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Research Article

## A Divided Arctic: Is an Ice Curtain Emerging?

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**Abstract:** The era of Arctic exceptionalism has ended, bringing uncertainty to a region with tremendous strategic and economic potential. With Finland and Sweden joining the North Atlantic Treaty Alliance, the Arctic faces an unprecedented division: around half of the Arctic aligns under the NATO flag, while the other half remains Russian. Climate change is a critical factor driving regional activity, and the warming trends are affecting the region's economic development, infrastructure, and military activity. With Western sanctions blocking technological and economic cooperation with Russia, China is well-positioned to fill the gap. The "no limits" friendship between Russia and China facilitates increased Chinese investment and presence in a region historically wary of non-Arctic states. This article will examine how climate factors enable both the strengthened ties among like-minded Western Arctic nations and the growing relationship between Russia and China to assess whether a new "ice curtain" is emerging as strategic competition intensifies in the Arctic.

**Keywords:** Arctic, security, strategic competition, climate, Russia, China.

### Introduction

In recent years, the Arctic (Figure 1) has received an unprecedented level of attention due to its precarious position at the intersection of changing climate, economic, geopolitical, and security dynamics. Climate change remains the primary strategic driver, opening the region to new economic opportunities while also posing significant regional security challenges. Once known for peace, stability, and its hostile, inaccessible environment, the Arctic is now at the forefront of security discussions. As multiple trends converge in the High North, the Arctic is emerging as a new hotspot in an era of strategic competition after decades of regional cooperation.



**Figure 1: The Arctic** (Source: NOAA Arctic Report Card with author’s edits, <https://arctic.noaa.gov>).

Climate trends remain a key driver of regional activity, with the Arctic warming at a rate likely four times faster than the global average.<sup>1</sup> The region is being transformed by climate events and increased extreme weather phenomena, leading to significant coastal erosion, permafrost thaw, and ice melt. This fragile ecosystem is undergoing rapid changes as air, water, and land temperatures rise. Alongside these challenges, however, warming trends are also creating new opportunities in the region.

Long ice-covered and largely inaccessible, the Arctic is believed to hold trillions of dollars worth of natural resources, including significant supplies of oil,

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<sup>1</sup> Mika Rantanen, Alexey Karpechko, Antti Lipponen, Kalle Nordling, Otto Hyvärinen, Kimmo Ruosteenoja, Timo Vihma, and Ari Laaksonen, “The Arctic Has Warmed Nearly Four Times Faster Than the Globe since 1979,” *Communications Earth & Environment* 3 (2022), article 168, <https://doi.org/10.1038/s43247-022-00498-3>.

gas, and rare earth elements essential for fueling the green energy transition. Its potential as a maritime corridor for trade and undersea cables—through which international data and financial transactions flow—could also be worth billions.<sup>2</sup> Climate change is increasing access to this maritime domain, enabling the discovery and exploitation of previously inaccessible natural resources. In the decades ahead, the world’s navies may utilize these strategic corridors to uphold national security interests or transit between the world’s oceans, as Russian warships currently do. Both Arctic and non-Arctic states are looking northward with new strategic approaches, investments, and partnerships.<sup>3</sup>

Russia’s 2022 invasion of Ukraine effectively cut Western financial and diplomatic ties in the Arctic region. Even long-standing cooperation through the Arctic Council came to a halt during Russia’s Chairmanship. Nevertheless, Russia depends heavily on developing its Arctic zone’s abundant natural resources to sustain economic growth. With Western partnerships now out of reach, Russia has turned to China to fill the looming gap in the Arctic. Under the “no-limits” friendship declared between Chinese President Xi Jinping and Russian President Vladimir Putin, the two nations have intensified their cooperation in the region.

The return to great power politics is intensifying the desire among competing states to establish interests in the Arctic region. The erosion of the cooperative spirit that has defined the region over the past three decades could have a profoundly negative impact on Arctic governance, scientific collaboration, environmental protection, and sustainable development. Indeed, the emergence of an ice curtain—nearly eighty years after Churchill’s famous declaration of an iron curtain descending across Europe—will particularly hinder cooperation in critical areas such as understanding climate change, preserving fragile ecosystems, and protecting the environment from unscrupulous resource extraction practices. This situation may also adversely affect Indigenous communities in the region, limiting dialogue and collaboration in the circumpolar Arctic. Most concerning, the militarization of the region could reach new heights – a dangerous prospect given the lack of mechanisms for dialogue and deconfliction. The Arctic security dilemma that has already taken root may continue to escalate as Western nations seek to counterbalance Russian militarization and a nascent Sino-Russian Arctic partnership.

However, the emergence of an ice curtain between the Western, like-minded Arctic nations and a Russian-Chinese Arctic partnership is not a foregone conclusion. In fact, the relationship between China and Russia is one of necessity, rooted in mutual suspicion and distrust. Additionally, the Western Arctic-7 nations have divergent approaches to the region, which policy differences in Washington could further amplify. The Arctic sub-regions exhibit vast differences in

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<sup>2</sup> The Northern Sea Route and Northwest Passage.

<sup>3</sup> There are eight Arctic states: Canada, Kingdom of Denmark (Greenland), Finland, Iceland, Norway, Russian Federation, Sweden, and the United States. The five Arctic coastal states are: Canada, Kingdom of Denmark (Greenland), Norway, Russian Federation, United States.

climate, population, economic development, and security infrastructure. The needs of the European High North contrast sharply with those of the North American Arctic, and national policies reflect these distinctions. Sustainable economic development, environmental protection, and the avoidance of security dilemma dynamics are top priorities for European capitals. The European Union has prioritized the Arctic, emphasizing economic development, environmental regulations, and community engagement in the European High North. While European Arctic capitals recognize the threat posed by Russia, their approach to China differs from that of Washington. Nevertheless, the recent enlargement of NATO shifts the Alliance's security focus northward, and the unity displayed among the Arctic-7 has been notable thus far. We are undoubtedly on the cusp of a significant geopolitical divide in an era marked by strategic competition and polycrisis – even in a region that has generally been on the periphery of geopolitical conflict.

### **Climate Trends – A Strategic Enabler**

To develop a comprehensive understanding of Arctic security, it is essential to identify the critical drivers of regional strategic trends. The warming Arctic climate is the primary catalyst for increased interest, activity, and transformation within the region. This article adopts the most common definition of the Arctic, identifying it as the area north of the Arctic Circle (66.5 degrees North) while acknowledging that other definitions exist based on factors such as temperature, forest line, permafrost, ice coverage, population, and political boundaries. Further, each Arctic sub-region has unique characteristics, including economic activity, population density, military presence, weather patterns, ice coverage, temperature fluctuations, ocean currents, and ecosystems. Although this article will address the Arctic as a single region, it does so with an awareness of the substantial differences among its sub-regions.

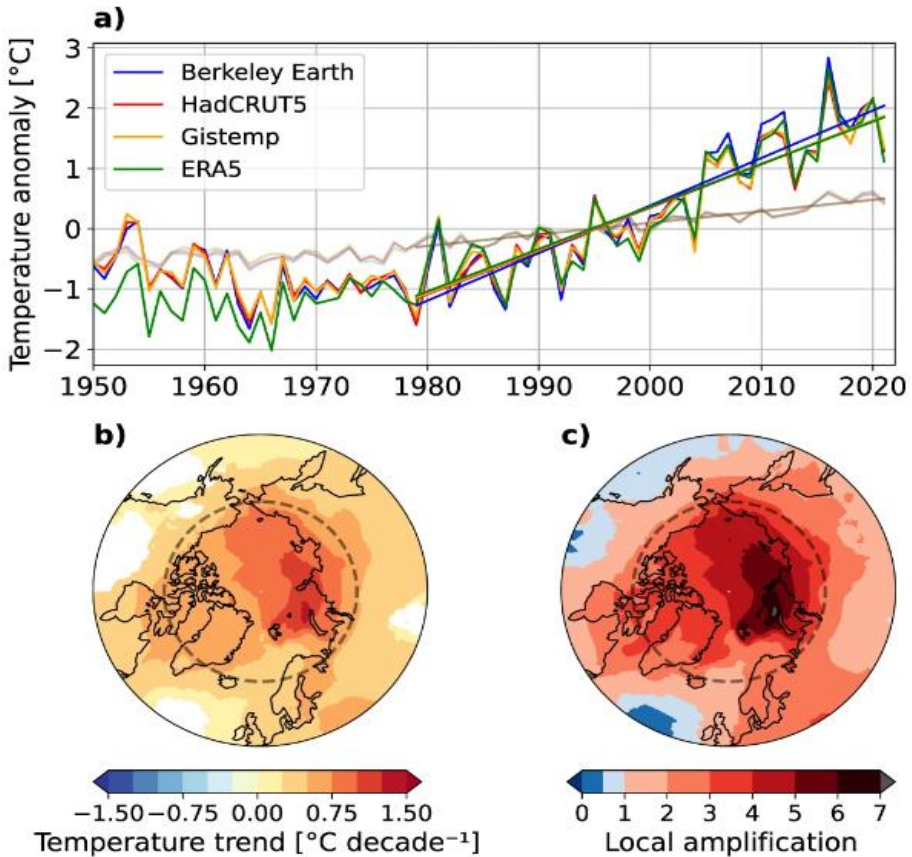
Scientific observations and data consistently show that the Arctic is warming significantly faster than the global average, largely due to a phenomenon known as Arctic amplification. Recent studies using multiple observational datasets indicate that the Arctic has been warming nearly four times faster than the global average over the past 43 years.<sup>4</sup> Several factors contribute to Arctic amplification, including oceanic heating and the ice-albedo effect resulting from diminished ice coverage. While snow and ice reflect a portion of the sun's energy, areas lacking ice absorb more energy, leading to further warming and amplifying existing trends. The loss of sea ice is one of the primary mechanisms driving Arctic amplification, as supported by climate models and observations.<sup>5</sup> However, regional warming varies across different Arctic sub-regions. For example, trends

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<sup>4</sup> Rantanen et al., "The Arctic Has Warmed Nearly Four Times Faster."

<sup>5</sup> Rantanen et al., "The Arctic Has Warmed Nearly Four Times Faster."

suggest that the Eurasian sector of the Arctic—especially around Novaya Zemlya—may be warming as much as seven times faster than the global average (Figure 2).<sup>6</sup>



**Figure 2: Annual mean temperature evolution in the Arctic:** a) Annual mean temperature anomalies in the Arctic (66.5°–90°N) (dark colors) and also displayed are the linear temperature trends for 1979–2021; b) Annual mean temperature trends for the period 1979–2021, derived from the average of the observational datasets; c) Local amplification ratio calculated for the period 1979–2021, derived from the average of the observational datasets.<sup>7</sup>

According to the 2023 NOAA Arctic Report Card—a leading annual assessment of the region—the Arctic is becoming “increasingly warmer, less frozen,

<sup>6</sup> Rantanen et al., “The Arctic Has Warmed Nearly Four Times Faster.”

<sup>7</sup> Rantanen et al., “The Arctic Has Warmed Nearly Four Times Faster.”

and wetter, with regional extremes in weather, climate patterns, and ecosystem responses.”<sup>8</sup> Phenomena like Arctic tsunamis, boreal forest fires, permafrost thaw, disruptive storms, and tundra greening are increasingly common in a region historically characterized by snow and ice. Permafrost thaw presents significant challenges for local infrastructure, ports, communities, and defense forces. Beyond these regional issues, the thaw could release vast amounts of stored carbon into the atmosphere, along with other toxins such as mercury, methane, bacteria, and long-dormant viruses.

With the warmest summer surface air temperatures on record, widespread melting has occurred throughout the region, particularly affecting the Greenland Ice Sheet and regional sea ice. The Greenland Ice Sheet has experienced twenty-five consecutive years of ice loss, and its complete melting could have significant global ramifications, with estimates suggesting a rise in global sea levels by 6 to 7 centimeters. Such an increase could cause devastating damage to low-lying communities worldwide.

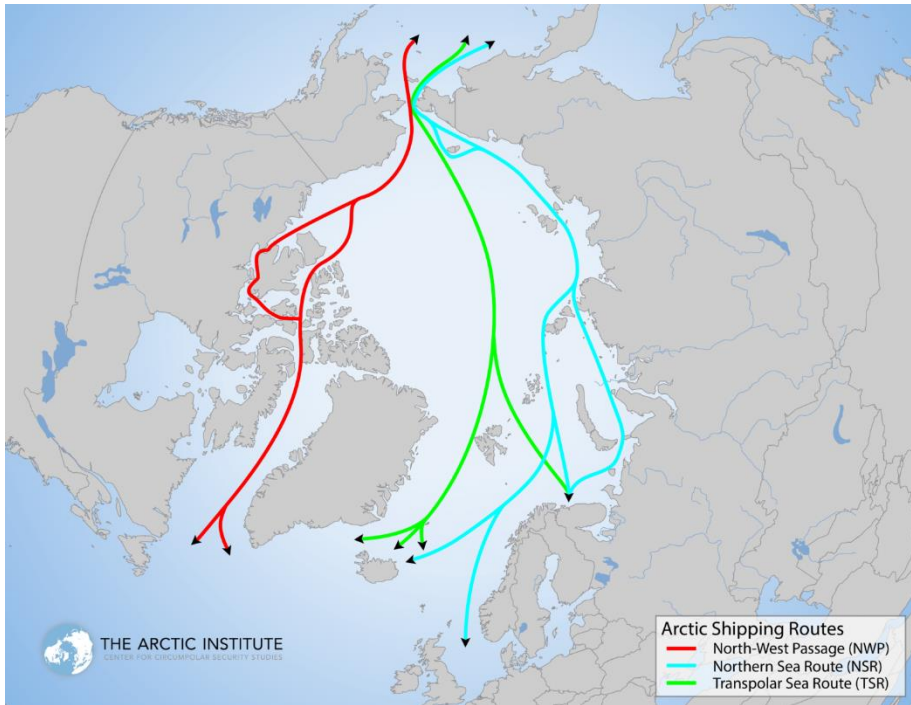
With almost all regions of the Arctic Ocean being ice-free in August, there has been an increase in ocean phytoplankton blooms in all areas except the Chukchi and Beaufort Seas and the Canadian Archipelago. Rising sea levels have contributed to coastal erosion and have inundated terrestrial permafrost, putting approximately 2.5 million square kilometers (nearly one million square miles) of subsea permafrost at risk of thawing. Furthermore, the 2023 circumpolar average peak tundra greenness reached the third highest level in the 24-year data collection period. Indeed, extreme heat, increased precipitation, and declining sea ice have characterized the Arctic in 2023.<sup>9</sup>

Climate change is having significant impacts on both the regional ecosystem and human activity. Sea ice coverage, in particular, has significant implications for maritime traffic. Notably, the seventeen lowest sea ice minimum extents have all occurred in the past seventeen years since 2007, sparking the interest of both commercial and military vessels. In late August 2023, non-ice-hardened ships were able to transit both the Northern Sea Route and the Northwest Passage (see Figure 3), although draft limitations will persist for these routes regardless of ice coverage. While commercial transit shipping interest has been tempered by limited draft (which restricts the size of vessels and the amount of cargo), unpredictable weather, and high insurance costs, there is still an increase in the shipment of natural resources to market. Additionally, Chinese commercial vessels are likely gaining experience in anticipation of the future opening of the unlimited draft transpolar shipping route.

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<sup>8</sup> R.L. Thoman, T.A. Moon, and M. L. Druckenmiller, eds., “NOAA Arctic Report Card 2023: Executive Summary,” NOAA Technical Report OAR ARC; 23-01 (National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 2023), <https://doi.org/10.25923/5vfa-k694>.

<sup>9</sup> Thoman, Moon, and Druckenmiller, eds., “NOAA Arctic Report Card 2023,” 4.



**Figure 3: Arctic Shipping Routes (source: The Arctic Institute).**

Though the impact of climate change is already highly visible in the Arctic, many climate and weather phenomena in the region remain poorly understood. Scientists from around the world have been collaborating to share research, develop more sophisticated models, and deepen understanding of the ongoing changes and their regional and global impacts. However, the suspension of institutional cooperation with Russian scientists has led to a significant data gap for roughly half of the Arctic landmass. This halt in scientific collaboration hampers a comprehensive understanding of the region’s climate dynamics. The effects will be felt most sharply in Russia—home to the largest share of the Arctic, with over 24,000 km of Arctic coastline and more than half of the Arctic population—but also globally, as scientists strive to predict emerging climate trends and their implications for the world economy, security, and stability.

The climate-security nexus has become a critical concern for the High North. As the Arctic opens, northern nations are reassessing their domain awareness and regional infrastructure to ensure they can continue to protect strategic interests. Non-Arctic states, including China, are looking northward with increasing interest in the potential of newly accessible maritime routes and natural re-

sources. Undoubtedly, the Arctic will become a major arena for strategic competition, driven by its abundant natural resources, expanding maritime domain, and rising levels of regional militarization.

## Arctic Strategic Interests

Although the Arctic is home to only about four million inhabitants, representing a mere 0.05% of the global population,<sup>10</sup> it holds a disproportionate influence on global security due to its strategic location, economic potential, and the wide array of stakeholders involved. Covering roughly 6% of the Earth's surface, the Arctic Ocean, despite being the smallest of the world's oceans, has drawn global attention. Simply put, what happens in the Arctic does not stay there. Climate and technological advancements are enabling greater access to the region's economic resources while profoundly impacting human and hard security. Geopolitical dynamics are also reshaping the Arctic, ensuring that it will no longer remain an isolated zone of cooperation.

The Arctic's abundant natural resources have sparked global interest. In 2008, the U.S. Geological Survey's Circum-Arctic Resource Appraisal—still the most comprehensive regional assessment—estimated that the Arctic contains over one-third of the world's natural gas supply and 13 percent of its oil reserves, excluding unconventional resources such as oil shale, tar sands, and gas hydrates. These oil and gas reserves are valued in the billions; however, the survey also estimated that nearly 84 percent of these resources lie offshore, making exploration and development particularly challenging and costly. Furthermore, the Arctic faces normative challenges in oil and gas production, as fossil fuels have directly contributed to the region's accelerating warming trends.

Rare earth elements (REEs) have been discovered both onshore and offshore across the Arctic. The vast abundance of metals in Greenland has attracted significant international interest, particularly from China. As nations transition away from fossil fuels, REEs will be crucial for sustaining green energy. Additionally, the Arctic is a source of renewable energy, including wind, hydropower, solar, geothermal, and even tidal energy.

The Arctic region also holds significant fish stocks, attracting global fishing fleets that increasingly venture northward as fish migrate to warmer northern waters. The central Arctic Ocean, classified as high seas under the United Nations Convention on the Law of the Sea, covers an area of approximately 2.8 million square kilometers—about the size of the Mediterranean Sea. In 2018, ten parties signed the International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean. This agreement, involving major fishing nations

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<sup>10</sup> The Arctic population is approximately four million, with approximately 2.5 million located in the Russian Arctic. Roughly ten percent of the Arctic population are indigenous. Arctic Council, "Arctic Peoples," accessed February 15, 2024, <https://arctic-council.org/explore/topics/arctic-peoples/>.



including Arctic coastal states, China, Japan, South Korea, and the European Union, aims to prevent commercial fishing in the region for the next 16 years to allow for a better understanding of its ecosystems and fish stocks in order to manage them more effectively. However, as global demand for protein rises, fishing fleets may increasingly seek to harvest in northern waters, which could disrupt the already fragile ecosystem and potentially spark conflicts.

## **A Complex Region Unthaws**

The Arctic has a long history marked by both cooperation and conflict. While the region has been inhabited for over 20,000 years and has seen centuries of strife, its harsh environment, difficult operating conditions, and vast distances have generally limited the scale of conflict. During the Cold War, the predominant concern was the threat posed by aerial attacks, given that strategic bombers or intercontinental ballistic missiles were likely to follow polar routes. While submarines have long been active beneath the Arctic ice, the sensitive nature of these operations has limited public discussion. After the Cold War, Russian military activity in the Arctic was dramatically reduced from the heightened levels seen during that period.

For decades following Gorbachev's 1987 "Zone of Peace" speech in Murmansk, the Arctic was generally regarded as a unique region of cooperation. This spirit was reinforced by the 1991 multilateral Arctic Environmental Protection Strategy and the 1996 Ottawa Declaration, marking an era of peaceful collaboration on environmental, economic, and indigenous issues. The region's unique characteristics—including its harsh climate, fragile ecosystem, indigenous communities that transcend national borders, and drive for economic development—fostered dialogue and cooperation, even in the face of emerging crises elsewhere in the world.

During the peace dividend decades, the Arctic was considered a "High North, Low Tension" region, with cooperation prevailing even after the 2014 annexation of Crimea. However, Russia's 2022 invasion of Ukraine has made it clear that the Arctic's geopolitical landscape is no longer business as usual.

## **Cooperative Past ... Competitive Future?**

Established in 1996, the Arctic Council has become a prominent intergovernmental forum fostering cooperation in the Arctic, particularly in sustainable development, environmental protection, search and rescue, scientific collaboration, and indigenous issues. The Council comprises the eight Arctic "member" nations—Canada, the Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States—as well as thirteen "observer" states, six Permanent Participants representing indigenous groups, and additional non-governmental and intergovernmental organizations as observers. Six working groups have been established to execute the programs and projects mandated by the Arctic Council Ministers, covering a wide range of topics from climate

change to emergency response. Notably, the Council has also facilitated three legally binding agreements among the eight Arctic States, focusing on search and rescue (2011), marine oil pollution preparedness and response (2013), and scientific cooperation (2017).

Significant disruption has followed Russia's 2022 invasion of Ukraine, which occurred during Russia's term as Chair of the Arctic Council (2021-2023). In response, the other Arctic nations suspended dialogue and participation in Council activities to protest what they viewed as a violation of the Council's foundational principles. By June 2022, the Arctic-7 nations announced they had resumed some Council projects, albeit with limited Russian involvement. With the rotational chairmanship shifting to Norway in May 2023, questions about the Council's future direction have emerged. "Polarization has reached the Arctic," stated Anu Fridrikson, executive director of Arctic Frontiers, at the annual event in February 2024, a sentiment echoed by senior leaders from the Arctic-7 nations. Despite these challenges, cautious optimism remains that some level of cooperation can continue.<sup>11</sup>

Indeed, even as securitization dominates discussions, there remains a recognition of the complexity of Arctic geopolitics and the region's unique status. Although high-level ties between Moscow and the Arctic-7 capitals are limited—and non-existent at the Arctic Council's ministerial level—signs suggest that some connections may persist at the working level. The Arctic Council's Permanent Participants met last fall in Tromsø, Norway, and again this February to discuss the Norwegian chairmanship and ongoing projects. Notably, two Russian indigenous representatives reportedly attended the recent meeting in person, with others participating virtually.<sup>12</sup> However, there appears to be little enthusiasm for resuming full relations with Russia in the Council. The Western Arctic nations remain unified in their support for Ukraine and are unlikely to reinstate full ministerial discussions with Russia, although some limited cooperation may continue at the working group level.

The lack of dialogue on Arctic affairs coincides with an increase in military activity in the region, reaching its highest levels in decades, although still well below Cold War intensities. Russia has refurbished and reopened several Soviet-era bases while prioritizing regional air defense capabilities, upgrading radar systems, and investing in electronic warfare. The Northern Fleet, based in the Kola Peninsula, comprises Russia's most capable naval assets. This fleet reportedly hosts eight ballistic missile submarines, ensuring second-strike capability, along with possibly sixteen additional submarines, including the advanced *Severodvinsk* and auxiliary submarines likely associated with the Main Directorate of Deep-Sea Research.

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<sup>11</sup> Mia Bennett, "While Hard Lines Are Drawn at Arctic Frontiers, Cooperation with Russia Continues Off-stage," *Cryopolitics*, February 2, 2024, <https://www.cryopolitics.com/2024/02/02/experts-concede-geopolitics-have-reached-the-arctic>.

<sup>12</sup> Bennett, "While Hard Lines Are Drawn at Arctic Frontiers, Cooperation with Russia Continues Off-stage."

While the Northern Fleet has close to forty surface vessels, they are of varying combat effectiveness. Yet, some are equipped with highly capable offensive weapon systems, such as the SS-N-19 *Shipwreck* and SS-N-22 *Sunburn* anti-ship missiles.<sup>13</sup> Arctic ground capabilities have likely been degraded by the war in Ukraine, but essential Arctic combat assets remain, including vehicles and systems designed for cold-weather operations, as well as more traditional means of transportation like reindeer, dogsled teams, skis, and snowmobiles.<sup>14</sup>

The Arctic has also experienced a sharp increase in the frequency and scale of military exercises in recent years. NATO's Exercise Trident Juncture 2018 brought together over 50,000 personnel from all NATO allies and then-NATO partners Sweden and Finland to exercise in a defensive Article 5 scenario. Since then, subsequent NATO exercises have focused on enhancing the Alliance's capabilities in the region and improving interoperability. NATO's upcoming Exercise Nordic Response—formerly known as Cold Response, which has taken place in Northern Norway biennially—will occur in March 2024. This exercise will bring over 20,000 ground, air, and sea troops to the region to strengthen cold-weather operational capabilities and demonstrate NATO's commitment to regional deterrence and defense.<sup>15</sup>

Russia has also been active in regional military exercises, notably the *Ocean Shield* Exercise in August 2019 and the *Grom-19* in October 2019. These exercises tested Russia's strategic nuclear forces and included ten Russian submarines patrolling the Greenland-Iceland-United Kingdom gap, along with the reported launch of two nuclear warheads and other ballistic missiles in the Barents Sea.<sup>16</sup> In addition to conducting weapons tests and exercising Northern Fleet capabilities, Russian warships have carried out joint patrols with Chinese vessels. A notable example occurred in August 2023, when a flotilla of eleven Russian and Chinese ships sailed near Alaska.<sup>17</sup>

## **No Limits Friendship?**

While historically, interest in the Arctic was largely confined to Arctic states and polar explorers, warming trends and resource discoveries have now attracted global attention. China traces its Arctic involvement back to its signing of the

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<sup>13</sup> Colin Wall and Njord Wegge, "The Russian Arctic Threat: Consequences of the Ukraine War," *Center for Strategic & International Studies*, January 25, 2023, [www.csis.org/analysis/russian-arctic-threat-consequences-ukraine-war](http://www.csis.org/analysis/russian-arctic-threat-consequences-ukraine-war).

<sup>14</sup> Daniel Brown, "Here's Why Russian Soldiers Are Riding around the Arctic on Sleds Pulled by Reindeer," *Business Insider*, September 3, 2017, [www.businessinsider.com/russian-soldiers-riding-around-the-arctic-on-sleds-pulled-by-reindeer-2017-9](http://www.businessinsider.com/russian-soldiers-riding-around-the-arctic-on-sleds-pulled-by-reindeer-2017-9).

<sup>15</sup> "Nordic Response 2024," *Forsvaret*, February 9, 2024, <https://www.forsvaret.no/en/exercises-and-operations/exercises/nr24>.

<sup>16</sup> Wall and Wegge, "The Russian Arctic Threat: Consequences of the Ukraine War."

<sup>17</sup> Dzirhan Mahadzir, "Russian, Chinese Warships in East China Sea After Sailing Near Alaska," *U.S. Naval Institute (USNI) News*, August 17, 2023, <https://news.usni.org/2023/08/17/russian-chinese-warships-in-east-china-sea-after-sailing-near-alaska>.

Spitsbergen Treaty in 1925 and has heavily invested in the region over the past few decades. With research stations in strategic locations such as Svalbard, Beijing has made investments across all Arctic nations, particularly in infrastructure, natural resources, and research centers. China's 2018 Arctic White Paper outlined its approach to the region; however, questionable business practices elsewhere under its Belt and Road Initiative raise concerns about the true objectives behind its Polar Silk Road ambitions.

While Russia had long sought to keep China out of the Arctic, advocating for Arctic governance to remain within the purview of Arctic states, limited Sino-Russian cooperation in the region can be traced back to the early 2010s. Following the illegal annexation of Crimea in 2014, Russia increasingly turned to China for investment and technology to develop its resource-rich Arctic zone. Joint Russian-Chinese naval patrols in 2023 further illustrate the deepening relationship between the two countries, especially in the wake of Russia's 2022 invasion of Ukraine. Despite skepticism surrounding the "no limits" friendship, there are indications of growing military, technological, and economic cooperation between the nations. Although Russia has traditionally been cautious of China's intentions in the Arctic, post-invasion sanctions have shifted its outlook, fostering a greater reliance on China as a strategic partner.

This partnership is particularly significant in the Arctic. While Chinese investment in the Russian Arctic began well before the 2022 invasion of Ukraine, China has since become Russia's primary partner in Arctic development. Hydrocarbon shipments traditionally bound for Europe are increasingly redirected eastward via the Northern Sea Route. In 2023, following a successful test voyage in 2022, at least eleven ships transported Russian crude oil to China. However, the increase in maritime traffic in the region—particularly from vessels with questionable seaworthiness and lack of adherence to environmental regulations—poses tremendous ecological risks to the entire Arctic. An oil spill in this fragile region could have catastrophic effects on the Arctic states, given the relatively small size of the Arctic Ocean, interconnected currents, limited response capabilities, challenging weather conditions, and the ecosystem's fragility.

Chinese investment in critical Arctic projects is on the rise, focusing particularly on liquefied natural gas exploration, mineral extraction, and infrastructure development, including the expansion of the Indiga deep-water port and the Sosnogorsk-Indiga railway.<sup>18</sup> However, China's previous resource exploration efforts have often lacked strict adherence to environmental and human protection standards. It is unlikely that China will change its approach in collaboration with Russia, which also maintains lower environmental and labor standards compared to the European Union and other Arctic nations.

In 2023, cooperation expanded with a memorandum of understanding signed in Murmansk between the Chinese Coast Guard and the Russian Federal Security

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<sup>18</sup> Strider, "Shifting Ice: Russia's Increasing Reliance on the Private Sector and the PRC in the Arctic," *Strider Technologies, Inc.*, February 7, 2024, [https://content.striderintel.com/wp-content/uploads/2024/02/Strider\\_Shifting\\_Ice\\_Report.pdf](https://content.striderintel.com/wp-content/uploads/2024/02/Strider_Shifting_Ice_Report.pdf).

Service (FSB), enhancing maritime law enforcement collaboration in the region. Both Moscow and Beijing aim to disrupt the Western rules-based international order, viewing their alignment as beneficial to achieving that goal. However, it remains uncertain whether military cooperation will deepen beyond joint patrols and Coast Guard collaboration. The Kremlin will likely continue to play a junior partner role in this relationship, which may exacerbate mistrust and insecurity. Nevertheless, Moscow's limited investment options and dwindling strategic partners could provide Beijing with the opportunity to establish a sphere of influence in the Arctic that was previously unattainable.

While mutual distrust between Russia and China will likely constrain extensive military cooperation in the Arctic, China is rapidly developing the technology and capacity to operate warships in the region. Having completed thirteen Arctic research patrols with its icebreakers, the *Xue Long* and the indigenously built *Xue Long 2*, China is undoubtedly gathering extensive dual-use research on the Arctic. With the anticipated opening of the draft-unlimited trans-polar route around mid-century, China appears to be positioning itself for future maritime operations—both commercial and military—and is building operational knowledge of Arctic conditions with Russia's support.

### **What Will the Future Hold?**

The Arctic is a unique world region with tremendous untapped potential for economic development and geopolitical conflict. The accession of Finland and Sweden into NATO will increasingly draw attention to the region as NATO's center of gravity undeniably shifts northward. NATO forces will continue to enhance their operational capabilities in a region long known for its hostile operating conditions. The extreme cold, lack of daylight, harsh weather, and vast differences between sub-regions make the Arctic a challenging environment for military operations. As former Canadian Chief of Defence Staff General Walter Natynczyk wisely remarked, "if someone were to invade the Canadian Arctic, [the] first task would be to rescue them."<sup>19</sup>

However, the invasion of Ukraine has fostered a renewed sense of unity among like-minded Western nations, prompting leaders to adapt to the emerging realities of an Arctic transformed by climate trends, economic development, and geopolitical tensions. While NATO prepares for deterrence and defense in the High North, Russia is increasingly turning eastward for the investments and technologies critical to developing its Arctic resources. Consequently, Sino-Russian cooperation will likely continue to strengthen as Putin seeks resources to sustain his war effort. Nonetheless, the prospects for a full military alliance between Beijing and Moscow remain uncertain.

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<sup>19</sup> Senate of Canada, "Proceedings of the Standing Senate Committee on National Security and Defence," Issue 5, Evidence, Meeting of June 7, 2010, <https://sencanada.ca/en/Content/Sen/committee/403/defe/05evb-e>.

Even Russian President Putin acknowledged this in a 2010 speech, stating, “If you stand alone you can’t survive in the Arctic.”<sup>20</sup> It remains to be seen whether he will choose to hand over the keys to his Arctic kingdom to Beijing rather than withdraw from Ukraine. Moscow’s pursuit of a partnership with China is likely to disrupt the regional balance and escalate strategic competition in the Arctic, potentially leading to the emergence of an “ice curtain” descending across the North.

## Disclaimer

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<sup>20</sup> Luke Harding, “Vladimir Putin Calls for Arctic Claims to Be Resolved under UN Law,” *The Guardian*, September 23, 2010, <https://www.theguardian.com/world/2010/sep/23/putin-arctic-claims-international-law>.

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