



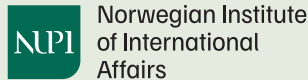
REPORT

Navigating Breakup: Security realities of freezing politics and thawing landscapes in the Arctic

Input Report for the Arctic Security Roundtable at the Munich Security Conference 2023

Edited by Karsten Friis, Elana Wilson Rowe, Mike Sfraga, and Ulf Sverdrup.
With Pavel K. Baev, Troy J. Bouffard, Marc Lanteigne, Marisol Maddox and Jan-Gunnar Winther.

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Foreword

As the famous Arctic explorer Vilhjálmur Stefánsson has put it decades ago: “There are two kinds of Arctic problems, the imaginary and the real. Of the two, the imaginary are the most real.” And indeed, history has shown us more than once, that imagination and reality often lay closer together than thought. Until recently, much of the thinking about the Arctic was in theory. Climate change and burgeoning border disputes suddenly make this theory seem very practical. Long gone are the days where the Arctic could be treated as something exceptional, as a region which is insulated from the issues and politics of the rest of the world. On the contrary, in a time where climate change is heating up the region quite literally, territorial conflicts and access to resources like oil and gas are simmering underneath the ice floes, too.

Our traditional focus at the Munich Security Conference (MSC) makes it the central platform to address the “hard security issues” in the Arctic and promote joint allied action. However, the MSC’s broad understanding of security also makes the security and geopolitical implications of climate change in the Arctic immediately apparent. All five pillars that guide the security concerns of the MSC– Defence, Global Order, Human Security, Sustainability and Technology – are somehow tangential to the Arctic region. With the mentioning of migration, biological reallocation, sea level rise, new transit routes, access to resources or new agricultural sources only a few of those topics have been addressed. But this makes it obvious that Arctic matters are global and not regional ones and that it is more important than ever to address the “polar bear in the room”.

Russia’s invasion of Ukraine has reinforced the need to intensify the global dialogue and cooperation in Arctic issues further, even – or particularly – in times where the cooperation with Russia in forums like the Arctic Council has been put on hold. We have therefore made it our mission to support the recalibration of engagement on Arctic security, including in the Arctic Council, to reflect these new geopolitical realities.

With our regular Arctic Security Roundtables and, until recently, military to military meetings, we not only hope to contribute to the debate but also to keep important and reliable lines of communication open. We are grateful to have partners such as the Norwegian Institute of International Affairs (NUPI) and Wilson Center on board and depend on their input and expertise to shape our formats and activities. This important report is a case in point.

By Dr Benedikt Franke, Vice-Chairman and CEO of the Munich Security Conference

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Abbreviations

ACGF	Arctic Coast Guard Forum
AMOC	Atlantic Meridional Overturning Circulation
ASR	Arctic Security Roundtable
CSBM	confidence- and security-building measures
INCSEA	Incidents at Sea
IPCC	Intergovernmental Panel on Climate Change
NORAD	North American Aerospace Defense
NSAR	National Strategy for the Arctic Region
NSS	National Security Strategy
NUPI	Norwegian Institute of International Affairs
PSR	Polar Silk Road
SAP	State Armament Programme
SSBN	strategic ballistic missile submarines
UNCLOS	UN Convention on the Law of the Sea



Introduction: New directions and challenges in the High North

Karsten Friis (NUPI), Elana Wilson Rowe (NUPI), Mike Sfraga (Polar Institute of the Wilson Center) and Ulf Sverdrup (NUPI)

Introduction

Russia's re-invasion of Ukraine in February 2022 has had consequences across the globe, with immediate and ongoing effects for Arctic cooperative governance at both a regional and international level. One key impact has been the suspension of cooperation in the Arctic Council, which Russia is currently chair of (through May 2023) – a move enacted by the other seven Arctic states in the council. Russia's war on Ukraine has also prompted the formally non-aligned Arctic countries of Sweden and Finland to apply to join NATO, altering the long-term security architecture in the region. Policymakers and analysts alike are reassessing their long-held assumptions regarding the rational/balancing impulses shaping Russia's foreign and security politics, and in turn the future prospects of rules or trust-based cooperation with Russia.

Other governance and security effects have manifested in comparatively gradual ways. The strengthening of the sanctions regime against Russia has had consequences for the structure and prospects of the country's economy, including in the Arctic region. The withdrawal of Western companies from Russia has been an important part of this sanctions regime, further reducing a previous point of convergence between Russia's northern development aims and Western capital and expertise. In European policymaking and political circles, there is now a broadly shared awareness of the necessity of reducing or eliminating dependency on Russian oil and gas products, much of which comes from Russia's Arctic and northern regions. In other words, several longstanding areas of economic interdependence are being eliminated. Increased securitization and various hybrid threats will also create new risks and limit the scope of science cooperation and people-to-people exchanges, if and when these are resumed.

Report aim

This report provides insights into both established and novel drivers of change in Arctic and security governance. Despite the current reduction in circumpolar cooperation and dialogue involving Russia, there are significant actions that relevant actors can take to improve regional governance and security.

Working towards addressing regional Arctic challenges and opportunities without the involvement of Putin's Russia also sends out a signal that pathways for coping with regional issues forward are available. Consequently, our recommendations identify actions that can enhance Arctic governance and security, while absencing Russia's engagement in the short and medium terms.

This report represents an input to and outcome of the Arctic Security Roundtable (ASR) and the Munich Security Conference. The ASR has been refined and executed since 2017, with meetings in Munich, Germany; Washington, DC; Reykjavik, Iceland; Stavanger, Norway; and Helsinki, Finland. The Wilson Center's Polar Institute and Norwegian Institute of International Affairs (NUPI) are pleased to have played central roles in the development and execution of this important international forum.

Background: Continuity and change in contentious times

Much of how Arctic governance and security will develop for the foreseeable future is now pinned to broader developments in Russia's war against Ukraine and internal developments within Russia. Even so, a number of challenges and opportunities related to Arctic governance are tied to managing and preparing for more longstanding trends, not least the impact of climate change on the region. In this contentious period in security politics, identifying both the stable and novel drivers at play can be a useful exercise. As such, a non-exhaustive list is presented below, which the following chapters will then proceed to explore in greater detail.

Stable drivers of change

Interconnectedness: The activism and sustained cross-border governance efforts of the Arctic's Indigenous peoples – many of whom have homelands that extend across national borders – have long highlighted the region's interconnectedness and the need for holistic regional governance approaches. The physical interconnectedness of Arctic ecosystems (across national political boundaries), which precipitated post-Cold War cooperative efforts in pursuit of knowledge-based policymaking and cross-border cooperation, endure.

Climate change: The speed and scale of the transformative impacts of climate change on the Arctic have long been a concern for scientists and policymakers alike.

Formal multilateral agreements and treaties: Coping with this physically changing Arctic has been a key focus of Arctic cooperative governance. Here, adherence to the UN Convention on the Law of the Sea (UNCLOS) remains a foundation, while outcomes from previous efforts include a number of successful binding agreements (addressing challenges that range from Arctic-wide search and rescue efforts to a precautionary and proactive approach to managing a potential commercial fishery in the Central Arctic Ocean).¹ In addition, Arctic-specific measures negotiated in global multilateral settings, such as the Polar Code of the International Maritime Organization, remain operative.

Formal bilateral agreements and treaties: Some Arctic states also have functioning bilateral Incidents at Sea (INCSEA), or similar, agreements with Russia that establish codes of conduct and mechanisms for communication between military vessels and aircraft in international waters. Bilaterally, other settings anchored in international law – such as Norwegian–Russian bilateral fisheries cooperation – appear to consist of largely routine interactions at the expert and official levels.² On the other side of the Arctic, agreements between the US and Russia to more effectively manage traffic in the Bering Strait remain operative.³

Novel or recently amplified drivers of change

Russia's interpretation of national interests: Russia's engagement in Arctic and ocean legal agreements has been widely understood by analysts as underpinned by the country's national interests rather than a genuine commitment to upholding international law. Whether Russia will continue to engage consistently and predictably through these legal mechanisms/agreements remains to be seen and is contingent on developments between Russia and the West, as well as political and economic realities within Russia. Analysts have observed that assumptions painting Russia as a rational actor pursuing longstanding or multiple interpretations of national self-interest (for example, the pursuit of economic growth) need to be qualified in light of Russia's invasion of Ukraine. Consequently, optimism about the continued functioning of these settings should be tempered and alternative outcomes considered.

A changed security picture: Russia's invasion of Ukraine precipitated both Sweden and Finland applying for NATO membership. This change will contribute to reduced uncertainty in the event

¹ Various cooperative efforts have resulted in a series of legally binding Arctic agreements that govern regional challenges and clarify responsibilities and expectations. These range from the Search and Rescue Agreement of 2011 to the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic in 2013, to a precautionary approach to managing a potential harvestable fishery in the Central Arctic Ocean, which research suggests may become periodically ice-free in the medium-term future. The International Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean, concluded in 2018 and entered into force in 2021, is especially noteworthy in that it brought together and was supported by both the Arctic coastal states and many non-Arctic states/actors with substantial fishing interests, such as China and the EU, resulting in productive conversations around proactive regional governance.

² A. Edvardsen, 'Researcher on new Norwegian–Russian fisheries agreement: "Shows how important the cooperation is for both parties"', High North News, 29 Oct. 2022, www.highnorthnews.com/en/researcher-new-norwegian-russian-fisheries-agreement-shows-how-important-cooperation-both-parties.

³ Y. Rosen, 'Despite Ukraine war, US and Russia continue emergency cooperation in the Bering Strait', ArcticToday, 11 Apr. 2022, www.arctictoday.com/despite-ukraine-war-us-and-russia-continue-emergency-cooperation-in-the-bering-strait/.

of conflict in the Baltic Sea, and contribute to NATO's collective deterrence posture towards Russia in the region. The Russian Northern Fleet has operated in the Arctic more or less unaffected by the war in Ukraine. However, the increased tension between Russia and NATO has nonetheless made military manoeuvres and operations in the High North more sensitive.

Arctic cooperation without Russia: The Arctic Council, which brings together the Arctic states and Permanent Participants (representatives of the Arctic region's Indigenous peoples) to work on a broad suite of social, economic and environmental issues, with input from longstanding expert-level working groups, was formally paused in early March 2022 following Russia's re-invasion of Ukraine. This was done to avoid delivering diplomatic contact and positive PR to Russia under its two-year (2021–2023) chairship of the multilateral setting. The seven other Arctic states acted collectively to initiate the pause and, more recently, have embarked on limited discussions and planned projects as a means of continuing informally without Russian participation.

Informality has had some useful affordances, as well as clear costs. A particularly pressing challenge is how to ensure that informal dialogue is inclusive of rights-holders, such as Indigenous peoples' organizations. These organizations – which have been crucial actors in shaping Arctic governance at the international level and in the Arctic Council – have been placed in a difficult situation. Several of the Indigenous peoples represented in the Arctic Council, and in Arctic or international (UN-based) governance more generally, have homelands that extend into Russia and so incorporate Russian citizens. Moreover, other relevant stakeholders – such as non-Arctic states that have observers status at the Arctic Council – have also been affected, having previously been brought together by the routine meeting spaces facilitated by the Arctic Council structure. While Arctic issues can increasingly be addressed in the other settings where these states regularly meet, this may impact the comprehensive, routinized and regionally anchored nature of the political dialogue and science–policy interface.

Report structure

The chapters of this report have been written by subject matter experts selected for their ability to bring longstanding and novel drivers into conversation in areas relevant to the shaping of regional politics. We have elected to focus on: 1) how climate change is shaping the region, and the challenges this poses to regional security dynamics; and 2) how the three major powers (China, Russia and the US) are responding to both long-term change and the current, contentious security landscape.

Chapters cover the impacts of climate change on the physical environment, human security and the Arctic region's military operational environment (chapters 1 and 2 by, respectively, Jan-Gunnar Winther and Marisol Maddox), and review the regional security policies of the three major powers (see chapter 3 on US Arctic security developments by Troy Bouffard; chapter 4

on China's approach to the region by Marc Lanteigne; and chapter 5 on Russia by Pavel Baev). The intersections between and dynamics produced by these major power approaches to the region are then reviewed by Karsten Friis (chapter 6).

Following this, the conclusion of the report sets out a number of topics that stand out as promising avenues for future high-level dialogue and policy discussion. The recommendations identify measures and pathways for enhancing Arctic governance and minimizing Arctic-specific security risks. Here, the main takeaway is that leaders must – regardless of the cessation of cooperation with Russia and the radical uncertainty shaping the broader political environment – continue to take steps to mitigate and manage the risks to regional stability in the Arctic.



1. Arctic climate change

Jan-Gunnar Winther (Centre for the Ocean and the Arctic at UiT: The Arctic University of Norway)

Until recently, the Arctic region was frozen both physically and politically. Today, climate change is affecting the Arctic at an unprecedented rate and to an unprecedented degree, with the rise in temperatures in the region at least twice the global average. The consequences for nature, wildlife and societies are many and severe. As the sea ice melts, so the region is opening, providing new opportunities for Arctic shipping, mining, tourism and fisheries. At the same time, a variety of challenges are emerging, including ecosystem changes, natural hazards and climatic teleconnections. The consequences of climate change have not only become a top political priority in Arctic countries but drawn worldwide attention to the region.

The connected Arctic

The global physical environment is connected through circulation systems in the atmosphere and in the oceans. Increases in greenhouse gases and other anthropogenic activities cause stronger warming at high latitudes due to the snow/ice-temperature feedback. In simple terms, when white surfaces, such as snow and sea ice, are replaced with dark ones, such as vegetation and ocean, more of the energy from the sun is absorbed by the Earth's surface, leading to enhanced warming. Thus, paradoxically, even though most of the change in the Arctic originates from actions taking place outside the region, it is the Arctic that is most affected. Today, temperature increases are 2–3 times higher in the Arctic than the global average.⁴ This amplification gets stronger the further north you go. Some climate models project 8–10°C warming in the Central Arctic by the end of this century if the global average temperature increases by around 2°C.

Furthermore, rapid climate change in the Arctic region impacts other areas through the same atmospheric and oceanic teleconnections that affect the Arctic in the first place. This two-way climatic communication means that *what happens in the Arctic does not stay in the Arctic*. For example, research shows that about 10 % of Indian monsoon variability is linked to Arctic

⁴ V. Masson-Delmotte et al. (eds) *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press: Cambridge/New York, 2021), www.ipcc.ch/report/ar6/wg1/; and H.-O. Pörtner et al. (eds), *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* (IPCC, 2019), www.ipcc.ch/srocc/.

sea ice variability,⁵ while extreme weather in China and Singapore caused by cold Arctic air masses means that the countries are having to prepare infrastructure, including those that can contend with severe sea level rise. Such connectivity demonstrates how important it is that countries outside the Arctic make efforts to limit the consequences of climate change within the region.

Climate change in the Arctic: Status

The Intergovernmental Panel on Climate Change (IPCC) provides policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as proposed adaptation and mitigation options. Each finding is grounded in an evaluation of the underlying evidence and level of agreement, with the degree of confidence expressed according to the following five qualifiers: very low, low, medium, high and very high.⁶ Over recent decades, global warming has led to widespread shrinking of the cryosphere, with mass loss from ice sheets and glaciers (*very high confidence*); reductions in snow cover (*high confidence*); diminishing Arctic sea ice extent and thickness (*very high confidence*); and increased permafrost temperature (*very high confidence*).

Some plant and animal species have increased in abundance, shifted their range, and established themselves in new areas as glaciers have receded and the snow-free season has lengthened (*high confidence*). Some cold-adapted or snow-dependent species have declined in abundance, increasing their risk of extinction, notably on mountain summits (*high confidence*). In general, tundra areas are greening, indicating greater plant productivity (*high confidence*). Increased incidence of wildfire and abrupt permafrost thaw, as well as changes in Arctic and mountain hydrology, have altered the frequency and intensity of ecosystem disturbances (*high confidence*). Today, permafrost thaw affects infrastructure (e.g., buildings, roads, railways), exposes coastal shorelines to erosion, and increases emissions of greenhouse gases such as methane.

In the marine environment, many species have undergone shifts in geographical range and seasonal activities in response to ocean warming, sea ice change and biogeochemical changes – such as oxygen loss – to their habitats (*high confidence*). This has resulted in shifts in species composition, abundance, and biomass production of ecosystems.

Human influence is *very likely* the main driver of the global retreat of glaciers since the 1990s and the decrease in Arctic sea ice area between 1979–1988 and 2010–2019 (decreases of about 40 % in September and about 10 % in March). Human activity has also *very likely* contributed to the decrease in Northern Hemisphere spring snow cover since 1950, and *very*

⁵ M. N. Rajeevan, 'The Arctic teleconnections', in P. S. Goel, R. Ravindra and S. Chattopadhyay (eds), *Science and Geopolitics of The White World* (Cham: Springer, 2018), https://doi.org/10.1007/978-3-319-57765-4_6.

⁶ The confidence ratings given here and over the subsequent pages are drawn from the following IPCC publications: V. Masson-Delmotte et al. (note 4), www.ipcc.ch/report/ar6/wg1/; and H.-O. Pörtner et al. (note 4).

likely contributed to the observed surface melting of the Greenland ice sheet over the past two decades. Between 2006 and 2015, the Greenland ice sheet lost ice mass at an average rate of $278 \pm 11 \text{ Gt yr}^{-1}$ (equivalent to $0.77 \pm 0.03 \text{ mm yr}^{-1}$ of global sea level rise), mostly due to surface melting (*high confidence*).

In 2011–2020, annual average Arctic sea ice area reached its lowest level since at least 1850 (*high confidence*), while late summer Arctic sea ice area was smaller than at any time in at least the past 1,000 years (*medium confidence*). The global nature of glacier retreat since the 1950s, with almost all of the world’s glaciers retreating synchronously, is unprecedented in at least the last 2,000 years (*medium confidence*).

Taken as a whole, across a variety of disciplines and viewpoints, the story is unambiguous: the transformation of the Arctic to a warmer, less frozen, and biologically changed region is well underway. Extreme high temperatures in the Eurasian Arctic in spring and summer 2020 provide a clear demonstration of the strong connections within the Arctic environment that characterize the region.⁷

Several climate change ‘highlights’ from 2020 reflect these broad changes identified by the IPCC:

- The average annual land surface air temperature north of 60° N for October 2019–September 2020 was the second highest on record since at least 1900. Record warm temperatures in the Eurasian Arctic were associated with extreme conditions in the ocean and on land.
- August mean sea surface temperatures in 2020 were around 1–3°C higher than the 1982–2010 August mean over most of the Arctic Ocean, with exceptionally high temperatures in the Laptev and Kara seas coinciding with the early loss of sea ice in this region.
- During July and August 2020, regional ocean primary productivity in the Laptev Sea was about two times higher for July and six times higher for August compared to their respective monthly averages.
- Bowhead whales have been a staple resource for coastal Indigenous peoples for millennia and are uniquely adapted to the Arctic marine ecosystem. The Pacific Arctic population size of the whales has increased in the past 30 years, likely due to increases in ocean primary production and northward transport of the zooplankton they feed on.
- Shifts in air temperatures, storminess, sea ice and ocean conditions have combined to increase coastal permafrost erosion rates in regions where a high proportion of Arctic residents live and industrial, commercial, tourist and military activities are expanding.

⁷ R. L. Thoman et al., ‘NOAA Arctic Report Card 2020 Executive Summary’, 2020, <https://doi.org/10.25923/mn5p-t549>.

- The exceptional warm spring air temperatures across Siberia resulted in record low June snow cover extent across the Eurasian Arctic (as observed in the past 54 years).
- Extreme wildfires in the Sakha Republic of northern Russia coincided with unparalleled warm air temperatures and record snow loss in the region.
- From September 2019 to August 2020, the Greenland ice sheet experienced higher ice loss than the 1981–2010 average, though substantially lower than the record 2018–2019 loss.
- Glaciers and ice sheets outside of Greenland continued a trend of significant ice loss, largely dominated by ice loss from Alaska and Arctic Canada.

The Arctic climate is characterized by large year-to-year variability. Therefore, although the general warming trend is unambiguous, we can expect years where temperatures and other climatic variables deviate from the general trend.

Climate change and adaptation demands in the Arctic: Projections

It is *virtually certain* that the Arctic will continue to warm more than global surface temperature, with *high confidence* this will be above two times the rate of global warming. The Arctic is *likely* to be practically free of sea ice in September at least once before 2050. Additional warming is projected to amplify permafrost thawing and loss of seasonal snow cover and land ice (*high confidence*). Moreover, these changes will be greater at 2°C global warming or above compared to 1.5°C (*high confidence*).

Mountain and polar glaciers are certain to continue melting for decades or centuries (*very high confidence*). Loss of permafrost carbon following permafrost thaw is irreversible on centennial time scales (*high confidence*). Continued ice loss over the 21st century is *virtually certain* for the Greenland ice sheet, and there is *high confidence* that total ice loss from the Greenland ice sheet will increase with cumulative emissions.

It should be noted that the Arctic environment has been remarkably stable for millennia. However, in the past century, the Arctic has experienced consequential changes in its environmental conditions, economy, demographics and connectivity to the global system. While it is impossible to accurately forecast an endpoint, it is reasonable to assume the trends already clearly in evidence will persist.

The Arctic and the planet will continue to warm. Permafrost will degrade. Sea ice, glaciers and ice sheets will melt. Plant and animal species will migrate northward or become extinct if their habitat ceases to exist. These are, unfortunately, easy envisioned projections. More uncertain is how people and societies will respond and acclimatize to these changes. Humans are remarkably adaptable, capable of living in practically every environment found on Earth,

creating engineered solutions to protect themselves from heat, cold, wet, drought and unstable conditions. Given this, what scenarios should we expect and prepare to address?

The predictability of Earth's orbit around the sun ensures that the Arctic will always have winter, although it will become less harsh. While summers in the Arctic have been well within the comfort zone of humans for millennia, we should expect warmer conditions, with more frequent and intense extreme events. The geothermal heat flux from our planet's interior will remain about 50 mW/m². Thus, when winters warm to the point that heat no longer escapes through the surface to space, the permafrost will slowly but inevitably thaw, marking the beginning of vast spatial changes in our ecosystems and our social infrastructure. While we may be able to design engineered structures that capture heat energy in the permafrost and release it into the air – thereby effectively maintaining frozen ground below high-value structures – we cannot protect whole ecosystems, long coastlines or wildlife dependent on habitats that have ceased to exist. And while people and societies may be able to protect our buildings, airports, bridges, and roads, it will be impossible to halt the degradation of the environment around us. At sea, we will experience similar fundamental changes, such as ocean warming, ocean acidification, sea level rise, ecosystem alterations and sea ice melt.

These trends in environmental conditions have dramatically changed the Arctic as we knew it. While the Arctic is unlikely to undergo severe environmental degradation or disaster in the next 15 years, evidence of its coming fate as it continues on this trajectory will become ever more apparent.

Tipping points

A tipping point is a critical threshold beyond which a system reorganizes, often abruptly and/or irreversibly. Although the probability of occurrence is low or not well known, the potential impacts on society and ecosystems can be immense. Tipping points may also be unpredictable and rare natural events unrelated to human influence.

Examples of extreme events that can be considered tipping points include the sudden release of greenhouse gases from permafrost areas (e.g., from submarine landslides on Arctic continental shelves), abrupt changes in the North Atlantic current leading to regional cooling, massive loss of ice from Greenland accelerating global sea level rise, and extreme weather events causing massive melting of sea ice.

Conclusion

The Arctic is being hit first and most strongly by climate change – as such, it can be seen as the world's thermometer. The region is already facing fundamental and rapid changes, and

by 2050 our northernmost areas will no longer be a year-round frozen space with minimal human activity. More accessible Arctic Ocean areas will bring new economic opportunities, while digitalization will both grow innovative industries and enable transparent, real-time management of human activities. Climate change will continue to impact marine ecosystems

and challenge Arctic communities in myriad ways. Thawing permafrost not only represents a severe threat to infrastructure such as buildings, roads, pipelines and railways, it will result in greenhouse gases stored in frozen soils being released. The loss of sea ice, increasing temperatures and changing marine ecosystems foreshadow the changes that lie ahead for our global ocean space.

International collaboration in the Arctic is key to tackling these ongoing and likely accelerating environmental changes. Today, collaboration with Russia is on hold, hampering relations between scientists and cooperation on data access and sharing.

Disturbingly, this will limit our contributions to combatting the climate crises, which rely on policy recommendations based on up-to-date information from the Arctic region. Given that climate change is an amplifier for other crises that follow war (e.g., energy, food and transportation emergencies), strong measures are needed to tackle the climate crisis. While bold action on climate change is required, this inevitably poses a huge political challenge. Failure to pursue international collaboration on climate change will have major economic and environmental impacts, exacerbating human hardship due to food and water scarcity, migration and direct fatalities from extreme weather events, which in turn increases the risk of further conflict. Given the current unpredictable situation, it is impossible to judge whether the lack of cooperation on offer represents a temporary setback or will lead to long-lasting consequences.



2. Implications of climate change for military operations in the Arctic

Marisol Maddox (Polar Institute of the Wilson Center)

Introduction

Research demonstrates the Arctic region has been changing four times faster than the rest of the globe over recent decades.⁸ The Intergovernmental Panel on Climate Change (IPCC)'s rigorously peer-reviewed Sixth Assessment reports “high confidence” that “annual mean surface air temperatures and precipitation will continue to increase during the 21st century under all assessed emissions scenarios.”⁹ In 2020, the Arctic Ocean sea ice extent was at its second lowest level on record. The systemic changes underway have implications for all facets of life— including security, economic, environmental and geopolitical dynamics— and are crucially relevant to those responsible for the strategic, operational, and tactical aspects of military planning. As a senior U.S. Department of Defense official observed in June 2022, “Climate change is dramatically increasing the demand for military operations and, at the same time, impacting our readiness and our ability to meet those demands while imposing unsustainable costs on the department.”¹⁰ This chapter reviews some key immediate impacts of climate change on Arctic military operations, broader changes of relevance, and interconnections with strategic thinking and human and economic security in the region.

Impacts on military operations

First-order impacts are those that result directly from climate change, such as the impacts of extreme weather. However, there are a number of second- and third-order impacts that will converge to create some of the most significant complexities for operational and strategic planning. Such impacts include alteration of the geopolitical, economic, social, and military

⁸ P. Chylek et al., ‘Annual mean Arctic amplification 1970–2020: Observed and simulated by CMIP6 climate models’, *Geophysical Research Letters* 49/13 (2022), <https://doi.org/10.1029/2022GL099371>; and M. Rantanen et al., ‘The Arctic has warmed nearly four times faster than the globe since 1979’, *Communications Earth & Environment* 3 (2022), <https://doi.org/10.1038/s43247-022-00498-3>.

⁹ IPCC, ‘Regional Fact Sheet: Polar Regions’, 2021, www.ipcc.ch/report/ar6/wg1/downloads/factsheets/IPCC_AR6_WGI_Regional_Fact_Sheet_Polar_regions.pdf.

¹⁰ D. Vergun, ‘DOD preparing for climate change impacts, official says’, US Department of Defense, 15 June 2022, www.defense.gov/News/News-Stories/Article/Article/3064183/dod-preparing-for-climate-change-impacts-official-says/.

calculi affecting state and non-state actors, and how these actors choose to respond. The threat multiplier effect of climate change is clearest when viewed in the context of complex, dynamic, and highly interactive biogeochemical and socio-political systems.

First-order impacts of a changing climate include increased frequency and intensity of extreme weather events, greater temperature extremes, prolonged droughts, changes in precipitation patterns, wildfires, greater inland flooding, sea level rise, permafrost thaw, and coastal erosion. All of these are pertinent to military planning and the operating environment, which will more frequently be contending with harsh conditions combined with challenges to forecasting, heightening risk of disruption to readiness, training schedules, supply chains, and critical infrastructure.

While the long-term trend is for sea ice to diminish across the Arctic region, operating conditions will not become safer or easier in the near-term, and there will be a sustained need for icebreakers for the foreseeable future. When it comes to Arctic conditions, unpredictability represents the more realistic assumption. This is due to the short time frames in which weather can dramatically change, as exhibited by the numerous ships that became stranded for weeks in the Northern Sea Route following an unexpected October 2021 freeze-up that caught mariners off-guard.¹¹ In addition, while the loss of thick, multiyear ice makes the ice easier to break through, it is also more prone to fragmenting, creating dangerous, dynamic ice floe conditions.¹² A reduction in sea ice also has strategic implications, such as submarines having diminished ability to take refuge under ice to avoid surveillance aircraft and satellite imagery.

The dominant form of precipitation in the Arctic is expected to shift from snow to rain, which will have its own second- and third-order impacts on environmental dynamics.¹³ Military personnel may have to contend more frequently with ice due to greater occurrence of rain-on-snow events. In the absence of a layer of snow to insulate underground utilities, additional challenges may result from greater runoff, groundwater table impacts, and frost penetration.¹⁴ This precipitation form shift is already being demonstrated over the Atlantic sector of the Arctic.¹⁵

¹¹ 'Russia scrambles to escort ships stuck in Arctic shipping route – reports', Moscow Times, 22 Nov. 2021, www.themoscowtimes.com/2021/11/22/russia-scrambles-to-escort-ships-stuck-in-arctic-shipping-route-reports-a75624.

¹² National Research Council, National Security Implications of Climate Change for U.S. Naval Forces, (Washington, DC: National Academies Press, 2011), <https://doi.org/10.17226/12914>.

¹³ M. R. McCrystall et al., 'New climate models reveal faster and larger increases in Arctic precipitation than previously projected', Nature Communications 12 (2021), <https://doi.org/10.1038/s41467-021-27031-y>.

¹⁴ Author interview with Dr Jeth Fogg, Engineer Operations and Environmental Chief in the Directorate of Logistics and Engineering at North American Aerospace Defense Command and United States Northern Command, 19 Aug. 2022.

¹⁵ E. B. Łupikasza and K. Cielecka-Nowak, 'Changing probabilities of days with snow and rain in the Atlantic sector of the arctic under the current warming trend', Journal of Climate 33/7 (2020), <https://doi.org/10.1175/JCLI-D-19-0384.1>.

Tipping Points

Significant changes to global carbon cycling are of consequence to military strategic planning. There is potential for global climate tipping points to be surpassed; several of which are directly linked to Arctic change and all of which are showing movement towards greater risk potential. In the Arctic these tipping points include the physical integrity of permafrost, stability of the Greenland ice sheet, and the strength of the major Atlantic Ocean conveyor belt, the Atlantic Meridional Overturning Circulation (AMOC), which contains the Gulf Stream. A 2022 OECD report on climate tipping points concluded, “that crossing tipping points is increasingly likely at even low levels of global warming, with the time remaining to avoid such disastrous outcomes rapidly running out.... the earlier generally accepted advice – that the risk of crossing tipping points is low – can no longer be accepted.”¹⁶

Permafrost is found extensively throughout the North American Arctic (Greenland, Canada and the U.S.) and Russia. Roughly 80% of Alaska is underlain by permafrost, and three of the state’s four major military bases – Eielson Air Force Base, Fort Wainwright and Clear Space Force Station – are already incurring costs from the effects of discontinuous permafrost thaw.¹⁷ Around 65% of Russia is underlain by permafrost, and in 2021 the Minister of Natural Resources, Alexander Kozlov, stated the Russian economy was poised to lose more than \$67 billion by 2050 from permafrost damage to infrastructure alone.¹⁸

Permafrost thaw in Russia, Canada and Alaska has the potential to undermine military infrastructure, including radar sites,¹⁹ ports, and runways.²⁰ The U.S. Defense Department’s concept of operations is being pushed to evolve in the face of climate change and the energy transition. Modifications and investment are needed for site-specific resilience measures aimed at supporting military infrastructure, installations, equipment and personnel.²¹ Assumptions that a runway or port will remain intact and accessible – provided it is not targeted by a human adversary – are being challenged as warming causes sinkholes to form, roads and runways to buckle, and coastlines to be severely degraded by storm surge, erosion, and land subsidence.

Permafrost thaw not only undermines the integrity of Arctic infrastructure but also contributes to warming through the release of enormous quantities of methane and carbon dioxide, as

¹⁶ OECD (2022), Climate Tipping Points: Insights for Effective Policy action, OECD publishing, Paris, <http://doi.org/10.1787/abc5a69e-en>.

¹⁷ S. Karlovitch et al., ‘Global warming is having a costly, and dangerous, impact on key military bases in Alaska’, Seattle Times, 9 Aug. 2020, www.seattletimes.com/seattle-news/environment/impact-of-melting-permafrost-on-three-military-installations-in-alaska/.

¹⁸ A. Kireeva and C. Digges, ‘Permafrost melt caused by climate change could cost Russia billions, Environmental Minister says’, Bellona, 3 June 2021, <https://bellona.org/news/arctic/2021-06-permafrost-melt-caused-by-climate-change-could-cost-russia-billions-environmental-minister-says>.

¹⁹ Z. Hughes, ‘How climate change is affecting Alaska’s military radar stations’, NPR, 25 Feb. 2019, www.npr.org/2019/02/25/697615977/how-climate-change-is-affecting-alaskas-military-radar-stations.

²⁰ T. S. von Deimling et al., ‘Consequences of permafrost degradation for Arctic infrastructure: Bridging the model gap between regional and engineering scales’, *The Cryosphere* 15 (2021), <https://doi.org/10.5194/tc-15-2451-2021>.

²¹ ‘DoD moves out on tackling climate adaptation, energy, and sustainability’, *Breaking Defense*, 11 Nov. 2021, <https://breakingdefense.com/2021/11/dod-moves-out-on-tackling-climate-adaptation-energy-and-sustainability/amp/>.

well as threatening human health through the release of an array of biological, chemical, and radioactive compounds.²² For instance, exposing naturally occurring underground uranium deposits to oxygen can cause decay and the release of significant amounts of radon – a leading cause of lung cancer. This could result in increased atmospheric radon concentrations²³ and have direct impacts on indoor air quality.²⁴

The AMOC contains the Gulf Stream, which is responsible for strategic ports such as Tromsø in Norway and Murmansk in Russia being ice-free throughout the year. It is directly linked to weather patterns from Europe to North America. As the Arctic warms and melts, the Arctic Ocean is becoming less saline and less dense. These factors combine to diminish the strength of the pump that keeps the AMOC circulating. Such changes have additional operational implications given that they impact the propagation of sound waves in underwater acoustics, which are of particular importance to anti-submarine warfare.²⁵ Year-round, in situ data collection is necessary for monitoring changes as they evolve. While an abrupt change of state in the AMOC is viewed as very unlikely by the IPCC, it would have profound impacts were it to happen, so should be included in low-probability, high-impact assessments.

The AMOC and other Arctic-linked climate tipping points are linked to tipping points elsewhere in the world, such as the Amazon's status as a rainforest versus becoming a savanna. There is risk that if one critical climate tipping point's threshold were to be toppled it could create a domino effect that impacts stability of the entire climate system.²⁶

Changing strategies and new tasks

The Russian Arctic contains several climate change hotspots, such as the sea areas around Novaya Zemlya, which have been warming “up to seven times as fast as the global average.”²⁷ Russia's northern flank is becoming more exposed as sea ice retreats, and Russia's re-militarization of its Arctic zone – in the years prior to their cataclysmic decision to wage war against Ukraine in February 2022 – was partially a response to this increased threat perception. These strategic sites have both defensive and offensive capabilities, and in the new security environment have taken on greater significance. At the heart of Russia's bastion defence concept – and at the core of the Arctic's strategic significance to Russia – is the Kola Peninsula, which houses Russia's strategic submarines.

²² K. R. Miner et al., ‘Emergent biogeochemical risks from Arctic permafrost degradation’, *Nature Climate Change* 11 (2021), <https://doi.org/10.1038/s41558-021-01162-y>.

²³ P. L. Bronder, ‘Scientists fear more lung cancer as radon is released from thawing permafrost’, *ArcticToday*, 4 May 2021, www.arctictoday.com/scientists-fear-more-lung-cancer-as-radon-is-released-from-thawing-permafrost/.

²⁴ A. V. Puchkov et al., ‘Radon hazard in permafrost conditions: Current state of research’, *Geography, Environment, Sustainability* 14/4 (2021), <https://doi.org/10.24057/2071-9388-2021-037>.

²⁵ T. Feder, ‘Submarines afford a view from below the Arctic’, *Physics Today* 74/8 (2021), <https://doi.org/10.1063/PT.3.4812>.

²⁶ N. Wunderling et al., ‘Interacting tipping elements increase risk of climate domino effects under global warming’, *Earth System Dynamics* 12/2 (2021), <https://doi.org/10.5194/esd-12-601-2021>.

²⁷ M. Rantanen et al., ‘The Arctic has warmed nearly four times faster than the globe since 1979’, *Communications Earth & Environment* 3/168 (2022), <https://doi.org/10.1038/s43247-022-00498-3>.

Russia has significant strategic military infrastructure in the Arctic, most if not all of which will be exposed to one or more climate hazards. Given that the extent of risks to infrastructure are only just beginning to be understood and changes are accelerating, this may heighten the Kremlin's — and particularly President Vladimir Putin's — perception of vulnerability, which experts have linked to a higher likelihood of Russia resorting to “nonconventional tools, including cyberattacks, disinformation campaigns, covert operations and nuclear weapons.”²⁸ Indeed, Russia's Arctic policy through 2035 identifies the inability of the existing Arctic environmental monitoring network to adequately respond to environmental challenges as a significant threat.²⁹

As the Northern Sea Route becomes navigable for longer periods of time, and the Arctic zone becomes more important to Russia's economic diversification and national security, the region is gaining greater strategic significance. In October 2021, Russian state media reported that Russia's military was considering the creation of a designated Arctic Fleet for their navy. This fleet would take responsibility for the Russian Arctic coastal zone, Northern Sea Route, and Arctic islands from the Northern and Pacific Fleets respectively. From a power projection standpoint, the deteriorated security environment could make this designation more likely. While such a move may initially be more administrative in nature, it could include expanded deployment of advanced weapons systems, particularly if Finland and Sweden succeed in their efforts to achieve NATO accession.

In parts of the Arctic characterized by limited infrastructure, including a lack of roads, overland transport during the winter months has depended on local waterways freezing solid enough to allow safe crossing. Historical expectations of freeze-up dates are no longer reliable and there is increased potential, over a wider range of months, for conditions to be insufficient for safe transport.³⁰ Similarly, overland transport on previously frozen permafrost is becoming more challenging as permafrost thaws, creating sinkholes, lakes, and swamps.³¹ Water transport during the summer months may be impacted by diminished water levels arising from temperature extremes, which have already been shown to lessen navigability and increase the risk of damage to boats.³² This is consequential for the Russian, Canadian and Alaskan Arctic with regard to military logistics and transport route options, as well as human and economic security.

²⁸ A. Kendall-Taylor and M. Kofman, 'Russia is down. But it's not out', *New York Times*, 2 June 2022, www.nytimes.com/2022/06/02/opinion/russia-ukraine-war-nato.html.

²⁹ Russian Federation, 'Foundations of the Russian Federation State Policy in the Arctic for the Period up to 2035', translated by A. Davis and R. Vest for the Russia Maritime Studies Institute, U.S. Naval War College, 5 Mar. 2020, https://dnnlgwick.blob.core.windows.net/portals/0/NWCDepartments/Russia%20Maritime%20Studies%20Institute/ArcticPolicyFoundations2035_English_FINAL_21July2020.pdf?sr=b&si=DNNFileManagerPolicy&sig=DSkBPdNhHsgjOAvPILTRoxIfV%2FO02gR81NJSokwx2EM%3D.

³⁰ A. Gädeke et al., 'Climate change reduces winter overland travel across the pan-Arctic even under low-end global warming scenarios', *Environmental Research Letters* 16/2 (2021), <https://iopscience.iop.org/article/10.1088/1748-9326/abdcd2>.

³¹ P. Reeve, 'Siberia's permafrost melt is causing swamps, lakes, making land difficult to live on', *ABC News*, 26 Oct. 2021, <https://abcnews.go.com/International/siberias-permafrost-melt-causing-swamps-lakes-making-land/story?id=80789255>.

³² K. Moerlein, C. Carothers and J. A. López, 'Observations of changing conditions in northwest Alaska and impacts on subsistence fishing practices', *National Park Service*, n.d., www.nps.gov/articles/aps-v12-i2-c10.htm.

Force deployment will be impacted by accelerating climate change, and militaries are already being called upon more frequently for disaster response and humanitarian assistance. In the U.S., for instance, the future role of Defense Support for Civil Authorities is undergoing re-evaluation.³³ These support operations pose additional hazards to personnel and assets, and carry opportunity costs when that time might otherwise be spent training, exercising, or with family. During the brutal 2021 fire season, Russian military helicopters were deployed to assist in wildfire fighting and reconnaissance efforts in Siberia, and those assets experienced challenges and threats from wildfire smoke. For instance, obscured visibility from smoke prevented an MI-8 helicopter from dousing flames with water and posed a hazard to equipment and its aircrew.³⁴ International disaster response assistance has also been used as a soft power tool, such as when Russia chose to divert fire response assets to Turkey even amidst its own devastating wildfire season in 2021.³⁵

The new NATO Climate Change and Security Center of Excellence, expected to open in Montreal in 2023, will be a crucial entity for expanding cooperative efforts at understand the nature of the climate threat, how NATO can advance mitigation and adaptation efforts, and how it will impact NATO's training and missions, as well as the strategic environment in which they operate.³⁶ The transnational nature of climate change and its extensive impacts requires unprecedented levels of international, cross-sector, and whole of society cooperation.

Human and economic security

The changes in the Arctic are ushering in all kinds of activity, not just from militaries. Fishing, commercial shipping, tourism, subsistence activities, and offshore commercial activities have all expanded. Many Indigenous communities sit at the frontline of climate change in the Arctic. As sea ice recedes, subsistence hunters are having to go further out to sea to harvest food, sometimes taking small skiffs as far as 50 miles out into the Bering Sea.³⁷ All these non-military activities are valid, necessitating proactive deconfliction to reduce risk and facilitate equitable access. A number of tensions have arisen, such as when military exercises have conflicted with fishing activity, with recent examples including incidents in the Bering,³⁸ Norwegian, and Barents seas.³⁹

Ambient noise in the underwater environment is being altered by changes in shipping, ice concentration and marine ecosystems. These changes are not merely of consequence to

³³ D. Vergun, 'DOD preparing for climate change impacts, official says', US Department of Defense, 15 June 2022, www.defense.gov/News/News-Stories/Article/Article/3064183/dod-preparing-for-climate-change-impacts-official-says/.

³⁴ R. Kutukov, 'Russian Army helicopters join battle against Siberian wildfires', Reuters, 14 July 2021, www.reuters.com/business/environment/russian-army-helicopters-join-battle-against-siberian-wildfires-2021-07-14/.

³⁵ 'Putin tells Erdogan Russia will continue to help Turkey extinguish forest fires', TASS, 31 July 2021, <https://tass.com/politics/1321389>.

³⁶ Government of Canada, 'NATO Climate Change and Security Centre of Excellence', 30 June 2022, www.international.gc.ca/world-monde/international_relations-relations_internationales/nato-otan/centre-excellence.aspx?lang=eng.

³⁷ O. Ebertz, 'Yukon subsistence users go to new lengths for food after massive salmon decline', KYUK, 13 Aug. 2021, www.kyuk.org/environment/2021-08-13/yukon-subsistence-users-go-to-new-lengths-for-food-after-massive-salmon-decline.

³⁸ M. Baker, "'Are we getting invaded?' U.S. boats faced Russian aggression near Alaska', New York Times, 13 Nov. 2020, www.nytimes.com/2020/11/12/us/russia-military-alaska-arctic-fishing.html.

³⁹ H.-G. Bye, 'Must interrupt fishing due to Russian military exercises', High North News, 8 Oct. 2021, www.highnorthnews.com/en/must-interrupt-fishing-due-russian-military-exercises.

military intelligence, they are important to the health of marine life, which in turn is critical to the economies and peoples of coastal states experiencing concurrent stressors.⁴⁰ Greater awareness of risks to the blue bio-economy's health, and consideration of the steps militaries can reasonably take in planning for training, exercises, and procurement decisions, can contribute to successful deconfliction.⁴¹

Conclusion

The climate threat necessitates a multi-pronged, systems-thinking approach, incorporating higher levels of anticipatory intelligence and strategic foresight as conditions evolve and change accelerates. It is not climate change as a siloed field of study that should be of most interest to military planners and operators, but rather how climate change interacts with a multitude of military-relevant assumptions and factors. The systemic nature of climate hazards means they must be accounted for at all levels: doctrine, organization, training, materiel, leadership, education, personnel, and facilities. Moreover, adaptation will not be possible without adequate mitigation through emissions reductions and sequestration of carbon in ways that support the healthy ecosystems on which thriving societies depend. Militaries have a significant role to play in both global climate adaptation and mitigation efforts.

⁴⁰ PAME, Underwater Noise in the Arctic: A State of Knowledge Report (PAME Secretariat, 2019), <https://oaarchive.arctic-council.org/handle/11374/2394?show=full>.

⁴¹ B. Björnsdóttir et al., Blue Bioeconomy in the Arctic Region (Arctic Council, 2021), https://oaarchive.arctic-council.org/bitstream/handle/11374/2613/BBAR_LoRes.pdf.



3. Russia and geopolitical contestation in the Arctic

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Moscow's evolving strategic approach to the region

The escalating confrontation between Russia and the West caused by the Ukraine war has profoundly affected the pattern of international interactions in the Arctic region, with Moscow now facing the need to re-evaluate its positions and policies. The proposition that the Arctic represents an area of unfolding geopolitical contestation has long been taken for granted in Russian political and strategic thinking, despite the rationale underlying this being poorly compatible with Russia's interests in expanding cooperation. The new Russian naval doctrine defines the Arctic seas as an area of vital interest and identifies any expansion of the US and NATO military presence there as a major threat with conflict potential.⁴²

Typically, the main driver of this competition in the eyes of Russian policymakers is the Western desire to control natural resources, with the lack of any reliable estimates of this imagined 'treasure chest' serving to fuel such perceptions.⁴³ It was only at the start of the current decade that assessments of the fast-approaching 'green' energy transition started to enter Russian debates surrounding the geo-economics of the oil and gas industry. The Russian Foreign Ministry duly rejected the goal advanced by the new EU Arctic Policy (Joint Communication from October 2021) regarding a ban on the exploration and production of hydrocarbons in the High North. The 2022 naval doctrine ignores the prospect of Russian energy exports to Europe being interrupted and instead presumes there will be growth in the appetites of corporate giants such as BP or ExxonMobil to explore undiscovered offshore resources in the Arctic shelf, while at the same time a rise in the external threats to Russian control over the Northern Sea Route ('Sevmorput').

⁴² President Putin approved this doctrine at the naval parade in St Petersburg on 31 July 2022 – the text is available on the presidential website at <http://kremlin.ru/acts/news/69084>.

⁴³ The main reference point in Russian discussions is the badly out-of-date estimate by the US Geological Survey from 2008; see USGS, 'Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle', 2008, <https://pubs.er.usgs.gov/publication/fs20083049>.

The main variable in Russian assessments of Arctic contestation is, however, the military-strategic balance of forces, with energy-related references mostly added to camouflage this security-political calculus. Russian strategic culture is rigidly traditional in defining military force as the main instrument of policy. This thinking has driven many doctrinal guidelines for costly build-up in the High North, such as protecting the Northern Sea Route with a chain of bases designed more for air defence than search and rescue. Moscow's strategic outlook has evolved quickly since the beginning of Russian aggression towards Ukraine in 2014, with the full-scale war launched (to the surprise of much of Russia's senior leadership) on 24 February 2022 further accelerating this process. Although at time of writing Russia urgently needs to concentrate all its available resources on the Donbass battlegrounds, the Arctic theatre continues to occupy a prominent place in its strategic planning.⁴⁴ This sustained priority is partly down to the perceived necessity of responding to Finland and Sweden's ongoing accession to NATO, and partly due to the imperative of completing the costly programme Russia has embarked on to modernize its military assets and infrastructure, as envisaged by the 2027 State Armament Programme (SAP), approved in 2017.⁴⁵

Military priorities and activities

The main justification for this Arctic regional strategic priority is the deployment of nuclear submarines, particularly strategic ballistic missile submarines (SSBNs), on Russia's Kola Peninsula bases (primarily Gadzhievo), which also provide crucial logistic support for the Vidyaevo base on the Pacific-facing Kamchatka Peninsula. The Russian high command considers modernization of the sea leg of the strategic triad of pivotal importance, reflected in the fact that the construction of the new Borei-class series of SSBNs constitutes the single most expensive project in the 2027 SAP. The extraordinary feat of arms displayed by the simultaneous surfacing of three SSBNs in close proximity through Arctic ice near the North Pole on 25 March 2021 was intended to demonstrate a new high in terms of Russia's upgraded strategic capabilities.⁴⁶ However, a contrary perspective was provided by the explosion and fire on board the AS-31 (Losharik) deep-diving nuclear submarine on 1 July 2019, which resulted in 14 casualties. The accident once again drew international attention to the habitually negligent maintenance that has meant operating Russian nuclear assets carries inherently high risks.

The risks are even higher when it comes to testing new weapons systems. Although several of the failures when test-launching the intercontinental ballistic missile Bulava (the main weapon of the Borei-class submarines) were technical, an explosion during the recovery of

⁴⁴ E. Buchanan, 'The Ukraine war and the future of the Arctic', RUSI Commentary, 18 Mar. 2022, <https://rusi.org/explore-our-research/publications/commentary/ukraine-war-and-future-arctic>.

⁴⁵ R. Connolly and M. Boulegue, *Russia's New State Armament Programme: Implications for the Russian Armed Forces and Military Capabilities to 2027* (London: Chatham House, May 2018), www.chathamhouse.org/2018/05/russias-new-state-armament-programme.

⁴⁶ T. Nielsen, 'Three nuclear ballistic missile subs surfaced simultaneously through the ice in complex Russian arctic exercise', *Barents Observer*, 26 Mar. 2021, <https://thebarentsobserver.com/en/security/2021/03/three-russian-nuclear-ballistic-missile-subs-broke-through-ice-north-pole>.

a prototype of 9M730 Burevestnik missile on 8 August 2019 claimed five lives.⁴⁷ The design of this nuclear-powered cruise missile makes every test an experiment in crash-landing a nuclear reactor. Even so, preparations for a new launch were detected on the Novaya Zemlya test site in summer 2021.⁴⁸ Another dubious weapons system presented by President Putin in his address to the Federal Assembly in May 2018 was the nuclear-powered unmanned long-range underwater vehicle *Poseidon* (Status-6), which is yet to be tested, though the carrier submarine K-329 *Belgorod* was commissioned to the Northern Fleet in July 2022.⁴⁹

Much like at the zenith of the Cold War, the heavy concentration of Russian nuclear weapons systems, warheads and infrastructure on the Kola Peninsula necessitates the building of conventional forces capable of protecting these valuable assets. Unlike in the Soviet military organization, however, the Northern Fleet now has responsibility for building all the elements and units of this armed forces grouping, with its command granted the status of a separate military district since January 2021. The deployment of new surface-to-air (S-400) and anti-ship (SM22 Tsirkon) missiles has made possible a re-conceptualizing of the Soviet 'Bastion' proposition aimed at turning the Barents Sea into an area where SSBNs can safely operate.⁵⁰ The emphasis on denying NATO air and naval forces effectual access to this area is comparable to the US A2/AD concept, even if the Russian command has inferior capacity to integrate weapons systems of different types.⁵¹ A key feature of the modernized Russian 'Bastion' is enhanced capabilities for projecting power on shore through long-range missile strikes combined with air assaults, prepared by such exercises as the mock attacks on the Globus II radar site at Vardø.⁵²

A new and demanding challenge for the Northern Fleet is protecting the vast littoral to the east of Novaya Zemlya, including supplying the chain of new bases established along the Sevморпут. None of the surface combatants in the fleet's combat order are suitable for ice conditions, and the newly-built diesel icebreaker Ilya Muromets can provide only limited support, particularly during difficult periods, such as the 2021 and 2022 navigation seasons. Russian official sources have circulated 'rumours' about detaching assets from the Northern Fleet military district (which does not include such bases as Temp on Koteln'y Island) to establish a new Arctic Fleet.⁵³ Given the shortage of ice-class ships (and the priority placed on constructing submarines), such plans appear far-fetched. Instead, the fast-deepening deficit of

⁴⁷ M. Krutov, S. Dobryni and M. Eckel, 'Did a botched bid to recover a sunken missile cause the Russian radiation blast?', RFE/RL, 30 Aug. 2019, www.rferl.org/a/russia-radiation-explosion-sunken-missile-investigation-nyonoksa/30138178.html.

⁴⁸ T. Nielsen, 'Russia readies Burevestnik testing at Novaya Zemlya', Barents Observer, 19 Aug. 2021, <https://thebarentsobserver.com/en/security/2021/08/russia-readies-burevestnik-testing-novaya-zemlya>.

⁴⁹ H. I. Sutton, 'Russia's gigantic submarine, Belgorod, sails for the first time', Naval News, 25 June 2022, www.navalnews.com/naval-news/2021/06/russias-gigantic-submarine-belgorod-sails-for-the-first-time/.

⁵⁰ M. Boulegue, *Russia's Military Posture in the Arctic* (London: Chatham House, 2019), www.chathamhouse.org/2019/06/russias-military-posture-arctic/2-perimeter-control-around-bastion.

⁵¹ M. Kofman, 'It's time to talk about R2/RD: Rethinking the Russian military challenge', War on the Rocks, 5 Sep. 2019, <https://warontherocks.com/2019/09/its-time-to-talk-about-a2-ad-rethinking-the-russian-military-challenge/>.

⁵² T. Nielsen, '11 Russian fighter jets made mock attack on Norwegian Arctic radar', Barents Observer, 12 Feb. 2019, <https://thebarentsobserver.com/en/security/2019/02/11-russian-fighter-jets-made-mock-attack-norwegian-arctic-radar>.

⁵³ 'Russia looks into Navy Arctic Fleet creation', TASS, 7 Oct. 2021, <https://tass.com/defense/1346611>.

resources, including manpower, means strategic ambitions for expanding military control over the High North will almost certainly need to be curtailed.

Rather than expanding its area of operations eastward, the Northern Fleet would apparently prefer to focus on the more familiar task of confronting the occasionally gathered NATO and US Navy forces in the Barents Sea and further west and south towards the Greenland–Iceland–UK gap.⁵⁴ The fleet has experimented with various methods of interfering with NATO exercises in the Norwegian and Barents seas, from staging missile launches from combat ships inside the exercise area to jamming GPS signals.⁵⁵ Despite frequent exaggeration of the extent of NATO activities, which are traditionally presented as threatening Russia’s interests, the Northern Fleet command – as well as the high command in Moscow – has in reality had good reason to be confident given its numerical force superiority in the Kola Peninsula and qualitative edge in modern weapons. However, this habitual position of power (which has failed to yield any tangible political dividends) has weakened in light of many Northern Fleet assets being redeployed to the Black Sea theatre. Meanwhile, the North European states have increased investments in defensive capabilities and expanded military cooperation. Consequently, Moscow opted not to counter in any forceful way the ‘Cold Response 2022’ exercise by NATO forces in Norway in March–April 2022.⁵⁶

Diplomatic interconnections

These security dynamics have undercut Moscow’s diplomatic activities concerning the Arctic region, which used to combine stern *démarches* – such as the pressure exerted on Norway regarding the execution of its sovereignty over Svalbard – with initiatives for reviving cross-border cooperation.⁵⁷ The Kremlin placed particular importance on Russia’s chairmanship of the Arctic Council in 2021–2023, intending to make a success of this rare opportunity to shape the agenda of an esteemed international institution, which brings Russia together with seven Western states. Military security matters are traditionally excluded from Arctic Council deliberations, but Russian aggression against Ukraine compelled the Western member states to pause participation in the full scope of activities.⁵⁸ In the absence of Russian contributions and engagement, Moscow regards cooperative undertakings in such crucial areas as environment and climate as making little sense, and indeed the future of the Arctic Council remains uncertain.

⁵⁴ D. B. Larter, ‘The US Navy returns to an increasingly militarized Arctic’, *Defense News*, 12 May 2020, www.defensenews.com/naval/2020/05/11/the-us-navy-returns-to-an-increasingly-militarized-arctic/.

⁵⁵ P. B. Danilov, ‘GPS jamming still causing problems in Finnmark’, *High North News*, 26 June 2020, www.highnorthnews.com/en/gps-jamming-still-causing-problems-finnmark.

⁵⁶ Q. Lawrence, ‘NATO troops conducted a routine war exercise in the Arctic. This year felt different’, *NPR*, 15 Apr. 2022, www.npr.org/2022/04/15/1091492248/nato-arctic-war-game-had-a-cold-war-feel.

⁵⁷ A. Staalsen, ‘An apparently coordinated Russian response challenges Norway’s position on Svalbard’, *ArcticToday*, 6 July 2020, www.arctictoday.com/an-apparently-coordinated-russian-response-challenges-norways-position-in-svalbard/.

⁵⁸ D. McVicar, ‘How the Russia–Ukraine War Challenges Arctic Governance’, *Council on Foreign Relations*, 10 May 2022, www.cfr.org/blog/how-russia-ukraine-war-challenges-arctic-governance; and N. Vyakhireva, ‘On pause: Dialogue with Russia in the Arctic’, *Valdai Discussion Club*, 20 Apr. 2022, <https://valdaiclub.com/a/highlights/on-pause-dialogue-with-russia-in-the-arctic/>.

Conclusion

For years, Russia's Arctic policy developed on two poorly compatible tracks: engagement in international cooperation and the building-up of military capabilities. Currently, both tracks have hit a dead end. Moscow can neither allocate the resources necessary for planned modernization of its nuclear and conventional assets, nor cultivate ties with Western neighbours. Russian leadership expected to score a quick victory in the war against Ukraine, which the West would have to accept as a *fait accompli*, enforcing only symbolic sanctions, as in 2014–2015, when Arctic cooperation was barely affected. The protracted war has derailed these Russian plans, and the consequences for Arctic security could be grave.⁵⁹ Russia's capacity for launching and sustaining large-scale conventional military operations in the Arctic theatre has diminished, but the urge to put nuclear instruments into political play has increased. Moscow tends to regard its readiness to take risks that are perceived as unacceptable by NATO policymakers and military planners as a strategic advantage. This brinkmanship signifies that any major nuclear incident, for instance a failed test of the Burevestnik missile or the *Poseidon* underwater drone, accompanied by the usual attempts to hide the data on the damage, would produce a major Arctic security crisis. The pattern of mutual restraint in the High North still holds, despite the fiasco of Russia's chairmanship in the Arctic Council, but every setback in the Ukraine war changes the rationality of decision-making in the Kremlin, and it is in the Arctic that NATO deterrence can be tested.

⁵⁹ I. B. Friedman, 'After Ukraine, can the Arctic peace hold?', *Foreign Policy*, 4 Apr. 2022, <https://foreignpolicy.com/2022/04/04/arctic-council-members-russia-boycott-ukraine-war/>.



ALASKA
(U.S.)

GREENLAND
(DENMARK)

ICELAND
REYKJAVÍK

NORWAY

SWEDEN
FINLAND

North
Magnetic Pole

Geomagnetic
North Pole

Longyearbyen
Svalbard
(NORWAY)

Banks Island
(CANADA)

Queen Elizabeth
Islands
(CANADA)

Wrangel
Island
(RUSSIA)

New
Siberian Islands
(RUSSIA)

Franz Josef
Land
(RUSSIA)

Novaya
Zemlya
(RUSSIA)

Severnaya
Zemlya
(RUSSIA)

Bear
Island
(NORWAY)

Jan Mayen
(NORWAY)

Victoria
Island

CANADA

uk
odthåb)

RUSSIA

70

30

150

150

30

0

30

Arctic Circle

Arctic Circle

4. Overview of US Arctic strategies: National and geopolitical perspectives

Troy J. Bouffard (Center for Arctic Security Studies and Resilience at the University of Alaska Fairbanks)

In the past, the Arctic was notable as a region of comparative cooperation and healthy competition, largely absent of conflict driven by inter-regional issues. Recently, however, Russian behaviour in Ukraine has impacted geopolitical norms, with the traditional confidence and enthusiasm invested in Arctic cooperation fading in the face of emerging competitive characteristics (see table 1). From a US perspective, cooperation flows from commitments to maintain the regional status quo, coupled with efforts to improve collaboration where it is in the interests of Arctic states to do so.⁶⁰ At the moment, conflict in the Arctic is relatively non-existent, making it possible to focus on identifying issues outside the region that could pose a threat in, to and/or through the Arctic.⁶¹ Previously, cooperation was robust, with relatively few opportunities for adversarial actors to disrupt ongoing circumpolar stability. The collective efforts of the Arctic states were largely directed at maintaining forward momentum when it came to addressing common concerns. Whatever competitiveness did exist among Arctic states was regarded as normal geo-related dynamics, with most issues fitting readily within a recognized competition continuum.⁶² Here, it should be noted that national security actors, especially foreign affairs and defence authorities, tend to monitor priority competitive issues as either constructive (with efforts aimed at achieving goals without escalating) or unconstructive (with efforts often aimed at de-escalating concerns).

⁶⁰ A. E. Nilsson, 'The United States and the making of an Arctic Nation', *Polar Record* 54/ 2 (2018), <https://doi.org/10.1017/S0032247418000219>.

⁶¹ P. W. Lackenbauer, 'Threats through, to, and in the Arctic', *Vanguard*, 6 Dec. 2021, <https://vanguardcanada.com/threats-through-to-and-in-the-arctic/>.

⁶² See for example US Department of Defense, 'Joint Doctrine Note 1-19: Competition Continuum', 3 June 2019, www.jcs.mil/Portals/36/Documents/Doctrine/jdn_jg/jdn1_19.pdf?ver=2019-06-03-133547-197&fbclid=IwAR0rR4kseMkPT1mLkquET0RvB3GmnIqkY2hID-sPrkBzGfQbULgrKpl7GJA.

Table 1: Differences between cooperative and competitive characteristics

Cooperative Characteristics	Competitive Characteristics
Effective communication	Communication is impaired
Helpfulness and trust	Mutual negative attitudes
Decreased obstructiveness	Division of labour impaired
Unity and coordination of efforts	Reduced confidence in each other
Sharing of power	Distraction of power perceptions
Defining conflicts as a mutual problem	Claiming ownership over solutions

Source: Developed from P. T. Coleman and M. Deutsch, ‘Cooperation, competition, and conflict’, in P. T. Coleman and M. Deutsch, *Morton Deutsch: A Pioneer in Developing Peace Psychology* (Mosbach: Springer, 2015).

The Arctic is an emerging region of global importance, and as such each Arctic state is attempting to define the region in its own terms. In the past, these efforts have benefited from cooperative interests, with shared principles offering a significant role. Going forward, however, the role of competition in the Arctic region can be expected to increase amid efforts to secure varying interests. Either way, individual national security interests/priorities generally form the primary geopolitical decision-making framework from which objectives arising from cooperative and competitive issues emerge. National strategies involving the Arctic serve as touchstones for official positions and ambitions. While some states publish their Arctic priorities as part of overall national strategies, others publish their Arctic national strategies as separate and distinct documents. In this regard, the suite of Arctic national strategies published by the US – in particular, its military strategies – is unparalleled. This chapter therefore provides a baseline understanding of the US’s overall Arctic-related national security interests and priorities, including challenges and opportunities involving: 1) North American defence and the National Security Strategy (NSS); 2) the US National Strategy for the Arctic Region; 3) US military Arctic strategies; and 4) considerations related to the crisis in Ukraine.

The Arctic’s role in North American defence and the National Security Strategy

The proactive nature of hard security efforts means that in the absence of a forcing event (e.g. disaster, violent conflict), developmental progress in this area will inevitably be challenged. Simply stated, there is little appetite to spend time, money and effort on the Arctic to address threats that are not obvious or yet to materialize, especially when there are pressing issues

to deal with elsewhere. Even so, the opportunity to get ahead of potential issues rather than simply reacting after the event also has strong appeal. In this context, US hard security priorities involving the Arctic reveal challenges in two key areas: 1) overlap and/or confusion concerning Arctic-related aspects of North American defence; and 2) the importance of Arctic-specific language in the NSS and operational capability development.

Regarding the first of these points, today's North American defence requirements are driven by developing threats, with hypersonic cruise missiles the primary emerging concern in light of the fact that the current ballistic missile defence enterprise cannot effectively defend against them. This necessitates the modernization of North American defence, including the binational US–Canada North American Aerospace Defense Command (NORAD).⁶³ Until this happens, deterrence leads the way, with adversaries aware that certain threats will be targeted left-of-launch. Here, strategic issues and Arctic operational capability development must be considered in their respective contexts: while continental defence is guided by strategies and requirements that benefit from mandated funding and shared binational responsibilities, the development of new Arctic operational capabilities is a separate endeavour. In addition, the military-related capabilities of the US and Canada, as well as their development and procurement processes, remain highly complex. Recent modernization efforts have faced delays and challenges, with the political leadership of both the US and Canada striving to more fully understand and articulate the emerging threats/defence needs relevant to partnered solutions. As a result, current North American strategic defence challenges continue to distract from the development of Arctic operational capabilities.

In terms of the second point, the new NSS, released in October 2022, includes Arctic-specific language highlighting that the region should be considered a national priority.⁶⁴ This unprecedented development provides crucial national guidance when it comes to facilitating a stable, strategic approach to defence and security developments, and allows for more effective management of expectations for stakeholders that may need to integrate or consider defence-related aspects to associated efforts. Under such circumstances, the US Department of Defense can publish and implement Arctic strategies based on dedicated long-term, legislative fiscal-support requirements. This means that Arctic US military strategies⁶⁵ can receive Arctic-defined programmatic backing and mandated funding support, much like the US Coast Guard.⁶⁶ While the Interim NSS Guidance released in March 2021 did not contain Arctic-specific

⁶³ T. J. Bouffard and A. Lajeunesse, 'NORAD modernization: Next steps', *Vanguard*, 24 Jan. 2022, <https://vanguardcanada.com/norad-modernization-next-steps/>.

⁶⁴ White House, 'National Security Strategy', Oct. 2022, www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf.

⁶⁵ US Department of Defense Arctic Strategy (Jun. 2019); US Navy Strategic Outlook for the Arctic (Jan. 2019); Department of the Air Force Arctic Strategy (July 2020); US Army 'Regaining Arctic Dominance' Strategy (Jan. 2021); and US Coast Guard Arctic Strategic Outlook (Apr. 2019). Currently, the US Marine Corps and US Space Force do not have Arctic strategies. Elsewhere, the Department of Homeland Security is updating its first Arctic strategy from 2020 and the Department of Energy is currently drafting their inaugural Arctic strategy.

⁶⁶ The US Coast Guard manages eleven statutory non-/homeland security missions, several of which involve polar operational requirements.

language,⁶⁷ the new NSS can justifiably add the Arctic as a priority given growing climate change concerns and the fracturing of Arctic cooperation in the wake of Russia's hostilities in Ukraine. In addition, the new NSS lists China as the lead threat to US national interests, whereas the previous version positioned Russia and China as the co-leading threats – adding to the difficulty of assessing the implications of China's Arctic involvement given Beijing's elevated 'pacing-threat' status.⁶⁸

In 2020, the US Department of Defense officially adopted the phrase 'strategic competition' to replace 'great power competition'. This is not mere semantics. The reasoning underlying this change is driven by an adherence to policy and a specific doctrinal understanding of 'strategy' and 'competition'.⁶⁹ Moreover, it enables the military to more effectively support national efforts aimed at identifying and managing geopolitically competitive issues, including those involving the Arctic region. US joint doctrine states that the 'ultimate goal of strategy is to achieve policy objectives by maintaining or modifying elements of the strategic environment to serve those interests' in order to 'secure and advance the nation's long-term, enduring, core interests over time'.⁷⁰ Whereas 'great power' is undefined and lacks foundational purpose through codified laws and regulations, 'strategic' as a grammatic qualifier implies a clear level of defence structure and purpose, as well as numerous other established characteristics associated with national security and defence. As a result, 'strategic competition' provides relevant agencies and actors with legitimate means (e.g. authorities, directives, jurisdiction) to manage issues through valid processes and systems.

US National Strategy for the Arctic Region

The US National Strategy for the Arctic Region (NSAR), also released in October 2022,⁷¹ provides detailed, balanced and adaptive guidance, expanding on a variety of security concerns and opportunities. The NSAR presents four 'mutually reinforcing pillars spanning both domestic and international issues', namely: 1) security; 2) climate change and environmental protection; 3) sustainable economic development; and 4) international cooperation and governance. Five principles provide additional focus for each pillar, reflecting the inter-related nature of Arctic issues and helping provide representation for the various actors with equities and responsibilities. Together, the NSS and NSAR are well aligned when it comes to dealing with both known issues and the significant uncertainties surrounding the region.

⁶⁷ President J. R. Biden Jr, 'Interim National Security Strategic Guidance', White House, Mar. 2021, www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf.

⁶⁸ E. Wishnick, *China's Interests and Goals in the Arctic: Implications for the United States* (Carlisle, PA: United States Army War College Press, 2017), <https://press.armywarcollege.edu/monographs/295>.

⁶⁹ See US Department of Defense, 'Joint Doctrine Note 2-19: Strategy', 10 Dec. 2019 www.jcs.mil/Portals/36/Documents/Doctrine/jdn_jg/jdn2_19.pdf, and US Department of Defense, 'Joint Doctrine Note 1-19' (note 62).

⁷⁰ US Department of Defense, 'Joint Doctrine Note 2-19' (note 69).

⁷¹ White House, 'National Strategy for the Arctic Region', October 2022, www.whitehouse.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf.

US Military Arctic strategies

In the US Air Force Arctic strategy released in July 2020, the Department of the Air Force states that it will ‘project combat-credible, all-domain air and space power’ throughout the region and enhance international ‘interoperability, operations and exercises’. The strategy’s requirements involve operational capabilities for power projection throughout the region, with an emphasis on a significant concentration of fifth-generation fighters stationed in Alaska.⁷² For the US Navy, development of surface presence capability continues to be the lead operational requirement in a context where increased maritime governance challenges are expected.⁷³ Currently, naval subsurface and aviation assets provide the mainstay of service contributions to US Department of Defense Arctic strategies. The Arctic strategies of the US Air Force and Navy largely represent enduring, post-Cold War legacy missions related to national defence, elements of which may overlap with emerging Arctic-specific operational developments.

By contrast, US Army Arctic capabilities are at an early stage of development. Resourcing (human and otherwise), as well as premier warfighting functions such as operational fires, manoeuvre and sustainment, need to be developed in order to advance fundamental combat- and combined-arms warfare capabilities.⁷⁴ In addition, a balance of offensive and defensive capabilities should be considered. Land forces provide an essential component of military power as defined by the construct of ‘precision-enabled, combined arms warfare’, in which the role of air defence is particularly critical.⁷⁵ Moreover, the top-level strategic defence publications that provide operationalization authority and guidance – such as campaign plans, CONPLANS and OPLANS – remain incomplete without critical land force components. To this end, the Department of Defense has reactivated the 11th Airborne Division (Arctic) to inform strategic and doctrinal development, as well as lead the transformation of Alaska-based US Army forces into the nation’s designated Arctic warriors.⁷⁶ Such advancements will help meet the command priority of ‘integrated deterrence’, whereby the need for prevention informs the role of the Arctic in homeland defence.⁷⁷

The US Coast Guard represents the nation’s lead operational authority for the Arctic, with several of its 11 statutory missions involving the polar regions. International law enforcement is a key role, with the Pacific Area command maintaining primary jurisdiction and authority over both poles. In support of soft/civilian security management of the Arctic, the US Coast Guard

⁷² T. J. Bouffard and L. L. Rodman, ‘U.S. Arctic security strategies: Balancing strategic and operational dimensions’, *Polar Journal* 11/1 (2021), <https://doi.org/10.1080/2154896X.2021.1911045>.

⁷³ J. Kraska, ‘Maritime governance of the US Arctic region’, in L. K. Heininen and H. N. Nicol (eds), *Climate Change and Human Security from a Northern Point of View* (Waterloo, ON, Canada: Centre on Foreign Policy and Federalism, 2016).

⁷⁴ B. Eifler, ‘The Arctic cold war: Competition and deterrence at our northern doorstep’, War Room, U.S. Army War College, 28 Oct. 2021, <https://warroom.armywarcollege.edu/articles/arctic-cold-war>; and T. South, ‘Army sketches out plan for an Arctic brigade combat team’, *Army Times*, 9 Dec. 2021, www.armytimes.com/news/your-army/2021/12/09/army-sketches-out-plan-for-an-arctic-brigade-combat-team/.

⁷⁵ US Army air defence capabilities in the Arctic at the short- and mid-range level are especially non-existent, in contrast to the long-range North American legacy missile defence mission.

⁷⁶ B. Eifler and T. J. Bouffard, ‘Forging the arctic warrior: Joint Pacific Multinational Training Center—Alaska’, *Journal of Indo-Pacific Affairs (JIPA)* 5/5 (2022), www.airuniversity.af.edu/JIPA/Display/Article/3173321/forging-the-arctic-warrior-joint-pacific-multinational-readiness-centralalaska/.

⁷⁷ G. D. VanHerck, ‘Campaigning at the top of the world: The Arctic and homeland defense’, *Defense News*, 10 Aug. 2022, www.defensenews.com/opinion/commentary/2022/08/10/campaigning-at-the-top-of-the-world-the-arctic-and-homeland-defense/.

participates as a member of the Arctic Coast Guard Forum (ACGF), which is generally regarded as the most important and successful Arctic operational organization actively involving all eight Arctic states. Moreover, the ACGF represents a natural development from the North Pacific and Atlantic multinational organizations, which continue to concern themselves with related issues expected to increasingly affect the Arctic. Potential additional operating concerns involving the Circumpolar North, with every vessel representing a possible emergency and/or security issue, highlight the critical need for and benefits of the eight-nation institute. In a particularly difficult emerging operating environment involving long periods of darkness and sea ice, the civil maritime capabilities of the ACGF, which expressly excludes anything defence-related, provide confidence that priorities and resources will continue to be meaningfully allocated through commitments from each member nation. Like the Arctic Council, however, the ACGF has fractured. Despite this, the US Coast Guard and coast guard-like agencies continue to operate in good faith with Russia out of absolute necessity. Here, it is imperative that key civil–security responsibilities are sheltered from geopolitical tensions in order to help manage the global maritime domain vital to all nations.

Conclusion

The Russian Federation represents the largest military threat to the US homeland, especially in terms of capabilities.⁷⁸ The Kremlin’s strategic defence-related posturing often manifests itself in terms of deterrence or, more recently, compellence.⁷⁹ Until recently, Russia was a consistent participant in and supporter of the Arctic region’s leading international cooperative efforts. The lack of conflict in the Arctic allowed for continued confidence in and reliable association with Russia on many of the most important Arctic issues. For now, the US continues to promote stability with its allies, while closely monitoring Russia’s ambitions to dominate Arctic affairs as the self-perceived regional hegemon. Moreover, attention will need to be paid to how Russia’s stated intent to pursue its strategic development in the region is affected by the self-inflicted impacts of the 2022 invasion of Ukraine.

As to China, the US government does not officially recognize or acknowledge China’s self-proclaimed status as a ‘near-Arctic state’. Nevertheless, apprehensions about Chinese behaviour (legitimate, illegitimate or undesirable) and Russo–Sino relations involving the Arctic region remain a persistent distraction. Previous attempts by China to advance its (largely unsuccessful) geo-economic ambitions in the Circumpolar North continue to generate debate and attention.⁸⁰ China represents a significant resource and pacing threat to the US, especially when it comes to geo-economic power. In terms of the future of European security, as well as NATO developments, the NSS guidance on China means the US will have to shift focus and resources from Europe to Asia.⁸¹ The challenge of understanding China’s Arctic interests

⁷⁸ J. Grady, ‘Russia is top military threat to U.S. homeland, Air Force general says’, USNI News, 18 Aug. 2021, <https://news.usni.org/2021/08/18/russia-is-top-military-threat-to-u-s-homeland-air-force-general-says>.

⁷⁹ R. Lee, ‘Moscow’s compellence strategy’, Foreign Policy Research Institute, 18 Jan. 2022, www.fpri.org/article/2022/01/moscows-compellence-strategy/.

⁸⁰ R. Wolfson et al., *Arctic Prospecting: Measuring China’s Arctic Economic Footprint* (Arlington, VA: Center for Naval Analyses, Jan. 2022), <https://www.cna.org/reports/2022/01/arctic-prospecting.pdf>.

⁸¹ E. A. Colby, *The Strategy of Denial: American Defense in an Age of Great Power Conflict* (New Haven, CT: Yale University Press, 2021).

and intent remains paramount, with the Arctic a key element of China's polar ambitions and broader priority of becoming the global great power. Here, it should be noted that US authorities must remain well informed on how China intends to take advantage of Russia's degraded geopolitical power and economic distress in the wake of the Ukraine invasion – both in the Arctic and beyond.

For a long time, the Arctic was regarded as a region of exceptional cooperation, and even now the region remains free from internal conflict. Uncertainty about future regional stability, however, necessitates further analysis and preparations for competition. While some components of stability (e.g. Arctic Council, ACGF, Barents Euro-Arctic Council) have undergone negative changes, others (e.g. shared coast guard services, UNCLOS, the three Arctic Council agreements) have not (and are not expected to). Cooperation will likely continue between the like-minded Western nations, but there can be little doubt that Russia will seek to manage many of its Arctic interests through competition. As a result, those implementing US strategies will need to consider how best to meet these challenges, bearing in mind as they do so that the country's Arctic allies are more important than ever before.



5. Cold realism: China's revised Arctic strategic policies

Marc Lanteigne (UiT: The Arctic University of Norway)

In the five years since Beijing released its first governmental Arctic White Paper⁸² – a document that received considerable global attention due to China's status as the largest country to have developed diplomatic and economic strategies in the High North – Sino-Arctic diplomacy has undergone significant changes, incorporating both expansion and retrenchment. Moreover, the politics of the Arctic have changed considerably over the past half-decade, with Beijing often racing to keep up. In addition to the accelerated pace of climate change in the Arctic, which has opened up new possibilities for economic activities (e.g. resource extraction and shipping), two other trends that are highly relevant to China's policies in the region have emerged: 1) increased security rivalry dynamics; and 2) the expanded interest of non-Arctic states. As a result, China's Arctic policy is moving towards a more conservative approach that better reflects the geopolitical realities of the Circumpolar North.

The Arctic's (further) opening

Prompted by the Russian invasion of Ukraine in February 2022, the 'securitization' of the High North, in terms of both actual policies and global perceptions, has accelerated. With the Arctic becoming more widely viewed as an area of emerging economic importance in terms of energy, raw materials (including strategic rare earths), and maritime shipping, many Arctic governments have adopted Arctic strategies which reflect zero-sum thinking. This has provoked concerns that the circumpolar north will become in an arena for great power competition, and especially that rivalries between Moscow and the West will spill over more directly into the Arctic, especially should Finland and Sweden succeed in joining NATO in the short term. Russia's invasion of Ukraine has placed Beijing in a difficult position, as although Xi Jinping's government has officially declared *de facto* neutrality, Beijing has since tried to walk a

⁸² '《中国的北极政策》白皮书（全文）' ['China's Arctic Policy White Paper (Full Text)'], State Council Information Office of the People's Republic of China, 26 Jan. 2018, www.scio.gov.cn/zfbps/ndhf/37884/Document/1618193/1618193.htm.

fine line between giving political support to Vladimir Putin’s position while avoiding being hit by the Western sanctions placed on Russia.⁸³

Despite critics of China’s Arctic engagement having often pointed to Beijing having a hard strategic or even military agenda in the region,⁸⁴ the reality is that the Chinese government would be ill-served by any sort of Arctic militarization or Balkanization. China has limited military power projection capabilities in, and overall access to, the Arctic. As such, it remains concerned about what has been termed a ‘melon scenario’, in which a race for Arctic resources and influence among the Arctic governments pushes out all outside interests (with the resources around the Arctic Ocean being cut up like a melon by the eight Arctic states).⁸⁵ Thus far, Chinese military activity in the Arctic has only taken place under controlled circumstances, including ‘showing the flag’ transits off the Alaskan and Baltic coasts and cooperation with Russia in military manoeuvres such as the *Vostok-2018* and *-2022* exercises, both of which included an Arctic component.⁸⁶

During Donald Trump’s administration, US Arctic policy adapted a mercurial approach, ignoring climate change as a regional threat, attempting to balance Russian strategies, and seeking to delegitimise Beijing as an Arctic actor. The latter included denigrating China’s claims to be a ‘near-Arctic state’ (*jin beiji guojia* 近北极国家), a term that has been used in the country’s research and policy circles for over a decade.⁸⁷ The relationship between the US and other Arctic Council members was restored following the start of the Biden administration in January 2021, as well as the Council’s Senior Arctic Officials meeting in Reykjavík in May that year, which saw Washington pledge further cooperation with other Arctic governments, including on climate change concerns.⁸⁸

⁸³ ‘面对“俄乌冲突”，中国的立场是否中立?’ [‘Facing the “Russia–Ukraine conflict”, is China’s position neutral?’], Fuyan International/163.com, 22 June 2022, www.163.com/dy/article/HAE3R8AT05149M1D.html; and A. Snetkov and M. Lanteigne, ‘Ukraine: Why China is not yet bailing out Russia’, *The Conversation*, 18 Mar. 2022, <https://theconversation.com/ukraine-why-china-is-not-yet-bailing-out-russia-179403>.

⁸⁴ See for example R. Doshi, A. Dale-Huang and G. Zhang, *Northern Expedition: China’s Arctic Activities and Ambitions* (Washington, DC: Brookings Institution, Apr. 2021), https://www.brookings.edu/wp-content/uploads/2021/04/FP_20210412_china_arctic.pdf; A.-M. Brady, ‘Facing up to China’s military interests in the Arctic’, *China Brief* 19/21 (10 Dec. 2019), <https://jamestown.org/program/facing-up-to-chinas-military-interests-in-the-arctic/>; and E. C. Economy, *The World According to China* (Cambridge and Medford, MA: Polity Press, 2022), pp. 175–84.

⁸⁵ L. Daguang, ‘多国觊觎北极“大蛋糕”’ [‘Many countries covet the Arctic’s “big cake”’], *Modern Navy* (Nov. 2011); C. Sørsensen and E. Klimenko, *Emerging Chinese–Russian Cooperation in the Arctic: Possibilities and Constraints*, SIPRI Policy Paper no. 46 (Stockholm: SIPRI, June 2017), www.sipri.org/sites/default/files/2017-06/emerging-chinese-russian-cooperation-arctic.pdf; and M. Lanteigne, ‘The Arctic is not the South China Sea’, *South China Morning Post*, 25 May 2021, www.scmp.com/week-asia/opinion/article/3134261/arctic-not-south-china-sea.

⁸⁶ B. G. Carlson, ‘Vostok-2018: Another sign of strengthening Russia–China ties’, *SWP Comment* 47 (Nov. 2018), www.swp-berlin.org/publications/products/comments/2018C47_Carlson.pdf; L. Zhou, ‘US Coast Guard spots Chinese warships off Alaska’, *South China Morning Post*, 14 Sep. 2021, www.scmp.com/news/china/military/article/3148725/us-coast-guard-spots-chinese-warships-alaska; and R. Ebbighausen, ‘China and Russia combine naval forces in the Baltic Sea’, *DW*, 24 July 2018, www.dw.com/en/china-and-russia-combine-naval-forces-in-the-baltic-sea/a-39816926.

⁸⁷ M. Lanteigne, ‘The US throws down the gauntlet at the Arctic Council’s Finland meeting’, *Over the Circle*, 7 May 2019, <https://overthecircle.com/2019/05/07/the-us-throws-down-the-gauntlet-at-the-arctic-councils-finland-meeting/>; W. Langley, ‘China rejects Mike Pompeo’s challenge to its “near-Arctic nation” claim’, *South China Morning Post*, 6 Jan. 2021, www.scmp.com/news/china/diplomacy/article/3116633/china-rejects-mike-pompeos-challenge-its-near-arctic-nation; and L. Junyuan, *北极地缘政治与中国应对* [Arctic Geopolitics and China’s Response] (Beijing: Shishi Publishing, 2010), pp. 338–40.

⁸⁸ A. J. Blinken, ‘Secretary Antony J. Blinken intervention at Arctic Council Ministerial’, US Department of State, 20 May 2021, www.state.gov/secretary-antony-j-blinken-intervention-at-arctic-council-ministerial/.

Given the still-brittle Sino–American relationship, however, it is unlikely that the US will accept an expanded Chinese presence in the Arctic, especially from a strategic viewpoint. Concerns have been raised that with Russia under Western sanctions, the door has been opened for increased Arctic cooperation between Beijing and Moscow. Initial signs appear to suggest the opposite, though, with Chinese firms apparently wary of too much engagement with the Russian Arctic.⁸⁹ For example, reports surfaced in June 2022 that Chinese companies involved in the development of the *Arctic LNG-2* liquified natural gas projects in Siberia faced a halting of their work due to concerns about triggering EU sanctions. Moreover, COSCO, China’s most prominent maritime shipping firm, declined to deploy any of its vessels to Russia’s Northern Sea Route during the summer of 2022.⁹⁰

Another Arctic regional trend has been the ongoing blurring of lines between Arctic and non-Arctic actors/stakeholders in areas of governance and, to a degree, security. With the Arctic experiencing the accelerated effects of climate change, many more non-Arctic states are viewing the region through an environmental, as well as an economic and political, lens. While China may be leading this trend, it has been joined by several other governments, including Japan, South Korea, India and Singapore. In addition, several non-Arctic European states, such as France, Germany, Italy and the United Kingdom, have expanded their High North interests based on historical engagement, constructing a status of being ‘Arctic-adjacent’ countries.⁹¹ Many non-Arctic states – including Germany, Japan and the UK – have also begun to look at the region through a more pronounced strategic lens.⁹² Beijing therefore faces further pressure to distinguish its Arctic identity and interests amid a more crowded diplomatic landscape.

China’s Arctic engagement and regional responses

China’s Arctic policy has continued to mature since the publication of its 2018 White Paper, signifying the country’s growing confidence in the region and realization that Beijing’s lack of

⁸⁹ C. Burton, ‘China’s potential long game: First dominate Russia, then on to the Arctic’, *Globe and Mail*, 15 Mar. 2022, www.theglobeandmail.com/opinion/article-chinas-potential-long-game-first-dominate-russia-then-on-to-the-arctic/; T. Eiterjord, ‘What does Russia’s invasion of Ukraine mean for China in the Arctic?’, *The Diplomat*, 25 Mar. 2022, <https://thediplomat.com/2022/03/what-does-russias-invasion-of-ukraine-mean-for-china-in-the-arctic/>; M. Bennett, ‘Russia’s war in Ukraine pushes China to reorient Arctic plans’, *Cryopolitics*, 13 May 2022, www.cryopolitics.com/2022/05/13/russia-china-arctic/; and L. Zhou, ‘Chinese firms “told to stop work on Russian Arctic LNG 2 Project” due to EU sanctions’, *South China Morning Post*, 20 May 2022, www.scmp.com/news/china/diplomacy/article/3178572/chinese-firms-told-stop-work-russian-arctic-lng-2-project-due.

⁹⁰ Zhou (note 89); A. Staalesen, ‘Chinese shippers shun Russian Arctic waters’, *Barents Observer*, 22 Aug. 2022, <https://thebarentsobserver.com/en/industry-and-energy/2022/08/chinese-shippers-shun-russian-arctic-waters>; and M. Lanteigne, ‘The rise (and fall?) of the Polar Silk Road’, *The Diplomat*, 29 Aug. 2022, <https://thediplomat.com/2022/08/the-rise-and-fall-of-the-polar-silk-road/>.

⁹¹ M. Lanteigne, ‘Inside, outside, upside down? Non-Arctic states in emerging Arctic security discourses’, in K. Spohr, D. S. Hamilton and J. C. Moyer (eds), *The Arctic and World Order* (Washington, DC: Brookings Institute, 2020), <https://transatlanticrelations.org/wp-content/uploads/2020/12/The-Arctic-and-World-Order.pdf>; M. Lanteigne, ‘Estonia’s Arctic thinking’, *Over the Circle*, 24 Feb. 2020, <https://overthecircle.com/2020/02/24/estonias-arctic-thinking/>; and Embassy of Estonia, Oslo, ‘Estonia as an aspiring Arctic Council observer state: The Arctic’s inventive neighbour’, 4 Apr. 2022, <https://oslo.mfa.ee/events/estonia-as-an-aspiring-arctic-council-observer-state-the-arctics-inventive-neighbour/>.

⁹² UK Foreign and Commonwealth Office, ‘Beyond the Ice: UK policy towards the Arctic’, 2018, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/697251/beyond-the-ice-uk-policy-towards-the-arctic.pdf; Federal Government of Germany, ‘Germany’s Arctic Policy guidelines: Assuming responsibility, creating trust, shaping the future’, Aug. 2019, www.auswaertiges-amt.de/blob/2240002/eb0b681be9415118ca87bc8e215c0cf4/190821-arktisleitlinien-download-data.pdf; and Headquarters for Ocean Policy, ‘Japan’s Arctic Policy (provisional English translation)’, *Arctic Portal*, 16 Oct. 2015, <http://library.arcticportal.org/1883/>.

Arctic territory creates considerable obstacles. It also reflects a growing wariness within many Arctic governments of Chinese power.

Beijing continues to view scientific diplomacy as the primary interest of its Arctic policy, pointing to its need for additional data/research on how environmental changes in the Arctic are directly affecting China, including in terms of weather patterns and pollution. Beijing has maintained a research station at Ny-Ålesund in Svalbard since 2004, and in 2018 a joint China-Iceland scientific research station in Karhóll, Iceland was formally opened. However, a proposal to establish a similar facility in Greenland was rebuffed by Denmark, mainly due to security concerns.⁹³ China also operates two icebreakers (*Xuelong* and *Xuelong 2*) for polar missions, with plans put forward for additional craft, including a possible icebreaking vessel with a nuclear engine, and semi-submersible heavy lift ships.⁹⁴ Concerns have been raised over the 'dual use' aspects of these ships and their missions, though, as well as other recent proposals such as the launch of a satellite to monitor regional shipping.⁹⁵

Since the publication of the White Paper, China's interest in regional economic diplomacy has intensified, with the focal point being the so-called Polar Silk Road (PSR), which would act as the northern tier of Beijing's ongoing Belt and Road trade initiatives.⁹⁶ The PSR was developed in cooperation with the Russian government in 2017, with the hope that this trade route would grow to incorporate other Arctic economies, including those in the Nordic region. Beijing had already successfully concluded a free trade agreement with Iceland in 2013 and is currently negotiating a similar deal with Norway.

China's interests in Arctic resources have faced strong headwinds, and in some cases Beijing's plans for joint Arctic scientific and economic projects have been caught up in diplomatic disagreements. Examples include a Chinese firm being disallowed from purchasing a gold mining operation in Nunavut in December 2020 in the wake of soured Sino-Canadian bilateral relations, with a similar fate befalling Chinese use of a radar station in Kiruna, Sweden. In addition, a mining project in Kuannersuit in southern Greenland, which included a Chinese partner company, was placed on indefinite hold in 2021 after the new government in Nuuk

⁹³ M. Schreiber, 'A new China-Iceland Arctic science observatory is already expanding its focus', *ArcticToday*, 31 Oct. 2018, www.arctictoday.com/new-china-iceland-arctic-science-observatory-already-expanding-focus/; and interviews by the author with Chinese Arctic officials, Beijing, July 2018.

⁹⁴ T. A. Eiterjord, 'Checking in on China's nuclear icebreaker', *The Diplomat*, 5 Sep. 2019, <https://thediplomat.com/2019/09/checking-in-on-chinas-nuclear-icebreaker/>; and L. Zhen, 'China to develop new heavy icebreaker for "Polar Silk Road"', *South China Morning Post*, 13 Nov. 2021, www.scmp.com/news/china/diplomacy/article/3155860/china-develop-new-heavy-icebreaker-polar-silk-road.

⁹⁵ Doshi, Dale-Huang and Zhang (note 84); and L. Zhou, 'China planning to launch satellite to monitor Arctic shipping routes', *South China Morning Post*, 10 Dec. 2020, www.scmp.com/news/china/diplomacy/article/3113376/china-planning-launch-satellite-monitor-arctic-shipping-routes.

⁹⁶ '冰上丝绸之路' ['Ice Silk Road'], 中国一带一路网 [China Belt and Road Portal], 20 Feb. 2019, www.yidaiyilu.gov.cn/zchj/slbk/80077.htm; Z. Yunbi and Z. Yue, 'Xi backs building of Polar Silk Road', *China Daily*, 2 Nov. 2017, www.chinadaily.com.cn/china/xismoments/2017-11/02/content_34012484.htm; and Y. Peng et al., 'Evolution of the hinterlands of eight Chinese ports exporting to Europe under the Polar Silk Road: Three hypothetical scenarios', *Ocean & Coastal Management* 205 (May 2021), <https://doi.org/10.1016/j.ocecoaman.2021.105549>.

called for a halt to the project on environmental grounds. Also in Greenland, plans by a Hong Kong firm to take possession of an abandoned military facility at Grønnedal (Kangilinguit) were blocked in 2016 by Danish authorities.⁹⁷

In addition to the setbacks described above, the Arctic has not been exempt from other pressuring facing the overall Belt and Road initiative, including the after-effects of the pandemic and the Beijing's economic isolationism which has persisted since 2020.⁹⁸ At present, the PSR project has shrunk in geographic scope to focus almost exclusively on Russia. China's Arctic economic cooperation with Moscow is best illustrated by the ongoing development of the Yamal liquified natural gas project and its associated infrastructure and tributary projects.⁹⁹ Thus, the PSR may be in the process of evolving into a Sino–Russian endeavour, potentially with additional financial support from other Asian economies. Despite cooling support for Chinese investment from the Nordic and North American Arctic, Beijing is continuing to seek greater access to the Arctic Ocean, especially the Northern Sea Route connecting Northeast Asia with Europe, which Beijing sees as an emerging maritime trade conduit. In addition, Beijing regards the Northwest Passage in the Canadian Arctic as a future transport link,¹⁰⁰ and the White Paper has designated the Central Arctic – which may become ice-free in the summer months in the next two decades – as an emerging sea route as well. This has led to questions about whether increased levels of Chinese civilian sea traffic will eventually be accompanied by military vessels.

Finally, there is the issue of emerging areas of Arctic governance. While Beijing has stressed that it is not seeking to challenge regional law or institutions in the Arctic, including the Arctic Council and UNCLOS, Chinese policymakers have been sensitive to new developments in Arctic cooperation. China has given many indications, including in policy speeches, that non-Arctic states could and should take on a larger role in future Arctic affairs. This has led to questions regarding the degree to which the Arctic should be viewed as an international 'space', and

⁹⁷ W. Strong, 'Ottawa blocks Chinese takeover of Nunavut gold mine project after National Security Review', CBC News, 22 Dec. 2020, www.cbc.ca/news/canada/north/canada-china-tmac-1.5851305; K. McGwin, 'Greenland plans to reject rare-earth mining permit', *Polar Journal*, 5 Aug. 2022, <https://polarjournal.ch/en/2022/08/05/greenland-plans-to-reject-rare-earth-mining-permit/>; J. Barrett and J. Ahlander, 'Swedish space company halts new business helping China operate satellites', Reuters, 21 Sep. 2021, www.reuters.com/article/uk-china-space-australia-exclusive-idUKKCN26C20A; and E. Matzen, 'Denmark spurned Chinese offer for Greenland base over security – sources', Reuters, 6 Apr. 2017, www.reuters.com/article/uk-denmark-china-greenland-base-idUKKBN1782E2.

⁹⁸ A. G. Herrero, 'Will the Belt and Road Initiative be another casualty of the pandemic?' *Georgetown Journal of International Affairs*, 11 Nov. 2022, <https://gija.georgetown.edu/2022/11/11/will-the-belt-and-road-initiative-be-another-casualty-of-the-pandemic/>.

⁹⁹ M. Lanteigne, 'The rise (and fall?) of the Polar Silk Road', *The Diplomat* 29 Aug. 2022, <https://thediplomat.com/2022/08/the-rise-and-fall-of-the-polar-silk-road/>; E. Mazneva, 'European gas slumps as China readies to flood market with LNG', *Bloomberg*, 19 Jan. 2022, www.bloomberg.com/news/articles/2022-01-19/european-gas-retreats-as-norway-supply-recovers-after-outages; and Z. Yue et al., 'Polar Silk Road and Arctic petroleum and gas resources', *Journal of Geomechanics*, 27/5 (2021), <https://doi.org/10.12090/j.issn.1006-6616.2021.27.05.071>.

¹⁰⁰ R. Fife and S. Chase, 'China used research mission to test trade route through Canada's Northwest Passage', *Globe and Mail*, 10 Sep. 2017, www.theglobeandmail.com/news/politics/china-used-research-mission-to-test-trade-route-through-canadas-northwest-passage/article36223673/.

where Beijing fits into such a picture.¹⁰¹ As of March 2022, the Arctic Council's activities were 'paused' in response to the Ukraine war, with the consequence that a major conduit for non-Arctic governments in the High North, including China, has been suspended. At the October 2022 Arctic Circle conference in Reykjavík, China's senior Arctic envoy, Gao Feng, suggested that it would be difficult for China to support the Council if it continued to operate without Russian participation,¹⁰² further reflecting the difficult position Beijing finds itself in as Arctic government is at great risk of becoming bifurcated.

Conclusion: Walking a fine line?

Beijing has attempted to strike a balance between on the one hand being seen as a 'spoiler' and revisionist power in the region and on the other hand being too passive, and thus excluded from the Arctic's economic and political goods. While only an observer in the Arctic Council, China has been supportive of other regional endeavours, including the 2017 Polar Code governing civilian ship traffic in the High North, and the 2021 moratorium on fishing in the Central Arctic Ocean.¹⁰³ Compared to many other non-Arctic states involved in the High North, however, China remains a relative newcomer in the Arctic. As such, in many areas – including local environments, politics and development issues – Beijing is still in the process of seeking information and is dependent on cooperation with Arctic governments and regimes.

China would therefore gain little benefit from assertive unilateral behaviour given its Arctic policy remains dependent on the goodwill of Arctic governments, particularly Moscow – a situation made more precarious since the Ukraine war. China has been willing to maintain a certain degree of support for Russia, as evidenced by the February 2002 Joint Statement between the two powers, which pledged cooperation with 'no limits', including in the area of Arctic cooperation.¹⁰⁴ China has also been willing to work with the Russian military in the Arctic as a way of demonstrating a united front against the West. For instance, there was an incident in September 2022 when the US Coast Guard vessel *Kimball* spotted Chinese People's Liberation Army–Navy (PLAN) ships – reportedly including the Type-055 destroyer *Nanchang* – operating with Russian military vessels in the Bering Sea off Alaska.¹⁰⁵

¹⁰¹ One early example of China's interest in promoting non-Arctic state rights and responsibilities was a speech by then-vice foreign minister Zhang Ming at the 2015 Arctic Circle Conference in Reykjavík. See Z. Ming, 'Keynote speech by Vice Foreign Minister Zhang Ming at the China Country Session of the Third Arctic Circle Assembly', Foreign Ministry of the People's Republic of China, 17 Oct. 2015, www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/201510/t20151017_678393.html; see also M. Lanteigne, "'Have you entered the storehouses of the snow?' China as a norm entrepreneur in the Arctic', *Polar Record* 53/2 (2017), <https://doi.org/10.1017/S0032247416000759>.

¹⁰² Arctic Circle, 'China and the Arctic – Q&A' [YouTube video], 28 Oct. 2022, www.youtube.com/watch?v=oiwUUOINNB&t=21s.

¹⁰³ International Maritime Organisation, 'International Code for Ships Operating in Polar Waters (Polar Code)', n.d., www.imo.org/en/OurWork/Safety/Pages/polar-code.aspx; and European Commission, 'Arctic: Agreement to prevent unregulated fishing enters into force', 25 June 2021, https://oceans-and-fisheries.ec.europa.eu/news/arctic-agreement-prevent-unregulated-fishing-enters-force-2021-06-25_en.

¹⁰⁴ President of Russia, 'Joint Statement of the Russian Federation and the People's Republic of China on the international relations entering a new era and the global sustainable development', 4 Feb. 2022, <http://en.kremlin.ru/supplement/5770>.

¹⁰⁵ 'US patrol spots Chinese, Russian naval ships off Alaskan island', Al Jazeera, 27 Sep. 2022, www.aljazeera.com/news/2022/9/27/us-patrol-spots-chinese-russian-naval-ships-off-alaska-island.

Even so, the long-term effects of the Ukraine conflict on Sino–Russian regional cooperation remain unclear, especially given the two powers’ Arctic policies rest on vastly different platforms. While it has become commonplace in some Western policy circles to lump Beijing and Moscow together as twin threats to the ‘rules-based order’ in the Arctic (an October 2022 speech at the Reykjavík Arctic Circle Assembly by a senior NATO official was a prominent example of this stance),¹⁰⁶ it remains important to note that Russia is an Arctic state and China is not.

Thus, China now faces the difficult task of presenting itself as a partner in Arctic development while seeking to separate its economic and strategic interests in the eyes of regional governments. Moreover, there is the question of whether China will further adjust its Arctic strategies as the region opens to economic activity, especially if demand for regional resources enjoys a post-pandemic rebound. Given these complications, it is likely Beijing will continue to emphasize the scientific and economic aspects of its Arctic diplomacy, while attempting to avoid being caught in the security vortex currently spreading in the High North.

¹⁰⁶ M. Bennett, ‘Arctic Circle 2022: A NATO admiral, Chinese diplomat, and Faroese metal band walk into a concert hall’, Cryopolitics, 19 Oct. 2022, www.cryopolitics.com/2022/10/19/arctic-circle-2022/; M. Lanteigne, ‘China and the “Two Arctics”’, The Diplomat, 18 Oct. 2022, <https://thediplomat.com/2022/10/china-and-the-two-arctics/>; and Arctic Circle, ‘NATO and the Arctic’ [YouTube video], 19 Oct. 2022, www.youtube.com/watch?v=6n6GEu00_dM&t=11s.



6. Hard security in the High North: Gloves off?

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Russia's brutal second invasion of Ukraine in February 2022 precludes any return to a quasi-'normal' in the Arctic, as happened after the annexation of Crimea in 2014. At that time, despite military cooperation with Russia being cancelled and the imposing of economic sanctions and counter-sanctions, business continued largely as before in the Arctic. Institutions such as the Arctic Council were not directly affected. Today, the violence and brutality of the Russian forces' conduct in Ukraine has made it politically impossible to continue political, scientific and cultural engagement with Russia, as illustrated by the decision of the seven Western Arctic states to freeze activity in the Arctic Council.

Nonetheless, even if it is the very same Kremlin that operates in the Arctic as in Ukraine, important differences in behaviour, opportunities and challenges remain between the two regions. There are, thus far, no indications that Russia is seeking to challenge the international order in the Arctic, or to provoke instability/create new conflicts with Western Arctic states.

The unpredictable and ruthless behaviour of Kremlin, however, makes any assessment of future Russian policies uncertain. Will a new wave of nationalism and opportunism by the Kremlin influence Russia's behaviour in the Arctic? Will international treaties or agreements be challenged by a revisionist Kremlin? Or will cooler heads with a more strategic outlook prevail, leading Russia to continue with a more restrained foreign and defence policy in the High North?

Geopolitical spillover?

Given the well-established web of international regulations, agreements and governance structures already discussed in this report, analysts have long considered the chances of any new conflicts emerging over the Arctic as low. There are no looming political conflicts – over sovereignty, boundaries, economic rights or other matters – that are likely to escalate into serious conflict or war. Instead, analyses have pointed to the risk of wider geopolitical

tensions spilling over into the Arctic.¹⁰⁷ While studies of regional politics have shown how Arctic states have, at previous critical junctures, worked to ensure the continuation of cooperative governance in the region,¹⁰⁸ there has recently been greater stress on conflictual issues impacting the Arctic in the public pronouncements of key actors.

For instance, NATO Secretary General Jens Stoltenberg stated in August 2022 that ‘authoritarian regimes are clearly willing to use military intimidation or aggression to achieve their aims. At the same time, they are stepping up their activities and interest in the Arctic’.¹⁰⁹ As a consequence, he argued, NATO is strengthening its presence in the High North. In addition, prior to the February 2022 invasion of Ukraine there was increased focus on intensified geopolitical security rivalry and disagreement, with former US Secretary of State Mike Pompeo’s speech at the margins of the Arctic Council’s ministerial meeting in 2019 exemplifying this trend. Pompeo called for Chinese and Russian actions in the Arctic to be viewed in the context of their perceived nefarious motives and actions on the global stage. Furthermore, US policy statements mention the need to balance Russia and China in the Arctic, while several US military branches have developed their own Arctic strategies (see chapter 4).

Given this situation, the following questions arise: Do these assessments and warnings really reflect the situation in the Arctic? And are the main global powers using the region for geopolitical contestation?

When it comes to assessing Chinese activity in the Arctic, some caution is required. Here, China should not be lumped together with Russia simply because they are both authoritarian regimes. As discussed in chapter 5, China’s importance in the region should not be overblown – China’s economic investments in the Arctic are limited and its military activity negligible.¹¹⁰ Defence cooperation with Russia remains restricted at this stage, probably also due to reservations on Russia’s side.¹¹¹ Even so, Chinese actors have on several occasions attempted to invest in land and property, which has created political challenges at both a local and national level in the states in question.¹¹² China’s launching of satellites in the Arctic has

¹⁰⁷ S. A. Karaganov et al., *Russian Policy in the Arctic: International Aspects* (Moscow: Higher School of Economics Publishing House, 2021), <https://conf.hse.ru/mirror/pubs/share/465307141.pdf>; and J. Townsend and A. Kendall-Taylor, *Partners, Competitors, or a Little of Both? Russia and China in the Arctic* (Washington, DC: Centre for New American Security, 2021), <https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNAS-Report-Russia-and-China-in-the-Arctic-final.pdf>.

¹⁰⁸ W. Rowe, ‘Analyzing frenemies: An Arctic repertoire of cooperation and rivalry’, *Polar Geography* 76 (Jan. 2020), <https://doi.org/10.1016/j.polgeo.2019.102072>.

¹⁰⁹ J. Stoltenberg, ‘In the face of Russian aggression, NATO is beefing up Arctic security’, *Globe and Mail*, 24 Aug. 2022, www.theglobeandmail.com/opinion/article-in-the-face-of-russian-aggression-nato-is-beefing-up-arctic-security/.

¹¹⁰ See CNA, ‘Arctic foreign direct investment: Interactive map’, www.cna.org/centers-and-divisions/cna/sppp/strategy-and-policy-analysis/arctic-fdi/arctic-fdi-map.

¹¹¹ A. Foxall, ‘The Sino–Russian partnership in the Arctic’, in D. Depledge and P. W. Lackenbauer (eds), *On Thin Ice? Perspectives on Arctic Security* (Peterborough, ON: NAADSN, 2021), www.naadsn.ca/wp-content/uploads/2021/04/Depledge-Lackenbauer-On-Thin-Ice-final-upload.pdf; and S. Goodman and Y. Sun, ‘What you may not know about Sino–Russian cooperation in the Arctic and why it matters’, *The Diplomat*, 30 Aug. 2020, <https://thediplomat.com/2020/08/what-you-may-not-know-about-sino-russian-cooperation-in-the-arctic-and-why-it-matters/>.

¹¹² Y. Jiang, *Chinese Investments in Greenland: Origins, Progress and Actors* (Copenhagen: DIIS, 2021), https://pure.diis.dk/ws/files/4834625/Chinese_investments_in_Greenland_DIIS_Report_2021_05.pdf.

also provoked concerns about potential dual use.¹¹³ Moreover, Beijing is proactive on Arctic governance, presenting itself as a regional stakeholder and pushing for a stronger role to be given to non-Arctic states in defining the region's future affairs. In short, while Chinese engagement in the Arctic should not be ignored, it must be assessed in a sober and objective manner.

From a US perspective, Russia's Arctic-based strategic nuclear weapons constitute a major national security concern – something that has been the case since the Cold War. New Russian hypersonic missiles and other non-nuclear strategic weapons also represent territorial threats to US territory. As a result, increasing attention is being paid by the US, Canada and NATO to intelligence collection, indication and warning, as well as the building of anti-submarine warfare capacities.

For NATO, potential Russian disruption by Northern Fleet assets of allied Sea Lines of Communication across the North Atlantic poses a concern, with the new Yasen-class multi-purpose submarines considered particularly threatening.¹¹⁴ In the 2022 NATO Strategic Concept, Russia is described as 'the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area', and 'in the High North, its capability to disrupt Allied reinforcements and freedom of navigation across the North Atlantic is a strategic challenge to the Alliance'.¹¹⁵ In NATO lingo, the High North is the North Atlantic part of the Arctic – that is, the areas in the Arctic that are part of the Supreme Allied Commander Europe's Area of Operations.

Among the three major powers, it has traditionally been Russia that has considered the Arctic a strategically important region for national security.¹¹⁶ While this is primarily due to the presence of SSBNs, which are a cornerstone of Russia's deterrence strategy, economic activity is also an important factor. Prior to the invasion of Ukraine, Russia's Arctic region accounted for around 10% of GDP and 20% of national exports.¹¹⁷ In Russia's 2022 Naval Doctrine, the Arctic is described as a region of 'global competition not only from an economic, but also from a military point of view', and as a 'vital area' for national security.¹¹⁸ More generally, the doctrine describes a tense and dangerous world in which the role of military force has grown significantly compared to the previous 2015 doctrine.¹¹⁹

¹¹³ K. Elmer, 'Swedish defence agency warns satellite station could be serving Chinese military', South China Morning Post, 14 Jan. 2019, www.scmp.com/news/china/diplomacy/article/2182026/swedish-defence-agency-warns-satellite-station-could-be-serving; and M. Humpert, 'China to launch satellite to monitor Arctic Shipping routes', High North News, 8 Dec. 2020, www.highnorthandnews.com/en/china-launch-satellite-monitor-arctic-shipping-routes.

¹¹⁴ M. G. Bredesen and K. Friis, 'Missiles, vessels and active defence: What potential threat does the Russian armed forces represent?', *RUSI Journal* 165/5–6 (2020), <https://doi.org/10.1080/03071847.2020.1829991>.

¹¹⁵ NATO, 'NATO 2022 Strategic Concept', 29 June 2022, www.nato.int/strategic-concept/index.html.

¹¹⁶ Karaganov et al. (note 107).

¹¹⁷ E. Rumer, R. Sokolsky and P. Stronski, *Russia in the Arctic: A Critical Examination* (Washington, DC: Carnegie Endowment for International Peace, March 2021), <https://carnegieendowment.org/2021/03/29/russia-in-arctic-critical-examination-pub-84181>.

¹¹⁸ P. Tebin, 'The new naval doctrine of Russia', Valdai Discussion Club, 4 Aug. 2022, <https://valdaiclub.com/a/highlights/the-new-naval-doctrine-of-russia/>.

¹¹⁹ Tebin (note 118).

Russia has long been wary of Western military activity in the High North and uncomfortable with allowing China too much access, despite wishing to attract further investment and commercial use of the Northern Sea Route. In the past, Russia has wanted to control its own waters while presenting a sufficiently stable terrain to attract a wide range of private sector investment from diverse international sources. Given today's comprehensive Western sanctions, new investments from the West are unlikely, and the degree to which Chinese investors will fill this void is uncertain.

In short, the major powers all have a strategic interest in the Arctic, with the US, NATO and Russia expressing concerns about higher tensions, albeit for opposing reasons. Despite this, the Arctic has yet to become an arena for significant geopolitical contestation.

Military deterrence and signalling

Since 2014, the High North's role as part of a global system of signalling and deterrence has intensified. Russia uses the Barents Sea to launch new vessels and test strategic weapons systems and large military exercises have also been carried out deep into the Norwegian Sea.¹²⁰ And when NATO has held exercises in Norway, Russia has often replied with military signalling operations. For instance, during Trident Juncture in 2018, Russia declared it would conduct simultaneous manoeuvres of naval forces and missile tests off the coast of Norway.

Russian signalling was very limited in reaction to NATO's recent Cold Response 2022, however (see chapter 3), probably due to limited capacity arising from its operations in Ukraine. Overall, Russian military activity in the High North peaked around 2018, and has more recently dropped off following the invasion of Ukraine. Several military units from the Northern Fleet – maritime vessels as well as ground troops – have been deployed to Ukraine, reportedly suffering huge losses.¹²¹ Nonetheless, in August 2022 the Northern Fleet conducted a large naval exercise with both surface and subsea vessels.¹²²

Western countries have increased their activity in the High North in recent years as part of efforts to enhance deterrence and defence, with the above-mentioned Cold Response 2022 the largest exercise in the region since the 1980s.¹²³ Several NATO countries have been sailing and flying in the region over the past few years, most notably the US and UK. Some of this

¹²⁰ N. P. Walsh, 'Satellite images show huge Russian military buildup in the Arctic', CNN, 5 Apr. 2021, <https://edition.cnn.com/2021/04/05/europe/russia-arctic-nato-military-intl-cmd/index.html>; M. Boulègue, *Russia's Military Posture in the Arctic: Managing Hard Power in a 'Low Tension' Environment* (London: Chatham House, June 2019), www.chathamhouse.org/sites/default/files/2019-06-28-Russia-Military-Arctic_0.pdf; and Bredesen and Friis (note 114).

¹²¹ T. Nilsen, 'Hundreds of Arctic troops killed, says Ukrainian adviser', *Barents Observer*, 26 Mar. 2022, <https://thebarentsobserver.com/en/security/2022/03/several-hundred-arctic-troops-killed-says-ukrainian-adviser>.

¹²² T. Nilsen, 'Northern Fleet kicks off large Barents-Arctic naval exercise', *Barents Observer*, 18 Aug. 2022, <https://thebarentsobserver.com/en/security/2022/08/northern-fleet-kicks-large-barents-arctic-naval-exercise>.

¹²³ D. Depledge, 'Train where you expect to fight: Why military exercises have increased in the High North', *Scandinavian Journal of Military Studies* 3/1 (2020), <https://sjms.nu/articles/10.31374/sjms.64/>; and A. Edvardsen, 'Cold Response 2022: 35,000 soldiers from 25 countries in northern military exercise', *High North News*, 18 Jan. 2022, www.highnorthnews.com/en/cold-response-2022-35000-soldiers-25-countries-northern-military-exercise.

activity has been motivated by a policy of deterring Russia, as well as a desire to signal that military vessels are free to sail in any international waters, including the Arctic.¹²⁴ Repeated exercises/visits from American strategic bombers, as well as the presence of a US Navy aircraft carrier in the Norwegian Sea for the first time since 1991, have elicited negative responses from Moscow.

While subsea activity is certainly taking place in and around the Arctic, the secrecy of these missions makes it difficult to assess their extent. The pattern is clear, however. Since around 2008, Russian conventional and multi-purpose submarines have increased their operations in the Barents and Norwegian seas, with some craft also patrolling outside the Arctic. In 2019–2020, the Yasen-class multi-purpose submarine *Severodvinsk* conducted a three-month long operation from Murmansk, probably reaching the East Coast of the US. Similarly, US, UK and French submarines have reintroduced a pattern of sailing into the Barents Sea as part of wartime preparations, for intelligence purposes, and to signal presence to Russia. When in 2020, the US Navy published pictures – for the first time in many years – of its fast attack submarine USS *Seawolf* changing crew in Tromsø, Norway, it probably intended to signal presence to Russia.¹²⁵

Many observers have expressed concern that this increased military activity may in itself represent a security risk, as incidents and accidents can lead to unintended consequences. While this is true to an extent, historical records from the Cold War do not indicate this is a particularly high risk. Despite the number of Soviet and NATO vessels being ten times higher at that time compared to today, few incidents occurred.

Nevertheless, China and Russia are likely to continue challenging the liberal world order for the foreseeable future, in turn triggering Western responses. Military forces will remain an important instrument for political and military signalling, with the High North an ongoing arena for this. In the short term, however, the fact that Russia is expending its military resources in Ukraine will almost certainly reduce the Northern Fleet's activity levels. It will likely take years for Russia to rebuild what it has lost, and Western sanctions will make it harder for the country to obtain the sophisticated technological components needed in, among other things, cruise missiles.

In terms of conventional arms, Russia is likely to be significantly weakened for many years to come, though this makes nuclear weapons relatively more important for its deterrence. The increased reference to nuclear weapons in Kremlin rhetoric has raised Western concerns, highlighting the importance of adherence to the New START Treaty (lasting until 2026) and the

¹²⁴ T. Nilsen, 'In a controversial move, Norway sails frigate into Russian Arctic EEZ together with UK, US Navy ships', ArcticToday, 9 Sep. 2020, www.arctictoday.com/in-a-controversial-move-norway-sails-frigate-into-russian-arctic-eez-together-with-uk-us-navy-ships/.

¹²⁵ T. Nilsen, 'U.S. Navy's most advanced attack submarine surfaced outside Tromsø', Barents Observer, 20 Aug. 2020, <https://thebarentsobserver.com/en/security/2020/08/us-navys-most-advanced-attack-submarine-surfaced-outside-tromso>.

verification mechanisms associated with it. Western intelligence collection on Russian nuclear-related military activity has become more important than has been the case for a long time.

Deterrence and confidence-building measures

The traditional Western security strategy towards both the Soviet Union and Russia has relied on a dual-track approach that combines containment (relying on deterrence and defence) with reassurance and dialogue.¹²⁶ On the military side, the focus has typically been on regimes, routines and procedures that ensure stability. This is evidenced by the fact that a host of Cold War regimes remain in place, such as confidence- and security-building measures (CSBMs).

Perhaps the most important maritime CSBM regime for preventing unwanted escalation is the Incidents at Sea (INCSEA) agreement, which was signed by the US and Soviet Union in 1972 and has been in effect ever since.¹²⁷ Another, similar, regime is the Agreement on Preventing Dangerous Military Activities. These agreements encompass both military vessels and aircraft operating outside territorial waters, and focus on various codes of conduct, prohibitions, rules and mechanisms for communication. There are also annual meetings to review and discuss incidents or near-incidents.

Currently, 12 NATO countries have bilateral INCSEA agreements (or similar) with Russia, although some were frozen following the 2014 Russian annexation of Crimea.¹²⁸ Russia and Norway updated theirs last year to account for technological developments such as unmanned aerial vehicles, navigation systems and the use of lasers.¹²⁹

Other existing and prior CSBMs include direct communication lines between navy headquarters or regional military commands.¹³⁰ These can be established on many levels in a military hierarchy. For instance, Norwegian Operational Headquarters have a direct line to the Russian Northern Fleet HQ. Such 'hotlines' can prove important in defusing tensions at moments of crisis and stress, when decision makers often feel under time pressure.

¹²⁶ W, Berbrick and L. Saunes (eds), *Conflict Prevention and Security Cooperation in the Arctic Region Frameworks of the Future* (Newport, RI: U.S. Naval War College Newport Arctic Scholars Initiative, Sep. 2020), www.diva-portal.org/smash/get/diva2:1508235/FULLTEXT01.pdf.

¹²⁷ US Department of State, 'Agreement Between the Government of The United States of America and the Government of The Union of Soviet Socialist Republics on the Prevention of Incidents On and Over the High Seas', signed and entered into force 25 May 1972, <https://2009-2017.state.gov/t/isn/4791.htm>; and D. F. Winkler, *Incidents at Sea: American Confrontation and Cooperation with Russia and China, 1945–2016* (Annapolis, MD: Naval Institute Press, 2017).

¹²⁸ I. Kerns and D. Raynova, 'Managing dangerous incidents: The need for a NATO–Russia memorandum of understanding', European Leadership Network, 7 Mar. 2016, www.europeanleadershipnetwork.org/commentary/managing-dangerous-incidents-the-need-for-a-nato-russia-memorandum-of-understanding/.

¹²⁹ G. O'Dwyer, 'Norway and Russia sharpen transparency pact on warship, aircraft moves', *Defense News*, 20 Aug. 2021, www.defensenews.com/global/europe/2021/08/20/norway-and-russia-sharpen-transparency-pact-on-warship-aircraft-moves/.

¹³⁰ S. Closson and J. Townsend, 'Navigating the future of competition in the Arctic', in M. Sfraga and J. Durkee (eds), *Navigating the Arctic's 7Cs* (Washington, DC: Polar Institute, Woodrow Wilson International Center for Scholars, 2021), www.wilsoncenter.org/arctic-7-cs-monograph.

Arguably, the more tense the political situation, the more important it is to have ‘hotlines’ and regimes such as INCSEA, meaning that, in principle, more Western states should update their military confidence-building measures with Russia. However, for most governments such engagement with the Russian armed forces has become politically and morally impossible. While this may change over time, as long as the brutal war in Ukraine continues there will be no trust or confidence to build.

Conclusion

The absence of any significant imminent conflicts over territory or resources in the Arctic used to be the main reason for optimism that the region’s relative calm was set to continue. China’s role in the Arctic, which remains under close scrutiny by both Russia and the West, does not currently represent a major concern.

The question is whether the same can be said for Russia. Is the country still a status quo power in the Arctic? In principle, Russian interests are well served by international law, meaning that traditionally it has not wanted to rock the boat and so attract too much negative or overly prescriptive Western (or Chinese) attention.¹³¹ However, we do not know if this rationale still holds true in a visibly more risk-taking Kremlin. It is possible Russia’s increased dependence on nuclear deterrence will alter its calculations in favour of more aggressive military posturing in the Arctic as well. Threats of nuclear weapons use in Ukraine necessitates close monitoring of Russian nuclear-related activity and underlines the importance of adherence to the New START Treaty.

Furthermore, Western sanctions may over time push Russia closer to China, prompting Moscow to be more accepting of a Chinese military presence and joint activity in its waters. While Sweden and Finland’s ascension to NATO membership will contribute to stability in the region, it could also incite the Kremlin into further defence posturing in the High North.

At a time when diplomacy is close to non-existent, military signalling becomes even more relevant. Although deterrence is important, restraint, predictability and transparency should be exercised whenever possible. The invasion of Ukraine has already affected politics and security in the Arctic, but the full extent of these impacts are yet to be determined. Given this, it should be remembered that wise policies may limit negative outcomes – a principle that applies to all parties.

¹³¹ E. Buchanan, *Red Arctic: Russian Strategy Under Putin* (Washington, DC: Brookings Institution Press, 2022).



Photo: Wikimedia Commons

Conclusion: Key takeaways and recommendations

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Key takeaways from the report chapters

As outlined in the preceding chapters, Russia's invasion of Ukraine has ruptured several of the elements that previously contributed to regional stability. At the same time, the impacts of climate change – including rapidly melting sea ice, storm surge, permafrost thaw, and increases in the number and intensity of wildfires – and their consequences for wildlife and human security persist (see chapters 1 and 2).

While several non-treaty-based settings for Arctic coordination have been paused, suspended or curtailed, the treaty-based agreements and associated interactions remain intact at the time of writing. Whether and how Arctic states will wish to resume more broad-based cooperation with Russia depends on change in the country and a resolution of its invasion of Ukraine on the latter's terms. Whether Russian actors will choose to resume such coordination and cooperation should this option become available is unknown, and is reliant on the outcome of the war, how developments shape Russian foreign policy attitudes and practices, and the conditions (if any) imposed by the broader global community.

Despite the unprecedented strain on political relations between Russia and the other Arctic states, the analyses in this report suggest that none of the three great powers studied are particularly keen on creating a 'new front' for military/political confrontation in the Arctic or over Arctic issues (see chapters 3, 4, 5 and 6). That said, both Russia and the US seem to expect greater military tensions in the Arctic in their latest respective strategic documents. Even if the Arctic is unlikely to become a theatre of war anytime soon, the increased military activity from both sides may have unintended consequences. Accidents, misunderstandings and tactical-level provocations could escalate amid a wider political atmosphere that has become extremely tense. Russia–China cooperation in the Arctic – an often overestimated yet still relevant factor – remains a source of concern for the Western Arctic states, particularly in terms of the relationship becoming established in the security realm.

Involving Russia in any attempt to enhance existing circumpolar governance in the Arctic is, at the time of writing, a political impossibility. It is important to note that Russia's aggression against Ukraine has further unified the other Arctic states, emphasizing the importance of transatlantic coordination among allies. This provides some momentum for Arctic governance, despite the disruptions to established patterns of governance and risk management.

Recommendations for enhancing governance and minimizing security risks

Double down on international climate diplomacy: Climate change continues to shape the Arctic and is a global problem. As such, global solutions are needed, and the Arctic states (minus Russia) – with their comparatively shared positions on climate change and the necessity of a green shift – are well situated to cooperate in global climate negotiations. This perspective should be extended to bilateral relations with non-Arctic states keen to profile their Arctic interests (e.g. China, India and other major carbon and black carbon (soot) emitters). States should ensure that such efforts are well resourced and highly prioritized as part of their Arctic and climate portfolios.

Ensure firm and clearly signalled deterrence: In a political environment marked by fundamental differences in values and perspectives regarding the international security order, states responsible for Arctic activity must find ways to reduce the risk of incidents and misunderstandings. This applies particularly to military activity. Measures to address these challenges must be reciprocal and carefully tailored to specific needs and requirements. Given the reduction of diplomatic contact with Russia in the Arctic, the burden of signalling now lies even more squarely in the military/security sphere. Deterrence must be firm but balanced, aimed at sending a signal of commitment and resolve rather than aggression. When Sweden and Finland eventually join NATO, allied military activity in the region should continue to adopt a defensive posture. Deterrence through exercises, training and other activities must signal cohesion and credibility while also paying attention to Russian sensitivities regarding the country's SSBNs and their supporting infrastructure.

Honour Arctic Council work and efforts through national implementation: Arctic Council actors could use the current situation to consider – and perhaps advance – the knowledge base and any applicable recommendations that have been produced over the past two decades of coordinated circumpolar work at the science–policy interface. While constant updating of the scientific picture is required, many already-existing recommendations and actionable scientific findings on smart social, environmental and economic measures to improve Arctic governance have yet to gain policy purchase. A push to act on the policy knowledge produced by the Arctic Council working groups and Task Forces – which has been highlighted in ministerial declarations – would be a good use of time and resources during a period in which full circumpolar cooperation is limited. Actors that usually support the Arctic Council's international work could thus be more closely involved in identifying actionable steps at the national and regional/local levels.

Pursue inclusive, routinized informality: The likelihood of regular relations being resumed with Putin's Russia in the foreseeable future is very low. Significant internal changes would need to take place in Russia before the resumption of non-treaty-based cooperation became politically acceptable. Thus, the other Arctic states have little to lose in resuming Arctic Council-style work, albeit in incremental fashion as recently announced, or even advancing/expanding the council's work as far as its statutes and regulations allow. For as long as the Arctic Council's activities are scaled back, paused or pursued informally, states must ensure that meeting channels are inclusive of relevant rights-holders – specifically, the Indigenous representatives that convene alongside states in formal Arctic Council settings. Routines of and capacity for inclusiveness and transparency should be established and upheld regardless of informality or irregular meeting practices.

Support Arctic science infrastructure and databases: The Arctic research community has in numerous reports and presentations called for the creation of an integrated, well-resourced and sustained Arctic Observing Network. This may be an area of opportunity in which both Arctic and non-Arctic nations can cooperate, and in doing so significantly advance our understanding of the Arctic environment, reinforce Arctic cooperation, and build international capacity at a time when a key actor in the Arctic landscape – Russia – is inaccessible to the rest of the scientific community. The Arctic Council nations (minus Russia), as well as the EU and many (if not all) the Arctic Council observer states, could bring expertise, financial resources and applicable technologies to bear on monitoring dramatic change in a region plagued by the tyranny of distance and a dearth of information and datasets.

Maintain existing military-relevant agreements: While new initiatives are unrealistic in the current political climate, existing INCSEA agreements and similar CSBM arrangements should be maintained.

Pursue communication and notification: As discussed in previous meetings of the Arctic Security Roundtable at the Munich Security Conference, open, reliable, redundant and effective lines of communication are critical to avoiding conflict that may arise from misunderstanding or miscalculation. Furthermore, in the event conflict does occur, such lines of communication can aid in deconfliction. As such, communication lines between military headquarters should be kept open. Western powers and NATO must continue to notify applicable countries of military exercises within the wider framework of the Vienna document, even if Russia does not.

Guiding all of the above, leaders must continue to address Arctic governance challenges and take concrete steps to mitigate and manage risks, regardless of the cessation of cooperation with Russia and the radical uncertainty shaping the broader political environment.

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