Warming Arctic—
Geopolitical Rivalries
Risks to Continental Defense for North America and NATO’s Northern Flank in Europe

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Abstract

This article examines why a warming Arctic in a changing climate is a formidable challenge to homeland defense and national security for both the United States and its allies on a continental scale encompassing North America and NATO’s Northern Flank in Europe. With temperatures on the rise, polar ice is rapidly receding, rendering the Arctic Ocean navigable by surface vessels for an extended period during the summer months, independent of icebreaker assistance. This escalating trend amplifies the competition to assert influence over the Arctic’s trajectory, including its vital sea routes. Moreover, the ramifications of shifting sea levels on the delineation of international borders and exclusive economic zones, coupled with nations’ pursuit of new economic interests and preparedness for heightened activity, thrust the High North into the forefront of geopolitical contention and military engagements spanning maritime, air, space, and ground domains. This reality underscores an immediate imperative for a holistic strategy and command framework that seamlessly integrates the operational forces of the United States, Canada, and NATO Nordic member nations.

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Throughout the Cold War era, spanning from 1947 to 1989, the Arctic and its adjacent regions remained on the periphery of major flash points for conflict.1 Metaphorically, the Arctic and near-Arctic can be conceptualized as the “attic or roof of the world,” extending across North America, Europe, and Asia. The term Arctic finds its roots in the Greek word arctos, meaning “bear,” referencing the northern territories beneath the Great Bear constellation. Referred to colloquially as the High North, this expanse encompasses the Earth’s northernmost reaches.2 Geographically, it is delineated by the Arctic Circle, commencing at 66° 33’ North latitude. Furthermore, from a topographical standpoint, the

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Arctic and its adjacent regions, known as the near-Arctic, extend northward from the northernmost tree line, beginning at approximately 50.0° north latitude. Culturally, these territories serve as the ancestral homelands for Indigenous peoples, including the Aleut, Yupik, Inuit, First Nations, Métis, Saami, Nenets, Khanty, Evenk, and Chukchi communities, who have long inhabited these lands.⁴

Throughout the 1990s, the Arctic landscape remained predominantly the domain of polar scientists, the eight Arctic states with territorial claims, and indigenous communities residing within the Arctic Circle: the United States, Canada, Iceland, Denmark, Norway, Finland, Sweden, and Russia. Principally centered on scientific pursuits such as polar exploration, these nations primarily relied on the Arctic Council, established by the 1996 Ottawa Declaration, as a prominent platform for fostering multilateral cooperation on Arctic matters. As an international body, decisions and statements issued by the Arctic Council beyond their territorial boundaries necessitate unanimous agreement among the eight Arctic states.⁵

However, concurrent with the resurgence of global power competitions, the warming of the Arctic due to climate change has emerged as a pivotal catalyst for its transformation into a central arena for geopolitical completion.⁵ Predictably, this shift has broadened the scope of the Arctic Council, transforming it into a hub for international deliberations on Arctic governance. Notably, commencing in 1998, non-Arctic nations were accorded formal observer status, with this trend accelerating since 2006.⁶

Demonstrating the growing strategic importance of the Arctic, the People’s Republic of China has proclaimed itself a near-Arctic state, despite its northernmost point lying nearly 1,500 kilometers south of the Arctic Circle.⁷ Considering the lack of proximity, the declaration was certainly a geographically and culturally audacious proclamation going far beyond formal observer state status.

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These developments underscore the growing salience of the Arctic and near-Arctic as priorities for the West in the twenty-first century. Consequently, this article delves into why a warming Arctic, amid a shifting climate, poses a significant homeland defense and national security challenge, presenting substantial risks for decision making by the United States and its allies on a continental scale encompassing North America and NATO’s Northern Flank in Europe.

Why the High North Is an Arena for Geopolitical Competition

The warming of the Arctic has led to a profound change in the strategic importance of the High North, catalyzing heightened interest from non-Arctic nations, particularly over the past decade. Among NATO members, including the United States, Canada, Denmark, and Norway, control of the Arctic Ocean’s coastline is divided, with NATO nations overseeing 47 percent, while Russia commands the remaining 53 percent. Additionally, Finland, Iceland, and Sweden possess territories within the Arctic Circle.8

As global temperatures continue to rise due to climate change, the Arctic and the near-Arctic regions experience amplified warming.9 Elevated ambient air temperatures contribute to a rapid reduction in polar ice, accelerating the progression toward a seasonally ice-free Arctic Ocean and augmenting freshwater discharge into the North Atlantic.10 Concurrently, as climate-induced alterations reshape maritime pathways in the Indo-Pacific region, diminishing polar ice in the Arctic unveils the long-envisioned Northwest Passage, establishing a direct route between Europe and Asia via North America.11

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8 The Arctic Circle encompasses the Arctic Ocean and the territory of eight countries: US (Alaska), Canada (Yukon, Northwest Territories, and Nunavut), Denmark (Greenland), Iceland (Grímsey), Norway, Sweden, Finland, and Russia.

9 **Climate** refers to long-term average weather patterns usually calculated for multiple decades (minimally ≥ 30 years or more) for a specific geographical location typically expressed on a local, regional, or global scale that may produce slow-onset or sudden-onset impacts. Climate is defined as the expected frequency of specific states of the atmosphere, land, or ocean indicated by physical parameters such as temperature, precipitation, wind speed and direction, and salinity.


This transformative phenomenon facilitates commercial and naval navigation, as vessels traverse the region’s increasingly accessible waters. Notably, ships can now navigate between Europe and northern Asia during the summer months via the Bering Sea and the Canadian Arctic Archipelago, bypassing the need for icebreakers and elevating maritime activity within the Arctic.\(^\text{12}\)

The prolonged accessibility of the Arctic Ocean for unimpeded surface navigation has sparked intensified interest and competition among numerous stakeholders, each vying to influence the region’s trajectory. This heightened competition bears tangible direct and indirect implications for homeland defense and national security across North America and Europe on a continental scale. As this competition unfolds, swift action is imperative to discern the multifaceted dimensions of this rivalry, prioritize the attendant risks to continental defense and national security, and devise viable strategic and operational responses.

Of paramount importance is the cultivation of political resolve to sustain integrated action by the United States and its NATO allies over the long haul. This undertaking is formidable, given that the High North remains a remote locale characterized by harsh and unforgiving weather conditions, presenting distinct challenges for military operations.\(^\text{13}\) In essence, policy makers, operational forces, and their adversaries will grapple with the enduring time-space dilemma inherent in conducting military campaigns and fortifying resilience in this challenging environment.\(^\text{14}\)

First and foremost, the United States and its allies grapple with the enduring homeland defense challenge of simultaneously overseeing the Arctic’s sea routes to North America and traversing the Arctic Ocean via the top of the Scandinavian Peninsula in Northern Europe and the Greenland–Iceland–United Kingdom gap. This presents a substantial and longstanding risk, as safeguarding the western approaches from the North Atlantic to the United States and Canada constitutes a well-established mission.\(^\text{15}\) With a warming Arctic, they also need to control the southern Chukchi Sea, which is the major chokepoint for northern access to the Pacific Ocean via the Bering Strait.


\(^\text{15}\) Suzanne M. Holroyd, U.S. and Canadian Cooperative Approaches to Arctic Security (Santa Monica, CA: RAND, 1990), https://www.rand.org/.
During World War II, the Battle of the Atlantic, spanning from 1939 to 1945, necessitated a concerted effort by the US Navy, US Coast Guard, UK Royal Navy, and Royal Canadian Navy to counter German submarines and surface vessels, ensuring the uninterrupted flow of vital sea lines of communication (SLOC) to sustain logistical operations throughout the European theater. Similarly, throughout the Cold War era, defending the United States and Canada from strategic (nuclear) threats while simultaneously securing the North Atlantic sea lanes and air corridors for extensive resupply efforts in the event of a Warsaw Pact incursion into Europe was imperative.

Nonetheless, the extension of ice-free navigation in the Arctic Ocean, both temporally and spatially for surface vessels, introduces complexities to maritime and air defense, amplifying the demand for dedicated command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) assets. Last year, NATO Secretary General Jens Stoltenberg underscored the existential threat to national security posed by the potential loss of control over SLOCs for North American continental defense and the defense of NATO’s Northern Flank by Nordic countries. He cautioned that Russia and China have pledged to enhance their cooperation in the Arctic, forging a “deepening strategic partnership that challenges our values and interests.”16 This threat is palpable in the maritime domain, as evidenced by US Coast Guard patrols encountering multiple Russian and Chinese naval vessels operating off Alaska’s coast, indicative of close military collaboration between Moscow and Beijing in proximity to US waters.17 While this development may be disconcerting, it is not entirely unexpected.

Under Vladimir Putin’s leadership, Russia pursues three primary objectives in the Arctic: (1) create a staging ground to project military power, mirroring its efforts in the North Atlantic; (2) establish a forward line of defense against foreign incursion along the Northern Sea Route (NSR, Северный морской путь) as the Arctic attracts increased international investment; and (3) secure Russia’s economic future in the Arctic.18 Despite its ongoing war in Ukraine, Russia is committing substantial budgetary increases to maintain a dominant military position in the High North. By expanding its bases and military capabilities in the Arctic, Moscow is hedging on the region’s future economic and military significance.

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Likewise, the PRC harbors similar ambitions as Beijing attempts to expand its military presence in the region. Viewing the West as geopolitical adversaries, China and Russia currently align in their national interests concerning the Arctic.\textsuperscript{19}

The changing climate in the Arctic poses a spectrum of risks to the United States, Canada, and the Nordic members of NATO. Beyond traditional homeland defense concerns related to sea approach control, these risks encompass broader national security issues, notably stemming from the impact of shifting sea levels on maritime extensions of international borders.\textsuperscript{20} The delineation and potential alterations in international boundaries, particularly between nations such as the United States and Canada or Russia and exclusive economic zones (EEZ), give rise to significant military, diplomatic, and economic apprehensions. These concerns collectively influence defense and national security and are an organic byproduct of technological advancements that facilitate natural resource extraction, including oil and gas hydrocarbons, polymetallic minerals, sand and gravel aggregates, placer deposits, and fisheries, thereby attracting economic interest from both Arctic and non-Arctic states.\textsuperscript{21}

For example, reflecting Russia’s enduring objective to develop its northern and eastern territories, a goal entrenched since its czarist and Soviet eras, the Russian polar expedition Arctic-2007 made a symbolic statement on 2 August 2007. Placing a titanium Russian Federation flag on the seabed beneath the North Pole, the expedition asserted Russia’s claim to undersea Arctic areas and the resources lying within the depths of the Arctic Ocean.\textsuperscript{22}

China and India are increasingly active in pursuing economic development and investment opportunities in the Arctic, particularly focusing on the region’s abundant natural resources, including fisheries and hydrocarbons/minerals. This trend underscores the region’s burgeoning strategic importance. Reports indicate that Beijing is planning to build the world’s largest icebreaker and is allocating tens of billions of dollars toward energy initiatives, including investments in liquefied


\textsuperscript{22} Elana Rowe, \textit{Russia and the North} (Toronto: University of Ottawa Press, 2009).
natural gas (LNG) projects in the Russian North, as well as infrastructure development and research projects in the Far North. Meanwhile, under Prime Minister Narendra Modi’s government, New Delhi has been actively promoting investment by Indian companies in Arctic energy and mineral resources, capitalizing on India’s rapidly expanding economy. Notably, in March 2018, India marked a significant milestone with its first shipment of LNG from the Russian Arctic.

A Framework for Crafting Military and Diplomatic Responses

Having delineated current and plausible future risks to continental defense for North America and NATO’s Northern Flank in Europe, attributable to the warming of the Arctic in a changing climate, it is important to detail actionable steps utilizing military and diplomatic resources to mitigate these risks or minimize their adverse effects. We present a multipronged approach aimed at crafting responses that address the interconnected military, economic, and environmental/natural resources dimensions of these risks.

The proposed framework for response planning is scalable and emphasizes key elements of military and diplomatic power available to the United States, Canada, and NATO’s Nordic member states, supplemented by other NATO allies with interests in the Arctic or near the Arctic. Implicit in the framework are two core assumptions grounded in the High North’s strategic importance and centrality as an arena of geopolitical competition:

- The evidence indicates that Russia’s and China’s military challenges in the Arctic and near-Arctic will remain constant and potentially escalate in the near- to mid-term future. The resultant friction will substantially heighten the tempo of Western surface and subsurface maritime, air, and ground operations.

- The weight of evidence suggests that efforts to extract commercially valuable natural resources, especially minerals, and exploit fisheries in the Arctic, particularly in the Arctic Ocean, will intensify. The resultant friction will exert considerable pressure on Western nations with Arctic territories to employ diplomatic and economic measures aimed at mitigating environmental degradation or resource depletion.

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24 “India,” Arctic Institute, 1 August 2022, https://www.thearcticinstitute.org/.
The first, and perhaps politically most vexing question to answer is: which risks hold the utmost significance for policy makers and why? This knowledge is essential for establishing response priorities, but the answer invariably is fluid as new information emerges or the situation changes. Hence, flexibility and scalability are imperative attributes of both military and diplomatic responses, ideally integrated and coordinated rather than treated as disparate options for maintaining sovereignty, ensuring effective deterrence, conducting homeland defense activities, and informing strategy. Nonetheless, this approach would necessitate policy makers—particularly elected officials—to determine their commitment to implementing a strategy founded on genuinely actionable measures supported by the political will to confront the escalating great-power rivalries in the Arctic.

The next step in formulating responses necessitates acknowledging the challenges posed by the Arctic’s extreme weather conditions, rugged terrain, vast expanse, and geographical remoteness, which impede swift redeployment and present a classic time-space dilemma for military operations and resilience. The logistical hurdles in the Arctic are monumental, particularly in a changing climate scenario. Simply put, establishing a robust deterrent in the Arctic requires a substantial presence of military assets and accompanying infrastructure physically situated within the region.25

This underscores the imperative for a systematic, collaborative approach among the United States, Canada, and their NATO allies—particularly the Nordic countries—that explicitly prioritizes capabilities and investments aligned with desired outcomes. This entails making genuine trade-offs across various defense appropriations to address the homeland defense challenge, determining the necessary investments and types of Arctic military capabilities required to be stationed within the region rather than deployed from external sources during emergencies or in response to hostilities. Setting priorities inevitably necessitates making challenging decisions regarding basing and training personnel for potential cold-weather conflicts, allocating limited defense funding to initiatives such as revitalizing Canada’s deep-water Port of Churchill, and developing infrastructure to deepen the channel to a depth of 12.2 meters (40 feet) for a viable deep-water port in Nome, Alaska.

This port should be capable of accommodating large commercial vessels and naval warships, with the exception of aircraft carriers. Additionally, it involves maintaining or constructing new road networks and rail lines, ensuring reliable power supply infrastructure, acquiring equipment suitable for cold-weather operations, establishing redundant secure communications systems or satellite resources for C4ISR, and rationalizing command structures to ensure seamless force integration across the domains of warfare and among national partners. As a potential outcome, this could entail establishing joint US/Canadian Naval Bases and logistics hubs in Churchill, Manitoba, and Nome, Alaska. These installations would feature comprehensive air, rail, and land connections, complemented by parallel facilities in eastern North America, Greenland, Iceland, and the Scandinavian Peninsula to enhance resilience.

Similarly, the addition of Finland and Sweden to NATO could incentivize streamlining NATO’s command structure and consolidating the Nordic countries under a single military command rather than dispersing them among existing commands. This would explicitly designate the Arctic as a distinct theater of operations for NATO, with a dedicated command structure. In addition to maintaining ongoing surface and subsurface maritime presence, it is imperative to possess robust long-range precision fires and air defense capabilities, including advanced fighter aircraft, to ensure air defense and superiority as part of the Arctic military footprint.

From a practical perspective, a deliberate rationalization of the command structure for the continental defense of North America and NATO’s Northern Flank in Europe warrants exploration to deliver an integrated capability facilitating a real-time common operating picture across the Arctic approaches to North America and the sovereign territory of NATO’s Nordic country members. A similar initiative led to the establishment of the North American Aerospace Defense Command (NORAD). In the Arctic context, integrating elements and capabilities across all six domains—ground, maritime, air, space, information operations, and cyber—is essential to deliver an integrated capability facilitating a real-time common operating picture across the Arctic approaches to North America and the sovereign territory of NATO members.

Simultaneously, the Western members of the Nordic Council should harness their collective diplomatic resources, including economic policy, employing a whole-of-government approach to advance shared interests in the Arctic and near-Arctic. A logical initial step could involve the United States ratifying the United Nations Convention on the Law of the Sea, thereby dispelling any ambigu-

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ity regarding America's entitlement to resources extending to the North Pole amid changing sea levels that impact maritime extensions of international borders. This action not only preemptively safeguards commercially valuable resources but also mitigates the risk of other nations exploiting vulnerable fisheries and endangering fragile Arctic ecosystems.

Additionally, the United States and its allies could utilize their existing state-of-the-art spatial analytical techniques and satellite monitoring to continuously update the delineation of maritime borders, EEZs, and national border extensions. This proactive measure serves to preemptively address future boundary disputes resulting from sea-level changes and shifting shorelines without necessitating involvement from third parties. Just as the PRC unilaterally declared near-Arctic state status, Western nations with genuine territorial interests in the region might collectively issue a formal statement asserting that there are no "near-Arctic" countries based on historical, geographical, and cultural grounds.

Conclusions

Against a backdrop of shifting international competition marked by strategic uncertainty and opportunity, the warming of the Arctic and near-Arctic inevitably amplifies the significance of the High North as a focal point for geopolitical rivalry and military operations spanning the maritime, air, space, and ground domains. The escalating challenges posed by a warming Arctic in a changing climate compel US and allied decision-makers to confront the imperative of formulating a cohesive and enduring strategy, bolstering investments in capabilities, and establishing an integrated command structure for what will persist as a remote and inhospitable region inherently hostile to military operations.27

Such proactive planning necessitates a coherent vision coupled with unequivocal political support to be viable, a task often fraught with challenges, particularly

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in a single democracy, let alone a coalition encompassing multiple NATO allies across North America and Northern Europe.\textsuperscript{28} To effectively deter or combat emerging threats, it is imperative to capitalize on the robust operational connections between and expanded roles spanning the maritime, air, space, and ground domains for organizations such as NORTHCOM, Canada Command, and the Nordic countries on NATO’s Northern Flank. These entities must be poised to address the homeland defense and national security challenges of the twenty-first century in the Arctic and near-Arctic.

The gravity of the risk posed to continental defense for North America and NATO’s Northern Flank in Europe, compounded by ongoing geopolitical rivalries unfolding in a warming Arctic, underscores the imperative for a proactive strategy grounded in integrated capabilities and sustained political will.

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