NATO

Agenda Item:

Agenda Item I:

Energy Security and Climate-Driven Conflicts

Agenda Item II:

The Overdosing of Maritime Operations in the Mediterranean Sea

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a. Letter from the Secretary General

Esteemed Participants and Honored Guests,

It is a profound honor to extend my most formal welcome to you as we convene for the 13th edition of the Bilkent University Model United Nations Conference, MUNBU'26. My name is Zehra Yıldırım, and I'm a senior year law student at İhsan Doğramacı Bilkent University. As the Secretary-General of MUNBU 2026, I welcome you not only to a forum of debate but to a tradition of academic and diplomatic excellence that has defined our institution for over a decade.

The art of diplomacy is one of patience, precision, and profound responsibility. My own commitment to this discipline has been forged over nine years of active engagement within the international circuit—a journey that has evolved alongside my formal education in the Faculty of Law. These years have instilled in me a steadfast belief that the resolution of global conflict lies in the mastery of legal frameworks and the cultivation of refined statesmanship. It is this standard of rigor and intellectual integrity that I am committed to upholding throughout our deliberations.

Bilkent University stands as a bastion of higher learning, dedicated to the pursuit of truth and the development of future leaders. It is our distinct privilege to host you within an environment that reflects the visionary principles of the founder of our Republic, Mustafa Kemal Atatürk, who declared: *"Peace at Home, Peace in the World."* Guided by this transcendent ideal, we are committed to providing you with the highest level of hospitality, ensuring that your experience is marked by the grace, professionalism, and mutual respect that our University and the Republic of Türkiye represent on the international stage. MUNBU Conferences remain a premier platform where the complexities of the global order are met with the sharpest minds of our generation. As we embark on this 13th session, I invite you to embrace the gravity of your roles. Let us ensure that our discourse remains as sophisticated as the challenges we face, and that our hospitality remains as enduring as our commitment to justice.

I wish you all fruitful debates and a joyful conference. Should you have any inquiries, please do not hesitate to contact me via my email, zehray@ug.bilkent.edu.

Best Regards,

Zehra YILDIRIM

Secretary General of MUNBU'26

b. Letter from the Under-Secretary General

Dear Esteemed Delegates,

It is with great pride that I welcome you to the North Atlantic Treaty Organization (NATO) Committee of MUNBU'26. My name is Orkun, and I have the distinct honor of serving as the Under-Secretary General for this committee. I would like to extend my sincere gratitude to my Academic Assistant, Beren, and our Academic Trainee, Nil, for their invaluable contributions to this Study Guide. Their dedication has been instrumental in shaping the academic foundations of our agenda.

The topics we will address—Global Energy Security and Climate-Driven Conflicts and The Overdosing of Maritime Operations in the Mediterranean Sea—are both urgent and multifaceted. As delegates, you will be challenged to navigate the complexities of environmental security and maritime strategy to find solutions that embody the strength of the Alliance.

Let us approach this conference with enthusiasm and a shared commitment to collective defense. I eagerly look forward to the rigorous debates and thoughtful resolutions that will emerge from this committee.

Yours sincerely,

Orkun Yündem

Under-Secretary General of NATO

c. Letter from the Academic Assistant

Esteemed Participants,

It is our great pleasure to welcome you to the NATO Committee at the MUNBU 2026. My name is Beren Özden, and I will be serving as the Academic Assistant. Alongside my esteemed Under-Secretary-General, Orkun Yündem, I am delighted to support this committee and ensure that all participants enjoy a unique and highly engaging experience during their MUN journey.

We recognize that this committee will present challenges requiring dedication and hard work, but we are confident that your efforts will be deeply rewarding.

In preparation for this committee, we have thoroughly examined the work of NATO, and we encourage you to carefully study the detailed study guide we have prepared. It contains comprehensive information to help you engage effectively in committee discussions and debates.

For any additional information or inquiries, please feel free to contact me at bhiberen@gmail.com.

We look forward to an inspiring and productive session with all of you.

Kindness Regards,

Beren Özden

Academic Assistant of NATO

d.

Dear Participants,

I am Nil Hamavioğlu, one of the academic assistants responsible for the NATO committee. On behalf of the MUNBU team, it is my sincere pleasure to welcome you all to MUNBU'26! Along with our esteemed Under-Secretary-General, Orkun, and academic assistant, Beren, we hope that this committee will not only create problems that you can solve but also build countless memories.

While discussing and writing this study guide, we have learned a lot, and we believe that you will also gain many perspectives throughout this guide and, of course, at the conference. In order to be fully prepared for the conference, the guide is highly comprehensive and coherent in terms of our aim for MUNBU.

If you would like to further learn or discuss the topics addressed in this guide, you can always email me at nhamavioglu@gmail.com, and we can ameliorate our understanding together!

We are all looking forward to seeing you at this and the upcoming MUNBUs!

Kindest Regards,

Nil Hamavioğlu

Academic Assistant of NATO

2. Introduction to the Committee

a. History

The North Atlantic Treaty Organization was created in 1949, after World War II. The alliance was formed to both foster better relations with Western European nations after the war. There were benefits to both Europe and the United States of America from this treaty. The United States required a capitalist and well-established Europe for its own defense policy against its new competitor, the Soviet Union. While Europe was war-torn and needed to establish industries and return to the pre-war economic state, which would be made easier with aid from the United States of America. For this the United States proposed the Marshall Plan which would help all of Europe re-establish its economy. However the Soviets and their satellite states refused to join this plan, significantly growing the division between the Soviet influenced East and US influenced West.

During 1947-1948, a series of events led to the nations of Western Europe worrying about their political and social security. This was what initially allowed the United States to become more involved with European affairs. The US offered economic and military aid to Greece and Türkiye, while the Soviets sponsored a coup d'etat in Czechoslovakia resulting in a communist government being established near the borders of Germany. There were also concerns about elections going on in different nations, with different socialist and communist groups gaining momentum in the political stage. In mid-1948, the Soviet Union established a blockade against West Berlin, which was controlled by the allied forces but was surrounded by Soviet-occupied East Germany. The Berlin Crisis almost led to conflict between the Soviets and the US but was later resolved with a massive airlift which resupplied the

city for the duration of the blockade. All of these events lead to Western powers worrying about the future of Europe under Soviet influence.

Finally in March 1948, the Brussels Treaty was signed, after some European powers and the United States were willing to establish a mutual defense agreement. The treaty stated that if any of the sponsor nations were attacked the others would help defend it. After this the US Congress proposed a resolution which would adhere with the United Nations charter and exist outside of the authority of the Security Council, where the Soviet Union held power[1]. This resolution passed the historically isolationist Congress and the negotiations for the North Atlantic Treaty began.

b. Scope

The North Atlantic Treaty Organization mainly emphasizes safeguarding the collective defense and security of its member countries. Established in 1949, NATO's fundamental principle is collective defense, which implies that an attack on any member is viewed as an attack on everyone; as mentioned previously. This principle encourages solidarity among its members, who collectively bear the duty of safeguarding each other from military aggression, cyber risks, terrorism, and other emerging security issues. NATO also upholds a strong military framework that facilitates joint operations, swift crisis responses, and compatibility among the armed forces of its allies.

In addition to defense, NATO is involved in crisis management and global peacekeeping initiatives. It has been crucial in stabilizing conflict areas like Kosovo[2]

[1] United States Government. (n.d.). Milestones in the History of U.S. Foreign Relations. Milestones in the History of U.S. Foreign Relations - Office of the Historian. https://history.state.gov/milestones/1945-1952/nato
[2] North Atlantic Treaty Organization. (2024). *NATO's Role in Kosovo*. NATO's role in Kosovo.

and Afghanistan[3] and aids in disaster relief and counterterrorism efforts. Moreover, NATO builds relationships with nations that are not members and works together with international organizations to enhance worldwide security and stability. Its range has expanded to tackle new threats such as cyber threats, hybrid conflict, and the security effects of climate change, maintaining its importance in today's geopolitical environment.

c. Members

The North Atlantic Treaty Organization consists of 32 countries. These countries are as follows: Albania, Belgium, Bulgaria, Canada, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Türkiye, United Kingdom, and the United States of America. These nations are all equally represented under the North Atlantic Treaty Organization with the terms of the North Atlantic Treaty[4] binding them all.

Being part of the North Atlantic Treaty comes with its benefits, NATO member states enjoy specific rights as part of the alliance, rooted in the principles of collective security and cooperation outlined in the treaty. The most important right the members enjoy is the idea of collective defense, as stipulated in Article 5 of the treaty.

Furthermore, member countries possess the right to engage in NATO's decision-making procedures. The alliance functions under the principle of consensus, ensuring that every member has an equal voice, irrespective of size or military strength.

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[3] *NATO's Role in Afghanistan*. (2022). NATO and Afghanistan. https://www.nato.int/cps/in/natohq/topics_8189.htm

[4] North Atlantic Treaty Organization. (1949). *North Atlantic Treaty (Article 5)*. NATO. https://www.nato.int/cps/cz/natohq/official_texts_17120.htm

This guarantees that every member's opinion is considered when developing NATO's policies, operations, and strategic direction. Member nations gain advantages from utilizing NATO's collective defense assets, intelligence, and training initiatives, improving their personal and unified security abilities. Additionally, they have the right to receive technical and logistical assistance during crises and conflicts, which further enhances their capacity to tackle both national and regional security issues.

3. Introduction to the Agenda Item I: Global Energy Security and Climate-Driven Conflicts

In the geopolitical landscape of 2026, the definition of global security has undergone a paradigm shift. The Agenda Item "Global Energy Security and Climate-Driven Conflicts" addresses the dual crisis facing the Alliance: the weaponization of energy resources in an increasingly multipolar world and the accelerating destabilization caused by climate change. NATO no longer views these as separate ecological or economic issues but as interconnected "threat multipliers" that directly challenge the collective defence of the Euro-Atlantic area.[5]

Traditionally, energy security was defined by the uninterrupted availability of energy sources at an affordable price, largely focusing on the flow of hydrocarbons through pipelines and maritime choke points. However, the rapid global transition toward renewable energy has redefined this concept. The security architecture is now pivoting from a reliance on fossil fuels to a fierce competition for Critical Raw Materials (CRMs) like lithium, cobalt, and rare earth elements.[6] As nations race to decarbonize their economies and militaries, the supply chains for these minerals have become the new frontlines of geopolitical competition. The concentration of processing capacity in non-Allied nations creates strategic vulnerabilities, raising the spectre of "green energy blackmail" where access to the components of future warfare, from batteries to guidance systems could be restricted by adversaries.

Simultaneously, climate change has evolved from a long-term risk to an immediate driver of conflict. Rising temperatures and extreme weather events are devastating critical infrastructure and depleting essential resources such as water and arable land, particularly in

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[5] United Nations Security Council. "Climate Change as a Risk to Global Peace and Security." *UN Reports*, 2024. https://press.un.org/en/2023/sc15318.doc.htm

[6] IEA. "Global Critical Minerals Outlook 2024." International Energy Agency, Paris, 2024. https://www.iea.org/reports/global-critical-minerals-outlook-2024

NATO's southern neighbourhood and the Sahel region.[7] These environmental stressors act as catalysts for instability, fuelling insurgency, terrorism, and mass migration, which in turn strain the cohesion and border security of Allied nations. In the High North, the melting of the Arctic ice cap is opening new navigable routes and exposing untapped resources, transforming a region of historical cooperation into a zone of intense strategic competition involving Russia and China.

Furthermore, the physical infrastructure of energy is under constant threat from hybrid warfare tactics. The sabotage of underwater pipelines and data cables demonstrates that the seabed is no longer a sanctuary but a domain of warfare. Agenda Item I, therefore, necessitates a comprehensive strategy that integrates the protection of critical infrastructure, the diversification of supply chains through "friend-shoring," and the adaptation of military capabilities to operate in extreme climate conditions. The Alliance must recognize that energy resilience and climate adaptation are pre-requisites for maintaining credible deterrence in the 21st century.

[7] NATO. "NATO Climate Change and Security Action Plan." *North Atlantic Treaty Organization*, 2024. https://www.nato.int/cps/en/natohq/official_texts_185174.htm

4. Introduction to Climate and Energy Security

The intersection of climate change and energy security has become a building block of NATO's collective defence strategy, as environmental instability now acts as a primary threat multiplier across the globe[8]. NATO recognises that climate driven disasters such as extreme heatwaves, rising sea levels, and resource scarcity do not just damage the environment but actively increase political tensions and multiply the risk of conflict, particularly in fragile regions. To maintain operational readiness, the Alliance is currently reengineering its military understanding to function in new extremes[9] while simultaneously launching the Green Defence initiative. This program reduces the military's carbon footprint and enhances tactical independence by replacing vulnerable fossil fuel supply lines with resilient, localised renewable energy sources, such as solar microgrids.

As the world transitions away from traditional hydrocarbons, NATO's focus is shifting toward the security of Critical Raw Materials (CRMs), such as lithium and cobalt, often referred to as the new oil, which are essential for modern defence technology. Because the processing of these minerals is currently concentrated in non-Allied nations[10], NATO promotes friend shoring to build secure supply chains with trusted partner countries, preventing adversaries from using energy blackmail to threaten allied technology. This economic strategy is backed by physical protection plans for Critical Undersea Infrastructure (CUI), such as the Baltic Sentry initiative, which uses autonomous drones and satellite surveillance to monitor the thousands of miles of pipelines and data cables that are frequent targets of hybrid warfare.

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[8] https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2021/06/14/nato-climate-change-and-security-action-plan

[9] https://www.nato.int/en/news-and-events/articles/news/2025/12/10/nato-defence-innovation-accelerator-announces-largest-ever-cohort-of-150-innovators-to-work-on-ten-defence-and-security-challenges-in-20
26

[10] https://samm.dsca.mil/glossary/major-non-nato-allies

NATO also addresses environmental security by monitoring geostrategic flashpoints, such as the Arctic, where melting ice is opening up new shipping lanes and revealing previously untapped resources that attract aggressive competition from Russia and China. By treating environmental degradation as a security threat, NATO utilises its Euro-Atlantic Disaster Response Coordination Centre (EADRCC) to provide humanitarian aid and stabilise regions, which are facing climate-driven mass migration or water scarcity. This approach ensures that the Alliance is prepared to defend its members not only against traditional military threats but also against the complex, interconnected challenges of a warming and energy dependent world.

a. Major Energy Resources and Supply Chains

The 2026 global security landscape is defined by a transformation in energy strategy, as NATO shifts its focus from traditional hydrocarbons to Critical Raw Materials (CRMs)such as lithium, cobalt, manganese, and rare earth elements, which are now recognised as the new oil and the technological lifelines[11] for modern defence. These minerals are essential for the high capacity batteries powering hybrid combat vehicles and the permanent magnets required for a precise missile guidance and stealth drone propulsion. As a result, the International Energy Agency (IEA) projects that military demand for these materials could triple by 2040, making their secure supply a strategic imperative[12] for maintaining the Alliance's technological edge. To combat the single source dependency risk wherein non Allied nations currently control up to 80% of global mineral refining, NATO has implemented the friend shoring[13] initiative and a landmark 1.5% GDP resilience target established at the 2025 Hague Summit, aimed at

[11] https://debuglies.com/2024/12/16/bridging-the-dual-use-innovation-gap-a-strategic-imperative-for-americas-technological-future/

[12] https://www.nato.int/en/about-us/official-texts-and-resourcwill havees/strategic-concepts

[13] https://natoassociation.ca/a-primer-on-friend-shoring-and-near-shoring-do-they-enhance-or-harm-the-rbioAUKUS-class

building autonomous and trusted supply chains across member states like Canada, Australia, and Norway.

Building on this shift, NATO has put resource intelligence into its core planning, recognising that the battle for energy security is now fought in the laboratories and refineries of the Allied industrial base as much as on the battlefield. By 2026, the Alliance has moved beyond mere mining to focus on the Circular Economy for Defence, launching large-scale recycling programs to recover rare minerals from decommissioned military hardware, reducing the geopolitical footprint of every new missile. This internal resilience is critical because any delay in the supply of these minerals could stall the production of the AUKUS class submarines or the next generation of hypersonic interceptors, creating a readiness gap[14] that adversaries might exploit. Consequently, the protection of the supply chain now involves cyber shielding the digital systems that manage the flow of these materials, ensuring that an enemy cannot use a technological tool virus to delete mineral shipments from the global ledger.

Furthermore, while securing these new resources, NATO remains vigilant in protecting traditional maritime choke points such as the Strait of Hormuz, the Suez Canal, and the GIUK (Greenland-Iceland-UK) Gap, viewing them as part of the Global Commons[15] that must remain open to prevent energy blackmail and destabilising energy inflation. This physical protection is further enhanced by the Baltic Sentry initiative, which employs autonomous underwater drones and acoustic sensors to safeguard the undersea power and data cables that are increasingly targeted in hybrid warfare. In 2026, NATO's naval missions were expanded to include Infrastructure

[14] https://securityanddefence.pl/pdf-208926-130793?filename=NATO%20defence%20readiness%20in.pdf
[15] https://www.act.nato.int/article/the-scramble-for-the-global-commons-in-the-next-security-era/

Escort duties, where Allied warships provided a protective sense around LNG tankers and mineral transport vessels during periods of high geopolitical tension. This ensures that even during a grey zone conflict where an opponent attacks without declaring war, the lifeblood of the global economy and the Alliance's energy supply remains uninterrupted.

In order to ensure the Alliance can fight as a unified force, NATO is updating its Standardisation Agreements (STANAGs) to solve the challenge of energy interoperability, creating a plug-and-play[16] logistics network where all 32 member nations can share hydrogen, electricity, and synthetic fuels interchangeably. This means that, for example, a Dutch battalion operating in the Baltics can refuel its hydrogen powered transport vehicles at a Danish run fuel depot without any technical obstacles. By 2026, NATO will have also established the Allied Energy Reserve, a shared digital platform that allows nations to trade energy credits in real time during a crisis, ensuring that a member state facing a sudden power grid attack can immediately draw electricity from its neighbours. This deep level of cooperation ensures that the transition to a greener energy future does not lead to operational paralysis, but instead creates a more resilient, agile, and interconnected defence force.

b. Multinational Energy Infrastructure Protection Plans,

As modern warfare increasingly shifts toward hybrid tactics, NATO has prioritised the protection of Critical Undersea Infrastructure (CUI), identifying the thousands of miles of submerged pipelines and fibre optic cables as primary targets for adversaries seeking to cripple a nation's economy without firing a single shot. Because these invisible lifelines carry 95% of global internet data and a significant portion of

[16] https://www.plugandplaytechcenter.com/press/dualtech-by-takeoff-release

Europe's energy supply, the Alliance launched the Baltic Sentry initiative, a high tech, multi domain neighbourhood watch that utilises autonomous underwater drones, acoustic sensors, and satellite surveillance to monitor the seabed in real time. This system ensures that if a suspicious vessel lingers over a gas pipeline or a data hub, NATO commanders at the Allied Maritime Command (MARCOM) receive immediate alerts to deploy rapid response patrols. Furthermore, recognising that the private sector owns the vast majority of these assets, the NATO CUI Network, which held a landmark summit in Rome in November 2025, now facilitates direct intelligence sharing between military leaders and big tech or energy corporations to stay ahead of the possible threats[17]. This creates a cyber-physical synergy[18] where NATO's cyber defence experts work to shield the software controlling the power grid from malware. If a cyber bomb were to strike one country, the Alliance has pre coordinated plans to instantly reroute electricity from neighbouring member nations to prevent a total blackout.

To further strengthen this defence, NATO has recently integrated Artificial Intelligence (AI) into its CUI monitoring systems through platforms like MAINSAIL (Multi Domain Awareness and Insight with AI Layering) to identify anomalous behaviour in maritime traffic that human operators might miss, such as a commercial ship moving in patterns that suggest it is secretly deploying underwater saboteurs. By 2026, this AI driven predictive modelling will enable NATO to preemptively position naval assets in areas where infrastructure is most at risk during periods of high geopolitical tension, transforming the Alliance from a reactive force into a proactive guardian of the seabed. Additionally, the Alliance is spearheading the development of Self Healing Infrastructure protocols, working with engineers to design modular

[17] https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2025/wp-6-civil-security-for-society_horizon-2025_en.pdf
[18] https://www.ncia.nato.int/resources/site1/General/newsroom/publications/Public_NCIA_Technology%20Strategy_external_v6%20-%20digital.pdf

undersea cables and pipelines that can be automatically bypassed or rapidly repaired by robotic systems if they are cut. This resilience by design approach[19] ensures that even if an adversary succeeds in a physical attack, the impact on the civilian population is minimised, effectively neutralising the strategic value of infrastructure sabotage as a tool of modern warfare. Thus, NATO has established a new Maritime Centre for the Security of Critical Undersea Infrastructure within its Allied Maritime Command[20], specifically tasked with centralising data from national Digital Ocean initiatives to create a 360 degree picture of underwater security, ensuring that no vulnerability goes unnoticed in the vast blue economy.

c. Environmental Security Issues

Environmental security within NATO's framework treats ecological degradation not as a secondary concern, but as a direct driver of geopolitical instability and conflict. In the Arctic High North, where temperatures are rising twice as fast as the global average, the melting ice is exposing trillions of dollars' worth of untapped oil, gas, and mineral reserves, transforming a once frozen wilderness into a geostrategic flashpoint for competition with Russia and China . Simultaneously, NATO monitors how resource scarcity, particularly the lack of water and arable land, acts as a war starter in regions like the Sahel, where desertification destroys lives and pushes vulnerable populations towards extremist groups or forced migration. To prevent these crises from escalating, NATO works with partner nations to combat the resource curse by improving security governance. Through programs like Building Integrity (BI), the Alliance helps countries manage their natural resources transparently so that energy wealth funds national development rather than corruption or civil war[21]. NATO views disaster

[19] https://www.act.nato.int/article/what-resilience-means-for-nato/
[20] https://www.enseccoe.org/publications/why-is-critical-underwater-infrastructure-the-target/
[21] https://www.nato.int/en/what-we-do/partnerships-and-cooperation/building-integrity

response as a form of defence; through the Euro Atlantic Disaster Response Coordination Centre (EADRCC), the Alliance coordinates rapid aid during climate driven catastrophes such as wildfires or hurricanes, preventing the chaos gap[22] that bad actors often exploit to gain power[23].

Building on this, the Alliance has integrated Climate Induced Migration into its 2026 defence planning, recognising that as habitable land disappears, the resulting mass displacement can overwhelm the southern flank of Europe and create humanitarian security crises that require military logistics and border coordination[24]. This is not just a border issue; it is a fundamental challenge to regional stability, as sudden population shifts can strain the social fabric of host nations and lead to localised violence. Consequently, NATO's Climate Change and Security Centre of Excellence (accredited in late 2024) now uses AI driven predictive modelling to track desertification and sea level rise, providing Allies with early warning data to deploy diplomatic or economic support years before a climate related conflict actually begins.

The Alliance is increasingly focused on Environmental Sabotage as a weapon of modern war, where adversaries might intentionally trigger ecological disasters such as flooding mines or destroying dams to paralyse Allied movements or punish civilian populations. In response, NATO's 2026 Military Budget has allocated specific funds for Ecological Resilience Training, preparing troops to operate in contaminated or disaster stricken environments while maintaining the chain of command. This ensures that the military can remain as a stabilising force even when the environment itself has been

[22] https://nationalinterest.org/feature/natos-manpower-gap
[23]https://www.nato.int/en/about-us/organization/nato-structure/euro-atlantic-disaster-response-coordination-centre--eadrcc-/about-eadrcc
[24]https://studentreview.hks.harvard.edu/international-security-institutions-and-climate-induced-conflicts-adapting-strategies-in-an-era-of-climate-geopolitics/

weaponised, effectively deterring enemies from using ecological destruction as a tactical advantage.

NATO is spearheading a Global Environmental Partnership to help non member countries build resilient infrastructure that can survive the extreme weather of the coming decades. By sharing military engineering expertise with partners in Africa and the Middle East to build flood resistant power grids and drought proof water systems, NATO acts as a security provider that stops the cycle of poverty and violence at its source. This proactive approach transforms environmental security from a reactive emergency response into a cornerstone of the Alliance's mission to protect the global rules based order from the unpredictable impacts of a warming planet.

5. Historical Evolution of NATO's Environmental Security Role

The historical evolution of NATO's environmental security role represents a transition from a Cold War scientific interest to a 21st-century strategic imperative. This journey began in 1969 with the Committee on the Challenges of Modern Society (CCMS), which introduced the Third Dimension[25] of NATO, focusing on the transboundary effects of pollution and urban decay as potential threats to societal stability. During the 1990s, the Alliance utilised its Science for Peace and Security (SPS) program to facilitate scientific diplomacy, helping former Eastern Bloc nations manage toxic Cold War legacies and water shortages to prevent regional collapses. The formal securitisation of the environment was solidified in the 2010 Lisbon Strategic Concept, which identified resource scarcity as a key driver of conflict, eventually leading to the 2022 Madrid Strategic Concept's recognition of climate change as a threat multiplier. By the 2025 Hague Summit, this evolution culminated in a binding commitment to Green Defence and a 1.5% GDP resilience target, transforming NATO into an organisation where AI driven environmental forecasting and sustainable military logistics are now viewed as fundamental components of modern collective defence and deterrence.

a. Committee on the Challenges of Modern Society (CCMS)

The establishment of the CCMS was a revolutionary moment in NATO's history as it challenged the traditional definition of defence. In the late 1960s, while the world was focused on the nuclear arms race, NATO leaders began to argue that the internal stability of member nations was being eroded by the unintended consequences of industrialisation. By addressing issues such as the health impacts of smog in cities and

[25] https://ipc.sabanciuniv.edu/Content/Images/CKeditorImages/20230726-10074602.pdf

the contamination of shared waterways, the CCMS proved that the Alliance could protect its citizens from unconventional threats that did not involve a foreign army. This early work helped foster a culture of transatlantic scientific cooperation, creating a network of experts who viewed the environment as a shared strategic asset rather than an infinite resource to be exploited[26].

Furthermore, the CCMS served as a critical platform for non military diplomacy during the height of the Cold War. Because the committee's research was unclassified and focused on universal human challenges, it enabled NATO to engage with international bodies, such as the United Nations and the European Economic Community, in ways that were previously impossible for the military wings of the Alliance. These pilot studies often set the technical benchmarks for later global environmental legislation, such as the initial frameworks for monitoring oil spills in the ocean and the early research into the greenhouse effect. By 2026, historians recognise that the CCMS effectively laid the groundwork for the modern concept of human security, shifting the focus from simply protecting borders to protecting the ecological systems that sustain human life[27].

Therefore, the transition of the CCMS into the Science for Peace and Security (SPS) Programme in 2006 marked a strategic shift toward cooperative security in a globalised world. Instead of just studying pollution in Western Europe, the new framework focused on helping partner nations in North Africa, the Middle East, and the former Soviet Union manage their own environmental crises to prevent regional instability. This evolution ensured that NATO's environmental expertise was used as a tool for conflict prevention. By 2026, this historical lineage is clearly visible in NATO's

[26] https://www.nato.int/en/what-we-do/wider-activities/environment-climate-change-and-security
[27]https://www.bmlv.gv.at/pdf_pool/publikationen/book_climate_changes_security_lampalzer_hainzl_web.pdf

current Climate Change and Security doctrine. The data and collaborative methods pioneered by the CCMS in the 1970s are the direct ancestors of today's AI driven environmental forecasting models, which are used to predict resource wars before they begin[28].

b. Science for Peace and Security (SPS) Programme

The Science for Peace and Security (SPS) Programme is NATO's primary tool for civilian science diplomacy, designed to address emerging security challenges through international cooperation and innovation. Established in its current form in 2006, the SPS grew out of the earlier Science Committee (founded in 1958) and the CCMS. Its core mission is to fund collaborative research projects between scientists in NATO member states and those in partner nations, such as Ukraine, Georgia, and countries across North Africa and the Middle East. By funding research into dual use technologies like sensors for detecting explosives or advanced water purification systems, the SPS ensures that the Alliance remains at the cutting edge of security technology while building trust with its global neighbours[29].

In the context of the 2026 climate landscape[30], the SPS has become a central hub for environmental security research. One of its most significant contributions is the development of regional Environmental Security Assessment models. For example, the SPS has funded multi year projects to monitor the security of shared water resources in the Caucasus and Central Asia, areas where water scarcity could lead to border conflicts. By providing the scientific data and the neutral ground for rival nations to cooperate on water management, the SPS acts as a peacebuilder, solving technical

[28] https://archives.nato.int/committee-on-challenges-of-modern-society-ccms
[29] https://www.nato.int/en/what-we-do/partnerships-and-cooperation
[30] https://www.act.nato.int/article/cold-weather-coe-2025/

problems before they evolve into military crises. This approach demonstrates NATO's conviction that scientific transparency is a potent deterrent to regional instability.

Furthermore, the SPS is a leader in Green Defence innovation, specifically focusing on reducing the energy footprint of military operations. Current 2026 projects include the development of portable, high efficiency solar arrays for humanitarian missions and the creation of bioremediation[31] techniques to clean up soil contamination at military bases. These projects are not just about environmental protection; they are about resilience. By making NATO forces less dependent on external energy supplies and more capable of operating in degraded environments, the SPS directly contributes to the Alliance's core mission of collective defence. It serves as an incubator for the disruptive technologies that will define the next decade of environmental security[32].

The SPS has recently integrated Artificial Intelligence and Cyber Defence into its environmental portfolio. By 2026, the program will fund Climate Cyber Synergy projects[33] that use AI to protect the digital sensors used in global weather monitoring and energy grid management. This ensures that the data NATO uses for its threat multiplier analysis is secure from tampering by hostile actors. The SPS thus represents the full evolution of NATO's Third Dimension[34]: a program that combines high level science with strategic military goals to ensure that the Alliance can navigate the complex, interconnected threats of a warming and technologically advanced world.

[31] https://pmc.ncbi.nlm.nih.gov/articles/PMC92991/
[32] https://www.act.nato.int/article/from-idea-to-capability/
[33] https://www.tandfonline.com/doi/full/10.1080/09662839.2025.2566519#d1e132
[34] https://www.jstor.org/stable/45343483?seq=1

c. Environment and Security (ENVSEC) Initiative

The Environment and Security (ENVSEC) Initiative is a unique multi agency partnership established in 2003 to address the links between environmental degradation and regional instability. NATO joined this initiative as an associate partner alongside five other major international bodies: the OSCE (Organisation for Security and Co operation in Europe), UNDP (UN Development Programme), UNEP (UN Environment Programme), UNECE (UN Economic Commission for Europe), and the Regional Environmental Centre.[35] The core mission of ENVSEC is to treat environmental cooperation as a tool for conflict prevention. By 2026, the initiative focuses on four high risk regions: Eastern Europe, South Eastern Europe, the South Caucasus, and Central Asia, where competition over natural resources or the legacy of industrial pollution could trigger border disputes or civil unrest.

A primary function of ENVSEC is to provide vulnerability assessments that identify security hotspots where environmental stress intersects with political tension. For example, in the Fergana Valley of Central Asia, ENVSEC has worked to de escalate tensions by facilitating joint water management between Kyrgyzstan, Tajikistan, and Uzbekistan. NATO's specific role within this partnership is to provide technical expertise and scientific diplomacy through its Science for Peace and Security (SPS) Programme. By helping nations clean up hazardous military waste or secure old ammunition dumps that threaten local water supplies, NATO demonstrates that it is a security provider[36] that cares about the long term safety and health of the populations in its partner regions[37].

[35] https://oceea.osce.org/oceea/446245
[36] https://www.ncia.nato.int/about-us/service-portfolio/nato-cyber-security-centre
[37] https://www.nato.int/en/what-we-do/partnerships-and-cooperation/partnership-for-peace-programme

Moreover, the ENVSEC Initiative is a leader in Disaster Risk Reduction (DRR). In 2025 and 2026, the partnership has ramped up its work on Climate Induced Security Risks, helping countries prepare for the sudden impact of extreme weather. This includes installing early warning systems for floods in transboundary river basins and training local officials to manage the mass displacement of people caused by droughts. NATO supports these efforts by coordinating with its Euro Atlantic Disaster Response Coordination Centre (EADRCC), ensuring that if an environmental crisis occurs, the international community can respond with a unified, pre planned strategy that prevents the chaos gap that extremist groups often exploit[38].

Finally, ENVSEC plays a critical role in Environmental Governance, specifically through the creation of Aarhus Centres[39] which help citizens and governments communicate about environmental threats. In 2026, this focus has expanded to include the Just Transition for energy, ensuring that as countries move away from fossil fuels, the resulting economic shifts do not lead to social instability. By fostering transparency and public participation, ENVSEC ensures that environmental management is a democratic process that builds trust rather than a source of secret tension. This makes the initiative an essential pillar of NATO's Southern Flank strategy, where stabilising the environment is seen as the first step in stabilising the geopolitical landscape.

d. Regional Environmental Centre for Central and Eastern Europe (REC)

The Regional Environmental Centre for Central and Eastern Europe (REC), established in 1990 at the conclusion of the Cold War, serves as a critical bridge

[38] https://www.nato.int/en/about-us/organization/nato-structure/science-for-peace-and-security-hub/science-for-peace-and-security-programme
[39] https://www.osce.org/sites/default/files/f/documents/f/d/32334.pdf

between government, civil society, and international organisations to promote environmental sustainability and regional cooperation. In the context of the Environment and Security (ENVSEC) Initiative, the REC operates as a key implementing partner alongside NATO and various UN agencies, focusing on stabilising transition economies in Central and Eastern Europe through proactive ecological management. By providing technical expertise and facilitating environmental diplomacy, the REC helps nations manage transboundary water resources and remediate toxic industrial legacies left by former military regimes. NATO utilises the REC's localised network to implement Science for Peace and Security (SPS) projects, ensuring that environmental hazards do not evolve into localised conflicts or social unrest.

By 2026, the REC's mission will have expanded to include the Climate Security Nexus, specifically addressing the risks of energy transitions and extreme weather in the Balkan and Baltic regions. The centre plays a vital role in enhancing National Resilience by helping local governments integrate climate adaptation into their security planning, which aligns with NATO's 2025 Hague Summit goals of improving societal readiness. Through the creation of Local Environmental Action Plans (LEAPs)[40], the REC ensures that vulnerable communities have the infrastructure necessary to survive climate driven disasters, such as massive flooding or heatwaves, thereby preventing mass displacement and economic instability that can lead to regional security threats. This grassroots approach complements NATO's high level military strategies, making the REC an essential pillar of the Alliance's preventative defence framework in Europe[41].

[40] https://www.thearcticinstitute.org/anchored-action-operationalizing-natos-climate-security-plan-arctic-maritime-domain/
[41] https://www.hoover.org/research/preventive-defense

e. United Nations Environment Programme (UNEP)

The United Nations Environment Programme (UNEP) serves as the leading global authority on the environment, providing the scientific foundation and political framework for international ecological coperation. Within the context of the Environment and Security (ENVSEC) Initiative, UNEP acts as a critical strategic partner to NATO, focusing on the identification and mitigation of environmental risks that could destabilise regions[42]. By conducting Post Conflict Environmental Assessments, UNEP helps determine how war damaged ecosystems, such as contaminated water tables or scorched land, hinder long term recovery and fuel future grievances. In 2026, UNEP's role was expanded to include the Early Warning and Assessment of climate driven tipping points, providing NATO and other security bodies with the data needed to predict mass migrations and resource driven insurgencies before they reach a boiling point.

Furthermore, UNEP is instrumental in promoting Environmental Peacebuilding by facilitating shared management of natural resources across hostile borders. Through its Disasters and Conflicts sub programme, UNEP works to ensure that the global transition to green energy and the resulting demand for critical minerals does not lead to green conflicts[43] or the exploitation of vulnerable populations in the Global South. This aligns with NATO's 2026 Green Defence objectives, as UNEP provides the ethical and legal standards for sustainable resource extraction that the Alliance utilises in its friend shoring supply chain strategies[44]. By linking environmental health to the UN's Sustainable Development Goals (SDGs), UNEP ensures that ecological resilience is

[42] https://oceea.osce.org/oceea/446245
[43] https://www.unep.org/resources/report/environmental-impact-escalation-conflict-gaza-strip
[44] https://www.unepfi.org/humanrightstoolkit/manufacturing/

viewed not just as a matter of nature conservation, but as a fundamental requirement for a rules based international order and global collective security.

6. NATO's Role in Energy and Climate Security

NATO's role in global security has evolved to recognise that energy and environmental stability are core components of collective defence. Since the 2022 Strategic Concept and the subsequent 2025 Hague Summit, the Alliance has officially integrated climate change as a threat multiplier into its 360 degree security posture[45]. This shift acknowledges that NATO's ability to safeguard the freedom and security of its members now depends on its capacity to manage climate driven instability and the global energy transition[46]. By 2026, NATO will have moved beyond simply monitoring these risks to actively making climate informed decisions a requirement for all military planning, ensuring that the Alliance remains a stabilising force in an increasingly unpredictable world.

Operationally, NATO focuses on the Climate Security Nexus, addressing how environmental degradation impacts military readiness and mission success. The Climate Change and Security Action Plan mandates that Allied forces adapt to new extremes, such as extreme heatwaves, permafrost thaw in the Arctic, and rising sea levels that threaten critical naval installations. This adaptation includes rigorous testing of equipment like fighter jets and tanks to ensure performance does not degrade in 50°C environments, as well as investing in AI based early warning systems to detect climate driven security shifts in real time. By treating climate change as a systemic risk, NATO ensures that its forces can operate effectively even when the environment becomes a challenge to mission success[47].

[45] https://www.nato.int/en/what-we-do/wider-activities/environment-climate-change-and-security
[46]https://climateandsecurity.org/2025/10/from-hybrid-threats-to-stability-multipliers-meeting-the-climate-security-moment/
[47] https://journals.rudn.ru/international-relations/article/view/43462/en_US

Through the Green Defence initiative, NATO is transforming its logistics to become more resilient and less dependent on vulnerable supply chains. This program incentivises the development of hybrid electric vehicles and portable micro grids for forward operating bases, which significantly reduces the logistical footprint and the need for dangerous fuel convoys. According to the NATO Energy Security Centre of Excellence, these green technologies are not just for sustainability they provide a tactical advantage by allowing for silent watch capabilities and reducing the thermal signature of military assets. By 2026, the Alliance's goal is to lead the way in military energy efficiency, turning the necessity of decarbonization into a strategic force multiplier that enhances operational autonomy.

NATO plays a vital role in securing Critical Undersea Infrastructure (CUI) and the supply chains of the future. The Alliance has intensified its naval presence in maritime choke points and implemented the Baltic Sentry initiative to protect the thousands of miles of undersea pipelines and data cables that are targets of modern hybrid warfare[48]. Simultaneously, NATO is addressing the monopoly risk[49] of Critical Raw Materials (CRMs) through a strategy of friend shoring and the 1.5% GDP resilience target set in 2025. By ensuring that the minerals needed for high tech sensors and green energy systems are sourced from reliable partners, NATO protects the Alliance from energy blackmail and ensures that its industrial base remains secure against economic coercion.

[48]https://www.nato.int/en/news-and-events/articles/news/2025/12/10/the-nato-north-atlantic-council-discusses-energy-security
[49] https://avenuemail.in/sco-summit-the-end-of-nato-eu-us-monopoly/

7. Current Frameworks and Initiatives

NATO's current approach is anchored by the Climate Change and Security Action Plan, which was significantly updated following the 2025 Hague Summit to transition from awareness to active operationalisation. This framework is built upon four pillars: increasing strategic awareness, advancing adaptation, contributing to mitigation, and enhancing international outreach. By 2026, the Alliance will have integrated climate informed risk assessments into its Defence Planning Process (NDPP), making it a requirement for member nations to demonstrate that their new military assets, such as deep sea ports and Arctic capable vessels, can function in a world of rising sea levels and melting permafrost. This is supported by the Climate Change and Security Centre of Excellence (CCASCOE) in Montreal, which acts as a global hub for climate intelligence, providing commanders with AI driven models to predict how extreme weather will impact troop mobility and mission success[50].

In tandem with climate adaptation, NATO's Energy Security Centre of Excellence (ENSEC COE) in Vilnius has spearheaded the Operational Energy Concept, a 2026 initiative aimed at ensuring that the transition to green energy does not compromise battlefield power. A key component of this is the enforcement of STANAG 4015, an updated standardisation agreement that ensures plug-and-play compatibility for the next generation of tactical batteries and charging interfaces across all 32 member nations. This framework is tested annually through exercises like Coherent Resilience, where Allied forces simulate hybrid attacks on energy grids and practice rerouting power using mobile, hydrogen based micro grids. By standardising

[50] https://ccascoe.org/wp-content/uploads/2025/04/Advancing-Climate-Security-Together.pdf

the fuel of the future, NATO ensures that a multinational force can remain fueled and functional even when traditional supply lines are cut by an adversary[51].

Furthermore, the Defence Innovation Accelerator for the North Atlantic (DIANA) has launched its 2026 Challenge Programme, specifically targeting dual use technologies that solve the energy resilience puzzle[52]. This initiative provides funding and mentorship to startups developing advanced energy storage, such as solid state batteries and synthetic carbon neutral fuels, which are essential for long endurance drone missions and silent running land vehicles. By 2026, DIANA backed innovations are being integrated into the NATO Innovation Fund, ensuring that the Alliance maintains a technological edge by owning the patents and supply chains for the very systems that will power the Green Defence of the 2030s. This proactive investment strategy ensures that NATO is not just reacting to the energy transition, but actively shaping the technological landscape to favour Allied security.

[51] https://www.act.nato.int/article/ensec-coe-2025/
[52]https://www.diana.nato.int/resources/site1/general/challenges/docs/2026-challenge-programme-cfp.pdf

8. Introduction to the Agenda Item II: The Overdosing of Maritime Operations in the Mediterranean Sea

NATO’s maritime operations in the Mediterranean are formally aimed at crisis response within maritime security. The continuous deployment of Standing Naval Forces and the increasing numbers of operations such as Operation Sea Guardian reflect the alliance's commitment to stability although its contribution to an increasingly complex operational environment.

NATO's Standing Naval Forces (SNF) provide the Alliance with a continuous, credible and agile maritime capability that can be rapidly deployed in times of crisis or tension. The Standing Naval Forces (SNF) are a core maritime capability of the Alliance and a centrepiece of its maritime posture. Under NATO operational control, they provide the Alliance with a continuous, credible and agile maritime capability that can be rapidly deployed in times of crisis or tension. The SNF are a multinational deterrent force that can respond rapidly to defend against any potential adversary, and contribute to crisis management, security cooperation with partners and maritime security. They carry out a programme of scheduled exercises, manoeuvres and port visits. They also conduct joint training exercises with NATO partners to enhance interoperability.[53]

In this regard, operations such as Operation Sea Guardian represent NATO's maritime activities in the Mediterranean Sea.

[53] https://www.nato.int/en/what-we-do/operations-and-missions/natos-maritime-activities

Operation Sea Guardian (OSG) maintains a safe and secure maritime environment in the Mediterranean Sea through three main tasks: maritime security capacity-building, situational awareness and counter-terrorism. The operation was launched in November 2016 as the successor to Operation Active Endeavour. Allies and partners can flexibly contribute to Operation Sea Guardian in different ways: through "direct support" by placing assets under NATO operational command, and "associated support" with assets that remain under national command. Operation Sea Guardian is under the operational command of Allied Maritime Command in Northwood, United Kingdom, which serves as the Alliance's hub for maritime security information sharing. Every year, Operation Sea Guardian conducts five to six focused operations in specific areas of interest in the Mediterranean. These operations use sea, air, sub-sea and other assets to gather, develop and maintain an accurate picture of daily activity in different parts of the Mediterranean Sea.[54]

In this context, most focused operations conducted under Operation Sea Guardian also include port visits to non-NATO countries. As part of Operation Sea Guardian, NATO cooperates with partner countries and other international organisations. For example, Australia contributed to Operation Sea Guardian in 2022 with a maritime patrol aircraft flight.[55]

Beneath the Operation Sea Guardian, Operation Active Endeavour is a highly important example of the “overdosing” and “crisis” scenario in maritime operations in the Mediterranean sea.

Operation Active Endeavour (OAE) is the only Article 5 operation on anti-terrorism that NATO has ever had. It was initiated in support of the United States

[54] https://www.nato.int/en/what-we-do/operations-and-missions/natos-maritime-activities
[55] https://www.nato.int/en/what-we-do/operations-and-missions/operation-sea-guardian

immediately after 9/11. It aimed to demonstrate NATO's solidarity and resolve in the fight against terrorism and help deter and disrupt terrorist activity in the Mediterranean. NATO forces hailed over 128,000 merchant vessels and boarded some 172 suspect ships. By conducting these maritime operations against terrorist activity, NATO's presence in these waters benefited all shipping travelling through the Straits of Gibraltar by improving perceptions of security. NATO helped to keep seas safe, protect shipping and control suspect vessels. Moreover, this operation also enabled NATO to strengthen its relations with partner countries, especially those participating in the Alliance's Mediterranean Dialogue. Keeping the Mediterranean's busy trade routes open and safe is critical to NATO's security. In terms of energy alone, some 65 per cent of the oil and natural gas consumed in Western Europe passes through the Mediterranean each year, with major pipelines connecting Libya to Italy and Morocco to Spain. For this reason, NATO ships systematically carried out preparatory route surveys in "choke" points as well as in important passages and harbours throughout the Mediterranean. Tracking and controlling suspect vessels is also an important subject in the security of the boardings.[56]

[56] https://www.nato.int/en/what-we-do/operations-and-missions/operation-active-endeavour-2001-2016

9. The Strategic Importance of the Mediterranean Sea for NATO

Through the Mediterranean Dialogue, NATO fosters political dialogue and practical cooperation with its regional partners. The initiative supports partners in developing defence capabilities, enhancing interoperability with Allied forces, and strengthening national security and defence institutions.[57]

Built on principles of non-discrimination, self-differentiation, mutual engagement, and complementarity with other regional efforts, the Dialogue remains a cornerstone of NATO's partnership approach in the Mediterranean.[58] Many crises that have occurred around the Mediterranean, possibly affecting NATO in a way. The region is in the immense part of NATO's area of security interest although it is clearly no longer the "Southern Flank". One of the reasons is terrorism and it's not a specific Mediterranean phenomenon. Nor is it confined to any particular religion. But the Mediterranean region, because of its many unresolved political, social and religious questions, is particularly prone to this menace. And without a coherent strategy to combat terrorism, neither the NATO Allies nor their Mediterranean neighbours can be truly secure. Another reason is proliferation. Several countries in the Mediterranean region are widely believed to be acquiring weapons of mass destruction. The example of Iraq, a signatory of the Non-Proliferation Treaty, demonstrates the difficulties of preventing a determined government from acquiring such weapons. There are also energy resources related reasons that carry an immense importance, such as energy security. 65 per cent of Europe's oil and natural gas imports pass through the Mediterranean. Some 3,000 ships cross the area every day. Major pipelines connect

[57] https://www.iemed.org/publication/nato-and-the-mediterranean/

[58] NATO, NATO and the Mediterranean – Moving from Dialogue Towards Partnership, transcript, NATO Headquarters, Brussels, 29 April 2002, https://www.nato.int/en/news-and-events/events/transcripts/2002/04/29/nato-and-the-mediterranean-moving-from-dialogue-towards-partnership

Libya and Italy, and Morocco and Spain. And major work is in progress to open up the energy reserves held in the Caucasus and Central Asia. Lastly, economic disparities and their close connection to migration are why the Mediterranean region matters to NATO.Since 1986 the per capita income in Middle East and North African countries has fallen by 2% annually. At the same time, the population growth rate in this region is 2.5% per year. The results are obvious: high unemployment rates, particularly among a politically frustrated younger generation, and, consequently, migration.[59]

NATO's continuous maritime presence in the Mediterranean stands as a tangible symbol of Allied unity and deterrence, ensuring that the vital sea lanes linking Europe, Africa and the Middle East remain safe, open and secure. "The Mediterranean is a lifeline for the economic prosperity of the Allied nations and for Euro-Atlantic stability," Iavazzo concluded. "The security of these waters and the security of Europe are inseparable - by protecting one, we protect both."[60]

Standing NATO Maritime Groups operate under the operational control of Allied Maritime Command (MARCOM), the central hub for maritime security coordination within the Alliance. Together, these forces provide a continuous and credible presence at sea, ensuring that NATO remains ready and able to respond to evolving maritime challenges.[61]

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[59] https://www.nato.int/en/news-and-events/events/transcripts/2002/04/29/nato-and-the-mediterranean-moving-from-dialogue-towards-partnership

[60] https://tridentnewspaper.com/snmg2-launches-new-operational-phase-in-the-mediterranean/

[61] https://www.nato.int/en/what-we-do/operations-and-missions/natos-maritime-activities

a. Geopolitical Significance of the Central, Eastern, and Western Mediterranean,

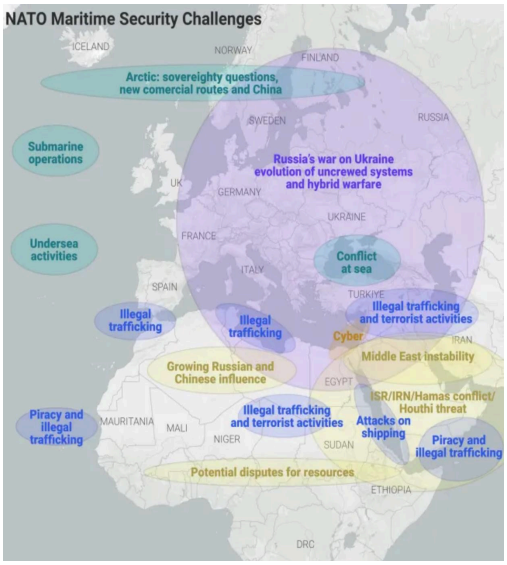
The Mediterranean is carrying crucial importance and concern for NATO with its external and internal challenges that come together and test both the relevance and unity of the alliance. It is also a place where NATO's current and future role is ambiguous and contested, both by its members and by regional actors. The Mediterranean holds an enormous amount of challenges for NATO. Ongoing conflicts in Afghanistan and Iraq, the war in Syria, the collapse of Libya, the risk of further state-breakings in the Middle East, North Africa and the Sahel due to economic, social and political inequality, and climate change are among the factors that have contributed to a situation of durable chaos. Under these conditions, NATO faces a set of diverse, interlinked challenges. The fight against terrorism remains a core concern. Beyond the ongoing NATO-led combat operation in Afghanistan and the debate on whether and how to reconsider this mission, the alliance will be increasingly challenged by the foreign fighters' phenomenon. Migration also continues to be perceived as a major challenge and has increasingly driven the interest of the allied European members in supporting NATO action in the Mediterranean.

Some of the most complex issues facing NATO in the Mediterranean are the issues related to security challenges and cohesion of the alliance itself. Identifying these challenges will require strategy and actions that go beyond traditional crisis management operations and capacity building. For NATO today, the question is how to divide its resources and attention between the simple but demanding problem of defence against an eventual Russian aggression in the East, versus a diffuse, but arguably more likely, set of threats in the South. Tackling this dilemma is further

complicated by the fact that NATO's role in the Mediterranean is challenged by individual alliance members, who question the comparative advantage of NATO action in the region against a backdrop of political and military engagement undertaken by its member states on a national and multilateral basis. NATO's role is also challenged by regional stakeholders. There is a general uncertainty about the alliance aims in the South, and a sensitivity to questions of national sovereignty.

NATO's Mediterranean partners' interest in working with the organization on shared security concerns will be a critical factor. Since 1994, NATO has been engaged in political dialogue and practical cooperation with Israel, Jordan, Egypt, Tunisia, Morocco, Mauritania, and Algeria (since 2000) under the Mediterranean Dialogue. This partnership has evolved significantly over more than two decades, especially in the field of practical cooperation, which has intensified and become more adapted to the needs of individual countries.[62]

b. Maritime Security in the Mediterranean,



Run under NATO Maritime Command (MARCOM) in Northwood, U.K., Operation Sea Guardian was launched in November 2016 as the successor to Active Endeavour. Both operations have helped deter terrorist activity in the Mediterranean Sea and secure one of the world's busiest trade routes while enhancing wider maritime situational awareness and security capacity.

[62] https://www.iemed.org/publication/nato-and-the-mediterranean/

Operation Sea Guardian is a non-Article 5 maritime security operation aimed at working with Mediterranean stakeholders to maintain maritime situational awareness, deter and counter terrorism and enhance capacity building. Some of the tasks include: supporting maritime situational awareness, upholding freedom of navigation, conducting interdiction tasks, maritime counter-terrorism, contributing to capacity building, countering proliferation of weapons of mass destruction and protecting critical infrastructure.

Operation Sea Guardian (OSG) is a standing Maritime Security Operation aiming to deter counter terrorism and mitigate the risk of other threats to maritime security in the Mediterranean. These efforts are operationalized in coordination with NATO Partners and other maritime security stakeholders. Focused Patrols embrace these efforts for specific periods throughout the year.[63]

Focused Operations (FOCOPS) utilises various types of assets deployed under NATO Operational Control (OPCON), to gather, develop and maintain an accurate picture of daily activity in different parts of the Mediterranean Sea. These assets are tasked to contribute to; Maritime Situational Awareness on a broad spectrum of threats, Regional Maritime Security Capacity Building of the Selected Regional Partners, and Deterrence on Terrorist and other transnational threatening illegal activities in different parts of the Area of Operations (Mediterranean Sea).

Lastly, Operation Sea Guardian performs three maritime security operation (MSO) tasks:

[63] https://www.nato.int/en/what-we-do/operations-and-missions/operation-sea-guardian

- Support Maritime Situational Awareness: the focus is on information sharing between Allies and with civilian agencies, to enhance the NATO Recognised Maritime Picture (RMP);

- Support Maritime Counter-terrorism: this involves the planning and conduction of a range of operations to deter, disrupt, defend and protect against maritime-based terrorist activities. Essentially, these operations aim to deny terrorists access to designated areas and contain threats through the use of force;

- Contribute to Maritime Security Capacity Building: NATO aims to contribute to the international community's efforts in developing maritime security with both military and non-military authorities.

If agreed by the North Atlantic Council, Operation Sea Guardian can perform four additional MSO tasks: Uphold Freedom of Navigation; Conduct Maritime Interdiction; Fight the Proliferation of Weapons of Mass Destruction and Protect Critical Infrastructure.[64]

[64] https://www.nato.int/en/what-we-do/operations-and-missions/operation-sea-guardian

10. Operational Overview of NATO's Maritime Activities

NATO's maritime activities are conducted under the Allied Maritime Command (MARCOM). Located in Northwood, United Kingdom, MARCOM is a multinational headquarters manned by over 400 officers, petty officers, and civilians from 25 NATO countries. MARCOM also includes representatives from Georgia, Japan, and Israel as NATO partner nations.[65]

The maritime activities conducted by MARCOM, can be exemplified by; routine patrols, focused operations (FOCOPS), port visits and information sharing supported by air, surface, and sub-surface assets contributed by Allied nations.Together these mechanisms help NATO to maintain continuous maritime presence within security capabilities in the Mediterranean sea.

a. Security Gaps in Maritime Infrastructure

Maritime security and prosperity are fundamental to global stability, economic resilience, and the well-being of all nations, and the conservation and sustainable use of ocean ecosystems is essential to all life on Earth. Over 80% of global trade is transported by sea, and 97% of global data flows through submarine cables. Disruptions to maritime routes pose a direct threat to international food security, critical minerals, energy security, global supply chains, and economic stability.[66]

The NATO Alliance Maritime Strategy from 2011 identifies maritime security as a core pillar but needs updating to address emerging threats, especially cyber threats to maritime infrastructure. It lacks formal frameworks for engaging commercial port

[65] https://navyleaders.com/news/nato-exercise-enhances-maritime-security-in-mediterranean/

[66] https://www.eeas.europa.eu/eeas/g7-declaration-foreign-ministers-maritime-security-and-prosperity_en?utm_source=chatgpt.com

operators, who play a critical role in maritime security and NATO logistics. The blurring of civilian and military roles in ports complicates NATO's civil-military coordination.

Furthermore, hybrid warfare combining cyber and physical attacks reveals gaps in the current strategy, which predates sophisticated state-linked cyber campaigns against allied ports. The strategy must expand beyond traditional threats to cover the full spectrum of modern risks. Ports, as critical infrastructure, depend heavily on energy systems, making them vulnerable to cyberattacks that can disrupt both military and civilian logistics.[67]

Port cybersecurity requires a multi-layered approach, including resilience of supporting energy infrastructure, and demands dedicated strategic focus within NATO's maritime posture.

b. Allied Maritime Command (MARCOM)

NATO's maritime operational activities in the Mediterranean are characterised by routine patrols, port visits, and coordinated joint patrols conducted under Allied Maritime Command.

Standing NATO Maritime Groups operate under the operational control of Allied Maritime Command (MARCOM), the central hub for maritime security coordination within the Alliance. Together, these forces provide a continuous and credible presence at sea, ensuring that NATO remains ready and able to respond to evolving maritime challenges.

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67 https://infomarine.net/en/technology/35-cyber-security/33843-new-nato-brief-highlights-evolving-cyber-threats-to-ports.html

MARCOM Maritime Partnership NATO seeks to contribute to the efforts of the international community in projecting stability and strengthening security outside NATO territory. To do so, the Alliance has developed a network of partnerships with non-member countries from the Euro-Atlantic area, the Mediterranean and the Gulf region, and other partners across the globe. NATO pursues dialogue and practical cooperation with these nations on a wide range of political and security-related issues. NATO's partnerships are beneficial to all involved and contribute to improved security for the broader international community. MARCOM assists Partner Nations in developing maritime capacity building through training, evaluation, and certification of naval units for integration into NATO operations. MARCOM builds on these initiatives through key leader engagements, port visits by NATO naval forces, information sharing, and continuous dialogue.[68]

[68] https://mc.nato.int/resources/site1/General/at-a-glance/2503120%20Booklet%20MARCOM%20At%20a%20Glance.pdf

11. Public Diplomacy and Transparency in Maritime Operations

Alliance maritime power in conjunction with effects provided by other domains, ensures freedom of action to deter and defend. It also supports engagement with NATO partners. Maritime forces, with their characteristics, such as reach, power projection, poise, versatility and readiness, have scalable utility across peacetime, crisis and conflict.

Credible maritime power is integral to the Alliance's commitment to ensure our collective defence against all threats, from all directions, across all domains. By increasing maritime readiness, situational awareness, posture and mass, while enhancing existing capabilities with emerging technologies, NATO will have the maritime power required to assure maritime access, uphold freedom of navigation, safeguard vital sea lines of communications, protect critical infrastructure and prevail in conflict.

The Alliance's two main threats are Russia and terrorism. The threats faced are global and interconnected. The broader security environment is defined by strategic competition, pervasive instability and recurrent shocks. The Alliance, its populations and its forces are increasingly challenged and threatened by potential adversaries as they compete across multiple domains, both covertly and overtly, to shape the operating environment to their own advantage and to achieve their strategic objectives.

In the maritime domain, Russia retains significant capability and is upgrading its maritime forces and introducing new technologies, including underwater reconnaissance and underwater warfare. Russia is modernizing its nuclear forces and expanding its novel and disruptive dual-capable delivery systems, while employing coercive nuclear signalling.

Terrorism, in all its forms, is the most direct threat to the security of the citizens and to international peace and prosperity. The world's oceans and seas remain an accessible environment for terrorist and transnational criminal activities including piracy, activities against shipping and critical maritime infrastructure, the exploitation and instrumentalization of irregular migration, and the illegal trafficking of humans, weapons and narcotics.[69]

Beneath the Alliance's current state, the transparency in them and the other operations is covering a wide area and carrying the most importance. NATO's Communications and Information Agency runs projects about this matter surrounding maritime operations in public diplomacy.[70]

Dynamic Messenger is an operational experimentation exercise, facilitating an operational evaluation environment to test and evaluate new maritime capabilities, supporting the delivery of innovative technology for Allied navies to sustain NATO's operational advantage. REPMUS is a Portuguese-led experimentation exercise that focuses on maritime unmanned systems experimentation, capability development and interoperability. By combining the REPMUS series with the operational environment of Dynamic Messenger, NATO, Allies and Partners have a unique opportunity to explore cutting-edge developments in sea robotics.

The NATO Communications and Information Agency (NCIA) plays an integral role in the planning and execution of Dynamic Messenger, ensuring systems are interconnected and integrated to provide real-time situational awareness, above and

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[69] https://www.nato.int/en/about-us/official-texts-and-resources/official-texts/2025/10/29/alliance-maritime-strategy

[70] NCIA, "NCIA Strengthens NATO's Maritime Operational Advantage," NATO Communications and Information Agency, https://www.ncia.nato.int/newsroom/news/ncia-strengthens-natos-maritime-operational-advantage.

below water. NCIA's Air Command and Control (AirC2) Centre provides the Ship-Shore-Ship Buffer (SSSB) system, which receives, processes data from underwater unmanned vehicles to provide Allied Maritime Command (MARCOM), with a real-time tactical picture, enhancing situational awareness and decision-making.[71]

Allied Maritime Command (MARCOM) asked the NATO Communications and Information (NCI) Agency to find a way to make it easier for the Alliance's maritime assets to exchange unclassified information with outside organizations on a 24/7 basis. The Agency delivered in April a public cloud based solution to allow NATO and non-NATO organizations and vessels to share maritime awareness information on an easily-accessible platform.

"The project is a perfect example of how the NCI Agency was able to quickly tailor a commercial off-the-shelf solution towards an operational command such as the Allied Maritime Command, and effectively improve our ability to enhance maritime situational awareness overnight," said Christopher Smith, a Navy Signals Engineer in MARCOM.[72]

[71] https://www.ncia.nato.int/newsroom/news/ncia-strengthens-natos-maritime-operational-advantage
[72] NCIA, “New Project Helps NATO Talk With Non-NATO Organizations at Sea,” NATO Communications and Information Agency, https://www.ncia.nato.int/about-us/newsroom/new-project-helps-nato-talk-with-nonnato-organizations-at-sea.

12. International Frameworks and Treaties

International frameworks and treaties form the backbone of NATO's approach to maritime governance, yet the Alliance's increasing reliance on maritime operations in the Mediterranean must be examined within this strategic context. The Alliance Maritime Strategy of 2012 remains the overarching framework for NATO maritime activities and covers the full spectrum of NATO's core tasks as defined by the Strategic Concept. It has been complemented by the Concept for Maritime Security Operations Tasks, also agreed in 2012. In 2014, Allies decided to operationalise the Alliance Maritime Strategy and the Concept covering six maritime work strands, one of which is Enhancing NATO-EU Coordination, Cooperation and Complementary in the Maritime Domain. In addition to regularly reviewing NATO-EU operational cooperation, informal exchanges between NATO and EU staffs take place regularly to work together on a common set of maritime actions, including reciprocal briefings on maritime issues among the two organizations, lessons learned from operations, and ways to enhance a better understanding on both organizations' respective maritime activities.

EU-NATO cooperation in the maritime domain represents a key element of the two organisations' endeavour. The long-standing cooperation between EU and NATO was reinforced with the 2016 Joint Declaration by the President of the European Council, the President of the European Commission and the Secretary General of the North Atlantic Treaty Organization. The EU revised the Action Plan implementing the EU Maritime Security Strategy in June 2018 and it calls for stepping up EU and NATO cooperation and joint activities through seven actions. It refers to NATO as a natural partner for cooperation in a number of maritime security-related activities. The revised Action Plan also contributes to the implementation of the EU Global Strategy and to the

role of the EU as a global maritime security provider. Examples of operational cooperation between the EU and NATO include: the joint effort on the fight against piracy in the Indian Ocean; cooperation at tactical and operational level in the Mediterranean sea; the joint organisation of a seminar on lessons learnt on the fight against piracy, and the EU cooperation with NATO accredited maritime Centres of Excellence and Training Centres.[73]

Within examining this strategy, the treaties upon the maritime operations in the Mediterranean will provide a distinct legal and institutional basis for evaluating NATO's actions.

- The United Nations Convention on the Law of the Sea

The United Nations (UN) Convention on the Law of the Sea (UNCLOS) established a comprehensive international legal framework to govern activities related to the global oceans. UNCLOS often is referred to as the *constitution of the oceans*. The convention was agreed to in 1982 and entered into force in 1994, after the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea.[74] It lays down a comprehensive regime of law and order for the world's oceans, establishing rules for the allocation of States' rights and jurisdiction in maritime spaces, the peaceful use of the oceans and the management of their resources. The Convention also provides a framework for the further development of specific areas of the law of the sea, including through the work of competent international organizations such as IMO.[75]

- NATO Alliance Maritime Strategy (2011/2012)

[73] https://www.eeas.europa.eu/sites/default/files/factsheet_-_eu-nato_maritime_cooperation.pdf
[74] https://www.congress.gov/crs-product/R47744
[75] https://www.imo.org/en/ourwork/legal/pages/unitednationsconventiononthelawofthesea.aspx

The strategy defines how maritime forces contribute to NATO's core tasks, including deterrence and defence, crisis management, cooperative security, and maritime security operations (e.g., counter-piracy, protection of sea lines of communication) and how they integrate with joint operations.[76]

- Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention, 1988)

The convention is based upon the 1971 Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation and the Convention for the Suppression of Unlawful Seizure of Aircraft and criminalises similar behaviour in the context of maritime navigation.

It has occurred with the concern about unlawful acts which threaten the safety of ships and the security of their passengers and crews grew during the 1980s, with reports of crews being kidnapped, ships being hi-jacked, deliberately run aground or blown up by explosives. Passengers were threatened and sometimes killed.

In November 1985 the problem was considered by IMO's 14th Assembly and a proposal by the United States that measures to prevent such unlawful acts should be developed by IMO was supported.[77]

[76] https://michaelbommarito.com/wiki/nato/documents/2011-alliance-maritime-strategy/
[77] https://www.imo.org/en/about/conventions/pages/sua-treaties.aspx

13. Questions to be Addressed

- How can NATO secure the supply chains of Critical Raw Materials like lithium and cobalt, currently dominated by non-Allied nations, through the "friend-shoring" strategy?
- How can the Alliance maintain military operational readiness and deterrence while transitioning from fossil fuels to renewable energy under the Green Defence initiative?
- In what ways can Critical Undersea Infrastructure, such as data cables and pipelines, be more effectively protected against hybrid warfare using autonomous systems like the Baltic Sentry initiative?
- What strategic posture should NATO adopt to manage the increasing geopolitical competition with Russia and China in the Arctic as melting ice reveals new trade routes and resources?
- How can the Alliance ensure "plug-and-play" logistics compatibility (STANAGs) for hydrogen and synthetic fuels across member states' armed forces?
- What preventive mechanisms should the Euro-Atlantic Disaster Response Coordination Centre (EADRCC) develop to address security risks arising from climate-induced mass migration on Europe's southern flank?
- How should the Science for Peace and Security (SPS) Programme be utilized to prevent resource scarcity, such as water shortages in the Sahel, from escalating into armed conflict?

- How should the density of maritime operations in the Mediterranean be coordinated to optimize resources and avoid the "overdosing" of overlapping missions?
- How must the counter-terrorism capabilities of Operation Sea Guardian be updated to address evolving asymmetric threats and the foreign fighter phenomenon?
- How can the Alliance best protect critical maritime "choke points" and energy transit lines in the Mediterranean, through which 65% of Europe's oil and gas pass?
- What cyber defense standards should NATO establish to protect hybrid civil-military port infrastructures from increasing state-linked cyberattacks?
- What deterrence strategy is required to counter Russia's modernizing naval presence and increased submarine activity in the Mediterranean Sea?
- How can cooperation between NATO and the EU regarding maritime security and the migration crisis be deepened without creating operational duplication?
- How can the integration of unmanned systems into maritime situational awareness be enhanced through operational experimentation exercises like Dynamic Messenger?

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