intersects the bearings is the position of the sub. Manual triangulation was standard during the Cold War and is still used today.

A disadvantage in this case is that the target submarine can hear the active sonar platform coming at least twice as far away as the distance at which its active sonar will be able to detect the return. This is because bidirectional propagation of the active signal is required. While the active sonar is waiting for the return, the target submarine has already received the initial transmission and can take action to minimise detection.

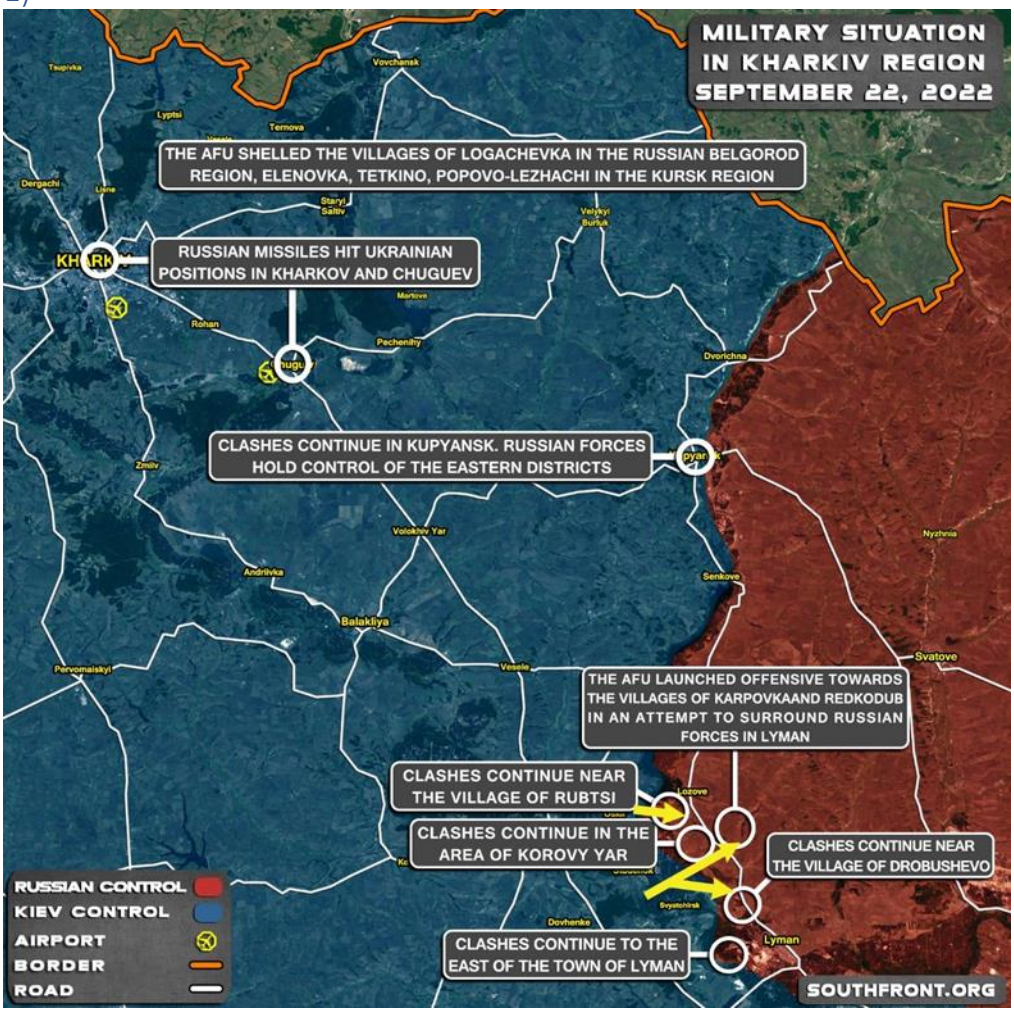
Passive ASW search

Passive sonar simply listens for noise as it passes through the array. It collects the sound signals and sorts them for the sonar operator according to frequency and bearing. This helps the operator classify and track the position of the sound source.

Passive sonar search is a more refined, tactical and skillful approach to submarine detection. Modern warship construction has given surface navies the ability to quietly roam the seas without worrying about long-range passive counter-detection. Twenty-first century versions of 'Prairie' and 'Masker' systems can actively mask a ship's broadband sound signature. New towed sonar arrays and variable depth towing capability give surface sonars the ability to exploit tactical advantages previously available only to submarine sonars.

https://www.thedrive.com/the-war-zone/36885/how-warships-above-the-waves-hunt-for-enemy-submarines-down-below

MILITARY SITUATION IN KHARKIV REGION, UKRAINE, 22 SEPTEMBER 2022 (MAP UPDATE)



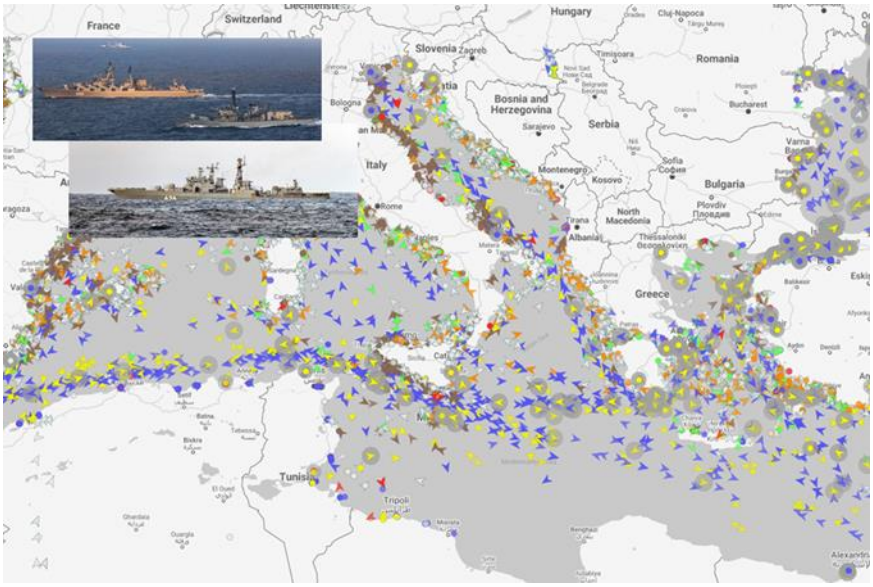
The AFU launched its offensive towards the villages of Karpovka and Redkodub in an attempt to encircle Russian forces in Lyman. Clashes continue in the Korovy Yar area;

Clashes continue east of Lyman town;

Clashes continue near the village of Drobushevo;
Clashes continue near the village of Rubtsi;
Clashes continue in Kupyansk. Russian forces are in control of the eastern districts;
Russian missiles hit Ukrainian positions in Kharkov and Chuguev;
AFU shelled villages of Logachevka in Russian Belgorod region, Elenovka, Tetkino, Popovo-Lezhachi in Kursk region.

https://southfront.org/military-situation-in-kharkiv-region-ukraine-on-september-22-2022-map-update/

Presence of Russian warships in the Mediterranean from 15 September 2022



BlackSeaNews Monitoring Group
and the Black Sea Institute for Strategic Studies

Summary

In late summer 2022, Russia began rotating a portion of its warships in the Mediterranean Sea. Namely, 2 Northern Fleet missile ships, a Black Sea Fleet reconnaissance ship, 2 Black Sea Fleet and Northern Fleet tankers - 5 ships in total - were withdrawn from the Mediterranean.

At the same time, a Northern Fleet tanker arrived in the Mediterranean. In addition, it is not excluded that in early September 2022, Russia deployed a nuclear or diesel submarine carrying cruise missiles in the Mediterranean Sea without official publicity.

It is worth recalling that as of 27 February 2022 there were 13 ships and 5 auxiliary vessels of the four Russian fleets in the Mediterranean, including 9 missile attack vessels: 2 missile cruisers, 4 guided missile frigates and missile destroyers, 1 missile corvette and 2 missile submarines.

As of 15 September 2022, the confirmed composition of the Russian Navy squadron in the Mediterranean Sea includes 10 ships (including 7 missile boats) and 4 auxiliary ships. If another missile submarine is officially confirmed in the Mediterranean, the total number of ships will change from 10 to 11 and the number of missile ships will increase from 7 to 8.

We can predict that in the near future the Russian Navy will continue the rotation of its other ships in the Mediterranean.

This is because, due to Turkey's ban on the passage of Russian warships through the Dardanelles and Bosphorus straits - including the passage of Black Sea Fleet ships to their bases in the Black Sea - and Turkey's closure of airspace to Russian military and civilian aircraft bound for Syria, the Russian squadron in the Mediterranean has remained "blocked".

The inability to repair and maintain Russian ships in the European ports of Mediterranean countries, against the backdrop of a weak repair base at the Russian Navy base in the Syrian port of Tartus, will force Russia to return ships of the Northern, Baltic and Pacific fleets to their bases for repairs. The Black Sea Fleet's ships, which have long been in the Mediterranean, may also have to be redeployed to the Baltic.

https://www.blackseanews.net/en/read/194489