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# The Impact of the War Against Ukraine on Russia's Arctic Posture:

## Hard Power on Vulnerable Ice


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# Contents

# Executive Summary

- Russian authorities define the Arctic in absolute terms, with the willingness to achieve complete control over the Arctic Zone of the Russian Federation (AZRF) for national security purposes as well as to ensure the protection of the Northern Sea Route (NSR).
- Moscow fundamentally understands the Arctic as a strategic continuum from the European High North, North Pole approaches in the central Arctic, and the Pacific Arctic. Within that space, Russia must deal with the growing impact of climate change, mostly from a security point of view in terms of increased foreign access and presence.
- Russia's Arctic military posture and force projection are informed by wider geopolitical developments, and notably competition with Western countries and NATO, and especially in the context of Finland and Sweden joining the Alliance.
- The full-scale invasion of Ukraine in February 2022 has reinforced, if not vindicated, Moscow's strategic objectives in the Arctic. The war reinforced existing military priorities, especially across regional chokepoints.
- Military priorities relate to (1) imposing cost on foreign military access to the circumpolar region (ambitions of control); (2) extending interdiction capabilities beyond the AZRF and removing tension away from the Russian Arctic (ambitions of denial); and (3) protecting the NSR and Russia's contested interpretation of 'internal waters'.
- The consequences of the war against Ukraine, however, have altered Russia's sense of Arctic superiority. Moscow is feeling increasingly insecure in a region it formerly enjoyed control and security.
- A sense of military and geographic vulnerability is increasingly driving Russian self-perceptions about the Arctic, and ultimately altering military posture. The impact of climate change is also endangering Russia's sense of regional sovereignty. These factors will inform how Moscow projects its presence and military force in the AZRF moving forward.
- Another consequence of Russia's war is the geographic extension of the frontline with NATO, the United States, and their allies across the Arctic. Finland and Sweden joining NATO is putting more emphasis on the protection of the Russian Arctic.
- Moscow is planning for all contingencies in the Arctic, including war operations. Russia's approach to the Arctic is fundamentally 'double dual': infrastructure and capabilities are both dual-use (interchangeably used for civilian and military purposes and missions) and dual-purpose (blurring the lines between offensive intent and defensive purposes).
- Since 2022, Russia has been reorganizing Arctic-related command structures, reassessing military capabilities (especially in the European High North) and rethinking its military presence, especially in the context of wider wartime recapitalization.

- The Kremlin might struggle to recreate a sense of coherence for Arctic operations in the wake of the 2024 command structure reform, further strengthening Moscow's increased sense of regional vulnerability—especially if there are issues in achieving a coherent C2 structure throughout the different combatant commands and units spread across the AZRF.
- The war against Ukraine has decimated ground forces located in the European Arctic, thereby increasing Russia's growing sense of regional inferiority in conventional terms. Yet Arctic air, naval, and nuclear capabilities have been left largely untouched by the war. Moscow still possesses a vast array of functioning capabilities in these domains, and its force projection has not been drastically altered.
- There is little incentive for Russia to create tension in the Arctic *per se*, let alone escalate with NATO close to the AZRF. The likelihood of conflict *about* the Arctic, therefore, remains low even today.
- However, Moscow has a clear interest in waging a form of low intensity warfare against circumpolar NATO allies, especially grey zone operations and sub-threshold destabilization. These activities relate to electronic warfare (GNSS/GPS jamming), risk-taking and brinkmanship-prone behavior in and around the AZRF, (for instance the weaponization of Notice of Air Missions), and nuclear saber-rattling.
- A relatively 'new' trend in sub-threshold activities relates to seabed warfare against Arctic critical undersea infrastructure (CUI), and notably fiber optic data and communication cables.
- The current situation is compounded by Russia's obsession for control over the AZRF and its contested interpretation of NSR's domestic status. Moscow's fears seem to have crystallized in the belief that foreign forces will try to conduct a freedom of navigation operation (FONOP) through the NSR in the near future.
- The 'NATO 7' countries will have to accept, like elsewhere, a revanchist and potentially escalatory Kremlin in the Arctic region. The absence of cooperation with Russia and the weakening of the Arctic Council are increasing the risk of miscalculation and potential escalation caused by accidents, incidents, and tactical human errors in a region already deeply affected by climate insecurity.
- Innovative ways of approaching deterrence against Russia in the Arctic are therefore necessary to ensure the 'NATO 7' prevails. Circumpolar nations must learn what 'Arctic deterrence' looks like—namely what specifically deters Russia in this particular regional setting.

# Introduction

For the past two decades, Russia has been reappropriating its Arctic territories (Arctic Zone of the Russian Federation, hereafter AZRF). Moscow's strategic intentions regarding the region are clearly defined,[1] further to Russia's willingness to achieve absolute control over the AZRF. Arctic territories and waterways—primarily the Northern Sea Route (hereafter NSR)—are key to Russian economic development as well as for symbolic power projection.[2]

Considering time and geography across the AZRF, Russia fundamentally understands the region as a strategic continuum from the European High North to the Pacific Arctic, with the central Arctic and North Pole approaches in the middle.[3] Within that space, Russia must deal with the growing impact of climate change, mostly from a security point of view in terms of increased human access.[4]

Russia's military posture and regional force projection are equally informed by wider geopolitical developments, and notably competition with Western countries and NATO. Russia is no longer the '*confused Arctic superpower*'[5] that it might have been in the early 21st century: the Kremlin has been militarizing the AZRF to address perceived threats to national security and foreign encroachments.

In this, the full-scale invasion of Ukraine in February 2022 has not fundamentally altered Moscow's approach to Arctic security and the same strategic objectives remain. If anything, the Kremlin's obsession for control over the AZRF has been vindicated by Finland and Sweden's accession to NATO.

However, Finland's and Sweden's accession to NATO is making Russia feel more vulnerable in a region where it formerly perceived itself to *control*. The impact of climate change is also potentially endangering Russia's sense of regional *sovereignty*. A sense of military and geographic vulnerability is therefore driving Moscow's perceptions about the Arctic, and ultimately altering its military posture.

In the context of the war against Ukraine, the Kremlin has been adapting Arctic-related command structures, reassessing military capabilities (especially in the European High North), and rethinking its military presence. The situation is compounded by the fact that Moscow has an incentive to wage a form of low intensity warfare against circumpolar NATO allies, especially grey zone operations and sub-threshold destabilization.

As circumpolar cooperation remains in limbo, understanding recent evolutions of Russia's military posture in the Arctic in the context of the war against Ukraine is paramount to shaping better circumpolar policy.

# Chapter 1: Russia's Arctic posture, threat perception, and strategic objectives

The full-scale invasion of Ukraine in 2022 did not lead to a strategic reassessment of Russia's military posture and overall approach to Arctic security. The main objectives of protecting the nuclear deterrent, the AZRF and the NSR remain. However, the consequences of the war—and notably Finland and Sweden joining NATO—have made the Kremlin increasingly insecure in the Arctic.

A sense of conventional and geographic vulnerability is now driving the future of Russian security policy towards the Arctic region and impacting how Moscow will project its presence and military force in the AZRF moving forward.

## 1: Russia's evolving Arctic posture

### 1.1—A vindicated vision of circumpolar security

The consequences of the full-scale invasion of Ukraine are quite unequivocal for the Kremlin: from Moscow's self-inflicted isolation from Arctic cooperative structures to Finland and Sweden's NATO accession, and the growing importance of the 'Northern dimension' in Western military thinking.[6] Before 2022, the main threat perception of the Russian leadership in the Arctic related to the fear of 'encirclement' by the Atlantic Alliance and the subsequent increase in Western military presence closer to Russian territory.[7]

If anything, Russia's regional threat perception and military posture has been largely vindicated. NATO's enlargement to two new allies, sitting across both the Arctic and the Baltic Sea region, represents a *fait accompli* for the Kremlin. By blaming Western countries, Moscow is validating the self-mythology that NATO's borders are aggressively expanding closer to the Arctic Zone of the Russian Federation (AZRF)—which then requires a strong Russian response.

Official Russian statements and media propaganda pieces have been reinforcing this narrative since the 2022 full-scale invasion of Ukraine. Statements are feeding the narrative that NATO is '*rushing*' to the Arctic,[8] that the Alliance is responsible for forcing a militarization of the region,[9] or that there is a '*new Cold War*' in the region because of Western policy.[10]

This threat perception, however, is not entirely Arctic-specific but reflects wider geopolitical tension observed between Russia and NATO in other theaters and the existing security dilemma. Russia's posture reflects more than ever the willingness to defend its Arctic borders and maritime approaches as well as ensure full perimeter control and strong sovereignty enforcement.

This situation is compounded by the fact that the Russian leadership views the Arctic as a theater-wide, strategic continuum with a common operating picture—from the North Atlantic and the High North, to North Pole approaches in the Central Arctic, to the North Pacific, the Bering Strait and further south towards the Sea of Okhotsk.[11]

Furthermore, Finland and Sweden joining the Atlantic Alliance is feeding the logic in Moscow that the non-Russian Arctic is now 'NATO territory'. This logic is strengthening the '*NATO 7 vs. Russia*' narrative[12]—in other words,

'Russia against the rest'. The policy corollary is that strategic objectives are also reinforced: more than ever, the Kremlin is not excluding the possibility of a conflict in the region and is therefore planning for all contingencies, including open military confrontation.

In this context, the Arctic remains a strategic priority in the Kremlin. Despite lower policy attention in Moscow because of the war against Ukraine, Arctic affairs are still considered a paramount feature of Russian internal and foreign policy.[13] This has been transcribed in recent strategic documents outlining Russia's Arctic priorities for the protection of the national interest.

Russia published an updated version of its Maritime Doctrine in July 2022. The protection of the AZRF and the NSR feature prominently, as they are referred to as *'vital areas of national interest'*.[14] According to the document, the Arctic is considered the highest priority region from a naval perspective, behind the Pacific and the Atlantic areas.[15] The Doctrine is also denouncing NATO's regional presence and activities close to the AZRF, while offering to increase Russia's own military presence as a countermeasure.[16]

In February 2023, Russia amended its Arctic strategy, removing all mention of multilateral engagement through the Arctic Council.[17] The document outlines the need for Russia to 'prioritize' national interests and self-reliance. It does, however, leave the room open for bilateral cooperation, but only in limited sectors with as science, cross-border issues, and for the delimitation of the continental shelf within the U.N. Commission on the Limits of the Continental Shelf (UNCLCS).[18]

## 1.2—From relative strength to Arctic vulnerability

The consequences of the war against Ukraine have fundamentally altered Russia's self-perception in the Arctic. From a relative position of regional strength and assertive force posture that the Kremlin displayed since the mid-2000s,[19] military and strategic superiority has now been replaced by a sense of vulnerability.[20]

Vulnerability is both strategic—with the Finnish and Swedish accessions to NATO and subsequent increase in regional military presence and activity—and military, compounded by the impact of climate change. Indeed, sea ice melting and year-round navigation in Arctic waters forces Russia to deploy more presence and capabilities—not least in the context of the NSR.

Moscow fears that a more accessible AZRF will inevitably bring more surface and subsurface activity from NATO and its allies in the European Arctic and above North Pole approaches. Furthermore, receding ice makes strategic submarines more detectable, therefore "*threatening Russia's ability to retaliate a nuclear first strike*".[21]

There might be a point where the Kremlin will no longer have the ability to exercise full presence in the Arctic and have to prioritize certain missions, therefore creating a deterrence gap against NATO.

As Moscow feels more vulnerable in the Arctic, Russia is also becoming more confrontational in its approach. The Kremlin is using 'NATO's expansion' and the Alliance's growing interest in Arctic affairs as a means to 'defend' itself against Western presence closer to the AZRF and the NSR, as well as protect national interests

against foreign encroachment.[22] Russia is also looking closely at the 2022 US National Strategy for the Arctic Region (NSAR) and the 2023 Implementation Plan: it is argued that Russia is threatened by US activities going *'beyond non-miliary security'*.[23]

This is compounded by Russia's self-made removal from regional cooperative structures—especially the Arctic Council in March 2022.[24] Russia also withdrew from the Barents Euro-Arctic Council (BAEC) in September 2023[25] while the updated Foreign Policy Concept of March 2023 removed all mention to multilateral Arctic cooperation formats.[26]

Overall, Russia's internal and external discourse around the Arctic is hardening and increasingly securitized.[27] In Moscow's eyes, the Arctic is therefore seen as a territory of competition and military tension as well as '*growing conflict potential*'.[28] Further to this, it is expected that the Kremlin will respond to NATO's enlargement in the coming months in terms of conventional power demonstration, sub-threshold activities, and potentially escalatory behavior.[29] Like in other theaters, Russia's aggressive rhetoric and posturing is part of an established playbook serving both internal propaganda and scaremongering against NATO and Western allies.

Another consequence of Russia's war is the geographic extension of the frontline with NATO, the United States, and its allies across the Arctic and the AZRF.[30] As the Kremlin understands circumpolar geography as an interconnected strategic continuum, Finland and Sweden joining the Alliance is putting more emphasis on the protection of the Russian Arctic—further to risks of horizontal escalation to and from the North Atlantic and the Baltic Sea area.

Indeed, NATO's direct borders with Russia have increased in size with Sweden and Finland's accession to the Alliance, therefore forcing Russia to adapt its posture and capabilities across all Arctic sectors and geographical chokepoints. NATO's presence also threatens Russia's ground line of communication between St Petersburg and naval infrastructure in the Baltic Sea and on the Kola Peninsula.[31]

In the air, joint Nordic (Norwegian, Finnish, and Swedish) air defense and patrols will also increase Russia's sense of vulnerability across the Baltic Sea theater as well as across the Barents Sea and the Kola Peninsula. At sea, Russian submarine operations will also be more vulnerable.

## 2: Russia's Arctic strategic priorities

The consequences of the war against Ukraine have not led to a strategic reassessment in Moscow regarding its Arctic posture. Conversely, the war reinforced existing military priorities, and especially across regional chokepoints. In military terms, strategic priorities pertain to:[32]

1. Ambitions of control: imposing cost on foreign military access to the circumpolar region through systematic disruption and contestation,
2. Ambitions of denial: extending interdiction capabilities beyond the AZRF and removing tension away from the Russian Arctic,
3. Protecting the Northern Sea Route and Russia's contested interpretation of 'internal waters',

### 2.1—Ambitions of control: imposing cost on foreign military access

In the European Arctic, Moscow's primary concern is and remains the safety and survivability of the sea-based nuclear deterrent deployed on the Kola peninsula. Local military infrastructure hosts about two-thirds of the second-strike nuclear capabilities, alongside the headquarters of the Northern Fleet. On top of the fleet of ballistic-missile submarines, Russia aims to protect the air-based nuclear deterrent that can be deployed in Arctic bases, the Plesetsk Cosmodrome in the Arkhangelsk Oblast, as well as the critical energy infrastructure located on the Yamal peninsula.

The Kremlin therefore seeks absolute control over the access and activity of foreign military assets across all domains—especially sea control—as well as to ensure uncontested access for the Russian armed forces.[33] Control over the Kola peninsula and beyond is achieved through the *Bastion* defense concept, a Soviet-inherited strategy based on a multi-layered 'protective dome' of air defense, sea-denial, and coastal defense systems along critical chokepoints of the AZRF.[34]

Russia's multi-layered *Bastion* concept offers a wide range of Arctic-capable sea, air, and coastal defense capabilities.[35] It is complemented by a network of long-range domain awareness radars and ISR capabilities, electronic warfare assets aimed at degrading operations in a contested environment, and air superiority and patrol aircrafts deployed along regional bases.[36] Despite the war against Ukraine, the *Bastion* network remains largely in place and operational.

With a strong emphasis on sea and air denial, the *Bastion* effectively creates an interdiction perimeter, therefore imposing a high cost on foreign access and operation.[37] The extension of *Bastion* capabilities towards the Barents and Norwegian Seas aims to give Russia more defense in depth for the protection of the nuclear deterrent, the Northern Fleet, and other assets. The *Bastion* also protects a major access point to the NSR in the High North.[38] Finally, the *Bastion* network aims to remove military tension away from the Kola peninsula and from the AZRF in the European Arctic.

In the Pacific Arctic, at the other end of the NSR between the Chukchi and Bering Seas, Russia is increasingly projecting military strength on both sides of the Bering Strait. The Bering Strait represents the eastern gateway to the NSR. Towards the North Pacific, Russian access to the region is protected by military infrastructure on the

Kamchatka peninsula and the Sea of Okhotsk. The remainder of the sea-based nuclear deterrent is located with the Pacific Fleet and based in Vilyuchinsk on the Kamchatka Peninsula.

The Bering Strait represents a regional chokepoint that could be potentially threatened by Russian deployments.[39] Indeed, Moscow has never ratified the 1990 USSR–US Maritime Boundary Agreement, marking the border between the US and Russia.[40] If the Kremlin, for now, follows the Agreement and respects the delineation along the Baker–Shevardnadze line, there is no guarantee it might not contest its status in the future in terms of freedom of navigation across the Strait, shared maritime traffic, and regional governance.[41] Contestation would be a critical issue for the US in terms of national security in Alaska as well as for unhampered access across the North Pacific sea lines of communication.

The situation with the Bering Strait is further compounded by Russia's aggressive policy towards the Kuril Islands/Northern Territories as well as its willingness to increase defense in depth in the North Pacific against US theatre missile defense deployments.[42] By the Sea of Okhotsk and the Kamchatka peninsula, Russia has deployed a string of coastal and near-sea capabilities akin to the *Bastion* network on the other side of the AZRF.

However, Pacific deployments are in no way comparable with their European counterpart, nor are they creating an 'Okhotsk *Bastion*'. Like in the North Atlantic, Russia does not possess the ability to conduct SLOC interdiction operations in the region or to project ambitions of control and denial. Nevertheless, this Kuril-Chukchi defensive line[43] poses a threat to Japanese national security[44] and represents an issue for US assets in the North Pacific and Alaska. There is a worrying track record of repeated strategic bombers patrols over international waters in the Sea of Japan as well as near the western coast of Alaska.[45] These overflights are generally accompanied by a fighter escort.[46]

Finally, Russia's posture in the Pacific Arctic is somewhat strengthened by regional military activities with China. Beijing and Moscow are now regularly conducting joint aviation patrols and strategic bomber overflights over the Sea of Japan and the East China Sea, close to the Japanese Air Defense Identification Zone (ADIZ).[47] More worryingly, they are also organizing brazen air violations and airspace incursions, especially over Japan and South Korea.[48] The aim is to contest US presence and theater missile deployments as well as sovereignty over the disputed Kuril Islands/Northern Territories with Japan.[49]

## 2.2—Ambitions of denial: increasing defense in depth

Beyond ambitions of control over the AZRF and regional military infrastructure, the Kremlin seeks to project defense in depth beyond its territory by extending out-of-area capabilities in the European Arctic. Moscow aims to complicate, if not deny, direct access to its Arctic coastline by projecting a mix of long-range sea- and airspace-denial capabilities (notably standoff missile systems). It also aims to limit, if not deflect, conventional precision strikes from NATO.[50]

With Finland and Sweden joining NATO in mind, the intended objective is to remove tension and potential hostilities away from the AZRF by extending the *Bastion* concept beyond the Kola peninsula. The objective is to quickly establish perimeter control over the Peninsula and offer greater security for the deployment of strategic submarines and other Northern Fleet assets. In other words, Moscow likely discounts starting a conflict *in* the Arctic *per se*. It is, however, not excluding potential hostilities in an Arctic environment and planning for it.

Moscow's ambitions of control within the AZRF and out-of-area ambitions of denial across the North Atlantic theater are putting more pressure on the North Atlantic Sea Lines of Communication (SLOC). This situation would potentially leave US assets and NATO reinforcements at risk of operating in a contested environment to and from the North Atlantic and the Baltic Sea theater.

Russia's posture also potentially threatens regional chokepoints, especially the Greenland-Iceland-United Kingdom (GIUK) gap and the Greenland-Iceland-Norway (GIN) gap between the Svalbard archipelago, Bear Island (Bjørnøya), and mainland Norway.

Considered '*the border between Russian and NATO-dominated seas*',[51] these chokepoints are at risk of contestation by Russia's out-of-area capabilities. Regional demonstrations of Russian presence and operations around the GIUK-GIN gaps are likely to multiply, with the willingness to contest NATO's presence and freedom of navigation, create a contested environment, and complicate access and reinforcement across the North Atlantic SLOC and the Baltic Sea.

The willingness to extend defense in depth through denial capabilities represents a credible threat to US and NATO military assets located in northern Europe (Bodø air station in Norway) as well as further in Iceland (Keflavik naval air station) and Greenland (Pituffik space base). These infrastructures are theoretically within reach of Russian air capabilities.[52]

It is unlikely, however, that Russia can deploy and sustain interdiction operations so far beyond the AZRF: the Kremlin does not have the air superiority assets, the ISR capabilities, and airlift and sealift to conduct such operations. In other words, Moscow is unlikely to be able to 'close the gap' around the North Atlantic or conduct 'SLOC interdiction operations'.[53]

Pressure on the North Atlantic SLOC and the GIUK-GIN gaps is also adding more strain on the Svalbard archipelago. The Kremlin resents Norway's status over the archipelago and the 1920 Svalbard Treaty (especially regarding potential military activities by Norway)[54] as well as the management of the Svalbard Fisheries Protection Zone (FPZ). Russia has been increasing the frequency of naval patrols around the archipelago since the 2000s and does not shy away from regular demonstrations of presence in Barentsburg and Pyramiden.[55] Conversely, Moscow denounces reported NATO attempts at militarizing the archipelago.[56]

There is value for Russia in projecting force toward Svalbard, especially sea-denial and air defense capabilities in the Barents Sea, toward the Norwegian Sea, and the North Atlantic SLOC. Svalbard's geographical position, between the Kola Peninsula and the GIUK-N gaps, is of strategic importance for Russian out-of-area denial operations.[57] Halfway between the archipelago and mainland Norway, Bear Island (Bjørnøya) is also particularly relevant for potential interdiction operations.

Despite aggressive rhetoric against Norwegian and NATO interests, Moscow is unlikely to deploy troops, conduct a 'land grab' against Svalbard,[58] or directly challenge Norwegian sovereignty[59] (not least because the archipelago is NATO territory). The Kremlin could, however, potentially conduct more sub-threshold or grey zone operations there.[60] In the context of the war, Russia could also choose a more nationalistic approach towards the archipelago and engineer the arrival of Russian citizens in Barentsburg and Pyramiden.

In the Pacific Arctic, Russian deployments along the Kuril-Chukchi defensive line and on the Kamchatka Peninsula have limited capacity to achieve sea and air denial over parts of the North Pacific and the Bering Strait. Because of geography, the impact of climate change,[61] and the spread-out location of regional military assets, sea- and air-denial capabilities deployed around the Sea of Okhotsk and beyond are hardly a 'protective dome' covering far-sea approaches in the North Pacific.[62] Russia could potentially contest the presence of US and allied forces in the region (especially from the US Eielson Air Force base in Alaska), but unlikely able to pose genuine interdiction challenges.

## 2.3—Protecting the Northern Sea Route and contested 'internal waters'

Access and navigation through the Northern Sea Route (NSR) are deeply impacted by climate change and receding sea ice.[63] In Moscow's strategic thinking, the receding sea is no longer offering the same amount of natural protection from human presence—whether civilian or military—in the AZRF approaches. Climate change is therefore creating a 'new' border that Russia must defend through increased perimeter control and protect in terms of sovereignty enforcement.[64]

Recent strategic documents reflect the connection between climate change and the need to control foreign access across the AZRF and the NSR to protect perceived national interests.[65] Furthermore, the Russian Security Council created an Interdepartmental Commission in 2020 to mitigate '*internal and external threats to national security in the Arctic*'[66]—read foreign military activity.

Russia anticipates foreign presence on both sides of the NSR as well as along the Central Arctic Ocean, linked to international shipping.[67] Fueled by a similar sense of encirclement present in other theaters, the Kremlin sees its 'new' northern border as weaker than during the Soviet era, where it was only at risk of US strategic bomber overflights through North Pole approaches. In recent times, due to seasonal changes in sea ice, Moscow fears that increased access and presence will automatically bring NATO and US surface and air deployments, as well as heightened submarine activity closer to the NSR. Foreign subsurface activity is an issue for the freedom of operation of Russian SSBNs and the protection of the sea-based nuclear deterrent and Kola infrastructure.

To defend and protect the 'new' border, Russia has been militarizing NSR approaches by revamping and modernizing local infrastructure along the AZRF (*see chapter 2*), deploying a network of dual-use ISR and MDA capabilities, and conducting joint training with the FSB to 'defend' the NSR.[68] *'Full radar control'* over the NSR remains a priority for the development of the NSR from a military and economic point of view.[69]

The military priority is to extend strategic depth and perimeter defense over the NSR,[70] further to interdiction capabilities deployed in regional chokepoints. There are several geographical chokepoints along the NSR where Russia has been enhancing perimeter control and deploying surveillance and domain awareness capabilities: by the Kara Gate and Novaya Zemlya at the European entrance of the NSR; the Vilkitskii Strait by Severnaya Zemlya; the Sannikov and Laptev Straits by the East Siberian Islands; by Wrangel Island; and the Bering Strait, at the Pacific entrance of the NSR.

Another form of control over the NSR is the self-appropriation of the legal regime covering waterways along the AZRF. Russia refers to Article 234 of the UN Convention on the Law of the Sea (UNCLOS) to justify the status of the NSR as a body of internal water regulated by national rules.

Article 234 (also known as the 'Ice Clause') provisions that a coastal state can increase control over '*ice-covered areas within the limits of the exclusive economic zone*'.[71] The issue is that the Kremlin tends to overinterpret the definition of this clause by introducing discriminatory national regulations violating the Law of the Sea. Indeed, Russia has been heavily restricting foreign access to the NSR, strengthening navigation rules and transits, and closing off passage to certain types of vessels through successive national regulations enforcing an internal control regime.[72]

Since 2019, foreign military vessels have been limited in their ability to access and transit the NSR.[73] The December 2022 law updates an already stringent legal regime for foreign military assets seeking to transit through internal waters (but not the whole NSR) with mandatory advance notifications, among other provisions.[74]

Russia's unique interpretation of the NSR status therefore offers the possibility to fully control access and passage of surface vessels through the Route as well as regulate sea and air approaches. These regulations are forcing the appropriation of the NSR as an 'uncontested' body of internal water regulated under Russian law and no longer bound that UNCLOS under principles of freedom of navigation and innocent passage.[75] Yet Moscow fears that its contested interpretation of the Ice Clause might be challenged by receding sea ice as well as by foreign actors (*see chapter 3*).

The current situation is compounded by the February 2023 recognition by the UNCLSC of Russia's extended Arctic continental shelf.[76] The seabed claim confirmation will undeniably give Moscow more fuel to justify the continued status of the NSR—as evidenced by governmental discussions.[77]

Finally, in Russian calculations, control over the NSR is key to protecting North Pole approaches from the perceived US and NATO threat. Russia's central Arctic, covering the four main archipelagos (Novaya Zemlya, Franz Josef Land, Severnaya Zemlya, and the New Siberian Islands), is paramount to the security of the AZRF. Here, Moscow emphasizes air defense and strategic bomber presence to counter US strategic bomber overflights across the North Pole[78] as well as US ballistic missile defense deployments in the North Pacific.[79]

# Chapter 2: The impact of the war on Russia's Arctic presence and deployments

In the context of the war against Ukraine and Russia's increased perception of regional vulnerability across the Arctic theater, the Kremlin is currently going through a reorganization of related command structures as well as a reassessment of military capabilities, especially in the context of wider wartime recapitalization.[80]

Russia's Arctic infrastructure and capabilities can be argued to be 'double dual' in nature.[81] They are fundamentally *dual-use*, namely interchangeably used for civilian and military purposes and missions—the most telling example relates to ongoing discussions about '*combat icebreakers*'[82] (*see below*). Infrastructure and capabilities also serve a *dual-purpose*: the Kremlin's approach completely blurs the lines between offensive intent and defensive purposes—it is both at the same time and arguably understood as *'assertive defense'*.[83]

Despite seeking to remove tension from the AZRF, the 'double dual' logic is further compounded by the fact that Moscow is planning for all contingencies in the Arctic, including war operations. Indeed, the Kremlin has been actively remilitarizing the AZRF since the late 2000s through the (re)construction of regional infrastructure and (re) investing in Arctic-capable military capabilities.

## 1: Recent evolutions in Russia's Arctic force structure

The war against Ukraine and the accession of Finland and Sweden to NATO have completely altered the Kremlin's plans in terms of the force structure. The mainstay of Russia's force structure in the European Arctic and the central Arctic is the Northern Fleet. Its primary mission is to maintain strategic forces, ensure the protection and survivability of strategic assets and infrastructure on the Kola Peninsula and the AZRF, as well as protect the NSR in the western and central Arctic.[84]

To streamline Arctic operations and command structure, the Northern Fleet was turned into a full-fledged Military District (MD) in January 2021.[85] The intended goal was to better integrate troops across the western and central Arctic, and especially regarding the *Bastion* network, and streamline Russia's command and control.

This failed 'experiment' in force structure only lasted until late 2023. Indeed, in the context of the war against Ukraine, a draft presidential decree from 8 October 2023[86] announced the restoration of the Soviet-era Moscow and Leningrad Military Districts as well as the deprivation of the Northern Fleet of its status as a formal Military District. *OSK Sever* was officially disbanded on 1 March 2024: the Northern Fleet was subsequently stripped of its status and absorbed into the Leningrad MD. Ground forces, aviation and naval aviation, and air defense systems were also transferred to the Leningrad MD.

By reverting to pre-2010 formations, Moscow's decision effectively split the Western MD into the Moscow MD and the Leningrad MD, covering the AZRF in the Komi Republic, Arkhangelsk and Murmansk oblasts, and the Nenets Autonomous Okrug. The Leningrad MD will be in charge of most of the AZRF coastline in the western and central Arctic, including new NATO members Finland and Sweden. Meanwhile, the Moscow MD will likely focus its attention on Ukraine and Kaliningrad.

The announcement to revamp the military structure is merely a consequence of the war against Ukraine and NATO's enlargement. Moscow is seeking to streamline the command structure in the context of the war against Ukraine, strengthen strategic deterrence against NATO in the Baltic Sea theater,[87] as well as prepare for potential regional escalation. Russia's restructuring of Arctic-related command and control is therefore not Arctic-specific nor linked to a willingness to increase operations in the region.

The idea of putting a fleet and a navy command in charge of its own Military District was, on paper, an innovative idea for the Russian armed forces. However, since its inception, *OSK Sever* faced organizational issues that crippled its efficiency. Its integration into the wider Russian military command was ultimately thwarted as a direct consequence of the war and the Finnish and Swedish accessions.

The return to pre-Serdyukov reform, Soviet-inherited command structures in the European theater will take time before it is fully integrated into the wider C2. It also remains to be seen how effective the command change will be, notably as Russia is arguably lacking mass and capabilities to sustain two full-fledged MDs there.

# 2: Arctic forces, infrastructure, and demonstration of presence

## 2.1—Conventional losses in the European Arctic

The war against Ukraine has decimated Russian ground forces located in the European Arctic. Indeed, Arctic-related troops deployed in Ukraine suffered heavy losses, especially from the 76th Guards Air Assault Division, 61st 'Red Banner' Independent Naval Infantry Brigade (Pechenga, 14th Army Corps), and the 40th Separate Guards Marine Brigade (Pacific Fleet).[88] Elements from Kola peninsula naval infantry and special forces have also suffered heavy casualties in Ukraine,[89] for instance from the 140th Special Purpose Detachment (Northern Fleet, special underwater forces).[90]

The Arctic Brigade has also suffered heavy losses in Ukraine. The Arctic Brigade, partly composing the 14th Army Corps (Northern Fleet), is formed by the 200th Separate Motor Rifle Brigade, located in Pechenga, and the 80th Separate Motor Rifle Brigade in Alakurtti, close to the border with Finland. The 80th Brigade was engaged in Ukraine, leaving the Alakurtti base reportedly emptied of troops and military hardware.[91]

The most emblematic example of losses in Ukraine comes from the 200th Separate Motor Rifle Brigade, which reportedly lost thousands of troops in various ambushes in the Kharkiv region.[92] Local media reports further attest of the poor state of Russian ground forces in Pechenga.[93] Furthermore, it was reported that both the commander of the 200th Brigade, Colonel Denis Kurilo, and the deputy commander of the 14th Army Corps, General Aleksandr Zavadsky were killed in Ukraine.[94]

Until 2022, the Arctic Brigade and other troops in the European Arctic used to be showcased as Arctic-capable, combat-ready, and well-equipped forces. However, like many others, they were not suited for the reality of the battlefield in Ukraine. Russia now pays the consequences of sending highly specialized Arctic troops to slaughter, as it will take years to regenerate troops, train them, and retain the cadre of commanding officers.[95]

To cope with the decimation of the Arctic Brigade and adapt to Finland and Sweden joining NATO, the Kremlin decided to merge both Brigades into divisions and turn the 14th Army Corps into a combined arms army.[96] Russia also lost hundreds of pieces of equipment from the aforementioned troops,[97] thus creating conventional shortcomings, especially with artillery. As many regional ground forces have been deployed and killed in Ukraine, this leaves the Russian land border with Finland less protected. This proverbial hole in defenses means that Russia now represents less of a convention threat to NATO in the region—and less likely to conduct high-intensity operations in the short to medium term.[98]

The corollary is that the current military situation in the European Arctic is strengthening Russia's growing sense of regional inferiority—not least in terms of conventional capabilities.[99] It will take years before the armed forces can retrain and re-equip land forces and naval infantry of the Kola Peninsula to pre-2022 standards of readiness.[100]

## 2.2—Infrastructure and bases

Russia's Arctic ambitions are embodied by the (re)construction of a vast but disparate network of forward bases, outposts, and airfields dotted along the AZRF and the Northern Sea Route.[101] To facilitate the swift reappropriation of a region that was left to rot in the 1990s, the Kremlin opted for a 'build cheap, build fast' approach to Arctic infrastructure: most of the military infrastructure has been either rebuilt from legacy Soviet outposts or built off the shelf and co-located with coast guard and border guard infrastructure in charge of search and rescue operations and constabulary missions. This further strengthens Russia's 'double-dual' approach to the Arctic in terms of dual-use infrastructure and dual-purpose missions.

It is often argued that Russia has more bases in the Arctic than the rest of the NATO 7 altogether.[102] However, the Russian network is in poor shape. Russian military infrastructure along the AZRF represents a disparate network of small, relatively understaffed bases crippled by resupplying and servicing issues. This situation is compounded by harsh meteorological conditions along the AZRF,[103] the poor quality of construction material, and the tremendous impact of climate change on Russia's Arctic infrastructure.[104] It is also likely that, due to geography, Moscow does not have continuous and complete radar coverage over all of the AZRF: there are arguably gaps in Russia's early-warning radar system in the central and Eastern Arctic.[105]

Russia's ongoing modernization plan of its Arctic military infrastructure now seems to prioritize completing and maintaining the existing network and no longer seeking to expand it.[106] In the context of the war, the development of new infrastructure is therefore slowing down—not least because of budget constraint and the cost of mitigating the impact of climate change.

This situation is compounded by issues linked to the integration of the existing network into a unified and coherent command structure. Recent changes in the past few years—from the rise and fall of *OSK Sever* to the creation of the Moscow Military District in 2024—are further complicating the matter. Now that the Northern Fleet has lost its status of MD overseeing European and central Arctic operations, the exact separation of the command structure between the Moscow, Central, and Eastern Military Districts remains unclear.

The Kremlin might struggle to recreate a sense of coherence for Arctic operations in the wake of the 2024 reform, further strengthening Moscow's increased sense of regional vulnerability. The situation could be further compounded by potential issues in achieving a coherent C2 structure throughout the different combatant commands and units spread across the AZRF.[107]

Three key priorities can be made out about Arctic military infrastructure management. First, ensuring the 'Bastionization' of the nuclear deterrent infrastructure on both sides of Russia's Arctic. Kola peninsula infrastructure has the utmost priority in terms of modernization, as exemplified by the constant renovation happening at the Severomorsk 1 and 2 and the Gadzhiyevo bases,[108] the modernization of the Murmansk oblast military towns starting 2022,[109] and the upgrade of the Tiksi port infrastructure on the Laptev Sea coast scheduled for 2025.[110]

In the Pacific Arctic, infrastructure in the Far East and Kamchatka are also maintained and upgraded to protect the Pacific Fleet nuclear deterrence, especially near Petropavlovsk-Kamchatsky in Kamchatka.[111] Regional coastal defense is ensured by several key units, including the 40th Naval Infantry Brigade (Petropavlovsk-Kamchatsky), the 155th Naval Infantry Brigade (Vladivostok), and the 520th Coastal Missile and Artillery Brigade (Sakhalin), among others.

The second priority is the maintenance of bases along key NSR chokepoints to enforce Russia's interpretation of its 'internal' waters along the AZRF (*see chapter 1*) and protect regional nuclear infrastructure. For that purpose, the network of land bases and airfields has been strengthened by the Kara Strait (Rogachevo on Novaya Zemlya and Nagurskoye on Franz Josef Land), the Laptev and Sannikov Straits by the East Siberian Islands (Temp airbase and Kotelny Island installations) and the strait south of Wrangel Islands.[112] These installations are all complementing the *Bastion* concept thanks their multi-layered air and coastal defense capabilities, anti-ship systems, radar installations for early warning and overall domain awareness, as well as uncrewed systems and electronic warfare capabilities.

The third priority is the renovation and modernization of airstrips and runway extensions along the AZRF able to host a variety of attack and reconnaissance aircraft (MiG-29K, MiG-31, MiG-31BM, Su-24, Su-33), transport and support aircraft (mainly Il-76 transport aircraft and Il-78 refueling tankers, Il-38 surveillance aircraft), and strategic bombers (mostly Tu-160, Tu-95, and Tu-22).[113] The 2022 infrastructure plan concerns the construction of two airfields in Nagurskoye and Temp as well as the renovation of seven airfields and runway extensions by 2030 (Severomorsk-1, Severomorsk-2,[114] Severomorsk-3, Rogachevo,[115] Talagi, Kipelovo, and Safonovo seaplane facility).[116]

Russian military infrastructure in the Arctic Zone of the Russian Federation (AZRF)

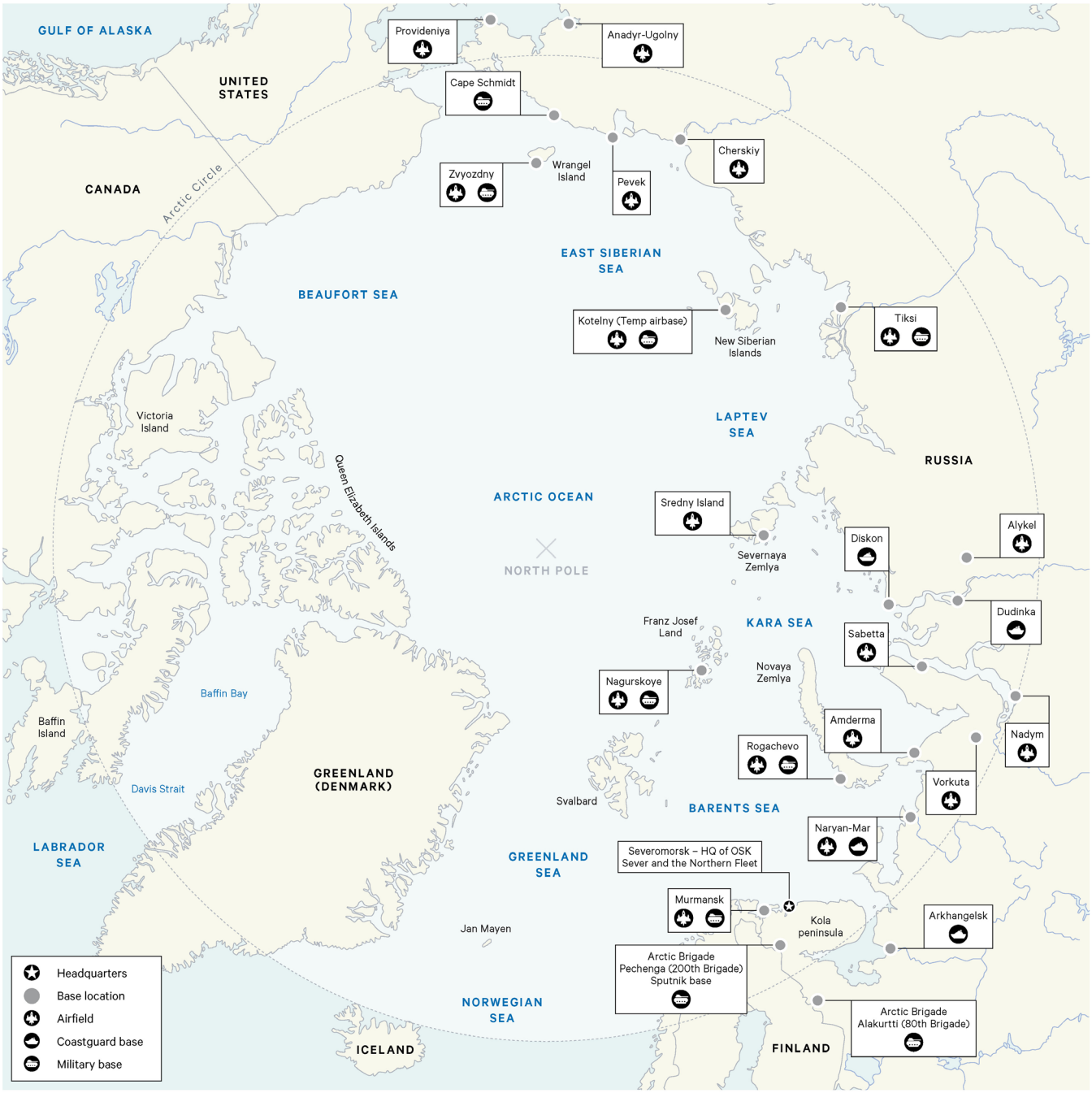


*Image credit: "The Militarization of Russian Polar Politics" (Mathieu Boulègue / Chatham House). Used with permission.*

## 2.3—Trends in military exercises and demonstrations of presence

Since 2015 and the resumption of Arctic training, Russia's presence has been following a track record of regular military exercises and drills aimed at demonstrating the Kremlin's power projection.[117] Recent trends in Arctic military training and exercises reflect Russia's dual-purpose approach to the region, simultaneously blending offensive and defensive operations.

Russia is practicing offensive and defensive combat operations within and beyond the AZRF, which is directly linked to the willingness to remove tension from the region, avoid escalation in the Russian Arctic and around critical nuclear installations, and protect its perceived sovereign interests along the NSR.[118]

On the one hand, offensive combat training affects all combatant arms of the Northern and Pacific Fleets as well as the nuclear triad.[119] These include long-range missile deployments,[120] rapid-reaction deployments such as coastal assault landings and amphibious assault operations[121] as well as anti-submarine warfare (ASW) operations.[122] Strategic forces drills emphasize ballistic missile launches[123] and strategic bombers operations.[124]

On the other hand, Moscow focuses on exercises aimed at protecting contested waters along the NSR and coastal areas along the AZRF. With a focus on air defense drills[125] and naval maneuvers, exercises emphasize the cooperation between the Northern and Pacific Fleets across the whole AZRF as well as regular readiness checks.[126]

Russia's dual-purpose approach to Arctic training is reflected in the latest annual trans-Arctic naval exercise that took place in August and September 2023.[127] The drills aim to exercise passage of the Northern Fleet through the NSR, from the Barents Sea to the East Siberian Sea to '*ensure safe maritime navigation*' and protect civilian infrastructure.[128] Pacific Fleet assets also train similarly in the Chukchi and Bering Seas as part of the Finval drills.[129]

However, these exercises also aggressively focus on 'anti-terrorist operations' along the NSR—read rapid-reaction maneuvers, anti-sabotage operations, coastal warfare, and other amphibious assault drills against potential NATO troops.[130] The same can be said of similar exercises regularly taking place along the AZRF and focusing on '*crisis situations in the Arctic Ocean*',[131] blending both defensive and offensive operations.

## 3: Capabilities and deployments

Russia's Arctic posture has been undeniably informed by the impact of the full-scale invasion of Ukraine, notably when it comes to losses of military hardware in Ukraine, future procurement of Arctic-specific capabilities, and overall re-equipment taking place across the Russian armed forces. Official state propaganda relates a sense of optimism for continued procurement of military equipment to '*guarantee the security of Russia*."[132] The appointment of civilian economist Andrei Belousov as new Minister of Defense in May 2024 will also undoubtedly impact future procurement opportunities for Arctic-related capabilities.

As mentioned, Russian ground forces in the European Arctic have suffered heavy losses in both manpower and equipment (*see above*). The Ukrainian armed forces reported the destruction of several units of Arctic-enabled Tor-M2DT air defense missile systems, DT-30 Vityaz Arctic transport vehicles, 152mm self-propelled Akatsiya howitzers, and Arctic-hardened T-80BVM tanks from the Northern Fleet and the Arctic Brigade.[133]

International targeted sanctions against the Russian military-industrial complex since 2014 have also had an impact on the pace and scope of Arctic-specific hardware procurement. This is especially true for ship turbines and engines. For instance, the production of Lider-class destroyers—supposed to become the workhorse of Russia's Arctic naval projection—is running late.

More widely, sanctions are also impacting the production of special steels and reinforced metallurgic products needed for icebreakers and ice-class vessels (notably the new LK-60 class of icebreakers), micro-electronic components vital to Russia's advanced regional multi-layered air defense (notably Pantsir systems, S-300, and S-400) and electronic warfare capabilities, as well as components for Arctic-capable precision-guided munitions (Kalibr, Iskander-M, etc.). The situation is even more critical for access to space-grade components, with the risk of seriously limiting the deployment of the Arktika-M satellite constellation.

Sanctions are slowly degrading Russia's maritime domain awareness and ISR capabilities in the Arctic. As sanctions continue to affect Russia's ability to regenerate its force and modernize its capabilities, the operating picture will also look different in the medium-term regarding Russia's overall power projection.[134]

Despite these limitations, Russia's overall Arctic air, naval, and nuclear capabilities have been left largely untouched by the war against Ukraine. Moscow still possesses a vast array of functioning capabilities in these domains, and its force projection has not been altered. In other words, the '*Bastion*' remains, especially for the strategic submarine fleet and air defense systems.

The successful Ukrainian drone attack on the Engels airbase, home to Arctic-oriented Tu-95 and Tu-160long-range bombers, did not weaken Russia's force projection across the Barents and Norwegian Seas.[135] Furthermore, the deployment of several surface assets from the Northern Fleet (including the Slava-class *Marshal Ustinov* cruiser) to support Black Sea war operations against Ukraine did not create substantial changes in the order of battle. The Northern Fleet fulfilled its legacy role of a force multiplier for other Russian fleets.

It is likely, however, that the absence of certain assets will limit the operational tempo of Northern Fleet deployments and require increased maintenance in operational condition for existing surface assets. Subsurface assets and naval aviation of the Northern Fleet have not been affected by the war against Ukraine.

## 3.1—Subsurface assets

Russian subsurface assets in the Northern and Pacific Fleets carry out a wide array of missions, including missile strike operations ranging from conventional precision strikes to strategic strikes.[136] Russian submarines do not need to move out of the Arctic to hold NATO assets at risk of destruction through long-range precision strikes. Indeed, long-range conventional, non-strategic, and strategic capabilities allow Russian subsurface assets to remain inside the *Bastion*. Like the surface component, the *'Kalibrization'* of the submarine fleet allows to extend the range of precision strikes theoretically up to 2,500 km in land-attack mode.[137]

Russian submarines are also able to potentially conduct out-of-area operations beyond the Arctic, therefore creating more pressure on regional chokepoints in the North Atlantic (GIUK and GIN gaps) and the North Pacific (Bering Strait and Sea of Okhotsk) as well as on their respective SLOC. Russian nuclear-powered guided-missile submarines (SSGNs) in particular would be able to hold NATO support infrastructure at risk of destruction.[138]

Submarines also play a crucial role in the protection of the NSR, notably in the context of the impact of climate change and a more accessible Arctic. With less ice coverage across the AZRF and around North Pole approaches, Russian submarines are conducting regular under-ice training and surfacing operations.[139]

The submarine order of battle[140] in both the Northern and Pacific Fleets depends on the pace and scope of modernization cycles for existing assets and the slow service entry of new units. The bulk of nuclear-powered ballistic-missile submarines (SSBNs) capabilities relies on 7 Delta-IV (Project 887) and 6 Borei II-class (Project 955A) submarines. Both classes are going through constant modernization programs, notably to upgrade their weapons systems (SS-N-23 Sineva submarine-launched ballistic missiles) and radar systems.

Borei II submarines are equipped with Bulava SLBMs and have been going through upgrades under the Borei-A program to notably host 3M22 Zircon missiles.[141] The seventh Borei-II submarine was launched officially in late 2022 and there are lofty plans to build at least 3 more until 2029.[142] The Borei class is replacing aging Delta-III submarines from the Pacific Fleet and Delta-IV from the Northern Fleet.

Nuclear-powered guided-missile submarines (SSGNs) and nuclear-powered attack submarines (SSNs) are mostly composed of a mix of legacy Sierra II and Victor III class assets; Akula and improved Akula; Yasen and Yasen-M; and Oscar-class submarines. The improved Akula-class will be reportedly equipped with Kalibr missiles in both land attack and anti-ship modes, on top of P-800 Oniks anti-ship cruise missiles.[143]

The fourth Yasen-M class submarine (Project 885-M) was rolled out in late 2023 for the Northern Fleet.[144] Moscow plans to deploy at least 9 Yasen-M submarines, if not more,[145] although the program has been experiencing considerable delay and nowhere close to schedule. Yasen-M are supposed to replace Akula-class and Oscar-class submarines and have been upgraded to host Kalibr missiles systems, P-800 Oniks, and 3M22 Zircon.[146]

The workhorse of the conventional fleet of submarines is the Kilo-class diesel-electric SSK (Project 877 Kilo and Project 636.3 Improved Kilo). Kilo-class assets are undergoing modernization with the aim to '*Kalibrize'* them in order to extend their reach and range of missions. The primary mission for these assets is the protection of the Northern Sea Route on both sides of the AZRF,[147] after they were recognized as 'suitable' for Arctic operations in 2022.[148] Tragically, the sixth Improved Kilo submarine was named the 'Mariupol' in July 2023 and destined for the Northern Fleet.[149]

## 3.2—Surface assets

Just like the submarine fleet, Russia's approach to sustaining power projection of Northern and Pacific Fleet surface assets is to modernize existing vessels and procure smaller, more versatile, and '*Kalibrized*' assets equipped with standoff capabilities (Kalibr, Oniks, Zirkon). There are inherent limitations to this approach since the majority of Russian surface assets in both fleets are not Arctic-capable, although both fleets are training for Arctic operations (*see above*).[150]

Although aging, both fleets remain able to project their assets in critical chokepoints on both sides of the AZRF. Considering the slow pace of procurement and service entry of modernized and entirely new vessels, the Northern and the Pacific fleets will likely remain pre-Arctic, near-sea forces focusing on protecting the entry points of the NSR in the European High North and the Pacific Arctic[151]—further to the strategic objective of preventing foreign access to the AZRF. In other words, both fleets act as 'Bastion guardians' for the strategic submarine fleet on both sides of the AZRF.

Ambitions to act as a brown- and green-water force protecting the coastal areas of the NSR are tempered by the fact that the Northern and Pacific Fleets have limited ambitions when it comes to actual Arctic operations.[152] The fleets operate a small number of ice-class surface vessels, let alone military-operated icebreakers, therefore limiting the operational tempo in the region and the scope of missions there. Neither fleets are Arctic-specific, nor genuinely Arctic-enabled—especially since newly-procured or renovated assets still lack ice-reinforced hulls.[153]

Some of the fleets' assets stand out as more versatile and capable of fulfilling their 'Bastion guardian' missions. The Northern Fleet's flagship, the Kirov-class nuclear-powered missile cruiser *Pyotr Velikiy* (Project 11442), is equipped with anti-ship (P-700/P-800) and anti-air capabilities (modified S-300).[154] The second vessel of the class, the *Admiral Nakhimov*, remains stuck in repair and unlikely to reenter service in 2024, as officially announced.[155]

On top of the Slava-class guided-missile cruiser, Gorshkov-class frigates (Project 22350) are supposed to become the backbone of the Northern and Pacific fleets. Construction has been delayed,[156] especially for the three assets supposed to integrate the Pacific Fleet in the late 2020s. The class is equipped with Kalibr and Oniks systems and the *Admiral Gorshkov* has been undergoing training with the Zirkon missile[157] It also hosts the powerful Poliment-Redut shipborne SAM complex.

Both fleets also operate a mix of Udaloy-class (Project 1155) and Grisha-class (Project 1142M) anti-submarine ships, amphibious landing ships (Ivan Gren-class and Ropucha-class), as well as a fleet of minesweepers. The Udaloy-class is assigned for 'NSR protection' operations,[158] although it is unable to operate in ice conditions.

Plans to build at least 8 nuclear-powered Lider-class destroyers (Project 23560) for the Northern and Pacific fleets have experienced crippling delays. If the project has not been officially canceled yet, it will likely be replaced by the continued modernization of Gorshkov-class frigates (Project 22350/22350M 'Super Gorshkov'). Meanwhile, the ill-fated *Admiral Kuznetsov* aircraft carrier is unlikely to enter service again.[159]

The first ice-class surface asset of the Northern Fleet, the diesel-electric icebreaker Ilya Muromets (Project 21180), entered service only in 2018. It is used for patrol, passage assistance, and tugging operations. The second, smaller vessel of the class, the *Evpatiy Kolovrat*, is undergoing sea trials and should be commissioned in 2024 for the Pacific Fleet.[160] A third vessel is supposed to be built for the Northern Fleet.[161]

Considering the critical lack of ice-class ships able to perform genuine NSR protection missions, Moscow has been floating out the idea of procuring what is referred to as 'combat icebreakers'.[162] The idea is to use existing civilian icebreaker designs and fit them with modular weapons systems, including Kalibr missiles. This logic gave way to the creation of the Ivan Papanin-class of armed patrol icebreakers (Project 23550). The class can operate unassisted in first-year and low-ice conditions, which means that it will not fully replace the need to use nuclear-powered icebreakers, especially for winter operations.

The flagship *Ivan Papanin* is supposed to be commissioned in late 2024 for the Northern Fleet (although delays are likely).[163] A second vessel was already announced, and more assets are supposed to be built for the Navy and the Coast Guard. The creation of a fleet of armed icebreakers is a reminder of Russia's 'double-dual' approach to Arctic operations, blending dual-use systems and dual-purpose missions.

Regardless of the procurement of 'combat icebreakers', the Northern and Pacific fleets still heavily rely on other ice-class vessels such as auxiliary and logistics vessels[164], civilian research platforms, and Coast Guard assets. Full transit through the NSR, however, is entirely reliant on the fleet of civilian icebreakers operated by Rosatomflot, including nuclear-powered units.[165]

Most Russian icebreakers are either in need of deep modernization or supposed to be decommissioned by the end of the decade: considering the length of time necessary to build new platforms, the Kremlin will likely choose to expand the lifespan of decrepit platforms, while ignoring potential environmental and nuclear risks.

The flagship nuclear-powered LK-60 class (Project 22220) of icebreakers is supposed to replace the aging Arktika class by 2030. Seven units are supposed to be built, with three already in service and three others in various stages of construction.[166] Meanwhile, the advanced LK-120 Lider-class (Project 10510) of icebreakers has suffered delays and lack of enthusiasm due to production costs—only one such vessel is supposed to be built by 2035.[167]

## 3.3—Aerospace forces and naval aviation

Russian air assets have been relatively unaffected by the war against Ukraine and the pre-2022 balance of power remains. Together with the extension of Arctic runways and increase in operational range for tactical aviation,[168] aerospace forces and long-range aviation are a threat to distant Western military assets at the Bodø air station in Norway, Keflavik naval air station in Iceland, Pituffik space base in Greenland, and the Eielson Air Force base in Alaska.

The main air units for the Northern Fleet are located at the Severomorsk-3 base (279th Shipborne Fighter Regiment and 100th Shipborne Fighter Regiment) and the Monchegorsk base (98th Guards Separate Mixed Air Regiment) as part of the 45th Air and Air Defense Forces Army (Murmansk).[169] Airwings are composed of MiG-29K, Su-33, and Su-34 fighter aircrafts respectively, while complemented by a mix of Su-24MR reconnaissance aircraft and Su-24 bombers. MiG-31BM and MiG-31K interceptors (currently undergoing modernization and able to carry Kinzhal hypersonic missile systems)[170] are serving under both the Northern and Pacific fleet areas of operation.

On both sides of the Arctic, long-range aviation is forward-deployed in the Arctic thanks to runway extensions on most AZRF airstrips, allowing to host Tu-160, Tu-95, and Tu-22 strategic bombers.[171] Tu-22 M3 bombers, based in Olenegorsk on the Kola Peninsula, can carry the Kinzhal system.

Airborne Assault Troops (VDV) are also Arctic enabled: the 76th Guards Air Assault Division (Pskov) and the 98th (Ivanovo) Guards Airborne Division have specialized in Arctic operations and are tasked to protect Kola Peninsula installations.[172] The 106th Guards Airborne Division (Tula) is also training for Arctic-specific missions.

In terms of air mobility, both the Northern and Pacific fleets are experiencing some limitations in airlift and sealift capabilities designed for Arctic operations, especially military transport aircraft (An-12 and An-26). Issues with mid-air refueling tankers for strategic aviation are somewhat compensated by runway extensions on bases alongside the AZRF—which also maximizes the range and scope of missions for bombers.[173]

Russia has few maritime patrol aircraft for anti-submarine warfare (ASW): both fleets employ a limited mix of Tu-142 and Il-38 aircraft for aerial and ice reconnaissance, especially in the Barents Sea area, as well as a combination of Ka-27, Ka-28, and Ka-31 helicopters, spread between the Kola Peninsula and Kamchatka.

Finally, both fleets have been strengthening their uncrewed aerial vehicle (UAV) capabilities hardened to the Arctic environment. UAVs are increasingly integrated in the Arctic and mostly for ISR operations and the surveillance of the NSR. For the past few months, Russia has been testing the launch of small drones from surface assets deployed in the Arctic—mainly from the helipad of nuclear icebreakers.[174] The Northern Fleet is practicing anti-drone operations onboard ASW and landing ships.[175]

In April 2024, the Pacific Fleet announced that Orion and Forpost ISR drones would be deployed from Kamchatka to patrol the NSR in the near future. Plans include the construction of UAV bases along the NSR for search and rescue (SAR), sea control, and ultimately ASW operations.[176] A new ice reconnaissance complex was also tested in 2023 in the Kara Sea and should be integrated into deck-based UAVs.[177] Despite the above, recent setbacks in procuring the necessary semiconductors for the Russian drone industry will undoubtedly limit the scope and range of future Russian UAV missions in the Arctic.[178]

## 3.4—Air defense and ISR capabilities

Russia's formidable multi-layered 'protective dome' of air defense, sea-denial, and coastal defense systems is spread out across critical chokepoints of the AZRF. Together with their respective Anti-Aircraft Missile Regiments, most Russian bases along the AZRF have been equipped with an Integrated Air Defense System (IADS) through a mix of S-400 and S-300 SAM systems, P-800 Oniks anti-ship systems, Pantsir and Tor M2DT short-range surface-to-air systems, and Bastion-P and 4K51 Rubezh coastal defense systems.[179]

As part of the Arctic reshuffle within the Leningrad MD, the Ministry of Defense announced in April 2024 that a new separate missile brigade has been created in Karelia, near the Finnish border. It will be equipped with Iskander-M missile systems as an '*adequate response*' to the perceived expansion of NATO.[180] The creation of a Karelia separate missile brigade had already been previously announced but had failed to materialize.[181]

The IADS network is complemented by naval aviation interception capabilities, long-range bombers, and sea-launched capabilities from surface vessels stemming from both fleets for offensive missile strike operations. The multi-layered 'protective dome' is a reminder of Moscow's willingness to remove tension away from the Russian Arctic, especially in case of regional escalation.

Due to the presence of gaps in radar coverage over the entirety of the AZRF, Russia has been increasing the procurement and deployment of early-warning radar systems. At least 5 Rezonans-N long-range radar and detection complexes have been deployed across the European High North—specifically around the Kola Peninsula[182] and on Novaya Zemlya—since 2017. The system provides over-the-horizon capabilities and can reportedly detect many types of aerial targets, including stealth planes, hypersonic missiles, and UAVs.[183] More systems are supposed to be deployed in the Far East to strengthen Pacific Arctic early warning.[184]

The growing early-warning network is strengthened by Sopka-2 radars, currently deployed at the Temp and Kotelny air bases (East Siberian Islands), as well as Nagurskoye (Franz Josef Land), Rogachevo (Novaya Zemlya), and Cape Schmidt air bases. Sopka-2 systems are a crucial part of Russia's overall ISR capabilities along the NSR, especially in the central Arctic region.[185] The Voronezh early-warning radar system complements the network, with deployments in Olenegorsk (Kola) and Vorkuta, for long-range monitoring of aircraft and missiles.[186]

Finally, to strengthen the IADS network, Russia is also hosting electronic warfare centers (notably with the Murmansk-BN system) in Severomorsk, Kamchatka, and in the Primorksy Krai.[187] Russia also intends to continue deploying the fleet of Meridian-M communications satellites and Arktika-M weather satellites for navigation along the NSR and overall Arctic domain awareness.[188] The armed forces tested a new 'Arctic internet system'[189] in 2023 for mobile Arctic-enabled communication.

# Chapter 3: The impact of Russia's war on Arctic security

Moscow's strategic calculations regarding the Arctic have not been substantially altered by the consequences of the full-scale invasion of Ukraine in 2022. Russia's regional posture reflects continuing security and military trends that have been emerging since the mid-2000s. Furthermore, wider geopolitical trends affecting the Arctic tend to originate elsewhere (notably in the context of the ongoing NATO-Russia security dilemma) and are seldom Arctic-specific.

There is still little incentive for the Kremlin to create tension in the Arctic *per se*, let alone over-escalate with NATO close to the AZRF. The likelihood of conflict *about* the Arctic, therefore, remains low even today.

However, there is strong incentive for Russia to continue waging a form of low intensity warfare against circumpolar NATO allies through the use of a well-established toolkit of grey zone and sub-threshold activities. As Russia seeks to protect its contested interpretation of the NSR as internal waters and as NATO's regional presence will undoubtedly increase in the coming years, the risk of miscalculation provoked by accidents, incidents, and tactical errors has never been greater.

Furthermore, Russia's growing sense of Arctic vulnerability, coupled with losses in conventional ground forces across the European High North, might push the Kremlin to rely more on nuclear saber-rattling, if not escalation, to achieve its perceived security interests.[190]

## 1: Low intensity warfare activities in the Arctic

Further to Russia's budding sense of conventional vulnerability in the Arctic, Moscow will likely continue to wage low intensity warfare against NATO allies through the use of grey zone and sub-threshold activities. In this, the Kremlin's cost-benefit calculus of destabilization has not changed with the war against Ukraine.[191]

There is now an established track record of electronic warfare activities in the Arctic attributed to Russia. For the past few years, regional authorities have reported larger amounts of GNSS/GPS jamming to "*unprecedented levels*",[192] especially in the Finnish Lapland and Norwegian Finnmark.[193] There is also an increase in radio and radar navigation interference in Norway and Finland.[194] Such irresponsible activities are potentially dangerous for civilian aviation and could lead to serious accidents involving civilian aircraft.

Since 2022, Norwegian authorities have also experienced a rise in drone overflights over critical national infrastructure (energy facilities, communication infrastructure, etc.),[195] probably linked to Russian intelligence mapping, and even the arrest of several Russian citizens.[196]

A relatively 'new' trend in sub-threshold activities relates to Russia's reported seabed warfare against Arctic critical undersea infrastructure (CUI), and notably fiber optic data and communication cables. There is now a worrying track record of suspected Russian activities in the subsea domain around data cables, especially the Svalbard Undersea Cable System in 2022[197] and the Balticconnector infrastructure in October 2023.[198]

There is a strong incentive for Russia to target seabed infrastructure, particularly data cables. Indeed, CUI disruption is a low-cost, high-impact asymmetric enabler that the Kremlin could use in an Arctic environment to disrupt the flow of civilian and military information, especially in case of regional escalation.[199] Cable sabotage also represents a useful tool to prepare the informational and psychological battleground.[200]

Arctic data cables are particularly vulnerable to disruption and sabotage because they generally lack redundancy in terms of the number of subsea cables and available landing stations. Circumpolar geography is fraught with regional chokepoints, especially around the GIN-GIUK gaps and the Svalbard archipelago, around what can be called the 'Canada-Greenland gap' leading to the North-East passage, and across the Bering Strait, between the Bering and the Chukchi Seas.

In the shallower waters of these chokepoints, surface vessels would be able to conduct unsophisticated anchoring and dredging operations to potentially sabotage cables. Russia has been weaponizing a fleet of civilian vessels (mostly fishing, transport, research,[201] and leisure ships) to conduct both intelligence gathering around CUI as well as plausibly deniable disruption operations.

In deeper Arctic waters, the Kremlin can count on several structures and subsurface assets to disrupt data cables. The main structure in charge of asymmetric seabed warfare is the Main Directorate of Deep-Sea Research (GUGI), an intelligence and special missions department within the Ministry of Defense and located with the Northern Fleet in Olenya Guba.[202] GUGI is in charge, among other tasks, of seabed operations and managing the limited fleet of specialized surface and subsurface assets reinforced for such operations. This includes the nuclear-powered *Poseidon* uncrewed underwater vehicle (UUV) armed with a nuclear torpedo[203] and the tragically known *Losharik* deep-diving nuclear-powered submarine.[204]

Finally, in the context of Putin's 2023 address to the Federal Assembly, there are worrying signs[205] that the Kremlin might be pushed to potentially restart nuclear weapons testing on Novaya Zemlya "*if the United States conducts tests*".[206] This return to Cold War practices would be dangerous for regional stability as well as for environmental safety in the Arctic.[207] There is also the risk that Moscow might test its Burevestnik nuclear-powered cruise missile on Novaya Zemlya.[208]

## 2: Unprofessional military behavior and risks of miscalculation

Further to sub-threshold activities in the Arctic, Moscow also keeps an established record of risk-taking and brinkmanship-prone behavior in and around the AZRF. These activities are a cause for concern, especially when considering Russia's lack of restraint and willingness to take risks in the grey zone.

There is a worrying trend of overflights by Russian aviation over Arctic skies. Russia resumed patrols of long-range strategic bombers in 2007 over the North Atlantic (as part of *Bastion* defense) and the North Pacific (for Sea of Okhotsk protection). Aviation patrols over the NSR have also resumed in 2013. Moscow is now conducting regular patrols over vast stretches of the Arctic, from the Barents Sea, the Greenland Sea, the central Arctic Ocean, and the Bering Strait, increasingly using the network of extended airstrips across the AZRF as resupply hubs.[209]

Even though routine overflights are part and parcel of maintaining Russia's operational capacity[210] and their number is still below Cold War averages, they are growing both in number and scope of mission. For 2023 alone, NATO reported at least 300 occurrences of Russian military aircraft approaching the Alliance airspace in the Baltic Sea and in the European High North.[211] Numbers recorded by the Norwegian armed forces have also skyrocketed in recent years.[212] In the North Pacific, strategic bomber overflights occur generally over the Sea of Japan[213] and by the Bering Sea.[214]

The issue is that overflights also lead to calculated direct violations of air defense identification zones (ADIZ)—especially over Japan[215] and Alaska[216]—and airspace incursions just outside NORAD's area of responsibility.[217] ADIZ violations remain low in number but must be understood as part of Russia's constant probing.

Aviation patrols and air incursions are complemented by a growing number of unprofessional and brazen maneuvers by Russian armed forces that could lead to serious accidents. These maneuvers, at sea and in the air, generally focus on shadowing NATO air and naval assets in the region.[218] Other maneuvers include regular simulated air wing attacks on military assets such as the Vardø coastal radar installations in Norway.[219]

This trend is especially worrying in the context of Russia's war against Ukraine: with the loss of many pilots in the war, the new cadre of pilots responsible for aviation patrols will undoubtedly lack the professionalism and potential restraint, which would be the cause of accidents—if not an actual intercept.

The situation is worsened by the fact that Moscow is weaponizing NOTAMs (Notices To Air Missions) in the context of live-fire air and naval exercises close to Norwegian territory and sometimes even overlapping Norway's Exclusive Economic Zone (EEZ).[220] Studies have shown that the practice of closing entire segments of the Barents and Norwegian Seas for scheduled drills goes beyond simple signaling or demonstrations of military power.[221] However, the pattern of NOTAMs since 2022 has been geographically focusing more on areas closer to the Kola Peninsula *Bastion*.

In reality, they are aimed at obstructing Norwegian and particularly regional exercises (such as the 2018 Trident Juncture,[222] the 2019 Dynamic Mongoose, or the 2022 Steadfast Noon[223]). Moscow seeks to intimidate (if not deter) NATO[224] and practice sea denial towards the GIUK gap[225]- which is consistent with the overall Arctic posture.

In the context of NATO's enlargement, the pattern of NOTAMs carried out against Norwegian territory is likely to extend to Finland and Sweden in the near future, closer to Kola Peninsula installations This will ultimately lead to tension between Russia and NATO, further to risks of miscalculation and horizontal escalation in the region.

Overall, Russia's unprofessional military behavior in the Arctic could lead to accidents, incidents, and tactical errors. In turn, in the absence of clear lines of communication with the Kremlin and judging by Moscow's lack of restraint, these could lead to miscalculating each other's intent and potentially force escalatory behaviors. The simple fact that a more accessible Arctic will bring increased human presence, and therefore more risks of accidents, is also worrying.

As mentioned above, there is little incentive or benefit for Russia to escalate in the Arctic, not least in case of an accident. However, the current lack of circumpolar cooperation and the breakdown of lines of communication with the Kremlin could lead to miscalculations in the policy response or misjudging intentions. This is compounded by Russia's willingness to probe in the grey zone, especially as Moscow will likely respond to the perceived 'expansion' of NATO by intensifying low intensity warfare activities.

A final risk is linked to horizontal escalation, namely the fact that military tension in other theaters such as the North Pacific, North Atlantic, or the Baltic Sea could potentially spill over into the Arctic if left unaddressed. With Finland and Sweden within NATO, the Baltic Sea theater is a prime candidate—not least because Russia understands the region as a strategic continuum.

## 3: The NSR, the 'Ice Clause', and FONOPs

A final risk for Arctic security is linked to Russia's persistence in interpreting the NSR as a body of internal waters under Article 234 of UNCLOS ('Ice Clause', *see above*). In the context of Moscow's sense of Arctic vulnerability in the past few years, this has led the Kremlin leadership to believe that other circumpolar nations—read NATO—would soon try to contest Russia's appropriation of the NSR.[226] Further down the road, China would also be able to contest Russian views on the matter.

With climate change and a more accessible Arctic in mind, Moscow fears that its interpretation of the NSR's domestic status will become irrelevant because of seasonal sea-ice reduction across the AZRF.[227] The reality speaks for itself: in September 2023, Russia successfully conducted the first passage of energy vessels through the NSR without icebreaker escort.[228]

Russian fears have crystallized in the belief that NATO will try to conduct a freedom of navigation operation (FONOP) through the NSR in the near future. In other words, NATO and/or US forces would arguably seek to test innocent passage and freedom of navigation under international maritime law in Russian contested waters.

The Kremlin has been intensifying propaganda messages around the control of the NSR and the need to protect its status at all costs.[229] The mild version is that *'diverging interpretations'* of the status of NSR is a source of tension for Russia.[230] The aggressive version reads that NATO and the US want to '*storm*'[231] or '*snatch*'[232] the NSR from Russia's hands.

Further to this, Moscow feels vindicated by the recent confirmation by the U.N. Commission on the Limits of the Continental Shelf (UNCLCS) of Russia's extended Arctic continental shelf submission in February 2023.[233] Moscow also sees with weary eyes the December 2023 US announcement of the outer limits of its extended continental shelf, with claims on both sides of the Bering Strait.[234] Some voices within the Russian political and

military establishment are now reportedly pushing for the Kremlin to withdraw from UNCLOS altogether—although the country would still have to abide by its provisions.[235]

Both events are likely to be intentionally over-interpreted and exploited by the Kremlin to some extent,[236] especially since the 2022 Maritime Doctrine confirms the '*full-scale development of the continental shelf of the Russian Federation beyond the 200-mile exclusive economic zone'*. This might create tension with Denmark, Canada, and the US moving forward.

The Kremlin will have been sensitive to recent US declarations in this realm. Indeed, the 2023 Implementation Plan of the 2022 US NSAR is quite clear regarding protecting freedom of navigation across the Arctic in accordance with UNCLOS (objective 4.2.1), especially since progress is measured by '*the demonstrated ability to conduct exercises and operations in the Arctic*'.[237]

Moscow will have undeniably understood this provision as a direct attempt at conducting a FONOP into contested Russian waters. These fears are also reinforced by the '*egregious case*'[238] of USCGC Healy's passage through the Bering Strait and into the Chukchi Sea in September 2023.[239]

Russia's obsession with complete control over the NSR has pushed Moscow to lay traps against a potential FONOP through a series of recent legislative and doctrinal changes. The 2022 updated Maritime Doctrine enshrines the NSR as a '*legal regime of inland sea water'*.[240] The 2021 National Security Strategy denounces the *'use climate change as a pretext to limit and contain Russian development and control'* over the AZRF.[241]

The most visible legal changes occurred in the context of the December 2022 law updating the NSR legal status and rights of transit.[242] The law, titled '*On Internal Sea Waters, the Territorial Sea and the Contiguous Zone of the Russian Federation'*, is aimed at limiting freedom of navigation for foreign military assets in the NSR—whether surface vessels or submarines.[243]

Under the new provisions, effective immediately after the law was signed by Putin in December 2022, foreign military and government vessels have to apply for a transit permit at least 90 days in advance. Foreign military access is therefore severely restricted in internal waters and only taking place at Moscow's goodwill, on top of being limited to no more than one warship at a time. The provisions, however, do not extend to the whole NSR and territorial sea—a move that would attract too much international attention and criticism.

The 2022 law also anticipates potential foreign FONOPs as navigation is now limited south of three important straits by the NSR: the Kara Gate, the Vilkitskii Strait by Severnaya Zemlya, and the Sannikov Strait by the East Siberian Islands. However, navigation north of these straits remains technically possible.[244] The law is clearly an attempt at preempting potential operations by Western countries—if not force them to fall into Moscow's trap to defend freedom of navigation.[245]

The fear of losing the NSR as internal waters has also been reflected in military preparedness and adaptations. Recognizing that the Kremlin might have to '*defend the NSR alone*'[246], the Northern Fleet will focus some of its training on the defense of the Barents, Kara, and East Siberian seas both at sea and on land.[247]

The former head of the Navy Nikolai Yevmenov mentioned in December 2023 that the development of Russian naval capabilities in the Arctic was linked to preparing against '*aggressive action from other countries.*'[248] The FSB, in charge of the Federal Border Guard Service and the Coast Guard, also announced a plan in late 2022 to *'counter foreign influence'* along the NSR, while denouncing potential foreign FONOPs.[249]

Regardless of Russian fears, the fact remains that the Kremlin has created conditions whereby accessing contested waters in and around the NSR will provoke a form of escalation and heighten the risk of miscalculation in the Arctic. The associated costs and risks of conducting a US or NATO-led FONOP by the NSR have now increased substantially. Yet inaction would prove Russia right and lead to the belief that the NSR are indeed internal waters.[250]

# Conclusion and Policy Pathways

Russia is feeling vulnerable in a strategic 'backyard' where the Kremlin long believed it had absolute control and sovereignty. Russia's *control* is eroding as a consequence of the war against Ukraine in terms of the loss of conventional capabilities and Finland and Sweden joining NATO. Russian *sovereignty* is increasingly challenged by the impact of climate change on Moscow's interpretation of the status of the NSR as a body of internal waters.

Yet Russia remains a genuine military and security threat to the Arctic and other circumpolar nations. Despite the war, the protection of the AZRF is still a strategic priority for the Kremlin. The Russian leadership has not fundamentally changed its approach to the region or revamped its Arctic military posture. So far, it only adapted to this 'new' reality and feels vindicated doing so.

The policy consequences for the 'Arctic 7' countries are that they will have to accept, like elsewhere, a revanchist and potentially escalatory Kremlin in the region. Indeed, there is still a strong incentive for Russia to conduct low intensity warfare operations against NATO interests in the region and to keep probing for weakness.

The absence of cooperation with Russia and the weakening of the Arctic Council are further strengthening the risk of miscalculation and potential escalation caused by accidents, incidents, and tactical human errors in a region already deeply affected by climate insecurity.

Innovative ways of approaching deterrence against Russia in the Arctic are therefore necessary to ensure the 'NATO 7' prevails. Circumpolar nations must learn what 'Arctic deterrence' looks like - namely what specifically deters Russia in this particular regional setting.

Arctic-specific deterrence against Russia primarily relies on understanding and exploiting Russia's sense of conventional and geographic vulnerability, especially in the European High North. As conventional land forces on the Kola Peninsula have been substantially weakened,[251] deterrence should exploit the belief that Russia no longer has full and uncontested access to the AZRF.

This entails denying the perceived invulnerability of the *Bastion* in the European Arctic (proverbially 'bursting the Bastion bubble'), exploiting potential gaps left by recent changes in the Russian command structure across the region, and pushing back against the narrative that Moscow could interdict entire segments of the Norwegian, Barents, and Bering Seas.

A similar logic applies to Moscow's perception that it can be allowed to close off the NSR as internal waters and deny freedom of navigation. Without overtly pushing for a direct FONOP in the AZRF, better messaging around Western intentions in this regard is necessary to avoid miscalculations, while understanding the risks of inaction.[252] In any case, a 'FONOP vicious circle' should not be allowed to develop, where tit-for-tat demonstrations of access would a new normal.[253]

There are several ways to achieve better regional deterrence. First, NATO must figure out its exact role and place in an Arctic environment. After taking stock of what an 'all NATO Arctic' means strategically, the Alliance must find its natural areas of responsibility in the region, while adapting its command structure and processes to the imperatives of the Arctic.[254]

Concerning Russia, the Alliance should focus on strengthening peacetime defensive sea control in Arctic chokepoints.[255] NATO will also have to establish well-coordinated communication around its regional intentions, notably through military exercises—for instance, the newly reconfigured *Nordic Response* drills.[256] Arctic training and overall operational awareness will have to be strengthened.

Second, better deterrence can be achieved through better knowledge of the Arctic in the form of circumpolar domain and situational awareness, ISR systems, remote sensing capabilities, and early warning systems. The intrusion of 'Chinese spy balloons' into NORAD airspace in early 2023 further proves the Arctic environment remains distant, foreign, and unpredictable.[257]

In military terms, these represent 'left-of-launch' capabilities[258] that will help individual Arctic nations and NATO obtain a more accurate picture of the region and achieve information superiority. The goal is to achieve information and technological dominance over crucial parts of the spectrum, especially in the subsea and the airspace.[259] In other words, striving towards Arctic-enabled MDA "*from seabed to space.*"[260]

Technological dominance should lead Western partners to 'think Arctic first' in terms of hardware able to operate in the harsh environment and tailor procurement accordingly—notably for uncrewed and semi-autonomous systems, satellite systems and ground-based relays, multi-domain sensors, electronic warfare capabilities, etc.[261] All these endeavors will also require greater information sharing and resource pooling across existing structures within NATO, individual Arctic partners, as well as externally (Northern Group, Nordefco, etc.).

Increased deterrence also applies to Russia's low intensity warfare. Arctic nations and NATO must ensure better preparedness and resilience against Arctic-specific grey zone activities, notably in the subsea domain (cable disruptions and seabed warfare), electronic warfare and GNSS/GPS jamming, ASW and mine countermeasures, etc. The idea is to adapt NATO's forward defense approach to the Arctic theater in the conventional and unconventional realms.

Ultimately, like elsewhere, the 'Arctic 7' must determine the desired end state with Russia in the region. The question is larger than NATO itself, due to circumpolar geography and Russia's understanding of the region as a geostrategic continuum from the North Atlantic to the North Pacific.

# List of Acronyms

| | |
|---|---|
| **ADIZ** | Air Defense Identification Zone |
| **ASW** | Anti-Submarine Warfare |
| **AZRF** | Arctic Zone of the Russian Federation |
| **BAEC** | Barents Euro-Arctic Council |
| **C2** | Command & Control |
| **CUI** | Critical Undersea Infrastructure |
| **EEZ** | Exclusive Economic Zone |
| **FONOP** | Freedom of Navigation Operation |
| **FPZ** | Fisheries Protection Zone |
| **FSB** | Federal Security Service |
| **GIN** | Greenland-Iceland-Norway |
| **GIUK** | Greenland-Iceland-United Kingdom |
| **GNSS** | Global Navigation Satellite System |
| **GPS** | Global Positioning System |
| **GUGI** | Main Directorate of Deep-Sea Research |
| **IADS** | Integrated Air Defense System |
| **ISR** | Intelligence, Surveillance, and Reconnaissance |
| **MD** | Military District |
| **MDA** | Maritime Domain Awareness |
| **NATO** | North Atlantic Treaty Organization |
| **NOTAM** | Notice To Air Missions |
| **NORAD** | North American Aerospace Defense |
| **NSAR** | National Strategy for the Arctic Region |
| **NSR** | Northern Sea Route |
| **SAR** | Search and Rescue |
| **SLOC** | Sea Lines of Communication |
| **SSBN** | Nuclear-Powered Ballistic-Missile Submarine |
| **SSGN** | Nuclear-Powered Guided-Missile Submarine |
| **SSN** | Nuclear-Powered Attack Submarine |
| **UAV** | Uncrewed Aerial Vehicle |
| **UNCLCS** | United Nations Commission on the Limits of the Continental Shelf |
| **UNCLOS** | United Nations Convention on the Law of the Sea |
| **USCGC** | United States Coast Guard Cutter |
| **UUV** | Uncrewed Underwater Vehicle |
| **VDV** | Airborne Assault Troops |

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