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International Competition in the High North: Kingston Conference on International Security 2022

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The Kingston Conference on International Security

CONFERENCE PAPERS

INTERNATIONAL COMPETITION in the HIGH NORTH

2022 Conference Volume

Michael E. Lynch
Howard G. Coombs
Editors

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Foreword

The Arctic presents a unique security environment characterized by extreme weather, vast distances, low population levels, limited infrastructure, high maintenance costs, and a wealth of natural resources; as the epicenter of climate change, the Arctic is both a laboratory for international cooperation and a potential venue for a new Cold War.

The 2022 Kingston Consortium on International Security conference, "International Competition in the High North," focused on the sources of Arctic tensions and great-power competition. At the meeting, held in Kingston, Ontario, Canada, October 11–13, 2022, European and North American scholars and practitioners discussed national security in the High North. This volume consists of 16 chapters that explore the various Arctic dilemmas. The keynote addresses and papers in this volume concern the following three themes.

- **Great-power competition**: The Russian attack on Ukraine in February 2022 shattered the peace in Europe and threatened the region's collaborative scientific and diplomatic environment. As Russia has withdrawn from the Arctic Council, China has begun exerting influence as a self-proclaimed "near-Arctic" nation. Commercial opportunities inspire great-power competition where little existed previously, with three potential routes across the Arctic region: the Northeast Passage, the Northwest Passage, and the Transpolar Sea Route.
- **Arctic dilemmas**: Planning for the defense of the Arctic presents a dilemma. Investments in Arctic defense require specialized forces and infrastructure unique to the region that are often prohibitively expensive, but growing geopolitical uncertainty forces the Arctic nations to defend their people and territory.
- **Human and environmental security**: Human security is national security. Developing a security plan for the North American Arctic requires close cooperation among the military, indigenous communities, governing bodies, and federal agency partners. Indigenous peoples have a personal stake in preserving their cultures, ways of life, and access to essential resources, and the

peoples can provide excellent training and early warning for units and personnel unfamiliar with the climatic extremes of the Arctic. Climate change poses environmental, economic, and national security threats—to the three new potential sea routes through the Arctic and access to resources, in particular—that are already apparent in the region.

The Kingston Consortium on International Security is a partnership among the Centre for International and Defence Policy at Queen's University at Kingston, the Canadian Army Doctrine and Training Centre, the Strategic Studies Institute of the US Army War College, and the NATO Defense College.

Carol V. Evans
Director, Strategic Studies Institute
and US Army War College Press

Executive Summary

The 16th annual Kingston Consortium on International Security conference, "International Competition in the High North," took place on October 11–13, 2022, in Kingston, Ontario, Canada. The conference examined the Arctic region in the context of ongoing climate change and against the backdrop of war in Ukraine. Over the past several years, the United States has acknowledged the growing importance of the Arctic as a strategic region, and the Department of Defense and each of the US military services have published Arctic policies or strategies. In addition, the Department of Defense has created a new regional studies center, the Ted Stevens Center for Arctic Security Studies in Alaska. Canada and the other Arctic Council nations have also acknowledged the growing importance of the Arctic region, revised strategic frameworks, and changed institutional approaches to ensure Arctic security challenges arising from great-power competition and other threats, like those to the environment, are addressed. This volume captures these ideas for the United States and its allies so all can benefit from this experience.

The Kingston Consortium on International Security is a partnership among the Centre for International and Defence Policy at Queen's University at Kingston, the Canadian Army Doctrine and Training Centre, the Strategic Studies Institute of the US Army War College, and the NATO Defense College. The annual conference offers insights from academics, practitioners, and national security policymakers on topics related to national security. The conference brought together academics, practitioners, and military officers from the Canada, Finland, Norway, and United States and featured the following six panels.

1. International Security Challenges in the North: A broad, scene-setting survey of the security environment of the contemporary circumpolar north, with a focus on the security threats recent shifts in great-power politics pose, the changes climate change is wreaking, the challenges indigenous communities face, and the opportunities for economic development in the Arctic.

2. The Great Powers in the High North: Examined how the reemergence of great-power competition affects regional politics in all areas of the globe and highlights great-power interests in the North. This panel further examined the evolution of the circumpolar security policies of the United States, the People's Republic of China, the Russian Federation, and European powers.

3. Defence Capabilities in North America and the Arctic: Explored the modernization and evolution of North American Aerospace Defence Command and other North American defense capabilities in the circumpolar north.

4. Diplomacy and International Cooperation: Focused on the potential for international cooperation in the High North, offered regional and global perspectives, and featured examples of multinational cooperation in the Arctic.

5. Joint Security Cooperation: Focused on civil-military cooperation and Joint Force involvement, offering a comprehensive view of interagency contributions to Arctic security.

6. Strategies for the Future: Discussed strategies and policy recommendations for Western allies in the circumpolar north in the years ahead.

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Canadian Keynote Address – October 13, 2022

General Wayne Eyre
Chief of the Defence Staff
Canadian Armed Forces

Thank you for that kind introduction, Dr. Nossal.

Good afternoon, everybody. *Bonjour tout le monde*.

I would like to start off by first acknowledging the land on which we are gathered here today is traditional Anishinaabe (Ojibwa) and Wendat (Huron) territory.

I also want to thank you, again, for the invitation to speak to you today. I look forward to this gathering every year, and, more so than the speech, I look forward to the questions and answers because they are always stimulating.

I would like to congratulate our Kingston Conference on International Security partners—the Centre for International and Defence Policy here at Queen's University; the Canadian Army Doctrine and Training Centre; the Strategic Studies Institute at my old alma mater, the US Army War College; and NATO Defense College—and all the organizers for putting everything together today.

Every year, this event brings together a diverse group of people: military; civilian; government and private sector; industry and academia; and especially students. To see so many students here who share common desires is fantastic. These shared desires are the safety and security of the people of Canada, the strength and stability of our vital alliances, and the preservation and promotion of the rules-based international order that has led to so much peace and security over the years.

A lot has changed since I spoke to this forum last year. A lot has changed in the rules-based international order, and that order is more fragile than ever.

This conference knocks down silos and provides a forum where we can share our best thinking on the most critical, vexing concerns of our times.

This integration, which is key to our collective efforts to maintain stability and security as well as peace and prosperity, will only become more important as the security situation in our world further degrades and our challenges become more daunting.

Global Security Environment

As has been said many times, our world is volatile and dangerous—more so than at any time since the fall of the Soviet Union and, perhaps, since the end of the Second World War.

Competitors are vying for influence, threatening the international order that has been the pillar of global stability and security—and, for the most part, peace in Europe—since 1945.

Russia's illegal, unjustifiable, and ill-conceived invasion of Ukraine and China's increasingly aggressive and assertive activity in the Indo-Pacific region are obvious examples.

But other actors—both state and nonstate—are also pursuing their geopolitical agendas in the gray zone that exists just below the threshold of armed conflict. Examples of these actions include exerting foreign influence, carrying out espionage, and spreading disinformation.

Entretemps, les nouvelles technologies modifient le caractère des conflits. La distance relative et l'isolement géographique dont le Canada a bénéficié pendant si longtemps n'offrent plus les mêmes avantages défensifs qu'autrefois.

[Meanwhile, new technologies are changing the nature of conflict. The relative distance and geographic isolation Canada has enjoyed for so long no longer offer the same defensive advantages they once did.]

Et nous devons être prêts à affronter des adversaires et des concurrents non seulement en mer, sur terre et dans les airs, mais aussi en ligne, dans l'espace, dans le domaine de l'information, et probablement dans d'autres domaines encore à venir au cours des prochaines années.

[And we must be ready to face adversaries and competitors not only at sea, on land, and in the air, but also online, in space, in the information domain, and probably in other areas still to come in the next few years.]

Les changements démographiques, la migration massive, les conflits culturels et la polarisation politique déchirent la cohésion sociale dans de nombreux pays.

[Demographic change, mass migration, cultural conflict, and political polarization are tearing apart social cohesion in many countries.]

Climate change, perhaps the ultimate disrupter, looms over everything.

As always, the theme of this year's conference is timely, and its subject matter is urgent because all these concerns are overlapping and at play in our Arctic.

As I said at this conference last year, clearly, when we think about the meaning of defending Canada and Canadians, we need to consider the increasing domestic deployments demanded of our armed forces.

In addition, defending Canada and Canadians demands a powerful commitment to upholding the country's Arctic sovereignty and preserving the security and stability of the entire circumpolar region.

These statements were central to the discussions this past August in St. John's, when I hosted and met with my counterparts from other Arctic nations for the first Arctic Council Chiefs of the Defence Staff meeting since Russia invaded Crimea in 2014.

Present were Chiefs of Defence from Denmark, Finland, Iceland, Norway, and the United States.

Our Swedish counterpart was there in spirit but could not attend.

For obvious reasons, Russia was not invited.

Ce qui est triste—car en cette époque où l'Arctique devient de plus en plus important et sa stabilité et sa sécurité, plus vitales, et où le besoin pour chaque pays concerné de travailler ensemble devient encore plus grand, la Russie a choisi de se retirer de la table des nations.

[Which is sad—because at a time when the Arctic is becoming increasingly important and its stability and security more vital, and when the need for every country involved to work together is becoming even greater, Russia has chosen to withdraw from this international forum.]

Ce fut néanmoins une rencontre très productive.

[Nevertheless, it was a very productive meeting.]

We decided to begin meeting regularly again and to continue to advance our shared commitment to cooperation, collaboration, and information sharing in the region.

Competition in the Arctic

The Arctic is a long way from the halls of power, distant from the great-power capitals of the world.

But make no mistake, the Arctic is a region of growing geopolitical importance and an arena of increasing strategic competition.

We know Russia sees the Arctic as vital to its security and economic interests.

Russia already has the largest military presence in the North—a presence that continues to grow in both its offensive and defensive capacities.

The Russian military's growing presence is obviously troubling given Russia's disregard for peace, order, and the sanctity of its neighbours' borders.

Russia's illegal war in Ukraine has important implications for the Arctic. Finland and Sweden joining NATO will fundamentally alter the geopolitics of the region and increase the focus on NATO's northern flank.

Directing all our attention toward Russia is easy given the current war in Ukraine. But looming large, the challenge of China will probably be a focus for a long time to come.

China has declared itself a near-Arctic nation and has its own ambitions in the North. In particular, China aims to use the Northeast Passage through Russia's Arctic to import energy and export goods as part of the Polar Silk Road vision.

One theme that arose at our Arctic Council Chiefs of the Defence Staff meeting in St. John's is Russia's intent to defy the international rules-based order. But China is more subtly trying to disrupt this order, with the intention of changing that order to its advantage.

Les activités commerciales et scientifiques menées par la Chine appuient l'avancement de ses objectifs militaires et stratégiques, et vice versa.

[China's commercial and scientific activities support the advancement of its military and strategic objectives, and vice versa.]

D'autres États ont également exprimé un intérêt accru pour l'Arctique—par exemple la Belgique, la France, l'Allemagne, la Pologne, le Royaume Uni, les Pays Bas, l'Espagne, l'Italie . . .

[Other countries have also expressed a growing interest in the Arctic—for example, Belgium, France, Germany, Poland, the UK, the Netherlands, Spain, Italy . . .]

Although these countries are allies and partners, the more interest nations show in the Arctic, the more complex the politics of the region will become.

Climate Change, Threats, and Challenges

The effects of climate change and improved access to natural resources and shipping routes have driven the increased geopolitical interest in the Arctic.

Some of this sense of improved access is accurate, but some is only perceived. For example, the Northwest Passage is passable—His Majesty's Canadian Ship *Harry DeWolf* navigated it last year. But given volatile ice conditions, a short navigation season, and a lack of support infrastructure, among other issues, the Northwest Passage is unlikely to become a viable shipping route until the latter half of this century.

Nonetheless, we will continue to see increased activity in the North for commercial purposes; for scientific research; and, increasingly, for tourism.

With increased activity comes an increased risk of accidents, miscalculation, and escalation, as well as additional demands on our Canadian Armed Forces.

Climate change and growing strategic competition are examples of threats to the Arctic and its people, and the former demands improvements to infrastructure.

But we also must be prepared to respond to threats coming through the Arctic—most obviously, missiles and their launch platforms—thanks to new technology deployed by adversaries from great distances.

We must respond by, among other things, the development of our domain awareness, including via initiatives funded through our defence policy, Strong, Secure, Engaged, and, as announced in June, North American Aerospace Defense Command (NORAD) modernization.

Enfin, nous devons être en mesure de réagir efficacement aux menaces provenant de l'Arctique lui-même. Plus il y a d'activités dans le Nord, plus les risques d'accident lié au terrain dangereux et au climat extrême sont élevés.

[Finally, we need to be able to respond effectively to threats from the Arctic itself. The more activities there are in the North, the greater the risk of accidents due to the dangerous terrain and extreme climate.]

Having this capability means increasing our search-and-rescue capacity, including improving domain awareness in the North through NORAD modernization to support Canadian Armed Forces search-and-rescue operations and others.

Challenges to Operations in the High North

Arctic terrain and climate make Canada's North one of the most challenging environments in the world for military operations.

The North makes up four-fifths of Canada's territory and 75 percent of our coastlines.

Joint Task Force North is responsible for 25 percent of the global Arctic. Only Russia has a larger stake in the global Arctic.

The Canadian Arctic contains less than half of 1 percent of Canada's population.

To achieve the same population density as the Canadian Arctic, one might spread the population of the City of Kingston across Europe.

The infrastructure to support Arctic operations is spread just as thinly. What we can't build, we have to bring. Working in the Arctic requires self-sustaining forces, strong supply-chain and logistics capacity, and an overabundance of advance planning. The Arctic is in our country, but every Arctic deployment is considered a strategic deployment.

Extreme conditions can hamper sensor and communications capabilities. These impacts represent another challenge, given situational awareness and communications are key to success in any theater—especially, one so dispersed as the Arctic.

The Canadian Armed Forces' Role and Footprint

In this complex and challenging environment, we have a multipronged role, with the various elements combining to advance our overarching mission in the region: upholding our Arctic sovereignty and protecting the safety and security of Canadians.

We need to be a sustained and visible presence in the North.

We need to maintain constant domain awareness.

We need to be steadfast in supporting our allies and partners and fulfilling our international commitments—in particular, to North American Aerospace Defense Command and NATO.

We need to support our domestic partners, including working with the Canadian Coast Guard, the Royal Canadian Mounted Police, and provincial and territorial partners in search-and-rescue efforts.

We also need to contribute to a whole-of-government approach that supports economic opportunities and resilient communities in the North as well as advance reconciliation with the indigenous peoples who have lived there for generations.

To achieve these goals, we have assigned about 300 members to Joint Task Force North. These members are primarily headquartered in Yellowknife, but some are stationed in Iqaluit and Whitehorse.

About 1,800 Canadian Rangers from 1st Canadian Ranger Patrol Group live in communities throughout the region.

Since 2013, we have maintained a Canadian Armed Forces Arctic Training Centre in Resolute Bay to ensure our people are ready to operate in Arctic conditions.

The Royal Canadian Air Force's 440 Transport Squadron, based in Yellowknife, provides transport and search-and-rescue functions with four DHC-6 Twin Otter aircraft.

Our air force, in collaboration with North American Aerospace Defense Command, also maintains forward operating locations in Yellowknife, Inuvik, and Iqaluit, extending our reach into the North.

Members stationed at Canadian Forces Station Alert, less than 800 kilometres from the North Pole, gather signals intelligence.

Thus, the Canadian Armed Forces do not have a large footprint by any means for such a vast region as Canada's North.

To support the Canadian Armed Forces' efforts, personnel posted north of the 60th parallel draw on assets positioned in the south.

The first three of six new Arctic and offshore patrol ships have been delivered and have already begun increasing our visibility and presence in the North, as we saw in Operation Nanook this summer.

The Royal Canadian Navy's ability to operate in Northern waters will also be amplified by the new Nanisivik Naval Facility when it comes online.

Four Arctic Response Company Groups have built up years of expertise, and, if you haven't seen them in operation, you would be very impressed with the depth of experience they have. Drawing from our Canadian Army Reserve, the Arctic Response Company Groups are ready to support Northern operations on short notice.

Joint Rescue Coordination Centres in Victoria, Trenton, and Halifax coordinate our search-and-rescue operations in the North.

In addition, North American Aerospace Defense Command monitors the radar stations up there that form part of the North Warning System from 22 Wing North Bay.

To most Canadians, the most visible sign of our presence and capabilities in the North is Operation Nanook, our annual military exercise or series of exercises in the North.

L'opération Nanook met en évidence notre expertise en matière d'opérations dans l'Arctique, notre dévouement à la sécurité dans l'Arctique et notre présence en général au nord du 60e parallèle.

[Operation Nanook highlights our expertise in Arctic operations, our dedication to Arctic security, and our overall presence north of the 60th parallel.]

Cette opération démontre notre capacité à déployer nos forces armées dans le Nord et à les y maintenir en puissance.

[This operation demonstrates our ability to deploy our armed forces in the North and keep them there in strength.]

Operation Nanook's practical benefits to our members are equally important: Pilots gain experience flying in difficult conditions, divers work under the ice, and land forces exercise their Arctic survival skills.

Through Operation Nanook, we strengthen our capability and readiness for Northern operations, enhance our domain awareness, maintain a visible presence, and identify areas where we need to improve.

We work with defence scientists to improve our understanding of the environment and to develop ways to increase our effectiveness there.

We work with our partners in the federal and territorial governments, building capacity for interagency and whole-of-government cooperation.

We also work with allies to increase our interoperability with other militaries. We invite all allies to join us, and they have increasingly been expressing interest.

Still, the assets in place to defend the North (and southern Canada from threats coming through the North) are not nearly enough. I have said this before, but our Arctic sovereignty is not threatened today. It will not be threatened tomorrow, and it will not be threatened next year. But, given the geopolitical landscape, the effects of climate change, and our low population in the region, our hold on sovereignty could become tenuous in the decades ahead.

The security and stability of the Arctic require us to take a long-term view.

Developing capabilities, procuring assets, and establishing infrastructure all take time, and we must work to ensure these capabilities are in place so they are ready when we need them in the decades ahead.

As the old saying goes, "If you want a grown tree in your yard, the best time to plant it was 20 years ago. The next best time is right now."

Response to Threats and Challenges

Canada's Arctic sovereignty and security feature prominently in our defence policy and remain critical considerations as we continue to update this policy.

Given how much and how quickly the world has changed in the five years since the government launched Strong, Secure, Engaged, Budget 2022 committed to investing immediately in NORAD modernization as well as revising Strong, Secure, Engaged to reflect the current defence and security climate.

Canada's goals—to remain strong at home, secure in North America, and engaged in the world—arguably have not significantly changed since the Second World War. But the ways in which we achieve these enduring goals must adapt to enduring and current realities.

We are prioritizing moving ahead with NORAD modernization.

The most recent federal budget calls for even greater presence, capacity, and domain awareness in the Arctic—calls Canada's Arctic and Northern Policy Framework echoes.

Comme je l'ai mentionné plus tôt, nous ne pouvons plus compter sur notre isolement géographique pour assurer notre défense alors que les technologies en matière d'armement et les menaces existentielles pour l'ordre international fondé sur des règles évoluent rapidement.

[As I mentioned earlier, we can no longer rely on our geographical isolation to ensure our defence while weapons technologies and existential threats to the rules-based international order are evolving rapidly.]

Our ability to defend against threats in, to, and through the Arctic is of paramount importance to North American Aerospace Defense Command. We cannot separate advancing our defence interests in the North from advancing NORAD modernization.

When North American Aerospace Defense Command was established, its raison d'être was to defend North America against the threat of Soviet bombers, which had to penetrate our airspace to deliver bombs. Later, the command's mission included defence against Soviet cruise missiles.

Our investment in continental defence wound down with the end of the Cold War.

But Russia, which has significantly invested in long-range aviation and the capability of Russian cruise missiles, has the means to threaten Canada in other domains.

Russia's sophisticated submarine fleet carries weapons of great concern.

In the cyber domain, Russia is one of the world's most significant agitators, capable of threatening our critical infrastructure and economy.

Russia has demonstrated irresponsible behaviour, such as the destructive anti-satellite tests last fall that created space debris and polluted space for decades and generations to come, in the space domain.

With the Arctic being a potential avenue for attacks on North America, we must work even harder to improve our Arctic infrastructure, surveillance, and rapid response capabilities. Canada and the United States have agreed to work together to modernize North American Aerospace Defense Command.

The current plans call for necessary improvements to command and control using advanced technology, including artificial intelligence, to enhance our ability to process and interpret incoming data efficiently.

These plans will improve our air domain awareness in the form of next-generation, over-the-horizon radar as well as additional funding to support the development of the satellite communications platforms called for in our defence policy.

The current plans also include significant funding to upgrade NORAD forward operating locations and to acquire additional air-to-air refuellers to enable more agile and sustainable operations in the North.

These plans will build on work already underway through Strong, Secure, Engaged, including the Arctic and offshore patrol ships, future fighter aircraft, remotely piloted aerial systems, and enhancements to the training and effectiveness of the Canadian Rangers.

Still, we are nowhere near where we need to be on Arctic security.

The formidable challenge of continental defence in this time of accelerated change demands we heighten our capabilities in every domain.

At sea, we need to continue to develop our domain awareness through developing new solutions for underwater surveillance and extending and improving our submarine capabilities.

In space, we need assured access to broadband or high-speed polar satellite communications to facilitate command, control, and communications capabilities and to improve our operational reach and effectiveness.

In the cyber domain, we need to continue to invest in the ability to defend our networks and to strike back when warranted.

On land, we need to amplify our ability to deploy strategically to the farthest reaches of our territory. We must develop operational support capabilities, including deployment capabilities in the south, to enable a persistent presence in the North.

The existence of our capability and our exercising of it in the extremities of our nation send a message and change our adversaries' calculus.

This list of needs is far from comprehensive, but it indicates just how much more remains to be done.

To defend the North and Canada's interests in general, we need to understand what is happening in the North better. To develop a more comprehensive understanding, we need to be able to monitor the North effectively, which means a greater presence both physically and technologically in every domain.

We also need to develop greater resilience, to respond to natural disasters better, and to adapt to the effects of climate change.

We need to continue strengthening our relationships with our allies and partners—both formally, through multinational efforts like the Arctic Chiefs of Defence Forum and Operation Nanook, and through clear and constant communication with other Arctic nations and nations with Arctic interests. In the evolving Arctic security environment, transparency, openness, and cooperation are absolutely essential. We need to do what we can to keep tensions down in the region.

We also need to work more closely with domestic partners, including provincial, territorial, and indigenous governments.

Modernizing North American Aerospace Defense Command represents a fresh opportunity to engage with these communities, advancing reconciliation through both engagement and collaboration.

But NORAD modernization cannot and must not be the end because improvements to Northern security and infrastructure benefit us all.

Closing

So in closing, the Canadians are northern people. The Arctic is part of who we are and our national character.

Defending the Arctic's stability and security as well as our sovereignty there is more vital and more challenging now than ever before.

The Arctic is a key front in the struggle to preserve our rules-based international order.

The region's strategic importance is greater now than at any time since the Cold War.

Climate change is forever altering the physical nature of the North, driving interest and activity there that were not previously possible.

Advances in technology have reduced any defensive advantages created by the Arctic's vastness.

Russia's betrayal of international principles and conventions and the resultant redrawing of NATO's borders are significantly affecting the geopolitics of the North.

We must meet these challenges—and we will—on the strength of strategic investments, collaborative relationships, innovation, and modernization as well as the skill, passion, and resolve the proud members of the Canadian Armed Forces bring to their work every single day.

Merci beaucoup, meg'wich.

[Thank you very much, thank you.]

Thank you, and I look forward to your questions.

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The New Cold War: Great-Power Competition, Arctic Dilemmas, and Human Security

Dr. Michael E. Lynch
US Army War College

The world now faces the possibility of a new Cold War with the old adversaries arrayed, with notable changes, in familiar positions. The Arctic has become a potential flash point for this new Cold War, with Western, democratic nations joining in a protective alliance against totalitarian regimes. As before, an outnumbered NATO stands against Russia (with some of its erstwhile Soviet allies) as China operates on the periphery. During the Cold War, the superpowers prepared to battle across the plains of Europe, an event that would subject the citizens of the affected nations to the vicissitudes of combat. Republics in Eastern Europe, many held against their will within the Soviet orbit, were more victims than participants. No longer weak victims, today, these same nations are strong contributors to the collective defense. But the shift of venue to the Arctic has placed another innocent population at risk: the indigenous peoples of the Arctic nations. Russian aggression in Europe is a familiar theme, but climate change has also emerged as a significant driver of East-West tension.[1]

1. Kenneth R. Rosen, "A Battle for the Arctic Is Underway. And the US Is Already Behind," *Politico* (website), December 12, 2022, https://www.politico.com/news/magazine/2022/12/17/climate-change-arctic-00071169; Jacob Gronholt-Pedersen and Gwladys Fouche, "Insight: NATO Allies Wake Up to Russian Supremacy in the Arctic," *Reuters* (website), November 16, 2022, https://www.reuters.com/world/europe/nato-allies-wake-up-russian-supremacy-arctic-2022-11-16/; Ragnhild Groenning, "Why Military Security Should Be Kept Out of the Arctic Council," Arctic Institute (website), June 2, 2016, https://www.thearcticinstitute.org/why-military-security-should-be-kept-out-of-the-arctic-council/; and Caitlin E. Werrell and Francesco Femia, "Climate Change Raises Conflict Concerns," UN Educational, Scientific, and Cultural Organization (website), March 29, 2018, https://www.unesco.org/en/articles/climate-change-raises-conflict-concerns-0.

The Russian attacks on Ukraine in 2014 and 2022 upset Europe's peaceful status quo and permanently altered the Arctic. In the years following the Cold War, the Arctic became one of the few places where Eastern and Western powers worked in true, treaty-supported harmony. Even during the most challenging years of the Cold War, the Soviet Union worked with its competitors in the scientific realm. The Arctic region has benefited from the stewardship of the Arctic Council, the region's international coordination forum.[2] In 1996, the Declaration on the Establishment of the Arctic Council codified the Arctic Council as the eight nations with territory in the Arctic.

Against this backdrop of new Cold War confrontation, scholars and practitioners from Europe and North America gathered in Kingston, Ontario, in October 2022 to discuss national security in the High North. The papers and keynotes in this volume explore the following three primary themes.

- Great-power competition
- Arctic dilemmas and military modernization
- Human and environmental security

These themes differ slightly from the six panels featured during the conference, but most papers fit within one or more of these themes.

Great-Power Competition

Climate change is an environmental, economic, and national security concern, and the Arctic is on the front line. Despite abundant evidence, many people reject climate change, which is ironic because climate change is more evident in the Arctic and Antarctic than anywhere else. Climate change and the melting polar ice caps have revealed greater commercial possibilities and exposed national security vulnerabilities.[3] Opportunities exist for three routes across the Arctic region for the

2. Elizabeth Buchanan and Ryan Burke, "Strategy and Competition at the Ends of the Earth," Modern War Institute at West Point (website), January 6, 2021, https://mwi.usma.edu/strategy-and-competition-at-the-ends-of-the-earth/; and Pavel Devyatkin, "Environmental Détente: US-Russia Arctic Science Diplomacy through Political Tensions," *Polar Journal* 12, no. 2 (2022).

3. Oliver Milman and Fiona Harvey, "US Is Hotbed of Climate Change Denial, Major Global Survey Finds," *Guardian* (website), May 8, 2019, https://www.theguardian.com/environment/2019/may/07/us-hotbed-climate-change-denial-international-poll; and National Intelligence Council, *National Intelligence Estimate: Climate Change and International Responses Increasing Challenges to US National Security through 2040*, NIC-NIE-2021-10030-A (Washington, DC: Office of the Director of National Intelligence, October 2021).

first time in decades: the Northeast Passage, claimed by Russia; the Northwest Passage, claimed by Canada; and the Transpolar Sea Route, currently unclaimed.[4] Commercial possibilities now inspire great-power competition where little existed previously. These possibilities present national security organizations and the societies they represent with several dilemmas, most of which are unique to the Arctic. The increased accessibility of natural resources and navigational routes in the Arctic due to rapid climate change has elevated interest in the region. Federal agency partners and indigenous governing entities should collectively address critical national security concerns and find mutual solutions. Indigenous peoples have a personal stake in preserving their way of life, access to essential resources, and cultural integrity.[5]

The Arctic Council consists of the eight Arctic nations, with chairmanship rotated among them. The council includes Arctic indigenous peoples through the category of Permanent Participants (currently, six indigenous peoples' organizations) who have full consultation rights in the Arctic Council's negotiations and decisions. The Arctic Council structure ensures meaningful participation for indigenous peoples, but the council should have consulted the Permanent Participants about suspending its activities in 2022. Ironically, the Russian attack on Ukraine on February 24, 2022, came during Russia's leadership of the Arctic Council, throwing the Arctic Council into disarray. This attack contravened international laws and norms and thus threatened the legitimacy of Arctic relations. Determining Russia's intent is difficult, but the results of the attack become more evident with time.[6]

Canadian Chief of the Defence Staff General Wayne Eyre captured the essence of the 2022 Kingston Conference on International Security's themes in the conference keynote address. Eyre noted the international order is more fragile than ever, but maintaining a stable and secure Arctic

4. Eytan Goldstein, "Eclipsed, Again: Russia's Northern Sea Route Will Have to Wait," *Harvard International Review* (website), February 24, 2023, https://hir.harvard.edu/eclipsed-again-russias-northern-sea-route-will-have-to-wait/; "The Potential-Use Test and the Northwest Passage," *Harvard Law Review* 133, no. 8 (June 2020); and Malte Humpert and Andreas Raspotnik, "The Future of Arctic Shipping along the Transpolar Sea Route," Arctic Institute (website), November 27, 2012, https://www.thearcticinstitute.org/future-arctic-shipping-transpolar-sea-route/.

5. Abhishek Saxena, "The Return of Great Power Competition to the Arctic," Arctic Institute (website), October 22, 2022, https://www.thearcticinstitute.org/return-great-power-competition-arctic/; and National Research Council, "Into the Future," in *Arctic Matters: The Global Connection to Changes in the Arctic* (Washington, DC: National Academies Press, 2015).

6. Daniel McVicar, "How the Russia-Ukraine War Challenges Arctic Governance," *Internationalist* (blog), May 10, 2022, https://www.cfr.org/blog/how-russia-ukraine-war-challenges-arctic-governance; and "Potential-Use Test."

would help to support this stressed global structure. Eyre warned the region is also under pressure from within by polarizing politics and pronounced climate change evident across the Arctic. The general noted some challenges to defending the North, such as the cold, large expanse; low population density; and lack of infrastructure.[7] Eyre is particularly concerned about threats passing through the Arctic on their way south, stating North American Aerospace Defense Command (NORAD) requires modernization but does not guarantee Canadians the level of security they will need heading into an uncertain future. The general warned the Arctic states need to develop a persistent presence in the north but acknowledged the material constraints imposed by the "Arctic dilemma." Meanwhile, communities in the north must generate greater resilience to respond to natural disasters and adapt to climate change.[8]

Russia's influence in the Arctic depends increasingly on its relationship with China. Russia's estrangement from the rest of the Arctic Council has opened the door for China to increase its regional involvement.[9] A Sino-Russian joint statement in February 2022 indicated Russia has been increasingly dependent on China and forced to compromise on allowing non-Arctic states into the region.[10] The Arctic Zone of the Russian Federation contains many natural resources, and the Northeast Passage provides a material export method. Russia's influence in the Arctic has waned.[11] But China is rising due to deepening military cooperation with Russia, including participation in Russia's most significant post–Cold War Arctic military exercise in 2018.[12]

7. Jessica M. Shadian, *The Emerging Economy of the North American Arctic* (Toronto: Arctic 360, November 2018).

8. P. Whitney Lackenbauer, *Threats through, to, and in the Arctic: A Framework for Analysis* (Peterborough, CA: North American and Arctic Defence and Security Network, March 23, 2021).

9. Lily McElwee et al., "Xi Goes to Moscow: A Marriage of Inconvenience?," Center for Strategic and International Studies (website), March 28, 2023, https://www.csis.org/analysis/xi-goes-moscow-marriage-inconvenience.

10. *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*, trans. China Aerospace Studies Institute (Washington, DC: China Aerospace Studies Institute, February 4, 2022).

11. Malte Humpert, "The Future of the Northern Sea Route—A 'Golden Waterway' or a Niche Trade Route," Arctic Institute (website), September 15, 2011, https://www.thearcticinstitute.org/future-northern-sea-route-golden-waterway-niche/; and Shaheer Ahmad and Mohammad Ali Zafar, "Russia's Reimagined Arctic in the Age of Geopolitical Competition," *Journal of Indo-Pacific Affairs* (website), March 9, 2022, https://www.airuniversity.af.edu/JIPA/Display/Article/2959221/russias-reimagined-arctic-in-the-age-of-geopolitical-competition/.

12. Camilla T. N. Sørensen and Ekaterina Klimenko, *Emerging Chinese-Russian Cooperation in the Arctic: Possibilities and Constraints*, Stockholm International Peace Research Institute Policy Paper no. 46 (Solna, SE: Stockholm International Peace Research Institute, June 2017); and Elizabeth Buchanan and Mathieu Boulègue, "Russia's Military Exercises in the Arctic Have More Bark Than Bite," *Foreign Policy* (website), May 20, 2019, https://foreignpolicy.com/2019/05/20/russias-military-exercises-in-the-arctic-have-more-bark-than-bite/.

The Arctic is critical to Russia's domestic and foreign policy interests.[13] The region is a key area of cooperation between the two foremost non-Western global powers during a time of deepening geopolitical divisions.[14] Russia's invasion of Ukraine and the resulting sanctions have made the former an international pariah, which has driven it into a closer alliance with China.[15]

Dr. Wilfrid Greaves (University of Victoria) argues Russia's invasions of Ukraine in 2014 and 2022 created inflection points in Arctic geopolitics. Despite years of peaceful coordination in the Arctic, the recent strain predates even Russia's attacks on Ukraine in 2014 and 2022 and on Georgia in 2008. Greaves identifies the beginning of Arctic Council deterioration as having occurred in 2007, when a Russian submarine planted a flag on the seafloor in the Arctic Ocean to claim more of the continental shelf, as designated by the UN Convention on the Law of the Sea (UNCLOS). Russian defeat in Ukraine would allow for restored Arctic cooperation. Complete restoration of the Arctic Council and renewed partnership should remain the long-term goals of the Arctic seven, but Arctic governance will remain divided until the war in Ukraine ends.[16]

Greaves contends the Arctic regional order rests on the following three pillars.

- Privileging the role and interests of the Arctic states
- Emphasizing the Arctic Council as the premier forum for regional cooperation
- Limiting the regional role of NATO[17]

Greaves predicts the war in Ukraine will accelerate the deterioration of international cooperation in the Arctic, and time has proven him to be partially correct. Before the invasion, the Arctic Council comprised

13. Nikita Lipunov and Pavel Devyatkin, "The Arctic in the 2023 Russian Foreign Policy Concept," Arctic Institute (website), May 30, 2023, https://www.thearcticinstitute.org/arctic-2023-russian-foreign-policy-concept/.

14. Sørensen and Klimenko, *Emerging Chinese-Russian Cooperation*.

15. "Why Vladimir Putin Is Not a Pariah in China," *Economist* (website), February 2, 2023, https://www.economist.com/china/2023/02/02/why-vladimir-putin-is-not-a-pariah-in-china.

16. Peter Dickinson, "The 2008 Russo-Georgian War: Putin's Green Light," Atlantic Council (website), August 7, 2021, https://www.atlanticcouncil.org/blogs/ukrainealert/the-2008-russo-georgian-war-putins-green-light/; and "Russia Plants Flag Staking Claim to Arctic Region," *CBC News* (website), August 2, 2007, https://www.cbc.ca/news/world/russia-plants-flag-staking-claim-to-arctic-region-1.679445.

17. Wilfrid Greaves, "The New Arctic Geopolitics," Royal United Services Institute (website), May 5, 2022, https://rusi.org/explore-our-research/publications/commentary/new-arctic-geopolitics.

five NATO countries (Canada, Denmark, Iceland, Norway, and the United States), two non-NATO countries (Finland and Sweden), and Russia. Finland and Sweden applied for NATO membership after Russia's invasion of Ukraine, fundamentally changing the region's geopolitics. Although it contravenes the "limiting NATO's regional role" pillar, changing NATO membership has also pulled the Arctic seven closer together. The Arctic Council suspended operations for three months during Russia's chairmanship, but the remaining Arctic seven have continued their work. The treaty organization will likely expand its activities and deepen its strategic posture in the Arctic. This reorientation splits the region into equal halves, reminding one of the Cold War: seven liberal democracies against a totalitarian regime.[18]

Greaves believes the war in Ukraine's end will present an opportunity for the Arctic to resolve geopolitical tensions and to reintegrate Russia into a restored international order. The Arctic served as a testing ground for diplomacy and international cooperation after the Cold War as the Soviet Union transitioned to the Russian Federation.[19] Greaves predicts the tensions in the Arctic between Russia and the Arctic seven will remain elevated but no higher than during the Cold War. Greaves argues the current geopolitical construct in the Arctic can help to forestall postwar problems and calls on Arctic countries to maintain the peaceful and collaborative, diplomatic infrastructure now in place to ease Russia's postwar reintegration. Each side must reassure the other it does not desire Arctic conflict. Greaves is optimistic a postbellum Russia will be eager to rejoin the international community and to work toward collective governance of climate change, but this outcome is not assured. Although much of the Russian scientific community might be willing to rejoin the international community, the governmental position might be different. Assuming a defeated, weakened Russia under new leadership will result from the war in Ukraine, Greaves is correct in proposing the Arctic Council as an ideal means of rapprochement with Russia.

18. Melody Schreiber, "Arctic Council Nations Are 'Pausing' Work After Russia's Invasion of Ukraine," *Arctic Today* (website), March 3, 2022, https://www.arctictoday.com/the-7-other-arctic-council-nations-are-pausing-work-after-russias-invasion-of-ukraine/; Department of State (DoS) Office of the Spokesperson, "Joint Statement on Limited Resumption of Arctic Council Cooperation," media note, DoS (website), June 8, 2022, https://www.state.gov/joint-statement-on-limited-resumption-of-arctic-council-cooperation/; and Trine Jonassen, "The Arctic Council: The Arctic 7 Resume Limited Work without Russia," *High North News* (website), June 8, 2022, https://www.highnorthnews.com/en/arctic-council-arctic-7-resume-limited-work-without-russia.

19. Ronald O'Rourke et al., *Changes in the Arctic: Background and Issues for Congress*, Congressional Research Service (CRS) Report R41153 (Washington, DC: CRS, March 24, 2022).

The Arctic is an area of growing Russian and Chinese cooperation. China sees the Arctic as critical to expanding Chinese markets because the Arctic routes reduce the time necessary to transport goods to Europe. Using Arctic routes is not a problem, but the Arctic seven nations fear a Sino-Russian alliance would restrict other travel and lead to greater militarization of the Arctic. Establishing a Chinese presence and influence in the Arctic has become a priority for China; indeed, it has claimed the status of a "near-Arctic" nation. China has courted the Arctic states and various stakeholders at different levels, who have developed their interests by keeping China engaged in the region and further developing their relations with Chinese stakeholders.[20]

Dr. Thomas Hughes (University of Manitoba) explores the cognitive aspects of great-power competition. Hughes observes that every action an Arctic state takes sends a message, and states must be cognizant that the messages they transmit are not always received. The expense of operating in the Arctic, including the high cost of generating Arctic offensive ground force capability, could erode the political will to act there. Civilian infrastructure is two and a half times more costly to build in the Arctic than in the south. Methods of effective deterrence are varied and debatable, but Hughes contends different actors may be taking different approaches to deterrence.

Dr. Kathryn Bryk Friedman (Ted Stevens Center for Arctic Security Studies) and Lori Leffler (Department of Defense Irregular Warfare Center) comment the United States should use soft power (security cooperation) backed up with hard power through a modernizing North American Aerospace Defense Command and an increasingly active NATO in the Arctic. Friedman and Leffler argue soft-power tools hold significant promise for security cooperation for US and Canadian human networks that address Arctic strategic concerns. The authors also call for sequencing and integrating these soft-power tools. The Department of Defense recently established the Ted Stevens Center for Arctic Security Studies in Anchorage, Alaska, to demonstrate the United States' commitment to the region. The center's four main missions are as follows.

20. Anu Sharma, "China's Polar Silk Road: Implications for the Arctic Region," *Journal of Indo-Pacific Affairs* (website), October 25, 2021, https://www.airuniversity.af.edu/JIPA/Display/Article/2820750/chinas-polar-silk-road-implications-for-the-arctic-region/; Maria Rehman, "Changing Contours of Arctic Politics and the Prospects for Cooperation between Russia and China," Arctic Institute (website), August 23, 2022, https://www.thearcticinstitute.org/changing-contours-arctic-politics-prospects-cooperation-russia-china/; and Doug Irving, "What Does China's Arctic Presence Mean to the United States?," *RAND Review* (blog), December 29, 2022, https://www.rand.org/blog/rand-review/2022/12/what-does-chinas-arctic-presence-mean-to-the-us.html.

- Advance Arctic awareness, both among partners and within the increasingly professionalized field of US Arctic service
- Advance Department of Defense Arctic priorities
- Reinforce the rule-based order in the Arctic
- Address the impacts of climate change in the region[21]

Arctic Dilemmas and Military Modernization

The biggest dilemma the Arctic presents is defense investments cost more there than they do elsewhere. In addition, investments in the Arctic vary from region to region, leading to some regions requiring disproportionately more resources than others.[22]

Major-General Roch Pelletier (commander, Canadian Army Doctrine and Training Centre Headquarters) calls for a "persistent" force in the Arctic. From a Canadian perspective, a persistent force means sending expeditionary land forces from southern Canada to operate in the north for extended periods. Pelletier claims working in these extreme conditions requires practical experience and training in the Arctic. Forces working in the region can expect a wide range of missions, from humanitarian relief, search, and rescue to providing point security for critical infrastructure and, thus, deterrence. Forces currently deployed in the Canadian Arctic focus on delivering human security rather than traditional national defense. A hybrid threat does not always require a military response.

Like all Arctic Council members, the United States styles itself as an Arctic nation. As such, the military must posture itself to conduct operations in the High North that are backed by a well-developed strategy. But the Arctic poses several dilemmas for military operations. Dr. J.P. Clark (US Army War College) explores the Arctic dilemma that constrains regional operations: land forces need specialized capabilities to operate in the environment. The military cannot develop these expensive technical capabilities quickly, but it must develop them before conflict arises. The disparity in effectiveness between specialist and

21. "About the Ted Stevens Center for Arctic Security Studies," Ted Stevens Center for Arctic Security Studies (website), n.d., accessed on May 15, 2023, https://tedstevensarcticcenter.org/about/.

22. Abbie Tingstad and Scott Savitz, "US Military May Need to Invest More in Arctic Capabilities," *RAND Blog*, February 10, 2022, https://www.rand.org/blog/2022/02/us-military-may-need-to-invest-more-in-arctic-capabilities.html.

nonspecialist units is more significant in the Arctic than in other regions. The nature of the environment poses another Arctic dilemma: Necessary defense investments are disproportionately more expensive in the Artic than elsewhere, and the requisite investments vary from area to area. In the era of declining budgets, defense investment is a zero-sum game, and any investments in the Arctic must balance with savings from defense concerns elsewhere.[23]

Research and development for the High North spans science and technology, national security, climate change, and diplomacy. Clark, who led the development of the US Army Arctic strategy, notes the Arctic is a year-round problem. The lengthy and bitter Arctic winter provides frozen ground that favors mobility, but the weather can be life threatening. Arctic summer brings temperate weather, but the softer ground inhibits mobility. Climate change has recently worsened, with melting permafrost causing greater mobility and infrastructure problems. Dr. Joseph L. Corriveau (US Army Corps of Engineers Cold Regions Research and Engineering Laboratory) also addresses the need for Arctic specialization and explains permafrost increases the difficulty of building supporting infrastructure. Corriveau gives some fresh insight into the necessary technological changes and in-progress research advancements that will enable the US military to function in the Arctic. But the most significant dilemma is also the easiest to understand: despite the expense, the Arctic nations have little choice in defending their sovereign territory.

When most people think of security in the North American Arctic, they think of North American Aerospace Defense Command. This leading example of bilateral coordination between Canada and the United States has been active for over 65 years and has become the model for other bilateral organizations. In two papers, Dr. Andrea Charron (University of Manitoba) notes Canada and the United States should examine NORAD modernization and what it means for both countries.

Charron explains NORAD modernization in the Arctic must go beyond simply upgrading the North Warning System. General Terrence J. O'Shaughnessy (commander, United States Northern Command/North American Aerospace Defense Command [2018–20]), has warned a lack of homeland defense capabilities could allow Russia or China to hold North America hostage. Charron notes

23. Jon Harper, "Cold Front: Special Operations Forces Bracing for Arctic Missions," National Defense (website), May 14, 2021, https://www.nationaldefensemagazine.org/articles/2021/5/14/special-operations-forces-bracing-for-arctic-missions; and Tingstad and Savitz, "US Military May Need."

North American Aerospace Defense Command has shifted focus from "deterrence by punishment" to "deterrence by denial," which requires new infrastructure to obtain and transmit data between the command and other military commands. Given financial and political concerns, appropriate data and infrastructure sharing between militaries and northerners is essential to securing support for the modernization of North American Aerospace Defense Command. Charron concludes the command needs to redefine its relationship with other commands and allies.[24]

Charron's comments highlight another dilemma for US military planners: competing requirements in a region that covers three overlapping combatant commands. The Arctic covers United States Indo-Pacific Command, United States Northern Command, and United States European Command; North American Aerospace Defense Command (binational) and its partner, tricommand (Canadian Joint Operations Command, United States Northern Command, and North American Aerospace Defense Command); and NATO (multinational). The North American and European Arctic regions differ geographically and climatologically from Russia. These regions each present different challenges for military operations.

The conflicts in which Russia has been involved over the last 10 years have forced renewed cooperation among traditional allies as well as northern communities. Because North American Aerospace Defense Command remains focused on the Arctic, Charron advocates liaising with northern communities so the command can benefit from northern communities' observations across the region.

Human Security

Major General Janeen L. Birckhead (Adjutant General, Maryland National Guard) challenged conference participants to imagine a secure and sustainable north during great-power competition. The Arctic offers the challenge of increasing international tensions and the opportunity to learn from the past to strike a better balance of security across the

24. *To Receive Testimony on Missile Defense Policies and Programs in Review of the Defense Authorization Request for Fiscal Year 2020 and the Future Years Defense Program, Before the US Senate Committee on Armed Services Subcommittee on Strategic Forces*, 116th Cong. (2019) (statement of General Terrence J. O'Shaughnessy, commander, United States Northern Command and North American Aerospace Defense Command).

region.[25] Birckhead suggested participants focus their attention on human and environmental security, which are both part of national security.[26]

Dr. Michele Devlin (US Army War College) argues climate change and the invasion of Ukraine have changed the relationship between northerners and the larger global community, which could lead to new civilian-military relationships. Devlin and Dr. James R. Morton Jr. (University of Alaska Fairbanks) each explore how international drivers such as climate change affect the human security of northerners. Devlin reasons climate change is driving migration toward the Arctic because the region's demographic trends show growing diversity in the circumpolar world. This great migration from all over the world to the High North has more negative aspects than positive. More people are immigrating than are emigrating, and this increased competition for the few jobs available in the Arctic and the potential for unsavory characters to arrive quietly as part of the migrant flow signal the need for a robust counterintelligence capability in the area. The region's indigenous peoples can provide exactly this sort of counterintelligence capability. Indigenous peoples are integral to national security because they can provide critical insights that non-native people cannot.

The indigenous peoples most affected by these defense decisions are not typically involved in the decision-making process. Allowing indigenous northerners to participate in the security and development of the Arctic would create a secure and resilient Arctic, despite growing international competition there. With infrastructure costs in the Arctic being significantly higher than they are in the southern states and territories, public and private investment in the north is central to enabling and legitimizing the involvement of northerners in their national policies. Better governance between the Arctic regions and their southern counterparts with the participation of indigenous peoples would lead to more stability for infrastructure investment in the north and more security for the north and the south. Charron agrees building this NORAD infrastructure must not place too much stress on communities, and sharing its information must also benefit northerners.

This immigration is increasing the population density of some Arctic communities, and the region's energy needs continue to grow, but its

25. Keith Krause and Michael C. Williams, "Broadening the Agenda of Security Studies: Politics and Methods," *Mershon International Studies Review* 40, no. 2 (October 1996): 229–54.

26. Ryan Dean, "International Competition in the High North," executive summary, Kingston Consortium on International Security (website), n.d., accessed on May 15, 2023, https://www.thekcis.org/conference/kcis-2022/executive-summary.

infrastructure remains poor. The nexus between great-power competition and Arctic security represents a dual-use investment that can enable security and northern prosperity, with each reinforcing the other. The new security dynamics of the Arctic require a security apparatus that tangibly benefits the local people. A security infrastructure in the High North can also provide an underemployed sector with good jobs in constructing and operating security facilities as well as supply the national command authorities with dedicated personnel native to the area.

The dual-use defense infrastructure supports civilian communities and helps mitigate the costs imposed by the Arctic dilemma. This foundation would add political value to defense dollars spent in the High North and help generate economic growth there. The dual-use approach to infrastructure would also bring costs down, connect the region to the rest of the world, and build resiliency at the community level. Developing this relationship between Canada and Alaska and its northerners would help mitigate perceptions of economic uncertainty in the Arctic, attracting capital to fund additional development and further alleviating the Arctic dilemma.

The North American Arctic also presents dilemmas for its indigenous peoples: vast size; low population levels; limited transportation links; inadequate, satellite-dependent telecommunications capabilities; a scarcity of goods; and a partial infrastructure incapable of supporting much more than the region's population. Despite the Arctic's abundant fossil-fuel reserves, energy is scarce.[27] The diesel fuel required to power the limited number of generators competes for space in the transportation network. Lack of fuel reduces resiliency in the telecommunications system, leading to blackouts. These systems are also hard-pressed to interact with the more technologically advanced southern networks.

Investing in dual-use infrastructure to support both defense platforms and the economic activities of northerners is an excellent way forward. Defense forces should work with indigenous companies and municipalities to identify projects with dual usages, such as airstrips, control towers, roadways, and marine ports that could have both public and defense uses. Native cooperation fosters collaboration, protects equities, and improves national security. But Hughes raises the provocative point that Russian and Chinese observers might view a dual-use strategy as aggressive.

27. "Arctic Oil and Natural Gas Resources," Energy Information Administration (website), January 20, 2012, https://www.eia.gov/todayinenergy/detail.php?id=4650.

Despite financial constraints, the Arctic is a unique security environment due to its low population density, which provides open space in which to maneuver that is unavailable elsewhere. Both force generation and building infrastructure provide less margin for error due to the high costs of each. Moreover, what works in one part of the Arctic might not be appropriate for another part. The Arctic requires specialized forces and infrastructure with disproportionate costs, the difficulty of which is increased by austere budgets and growing geopolitical uncertainty. Conducting military training in the North American Arctic puts pressure on strained community infrastructure, but maintaining relationships with these communities is essential to successful operations.[28]

Morton observes indigenous populations have political power they should apply to driving new infrastructure spending in the north. Southerners should work toward reconciling the historic trauma indigenous peoples have suffered through means such as respecting indigenous cultural autonomy. Despite security challenges, northerners seek new economic development opportunities and the infrastructure that has eluded northern communities. Establishing contractual relationships with tribal authorities and native corporations would solidify linkages to the indigenous populations.[29] (Note: American participants use the term "native" instead of "indigenous.")

Morton argues partnerships between the military and native communities are essential to developing a security plan for the North American Arctic. Morton sees the following four sectors as critical for national security development.

- Economic development
- Social accountability

28. Jordi Molas-Gallart, "Which Way to Go? Defense Technology and the Diversity of 'Dual-Use' Technology Transfer," *Research Policy* 26, no. 3 (October 1997): 367–85; Tingstad and Savitz, "US Military May Need"; Department of Defense, "Department of Defense Releases Report on Defense Spending by State in Fiscal Year 2021," U.S. Department of Defense (website), October 20, 2022, https://www.defense.gov/News/Releases/Release/Article/3194361/dod-releases-report-on-defense-spending-by-state-in-fiscal-year-2021/; Mario Catalan et al., "Geopolitics and Fragmentation Emerge as Serious Financial Stability Threats," *International Monetary Fund Blog*, April 5, 2023, https://www.imf.org/en/Blogs/Articles/2023/04/05/geopolitics-and-fragmentation-emerge-as-serious-financial-stability-threats; and James R. Morton Jr. and Troy J. Bouffard, *Special Operations Forces and the Arctic: Meeting North America's 21st Century Security Needs* (Ottawa, CA: Department of National Defence, August 2022).

29. "Inuit: The Arctic We Want," Arctic Research Consortium of the United States (website), n.d., accessed on June 10, 2023, https://www.arcus.org/events/arctic-calendar/32363.

- Political purposefulness
- Cultural autonomy

Morton notes the Arctic is rife for collaboration because the indigenous peoples of the north want to support these national security goals; Alaska has the nation's highest percentage of veterans. Morton contends the indigenous peoples of the High North can provide valuable intelligence if they are involved in national security. The traditional US Army Special Forces mission cultivates and depends upon such activities. Enhanced civil-military relationships can add more human sensors in the Arctic as well as allow native people to provide better training in winter survival techniques. Establishing contractual relationships with tribal authorities and native corporations would solidify linkages to indigenous populations.[30]

The evident accomplishments of the US Navy Sea, Air, and Land Teams and the other special mission units obscure the traditional role of the US Army Special Operations Forces. (Special mission units are organized to perform highly classified activities.) Focusing on direct action, these units are unmatched in this skill set. Traditional Army Special Operations Forces are highly skilled and capable of direct action, but their primary role is working with indigenous forces in foreign internal defense. With a large indigenous population broadly supporting security, the Arctic is ripe for employing these traditional special forces missions. Conventional Army Special Operations Forces operate under four pillars, the first of which is the indigenous approach. Army Special Operations Forces defines this pillar as follows: "The indigenous approach is a means to address challenges to regional stability with and through populations and partner forces empowered by persistent [US Army Special Operations Forces or] ARSOF engagement. Through the approach, ARSOF leverage nascent capability within populations, transforming indigenous mass into combat power."[31] (In this context, locals call the native forces in Canada with which Army Special Operations Forces may operate "indigenous people." In the Army Special Operations Forces context, "indigenous" refers to native residents in any area where special forces may operate, such as the Montagnards in Vietnam.)

30. National Center for Veterans Analysis and Statistics, *State Summaries: Alaska* (Washington, DC: Department of Veterans Affairs, 2017); and John F. Kennedy Special Warfare Center and School, *ARSOF 2022*, PB 80-13-SE (Washington, DC: Headquarters, Department of the Army, 2022).

31. Joint Chiefs of Staff (JCS), *Joint Special Operations Task Force Operations*, Joint Publication (JP) 3-05.1 (Washington, DC: JCS, April 26, 2007), GL-14; JCS, *Foreign Internal Defense*, JP 3-22 (Washington, DC: JCS, August 17, 2018); and Duane Moiser, *US Army Special Operations Command 2035: Communicating the Army Special Operations Forces Narrative and Setting the Course to 2035* (Fort Bragg, NC: John F. Kennedy Special Warfare Center and School, 2017), 4.

Major W. Barrett Martin, Major Michael K. Tovo, and Major Devin Kirkwood, and of US Army Special Forces, argue a false dichotomy exists between war and peace for Army Special Operations Forces training in the Arctic during strategic competition. Considerations for how forces—especially ground forces—might be tactically employed are critical for developing Arctic strategies. The US Marine Corps has developed operations on Europe's northern flank for decades. But land operations are likely to be small special operations missions. Tovo, Martin, and Kirkwood provide insights on how the military might best employ these forces. The authors focus on indigenous practices for inspiration, arguing "tech[nology] may change but the people remain." The authors note indigenous peoples can also furnish valuable training to units and personnel unaccustomed to the climatic extremes of the Arctic, providing operational examples of such training. Tovo and Kirkwood echo Eyre's call for a persistent presence in the north, stating Arctic tourism is not the answer. The Canadian Rangers offer a model for a continuous military presence in the Arctic at an affordable price. The rangers provide a link between northern communities and their militaries. But persistent presence presents another Arctic dilemma: long-term military training in the North American Arctic must not put pressure on a strained community infrastructure, which could affect the relationships the military hopes to build. Devlin argues special forces must be regularly present in the High North to gain credence as Arctic players in the freezing, barren white desert of the Arctic.[32]

Although scientific research by Russia and China introduces uncertainty into the north, indigenous diplomacy might provide a calming force.[33] Dr. Rauna J. Kuokkanen (University of Lapland) explores the multilateral issues of various indigenous peoples and the implications of the growing cold war between Russia and the West for those living in areas across national boundaries. Kuokkanen analyzes the "transnational" nature of the Sámi (Finland, Norway, Russia, and Sweden) and Inuit (Alaska, Canada, Greenland, and Russia) communities, whose lands extend across traditional political borders. Kuokkanen provides the history of successful Sámi diplomacy, including the Sámi's establishment of transnational links with their Russian brethren at the end of the Cold War and the indigenous group's contributions to the unique architecture of the Arctic Council afterward. Both actions contributed to the stabilization of Arctic regional politics. Kuokkanen focuses

32. P. Whitney Lackenbauer, *The Canadian Rangers: A Living History* (Vancouver: University of British Columbia Press, 2013); and Morton and Bouffard, *Special Operations Forces*.

33. Pavel Devyatkin, "Russian and Chinese Scientists to Establish Arctic Research Center," *High North News* (website), April 15, 2019, https://www.highnorthnews.com/en/russian-and-chinese-scientists-establish-arctic-research-center.

on the relationship between Sámi reindeer herding in Norway and the wind industry and energy security development in the Inuvialuit settlement region in the Northwest Territories, Canada.[34]

Conclusion

Although the new Cold War has some of the same combatants, it potentially has some new battlefields as well as different innocent victims. The Arctic presents a distinct security environment characterized by extreme weather, vast distances, low population levels, limited infrastructure, high establishment and maintenance costs, and a wealth of natural resources, all of which carry the potential for great-power competition or conflict.[35]

Climate change poses environmental, economic, and national security threats that are already being felt in the Arctic. Climate change has revealed three new potential sea routes through the Arctic, and interest in the region has increased due to easier potential access to resources. In science and technology, national security, climate change, and diplomacy, the High North is the focus of research and development.[36]

Despite the material constraints the Arctic dilemmas impose, the Arctic governments must prepare to defend their people and nations. Developing a security plan for the North American Arctic requires close cooperation between the military and indigenous communities. Indigenous governing bodies and federal agency partners should collaborate to solve pressing national security issues and find practical solutions. Indigenous peoples have a personal stake in preserving their cultures, ways of life, and access to essential resources. Indigenous peoples can provide excellent training, liaising, and early warning for units and personnel unfamiliar with the climatic extremes of the Arctic.

The Arctic Council has provided a means of international cooperation and scientific collaboration for over a quarter of a century. The Russia-Ukraine War briefly slowed the council's activities, but the Arctic seven nations have now continued without Russia.[37] The council

34. "Permanent Participants," Arctic Council (website), n.d., accessed on May 15, 2023, https://www.arctic-council.org/about/permanent-participants/.

35. Mark L. Mallory et al., "Financial Costs of Conducting Science in the Arctic: Examples from Seabird Research," *Arctic Science* 4, no. 4 (December 2018): 624–33.

36. Headquarters, Department of the Army, *Regaining Arctic Dominance: The US Army in the Arctic*, Chief of Staff Paper no. 3 (Washington, DC: Headquarters, Department of the Army, January 2021).

37. Jonassen, "Arctic Council."

might provide a means of restoring diplomatic ties with a battered, defeated Russia. But the Declaration on the Establishment of the Arctic Council specifically stated the Arctic Council should not deal with matters related to military security. Therefore, the Arctic nations must create their own security arrangements. Although it belongs to the Department of Defense, the Ted Stevens Center for Arctic Security Studies' mission statement indicates the center focuses on the wider Arctic.

The connection between great-power rivalry and Arctic security represents a dual-use investment that can promote both the safety and the commerce of the north. This foundation would increase the political influence of defense spending in the High North and foster economic development in the region.

The scholars and practitioners who contributed to this volume as well as those who presented papers at the conference have explored many facets of international competition in the High North. As comprehensive as this collection of papers is, the below topics remain worthy of exploration.

1. United States combatant command responsibilities: three combatant commands currently share some degree of responsibility for the Arctic, but responsibilities are not clearly delineated. Forces currently assigned in the Arctic are apportioned to different combatant commands.[38]

2. Specific defense missions: Although the discussions have explored in concept how Western nations might go about defending territory, little detailed discussion has occurred about what realistic defense missions might exist, how to go about them, and which units or nations have responsibility for the missions.

38. Courtney Mabeus, "The Navy Has a New Ocean to Worry about, It's Not Clear How It's Going to Deal with It, Top Lawmaker Says," *Business Insider Nederland* (website), May 23, 2021, https://www.businessinsider.nl/the-navy-has-a-new-ocean-to-worry-about-its-not-clear-how-its-going-to-deal-with-it-top-lawmaker-says/.

3. Strategy: All Arctic nations, each of the US military services, and the Department of Defense have Arctic strategies. The US *2022 National Defense Strategy* also addresses the Arctic. Perhaps now is the time for a continental strategy for North America.[39]

4. Combined units: North American Aerospace Defense Command has been a binational command for 65 years, and major Army units down to the corps level have deputy commanders from allied nations. But in the context of North American defense, perhaps the United States and Canada should explore combined units, similar to the 2nd Infantry Division/Republic of Korea-United States Combined Division.[40]

5. United Nations (UN) Convention on the Law of the Sea (UNCLOS): Much of the discussion pertaining to passages through the Arctic concerns national claims based on proximity to sovereign territory under the provisions of UNCLOS. Although most nations, including the United States, follow the provisions of UNCLOS, the United States has yet to ratify the convention.[41] What are the future implications for the United States if it fails to ratify UNCLOS?

39. Timothy Greenhaw et al., *US Military Options to Enhance Arctic Defense* (Washington, DC: Brookings Institution, May 2021); US Coast Guard Headquarters, *Arctic Strategic Outlook*, CG-DCO-X (Washington, DC: US Coast Guard Headquarters, April 2019); and Lloyd J. Austin III, *2022 National Defense Strategy of the United States of America* (Washington, DC: Department of Defense, 2022).

40. "America's First Corps –I Corps: Operational Headquarters in the Pacific," US Army (website), n.d., accessed on May 15, 2023, https://www.army.mil/icorps; "III Armored Corps," US Army (website), n.d., accessed on May 15, 2023, https://home.army.mil/cavazos/units-tenants/iii-corps; "V Corps History," US Army V Corps (website), n.d., accessed on May 15, 2023, https://www.vcorps.army.mil/About-Us/Mission-History/; "XVIII Airborne Corps," US Army (website), n.d., accessed on May 15, 2023, https://home.army.mil/liberty/index.php/units-tenants/xviii-airborne-co; and "Our Changing Population: North Slope Borough, Alaska," USAFacts (website), July 2022, https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/alaska/county/north-slope-borough/.

41. Aditya Singh Verma, "A Case for the United States' Ratification of the UN Convention on the Law of the Sea," *Diplomatist* (website), May 2, 2020, https://diplomatist.com/2020/05/02/a-case-for-the-united-states-ratification-of-unclos/.

Selected Bibliography

Headquarters, Department of the Army. *Regaining Arctic Dominance: The US Army in the Arctic*, Chief of Staff Paper no. 3. Washington, DC: Headquarters, Department of the Army, January 19, 2021.

Lackenbauer, P. Whitney. *Threats through, to, and in the Arctic: A Framework for Analysis*. Peterborough, CA: North American and Arctic Defence and Security Network, March 23, 2021.

National Intelligence Council. *National Intelligence Estimate: Climate Change and International Responses Increasing Challenges to US National Security through 2040*, NIC-NIE-2021-10030-A. Washington, DC: Office of the Director of National Intelligence, October 21, 2021.

Saxena, Abhishek. "The Return of Great Power Competition to the Arctic." Arctic Institute (website), October 22, 2022. https://www.thearcticinstitute.org/return-great-power-competition-arctic/.

Tingstad, Abbie, and Scott Savitz. "U.S. Military May Need to Invest More in Arctic Capabilities." *RAND Blog*, February 10, 2022. https://www.rand.org/blog/2022/02/us-military-may-need-to-invest-more-in-arctic-capabilities.html.

— 3 —

American Challenge to the Conference

Major General Janeen L. Birckhead
Deputy Commandant for Reserve Affairs, US Army War College
Adjutant General, Maryland National Guard

Good morning.

Thank you, Dr. von Hlatky, for highlighting the significance and timeliness of this conference and celebrating the diversity of voices here.

I am pleased to represent the US Army War College and Major General David Hill, the commandant, at this gathering. I am proud we have all joined together to address the Arctic as both a challenge and an opportunity. I am proud our Strategic Studies Institute provided geopolitical analysis that informed the Army's Arctic strategy.

And for 16 years, the Strategic Studies Institute and the Kingston Consortium on International Security have served as the role model for international dialogue and championed US-Canadian coordination to examine critical national security issues. Our dialogue this week can be the seed for change. So, I would like to address our roles and responsibilities.

At a conference of this type, the participants with the heavy lift are the speakers. The speakers have deliberated on the insights of their experience and research to present new information and new perspectives that will influence how we think about economic security, national security, environmental security, and defense in the Arctic.

And for the rest of us? We will ask questions and represent our fields, agencies, and nations in the discussions. We will no doubt prepare reports on the proceedings for our headquarters. And yet, I propose these roles are merely the beginning of our responsibilities.

I hope these discussions will inspire us all to keep thinking about these issues and, importantly, to keep communicating about the goals and opportunities that emerge.

We may not reach consensus on the way ahead, but we will be changed by recognizing what we could be.

We have been here before: on the cusp of a new world. In the Americas, great powers sought natural resources and economic power. In Africa, great powers claimed lands to access and control the unique natural resources and economic opportunities. Today, great-power competition over the lands of Central Asia continues. China is building roads, refineries, and power lines to advance its Belt and Road Initiative. Russia continues the nineteenth-century Great Game by building dams, hydroelectric plants, and military bases.

And now, as we look to the future of an emerging Arctic economic zone, we have the opportunity to learn from the missteps of the past, to seek economic opportunity that benefits the people of the region at least as much as the investors from other nations, and to seek defense arrangements that put security before competition.

Do we believe we can create shared opportunity? Economic security, national security, environmental security? Do we believe we can defy the patterns of history? Are we adequately confident in the power of integrated security to underwrite new patterns of development that distribute benefits?

It is not an easy argument for taxpayers, corporations, and politicians. The practical imperatives of realist national security and the idealist vision of international security cooperation have always conflicted. That is why I ask you—urge you—to think deeply about the information and perspectives you confront this week and to continue the conversation in your home agencies, in your professional writing, and in your interactions with policymakers and political decisionmakers.

To be candid: achieving these goals will take an enormous commitment to shared interests over self-interests.

Will the Artic become a zone of military standoff, or will we make the hard decisions and take the more complicated road toward international cooperation in the High North?

Like many in this room, I have dedicated my career to advancing security for Americans. As an Army officer and a civilian employee of the Department of the Interior, I know we face new challenges while addressing enduring problems from long-ago decisions.

What if we took the long view now? We know now environmental security is intertwined with national security. We know now respect, human security, and economic security are intertwined with national security. Each of us here is a multifaceted individual. Among us are humanitarians, scientists, strategists, long-term planners, and analytical thinkers.

We are all people of multiple interests and passions. I hope you will conclude that this challenge is worth your interest and passion.

We can help set a new azimuth for our nations as we question assumptions, explore options, and reset expectations for the emerging new Arctic.

But achieving this goal will take all of us.

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Canadian Opening Keynote: Canadian Land Forces in the High North and Arctic—A Collective Effort

Major-General Roch Pelletier
Commander
Canadian Army Doctrine and Training Centre Headquarters

Good morning to all of you here in person and those watching remotely. I had the opportunity to listen to some of the briefs and discussions yesterday. This is a perfect venue for reflecting on the strategic opportunities and challenges of the High North and the Arctic. This beautiful region deserves our attention because the Arctic is already facing many climate and security challenges that will only increase in magnitude in the future.

My address will focus on force generation and force employment of land forces in the Arctic for the following reasons.

- Many of the strategic challenges that were covered yesterday focused on North American Aerospace Defence Command (NORAD) and the other five domains, not exclusively the land domain.
- I believe an operational-tactical perspective on the complex realities of executing operations in the High North would be beneficial for follow-on discussions, hopefully making them more practical.
- The Annual International Airborne Commanders' Conference I attended in the Netherlands clearly underlined that the Canadian Army is considered an expert in training and operating in the High North. Many of our NATO Allies

want to have opportunities to learn from us and integrate into our operations and exercises in the Arctic.

- Assuming the Chief of the Defence Staff will cover a higher-level strategic and Canadian Armed Forces perspective on competition in the High North, I did not want to steal his thunder.

I will discuss three main topics that can hopefully highlight the requirement for international collaboration and civil-military cooperation in the Arctic.

First, I will discuss the current capabilities of the land forces (the Canadian Army) to operate in the High North and the Arctic, including our support of whole-of-government and Joint operations and exercises in the region. Then, I will highlight some of the efforts that will be required to increase our readiness to operate in the north in the future. Finally, I will leave you with some thoughts on what collaboration and cooperation to improve security in the High North could look like. These thoughts are based on the strategic research paper I wrote during my time at the US Army War College.

Understanding the Current Environment

Although other priorities in the past forced a reduced level of attention toward either the development or maintenance of Arctic capabilities, current regional, geopolitical, and environmental realities require the Canadian Army to reinvigorate its Arctic capabilities. Given this renewed attention, and as the lead element generating land forces, the Canadian Army has taken significant strides in improving its Canadian Arctic capabilities and readiness over the past decade.

Although climate change is affecting the landscape of the High North, operating within the Canadian Arctic region will remain a significant challenge into the foreseeable future.

Of note, Arctic operations are not synonymous with winter operations. Winter is a climatic season, and the Arctic is a region; these two have often been conflated. The land force may equally be called upon to conduct operations during the Arctic summer. This season will often present significantly greater mobility challenges than those experienced in the winter months.

Although the land-centric military threat is assessed as low, given the current Russian "special military operation" in Ukraine and recent tension in the Taiwan Strait, the threat environment in the High North may evolve very quickly. Therefore, the Canadian Army will continue to monitor all potential threats to ensure the land force is well postured to address any future military threats to the High North and the Arctic.

In the context of international competition that could lead to a full-scale conventional military conflict in the High North, the land force will require significant capability investment to be fully operational and effective in deterring a near-peer enemy.

The Role of the Land Force

The role of the land force in Arctic operations should be to support a comprehensive, whole-of-government approach, supporting other government departments and agencies as well as Joint operations in fulfilling their mandates within the safety and security domains.

The bottom line is the land force must be ready and available with appropriate readiness, training, equipment, deployability, sustainment, and command and control for employment across the vast, isolated, and frequently inhospitable environment of the Canadian High North.

Typical missions for the land force may include, but are not limited to, humanitarian assistance and disaster relief; support to ground-based search and rescue; major rescue operations (major air disasters and, possibly, major maritime disasters); and generic support for a wide range of government of Canada missions, including presence to affirm sovereignty. Missions in the security domain might involve point security to protect key infrastructure, surveillance operations, and deterrence operations against potential adversaries.

For the range of possible missions, the land force needs to deliver a force that can remain as self-sufficient as possible and appropriate to the unique circumstances of the various regions of the Canadian Arctic. The limited infrastructure and supplies within any one community risk being quickly exhausted should the land force not maintain self-sufficiency.

Training

As the Commander of the Canadian Army training system, I must discuss how we train and maintain expertise to operate in the Arctic. All Canadian Army field force members must complete individual winter warfare training every year. All subunits (companies, squadrons, batteries, and Arctic Response Company Groups) must complete winter warfare exercises every year, unless the subunits have been deployed. Most of the time, this collective training will be conducted as part of a unit or brigade exercise, so echelons are trained in cold-weather conditions that replicate the environment they would face in the High North.

The establishment of the Canadian Armed Forces Arctic Training Centre, whose capabilities are outlined in figure 4-1, in Resolute Bay, Nunavut, was a blessing for the armed forces and the Canadian Army.[1] This training facility provides an exceptional training venue for the land force to develop the key skills necessary to operate elsewhere in the Arctic. The Canadian Armed Forces Arctic Training Centre delivers three main courses: the Air Operations Survival – Arctic Aircrew course; the Search and Rescue Technician course (both conducted by the Royal Canadian Air Force); and the Arctic Operations course, formerly known as the Arctic Operations Advisor course, run by the Canadian Army Advanced Warfare Centre. The Arctic Operations course is the main Canadian Army course that qualifies 40 junior leaders to lead, force project, and survive in Canada's Arctic every year.

To develop and improve our expertise in planning, deploying, surviving, and operating in the Arctic, the Canadian Army participates annually in as many Arctic operations and sovereignty exercises as possible. For example, under the command of the Canadian Joint Operations Command and its subordinate headquarters, Joint Task Force North, we recently participated in the following operations and exercises.

- August–September 2022: Operation Nanook-Nunakput, integrated other regional government departments and agencies into presence activities along the Northwest Passage that were designed to develop domain awareness, foster greater interoperability, and increase overall readiness.

1. Major Stanley Bennett, Staff Officer Canadian Armed Forces Arctic Training Centre, Canadian Army Doctrine and Training Centre, "Canadian Army Capabilities" (PowerPoint presentation, Canadian Army Doctrine and Training Centre, Kingston, CA, October 2022).

- February 15–March 31, 2023: Operation Nanook-Nunalivut, in Rankin Inlet integrated multinational partners in a small-scale, combined, Joint land domain defence and security rehearsal in the Arctic that was designed to foster greater combined and joint interoperability.
- End of February–mid-March 2023: Exercise Guerrier Nordique occurred at the Canadian Armed Forces Arctic Training Centre in Resolute Bay.
- March 2023: At the Joint Pacific Multinational Readiness Center – Alaska, a Canadian subunit with the 11th Airborne Division (1/11 Infantry Brigade Combat Team) conducted a multinational, large-scale combat operation validation in the Arctic environment (cold weather).
- March 4–12, 2023: Exercise Maroon Sojourn, occurred in Goose Bay, Labrador, Canada.

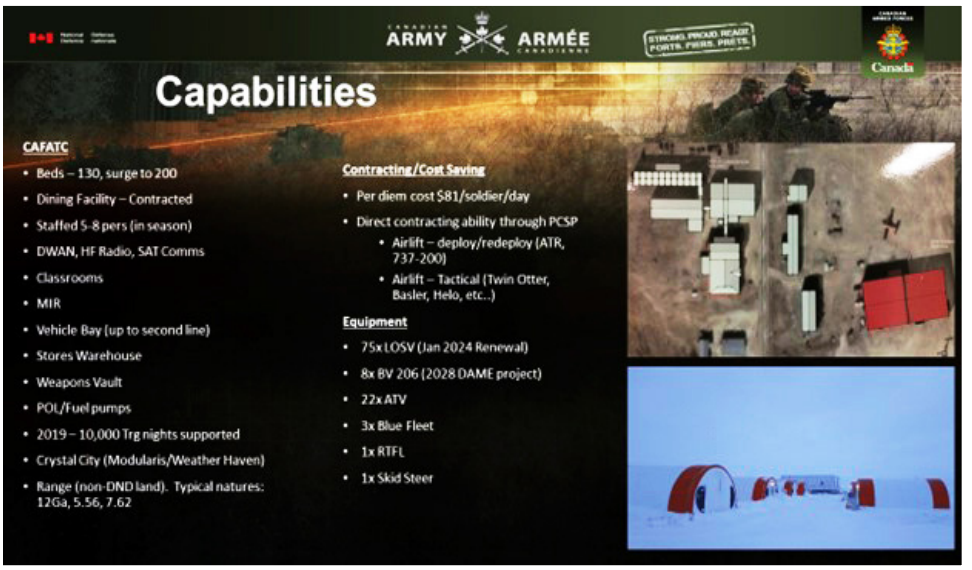

Figure 4-1. Canadian Armed Forces Arctic Training Centre capabiliities

Deployment Concept

The principal core groupings with which the Canadian Army can project effects are anticipated to remain as currently structured. In unlikely circumstances, additional follow-on forces beyond these core groupings may also be force generated with considerable and time-consuming effort.

Canadian Rangers

The Canadian Rangers will remain a critical and enduring presence on the ground that is valuable in many roles, including observation for routine surveillance purposes as well as guides, local cultural advisers, interpreters, and the core of our liaison capacity in many locations. In addition, the Canadian Rangers will remain immediately available to support local governments or other agencies. Because Indigenous communities are at the heart of Canada's High North, we will also work to expand and deepen our relationships with these communities, particularly through the Canadian Rangers and Junior Rangers.

Airborne Support Group

The Canadian Army Advanced Warfare Centre maintains the Airborne Support Group at platoon (minus) strength. The group supports national major air disaster contingency plans and comprises teams of parachutists, one of which is maintained at high readiness, that are prepared to reinforce Royal Canadian Air Force search-and-rescue operations anywhere in Canada, including in the Arctic, on short notice.

High Readiness Subunits (Short-Notice Deployment)

The land force must be ready to deploy forces on very short notice in support of tasks assigned by the government of Canada. The land force should typically anticipate these forces to be no larger than a subunit in size, but these forces could surge up to unit strength. Land forces are generated from both the Regular Force and the Primary Reserve of the Canadian Army, but the requirement for very short-notice deployments will continue to be fulfilled by Regular Force subunits. The assigned subunit is often from within the designated Immediate Response Unit.

Routine Operations (Arctic Response Company Group)

The Primary Reserve–based Arctic Response Company Groups have proven to be a capable land force element for deployment to the Canadian Arctic. But these subunits are not expected to deploy on very short notice; they typically have more advance notice before deployment. As such, they are well suited to supporting routine operations and acting as follow-on forces to high readiness subunits.

Challenges and Opportunities

The requirements for mobility, sustainability, survivability, and communications must underpin the development of the land force capability in the Canadian Arctic to ensure the ability of the force to respond properly to any task within the vast and harsh region. Many efforts are required to increase the readiness of the land force to operate in the High North.

Command

Effective land force command, control, and communications require both the command element necessary to lead deployed forces as well as the communications equipment necessary to enable command and control and interoperability.

Mobility

The greatest challenge to operating in the Canadian Arctic is the extreme isolation, which the lack of infrastructure further exacerbates. The vastness presents time and space challenges that can only be met with dedicated equipment capable of safely moving land forces across the region. Strategic and mid-distance tactical mobility almost exclusively relies on air transport for land forces to operate effectively. As currently planned, the Domestic Arctic Mobility Enhancement project will procure medium over snow vehicles that will be capable of moving a section while protecting it from the elements.

Sustainability

Sustaining projected forces in the High North is almost as challenging today as decades ago. Every force deployed to the Canadian Arctic will be dependent on a robust and agile sustainment system that is also certain to be very resource intensive. Effective sustainment will rely on robust strategic and tactical mobility as well as infrastructure (such as a northern sustainment hub).

Collaboration and Cooperation to Improve Security in the High North

During my year as a fellow at the US Army War College, I had the opportunity to focus my strategic research paper on the Canadian defence policy "Strong, Secure, Engaged" and future security challenges Canada will face in the High North and the Arctic. As evidenced in figure 4-2, my analysis proposed the creation of an Arctic security alliance and a Combined Joint Interagency Task Force Arctic to increase military transparency and collaboration in the Arctic region.[2]

Because security in the Arctic involves much more than military entities, the Combined Joint Interagency Task Force Arctic headquarters would include other national civilian agencies, such as coast guards, criminal law enforcement agencies, and more, from each country directly linked to security in the region. Building on the image of the Joint Interagency Task Force South, a proven model that deals with law enforcement and security in South America, the Combined Joint Interagency Task Force Arctic would draw troop participation from Arctic nations as required for annual and routine Arctic exercises and operations. Members of the task force could also become subject matter experts in Arctic training, disaster relief, and search and rescue operations. Built incrementally over years, the location, infrastructure, and exact staffing would be decided in collaboration with each nation and in accordance with its capacity to contribute.

Conclusion

Effectively and collaboratively conducting Canadian Arctic operations, regardless of the scale or scope of the assigned task, requires coordination with Joint partners, other elements of the Department of National Defence, other governmental departments, and other agencies. Thus, we must deepen our relationships with our Arctic and NATO partners by increasing our focus on combined Joint interagency training, exercises, and operations supported by local communities.

The international competition created by potential adversaries in the High North will force us all to work as a team. No single nation will be able to succeed and win on its own. As a result, we must start working on better collaboration now. The successful maintenance of safety and security in the beautiful and magnificent Arctic region depends on us all.

2. Roch Pelletier, "Strong, Secure, Engaged: The Canadian Defence Policy for a Secure Arctic" (working paper, US Army War College, Carlisle, PA, April 2019).

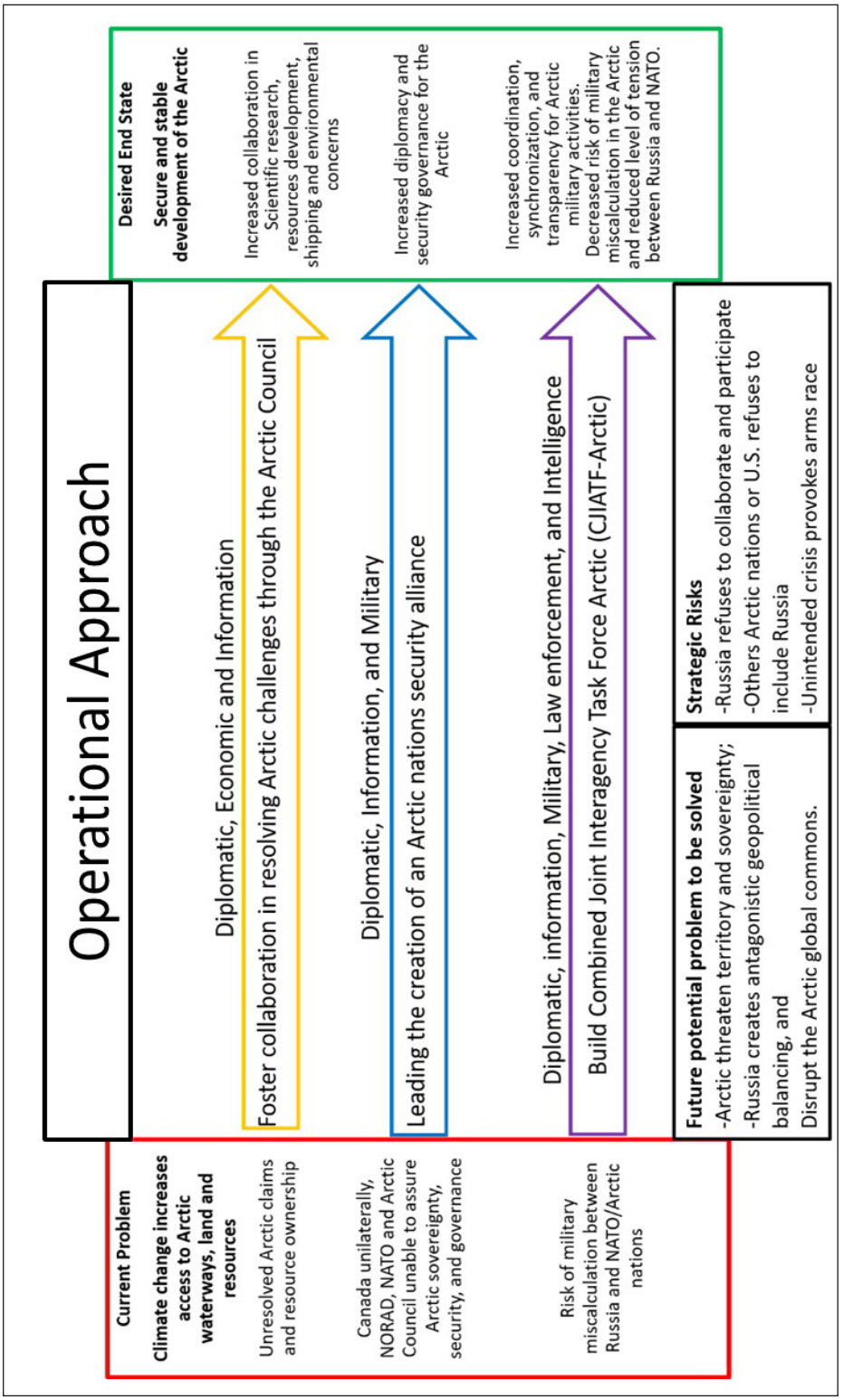

Figure 4-2. Proposed approach to Canada's Arctic operations

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Clear Communications and Solid Foundations: The Principles of Decision Making in Arctic Defence

Dr. Thomas Hughes
Mount Allison University and University of Manitoba

Introduction

After some years of relative neglect from policymakers and defence establishments in the West, the Arctic has recently come under greater scrutiny and is drawing considerable political attention.[1] Accordingly, abundant discussion and editorializing on Arctic policy and activities have been occurring. The changing Arctic environment—both its physical composition and the turbulent political circumstances that underpin related activities—means considering an array of possible futures is useful. Thus, the intrigue and multiplicity of possible policy pathways in the Arctic make engaging in breathless speculation about what is likely to occur in the future and what we should do about it extremely tempting. But this chapter takes a different approach. Rather than giving narrow policy prescriptions or providing opinions on the likely direction of action or activities, the chapter steps back from this position and opens the conversation to a broader discussion: how we understand, analyse, and use information about the Arctic.

This chapter, therefore, proceeds in four broad sections, each of which is designed to shed light on a different opportunity to optimise Arctic policy. The chapter is written primarily with Canada in mind, but the principles on which the chapter is based are broadly applicable. The first section stresses

1. Rob Heubert, *United States Arctic Policy: The Reluctant Arctic Power*, School of Public Policy Briefing Papers vol. 2, no. 2 (Calgary, CA: University of Calgary, May 2009); and Thomas S. Axworthy, *The Arctic: A Primary Canadian National Interest* (Toronto: Institute for Peace and Diplomacy, May 2023).

the need for a stronger understanding of the way in which threat is perceived by the different states engaging in the Arctic and the importance of accounting for these differences. The second section is thematically similar but focuses on the significance of aligning strategic messaging and the need for awareness of nuances in understanding the key concepts of security and confidence. The third section brings the Canadian concept of pan-domain operations into the Arctic context, emphasising the challenges and opportunities inherent in linking military and nonmilitary organisations and capabilities. The final section again draws on the need for introspection, focusing on identifying biases that can undermine decision making.

Threat Perception and Differing Priorities

Threat perception and interpreting others' intent is central to understanding and shaping activities in the Arctic. This subject intersects with the long-standing discussion about domain awareness that has framed much of the discourse around capability enhancement.[2] But, rather than the tangible information about physical presence on or in land, sea, air, or space that is usually addressed in discussion on domain awareness, this subject is linked to the more nebulous, but equally important, cognitive domain.[3] Threat perception and interpreting others' intent starts with developing a comprehensive knowledge of how others think and react to their environment. The importance of being able to link awareness of what is occurring to a deeper understanding of why the occurrence is happening cannot be overstated. Published in 2019, *Canada's Arctic and Northern Policy Framework* indicates the long-term objectives of Russia and China in the Arctic are not fully understood, and, even though the framework was published three years ago, this problem has not been fully rectified.[4] The issue represents a significant challenge: an inability to understand others' objectives makes creating medium- and long-term plans that optimise the use of resources and limit friction in international interactions very difficult.

2. "Welcome to the Arctic Domain Awareness Center," Arctic Domain Awareness Center (website), n.d., accessed on May 17, 2023, https://arcticdomainawarenesscenter.org; and Benjamin T. Johnson, "Sensing the Arctic: Situational Awareness and the Future of Northern Security," *International Journal* 76, no. 3 (2021): 404–26.

3. Peter Nicholson, "Effects-Based Strategy: Operations in the Cognitive Domain," *Security Challenges* 2, no. 1 (2006): 133–46.

4. Government of Canada, *Canada's Arctic and Northern Policy Framework* (Ottawa, CA: Government of Canada, 2019), 74.

Changing this reality is not a simple task, and accurately determining others' objectives is always challenging. In coming to conclusions on the basis of observation, understanding we interpret, rather than objectively observe, others' actions is important. Consequently, ensuring we understand how our interpretation could be founded on miscalculation or misunderstanding is vital. Therefore, though paying attention to the actions of others and tracing patterns of activities is helpful, ensuring we do not make lazy assumptions about the broader functions of these actions and patterns is important. Extrapolating an actor's goal or prioritization of goals solely on the basis of observing its actions, without accounting for potential biases, is risky. For example, the establishment and continued training of the US Army 11th Airborne Division in Alaska could be taken to indicate that an expectation a large-scale, ground-based conflict in the North American Arctic will occur.[5] Such an assumption would be patently untrue, but a clear linear connection could be drawn between the United States and its allies training to fight in the North American Arctic and an expectation of initiating combat. These circumstances highlight the need for caution when seeking to understand the motives behind others' actions.

In addition, focusing on individual actions—particularly, those that are perceived to be especially problematic—can lead to concentrating on how to counteract or prevent a particular event on the basis of its immediate effects. Doing so would not be intrinsically wrong, but one should be aware that basing a response on specific events can result in the inadvertent development of self-created cognitive boundaries that prevent the most efficient use of resources. Instead, thinking more holistically about the broader objectives being sought from individual actions generates greater latitude for creativity in how one uses resources. Threatening or problematic actions should, of course, still be addressed, but putting them in context, appreciating how they intersect one's own priorities, and being aware the activities could potentially be counteracted more effectively by an oblique, rather than direct, approach are important.

In addition, remembering not all threats are perceived or prioritized equally by different actors is important. At the highest political levels, most state actors in the Arctic have broadly similar interests and objectives, such as generating economic gains and enhancing the defence environment, but the way these objectives are manifested in practice and across actors can be very different, which becomes even more

5. "Welcome to the 11th Airborne Division, the 'Arctic Angels,'" 11th Airborne Division (website), n.d., accessed on May 17, 2023, https://11thairbornedivision.army.mil.

prominent when considering what constitutes a threat for each actor. For example, Russia apparently perceives the Northeast Passage (also known as the Northern Sea Route) as a critical component of its future economy.[6] This importance, in combination with distinct strategic culture, leads to an approach to developing and posturing military capability in the Arctic that differs from that of other states. Determining the specific defence needs of state actors in the Arctic and building understanding of how and when they differ between countries are necessary preconditions for engaging with the actors efficiently and successfully. Meeting these preconditions is significant when attempting to create arms control regimes and crucial to the successful development of confidence-building measures that have been discussed in relation to the Arctic. Confidence-building measures will only be effective if a robust understanding of the specific concerns of different participants has been established.

Strategic Messaging and Self-Reflection

Adequately navigating this diplomatic environment requires exploring the rationale behind different courses of action rather than assuming the decision-making process is identical for everyone.[7] Competing interpretations of the most effective deterrent posture is a clear example of the way in which complications can arise from paying insufficient attention to potential differences in approaches to international relations. One approach to deterrence that is seemingly favoured by NATO specifically and the West more generally is indicating clear red lines with broadly and mutually understood costs that would be incurred were the lines crossed. A second approach would eschew such clarity and instead rely on brinkmanship driven by ambiguity to generate a tenuous stability founded on caution. In recent years, North Korea and Russia have used this approach to deterrence, creating an impression of a decision-making rationality that, at best, does not accord with that of the West.[8] The debate about the most effective form of deterrence is unerringly interesting and will no doubt continue, but the key point is to ensure one understands different actors may be taking

6. Vitaly Yermakov and Anastasia Yermakova, *The Northern Sea Route: A State Priority in Russia's Strategy of Delivering Arctic Hydrocarbons to Global Markets*, Energy Insight 105 (Oxford, UK: Oxford Institute for Energy Studies, November 2021).

7. Vincent Pouliot, *International Security in Practice: The Politics of NATO-Russia Diplomacy* (New York: Cambridge University Press, 2010).

8. Michael J. Mazarr, *Understanding Deterrence* (Santa Monica, CA: RAND Corporation, 2018); and James M. Acton, *Is It a Nuke? Pre-Launch Ambiguity and Inadvertent Escalation* (Washington, DC: Carnegie Endowment for International Peace, 2020).

different approaches to deterrence. From this point of departure, one can identify the approach adversaries are using, better understand the actions adversaries are seeking to deter, and learn how one's actions have been influenced by the deterrent posture of others. An unacknowledged disconnect between approaches to deterrence can lead to misunderstanding, presaging dangerous and unanticipated escalation.

Consequently, managing one's strategic messaging is crucial. As the 2020 Canadian *Pan-Domain Force Employment Concept* states, one sends a message with every action, but one does not always realise one is doing so.[9] In the Canadian context, noting strategic messaging is not limited to the armed forces, nor to Canadian troops, is important. As a result, understanding the process behind one's strategic messaging, aligning the Canadian Armed Forces' efforts with those of other government agencies, and ensuring coordination with allies are also important. The Strategic Communications Centre of Excellence at NATO is an excellent hub for engaging the latter process, and the central message of ensuring a holistic approach to messaging, rather than ad hoc efforts by differing organisations, cannot be overstated.[10] Although not a shortcut to success, paying greater attention to (and diverting more funds toward) structuring messaging is highly likely to result in lowered uncertainty and to smoothen the process of achieving political objectives.

Although it may seem simplistic, the central point of this strategic messaging is the clarity of one's message, which requires understanding the messages one sends. One must understand both the message that is being sent and how the message is being interpreted by the intended recipients. Without this process, any intended signaling is ineffective at best and actively harmful at worst, resulting in false impressions about one's behaviour that lead to unanticipated reactions.

Furthermore, even if the message one sends is being received and understood in the way one intended, observing and measuring whether the message is having the desired effects on policy and action are vital next steps. Signaling is ultimately for effect, intended to shape the environment by changing or reinforcing others' perception of one's intent.[11]

9. Department of National Defence (DND), *Pan-Domain Force Employment Concept: Prevailing in an Uncertain World* (Ottawa, CA: DND, 2020), 16.

10. "About NATO StratCom COE," NATO Strategic Communications Centre of Excellence (website), n.d., accessed on May 17, 2023, https://stratcomcoe.org/about_us/about-nato-stratcom-coe/5.

11. Andrew H. Kydd, *Trust and Mistrust in International Relations* (Princeton, NJ: Princeton University Press, 2005).

Consequently, without a clear understanding of the response to the signals one sends, the process is incomplete, and the signaling is, at best, imprecise. One must also remember signaling and messaging are significant both in the context of alliances and in one's relationship with adversaries. The refrain "participation in a multilateral exercise signals commitment to one's relationship with other participants" is frequently repeated, but determining the metrics for measuring whether this signaling occurred—let alone was successful—is less straightforward.[12] Again, understanding the signaling effect of different actions is an important part of determining the most effective way of developing a positive relationship.

In summation, ascertaining whether signaling is successful requires an understanding of the intended tangible outcome. Achieving this understanding is likely to be difficult, not least because of the challenge of isolating the effect of particular signaling activities among other events, and this difficulty is exacerbated when attempting to determine outcomes over the medium term. Patience and an acceptance of a potentially high degree of uncertainty are required as relationships and the political context evolve. Nevertheless, rising to this challenge is crucial. In optimising activities and reducing the potential for miscalculation and misunderstanding, thinking carefully about the messages one sends and the effects one anticipates is extremely important. Ultimately, signaling and messaging—both deliberate and inadvertent—help one to attain an understanding of the threat environment. The need to build expertise in signaling through action and the interpretation of the actions of others has become even more important because the West will most likely not be able to engage in discussions with Russia about Arctic defence in a formal institutional context in the near future.[13]

Honest self-reflection about the extent of one's own capabilities is also important. The classic "short blanket" metaphor is apt in the case of Canadian military capability: a short blanket is capable of covering the feet or the shoulders, but not both simultaneously. The Canadian Armed Forces would be willing to undertake many missions, but performing them

12. DND Media Relations, "Canadian Army to Take Part in Multinational Military Exercise to Enhance Interoperability with Our Allies," news release, updated May 2, 2018, https://www.canada.ca/en/department-national-defence/news/2018/05/canadian-army-to-take-part-in-multinational-military-exercise-to-enhance-interoperability-with-our-allies.html.

13. Rob Huebert, "Canada, the Arctic, and the Russian Invasion of Ukraine," Polar Connection (website), March 12, 2022, https://polarconnection.org/canada-arctic-russia-ukraine/.

all simultaneously would be impossible.[14] This observation is not meant to criticize; every country and its military have to make decisions about their priorities and operations. Nevertheless, honesty about the missions one is capable of undertaking is required. Even speaking about one's own ability represents signaling: if one wants to avoid being seen as bluffing, one should not overstate one's capabilities about which potential adversaries may already be knowledgeable.

Critical self-reflection about one's understanding of "adequate security" is also required. For example, would Canada be comfortable with US military aircraft operating in Canadian airspace and being responsible for a more significant component of Canadian air defence as a matter of course? If so, some Canadian aircraft would be freed from this role, and the Canadian Armed Forces would therefore have greater scope to engage in other operations, but Canada's degree of self-reliance in matters of defence would also be limited. Consequently, being able to explain what one needs to be confident in one's own security is critical. In addition, in this context, how does one differentiate between developing confidence in one's ability to counteract aggression and developing confidence in one's ability to determine the short- and medium-term intent of others? Furthermore, in responding to both questions, given confidence should be seen as a sliding scale rather than an absolute, what level is required for one to feel adequately secure?

Pan-Domain Approaches and Civilian-Military Interaction

Canada's consideration and development of the *Pan-Domain Force Employment Concept* represents an intriguing new lens through which to consider Arctic defence, regardless of whether the concept is ultimately developed into doctrine. The Canadian concept overlaps considerably with the US multidomain operations concept, though the former adds a more concrete reference to the need to enhance the ability of the military to work in conjunction with other government organisations.[15] The *Pan-Domain Force Employment Concept* emphasises the requirement for a strong connection between various levers or instruments of national

14. Standing Senate Committee on National Security and Defence, *Military Underfunded: The Walk Must Match the Talk* (Ottawa, CA: Standing Senate Committee on National Security and Defence, April 2017).

15. Headquarters, Department of the Army, *Army Multi-Domain Transformation: Ready to Win in Competition and Conflict*, Chief of Staff Paper no. 1 (Washington, DC: Headquarters, Department of the Army, March 16, 2021).

power in the current and future threat environment.[16] This requirement is not new; the idea of looking beyond a military capability to understand state power and to achieve political objectives is long-standing.[17] Nevertheless, paying greater attention to the intersection of the whole spectrum of capabilities and assets in the Arctic represents an opportunity to draw from a broader range of policy options and to generate more creative solutions to problems and challenges.

The note in the 2008 *Canadian Forces Operational Planning Process* on "visualis[ing] the **synergistic effects of all available capabilities** in the achievement of the strategic goal" (emphasis added) foreshadows the more recent pan-domain concept and highlights the need to understand how one can affect the defence environment by leveraging capabilities in potentially nontraditional ways.[18] The Canadian Marine Security Operations Centres encapsulate existing efforts to align and integrate the range of Canadian capabilities that help to address issues arising in the Arctic.[19] The sole purpose of Marine Security Operations Centres—which are relatively new, having been established in 2004—is intelligence sharing. Thus, further work is required to identify the best way to unlock these organisations' potential. Nevertheless, in their current configuration, the Marine Security Operations Centres represent points of connection between different Canadian organisational "silos." These organisations serve as an excellent foundation from which lessons can be learned that will smoothen the transition toward a pan-domain approach in which Canadian Armed Forces capabilities are fused with those of other organisations. Such fusion rests on keen knowledge of what assets and capabilities are available across the spectrum of national power and the ability to determine how they can be employed in conjunction or sequence to achieve effects that would have otherwise been unobtainable, creating a broader and more flexible array of options and opportunities to meet a rapidly changing panoply of challenges.

Dual-use infrastructure is one area of fusing capabilities that has already been explored. The potential development of new or upgraded air bases

16. DND, *Force Employment Concept*, 3.

17. Gregory F. Treverton and Seth G. Jones, *Measuring National Power* (Santa Monica, CA: RAND Corporation, 2005).

18. Canadian Forces Experimentation Centre Joint Doctrine Branch, *The Canadian Forces Operational Planning Process* (*OPP*), Canadian Forces Joint Publication 5.0 (Ottawa, CA: Chief of the Defence Staff, updated April 2008), 1-4.

19. "Marine Security Operations Centres," Government of Canada (website), updated September 23, 2020, https://tc.canada.ca/en/marine-transportation/marine-security/marine-security-operation-centres.

in northern Canada provides a clear example of the way in which actions that are ostensibly focused on developing Canadian Armed Forces capabilities can also benefit nonmilitary organisations and communities well outside the scope of combat operations.[20] But, though dual-use infrastructure has an indisputable upside, care must be taken to ensure the inadvertent signaling implications of dual-use infrastructure are considered. This observation is not meant to suggest dual-use infrastructure is inherently problematic. Nevertheless, ignoring others' perceptions of the development of dual-use infrastructure could lead to further misunderstanding. Discussion of dual-use infrastructure in the context of Russia, for example, is frequently framed as indicating subterfuge or enhancing the potential for future aggression.[21] Consequently, aligning the very real, practical benefit of dual-use infrastructure with the broader arc of strategic messaging is an important step in clarifying and attaining political objectives.

The *Pan-Domain Force Employment Concept* discusses the potential development of links between the Canadian Armed Forces and nonmilitary agencies. But the *Pan-Domain Force Employment Concept* does not provide details about the information sharing that would occur or the areas of responsibility that would be established, nor does the publication acknowledge the legal frameworks that currently regulate such interaction. The pan-domain concept is not synonymous with creating a flat, whole-of-government approach to every problem, but the importance of the military engaging with other organisations' features is an important part of the concept. The significance of this part of the concept in the context of the Arctic cannot be overstated, given the overlapping efforts of government agencies in the region and its critical importance to Canadian defence.

Enhancing Decision Making and Eliminating Bias

In the absence of a time-traveling capability that would enable counterfactuals to be tested, determining the likely optimal approach to a given situation is essentially impossible. Consequently, selecting the right policy from the plethora of available options is a timeless challenge, and the uncertainty surrounding the Arctic renders the problem particularly

20. Bill March, "Continental Air Defence and NORAD Modernization," *Vanguard* (blog), August 28, 2022, https://vanguardcanada.com/continental-air-defence-and-norad-modernization%EF%BF%BC/.

21. Mathieu Boulègue, *The Militarization of Russian Polar Politics* (London: Chatham House, 2022).

acute. Accepting this reality and seeking to improve the relevant decision-making processes is vital. Notably, though enhancing situational awareness is beneficial, increasing the quantity or quality of information available to decisionmakers is not a comprehensive guarantee of optimal policy. As a result, improved decision making requires an examination of the way in which decisions are made, rather than relying solely on increasing the quantity of information and data available. This examination requires careful self-reflection and awareness of the assumptions and background information that underpin our understanding of our knowledge and the lenses through which we assess and analyse data.[22] Without this reflection, we leave ourselves open to a foundational misunderstanding of what is occurring in the Arctic and in the international community more broadly, which would limit our ability to accomplish our objectives efficiently.

The introduction of the Gender-based Analysis Plus framework as a component of decision making in the Canadian Armed Forces demonstrates both the value of challenging assumptions and the Canadian military's ability to integrate this thinking into decision-making processes. Gaps remain in the implementation of Gender-based Analysis Plus, but the development of the framework and the integration of the analysis into practice represent an effort to improve long-term effectiveness in military operations through increasing the Canadian military's depth of environmental knowledge.[23] At the centre of the development, Gender-based Analysis Plus is ensuring the Canadian Armed Forces examine the processes through which they gather, analyse, and operationalize information. In short, the process asks the Canadian military to understand how it makes decisions to ensure the actions it takes produce holistic benefits. This interrogation about assumptions, biases, and cognitive lenses should be applied in the context of decision making about the Arctic. Self-awareness about one's processing of information also feeds into the process by which one makes decisions. Regardless of the comprehensiveness of the operational planning process, if the inputs are not questioned, the resulting operations are less likely to be successful.

In parallel and as a guiding principle, ensuring one's focus remains on the objective, with each action serving as a paving stone in the path

22. Charles P. Ries, *Improving Decisionmaking in a Turbulent World* (Santa Monica, CA: RAND Corporation, 2016), 42.

23. Rachael Johnstone and Bessma Momani, "Gender Mainstreaming in the Canadian Armed Forces and the Department of National Defence: Lessons on the Implementation of Gender-Based Analysis Plus (GBA+)," *Armed Forces and Society* 48, no. 2 (2022): 247–73.

to that point, is important. As a result, the objective should be the first item to be defined, despite being the end of the pathway. But working backward from an objective may be challenging in practice, and clear, unchanging end points may not always be evident. The dynamic international environment and fluctuating governmental priorities render long-term planning an inherently difficult process. Nevertheless, though setting arbitrary objectives simply to enable planning is helpful, politicians should remain aware of the need to provide defence-related signposts military leadership can use to orient force development.

Conclusion

As the Arctic has become more prominent in political discourse, the discussion of potential strategies and opining on the implications of various decisions and events have become more widespread. But regardless of the depth and quality of the preparations that are made, in the coming decades, Canada and its allies will undoubtedly be buffeted by international events beyond their direct control. Whether these events stem from the unanticipated effects of climate change, decisions made by other states, or actions of other nonstate actors, such external shocks will require alteration to the course Canada and its allies are attempting to chart. Notwithstanding this uncertainty and the consequent need for flexibility, Canada and its allies must shape the political environment and material context that form the framework within which all Arctic activity occurs. The more comprehensive this framework, the more predictable the region will be.

To develop such a framework as well as the ability to respond quickly and effectively to events that shake the framework's foundations, holistic thinking about the decisions and decision-making processes of Canada and its allies is necessary. Questioning assumptions is the critical first step in creating policy that is optimal for short- and medium-term effect. To be clear, such introspection does not necessarily mean a fundamental reconfiguration of policy. Perhaps Canada and its allies have bypassed their cognitive biases and formed an accurate representation of the Arctic environment and the actors within it. Nevertheless, the process of actively exploring one's presumptions is useful in ensuring awareness of alternative policy approaches. This creativity in thinking is important in ensuring Canada and its allies ask themselves the right questions and understand the intended and actual effects of their actions across multiple time horizons.

Importantly, exploring assumptions and biases requires engaging with and actively listening to a diverse array of groups, organizations, and individuals that may have a very different understanding of the Arctic—especially those with which one ordinarily has limited contact. Becoming enmeshed in a network of contacts who are concentrated inside one's own organisation or discipline is dangerously easy. Although these forms of networks are natural and valuable, including other voices and learning from them is critical. Great strides have been made in developing and hosting events that bring together individuals with a range of different Arctic experiences and expertise. But this engagement needs to become normal practice outside of prescribed events, with conversations between different groups and organisations about their expertise and approaches to meeting Arctic challenges taking place consistently in both formal and informal settings. For this dialogue to occur, a realistic pathway must be developed that encourages and enables knowledge to be shared as well as a broad array of organisations and departments with Arctic interests to commit to fostering the willingness and ability to search for, discuss, and disseminate ideas proactively as well as translate new insights into meaningful action.

Selected Bibliography

Boulègue, Mathieu. *The Militarization of Russian Polar Politics*. London: Chatham House, 2022.

Government of Canada. *Canada's Arctic and Northern Policy Framework*. Ottawa, CA: Government of Canada, 2019.

Johnson, Benjamin T. "Sensing the Arctic: Situational Awareness and the Future of Northern Security." *International Journal* 76, no. 3 (2021): 404–26.

Kydd, Andrew H. *Trust and Mistrust in International Relations*. Princeton, NJ: Princeton University Press, 2005.

Nicholson, Peter. "Effects-Based Strategy: Operations in the Cognitive Domain." *Security Challenges* 2, no. 1 (2006): 133–46.

Pouliot, Vincent. *International Security in Practice: The Politics of NATO-Russia Diplomacy*. New York: Cambridge University Press, 2010.

Ries, Charles P. *Improving Decisionmaking in a Turbulent World*. Santa Monica, CA: RAND Corporation, 2016.

Treverton, Gregory F., and Seth G. Jones. *Measuring National Power*. Santa Monica, CA: RAND Corporation, 2005.

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The Arctic Dilemma: Force Generation Considerations for Land Forces

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This chapter draws on the author's experiences leading the team that wrote *Regaining Arctic Dominance: The US Army in the Arctic* (hereafter referred to as the Army Arctic strategy), published in both classified and unclassified versions in early 2021, as well as the author's experience as the exercise director for a February 2022 war game meant to refine the Army Arctic strategy further.[1] Although both of these experiences occurred within an official capacity, the conclusions derived from them and expressed in this chapter are those of the author and do not reflect those of the Department of the Army or the US Army War College.

The nearly two-year journey of developing and then testing the Army Arctic strategy was filled with surprises. The greatest revelation was that there should be such a strategy at all. Within the US system of military organization, the main role of the services is to generate forces. The services do not typically write regional strategies. Frankly, at the outset, the strategy and plans directorate was skeptical whether a service strategy for the Arctic was needed.

Yet, the team quickly learned in this respect, as with many others, the Arctic is exceptional. In deciding how to man, train, equip, and organize forces for the region, service leaders face an Arctic dilemma unlike those of other geographic regions. The unique factor causing this dilemma is the degree to which forces must be specialized to achieve any degree of military utility in the region. In other regions, specialization is useful but

1. Headquarters, Department of the Army (HQDA), *Regaining Arctic Dominance: The US Army in the Arctic*, Chief of Staff Paper no. 3 (Washington, DC: HQDA, January 19, 2021).

not essential; units with competent leaders, trained soldiers, and quality equipment are useful, even if the units' organization, training, and equipment are better optimized for another locale or mission. This situation is not true for the Arctic. Simply put, the Arctic requires a greater commitment from the force generator because its unique geographic and environmental characteristics require specialization and prior investment as the price of entry for military relevance. Sharpening the dilemma, this specialization and investment are to a great extent confined to employment in the Arctic. Many of the equipment and organizational solutions necessary for success in the Arctic are, at best, poorly suited to other regions and in some instances of no use whatsoever.

Thus, the Arctic dilemma is the choice between making monetary and force structure investments that will be largely confined to that region or devoting that effort to more generalist units that can be employed across a wide range of missions. In an era of declining defense budgets, pressure on end strength, and multiple competing missions, this is a difficult choice. The dilemma is sharpened by small-p political considerations. The states with Arctic territory all have proud militaries for which it would be exceptionally difficult to deliberately forego the ability to operate on some part of their sovereign territory. The final challenge is that even if a military makes the difficult choice to create Arctic-capable ground forces, it must make additional hard decisions as to which of the several subregions or missions forces should be optimized. Therefore, the Arctic dilemma for force providers is to determine whether generating Arctic-capable forces is worthwhile and, if so, for which regions, seasons, and missions.

This chapter has two parts. The first examines the characteristics of the various subregions and seasons as well as their implications for force design. The second part reviews several of the most pertinent operational and tactical patterns of Arctic operations—patterns that should inform the design of Arctic forces. The chapter then concludes with some final thoughts on the Arctic dilemma for force generators.

More Choices: The Military Implications of Seasons and Subregions

The Army Arctic strategy defines Arctic-capable forces as those that can operate in Arctic, subarctic, extreme cold weather, and mountainous environments.[2] This broad definition was adopted to illustrate the broad range of potential missions such forces might be called upon to conduct. For instance, forces with the attributes required for Arctic operations might also be useful in the harsh winters and mountainous terrain of the Korean peninsula. The writing team wanted to explore all of these options. Yet there was also a lingering question as to whether a single unit could truly be proficient across all the geographic regions and environments contained within the Army Arctic strategy's aspirational definition. Subsequent work suggests that in practice, the Arctic contains such significant variation that a unit can be perfectly capable of operating in one set of conditions but ineffective in another. This variation falls along two lines: seasonal and geographic.

The Army Arctic strategy notes the Arctic is a full-year problem.[3] Attention tends to focus on the extreme cold–weather (roughly defined as temperatures down to -60 degrees Fahrenheit) aspect of Arctic operations. This focus is justified in the training and equipping of individual soldiers; when operating in extreme cold weather conditions, individuals without specific expertise will not survive, and much military equipment will not function without modification (for example, the use of special lubricants) and sometimes not at all.

But unit effectiveness is more than individual training and equipment. Units must be able to sustain operations at scale and over time, maneuver to gain positions of advantage at the tactical level, and achieve objectives at the operational level. Considering these other aspects of effectiveness, the Arctic winter—when frozen earth tends to favor ground mobility—is not necessarily the most challenging season for military operations. As the images below illustrate, the spring thaw, which inundates rivers and renders other terrain impassably sodden, could be more challenging for units that require ground movement for sustainment and operational maneuver. Figure 6-1 shows the dramatic changes that occur during an Arctic thaw. In the left photo, the Yukon River (upper center) is swollen with runoff. In the right photo, taken less than two

2. HQDA, *Regaining Arctic Dominance*, 10.

3. HQDA, *Regaining Arctic Dominance*, 4.

weeks later, the Yukon River has subsided, but the area around the Innoko River is now a flooded morass.[4]

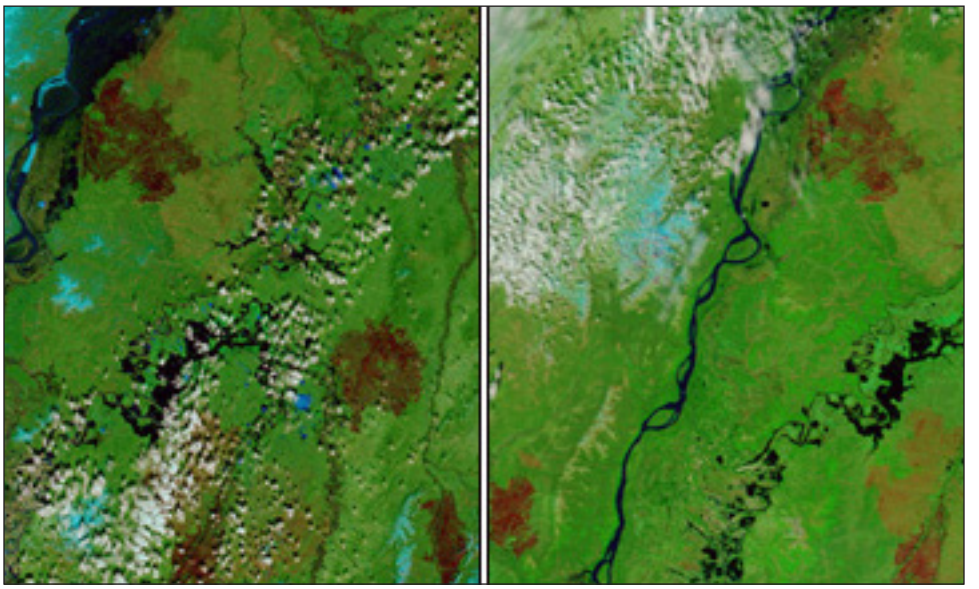

Figure 6-1. Images of Alaska taken from the NASA Earth Observatory

The implication of these seasonal variations for force generators is Arctic units must have at least two functionally different sets of tactics and equipment to operate on the same terrain but in different seasons. For example, a unit might rely on ground movement over frozen terrain in wintertime but use some mixture of helicopters, small transport aircraft, and boats or watercraft on rivers or along the littoral in summertime. These tactical differences would alter the larger operational picture as well, impacting the scale of operations that could be sustained, the type of enabling units required, and what constitutes key terrain. It is important, however, not to overstate the case. Some equipment and investments will have utility across the seasons. The larger point is force generators must think through modes of operation to ensure forces are capable across the entire year.

The second major element of variation is geography. The Arctic is divided into at least three geographic regions—North America, Europe, and Eurasia—each with different implications for military operations. (Not entirely by coincidence, these military regions correspond with the geopolitical blocs Wilfrid Greaves identifies in chapter 8.) The North American Arctic has some of the most severe weather; includes vast stretches of continental

4. "Alaska's Spring Thaw," NASA Earth Observatory (website), June 5, 2006, https://earthobservatory.nasa.gov/images/16776/alaskas-spring-thaw.

terrain, including mountains; and is the most sparsely inhabited. These characteristics have significant implications for the scale of operations because nearly everything—not just supplies, but also the infrastructure—must be brought in to support operations.

By contrast, the European Arctic has (relatively!) more moderate weather, and the fjord-laced Scandinavian Peninsula offers far more opportunities for naval forces and sea mobility, depending on the season. It also has far more inhabitants with the consequent infrastructure. The Norwegian city of Tromsø alone, for instance, has a population roughly one-and-a-half times larger than the population of any of the three northern Canadian territories.[5] Although the theater is still austere by any objective standard, it has the potential to support a type and scale of operations that would simply be impossible in the North American Arctic.

The Eurasian Arctic shares the same harsh continental weather as the North American Arctic, except on its easternmost edge, where the Pacific Ocean somewhat moderates temperatures. Yet, in part due to the authoritarian nature and expansionist visions of the Russian Empire and the Soviet Union, the Eurasian Arctic is more heavily populated and developed than the North American Arctic, if not quite to the degree of the European Arctic. According to the Arctic Institute, 2.5 million Russians live in the Arctic. This is in comparison to the roughly 122,000 Canadians spread out over the vast northern territories and 1.85 million Scandinavians in the much smaller combined area of northern Norway, Swedish Norrland, and Finnish Lapland.[6] In addition to the dual-purpose infrastructure that comes with settlement, Russia has the most extensive military footprint in the Arctic, the result of concerted investments that began during the Soviet era and continued with the Russian Federation.

This combination of seasonal and geographic variation complicates force generators' efforts to create Arctic-capable forces. A force that is perfectly capable of operating in one season and one locale might struggle to operate at a different time of year or in a different region. Of course, a unit designed for a different Arctic region would probably still perform far better, particularly during the winter, than the alternative of a generic unit with no specialized equipment or environmental training.

5. "Population Estimates, Quarterly," Statistics Canada (website), updated May 30, 2023, https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710000901; and *Wikipedia: The Free Encyclopedia*, s.v. "Tromsø," updated May 29, 2023, https://en.wikipedia.org/wiki/Troms%C3%B8.

6. "Country Backgrounders," Arctic Institute (website), n.d., https://www.thearcticinstitute.org/country-backgrounders/; and Paul Goble, "Russian Flight from the Arctic Undercuts Moscow's Hold on the Far North," *Eurasia Daily Monitor* 19, no. 171 (November 15, 2022).

Yet, we should not take too much comfort in relative measures of effectiveness. Mission failure is still failure. If a unit is incapable of achieving its mission because it does not have the right equipment, training, or organization for a specific season or place, then whether another unit is even less capable is entirely academic. The lesson to be drawn is that when designing serious, Arctic-capable forces, force developers must have a reasonably detailed idea of the operational missions and approach a unit would employ for each season and region in which it will be operating.

Operational and Tactical Dynamics of Arctic Operations

In developing these operational approaches, it is useful to recognize some common patterns of operations in the Arctic. One recurring pattern is the degree to which Arctic operations are often conducted at the limits of logistical feasibility due to the lack of infrastructure, environmental challenges, and the resulting requirement for sustainment units to be just as specialized as those in combat. This last factor is often overlooked, resulting in underinvestment in sustainment units. Constrained logistics capacity, in turn, means Arctic operations are often conducted with a low force density relative to both geographic space and the objective. Thus, in contrast to a traditional theater where there could be several corps fighting along continuous lines with commanders at all echelons having a healthy reserve, an Arctic campaign is more likely to feature brigades, battalions, and even companies maneuvering independently over vast distances with commanders having little or no effective reserve readily available. These twin factors of strained logistics and low force density give Arctic operations some distinct dynamics.

One dynamic is the close relationship among logistics, maneuver, and tactical objectives. In many instances, the best way to defeat an adversary is to eliminate the ability to sustain operations by capturing or destroying transportation nodes and supplies, interdicting lines of communication at vulnerable points, and reducing logistics units' efficiency through attrition or by forcing them to divert considerable effort to protection. An Arctic campaign might therefore center on attacking the enemy's lines of communications and supply nodes while protecting one's own. To understand this dynamic better, in addition to the relatively small sample of Arctic campaigns, one can look to eighteenth-century European warfare—the age of the duke of Marlborough and Frederick the Great. That era before the French Revolution brought in mass

national armies, the combination of crude transportation technology and relatively small professional armies of long-service professionals created a similar combination of maneuver against lines of communication coupled with positional warfare centered on cities and supply depots.

Another dynamic of Arctic operations is an even higher degree of unpredictability at the operational level of war, the product of the Arctic's small scale of forces and tenuous logistics in comparison to other regions. Chance is an inherent feature of warfare, but its effects can be drowned out by mass. The Pacific theater in World War II provides a useful illustration. Although the islands and atolls of the southwestern and central Pacific seem the exact opposite of the Arctic, the Pacific theater's vast distances and sparse infrastructure created an enormous logistics challenge not unlike campaigns closer to the poles. But the Pacific theater and the Arctic differ in scale. As historian Trent Hone notes, in the Pacific, the United States compensated for the environment by overpowering it through sheer quantity, tolerating enormous wastage and inefficiency. If bad luck left a cargo ship waiting in a hot, tropical harbor for days and the cargo had deteriorated or spoiled by the time it was unloaded, another ship was close behind.[7] The limited infrastructure in the Arctic—particularly in the North American Arctic—does not permit this approach. Commanders and logisticians operate with thin margins of error that can be completely upset by an extended weather delay to a single convoy, the loss of a critical bridge or depot, or some other similar calamity. Low force density creates a similar dynamic in combat actions. An action that would be considered a skirmish in a normal theater might be the decisive battle in the Arctic, elevating the significance of the actions of a single machine-gun crew or squad leader. The greater unpredictability of small numbers tends to favor the operational defense because the attacker must execute a series of successful tasks across all the Joint functions. By contrast, the defender (or the environment) only needs to interrupt the series of actions at any point along a vulnerable chain to frustrate the enemy's objective.

A third dynamic of Arctic operations is the increased value of time because it takes so much longer to react quickly at scale. Simply put, doing big things takes longer. Limited port, airport, and road capacity as well as the limited number of specialized transportation units required to access some areas limit throughput for both forces and supplies. Additionally, some actions,

7. Trent Hone, "From Mobile Fleet to Mobile Force: The Evolution of US Navy Logistics in the Central Pacific during World War II" (working paper, Society for Military History Annual Conference, Fort Worth, TX, April 2022).

such as constructing military infrastructure and positions even for something as simple as a concrete pad, can only happen in the summer. Provided the defender has the foresight to set the theater with steady investment, it can thus seize an enormous advantage through basic actions, such as establishing supply caches and munitions stockpiles, conducting site surveys, and building warehouses, staging areas, and operational positions. These actions are literally a force multiplier because they allow a defender to deploy and sustain forces several times larger than would be possible otherwise. Although a prospective attacker could take some actions ahead of time, these actions are often more limited.

The industrious defender can also benefit from a more high-tech form of preparation by establishing the technical foundation for cutting-edge all-domain operations. The new is no more immune to the Arctic than the old; indeed, new technology might be even more vulnerable because the region poses unique challenges to the creation of highly networked sensors and shooters, which some argue are essential to twenty-first-century warfare.[8] Beyond the obvious challenges extreme cold weather poses for sophisticated communications gear, sensors, and weapons platforms, communications equipment can also suffer significant degradation due to the unique electromagnetic conditions near the poles. This problem is exacerbated by the limited civilian communications infrastructure that could otherwise be used to supplement military capabilities. Finally, many space-based capabilities function poorly or not at all near the poles due to a lack of orbital coverage. Servicing the highest latitudes requires satellites placed in special, highly elliptical orbits. As a result of these issues, highly networked tactical solutions developed for standard latitudes can most likely not be exported to the Arctic without a technical setting of the theater.

The previous comments have focused on the operational level of conflict. At the tactical level, the dynamic is somewhat different; either attack or defense might be superior depending on the context. What is constant is the huge disparity between specialized and nonspecialized forces. As noted in the introduction, unlike in other regions, even the best general-purpose units—those that are otherwise well trained, equipped, and led—will have no military utility if deployed to the Arctic in the harshest months. These units' equipment will not function, and their soldiers

8. Christian Brose, *The Kill Chain: Defending America in the Future of High-Tech Warfare* (New York: Hachette Books, 2020); and US Army Training and Doctrine Command, *The Army in Multi-Domain Operations 2028*, US Army Training and Doctrine Command Pamphlet 525-3-1 (Fort Eustis, VA: US Army Training and Doctrine Command, 2018).

will not survive outside of shelter. Indeed, such units are actually a net loss to the commander saddled with them because they simply create more mouths to feed for an already burdened logistics system and too often patients for medical treatment and evacuation. In sum, the Arctic in wintertime deviates from the normal pattern of military effectiveness, which can be visualized as a spectrum that runs from the most effective (elite units that also have the benefit of specialization in the specific operational environment) to the least effective (poorly trained, equipped, and led forces that are of little use anywhere), with many gradations in between. Operations in extreme cold weather conditions instead effectively sort units into a binary of effective or ineffective, with the latter category including units that would be considered quite good anywhere else. And as noted earlier, this applies to all types of units. Extreme cold weather requires specialized equipment and personnel with the specific knowledge of how to operate and maintain equipment in those conditions. This prerequisite is as true for air defense, engineering, transportation, and signal units as for the infantry.

But these challenges must not be overstated. As noted in the introduction, the Arctic is more than extreme cold weather. Outside winter, it is possible to employ nonspecialist units. During the Nazi invasion of Norway in the late spring of 1940, for instance, though the temperatures were still far from mild, they were mild enough to allow nonspecialized units to take part in the campaign. The campaign featured the full spectrum of unit effectiveness, from specialized German, French, and Norwegian mountain units, through elite but nonspecialized German paratroopers and British territorial army units (similar to the US Army National Guard), to ad hoc infantry units formed from German sailors whose ships had been sunk. Although the bedraggled naval units were mainly and most effectively used in static defensive positions in or near captured Norwegian coastal towns, they were also used in some of the inland offensive operations, though their effectiveness in those cases was as low as one might expect. Nonetheless, this example demonstrates nonspecialist units can be employed to at least some effect in non-winter months. Yet, the performance of the different units throughout the campaign demonstrates even outside winter, there is still some degree of Arctic military exceptionalism still exists in which the disparity in effectiveness between specialist and nonspecialist units is greater than in other regions.[9]

9. John Kiszely, *Anatomy of a Campaign: The British Fiasco in Norway, 1940* (Cambridge, UK: Cambridge University Press, 2017).

This significant advantage of specialized Arctic units and the low force density are the main factors shaping the dynamics of Arctic warfare at the tactical level, which, as earlier noted, can favor either the attack or defense, depending on the situation. Low force density eliminates any possibility of establishing continuous lines, which necessitates employing mobile warfare. Generally, the side with the initiative holds a significant advantage in mobile warfare. This dynamic is even more pronounced in the Arctic for two reasons. First, the inherent nature of the Arctic requires forces operating there to be highly motivated, trained, and equipped; they must be just to survive. Granting such elite forces the initiative is particularly dangerous. Second, unlike in a large, conventional theater where each side is likely to land a series of blows before the campaign culminates, in the Arctic, the number of forces is low, and the distances are vast. It is far more likely that the first blow will be the last, whether for the entire enemy force or, at the least, for one isolated element too distant for reserves to reach in time. This likelihood diminishes the value of the counterattack and increases the likelihood that the side striking first will seize an important advantage, assuming that side's blow is well conceived and executed.

The defense, however, has its own advantages at the tactical level. Mobile warfare is not completely fluid; rather, it features a mixture of maneuver around and between strongpoint defenses centered on important geographic points. In addition to examples of Arctic warfare, interested readers might examine the various desert campaigns of the twentieth century for insights because the dynamics are similar. In the desert, strongpoints are generally focused on settlements or oases with access to water. In the Arctic, strongpoints are likely to focus on critical military infrastructure, supplies, and transportation links. With these locations comes another critical resource: shelter. During winter operations on the Eastern Front in World War II, the focus of local fights might have been a village or farm compound because the side possessing it could rotate soldiers through shelter at night. For a sustained campaign, this factor is not a trivial consideration. Fixed sites are essential for long-term military effectiveness in the Arctic. This potential is even greater for the side that is on the operational defense because these positions can be built up to include better accommodations, prestocked ammunition and supplies, wired communications and sensor networks, and hardened fortifications that might be impossible to construct in wintertime.

The Arctic Dilemma

The consistent themes throughout this chapter are the uniqueness of the Arctic as an operational environment and the need to make monetary and force structure investments before a crisis or conflict occurs. This combination creates an acute dilemma for force generators in a time of constrained military budgets.[10] Simply put, the price of entry for regional military relevance is the creation of dedicated forces and preconflict investment. If the aim is to conduct expeditionary operations, the price is even higher because creating a specialized force projection capability large enough to conduct sustained operations is costly. Making things even more difficult, investments to operate in one area and season of the Arctic might not carry over to others. Airfields and supply caches are not portable, and units configured for one region might be ill-suited to another.

Sharpening the dilemma, the specialization required for Arctic effectiveness likely diminishes the forces' ability to operate elsewhere and their interoperability with general-purpose units. As the US Army primer on institutional strategy notes, militaries have good reason to favor generalist forces that can be used in the widest variety of settings.[11] Specialization for a specific mission increases effectiveness in that setting but often comes at the cost of efficiency and effectiveness elsewhere. Arctic and mountain forces tend to have fewer soldiers at each echelon (platoon, company, and battalion), lighter crew-served weapons (for example, the forces might use a 60-millimeter mortar, whereas a standard unit would use an 81-millimeter variant), and fewer and smaller vehicles. These modifications reduce Arctic and mountain forces' overall logistics demand, which is important if they are used as designed in Arctic and mountain settings. But if these units are suddenly required to deploy to a temperate area of operations, there is only negligible advantage in having a light logistics footprint, and the units would lack combat power "punch." This lack can be mitigated by providing some period of transition to expand organizations, upgrade weapons, and receive a full complement of vehicles, but that mitigation comes at a cost of time and resources from other units. Making these changes would also lessen the effectiveness of what had been an elite unit, diminishing it with a turbulent transition and

10. Mackenzie Eaglen and Hallie Coyne, *The 2020s Tri-Service Modernization Crunch* (Washington, DC: American Enterprise Institute, March 2021).

11. US Army Deputy Chief of Staff, G-3/5/7, *Institutional Strategy*, Army Strategy Note 1-22 (Washington, DC: HQDA, April 1, 2022), 5–6.

an influx of new personnel and equipment. The challenge of sending specialized units to work alongside general-purpose forces is even greater if the specialized units have significantly different equipment that is designed for extreme cold weather and that has bespoke maintenance requirements and supply chains for parts. Of course, these issues are surmountable, but they come at a cost in time, turmoil, and effectiveness.

Thus, one element of the Arctic dilemma is that the region requires tailored organization and equipment, but the more specialized the unit becomes, the more friction it incurs when deployed elsewhere. In a period of high operational tempo, when units are constantly rotating through a host of other missions throughout the world, effectively removing some portion of the force by reserving it for Arctic operations creates a greater burden on the rest of the force.

In addition to this balancing of regional against global demand, another dimension of the Arctic dilemma is the political element. It would be difficult for any chief of defense or army of an Arctic state to renounce the ability to defend a critical portion of that country's sovereign territory. If nothing else than as a point of national pride, Arctic states must have Arctic forces.

Adjudicating these competing demands in the abstract is difficult, but the realities of force generation—budget submissions and unit management—demand specificity. Should the next dollar for prepositioned stocks go to building up stores in the Pacific, Europe, or the Arctic? Does the next satellite launch go toward building out the space infrastructure for all-domain kill webs in normal orbits that support a wide range of missions or for specialized orbits that are largely limited to Arctic missions? Does one remove infantry units in Alaska from global employment except in extremis so they might build Arctic proficiency, or does one stomach the ignominy of units not being effective in their own literal backyard?

These are hard choices that are made harder by the requirement to make them far in advance. The February 2022 war game clarified the limited throughput capacity of the region and revealed that the difficulty of generating highly specific expertise effectively eliminates the traditional US military solution to managing multiple threats: build high-quality general-purpose forces and then overcome the friction of transitioning to a specific mission by overwhelming the problem with resources. In the Arctic, even turning a fire hose of money and personnel

toward the problem would not yield a rapid buildup of capability. Fittingly, the institutional strategy for the Arctic is roughly analogous to the approach to combat in extreme cold weather. Every tactical action that can be performed in other regions can also be performed in the Arctic, but it just takes much, much longer because the cardinal rule is never break into a sweat. Likewise, generating Arctic-capable forces also takes much longer and must start well before a crisis occurs. But how many forces, at what cost, and for which regions, seasons, and missions? These questions constitute the Arctic dilemma.

Selected Bibliography

Chew, Allen F. *Fighting the Russian in Winter: Three Case Studies*, Leavenworth Paper no. 5. Fort Leavenworth, KS: Combat Studies Institute, 1981.

Dzwoncyk, John, and Joel Radunzel. "The Past and Future of Land Warfare in the High North." *Strategy Bridge* (website), May 5, 2020. https://thestrategybridge.org/the-bridge/2020/5/5/the-past-and-future-of-land-warfare-in-the-high-north.

Engle, Eloise, and Lauri Paananen. *The Winter War: The Soviet Attack on Finland 1939–1940*. Mechanicsburg, PA: Stackpole Books, 1973.

Freedman, Lawrence. *The Official History of the Falklands Campaign*, Vol. 2, *War and Diplomacy*. New York: Routledge, 2005.

Grau, Lester W., and Charles K. Bartles, eds. *Mountain Warfare and Other Lofty Problems: Foreign Perspectives on High-Altitude Combat*. Fort Leavenworth, KS: Foreign Military Studies Office, 2011.

Kiszely, John. *Anatomy of a Campaign: The British Fiasco in Norway, 1940*. Cambridge, UK: Cambridge University Press, 2017.

Lynch, Michael E. *Coldest War: Lessons Learned from the Korean War*. Carlisle, PA: Army Heritage and Education Center, 2020.

MacGarrigle, George L. *Aleutian Islands: The US Army Campaigns of World War II*, Center of Military History Publication 72–6. Washington, DC: US Army Center of Military History, 1991.

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Strategic Competition in the North: A Role for US-Canadian Security Cooperation

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Introduction

The world is witnessing significant geopolitical, military, economic, and environmental risks that are ushering in a new era of strategic competition in the Arctic. Strategic competition and great-power competition are used interchangeably in security circles, but this chapter uses strategic competition in place of great-power competition because strategic competition is now the preferred term of art at the National Defense University in Washington, DC. Russia's February 2022 invasion of Ukraine altered the global geopolitical landscape, spilling over into the Arctic. The Arctic Council suspended activity with Russia; Finland and Sweden requested to join NATO; and Russia returned to "Cold War behaviors" such as air and sea incursions in "the sovereign waters of all northern states," including Canada's far north.[1] Risks from these activities are colliding with climate change impacts that have non-Arctic states such as China jockeying for influence over—or outright control of—potential new transportation and trade routes and access to critical minerals, fish stocks, and natural resources. Added to this mix are climate change impacts that are threatening Arctic indigenous peoples' ways of life and posing significant global human, food, and water security challenges.

1. "Canada's Arctic Security Moves to Forefront after Russian Invasion of Ukraine," *Defense Post* (website), March 23, 2022, https://www.thedefensepost.com/2022/03/23/canada-arctic-security-forefront/.

Although peaceful cooperation defined it for decades, the Arctic security environment has shifted. As a result, one must examine the implications of the shifting dynamics for North American interests and, more specifically, the United States and Canada. Arguably, North American Arctic security interests also include Greenland and overlap with other jurisdictions (NATO and the EU) and commands (for example, United States European Command, United States Indo-Pacific Command, and United States Space Command). But these topics are beyond the scope of this chapter. Foreign policy and security circles consider the depth and breadth of the US-Canadian relationship to be unique. The United States has more defense arrangements with Canada than with any other country. Canadian and US armed forces, homeland security and border agencies, intelligence departments, and civilian emergency preparedness agencies have forged hundreds of bilateral partnerships. The United States and Canada have common strategic interests, a joint military history, and geographic proximity. In addition, although not aligned on every issue, these two countries share fundamental values, principles, and a commitment to the rule of law. Most recently, the February 2021 "Roadmap for a Renewed US-Canada Partnership" established an ambitious blueprint for the United States and Canada. This blueprint includes bolstering cooperation on defense and security and launching an expanded US-Canada Arctic Dialogue to cover issues related to military, economic, and human security and Arctic governance.[2] Therefore, the United States and Canada's joint leadership role in the Arctic is natural.[3]

What tools do the United States and Canada collectively have to address Arctic security challenges? For the purposes of this chapter, the authors are including defense operations as well as environmental, economic, and human security concerns in the definition of Arctic security. How might the United States strengthen its collaboration and cooperation with Canada to face these challenges? The first part of the chapter outlines hard power, soft power, and smart power as useful concepts in thinking about US-Canadian engagement in the Arctic. With the reemergence of strategic competition, the changing global order, and the high stakes associated with the current threat of the

2. Joe Biden and Justin Trudeau, "Roadmap for a Renewed US-Canada Partnership," news release, February 23, 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/23/roadmap-for-a-renewed-u-s-canada-partnership/.

3. Thomas Hughes, Danielle Cherpako, and P. Whitney Lackenbauer, *Advancing Collaboration in Canada-US Arctic Regional Security: Workshop Report* (Peterborough, CA: North American and Arctic Defense and Security Network, November 2020).

use of nuclear weapons, the concepts of hard power, soft power, and smart power are just as relevant today as they were more than 30 years ago when first introduced by Joseph S. Nye Jr. from Harvard University's John F. Kennedy School of Government.[4]

The United States is an Arctic nation, yet the Arctic has seldom figured prominently in US defense policy.[5] At the same time, given current challenges, imagining soft power alone could achieve North American objectives in the Arctic is difficult. This chapter suggests a smart-power strategy involving both hard- and soft-power tools under the umbrella of security cooperation offers potential for these two North American allies to meet current and future Arctic challenges.

The second part of this chapter situates security cooperation within the smart-power frame and examines examples of US-Canadian security cooperation in the Arctic. Security cooperation conceivably encompasses a broad array of government (federal, subfederal, and regional) and civil society institutions, networks, and stakeholders. This chapter narrowly examines security cooperation as defined and operationalized by the Department of Defense and the Defense Security Cooperation Agency. The third and final part of the chapter offers reflections on a bilateral approach to Arctic challenges moving forward.

Hard Power, Soft Power, and Smart Power

Security and defense professionals, international lawyers, political scientists, and military strategists are all, in one way or another, interested in power. Simply stated, power is the ability to influence the behavior of others.[6] Historically, power has been measured by territory, population size, natural resources, economic strength, military force, and social stability.[7] But in recent decades, the concept of power has become more nuanced—that is, one nation-state can influence the behavior

4. Joseph S. Nye Jr., *Soft Power: The Means to Success in World Politics* (New York: PublicAffairs Books, 2005), 150n5.

5. Rob Huebert, *United States Arctic Policy: The Reluctant Arctic Power*, School of Public Policy Briefing Paper, vol. 2, iss. 2 (Calgary, CA: University of Calgary, May 2009).

6. Joseph S. Nye Jr., "Public Diplomacy and Soft Power," in *Public Diplomacy in a Changing World*, ed. Geoffrey Cowan and Nicholas J. Cull (Thousand Oaks, CA: SAGE Publications, 2008), 94–109.

7. Center for Strategic and International Studies Commission on Smart Power, *A Smarter, More Secure America* (Washington, DC: Center for Strategic and International Studies, 2007), 6.

of another in one of three ways: coercion and threats, inducements and payments, or attraction that aligns the goals of both nation-states.[8]

Scholars and practitioners of security studies agree hard power refers to a country's use of its military or economic might to achieve its aims and objectives. President Joe Biden's fiscal year 2024 defense budget requested $842 billion for national defense.[9] This amount is more than the defense budgets of China, India, Russia, Saudi Arabia, the United Kingdom, Germany, France, South Korea, Japan, and Ukraine combined.[10] The United States ranks as either the largest or second-largest economy in the world, depending on the metric. When using nominal gross domestic product, the United States ranks first at $20.4 trillion, according to the International Monetary Fund. When using purchasing power parity, the United States ranks second after China.[11] But impressive as these numbers are, conventional wisdom and common sense suggest hard power alone is insufficient to meet US security objectives in the current global environment.

But the United States also has soft power at its disposal. Although it rests on the ability to shape the preferences of others, soft power is more than just influence or persuasion. Soft power is "the ability to entice and attract," with soft-power resources serving as the assets that produce the attraction.[12] Whereas hard power—the ability to coerce—grows out of a country's military or economic might, soft power arises from the attractiveness of a country's culture, values, institutions, and policies.[13] The goals of protecting human rights, promoting democracy, and developing civil society are amenable to soft-power tools.

8. Nye, "Public Diplomacy," 94.

9. Jim Garamone, "Austin Says Budget Request Protects U.S. Today and in Future," Department of Defense (DoD) (website), May 11, 2023, https://www.defense.gov/News/News-Stories/Article/Article/3392933/austin-says-budget-request-protects-us-today-and-in-future/.

10. "U.S. Defense Spending Compared to Other Countries," Peter G. Peterson Foundation (website), April 24, 2023, https://www.pgpf.org/chart-archive/0053_defense-comparison.

11. Andrew Mwaniki, "The World's Largest Economies," WorldAtlas (website), July 18, 2018, https://www.worldatlas.com/articles/the-largest-economies-in-the-world.html; and Kimberly Amadeo, "Largest Economies in the World," Balance (website), May 5, 2021, https://www.thebalancemoney.com/world-s-largest-economy-3306044.

12. Nye, "Public Diplomacy," 95.

13. Nye, *Soft Power*, 8.

Since Joseph S. Nye Jr. first discussed the concept of soft power, it has become a mainstream tool of US statecraft and security policy.[14] Most recently, the United States' 2022 *National Security Strategy* was laden with soft-power terms and phrases.[15] The United States' 2022 *National Strategy for the Arctic Region* also references soft-power instruments, explicitly setting forth one of the four pillars of the strategy as international cooperation and governance.[16] Hence, soft power is real power. Yet, soft power is not necessarily the panacea for current security competition concerns, particularly in the Arctic. Stated another way, just as hard power alone cannot solve our security challenges, soft power may be both necessary and insufficient when used in isolation.

But when a country skillfully combines hard power with soft power, the country can achieve smart power.[17] Smart power is defined as a nation-state's capacity to combine elements of hard power and soft power in mutually reinforcing ways that advance the state's purposes effectively and efficiently.[18] A policy-relevant framework of smart power requires several core considerations, including "know thyself," meaning understanding the goals and capacities of one's country; "know thine enemy," meaning understanding the internal nature and external context of one's opponent; and know the broader regional and geopolitical context. But one core consideration is chief among these considerations: understanding the tools or instruments of statecraft to be deployed. What are the strengths and limitations of each instrument? How should these tools be deployed—individually? Collectively? When should these tools be deployed? What instruments are most appropriate under what circumstances?[19] These questions will be revisited in the third and final part of this chapter.

14. Fen Osler Hampson and I. William Zartman, *Global Power of Talk: Negotiating America's Interests* (London and New York: Routledge, 2012).

15. White House, *National Security Strategy* (Washington, DC: White House, October 2022).

16. White House, *National Strategy for the Arctic Region* (Washington, DC: White House, October 2022).

17. Joseph S. Nye Jr., "Get Smart: Combining Hard and Soft Power," *Foreign Affairs* 88, no. 4 (July/August 2009): 160–63; and Center for Strategic and International Studies Commission on Smart Power, *Smarter, More Secure America*, 7.

18. Ernest J. Wilson III, "Hard Power, Soft Power, Smart Power," *Annals of the American Academy of Political and Social Science* 616, no. 1 (March 2008): 110–24.

19. Wilson, "Hard Power," 115.

Security Cooperation between the United States and Canada in the Arctic

A review of scholarly and policy literature reveals a dearth of attention to the concept of security cooperation. In this chapter, the authors rely on statements made by the Department of Defense indicating security cooperation includes both traditional military alliances and US government programs.[20] According to the Defense Security Cooperation Agency, security cooperation is "building the capacity of foreign partners in order to encourage and enable allies and partners to respond to shared challenges."[21] The Defense Security Cooperation Agency's underlying premise is the United States is made stronger by using security cooperation to attain its strategic objectives. According to the Department of Defense, practitioners of US foreign policy are increasingly regarding security cooperation as a tool of first resort, with some viewing security cooperation as a cornerstone of US defense strategy.

Hard-Power Tools: Alliances

In one of its most obvious forms, security cooperation entails formal alliances, multilateral coalitions, and military-to-military engagements among nation-states. As the *2022 National Defense Strategy of the United States of America* states, "Early and continuous consideration, engagement, and, where possible, collaboration with Allies and partners in planning is essential for advancing our shared interests." The strategy also articulates the defense enterprise should "incorporate Allies and partners at every stage of defense planning."[22]

Four examples of bilateral, military-to-military engagement exist in the North American Arctic context. In addition to North American engagement, the United States and Canada are committed to NATO, which is currently undertaking a review of its position vis-à-vis the Arctic.[23] First, North American Aerospace Defense Command (NORAD), officially established on May 12, 1958, during the initial stages of the

20. Defense Security Cooperation Agency (DSCA), *US Security Cooperation: A Uniquely American Approach* (Washington, DC: DSCA, 2021), Vimeo video, https://vimeo.com/509060005.

21. "Strategic Direction: Mission and Vision," DSCA (website), n.d., accessed on September 23, 2022, https://www.dsca.mil/resources/publications/strategic_plan_2025/strategic_direction_mission_and_vision.

22. DoD, *2022 National Defense Strategy of the United States of America* (Washington, DC: DoD, October 27, 2022), 14.

23. "North American Aerospace Defense Command (NORAD)," Government of Canada (website), March 14, 2018, https://www.canada.ca/en/department-national-defence/services/operations/allies-partners/norad.html.

Cold War, embodies the long-standing, shared commitment of the United States and Canada to protect their respective aerospace domains and maritime approaches to US and Canadian sovereign territory. As the only binational military command in the world, North American Aerospace Defense Command is unique in defense circles. Demonstrating the depth of integrated operations, the United States and Canada participate in joint exercises, including a NORAD air defense exercise that was conducted in August 2020; Vigilant Shield, which is conducted annually; Arctic Edge, which is conducted biennially—most recently, in 2022; the Arctic Collaborative Workshop, which was conducted in 2014 and 2016; and Operation Noble Defender, which was conducted in March 2022. In addition to these NORAD/United States Northern Command exercises, in a paper published by the North American and Arctic Defence and Security Network, Troy Bouffard and his coauthors cite dozens more exercises that take place between the Department of Defense and Arctic allies, including Canada, that involve different services and commands. For example, the Canadian Armed Forces' engagements with US forces outside North American Aerospace Defense Command include the Joint Pacific Multinational Readiness Center, led by the US Army in Alaska; the Arctic Eagle-Patriot exercise, led by the Alaska National Guard; and the Ice Exercise, led by the US Navy.[24]

In the past decade, concerns have been raised about the functionality of North American Aerospace Defense Command as well as the commitment of the United States and Canada to the command. But these concerns seem to be changing. In the August 2021 "Joint Statement on NORAD Modernization," the United States and Canada committed to the following four investment priorities.

1. Investing in capabilities related to enhancing situational awareness, including the establishment of over-the-horizon radar sites to improve coverage of Canada's airspace and to monitor northern approaches to North America.

2. Modernizing command-and-control systems to use data better and more efficiently and to enable more effective military operations.

24. Troy Bouffard et al., *North American Arctic Security Expectations in a New US Administration* (Peterborough, CA: North American and Arctic Defense and Security Network, November 23, 2020), 3.

> 3. Bolstering defeat and support capabilities, including acquiring additional and longer-range air-to-air missiles and refueling capabilities and upgrading Canadian bases used by North American Aerospace Defense Command to support more robust and flexible air operations across northern North America.
>
> 4. Investing in research, development, and innovation, including establishing a dedicated science and technology program for the defense of North America.[25]

On June 20, 2022, Canadian Minister of National Defence Anita Anand announced plans to increase Canada's defense budget and make significant investments in NORAD modernization and continental defense.[26] The plans call for spending $40.4 billion over the next 20 years, with a portion of this increase to be allocated to initiatives aligned with the investment priorities the August 2021 "Joint Statement on NORAD Modernization" established.[27] General Glen D. VanHerck, US Air Force, commander of North American Aerospace Defense Command/United States Northern Command, welcomed these investments.[28]

Second, in addition to North American Aerospace Defense Command, the US-Canadian Permanent Joint Board on Defense, established in 1940 by a joint declaration between the US president and the Canadian prime minister, supports binational defense cooperation. The board, which provides policy-level consultation on bilateral North American defense matters, is jointly led by cochairs designated by the president and prime minister. Four US and Canadian departments are represented on the board: the Department of Defense, the Department of Homeland Security, the Canadian Department of National Defence, and Public Safety Canada. The assistant deputy minister (policy) provides executive support to the cochairs who represent the Department

25. David Vergun, "Canada Plans to Increase Spending on North American Defense," Secretary of the Air Force International Affairs (website), September 19, 2022, https://www.safia.hq.af.mil/IA-News/Article/3167136/canada-plans-to-increase-spending-on-north-american-defense/; and Lloyd James Austin III and Harjit Sajjan, "Joint Statement on NORAD Modernization," news release, August 17, 2021, https://www.defense.gov/News/Releases/Release/Article/2735041/joint-statement-on-norad-modernization/.

26. "Minister Anand Announces Continental Defense Modernization to Protect Canadians," Government of Canada (website), June 20, 2022, https://www.canada.ca/en/department-national-defence/news/2022/06/minister-anand-announces-continental-defence-modernization-to-protect-canadians.html.

27. Vergun, "Canada Plans."

28. Vergun, "Canada Plans."

of National Defence and the assistant secretary of defense for homeland defense and hemispheric affairs.[29]

As useful as the forum is in advancing binational defense and security cooperation, the Permanent Joint Board on Defense has been underleveraged in both Washington, DC and Ottawa.[30] Some have gone so far as to say the board needs life support.[31] Nonetheless, US-Canadian observers cannot forget this forum offers direct access to the president and prime minister. Although it did not meet in 2020, the board celebrated its 80th anniversary in Washington, DC, in 2021. In June of that year, the US cochair, Dr. Mara Karlin, the acting assistant secretary of defense for international security affairs, and the Canadian cochair, the Honorable John McKay, "reviewed a framework to guide NORAD modernization efforts."[32] In October 2022, the board met in Ottawa to discuss security concerns.[33]

Third, the Canadian Strategic Joint Staff (cochair, Strategic Joint Staff DJ5) and the US Joint Staff (cochair as well as vice director, Strategy, Plans, and Policy Directorate/deputy director, Bureau of Western Hemisphere Affairs and Bureau of Political-Military Affairs) jointly host the Canada-United States Military Cooperation Committee.[34] Established in 1946 to revise the Canadian-US defense plan after World War II, the Military Cooperation Committee serves as the principal strategic connection between the Canadian and US joint military staffs and reports to the Permanent Joint Board on Defense.[35] The Military Cooperation Committee meets biannually, alternating between Ottawa and Washington, DC. Although the committee has the capacity to advance

29. Randy Kee, "US-Canada Arctic Collaboration: Research, Security, and Environmental Considerations," in *The United States and Canada: Agenda 2021*, ed. Jacqueline Orr (Washington, DC: Woodrow Wilson International Center for Scholars Canada Institute, 2022), 22–25.

30. Kee, "US-Canada Arctic Collaboration," 23.

31. *Parliament of Canada, House of Commons, 1st Session, Standing Committee on Foreign Affairs and International Development*, 42nd Parliament 111 (2018) (statement of Andrea Charron, director and associate professor, Center for Defense and Security Studies, University of Manitoba), as quoted in Nicholas Glesby, *The Permanent Joint Board on Defense: Foundational to 'Limbo' to a Renewed Purpose?* (Peterborough, CA: North American and Arctic Defense and Security Network, 2021).

32. Glesby, *Permanent Joint Board*.

33. Defense Media Activity, "Readout of Secretary of Defense Lloyd J. Austin III's Call with Canadian Minister of National Defense Anita Anand," news release, October 26, 2022, https://www.defense.gov/News/Releases/Release/Article/3200598/readout-of-secretary-of-defense-lloyd-j-austin-iiis-call-with-canadian-minister/.

34. Kee, "US-Canada Arctic Collaboration," 23.

35. Kee, "US-Canada Arctic Collaboration," 23; and "North American Aerospace Defense Command."

intercessional work for the Permanent Joint Board on Defense, the former has yet to realize such an effort.[36]

Fourth, the United States and Canada have the "tri-command," a complementary defense arrangement through North American Aerospace Defense Command. The tri-command comprises North American Aerospace Defense Command, United States Northern Command, and Canadian Joint Operations Command.[37] The mission of the tri-command is to make North America safe and secure with air and ground missions that balance each other. The tri-command meets annually to discuss operations, exercises, and plans.[38]

Hard-Power Tools: Arms Sales

The Defense Security Cooperation Agency provides several formalized security cooperation partnerships and programs. According to its website, the agency's programs include civilian harm mitigation, humanitarian assistance, international education and training, institutional capacity building, global training and equipment, golden sentry end-use monitoring, and defense trade and arms transfers.[39] Most relevant to the Arctic is foreign military sales and concomitant export controls, which were added to the security cooperation toolkit with the passage of the Foreign Assistance Act of 1961.[40] Having evolved since then, the act's framework includes measures that ensure ceilings for foreign military sales and increased congressional oversight.[41] Further legislation now limits these sales, mandates end-use monitoring of defense articles and services, and provides the statutory basis for direct commercial sales between US companies and external ones.[42] Finally, policies are currently in place that promote restraint in arms transfers and place the burden of persuasion on those who are in favor of a particular arms sale, rather than on those who are against a sale. This shift was undertaken in 1977 by the Carter administration, which developed the first conventional arms transfer policy. Almost every subsequent administration has continued some variation of the conventional arms transfer policy.

36. Kee, "US-Canada Arctic Collaboration," 23.

37. Kee, "US-Canada Arctic Collaboration," 23; and "North American Aerospace Defense Command."

38. "North American Aerospace Defense Command."

39. "Programs," DSCA (website), n.d., accessed on September 23, 2022, https://www.dsca.mil/programs.

40. Congressional Findings and Declaration of Policy, 22 U.S.C. § 2151 (2016).

41. Foreign Military Sales Act, Pub. L. No. 90–629, 82 Stat. 1320–22 (1968).

42. Need for International Defense Cooperation and Military Export Controls; Presidential Waiver; Report to Congress; Arms Sales Policy, 22 U.S.C. § 2751 (1976).

The United States regularly supplies weapons, systems, and training to Canada. Foreign military sales include the Multifunctional Information Distribution System Joint Tactical Radio System, which Canada acquired to upgrade its inventory of McDonnell Douglas CF-18 Hornet fighter jets. The country recently used the jets to conduct Arctic air training. In addition, the acquired system will make Royal Canadian Air Force ground stations fully interoperable with US and allied forces.[43]

Soft-Power Tools: Education

The International Military Education and Training Program is a tool for training and educating the United States' allies and partners. The program is a Title 22 Department of State program, but the Department of Defense implements the program. The International Military Education and Training Program provides a variety of education and training opportunities to allies and partners. In fiscal year 2019 alone, with a budget of $117.9 million, the program provided training and education to students from 128 countries.[44] The intent of the program is to use education and training to strengthen coalitions and partnerships that are critical to US national security objectives.[45] Alongside this program, the Department of Defense funds and manages the Regional Defense Fellowship Program, which also uses training and education to promote partnerships and strengthen global networks. In fiscal year 2019, with a budget of $24 million, this program trained international military personnel from 119 countries.[46] In the area of US-Canadian security cooperation, the Regional Defense Fellowship Program supports Canada's participation in the United States Special Operations Command

43. "Royal Canadian Air Force Conducts Fighter Training in the High Arctic," Government of Canada (website), January 21, 2021, https://www.canada.ca/en/department-national-defence/news/2021/01/royal-canadian-air-force-conducts-fighter-training-in-the-high-arctic.html; and Department of State Office of Congressional and Public Affairs, "Canada – Multifunctional Information Distribution System – Joint Tactical Radio System (MIDS-JTRS)," DSCA news release no. 19-35, July 30, 2019, https://www.dsca.mil/press-media/major-arms-sales/canada-multifunctional-information-distribution-system-joint-tactical.

44. DoD and Department of State, *Foreign Military Training Report Joint Report to Congress: Fiscal Years 2019 and 2020* (Washington, DC: DoD and Department of State, 2019), as cited in Lori L. Leffler, "Human Networks Impact on the National Security Strategy" (unpublished manuscript, 2022), Microsoft Word file.

45. "Key Topics – Office of Security Assistance," Department of State (website), n.d., accessed on September 23, 2022, https://www.state.gov/about-us-office-of-security-assistance/, as cited in Leffler, "Human Networks Impact."

46. Dennis Walters, interview by Lori L. Leffler, March 30, 2022, as cited in Leffler, "Human Networks Impact."

Sovereign Challenge conference as well as the Joint Special Operations Master of Arts Program at the College of International Security Affairs.[47]

The International Military Education and Training Program and the Regional Defense Fellowship Program bring the United States, Canada, and other nations to the table to develop international collaboration further. Many countries depend on these programs to train their militaries and educate their leaders. For instance, Canada developed its training program in coordination with the Department of National Defence foreign military out-service training and US military departments. Canada and other countries often send individuals to the United States multiple times throughout the individuals' careers for educational opportunities. Additionally, the relationships built among participants are equally important.[48] As international participants return to their home countries, many move into more senior positions and make recommendations or decisions about their countries' strategic plans or military actions, as do their American counterparts. These relationships develop into networks that have been shown to build trust among nations.[49]

A by-product of security cooperation education is the opportunity to develop human networks.[50] Going forward, the United States and Canada have the potential to map and develop a network of people and organizations that would facilitate rapid international communications that can be used to identify anticipated risks and develop innovative risk mitigation strategies before the risks become threats.

Soft-Power Tools: Regional Centers as Capacity Building

The United States' 2017 National Defense Authorization Act strengthened the Defense Security Cooperation Agency's ability to deliver numerous soft-power tools that continue to support US interests with the cooperation of the Department of State.[51] Most notably, in 2019, this legislation led to the creation of the Defense Security Cooperation University, which is the Department of Defense's center of excellence for security cooperation education, training, development, research,

47. Dennis Walters, interview by the authors, September 4, 2022.

48. Leffler, "Human Networks Impact."

49. Lori L. Leffler, "Education's Influence on International Peace and Security" (unpublished paper, 2022), Microsoft Word file.

50. "Critical Thinking: Where to Begin," Foundation for Critical Thinking (website), n.d., accessed on April 17, 2022, https://www.criticalthinking.org/pages/critical-thinking-where-to-begin/796, as cited in Leffler, "Human Networks Impact."

51. National Defense Authorization Act for Fiscal Year 2017, Pub. L. No. 114-328, 130 Stat. 2000.

and institutional capacity building. The university is universally recognized as the leading academic institution for security cooperation knowledge and practice.[52]

In addition to providing education, the Defense Security Cooperation University supports the Office of the Under Secretary of Defense for Policy by managing executive agency oversight of the Department of Defense's six regional centers for security studies, which are charged with building strong, sustainable international networks of security leaders. The regional centers include the George C. Marshall European Center for Security Studies in Garmisch-Partenkirchen, Germany; the Daniel K. Inouye Asia-Pacific Center for Security Studies in Honolulu, Hawaii; the William J. Perry Center for Hemispheric Defense Studies in Washington, DC; the Africa Center for Strategic Studies in Washington, DC; the Near East South Asia Center for Strategic Studies in Washington, DC; and the Ted Stevens Center for Arctic Security Studies, which was recently approved in fiscal year 2021. These centers are international venues for bilateral and multilateral research, communication, the exchange of ideas, and training involving the United States and foreign military, civilian, and nongovernmental participants.[53] In addition, these centers offer executive-level educational and professional development programs and resources, including strategic and security studies, research and publications, and outreach programs.[54]

The goals of the Department of Defense's regional centers are to foster long-term collaborative relationships, develop and sustain relationships and communities of interest among security practitioners and national security establishments throughout the respective regions, and enhance partnerships worldwide. The intended audience of these programs includes senior military and civilian policymakers as well as practitioners and stakeholders outside the usual government defense and security institutions. For example, participants come from foreign ministries, justice departments, law enforcement organizations, parliament or legislative

52. "About DCSU," Defense Security Cooperation University (website), n.d., accessed on September 16, 2022, https://www.dscu.edu/about#hsty.

53. "DoD Regional Centers," DSCA (website), n.d., https://www.dsca.mil/dod-regional-centers-rc; and "DSCA's Components and the DoD Regional Centers," DSCA (website), n.d., accessed on September 16, 2022, https://www.dsca.mil/50th-anniversary/dscas-components-and-dod-regional-centers.

54. "DoD Regional Centers"; and "DSCA's Components."

bodies, or nongovernmental and international organizations.[55] In terms of demographic diversity, 30 percent of participants are women.[56]

Ted Stevens Center for Arctic Security Studies

To demonstrate its commitment to the Arctic, the Department of Defense established the Ted Stevens Center for Arctic Security Studies as the sixth regional center. This center serves as the soft-power complement to the Department of Defense's hard-power investments in and across the Arctic region. An instrument of Arctic policy and security cooperation, the center is located near the region at 61+ degrees north. The vision of the center is to advance a network of civilian and military practitioners by promoting understanding and providing collaborative security solutions for the Arctic region. The center's mission is to build strong, sustainable, domestic and international networks of security leaders and to promote and conduct research that focuses on Arctic security, thereby advancing Department of Defense security priorities in the region.

The Ted Stevens Center for Arctic Security Studies intends to promote its mission through three pillars: research and analysis, executive education, and engagement and outreach. Specifically, the center aims to "advance Arctic awareness, both among partners and within the increasingly professionalized field of US Arctic service;" advance Department of Defense Arctic priorities; "reinforce the rules-based order in the Arctic;" and implement the priorities of the 2022 *National Security Strategy* and the 2022 *National Strategy for the Arctic Region*.[57] The value proposition is, through delivering education, analysis, and symposia, the center will prepare security professionals, propose valuable solutions, and enhance international human networks to ensure a stable, rules-based order in the Arctic that will benefit the United States and all Arctic nations.

The Ted Stevens Center for Arctic Security Studies intends to add value to and support the US-Canadian relationship through robust research, education, and engagement. For instance, the center could serve as an Arctic secretariat, providing both the Permanent Joint Board on Defense and the Military Cooperation Committee with a dedicated staff of professionals who will be "rightly networked across the Canadian

55. "DSCA's Components."

56. "DSCA's Components."

57. "About the Ted Stevens Center for Arctic Security Studies," Ted Stevens Center for Arctic Security Studies (website), n.d., accessed on September 16, 2022, https://tedstevensarcticcenter.org/about/.

and American security and defense professional community to support intercessional studies and analysis" that are important to both organizations.[58] Other goals of the center are to support the Permanent Joint Board on Defense and the Military Cooperation Committee and to facilitate connections among other Arctic security and defense centers, such as the Polar Institute and the Canada Institute at the Woodrow Wilson International Center for Scholars, the Arctic Domain Awareness Center at the University of Alaska, the US Coast Guard Academy Center for Arctic Study and Policy, the University of Alaska Fairbanks' Center for Arctic Security and Resilience, the University of Idaho Center for Resilient Communities, and the North American and Arctic Defense and Security Network at Trent University in Canada.[59]

Conclusion

Over 15 years ago, the US government was criticized for not integrating hard and soft power into a coherent, smart-power framework to guide national security.[60] The security cooperation tools highlighted in this chapter suggest the US government—specifically, the Department of Defense—has learned both hard- and soft-power tools are important to national security. In the context of US-Canadian engagement in the Arctic, security cooperation encompasses hard-power tools, such as alliances and arms transfers, as well as the soft-power tools of education and institutional capacity building through regional centers such as the Ted Stevens Center for Arctic Security Studies. Soft-power tools hold significant promise as a security cooperation tool for the United States and Canada, especially in the cases of US-Canadian human networks addressing Arctic strategic concerns as well as the Ted Stevens Center for Arctic Security Studies serving as a possible secretariat to the Military Cooperation Committee and the Permanent Joint Board on Defense.

The Department of Defense's commitment to soft-power instruments and the imperatives of smart power were recently reinforced. In September 2022, the Office of the Under Secretary of Defense for Policy, the Defense Security Cooperation Agency, and the National Defense University reiterated a values-based approach to security

58. Kee, "US-Canada Arctic Collaboration," 23; and Randy Kee, interview by the authors, October 2, 2022.

59. Kee, "US-Canada Arctic Collaboration," 23.

60. Wilson, "Hard Power," 115.

cooperation. These organizations launched the Department of Defense's first learning agenda for security cooperation: the Learning and Evaluation Agenda for Partnerships. The purpose of this program is to help the Department of Defense to identify the most urgent knowledge gaps in the security cooperation community and to coordinate research to fill these gaps with evidence-based initiatives over the next five years. The Learning and Evaluation Agenda for Partnerships will prioritize who and what the Department of Defense invests in; focus on sustainable impact; and adopt a holistic, integrated approach to how the Department of Defense executes security cooperation programs.[61]

Notwithstanding this commitment and other recent actions by the Department of Defense to ensure strategies and policies protect the Arctic, more can be done to sequence and integrate smart-power instruments into a bilateral Arctic strategy. These actions include establishing the Arctic Strategy and Global Resilience Office.[62] A bilateral strategy in the Arctic based on smart power would address the capacity problems facing US and Canadian Arctic security.[63] Projecting smart power would, of course, include considerations such as surveillance, ballistic missile defense, and the strategic use of submarines.[64] Projecting smart power would also include strategically leveraging human networks and regional centers like the Ted Stevens Center for Arctic Security Studies, which serve as force multipliers in national security.[65] Projecting smart power is undoubtedly a complex task. Understanding and responding to Arctic challenges require an awareness of a rich and deep network of interconnected issues framed within an evolving context in which broadly defined security threats to the people living and working in the Arctic are increasingly intertwined with global interests, drivers, and dynamics.[66] Yet taking the Department of Defense's commitment to the Arctic and smart-power tools to the next level is imperative.

61. Claudette Roulo, "DoD Security Cooperation Takes 'LEAP' Forward," DoD (website), September 9, 2022, https://www.defense.gov/News/News-Stories/Article/Article/3154198/dod-security-cooperation-takes-leap-forward/; and "DoD Establishes First Learning Agenda for Security Cooperation," DoD (website), July 8, 2022, https://www.defense.gov/News/Releases/Release/Article/3087731/dod-establishes-first-learning-agenda-for-security-cooperation/.

62. Jim Garamone, "DoD Establishes Arctic Strategy and Global Resilience Office," DoD (website), September 27, 2022, https://www.defense.gov/News/News-Stories/Article/Article/3171173/dod-establishes-arctic-strategy-and-global-resilience-office/.

63. Lindsay Rodman, *The Pentagon's Arctic Strategies Reveal the Benefit of a North American Approach* (Calgary, CA: Canadian Global Affairs Institute, May 2020).

64. Rodman, *Pentagon's Arctic Strategies*, 4.

65. Leffler, "Human Networks Impact."

66. Hughes, Cherpako, and Lackenbauer, *Advancing Collaboration*, 3.

Returning to the core components of a policy-relevant smart-power framework, the following questions remain unanswered: How can the United States and Canada engage more meaningfully to increase cooperation on mutual security interests? What are the US and Canadian joint goals and capacities in the Arctic? What assumptions and cognitive biases underlie the understanding of Russian and Chinese objectives and behavior in the Arctic? What are the strengths and limitations of US-Canadian defense arrangements, military sales, educational training, and network building? What tools are most appropriate under what circumstances? How can hard and soft tools be deployed in the Arctic to maximize bilateral objectives in the defense and climate change realms? When should these tools be deployed? Addressing these questions as partners with shared interests and values would take North American leaders a long way toward securing the Arctic for generations to come.

Selected Bibliography

Bouffard, Troy, et al. *North American Arctic Security Expectations in a New US Administration*. Peterborough, CA: North American and Arctic Defense and Security Network, November 23, 2020.

Hughes, Thomas, Danielle Cherpako, and P. Whitney Lackenbauer. *Advancing Collaboration in Canada-US Arctic Regional Security: Workshop Report*. Peterborough, CA: North American and Arctic Defense and Security Network, November 2020.

Kee, Randy. "US-Canada Arctic Collaboration: Research, Security, and Environmental Considerations." In *The United States and Canada: Agenda 2021*. ed. Jacqueline Orr. Washington, DC: Woodrow Wilson International Center for Scholars Canada Institute, 2022.

Nye Jr., Joseph S. "Get Smart: Combining Hard and Soft Power." *Foreign Affairs* 88, no. 4 (July/August 2009).

Nye Jr., Joseph S. "Public Diplomacy and Soft Power," in *Public Diplomacy in a Changing World*, ed. Geoffrey Cowan and Nicholas J. Cull. Thousand Oaks, CA: SAGE Publications, 2008.

Nye Jr., Joseph S. *Soft Power: The Means to Success in World Politics*. New York: PublicAffairs Books, 2005.

White House. *National Security Strategy*. Washington, DC: White House, October 2022.

White House. *National Strategy for the Arctic Region*. Washington, DC: White House, October 2022.

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When Great Power Fails: Russia, Ukraine, and the New Arctic Geopolitics

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Introduction

After more than 30 years of successful international cooperation in the Arctic, the peaceful regional order established after the Cold War has profoundly changed. Already strained by the intersecting effects of climate change and increasing geopolitical competition, the rules-governed Arctic system was shaken by the Russian Federation's initial invasion of Ukraine in 2014, then shattered when that invasion expanded on February 24, 2022. Cooperation among all eight Arctic states has been one of the leading political casualties of Russia's aggressive behaviour, given, first, the imposition of Western sanctions after Russia annexed Crimea and, second, the pause on all Arctic Council activities involving Russia when it escalated the conflict further. The invasion of Ukraine has cemented a new Arctic geopolitics of confrontation between the Arctic seven (A-7) bloc of capitalist democracies (Canada, Denmark, Finland, Iceland, Norway, Sweden, and the United States), likely all soon to be NATO allies, and an authoritarian and mercantilist Russia.

Yet today, despite Russia's indiscriminate attacks on civilian targets, alleged commission of war crimes and humanitarian atrocities, and threatened use of nuclear weapons, the tide of war in Ukraine may be turning against Russia and changing the conditions of possibility for the international

order that will follow.[1] This chapter explores what a likely Russian defeat in Ukraine means for the future of Arctic cooperation. The fragmentation of the Arctic security region was already underway due to climate change and increasing geopolitical competition. Russia's invasions of Ukraine in 2014 and 2022 created inflection points in Arctic geopolitics and the possibility of a Russian defeat that would allow for restored pan-Arctic cooperation. This chapter also explores two historical precedents for reintegrating Russia into the Arctic and international communities following the country's military defeat. As during the Cold War, environmental diplomacy offers valuable opportunities to advance environmental and climate goals in the Arctic, allowing Russia to make material amends for its aggression and facilitating its reentry into a rules-based international order.

The Fragmenting Arctic Security Region

The Arctic is undergoing the second fundamental change in its regional security dynamics in around 30 years.[2] The first was the shift away from Cold War hostility toward peace and dynamic interstate cooperation. Although the Arctic has always been characterized by states' pursuit of their national interests, the dominant political discourse and practice after the end of the Cold War emphasized cooperation, common interests, and interconnectedness, exemplified by the shared vision of "One Arctic" region.[3] The second change in Arctic security dynamics is the shift away from this integrated security region toward a fragmented one in which security is no longer determined at the pan-Arctic level. The primary causes of the Arctic security region's fragmentation are climate change and increased geopolitical competition.[4] The widely observed climate impacts in the polar regions are increasingly undermining the ecological basis for

1. Associated Press, "Zelenskyy Calls Kherson Liberation 'Beginning of the End of the War,'" *CBC News* (website), November 14, 2022, https://www.cbc.ca/news/world/russia-ukraine-war-kherson-1.6650562.

2. Wilfrid Greaves, "Arctic Break Up: Climate Change, Geopolitics, and the Fragmenting Arctic Security Region," in *Arctic Yearbook 2019: Redefining Arctic Security* (Rovaniemi, FI: Thematic Network on Geopolitics and Security, 2019), 1–17.

3. P. Whitney Lackenbauer, Heather Nicol, and Wilfrid Greaves, eds., *One Arctic: The Arctic Council and Circumpolar Governance* (Ottawa, CA: Canadian Arctic Resources Committee and Centre for Foreign Policy and Federalism, 2017).

4. Greaves, "Arctic Break Up."

pan-Arctic politics.[5] As climate records continue to be broken across the Arctic, dramatic changes include more extreme seasonal variation, reduced sea ice, receding glaciers, diminished snow cover, thawing permafrost, changing terrestrial water systems, invasive species, temperatures increasing at three to four times the global average, and other stressors on plant and animal populations. Without a distinct environment characterized by shared, similar features that link the northern regions of the Arctic states, the very idea of the Arctic as a coherent region is eroded.

Some researchers describe the physical effects of climate change on the Arctic Ocean as "Atlantification" and "Pacification," referring to the northward intrusion of warm water, nutrients, and fauna from neighbouring oceans. While researchers struggle to keep pace with the effects of climate change in the region, "the Atlantification and Pacification of the Arctic Ocean will only intensify in the coming decades as the world continues to warm and the Arctic becomes increasingly ice-free."[6] Though characterized by its frigid climate and the frozen ocean that forms its core, the Arctic is predicted to be free of summer sea ice by the middle of this century, marking a radical alteration to the defining physical feature of the northern polar region.[7] Long perceived as distinct from the rest of the world due to its unique environment, the Arctic will increasingly resemble other ecosystems.

Climate change catalyzed renewed interstate competition in the region due to increasingly navigable Arctic waters that facilitate new shipping routes and access to previously inaccessible natural resources. When the Arctic Ocean was frozen for most of the year, states had little incentive to quarrel over maritime boundary disputes or jurisdiction over resources beyond the reach of extractive technologies. But with sea ice receding by over 12 percent per decade, reaching an historic low nearly 50 percent below the average 1979–2000 extent in the summer of 2012, states have paid greater attention to their Arctic boundaries

5. Susan Joy Hassol, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment Overview Report* (Cambridge, UK: Cambridge University Press, 2004); Hans-Otto Pörtner et al., eds., *Climate Change 2022: Impacts, Adaptation, and Vulnerability: Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK: Cambridge University Press, 2022); and Joan Nymand Larsen et al., "Polar Regions," in *Climate Change 2014: Impacts, Adaptation, and Vulnerability: Part B: Regional Aspects*, ed. Vicente R. Barros et al. (Cambridge, UK: Cambridge University Press, 2014).

6. Cheryl Katz, "Alien Waters: Neighboring Seas Are Flowing into a Warming Arctic Ocean," *Yale Environment 360* (website), May 10, 2018, https://e360.yale.edu/features/alien-waters-neighboring-seas-are-flowing-into-a-warming-arctic-ocean.

7. Muyin Wang and James E. Overland, "A Sea Ice Free Summer Arctic within 30 Years?," *Geophysical Research Letters* 36, no. 7 (April 2009): 1–5.

and interests.[8] At stake is control over shipping lanes, fisheries, minerals, and hydrocarbons, which are coveted by both Arctic and non-Arctic states that have increased their military and civilian assets and capabilities in the region.[9]

Atlantification and Pacification can also describe the fragmentation of the Arctic into distinct North American, European, and Eurasian subregions that "possess a degree of security interdependence sufficient both to establish them as a linked set and to differentiate them from surrounding security regions."[10] This fragmentation does not mean these subregions or the actors within them have nothing to do with each other or the security conditions in each region are entirely distinct. Rather, the erosion of a common ecological foundation and sense of shared political purpose across the Arctic means security dynamics in each subregion will be determined by the distinct political dynamics of the broader North American, European, and Eurasian security regions that extend northward. The practices of amity and enmity that produce regions as cooperative or conflictual spaces will principally occur at the subregional level and involve subregional actors, marking the end of the Arctic as its own security region.

The fragmentation of the Arctic security region does not make interstate conflict inevitable or even more likely. All eight Arctic states as well as increasingly important non-Arctic states like China have repeatedly reaffirmed their commitments to a peaceful and rules-governed Arctic order based on international law and the peaceful negotiation of disputes. As a result, until recently, most Arctic states identified no immediate military threat in or to the region.[11] But the United States has increasingly emphasized Arctic military capabilities within the contexts of geostrategic competition and American homeland defence, and the deterioration in Russia's relations with the West has led the former to adopt more combative language in its Arctic policies.[12] Some analyses still conflate "threats through, to, and in the Arctic" that should be differentiated

8. "Arctic Sea Ice Minimum Extent," NASA (website), n.d., accessed on June 30, 2023, https://climate.nasa.gov/vital-signs/arctic-sea-ice/.

9. Donald L. Gautier et al., "Assessment of Undiscovered Oil and Gas in the Arctic," *Science* 324, no. 5931 (May 2009): 1175–79; and Rob Huebert et al., *Climate Change and International Security: The Arctic as a Bellwether* (Arlington, VA: Center for Climate and Energy Solutions, 2012).

10. Barry Buzan and Ole Wæver, *Regions and Powers: The Structure of International Security* (Cambridge, UK: Cambridge University Press, 2003), 47–48.

11. Lassi Heininen et al., *Arctic Policies and Strategies—Analysis, Synthesis, and Trends* (Laxenburg, AT: International Institute for Applied Systems Analysis, 2020).

12. Malte Humpert, "Russia Amends Arctic Policy Prioritizing 'National Interest' and Removing Cooperation within Arctic Council," *High North News* (website), February 23, 2023, https://www.highnorthnews.com/en/russia-amends-arctic-policy-prioritizing-national-interest-and-removing-cooperation-within-arctic.

from each other when assessing military activities in the region.[13] For instance, although the Arctic's vast resource wealth has often been identified as a potential source of conflict, the majority is believed to lie in undisputed sovereign territory relatively close to shore, and doubts remain about the viability of developing these resources, making major conflict unlikely.[14] Moreover, given the priority Arctic actors—especially, Russia—place on natural resource development, they are unlikely to pursue conflict that would disrupt their capacity to conduct business as usual and export commodities to the global market.[15] Although some observers have expressed worries over an emerging Arctic security dilemma, conflict in the Arctic is still more likely to be caused by outside effects spilling into the circumpolar region than by overt competition over the Arctic itself. [16]

Ukraine and the New Arctic Geopolitics

The diplomatic deterioration between Russia and the Arctic seven began in 2007, when a small submarine piloted by a noted Russian explorer and parliamentarian planted a Russian flag on the Arctic Ocean floor at the geographic North Pole. Though not legally significant, this episode launched a round of finger-pointing in which other Arctic states linked the flag planting and Russian efforts to claim an extended continental shelf under the UN Convention on the Law of the Sea (UNCLOS) to a strategy of post–Cold War revanchism.[17] Russia's subsequent renewal of Cold War–era military activities, such as long-range bomber patrols and the "buzzing" of neighbours' airspace, led to reinvestment in Arctic military capabilities and infrastructure across the region.[18] Although actual

13. P. Whitney Lackenbauer, *Threats through, to, and in the Arctic: A Framework for Analysis* (Peterborough, CA: North American and Arctic Defence and Security Network, March 23, 2021).

14. Kathrin Keil, "The Arctic: A New Region of Conflict? The Case of Oil and Gas," *Cooperation and Conflict* 49, no. 2 (June 2014): 162–90.

15. Alexander Sergunin, "Russia and Arctic Security: Inward-Looking Realities," in *Breaking Through: Understanding Sovereignty and Security in the Circumpolar Arctic*, ed. Wilfrid Greaves and P. Whitney Lackenbauer (Toronto: University of Toronto Press, 2021), 117–36.

16. Kristian Åtland, "Interstate Relations in the Arctic: An Emerging Security Dilemma?," *Comparative Strategy* 33, no. 2 (2014): 145–66.

17. Klaus Dodds, "Flag Planting and Finger Pointing: The Law of the Sea, the Arctic, and the Political Geographies of the Outer Continental Shelf," *Political Geography* 29, no. 2 (February 2010): 63–73.

18. Åtland, "Interstate Relations"; Andrew Chater and Wilfrid Greaves, "Security Governance in the Arctic," in *Handbook on Governance and Security*, ed. Jim Sperling, (Northampton, MA: Edward Elgar Publishing, 2014), 123–47; and Andrew Chater, Wilfrid Greaves, and Leah Sarson, "Assessing Security Governance in the Arctic," in *Routledge Handbook of Arctic Security*, ed. Gunhild Hoogensen Gjørv, Marc Lanteigne, and Horatio Sam-Aggrey (London: Routledge, 2020), 43–56.

spending often fell short of commitments, these factors combined to form a dominant narrative of a militarized race for Arctic territory and resources.[19]

The relationship between Russia and its Arctic neighbours became even more strained in 2014, when Russia invaded and illegally annexed the Ukrainian region of Crimea following the overthrow of the pro-Russian president of Ukraine in a US-backed popular revolution.[20] Russia also launched an unconventional armed conflict in eastern Ukraine that claimed more than 14,000 lives. Western states imposed sanctions on Russian individuals, companies, and officials, and Russia retaliated, causing its relations with the Arctic members of NATO (Canada, Denmark, Iceland, Norway, and the United States) to decline to the lowest level since the Cold War. The five Nordic countries began unprecedented military cooperation with each other, the nearby Baltic states, and NATO, while Russia, NATO, and some EU members increased their military activities in northern Europe and conducted the largest Arctic military exercises since the Cold War.

The One Arctic regional order was built on three pillars: privileging the role and interests of the Arctic states, emphasising the Arctic Council as the premier forum for regional cooperation, and limiting the regional role of NATO—which was founded, after all, as a defensive alliance against the Soviet Union. All three pillars had already come under strain before Russia's invasion of Ukraine but nonetheless persevered. The Arctic eight remained the recognized club of circumpolar states, operating through their privileged status as members of the Arctic Council even when other fora for regional cooperation were suspended after 2014 and seeking to limit the intrusion into Arctic governance of non-Arctic states, including both China and the non-Arctic members of NATO.[21]

But Russia's expanded invasion of Ukraine rapidly accelerated the deterioration of international cooperation in the Arctic, and the ensuing collapse in Russia's relations with the Arctic seven as well as diplomatic developments since indicate the pillars of Arctic geopolitics are undergoing

19. Mathieu Landriault, "Public Opinion on Canadian Arctic Sovereignty and Security," *Arctic* 69, no. 2 (June 2016): 160–68.

20. Danita C. Burke and Jon Rahbek-Clemmensen, "Debating the Arctic during the Ukraine Crisis—Comparing Arctic State Identities and Media Discourses in Canada and Norway," *Polar Journal* 7, no. 2 (2017): 391–409.

21. Chater, Greaves, and Sarson, "Assessing Security Governance"; and Wilfrid Greaves, "The New Arctic Geopolitics," Royal United Services Institute (website), May 5, 2022, https://rusi.org/explore-our-research/publications/commentary/new-arctic-geopolitics.

significant revision. The Arctic Council has been a major casualty of the Russia-Ukraine War. Shortly after Russia's expanded invasion in February 2022, the A-7 states issued a rare joint statement pausing their involvement in all council activities. The states announced they would attend no meetings in Russia, which, given Russia held the council's rotating chairmanship, effectively suspended the political activities of the council indefinitely.

Sanctioned and isolated from access to Western investment capital and technological resources, Russia has become even more reliant on its relationship with China. Already, Sino-Russian cooperation—namely, Chinese investment in Russian fossil-fuel exports and increased shipping along the Northern Sea Route—has been a defining feature of the Eurasian Arctic subregion. The longer Russia is cut off from Western capital, the more the country will come to rely on China.[22] Thus, as China seeks to grow its polar influence and activities in line with its Arctic strategy, Russia will have little choice but to comply.

Meanwhile, NATO is likely to expand its activities and deepen its strategic posture in the Arctic. Since its founding in 1949, NATO has comprised five Arctic states (Canada, Denmark, Iceland, Norway, and the United States). This alliance has balanced against the neutrality of Sweden; Finnish accommodation of the Soviet Union; and the Soviet Union itself, succeeded by Russia. The Arctic was thus divided during the Cold War among Western, Eastern, and officially neutral states. In the 1990s, Finland and Sweden became Partnership for Peace members but refrained from pursuing full NATO membership—in part, due to opposition from Russia. The deterioration in relations with Russia led Finland and Sweden, first, to increase their defence cooperation with NATO and multilaterally among their Nordic and Baltic neighbours and, second, to apply for full NATO membership. Finland became a NATO member in April 2023, pushing the frontier of the organization eastward and doubling the length of the organization's shared border with Russia. Although its membership is still pending due to objections from Turkey and Hungary, Sweden's accession could occur at any time. The result is the institutionalization of the Arctic seven's regional strategic realignment versus Russia.

With seven of the eight Arctic states being members of NATO, the region will effectively be partitioned into roughly equal halves by area

22. Anne-Marie Brady, *China as a Polar Great Power* (Cambridge, UK: Cambridge University Press, 2017).

and population: seven allied, democratic, and capitalist societies sharing broadly liberal values and a geopolitically isolated, strategically handicapped, and Sino-dependent Russia. Incidentally, NATO's increased involvement in the region to ensure the defence of the Arctic seven will also increase the participation of non-Arctic states in the region. While China enters the Arctic through its partnership with Russia, powerful, non-Arctic European states that are already Arctic Council observers, such as France, Germany, and the United Kingdom, will gain greater relevance through their roles in NATO. This new geopolitical reality in the circumpolar Arctic is a direct consequence of Russia's aggressive behaviour.

Whether it ekes out some partial victory or stalemate for Moscow or is beaten back by Ukrainian resistance with support from NATO allies, Russia's invasion of Ukraine has redefined Arctic geopolitics, and its outcome will shape the Arctic's future. Panregional cooperation and the restoration of the Arctic Council should remain the long-term goals of the Arctic seven, but, for now, the Arctic is fundamentally divided and will remain so until Russia's war in Ukraine ends. The vision of One Arctic may have guided the region for many years, but the current geopolitical reality of Arctic cooperation is one in which the members of the Arctic seven are engaged, alongside other Western states, in a multilateral effort to isolate, sanction, and punish Russia for its violations of the sovereignty of Ukraine as well as the former's alleged commission of war crimes and genocide in the latter.[23]

Russia and the Future of Arctic Cooperation

Today, the tide of war in Ukraine appears to be turning against Russia. At minimum, Russia has failed to achieve its initial strategic goal of rapidly toppling the Ukrainian government and installing a puppet regime.[24] The deepening military mire Russia finds itself in, combined with the commitment of the other Arctic states to the territorial defence of Ukraine, even at the expense of Arctic cooperation, will directly affect the nature of the international order that will follow the end of the war.

23. "Ukraine: Apparent War Crimes in Russia-Controlled Areas," Human Rights Watch (website), April 3, 2022, https://www.hrw.org/news/2022/04/03/ukraine-apparent-war-crimes-russia-controlled-areas; and Ron Elving, "Speaking of Genocide, Biden Escalates the War of Words Over Ukraine," NPR (website), April 18, 2022, https://www.npr.org/2022/04/18/1093206883/speaking-of-genocide-biden-escalates-the-war-of-words-over-ukraine.

24. Jim Garamone, "U.S. Official Says Russia Has Failed to Achieve Strategic Objectives," *Department of Defense News* (website), September 19, 2022, https://www.defense.gov/News/News-Stories/Article/Article/3163469/us-official-says-russia-has-failed-to-achieve-strategic-objectives/.

Assuming Russia's eventual defeat prevents it from imposing itself on Ukraine's political future and the war ends conventionally—namely, without the combat use of nuclear weapons—Russia should be readmitted to the Arctic and European international orders.

Some actors may be tempted to exclude or marginalize Russia as punishment for renewing Europe's familiarity with aggressive, revanchist war, but effective pan-Arctic governance will require Russian cooperation. The Russia-Ukraine War does not alter this reality. Russia's illegitimate claims to Ukrainian territory in Crimea and the Donbas should not be confused with its legitimate claims in the Arctic. Russia has roughly half the Arctic's land area, population, and coastline under its undisputed sovereignty. Even if Vladimir Putin's bungled invasion, incompetent mass mobilization, weakened international position, and correspondingly damaged domestic standing ultimately lead to his personal downfall or the overthrow of his regime, Russia will remain the indispensable Arctic state.[25]

But this polar prominence is dual edged because it means Russia is deeply affected by a range of environmental, social, and economic challenges in the country's far northern and eastern regions, making the Arctic Zone of the Russian Federation a greater part of the country's national economy. The Arctic Zone of the Russian Federation produces 70 percent of Russian oil; 95 percent of Russian natural gas; and 40–99 percent of numerous varieties of minerals, gems, and precious metals. Nearly 20 percent of Russia's gross domestic product and around 22 percent of the country's exports are produced north of the Arctic Circle—far more than any other Arctic state.[26] The volume of marine cargo transported through the Northeast Passage finally recovered the previous Soviet-era peak of six million tons per year in 2015 before surging to a new record of 35 million tons in 2021, primarily due to growing

25. Andrea Charron, Joël Plouffe, and Stéphane Roussel, "The Russian Arctic Hegemon: Foreign Policy Implications for Canada," *Canadian Foreign Policy Journal* 18, no. 1 (2012): 38–50; Valery Konyshev, Alexander Sergunin, and Sergei Subbotin, "Russia's Arctic Strategies in the Context of the Ukrainian Crisis," *Polar Journal* 7, no. 1 (2017): 104–24; and Michael L. Roi, "Russia: The Greatest Arctic Power?," *Journal of Slavic Military Studies* 23, no. 4 (2010): 551–73.

26. Alexander Sergunin and Valery Konyshev, "Russia's Arctic Strategy," in *Russia: Strategy, Policy, and Administration*, ed. Irvin Studin (London: Palgrave, 2018), 135–37; and Headquarters, Department of the Army (HQDA), *Regaining Arctic Dominance: The US Army in the Arctic*, Chief of Staff Paper no. 3 (Washington, DC: HQDA, 2021).

liquefied natural gas exports to China.[27] The Arctic's contribution to Russia's economy means military conflict in the Arctic that disrupted Russia's extraction and export of natural resources would cause far greater harm than a conflict impacting the relatively small portion of economic activity in the A-7 states' northern regions.

Russia's influence in the Arctic is also increasingly connected to its relationship with China.[28] As the foremost nondemocratic countries in the world, China and Russia have forged a mutually beneficial partnership in the Arctic, the cornerstone of which is the $27 billion project to ship liquified natural gas from Russia's Yamal Peninsula to China via the Northeast Passage. The foreign capital from this deal has been critical to mitigating the damage to Russia's economy the Western sanctions on oil and gas extraction imposed after Russia's annexation of Crimea caused. But Sino-Russian Arctic cooperation is not limited to natural resource projects. The need for refueling, surveillance, and search-and-rescue infrastructure to support increased Chinese energy imports along the Northeast Passage has justified Russian investments in military infrastructure along its northern coastline. China and Russia's military cooperation, including the participation of more than 3,200 Chinese soldiers, artillery, and aircraft in Russia's largest post–Cold War Arctic military exercise in 2018, has deepened.[29] The result is the Arctic is critical to Russia's domestic and foreign policy interests and provides a key area of cooperation between the two foremost non-Western powers at a time of deepening geopolitical divisions.

As the Arctic is divided between Russia and the Arctic seven, tensions will remain elevated but no higher than during the tense days of the Cold War. As during that conflict, Arctic states will need to implement confidence-building measures to increase the transparency of the states' intentions, reduce the chance of misperception, and avoid unintended provocations. Despite Russia's aggressive actions in Ukraine, the former has repeatedly indicated its desire to maintain a peaceful and rules-governed order in the Arctic, a goal shared by all other Arctic states. The A-7 states

27. Malte Humpert, "Cargo Volume on Northern Sea Route Reaches 35m Tons, Record Number of Transits," *High North News* (website), September 13, 2022, https://www.highnorthnews.com/en/cargo-volume-northern-sea-route-reaches-35m-tons-record-number-transits; and Anton Vasiliev, "The Northern Sea Route: From Strategies to Realities," Arctic Circle (website), January 29, 2021, https://www.arcticcircle.org/journal/the-northern-sea-route-from-strategies-to-realities.

28. Rasmus Gjedssø Bertelsen and Vincent Gallucci, "The Return of China, Post-Cold War Russia, and the Arctic: Changes on Land and at Sea," *Marine Policy* 72 (October 2016): 240–45.

29. Zi Yang, "Vostok 2018: Russia and China's Diverging Common Interests," *Diplomat* (website), September 17, 2018, https://thediplomat.com/2018/09/vostok-2018-russia-and-chinas-diverging-common-interests/.

will need to reassure Russia they have no desire for Arctic conflict, and Russia, with its military weakened and demoralized by its poor performance and high casualties in Ukraine, should be eager to do the same.

As during the Cold War, alongside military transparency, environmental and scientific diplomacy on issues such as regulating transboundary pollution, fisheries and shipping, and other resource extraction can help to ease tensions between Russia and the West and smooth the way from potential conflict toward a normalized political relationship. As the largest geographic state in the world, the European state with the largest population, the steward of vast tundra and boreal ecosystems, and one of the largest global producers and exporters of fossil fuels, Russia has a key role to play in the governance of climate change. Following military defeat and international isolation, Russia will be less willing or able to spoil international efforts to reduce greenhouse gas emissions. Affording postbellum Russia collaborative opportunities for environmental cooperation and decarbonization would provide the country an incentive to rejoin the international and Arctic communities as a constructive contributor to addressing global and regional problems. After all, with its immense northern territory, transforming landscapes, and crumbling infrastructure, Russia is on the front line of Arctic climate change and has as great a national interest in adapting to and mitigating climate change as any country in the world.[30]

In the present absence of conditions permitting direct cooperation with Russia, the other Arctic countries should reiterate their commitments to peaceful and collaborative regional relations by maintaining a diplomatic infrastructure for regional governance. The Arctic seven should maintain financial and logistical support for as many of the Arctic Council's projects as possible, and the states' officials should meet regularly to sustain a framework for Arctic cooperation until diplomatic relations with Russia have been normalized and the full Arctic Council has been reactivated. Pursuing scientific and environmental diplomacy with Russia can provide concrete opportunities to protect the Arctic environment, address climate change, and facilitate renewed cooperation in the aftermath of Russia's invasion of Ukraine. The Arctic seven can also open dialogue on other important political issues, such as promoting sustainable economic growth, protecting the rights of indigenous peoples,

30. Atle Staalesen, "The Looming Arctic Collapse: More than 40% of North Russian Buildings Starting to Crumble," *Barents Observer* (website), June 28, 2021, https://thebarentsobserver.com/en/climate-crisis/2021/06/looming-arctic-collapse-more-40-north-russian-buildings-are-starting-crumble.

adapting to warming Arctic ecosystems, and limiting black carbon and other pollutants that contribute to climate change.

The Arctic's past is also its future: Mikhail Gorbachev's famous call for the Arctic to become a "zone of peace" foreshadowed the roadmap for improved relations between Russia and the Arctic seven.[31] Speaking in 1987, the then–Soviet leader called for a nuclear weapon-free zone in northern Europe, restrictions on military activity and conventional arms, and confidence-building measures, alongside cooperation on "soft" issues, such as environmental protection and indigenous peoples.[32] The Murmansk speech set in motion the new normative structure for Arctic cooperation that led to the vision of states and indigenous peoples committed to a cooperative regional order organized through consensus-based institutions. If pan-Arctic cooperation is to be rebuilt, it will follow a similar process to the earlier period of post–Cold War détente that produced the idea of One Arctic.

Although considering allowing Russia to rejoin the institutions of Arctic governance while the country's forces still occupy Ukrainian territory is difficult, eventually, the war will end, and the scale of our global political and climate crises requires Russia's active cooperation. If a weakened and defeated Russia were denied restored participation in international fora such as the Arctic Council, the denial would fuel the grievance toward the West that has been cultivated by Putin and his sycophants and propagandists. Instead of making amends for their government's behaviour, the Russian people will nourish the belief they, not Ukrainians, are victims of aggression and they, not Ukrainians, have been betrayed by the neighbouring country's hunger for increased power and prestige.

History provides two instructive lessons on reintegrating a powerful state into the international order after the state has been militarily defeated. In the early 1800s, after Napoleon's wars of conquest had ravaged Europe for decades, post-Napoleonic France was slowly readmitted to the European peace established in 1815 at the Congress of Vienna. France was the acknowledged perpetrator of violent aggression toward its neighbours, yet the other powers knew the new European order would be perpetually unstable if France were permanently excluded. Thus, after a probationary period of sorts, France was permitted to reclaim

31. Kristian Åtland, "Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate: Relations in the Arctic," *Cooperation and Conflict* 43, no. 3 (September 2008): 294.

32. Åtland, "Mikhail Gorbachev," 294.

its place within the system known as the Concert of Europe, which successfully limited the outbreak of great-power war for a century.

The other historical precedent is better known, perhaps because it occurred more recently or perhaps because its consequences were so great. After its defeat in World War I, Germany was disgraced and abused by the Entente powers, who established a new postwar order at the 1919 Paris Peace Conference. Treated as a pariah, a politically and economically unstable Germany simmered in resentment for a generation, providing fertile soil for the rise of fascism and an even more destructive war a generation later. In this case, the shortsighted desire for revenge, alongside a naïve belief a large and powerful state could be indefinitely relegated to the margins of the international system, ultimately undermined the gains hard-won on the battlefields of Europe. The majority, but not all, of the European states were committed to upholding the new international order, ensuring it would be resisted by one of the most powerful states in Europe. These cases offer clear parallels and important lessons for the current crisis if we are wise enough to heed them.

Conclusion

The geopolitics of the Arctic region have experienced mounting pressure from different directions over recent decades. From a global strategic backwater to the geographic centre of an emerging global balance among disparate American, European, Russian, and Chinese poles of power, the Arctic has undergone relentless waves of transformation since the end of World War II. The intersecting effects of geopolitical competition and climate change had already weakened the foundations of the post–Cold War Arctic security region when Russia's phased invasion of Ukraine dealt a pair of heavy blows in 2014 and 2022. After years of concern over possible interstate conflict in the Arctic, a second worst-case scenario may have emerged instead: a region whose states are functionally in a state of conflict with each other, though not directly in the Arctic or over an Arctic dispute.

But the new Arctic geopolitics pose an alternate possibility to another conflict spilling into a newly fragmented region. The end of the Russia-Ukraine War will present an opportunity for the Arctic to play a role in resolving geopolitical tensions and reintegrating Russia into a restored, rules-based international order. This opportunity echoes the vital role of the Arctic as a testing ground for diplomacy and

international cooperation during the Cold War, which helped smooth the transition from the Soviet era to active Russian participation in post–Cold War Arctic cooperation. The Arctic has the potential to help to restore Russia to a constructive international role. Although direct compensation to Ukraine is undoubtedly called for, by contributing to regional and global efforts to maintain healthy environments and a stable climate, Russia can make other amends for its crimes against international peace and offer a form of global restitution for the harms the country has caused.

A healthy and stable international order is one that holds Russia accountable while acknowledging its role as an important state capable of strengthening the international order from within or undermining it from without. Confronted by the growing threats associated with climate change that have been neglected as war, disease, and economic uncertainty have swept the world in recent years, the A-7 states would do well to consider which historical model is most beneficial: nineteenth-century France or early-twentieth-century Germany; if Russia survives intact, its path in the twenty-first century will likely resemble one or the other.

Selected Bibliography

Åtland, Kristian. "Interstate Relations in the Arctic: An Emerging Security Dilemma?" *Comparative Strategy* 33, no. 2 (2014): 145–66.

Åtland, Kristian. "Mikhail Gorbachev, the Murmansk Initiative, and the Desecuritization of Interstate: Relations in the Arctic." *Cooperation and Conflict* 43, no. 3 (September 2008).

Buzan, Barry, and Ole Wæver. *Regions and Powers: The Structure of International Security*. Cambridge, UK: Cambridge University Press, 2003.

Greaves, Wilfrid. "Arctic Break Up: Climate Change, Geopolitics, and the Fragmenting Arctic Security Region." In *Arctic Yearbook 2019: Redefining Arctic Security*. Rovaniemi, FI: Thematic Network on Geopolitics and Security, 2019.

Konyshev, Valery, Alexander Sergunin, and Sergei Subbotin. "Russia's Arctic Strategies in the Context of the Ukrainian Crisis." *Polar Journal* 7, no. 1 (2017): 104–24.

Lackenbauer, P. Whitney, Heather Nicol, and Wilfrid Greaves, eds. *One Arctic: The Arctic Council and Circumpolar Governance*. Ottawa, CA: Canadian Arctic Resources Committee and Centre for Foreign Policy and Federalism, 2017.

Lackenbauer, P. Whitney. *Threats through, to, and in the Arctic: A Framework for Analysis*. Peterborough, CA: North American and Arctic Defence and Security Network, March 23, 2021.

Sergunin, Alexander, and Valery Konyshev. "Russia's Arctic Strategy." In *Russia: Strategy, Policy, and Administration*. Ed. Irvin Studin. London: Palgrave, 2018.

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North America's Imperative: Strengthening Deterrence by Denial

Dr. Andrea Charron
Dr. James Fergusson

In today's threat environment, adversaries can hold the continent hostage unless leaders can bolster its deterrence posture. Rather than deterrence by punish- ment, however, the focus of NORAD, USNORTHCOM, and the Canadian Joint Operations Command must be on deterrence by denial and increasing the costs of actions by adversaries should they pursue an attack on North America.

To ensure credible deterrence by denial, the North American Aerospace Defense Command (NORAD) and the Canada-US (CA-NUS) defense relationship needs modernizing. Not only do sensors need to be updated and significant expenditures made, but the entire approach to the defense of North America needs to materially change. We must rethink the domains that require defending and how deterrence by denial moves beyond the current outdated Cold War mindset that evolved in an ad hoc manner.

Beginning with General Charles H. Jacoby Jr., USA—dual-hatted as commander of United States Northern Command (USNORTHCOM) and NORAD from 2011 to 2014—and the 2013 *NORAD Next* study, successive dual-hatted commanders have raised concerns about the vulnerability of North America. A new generation of advanced strike weapons, two peer US competitors, and violent extremists seek to exploit all domains to undermine the credibility of US and allies' defenses.

Deterrence is fore of mind for security analysts, but rather than punishment and imposing a cost on adversaries in the form of nuclear annihilation, the focus is on denial and raising an adversary's costs of action.

The question is, What does credible deterrence by denial look like for North America in the 2020s?

This analysis briefly examines the strategic logic underpinning the need to modernize North American defense, focusing primarily on NORAD and deterrence by denial. It is vital that structural changes to the North American deterrence posture, including necessary investments, are made to alter adversarial perceptions so that North America cannot be held hostage. Beyond the need to modernize NORAD's early warning and defense control capabilities to meet the new threat environment, both countries must modernize NORAD—the organization—and rethink the importance of protecting the North American homeland.

The Strategic Rationale for Modernization

In the immediate post–World War II era, the United States and Canada paid significant attention to and made resource investments in North American air defense cooperation. This focus led to the creation in 1957 of a binational command—the North American Air Defense Command, which centralized operational control of continental air defenses against the threat of Soviet bombers. Attention to NORAD waned, however. The defense of North America and NORAD's contribution to that mission, especially since the end of the Cold War, have largely taken a backseat to Canadian and American strategic priorities and investments.[1]

North America has not been entirely neglected. As evidence, in the 1980s, the 1950s-era Distant Early Warning Line radar system was modernized to create the existing North Warning System (NWS)—a series of uncrewed long- and short-range radars stretching from Alaska, through Canada's Arctic, and down the East Coast.

Moreover, in the wake of 9/11, internal air radar feeds from the Federal Aviation Administration and NAVCanada were integrated with NORAD's NWS feeds to warn of approaching threats, creating a more complete air picture for the NORAD and USNORTHCOM Command and Control Center. Now, NORAD monitors the internal air picture

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1. Andrea Charron and James Fergusson, "Out of Sight and Out of Mind: NORAD vis-à-vis CANUS Politics," *Canadian Foreign Policy Journal* 26, no. 2 (2020), https://doi.org/.

and the (usual) air approaches to North America. Nonetheless, continental defense (Canadian parlance)/defense of the homeland (US parlance) has not been a priority. Two factors explain this situation.

First, drawing from the interwar and World II experience and the demands of the Cold War, the strategic priority of both countries continues to be overseas commitments or forward defense (the "away" game).[2] Second, beginning in the 1960s with the development and deployment of long- range intercontinental and submarine-launched ballistic missiles, with no defense possible at the time, the focus was on deterrence by punishment.

Beyond the need to have early warning of a strategic attack, a mission assigned to NORAD, defense of North America was based on the offensive threat of American strategic nuclear retaliation. Indeed, it was largely assumed that any Soviet Union attack against North America could quickly escalate into a nuclear exchange because of the deterrence by punishment logic—a defense, of sorts, for North America. Air defense was not entirely forgotten or ignored but became a secondary concern to early warning of an attack.[3] In the 1960s, the famous hardened Combat Operations Center in the Cheyenne Mountain Complex in Colorado Springs was completed to withstand a nuclear attack, and a series of radars, radar nets, and other early warning attack systems were brought online.[4]

Today, the overseas priority has not changed (consider, for example, the pivot to the Indo-Pacific), but the North American threat environment has changed significantly. Successive NORAD and USNORTHCOM commanders have raised concerns about the vulnerability of North America—emanating from Russia and China primarily—linked to a new generation of advanced strike weapons.

Most recently, the former commander of NORAD and USNORTHCOM, General Terrence J. O'Shaughnessy, USAF, and the deputy director of NORAD operations, Major General Peter M. Fesler, USAF, provided the fundamental strategic logic for significant investments in North American and NORAD defense modernization. As the American way of war has focused on large deployments overseas to project overwhelming force, the solution

2. Terrence J. O'Shaughnessy and Peter M. Fesler, *Hardening the Shield: A Credible Deterrent and Capable Defense for North America* (Washington, DC: Wilson Center, September 2020), https://www.wilsoncenter.org/.

3. Joseph T. Jockel, *Canada in NORAD, 1957–2007: A History* (Montreal/Kingston, QC: McGill-Queen's University Press, 2007).

4. Office of the Command Historian, NORAD, "A Brief History of NORAD," May 13, 2016, 19–21, https://www.norad.mil/.

for adversaries "is to prevent deployment in the first place."[5] North America thus becomes a primary target and will be vulnerable to subversion and coercion as well as conventional and nuclear attacks. The requirement to raise the costs of action by adversaries against North America is paramount.

Emphasizing North America is no longer a sanctuary, O'Shaughnessy and Fesler argued a credible deterrence by denial posture is vital to support the credibility of the American strategic deterrence posture overseas. North American vulnerability may embolden China or Russia to challenge the status quo in the Asia-Pacific or European theaters, generating a major crisis and possibly war. Specifically, new strike capabilities (including hypersonic weapons) enable competitors to threaten, and, in a worst-case scenario, destroy North American military bases and embarkation points vital for reinforcing forward-deployed forces.

With few extant defensive capabilities at home to meet this threat, the willingness of the United States to stand firm in a crisis overseas would be at issue. Ensuring the capacity to detect, deter, defend, and defeat such threats to North America via denial is essential to reduce incentives for Russia and China to challenge the overseas status quo by threatening the homeland.

Of course, issues surrounding deterrence postures and credibility, both globally and for North America, are complicated and contentious in the new world of great power rivalry. Among others, the threats posed by new, dual-capable nuclear and conventional strike systems will be center stage in future debates about North American and NORAD defense modernization. Nonetheless, the vital issue is to recognize and detail North American deterrence-by-denial requirements, including the need to go beyond simple resource investments to modernize the Canada-US defense relationship and NORAD's place within it.

North American Deterrence Requirements

Any evaluation of deterrence requirements must first recognize the objective is North America, not Canada or the United States separately per se. A threat to either is a threat to both. From this starting point, the current structure of the defense relationship underpinning a credible North American deterrence-by-denial posture is itself problematic. The relationship, at its strategic and operational levels, is divided in several ways with no overarching true central structure to provide unity of effort and command

5. O'Shaughnessy and Fesler, *Hardening the Shield*, 3.

for North America. Part of the relationship is binational as embodied in NORAD with its functional responsibility for aerospace (air and ballistic missile) and maritime warning and aerospace control (air).[6] The remaining parts are bilateral.

Overall cooperation and coordination are implemented through the tri-command arrangement consisting of NORAD, USNORTHCOM, and Canadian Joint Operations Command (CJOC)—N2+C—established roughly a decade ago.[7] It is at best an informal command arrangement, and whether it will evolve to become a more formal, centralized North American command depends on political will.

Moreover, the N2 legs of the arrangement are devoted strictly to North America, while CJOC is responsible for all Canadian military operations, home or abroad, that do not involve NORAD or special forces. At one time, CJOC devoted most of its attention and limited resources to over- seas operations. Today, due to climate change, COVID-19, and the need to provide assistance to Canadian civilian agencies, the split in terms of resources and attention is 50 percent at home and 50 percent overseas.[8]

Seams to Consider

First identified by the now defunct Binational Planning Group stood up after 9/11 to consider how best to defend North America, N2+C, along with the mixed binational and bilateral components of the North American defense relationship, have created North American command "seams" with implications for deterrence credibility. For example, while NORAD can warn of a maritime threat to North America, the US Navy and Royal Canadian Navy operate unilaterally and bilaterally and under US-NORTHCOM and CJOC commands, respectively, with different areas of responsibility and jurisdiction. An adversary need only find the seams between CJOC and USNORTHCOM areas of responsibility, and precious response time will be lost coordinating an ad hoc, bilateral solution to fortify the command and geographic seams.

6. Andrea Charron, James Fergusson, and Nicolas Allarie, *Left of Bang: NORAD's Maritime Warning Mission and Maritime Domain Awareness* (Winnipeg, MB: Centre for Defence and Security Studies, 2015), https://umanitoba.ca/.

7. Andrea Charron, *The Permanent Joint Board on Defence (PJBD): How Permanent and Joint? Celebrating 80 Years of Cooperation* (Winnipeg, MB: Centre for Defence and Security Studies, February 25, 2020), https://umanitoba.ca/.

8. Government of Canada, Canadian Armed Forces, "Current Operations and Joint Military Exercises List: Canada and North America," accessed on September 2021, https:// www.canada.ca/.

Another seam—between denial and punishment or raising versus imposing costs—is directly related to the concept of deterrence. The North American command components (N2+C) operate in the denial sphere. The United States' punishment authority and capabilities relative to North America are assigned to US Strategic Command (USSTRATCOM), another command within the US Unified Command Plan.[9] Canada has no such capability other than via its Ally status with the United States and via NATO.

Regional commands in the Unified Command Plan, including US-NORTHCOM, possess both denial and punishment authority and capabilities; NORAD does not. For example, NORAD warns of an inbound ballistic missile, but the defeat decision and capability rest entirely with USNORTHCOM with no Canadian input. Therefore, Canadian personnel assigned to NORAD on the NORAD and USNORTHCOM Command and Control Center watch floor will see and warn of an attack. But then they will step aside for USNORTHCOM US personnel to decide how best to react.

Certainly, such defeat authority and capabilities could be given to NORAD as they partially once were when US Space Command (USSPACECOM) and NORAD were situated under the same commander with punishment authority. (After 9/11, USSPACECOM was separated and dissolved and its responsibilities folded into United States Strategic Command.[10]) Successive Canadian governments, most notably the Martin government in 2005, have long ceded punishment to the United States for domestic political reasons.

In terms of the US part of the deterrence equation, USNORTHCOM also confronts horizontal, geographic seams as a function of the Unified Command Plan. It shares Alaska with US Indo-Pacific Command (USINDOPACOM), and many of USNORTHCOM's capabilities are held by USINDOPACOM (fig. 1). There are three geographic combatant command seams in the Arctic approaches to North America—US-NORTHCOM, USINDOPACOM, and US European Command (USEUCOM). Three geographic combatant command seams also impact

9. Thomas Nilsen, "B-52 Flights Close to Homeport and Patrol Areas for Russia's Ballistic Missile Subs," *Barents Observer*, November 8, 2019, https://thebarentsobserver.com/.

10. Joseph T. Jockel, "Four US Military Commands: NORTHCOM, NORAD, SPACECOM, STRATCOM—The Canadian Opportunity," Institute for Research on Public Policy (IRPP) working paper 2003-03 (Montreal, QC: IRPP, November 13, 2003), https://irpp.org/.

North America as a whole—the Atlantic and USEUCOM, the Pacific and USINDOPACOM, and the south via US Southern Command.

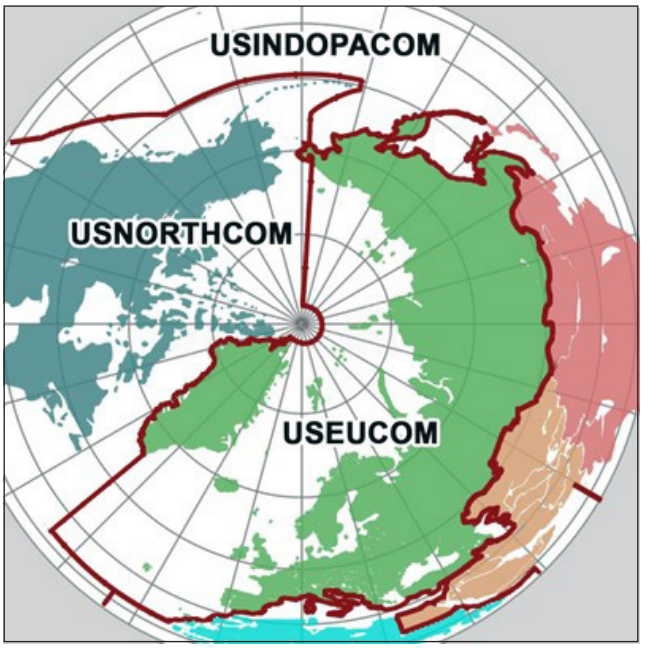

Figure 1. North America Unified Command Plan seams
(courtesy of US Department of Defense)

In addition to jurisdictional, authority, and geographic seams, North American deterrence also confronts domain seams. Reflective of the military service structure, the geographic domains of air, land, maritime, and space remain conceptually and structurally separate even though these domains increasingly blur together as a function of technological change and hybrid tactics. Thus, for example, a maritime threat as a function of cruise missile technology can quickly transition into an air-breathing threat.

The United States' solution is to adopt Joint all-domain command and control (JADC2) to connect sensors from all military services—Air Force, Army, Marine Corps, Navy, and Space Force—into a single network.[11] The implications for the North American deterrence structure remain to be seen, but JADC2 implies the potential merger of punishment and denial. A long list of obstacles remains to achieve this concept within the US military, let alone the challenges involved in including the Canadian military. Ideally, some level of discussion and engagement with Canada

11. John Hoehn, "Joint All-Domain Command and Control," IF14933 (Washington, DC: Congressional Research Service [CRS], July 2021), https://fas.org/.

in JADC2 development is necessary versus the traditional approach wherein the US decides on a course of action, and Canada reacts.

Two additional domains require consideration. The first is not a traditional domain per se but involves violent extremists. Violent extremism (formerly terrorism) has significantly receded from defense and security agendas (even at a time when there is a rise of right-wing, national violent extremism as opposed to foreign and mainly radical Islamic forms of terrorism).[12] Moreover, many national security decision makers today question whether terrorists can truly be deterred.[13]

But this domain cannot be ignored, as it resides in the seam between military and civil security agencies. The other domain—cyber—has risen noticeably on the defense and security agenda and with it, the cognitive domain (think misinformation, disinformation and malinformation campaigns). In these worlds, denial and punishment are also separated—punishment in the cyber world appears to be the exclusive domain of US Cyber Command—but denial entails the military, civilian security agen- cies, and the private sector.

Capability Gaps

Beyond structural seams, notable capability deficiencies—gaps—are identified in several reports, including the Heritage Foundation's 2021 Index of US Military Strength, which graded all services' capabilities as "marginal."[14] Further, the Heritage Index, reflective of many studies on the US military, does not consider North America: only suitability for operations in Europe, Asia, and the Middle East are assessed. United States Northern Command and NORAD employ the concepts of detection, denial, defense, and defeat. Although these elements are not necessarily understood to be linear, detection and defense are the key concepts to evaluate capability deficiencies. In this regard, a credible capacity to detect and defend equates to a credible deterrence-by-denial posture.

12. Bruce Hoffman and Jacob Ware, "Are We Entering a New Era of Far-Right Terrorism?," War on the Rocks, November 27, 2019, https://warontherocks.com/.

13. See Alex Wilner, "Contemporary Deterrence Theory and Counterterrorism: A Bridge Too Far?," *New York University Journal of International Law and Politics* 47, no. 2 (2015), https://nyujilp.org/; Paul K. Davis and Brian Michael Jenkins, *Deterrence and Influence in Counterterrorism: A Component in the War on al Qaeda* (Santa Monica, CA: RAND Corporation, 2002), https://www.rand.org/; and Andrew R. Morral and Brian A. Jackson, *Understanding the Role of Deterrence in Counterterrorism Security* (Santa Monica, CA: RAND Corporation, 2009), https://www.rand.org/.

14. "Executive Summary: 2021 Index of Military Strength" (Washington, DC: Heritage Foundation, November 17, 2020), https://www.heritage.org/.

Detection

Detection is the first ingredient of denial credibility and is central to NORAD's mandate. The North American aerospace warning mission is essential as is its maritime warning mission. Both missions have complicated national and bilateral elements embedded in their processes, especially in the maritime domain. Three key deficiencies stand out. First, NORAD's air warning component is almost exclusively defined as synonymous with the information provided by the North Warning System rather than a North American warning system.[15]

The NWS is technically obsolete; as a result and notwithstanding new artificial-intelligence-inspired additions, NORAD's air warning capability is potentially on the precipice of failing. Because of its 1970s technology and physical location, the NWS is challenged to detect long-range air- and sea-launched cruise missiles, not to mention drones that fly at speeds and altitudes not envisioned for 1970s air threats.

All relevant parties recognize these deficiencies. In response, a binational structure is in place to identify sensor solutions and requirements to move and filter large quantities of sensor data into NORAD for analysis and action (NORAD modernization). Nevertheless, there seems to be no pressing urgency to move forward. In 2017, in the joint statement released after the summit between Canadian Prime Minister Justin Trudeau and US President Donald Trump, and reiterated in the first, virtual summit with US President Joe Biden, the leadership of both countries placed North American defense and NORAD modernization among their priorities. To date, too few significant investments have occurred.[16]

Certainly, as the future North Warning System is likely to entail a complex array of ground-, air-, maritime-, and space-based sensors, technology hurdles do exist, especially in terms of systems integration. The danger lies in waiting for the final, perfect solution rather than building the system as partial solutions come online. Such a delay will leave a major detection gap for some time to come. Indicative of this

15. Agreement Between the Government of Canada and the Government of the United States of America on the North American Aerospace Defense Command, April 2006, art. IId, Government of Canada website, https://www.treaty-accord.gc.ca/.

16. "Joint Statement from President Donald J. Trump and Prime Minister Justin Trudeau" (remarks, Washington, DC, February 13, 2017), Prime Minister of Canada website, https://pm.gc.ca/; and "Remarks by President Biden and Prime Minister Trudeau of Canada in Joint Press Statements," press release, White House, February 23, 2021, https://www.whitehouse.gov/.

trend, the current NWS radars that will reach the end of their life cycle in 2025 are already set to be extended until 2035.

Second, the future NWS/North American Warning System sensor system remains largely conceptualized as a perimeter system, looking outward from the continent (fig. 2). In the wake of 9/11, NORAD acquired an internal air picture of North America through its link to the US Federal Aviation Administration and NAVCanada radars. But it is unclear whether these internal radars possess a cruise missile detection and tracking capability and/or future improved drone-tracking technology. A perimeter system must be augmented by internal detection capabilities, in the very least as assurance should the defense side of the equation fail at the perimeter.

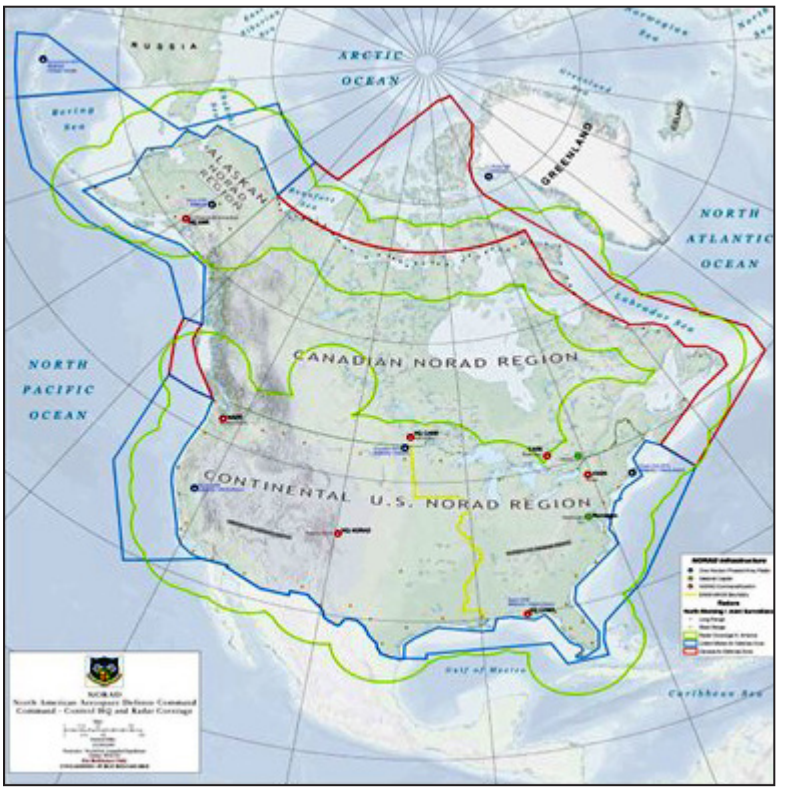

Figure 2. NORAD radar coverage

Third, the detection domains remain largely separate rather than integrated into an all-domain detection and thus analysis structure. While NORAD has air and ballistic missile warning functions, and with the latter, a space-tracking function as well, these appear to be largely independent, reflecting the traditional division between air and outer space.

Yet, as the future North American Warning System will likely comprise a significant space-based component, threat detection against these key space-based assets is essential. Moreover, threats to these components also extend to a wide range of space-based assets vital to the military and the economy, especially in low Earth orbit.

Clearly, such threats (especially to space-based assets) are in fact threats to the North American homeland. Moreover, attacks against these assets are not just a physical attack against the territorial homeland but could involve the direct loss of life. Adversary calculations of the repercussions of their attacks on assets alone will be distinctly different from a direct threat or attack against North America. This factor does not imply NORAD should acquire a space defense mission per se; rather, NORAD's ballistic missile warning mission should include detecting threats against space-based assets. Detecting these threats should also be part of its integrated tactical warning/attack assessment function.

In addition, the development of hypersonic weapons technology foreshadows the merger of space and air into a true "aerospace" domain. As with the maritime domain, the ballistic threat of maneuverable hypersonics may transition into a maneuverable air threat operating between space and air. That is, the space, aerospace, and air domains need to be integrated into a single detection domain, along with the maritime domain, to generate an integrated, all-domain North American common operating picture. The final geographic domain—land—is less important to include: three oceans effectively mitigate a land-invasion scenario. The cyber domain, however, is vital.

The Cyber Complication

Threats emanating from the cyber world have attracted growing attention over the last several decades. For many years, the air forces of the United States and Canada (and to a lesser degree NORAD) have made a claim on the domain, notwithstanding US Cyber Command and its unclear role in the North American deterrence equation. Regardless, central to the detection problem in the cyber domain and distinct from the other domains, attribution of a cyberattack is extremely problematic. Due to the complexities of the internet and the ability of states such as China and Russia to employ—implicitly or explicitly—private actors, it is difficult to ascertain whether any attack has been motivated just for mischief, for criminal purposes, and/or for state purposes.

Moreover, this domain is structurally more complicated than the maritime domain. It involves not only the military relative to its own systems and other government agencies but also private actors within the economic system. The overwhelming majority of cyber critical infrastructure resides in private hands within the integrated North American economy. In this regard, private business interests related to corporate viability act to some degree as disincentives to report cyberattacks.

So long as North American officials continue to emphasize cyber vulnerabilities and fear the consequences, adversaries have incentives to exploit the cyber world. Whether the attempt by Russia, as attributed, to influence the 2016 US presidential election had any real impact on its outcome is a moot question. It is the attempt itself and the fears it generated of other, potentially more devastating attacks that Russia uses to its advantage. At the core of this problem is detection and attribution.

A cyberattack occurs in near real time, usually with no warning or with such obfuscation that targets may not even realize they are under attack. In contrast, the kinetic world provides, to varying degrees, early warning signals due to advanced intelligence and surveillance capabilities. One can expect, for example, that long-standing, normal patterns of military activity will be altered in preparation for employment (e.g., mobilization of personnel and assets).

Such deviations do not necessarily mean a decision to use force has been made. In some cases, preparations may simply be a means of threat signaling to alter adversarial responses, with no intent to escalate to the use of force. Political contexts that suddenly change or evolve over time also provide signals. Regardless, in the kinetic world, the probability or fear of a bolt from the blue is less likely.

Cyberattacks and probing are, however, a world of "bolts from the shadows." As an element of deterrence, in this case by punishment, state-sponsored or directed deterrence attacks may simply be intended to demonstrate what an adversary can and might do in the future to alter calculations. In other cases, these attacks are meant to disrupt a state's ability to track and react at a later point in the decision-making process or to obfuscate an adversary's actions.

Operating at a low level of effect and thus having only a temporary, limited, and marginal impact—shutting down a website or a pipeline—the act is meant to indicate the potential to do more damage. Moreover, at least to date, these attacks are calculated as insufficient to generate

a kinetic response. Furthermore, the problem of attribution and thus plausible deniability also adds complexity to the detection side of the equation. This complexity is compounded further with the potential for embedded computer viruses, such as the case of Stuxnet in Iran, that may remain undetected until triggered under certain conditions—a potential attack in the making.

Political warning signals, too, can emerge to challenge the status quo and can be generated and transmitted across the complicated North American cyber world, requiring greater vigilance. Additionally, ongoing analysis to discern potential patterns of cyberattacks over time and space may provide some modicum of prediction and thus detection. Ultimately, however, detection is exclusively in the hands of the owners of the private, public, and military networks. As a result, detection capabilities, and thus vulnerabilities, vary widely across the North American cyber world.

While one cannot expect every network in the North American cyber world to implement a common standard, and apart from the problem of determining what critical infrastructure is and is not, critical infrastructure across North America needs to adopt a common detection standard in terms of detection software. In addition, intelligence or information sharing must be formalized across the private, public, and military divides following cyberattacks.

The state of the cyber domain in North America is reminiscent of the state of the intelligence world prior to 9/11 and of the maritime domain prior to the undertaking of significant steps in the years following those attacks. Improvements to threat detection in the maritime domain included NORAD's acquisition of a maritime warning mission, the creation of the US National Maritime Integration Intelligence Office, and the establishment of Canada's Marine Security Operations Centres.

In this regard, a NORAD or perhaps N2 cyber detection mission for North America might be conceptualized based on maritime warning and its protocols. Designed not to duplicate existing and evolving private/public actors and processes, this mission would provide a centralized analytical function based upon its integrated tactical warning/attack assessment function. This mission would serve as the only North American eyes at the end of the intelligence collection process as it currently exists nationally and bilaterally. As NORAD was a key promoter and supporter of greater interagency cooperation to enable its maritime warning mission, it may

also act to spur greater intelligence cooperation and information sharing across North America as a whole.[17]

Defense

Alongside detection, defense is the second capability component of a credible North American denial deterrent. As with detection, existing gaps may affect adversary and North American (Canada and the United States) deterrence calculations. Several stand out in the traditional defense domains. Assuming Canada agrees on a CF-18 replacement and given the presence of US anti-cruise missile interceptors, the question becomes whether intercept density relative to NORAD's assigned assets is sufficient to defend against cruise missile threats.

NORAD is also looking at existing northern forward operating locations and other possible locations farther south to meet maritime threats and potentially provide some form of layered defense. Additionally, there is a recognized requirement for in-flight refueling capabilities, and the deployment of anti-cruise missile point defenses must be considered. These factors strongly suggest more resources need to be dedicated to the air defense component of North American deterrence and then integrated into the detection side of the equation.

Related to air defense requirements, the aforementioned merger of air and space into a true aerospace domain raises the subject of combining air and missile defense capabilities. This process is already underway with the US Army developing the Integrated Air and Missile Defense Battle Command System.[18]

Merging these capabilities raises the thorny issue of Canadian participation and with it, concerns related to intercept priorities and centralized command and control, which in part derailed Canada's participation in ballistic missile defense (BMD) in 2005.[19] A reversal of Canada's "not yes" to missile defense is likely to entail assigning command and control to NORAD. Doing so ensures Canada's direct participation in decision making per the binational agreement and potentially clears the way

17. Charron, Fergusson, and Allarie, *Left of Bang*, 42–44.

18. Missile Defense Project, "Integrated Air and Missile Defense Battle Command System (IBCS)," *Missile Threat*, Center for Strategic and International Studies, November 3, 2016, last updated June 7, 2021, https://missilethreat.csis.org/.

19. James Fergusson, *Canada and Ballistic Missile Defence 1954–2009: Déjà Vu All Over Again* (Vancouver: University of British Columbia Press, 2010).

for the merger of the J-3 position in the NORAD-USNORTHCOM command center—the only position currently not combined. Otherwise, the credibility of the North American denial posture is undermined, with Canadian vulnerability providing a venue for an adversary to exploit.

Relatedly, assuming the United States proceeds with a third continental missile defense site in the Northeast, its requirements may entail an ad- vanced tracking and cueing radar deployed to Canada. Such a radar, in turn, would also likely serve other valuable detection functions related to North American defense.

Maritime Complexity

Turning to the maritime domain, beyond the logic of evolving the current bilateral structure of the Canada-United States (CANUS) naval relationship into a binational one, the defense equation is problematic. Naval preferences are currently forward-defense oriented against cruise-missile-capable surface and subsurface ships (Archer class) rather than homeland-defense oriented against sea-launched cruise missiles (the Arrows). While not ignoring the defense value of this preference, the Archers are located outside the Royal Canadian Navy and USNORTHCOM's areas of responsibility. Defense against the Arrows is secondary when it should be primary for North American deterrence.

In this regard, major surface combatants (including the future Royal Canadian Navy combat vessel) need to deploy sufficient anti-cruise missile air defenses, and these defenses need to be integrated into NORAD's air defense assets. At a minimum, the role of maritime assets must be fully integrated into NORAD exercises to bolster North American deterrence requirements.

Other Domains and Resilience

In the terrorism and cyber domains, defense has long been outside the military mandate. The military has been assigned the role of second responder to deal with the consequences of an attack. Defense is in the hands of police forces and bilateral cooperation between Canada and the United States. There appears to be no reason to change the military's role except to ensure protocols governing the provision of mutual support are fully devel- oped in response to a major incident. In this regard,

the concept that has recently emerged is deterrence by resilience. Simply stated, capabilities are developed to mitigate the consequences of a major terrorist or cyber event quickly and effectively, thereby reinforcing deterrence credibility.

In many ways, deterrence by resilience is not a denial posture. Rather, it is a recognition that denial is not possible. In traditional military jargon, it is a damage limitation posture that serves to enhance credibility, demonstrating to an adversary that its attack will unlikely reap expected benefits. Canada and the United States need to enhance their ability to assist civil agencies. Furthermore, this assistance should not be constrained by the border, and, at a minimum, such requirements should be a priority for the tri-command structure.

Conclusion

From the perspective of North American homeland defense and security, the current CANUS command structure and capabilities are locked into an exclusive deterrence-by-denial posture. Punishment as an alternative is not an option, which does not mean that an adversary does not confront a credible punishment threat. Rather, the punishment threat and thus punishment capabilities reside elsewhere and are exclusively American. The question then is whether the CANUS part of the equation is adequately structured and resourced to present a credible denial threat to an adversary. Arguably, an adversary could be dissuaded from directly threatening or attacking independent of a punishment threat conceived of as a last resort.

Importantly, any adversary, regardless of perceptions of denial credibility, cannot ignore or simply discount punishment given the reality of US strategic conventional and military capabilities. Of course, as a psychological theory designed to alter adversarial thinking and calculations, it is extremely difficult to know or predict how an adversary thinks and responds to a deterrence posture. Perhaps, then, what is more significant is how North American decision makers think about their own credibility. It is here that the North American conundrum resides.

The North American component of the US-led Western global deterrence posture should exist as the central deterrence hub such that an adversary does not perceive it as a vulnerability that could be exploited to deter US-led responses to regional challenges. Yet it is questionable

whether US and Canadian decision makers even think in these terms about the homeland.

Both arguably remain fixated on the overseas components, with North America as an afterthought despite the rhetoric.[20] Moreover, beyond NORAD and USNORTHCOM and to a much lesser degree CJOC, two different viewpoints exist. The American view is that neither Russia nor China would dare strike North America due primarily to its overarching military superiority and last-resort strategic punishment capabilities. The Canadian view is really a nonview. Essentially, Canada does not really think in deterrence terms because it lacks the capabilities to deter credibly and because deterrence is an American responsibility, with Canada helping and warning where it can.

The net result may be a (vicious) feedback loop. An adversary comes to believe it can exploit homeland vulnerability, thus emboldening it to undertake a regional challenge by threatening actions short of war to deter a regional overseas response by North America. The United States and, to a lesser degree, Canada quickly recognize their vulnerability (and that of vital overseas Allies and partners) and are unwilling to respond effectively, being forced to fall back on a strategic punishment threat to deter. This approach, in turn, emboldens the adversary to initiate further challenges, raising doubts among overseas Allies and partners that the United States will defend them.

The basic answer is to alter deterrence thinking in North America. Structural changes, including necessary investments, to the North American deterrence posture must be made to alter adversary perceptions so that North America cannot be held hostage. In fact, the current North American deterrence-by-denial posture remains embedded in an outdated Cold War mindset that has largely evolved in an ad hoc manner.

These changes are obviously easier said than done. Despite the best efforts by senior NORAD and USNORTHCOM officials to communicate this message, it may take an unexpected overseas regional challenge resulting in a major crisis in which the lack of North American denial credibility comes to the fore. Unfortunately, by then, it may be too late. The need to refocus on denial is paramount. SSQ

20. CRS, *Renewed Great Power Competition: Implications for Defense—Issues for Congress* (Washington, DC: CRS, September 9, 2021), https://crsreports.congress.gov/.

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Arctic Futures: Views from Canada before and after 2014

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The Arctic is receiving unprecedented attention. Before 2014, attention was mainly paid to climate change's implications for the Arctic. Since 2014, Russia's aggression has dominated discussions and shifted conversations to the inevitability (or not) of conflict in the Arctic. Disingenuous blame is also ascribed to Western and NATO activities in the Arctic as cause for concern. Many, therefore, are oriented to the north, bringing with them some dubious assumptions and falling into two camps: the hawks and the doves. Any understanding and appreciation of the area, however, must include the views of the people who live in the Arctic (numbering roughly four million, including many indigenous peoples); an understanding several different Arctics (North American, European, and Russian) exist; an understanding six domains of concern (land, sea, air, space, cyber, and cognitive) exist; and the knowledge the Arctic states have been the key decisionmakers for activity in the Arctic for decades.[1] These four constants are often forgotten in the race to pronounce the likelihood or unlikelihood of conflict in or about the Arctic.[2] The Russian invasion of Crimea in 2014 and Russia's subsequent invasion of the Donbas and beyond in February 2022 have hastened predictions a cooperative, rules-based Arctic will succumb to armed conflict. This chapter seeks to unpack this assessment by reflecting on the various Arctic alliances, organizations, and decisions from a Canadian point of view. War is not inevitable,

1. "Projected Population Trends in the Arctic," European Environment Agency (website), June 14, 2017, https://www.eea.europa.eu/data-and-maps/daviz/projected-population-trends-in-the-arctic/#tab-chart_2.

2. P. Whitney Lackenbauer, *Threats through, to, and in the Arctic: A Framework for Analysis* (Peterborough, CA: North American and Arctic Defence and Security Network, March 23, 2021).

but as confidence-building mechanisms limit contact with Russia, the likelihood of an accident or incident escalating tensions precipitously has never been so high. The goal is to avoid "a fractured Arctic," as Elizabeth Buchanan describes it—one that lacks any trust among the various stakeholders.[3] But first, the two largest Arctic states—Canada and Russia—merit comparison.

Different Arctics

The Arctic regions of Canada and Russia are more similar to each other than they are to the European Arctic. Canada has the longest coastline in the world because of its Arctic Archipelago, which includes 36,563 islands, some of which are some of the largest in the world.[4] Canada's definition of the Arctic begins at 60 degrees north latitude and includes all three Canadian territories (Northwest Territories, Nunavut, and Yukon), northern Quebec, and parts of Labrador. Forty percent of Canada's landmass falls within the Arctic, but the country's Arctic region is home to only 150,000 people.[5] The region is rich in natural and other resources, but most communities need to be resupplied by ships in the summer. Roads do not connect most communities, and any major surgeries or extended medical procedures must be completed in the south. Still the most important energy source in the Arctic, diesel comes at an environmental and health cost. Canada has no ports along the Northwest Passage (NWP); the Nanisivik Naval Facility on Baffin Island, Nunavut, is a government fuel depot. Resupplying the naval facility is challenging, it yields limited benefits to local communities, and the facility is still not fully operational.[6]

Russia, which has the largest Arctic population (over two million people), applies the more typical Arctic Circle definition (roughly 66 degrees north latitude) to its Arctic region. More than 20 percent of Russia's gross domestic

3. Elizabeth Buchanan, "Russia's Arctic Strategy: Drivers, Hybridity, and Possible Futures," in *Security and Hybrid Threats in the Arctic: Challenges and Vulnerabilities of Securing the Transatlantic Arctic*, ed. Paul Dickson and Emma Lappalainen (Helsinki: European Centre of Excellence for Countering Hybrid Threats, 2021), 32–41.

4. "Coastline," in *The World Factbook* (Washington, DC: CIA, continuously updated), https://www.cia.gov/the-world-factbook/field/coastline/.

5. "Canada," Arctic Council (website), n.d., accessed on June 21, 2023, https://arctic-council.org/about/states/canada/.

6. "Arctic Naval Refuelling Station Set to Open in 2024, Nine Years Behind Schedule," *CBC News* (website), January 19, 2023, https://www.cbc.ca/news/canada/north/nanisivik-naval-base-nunavut-2023-update-1.6717971.

product comes from its Arctic region, mainly via the exploitation of nickel and fossil fuels, such as liquid natural gas. Russia's Arctic region has some of the most polluted towns in the world, and the general health outcomes for children and adults in the region are some of the poorest in the Arctic.[7] Russia's Arctic policies are always ambitious, but climate change is ravaging most of its Arctic region, and Russia's dependence on fossil fuels is antithetical to meeting any basic climate goals. Russia preserves its second-strike capability with its Northern Fleet, housed on the Kola Peninsula, to patrol the strategic Greenland-Iceland-United Kingdom gap. Certainly, Russia has more capacity to operate in the Arctic than does Canada or any other Arctic state.

Both Canada and Russia reflexively point to their Arctic regions—and, especially, their Arctic sea routes—as sources of strength and pride, but vessel traffic in both the NWP and the Northern Sea Route is not as high as once predicted. Both Canada and Russia have a troubled history with their indigenous peoples, and few Canadians or Russians will travel to their countries' Arctic regions because of the cost and accessibility difficulties. Few, therefore, appreciate the complicated realities and opportunities of the Arctic—especially, the importance of the Arctic to indigenous communities.

International Alliances, Organizations, and Allies

Before Russia invaded Ukraine in 2014, the Arctic was often referenced as an exceptional zone of peace. The Arctic Council, created by Canada, includes the eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States) and six permanent participants (the Aleut International Association, the Arctic Athabaskan Council, Gwich'in Council International, the Inuit Circumpolar Council, the Russian Association of Indigenous Peoples of the North, and the Sámi Council). The Arctic states accepted five new Asian states (China, Japan, India, Singapore, and South Korea) and one European state (Italy) as observers during the handover from Sweden's chairship to Canada's in 2013.

The North Atlantic Treaty Organization (NATO) had no Arctic policy; Canada vetoed the inclusion of one at the organization's 60th anniversary summit in 2009 in Strasbourg/Kehl. Instead, NATO published an anemic statement suggesting developments in the High North were garnering international attention. The NATO states remained focussed

7. Susan Chatwood, Peter Bjerregaard, and T. Kue Young, "Global Health—A Circumpolar Perspective," *American Journal of Public Health* 102, no. 7 (July 2012): 1246–49.

on Afghanistan. Indeed, Canada and its allies paid rather lax attention to the Arctic. A NATO position dedicated to the surveillance of the Greenland-Iceland-United Kingdom gap—the Supreme Allied Commander Atlantic—was deactivated in 2003. Routine surveillance sorties by North American Aerospace Defence Command (NORAD) were the main source of Arctic defence activity in the North American Arctic. Despite North American Aerospace Defence Command adopting a maritime warning mission in 2006 and the Canadian Marine Security Operation Centres sharing more information with other Canadian government partners (including a picture of activity in the Arctic), the region seemed to diminish in importance to the Canadian government. Russia occasionally buzzed air defence identification zones in Alaska and Canada's Arctic, but interaction was limited to NORAD interceptors meeting the Russian bombers.

Cold Response, NATO's main Arctic exercise, involved only 10,000 personnel in 2006 and 2010, increasing to 16,000 in 2012. Operation Nanook, a formerly annual fall Arctic exercise hosted by the Canadian Armed Forces, was dubbed a sovereignty exercise, but it focused more on intergovernmental cooperation with select invited NATO allies. Canada submitted its Atlantic application for an extended continental shelf to be recognized in 2013 but delayed its submission for the Arctic until 2019. Meanwhile, Russia, Norway, Denmark, and Iceland delivered their submissions to the UN secretary-general for consideration. Two binding agreements on the eight Arctic states were negotiated: the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (signed in 2011) and the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (signed in 2013).[8]

2014 and Beyond

The year 2014 brought dramatic changes in the political atmosphere. Given the importance of the Arctic to Russia, the most consequential Arctic sanction was the dismissal of Russia from some key Arctic fora—for example, the Chiefs of the Defence Staff postponed their meetings until Canada hosted one in 2022 without Russia, and the Arctic Security Forces Roundtable dismissed Russia yet continued to meet with the seven

8. Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, Can.-Den.-Fin.-Ice.-Nor.-Russ.-Swed.-U.S., May 12, 2011, T.I.A.S. No. 13-119; and Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, Can.-Den.-Fin.-Ice.-Nor.-Russ.-Swed.-U.S., May 15, 2013, T.I.A.S. No. 16-325.

Arctic states, plus observer states the United Kingdom, France, Germany, and the Netherlands. Notably, Russia was not dismissed from the Arctic Council in 2014 under Canada's chairship, but all Arctic Council activity stopped in 2022, placing many vital scientific and indigenous knowledge projects in limbo. Only with the transference of the chairship from Russia to Norway on May 11, 2023, did some Arctic Council business resume.[9]

The US military began releasing an Arctic strategy for each of its military services in quick succession after 2014. Typically, only the US Coast Guard had an Arctic strategy, given its close and continued cooperation with Russian border guards in the Bering Strait. The United States, a reluctant—even absent—actor in the Arctic for most of the 1990s and 2000s, began to recognize the Arctic as a potential corridor for strategic competition. Although China was considered the near-peer competitor for the United States and United States Indo-Pacific Command to watch, Russia was a persistent proximate threat to North America, with new capabilities and the ability to strike any target in the continent. North American Aerospace Defence Command had long recognized this threat, but the more general lack of attention to continental defence became a growing concern for North American leaders. According to then-Commander of United States Northern Command and North American Aerospace Defence Command General Terrence J. O'Shaughnessy in 2019, North America could be held hostage by Russia or China because of the continent's lack of homeland defence capabilities.[10]

Because the Arctic has always been the main avenue of approach for North America, building greater Arctic awareness, enhancing Arctic operations, and strengthening the rules-based order in the Arctic have become the West's priorities. The modernization (a buzzword that calls for a reimagining of continental defence writ large) of North American Aerospace Defence Command is now the Canadian and US militaries' priority. Aged long- and short-range radar sets that make up the North Warning System (NWS) will be augmented by over-the-horizon radar systems, space-based systems, and other sensors. Artificial intelligence, which has been used to prolong the NWS's end of life, allows analysts to see far more NWS-collected activity than do its outdated algorithms.

9. Arctic Council, "Arctic Council Statement on the Occasion of the Thirteenth Meeting of the Arctic Council," May 11, 2023, https://oaarchive.arctic-council.org/server/api/core/bitstreams/03b0a54b-7e41-45a8-ad04-0a6f1a59892c/content.

10. Terrence O'Shaughnessy and Peter Fesler, *Hardening the Shield: A Credible Deterrent & Capable Defense for North America* (Washington, DC: Canada Institute, September 2020).

Nevertheless, the NWS is too far south and cannot see over-the-horizon activity. In addition, the NWS struggles to detect drones or very fast-moving or high-altitude air threats. An Inuit majority–owned company, Nasittuq Corporation, has the maintenance contract for NWS radars, which the company will endeavour to keep operating for as long as possible. This picket fence–type of deterrence still has merit. New, over-the-horizon backscatter radar lines; new command-and-control arrangements at North American Aerospace Defence Command and for the wider "tricommand" (Canadian Joint Operations Command, United States Northern Command, and North American Aerospace Defence Command) that are being exercised; and spaced-based surveillance and integration of information from allies and partners are finally joining NORAD and NATO efforts in the Arctic.

The United States reactivated the US Navy 2nd Fleet and twinned it with the new NATO Joint Force Command Norfolk in 2018. The command's principal area of operations includes the Greenland-Iceland-United Kingdom gap in an effort to monitor Russia's Northern Fleet.[11] In addition to four annual Operation Nanook events, several new US Arctic exercises and NATO's Cold Response and Trident Juncture now host more than 35,000 troops, exercising an Article 5 attack on a NATO state. The United States' goal is to have all-domain awareness, which gives information dominance and, thus, decision-making superiority. In other words, the goal is deterrence by denial, beginning with greater all-domain awareness, and Canada's Arctic radars and surveillance activities are vital to this goal. But the danger of an escalation, mishap, or accident—especially, in a maritime or air context—remains the greatest threat to relations between Russia and the West. In 2021, General Mark Milley, chairman of the Joint Chiefs of Staff, mused openly the time had come to reengage Russia in conversations about military activity in the Arctic, and maybe the Arctic Chiefs of the Defence Staff needed a reboot.

After 2014

Since 2014, requests for military assistance have increased in number, scope, and scale, reflecting the increased number of natural disasters attributed to climate change and aged infrastructure. The chief of the Defence Staff has warned if climate change continues apace, the rate

11. "JFC Norfolk Commander Briefs Military Committee on Security Trends in the North Atlantic and Arctic Regions," NATO (website), updated May 5, 2022, https://www.nato.int/cps/en/natohq/news_195074.htm.

of military assistance requests will become unsustainable.[12] Infrastructure in Canada's Arctic is still woefully underresourced and fallible. For example, Iqaluit, Nunavut, is bypassing all tanks in its water treatment plant and maintaining disinfection through ultraviolet light and chlorine. This bypass is expected to continue until a permanent tank solution is implemented. The drinking water is safe to consume, but the permanent tank has no timeline. Arctic hamlets are working with government agencies such as the Canadian Coast Guard to build local search-and-rescue expertise. As this capability is developed, federal departments can share critical information, such as the locations and destinations of cruise ships in the NWP, with locals.

Canada received the first of its six new Arctic offshore patrol vessels in 2020. The vessels have had two summers to operate in the Arctic. This new capability will contribute to Canada's main defence priority, "pandomain awareness," but in the summer months only.[13] New forward operating locations are being considered that could have dual-use implications for certain communities, such as Inuvik, Northwest Territories. The Royal Canadian Air Force has finally announced a new replacement interceptor for McDonnell Douglas CF-18s (the F-35A) and expects runways and additional infrastructure in the Arctic will need to be addressed to accommodate the fifth-generation interceptors. The Royal Canadian Navy and the Canadian Coast Guard have new partnerships with the United Kingdom's Royal Navy to help it learn ice navigation skills in the NWP. In return, Canada hopes to learn from the United Kingdom in Antarctica.[14] This relationship will be especially useful as Canada changes its status to a consultative member of the Antarctic Treaty. Greenland is vital to all resupply efforts in Canada's Arctic—especially, the signal interceptor station at Canadian Forces Station Alert, located on the northernmost tip of Ellesmere Island, Nunavut. Operation Boxtop, a resupply mission to Canadian Forces Station Alert, requires aid from Greenlanders and uses the United States' Thule Space Base, which has been renamed Pituffik Space Base, as a staging area. Greenland could become a partner

12. Christian Leuprecht and Peter Kasurak, "The Canadian Armed Forces and Humanitarian Assistance and Disaster Relief: Defining a Role," Centre for International Governance Innovation (website), August 24, 2020, https://www.cigionline.org/articles/canadian-armed-forces-and-humanitarian-assistance-and-disaster-relief-defining-role/.

13. David Axe, "Nice New Patrol Ship You've Got There, Canada—It'd Be a Shame If Somebody Sank It," *Forbes* (website), June 25, 2020, https://www.forbes.com/sites/davidaxe/2020/06/25/nice-new-patrol-ship-youve-got-there-canada-itd-be-a-shame-if-somebody-sank-it/?sh=4fbd79431ff0.

14. Jay Heisler, "UK-Canada Naval Training Pact Reflects Rising Interest in Arctic," *Voices of America* (website), October 28, 2021, https://www.voanews.com/a/uk-canada-naval-training-pact-reflects-rising-interest-in-arctic-/6288126.html.

of North American Aerospace Defence Command in the future to erase the operating seams between the command and NATO and between United States Northern Command and United States European Command.[15] In the summer of 2021, a preemptive fishing moratorium in the central Arctic that includes the eight Arctic states, China, the EU, and other states went into effect. Russia had just launched an ambitious second term as Arctic Council chair, and Norway was on deck to take over in 2023.

Russia's second attack on Ukraine in 2022 (following the 2014 invasion of the Crimean peninsula) renewed concern about the implications of Russia's actions for the Arctic. At the 2022 Madrid Summit, NATO adopted a new strategic concept that, for the first time, mentions the High North as part of NATO's strategic environment.[16] The three core tasks NATO retains are deterrence and defence, crisis prevention and management, and cooperative security. At the summit, Finland and Sweden were invited to join NATO as member states; Finland became a member state on April 4, 2023.[17] From an Arctic perspective, Finland and Sweden have always been important partners in NATO Arctic exercises, so their becoming members was not considered exceptional. The five Arctic littoral states included four NATO states (Canada, the United States, Denmark, and Norway) and Russia with little concern. The growing split between the seven Arctic states (all of which will be NATO states, with the addition of Sweden and Finland) and Russia is not dissimilar in an Arctic context. But Russia, which is still undeniably the most consequential Arctic actor, cannot be ignored.

Despite the rhetoric surrounding the new potential NATO memberships, little spillover into the Arctic has occurred to date, except in political and governance fora. In some ways, the Arctic is still a separate region, though the concern about a misunderstanding escalating tensions remains. Routine interactions between the US Coast Guard 17th District and the Russian Border Service Directorate for the Eastern Arctic Region, both of which patrol the Bering Strait, bear watching for evidence of a significant change in the political dynamics of the Arctic. To this day, the two districts still have regular, productive contact.

15. Andrea Charron and James Fergusson, *North American Aerospace Defence Command: In Perpetuity and Beyond* (Montreal: McGill-Queen's University Press, 2022), 149–50.

16. NATO, *NATO 2022 Strategic Concept* (Brussels: NATO, June 29, 2022); and NATO, "Madrid Summit Declaration," press release no. (2022) 095, June 29, 2022, https://www.nato.int/cps/en/natohq/official_texts_196951.htm.

17. NATO, "Madrid Summit Declaration."

Canada still has no separate Arctic strategy for its military; rather, an update to the 2017 defence policy *Strong, Secure, Engaged* will likely reference Canada's Arctic. The policy will call Russia an adversary (and will likely avoid using such a moniker for China) but will still focus on North American Aerospace Defence Command as the principal lead for Arctic security in Canada. Canada hosts NATO's Climate Change and Security Centre of Excellence in Montreal. When fully accredited, this centre of excellence will develop "shared knowledge of the security impacts of climate change so that Allies can acquire the capabilities that will be required in the future security environment and establish best practices to reduce the climate impact of military activities." Although it will not be solely dedicated to the Arctic, the centre of excellence will encourage the study of the nexus between climate change and potential conflict.[18]

Implications of Russian Aggression against Ukraine

Canada does not see a straight line from Russia's aggression against Ukraine to inevitable conflict in the Arctic. Rather, Russia's aggression will produce more tangential effects. Russia's military has always reserved its best for the Arctic; from a strategic defence standpoint, the Arctic is a consequential region for Russia to defend. In its large Arctic exercise Umka-2022 in the Chukchi Sea, which occurred just before NATO's exercise Cold Response 2022 (March 14–31, 2022), Russia displayed less bad behaviour in the form of Global Positioning System jamming and buzzing than it had in the past.[19] The Northern Sea Route is not becoming the Suez Canal of the north, despite Russia's boasts to the contrary. The Russian-Finnish border has been relatively stable in the last five years. Given the hemorrhaging of Russian personnel to the Russian war of aggression in Ukraine, any expansion of Russian Arctic forces will likely be on hold or reduced slightly. Norway has always been the chief negotiator and lead on NATO-Russian relations because of Norway's pragmatic stance on Russia and its experience dealing with Russia in Svalbard.

18. "Centres of Excellence," NATO (website), December 6, 2022, https://www.nato.int/cps/en/natohq/topics_68372.htm.

19. "Russia Conducts Military Drills in Arctic Sea Opposite Alaska," Reuters (website), September 16, 2022, https://www.reuters.com/world/russia-conducts-military-drills-arctic-sea-opposite-alaska-2022-09-16/.

Russia's pariah status undermines its status as an Arctic power. Because the West is severely restricting communication with Russia, the danger Russia will behave irresponsibly is increased, in which case the West would be unable to deescalate. A military code of conduct for the Arctic, similar to the Western Pacific Naval Symposium's *Code for Unplanned Encounters at Sea*, has been called for, but little concrete progress has been made.[20]

Whether China will step in to fund lagging Russian resources in the Arctic and to shore up the Russian military remains to be seen. China abstained rather than voting against nonbinding resolutions adopted by the UN General Assembly in emergency meetings that reaffirmed the sovereignty, independence, unity, and territorial integrity of Ukraine. But China condemned attacks on Ukraine's civilian populations and infrastructure, suggesting Russia does not have China's automatic, full, and unquestioned support.[21] Bonny Lin, writing for *Foreign Affairs*, likens China's position on Ukraine and Russia to "threading the needle."[22] In short, a hot war in the Arctic caused by Russia's egregious actions in Ukraine is still not expected. Of course, much depends on the trajectory of peace in Ukraine. The hope is, as was the case following the Cold War, scientific and indigenous cooperation will be the key to normalizing Arctic relations, and Canada will be ready to support such initiatives.

20. Code for Unplanned Encounters at Sea, Austl.-Brunei-Cambodia-Can.-Chile-China-Fr.-Indon.-Japan-Malay.-N.Z.-Papua N.G.-Peru-Phil.-Russ.-Sing.-S. Kor.-Thai.-Tonga-U.S.-Viet., Apr. 22, 2014.

21. UN General Assembly, Resolution ES-11/1, Aggression against Ukraine, A/RES/ES-11/1 (Mar. 18, 2022), https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/293/36/PDF/N2229336.pdf?OpenElement; and UN General Assembly Resolution ES-11/2, Humanitarian Consequences of the Aggression against Ukraine, A/RES/ES-11/2 (Mar. 28, 2022), https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/301/67/PDF/N2230167.pdf?OpenElement.

22. Bonny Lin, "Can China Thread the Needle on Ukraine?," *Foreign Affairs* (website), May 17, 2023, https://www.foreignaffairs.com/china/can-china-thread-needle-ukraine.

Selected Bibliography

Buchanan, Elizabeth. "Russia's Arctic Strategy: Drivers, Hybridity, and Possible Futures." In *Security and Hybrid Threats in the Arctic: Challenges and Vulnerabilities of Securing the Transatlantic Arctic*. Ed. Paul Dickson and Emma Lappalainen. Helsinki: European Centre of Excellence for Countering Hybrid Threats, 2021.

Charron, Andrea, and James Fergusson. *North American Aerospace Defence Command: In Perpetuity and Beyond*. Montreal: McGill-Queen's University Press, 2022.

Chatwood, Susan, Peter Bjerregaard, and T. Kue Young. "Global Health—A Circumpolar Perspective." *American Journal of Public Health* 102, no. 7 (July 2012): 1246–49.

Code for Unplanned Encounters at Sea. Austl.-Brunei-Cambodia-Can.-Chile-China-Fr.-Indon.-Japan-Malay.-N.Z.-Papua N.G.-Peru-Phil.-Russ.-Sing.-S. Kor.-Thai.-Tonga-U.S.-Viet. Apr. 22, 2014.

Heisler, Jay. "United Kingdom-Canada Naval Training Pact Reflects Rising Interest in Arctic." Voices of America (website), October 28, 2021. https://www.voanews.com/a/uk-canada-naval-training-pact-reflects-rising-interest-in-arctic-/6288126.html.

Leuprecht, Christian, and Peter Kasurak. "The Canadian Armed Forces and Humanitarian Assistance and Disaster Relief: Defining a Role." Centre for International Governance Innovation (website), August 24, 2020. https://www.cigionline.org/articles/canadian-armed-forces-and-humanitarian-assistance-and-disaster-relief-defining-role/.

Lin, Bonny. "Can China Thread the Needle on Ukraine?." *Foreign Affairs* (website), May 17, 2023. https://www.foreignaffairs.com/china/can-china-thread-needle-ukraine.

O'Shaughnessy, Terrence, and Peter Fesler. *Hardening the Shield: A Credible Deterrent & Capable Defense for North America*. Washington, DC: Canada Institute, September 2020.

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Arctic Defense Research and Development

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The changing Arctic environment (notably diminishing sea ice, thawing permafrost, and degrading ice sheets) presents unprecedented challenges to the continued stability and security of the region and beyond. Climatic hazards such as extreme weather, droughts, floods, wildfires, and rising sea levels are intensifying. These hazards threaten life, infrastructure, and water and food security. Further, in part because of the rapidly changing environment, the Arctic has the potential to become a contested space where US great-power rivals Russia and China seek to project military and economic power at the expense of US interests. The US Army is prepared to use its research and development (R&D) capabilities to provide impactful solutions for legacy and emerging national and environmental security challenges in the Arctic.

This chapter examines Arctic defense R&D opportunities from the perspective of the Army R&D community. The chapter reviews current strategic drivers that are shaping and influencing decisions on where to make R&D investments, looks to the past to review how World War II and the Cold War influenced Arctic defense-related R&D, and looks ahead at promising opportunities for future R&D investments.

Strategic Drivers

In the last few years, policy guidance from the White House as well as across the military services has influenced the United States' policy on Arctic security. The US government published the *National Security Strategy* and the *National Strategy for the Arctic Region* in October 2022.

to be peaceful, stable, prosperous, and cooperative. The national strategy for the Arctic includes the following four pillars.

> 1. Security: Deter threats to the homeland and our allies by "enhancing the capabilities required to defend our interests"
>
> 2. Climate Change and Environmental Protection: "[B]uild resilience to the impacts of climate change," reduce greenhouse gas emissions, "improve scientific understanding, and conserve the Arctic ecosystems"
>
> 3. Sustainable Economic Development: Improve livelihoods in Alaska, including the livelihood of Alaska Native communities, by "investing in infrastructure, improving access to services, and supporting growing economic sectors"
>
> 4. International Cooperation and Governance: "[S]ustain institutions for Arctic cooperation"[1]

The Arctic region is strategically significant to national security, as outlined in the *2019 DoD Arctic Strategy*, the 2020 *Department of the Air Force Arctic Strategy*, *Blue Arctic: A Strategic Blueprint for the Arctic* (published by the Department of the Navy in 2021), and the 2021 Army *Regaining Arctic Dominance* strategy.[2] The end state of the overarching Department of Defense strategy is "a secure and stable region in which US national security interests are safeguarded, the US homeland is defended, and nations work cooperatively to address shared challenges."[3] In short, the Army end state is to generate and project multidomain forces that can "fight, win, and survive in extreme cold weather."[4] The Army strategy provides the following five lines of effort to achieve this end state.

1. White House, *National Strategy for the Arctic Region* (Washington, DC: White House, October 2022), 7.

2. Department of Defense (DoD), *2019 DoD Arctic Strategy* (Washington, DC: DoD, June 2019); Department of the Air Force, *Department of the Air Force Arctic Strategy* (Washington, DC: Department of the Air Force, June 21, 2020); Department of the Navy, *Blue Arctic: A Strategic Blueprint for the Arctic* (Washington, DC: Department of the Navy, January 5, 2021); and Headquarters, Department of the Army (HQDA), *Regaining Arctic Dominance*, Chief of Staff Paper no. 3 (Washington, DC: HQDA, January 19, 2021).

3. DoD, *2019 DoD Arctic Strategy*, 1.

4. HQDA, *Regaining Arctic Dominance*, 28.

1. Build Arctic capabilities across the force, including improving materiel readiness for conducting extended operations and anticipating and mitigating the "impact of [the] changing environment on infrastructure and operations"

2. "Achieve a strengthened network of allies and partners," including partnering with indigenous communities

3. "[D]eter or defeat land threats to the far north"

4. Build and "[p]roject multi-domain effects across the region"

5. "Project Power Across the Arctic . . . in crisis and conflict"[5]

The policy for Arctic security in the United States is heavily influenced by White House Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, which states a priority of the United States is to enhance "climate ambition and integration of climate considerations across a wide range of international fora," including the Arctic.[6] The Department of Defense and military services have begun proactively addressing challenges presented by climate change. Worthy of note, the Army has nested its Arctic strategy into the *United States Army Climate Strategy*, which was published in 2022. Indeed, the Army recognizes "the Arctic is warming twice as fast on average as the rest of the world," thereby creating a "rapidly changing environment" in which the Army "must be prepared to operate."[7] The Army climate strategy establishes the following three lines of effort.

1. Installations: "[E]nhance resilience and sustainability by adapting infrastructure and natural environments to climate change risks, securing access to training and testing lands," mitigating greenhouse gas emissions, and ensuring a "resilient energy and water supply"

2. Acquisition and logistics: Increase operational capability, reduce sustainment demand, strengthen climate resilience,

5. HQDA, *Regaining Arctic Dominance*, 28–29.

6. Exec. Order No. 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021).

7. Office of the Assistant Secretary of the Army for Installations, Energy and Environment, *United States Army Climate Strategy* (Washington, DC: Department of the Army, February 2022), 3, 5.

"reduce operational energy and water use," and "standardize contingency basing" in nonenduring locations "to increase resilience and reduce fuel requirements"

3. Training: "Prepare a force that is ready to operate in a climate-altered world"[8]

Looking Back: The Impact of World War II and the Cold War

Following the Japanese attack on Pearl Harbor in 1941, US leadership was concerned about the vulnerability of the Pacific Northwest and Alaska to Japanese attack. Japanese naval and air superiority prompted military leaders to propose a land route that would enable the transport of troops and equipment to isolated outposts in Alaska. In early 1942, President Franklin Roosevelt, in coordination with the Canadian government, gave formal approval for the construction of the land route through the Canadian wilderness from Dawson Creek, British Columbia, to Fairbanks, Alaska. Construction began in March 1942 by US Army Corps of Engineers soldiers who would eventually increase in size to over 10,600. The 1,685-mile–long road, known today as the Alaska Highway, was opened to military traffic just eight months later, in November 1942. The soldiers who built the highway encountered numerous challenges during its construction.

The Alaska Highway represents a significant military engineering achievement of the Army Corps of Engineers that was made possible by a significant shift in national security policy by both the United States and Canada. Indeed, the Alaska Highway was first conceived in the 1920s, but the decision to build the highway did not come until about 90 days after the attack on Pearl Harbor, which emphasized the urgent threat the Japanese military posed to the Pacific Northwest and Alaska.

Moving into the Cold War years, the United States continued to construct substantial infrastructure in the Arctic region in direct response to the perceived Soviet military threat, including the threat of nuclear attack. Examples of this infrastructure included early warning systems, air bases, and scientific research bases. The Distant Early Warning Line, built in the 1950s to detect Soviet bombers, included 63 radar and

8. Office of the Assistant Secretary of the Army for Installations, Energy and Environment, *Army Climate Strategy*, 5–6, 10, 14.

communication centers that used the latest innovative electronic systems and radar technology. The line spanned 3,000 miles across Alaska, Canada, and Greenland. The United States constructed Thule Air Base in Greenland in 1951–52, an effort that involved around 12,000 men. The construction of infrastructure on ice-rich permafrost incorporated the latest in permafrost technology—most notably, the use of air-ducted foundations to counter potential thaw-settlement problems. Finally, Camp Century, located about 150 miles east of Thule Air Base in Greenland, was a Cold War scientific research base.

Climate Change Insights from Army Research at Camp Century

The United States built Camp Century in the Greenland ice sheet in the 1950s and operated the facility, which consisted of about three kilometers of tunnels, from 1959 until 1967. The facility closed, in part, because the United States determined the ice sheet was not as stable as the nation had originally assessed. In 1966, the Cold Regions Research and Engineering Laboratory team at Camp Century used specialized deep-drilling and ice-core sampling techniques to retrieve a 1,390-meter–long continuous ice core from the Greenland ice sheet. The team subsequently used the ice-core samples to provide a wealth of data on thousands of years of climatic history detected in entrapped gases and dust particles in the ice.[9] Worthy of note is the Arctic ice-coring operation subsequently moved to Byrd Station, Antarctica, where the team penetrated the ice sheet to a depth of 2,164 meters in 1968.[10]

Current Army Cold-Region R&D Capabilities

Perhaps the largest obstacle to the completion of the Alaska Highway was the terrain. The Army Corps of Engineers built nearly 200 bridges for crossing rivers, and the muskeg (wet peat bog) and permafrost posed problems as well. So problematic was the construction of the highway on permafrost, the Army Corps of Engineers established a permafrost research capability in 1945. Today, this research capability resides in Fairbanks, Alaska, and the Permafrost Tunnel Research Facility in Fox, Alaska,

9. W. Dansgaard et al., "One Thousand Centuries of Climatic Record from Camp Century on the Greenland Ice," *Science* 166, no. 3903 (October 1969): 377–80.

10. Chester C. Langway Jr., "The History of Early Polar Ice Cores," *Cold Regions Science and Technology* 52, no. 2 (April 2008): 101–17.

both of which are operated as part of the US Army Cold Regions Research and Engineering Laboratory.[11]

Located in Hanover, New Hampshire, the Cold Regions Research and Engineering Laboratory is the only federal laboratory in the United States whose mission focuses on cold regions of the planet. The laboratory is one of seven Army research laboratories that collectively represent the Engineer Research and Development Center, the R&D arm of the US Army Corps of Engineers. Collectively, the seven laboratories comprise a wide and diverse set of scientific and engineering core competencies that are relevant to Arctic R&D needs. (The other six laboratories are the Construction Engineering Research Laboratory, the Coastal and Hydraulics Laboratory, the Environmental Laboratory, the Geospatial Research Laboratory, the Geotechnical and Structures Laboratory, and the Information Technology Laboratory.)

Having assessed the emerging Arctic guidance from the Department of Defense and military services, the Cold Regions Research and Engineering Laboratory is actively building and augmenting cold regions' scientific and engineering core competencies by pursuing the following three lines of effort.

1. Enhance Arctic domain awareness: Enhance the Army's understanding as well as its predictive capabilities

   - Understand the effects of extreme environmental conditions on sensor performance, signal propagation, and optimal sensor placement
   - Advance the Army's ability to model ice-floe behavior, mechanics, and forces
   - Integrate technologies for detecting permafrost and seasonally frozen ground as well as forecasting terrain state changes

2. Evolve Arctic infrastructure and strategic capabilities: Provide science and engineering solutions to support operations throughout the Arctic region

11. "Our Facilities," US Army Corps of Engineers (website), n.d., accessed on March 8, 2023, https://www.erdc.usace.army.mil/Locations/CRREL/Our-Facilities/.

- Develop near-real-time assessments of the state of terrain for threat, hazard, and awareness communication
- Explore composite material development that can be produced on site and used in expedient repairs and construction
- Evaluate and further develop materiel and materials for use under harsh Arctic conditions

3. Protect the Arctic environment and conserve Arctic natural resources: Understand Arctic ecosystem processes to anticipate the long-term consequences of operations

- Facilitate the detection and mitigation of oil in ice-filled waters
- Quantify contaminant fate and transport in unique Arctic environments

International Cooperation

The United States greatly values its long-standing partnership with its allies on Arctic R&D. The United States and Canada have initiated numerous bilateral cooperative efforts—notably, North American Aerospace Defense Command (NORAD) as well as numerous academic and industrial Arctic R&D projects. More recently, the United States and Canada have initiated collaborative project agreements under the auspices of the International Cooperative Engagement Program for Polar Research, which is the vehicle for collaboration with partner nations to improve defense and security capabilities in the Arctic. The partner nations in the agreement include Canada, Denmark, Finland, New Zealand, Norway, Sweden, and the United States.

Looking Forward: Arctic Defense R&D Opportunities

Common strategic themes drive future Arctic defense R&D efforts, which, in turn, are influenced by strategic guidance for combating climate change—for example, by mitigating greenhouse gas emissions. Based on my analysis of the various strategic drivers, I propose Arctic defense R&D opportunities can be bundled into the following seven areas.

1. Domain awareness: Detect threats and understand the Arctic operational environment

- Threat detection and tracking by the development of new technologies as exemplified by over-the-horizon radar
- Fidelity of models for sea-ice tracking
- Detection of permafrost and seasonally frozen ground as well as forecasting changes in terrain state
- Mitigation of the adverse effects of extreme environmental conditions on sensor performance, signal propagation, and optimal sensor placement

2. Energy: Reduce reliance on fossil fuels, thereby reducing the logistics burden and greenhouse gas emissions

- Non-fossil-fuel energy technologies for polar operations, including wind, solar, geothermal, and nuclear
- The development of energy systems that are modular, ruggedized for cold weather, and transportable
- Cold-weather energy storage
- New battery chemistry that is cold resistant

3. Permanent and expeditionary infrastructure: Advance technologies needed for resilient infrastructure with enhanced energy efficiencies best suited for the extreme Arctic environment

- Permafrost engineering technologies to ensure infrastructure stability
- Construction materials well suited for the Arctic (for example, cold-weather concrete)
- Automated construction (three-dimensional printing) and robotic technologies to facilitate construction

- Technologies to support the development of modular shelters that are adaptable and ruggedized for extreme cold-weather conditions and result in a reduced logistics burden
    - Integration of these technologies with advanced technologies for energy, water, and wastewater

4. Water and wastewater: Optimize the ability to provide liquid water with a reduced logistics burden as well as to improve wastewater discharge and reuse in the extreme Arctic environment

5. Mobility: Improve mobility capabilities (manned and unmanned) to support expeditionary and sustained military operations

6. Human performance: Reduce the challenges and limitations of human activities in the extreme Arctic environment

- Smart clothing technology
- Cold-weather feeding technology
- Cold-resistant battery chemistry
- Treatment of freezing cold injuries

7. Understanding the changing Arctic environment: Support scientific endeavors to understand, model, predict, and ultimately protect the Arctic environment

- Arctic sea-ice dynamics
- Land ice loss, including glaciers and the Greenland ice sheet
- Climate-change-driven coastal erosion and flooding
- Permafrost thaw

- Understand and predict greenhouse gas emissions from thawing permafrost
- Understand the potential impact of permafrost thaw on human health

Conclusion

The recently published Arctic defense strategies prepared by the Department of the Navy, Department of the Air Force, Army, Department of Defense, and White House offer many opportunities for Arctic defense R&D. The current interest in Arctic regional security is the highest it has been since the end of the Cold War due to the rapidly changing Arctic environment (for example, diminishing sea ice), which has resulted in enhanced strategic competition with Russia and China. Because the Arctic is warming three times faster on average than the rest of the world, the sense of urgency to improve Arctic defense and environmental security has increased. As a result of shortfalls in current capabilities, the seven areas of R&D identified in the preceding section are necessary to improve Arctic defense and environmental security meaningfully.

Selected Bibliography

Dansgaard, W., et al. "One Thousand Centuries of Climatic Record from Camp Century on the Greenland Ice." *Science* 166, no. 3903 (October 1969): 377–80.

Department of the Air Force. *Department of the Air Force Arctic Strategy*. Washington, DC: Department of the Air Force, June 21, 2020.

Department of the Navy. *Blue Arctic: A Strategic Blueprint for the Arctic*. Washington, DC: Department of the Navy, January 5, 2021.

Exec. Order No. 14,008. 86 Fed. Reg. 7619. Jan. 27, 2021.

Headquarters, Department of the Army. *Regaining Arctic Dominance*, Chief of Staff Paper no. 3. Washington, DC: Headquarters, Department of the Army, January 19, 2021.

Langway, Chester C., Jr. "The History of Early Polar Ice Cores." *Cold Regions Science and Technology* 52, no. 2 (April 2008): 101–17.

Office of the Assistant Secretary of the Army for Installations, Energy and Environment. *United States Army Climate Strategy*. Washington, DC: Department of the Army, February 2022.

White House. *National Strategy for the Arctic Region*. Washington, DC: White House, October 2022.

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The Evolving Chinese Strategic Approach in the Arctic Following the Russian Invasion of Ukraine

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The content and focus of China's Arctic agenda have broadened in the recent decade as Beijing has focussed on establishing itself as a leading power within the domains of knowledge and innovative, new technologies.

China has tried to establish its presence and influence in the Arctic, but the Chinese strategic approach of gradually building comprehensive relations with Arctic states and stakeholders—using, for example, offers of research cooperation, infrastructure projects, and trade and investments—has not been successful, which has left Russia as China's gateway to the Arctic.

The Arctic is an area of growing Russian and Chinese cooperation. The Sino-Russian joint statement from February 2022 declares, "The sides agreed to continue consistently intensifying practical cooperation for the sustainable development of the Arctic."[1] This mention of the Arctic is the first of its kind in a Sino-Russian joint statement, and it arguably indicates how a weakened Russia increasingly dependent on China could be willing to compromise on its resistance toward allowing non-Arctic states to play a stronger role in the region.

Consequently, the key question is whether China has new strategic opportunities to establish its presence and influence in the Arctic following Russia's invasion of Ukraine.

1. Vladimir Putin and Xi Jinping, "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" (speech, Beijing, February 4, 2022), http://en.kremlin.ru/supplement/5770.

Outlining China's evolving strategic approach in the Arctic, the chapter first examines China's interests in the region and how Beijing has so far tried to secure and promote these interests. The third and last part starts the discussion of how the war in Ukraine could influence Sino-Russian cooperation in the Arctic and, consequently, China's position in the Arctic going forward.

The question of whether the Chinese strategic approach in the Arctic is changing has lingered in the background during recent years, as China's ability to maneuver in the Arctic has become more constrained. The Western Arctic states (that is, the Arctic eight minus Russia) have general, growing concerns about a stronger and more assertive China that often have very little to do with the Arctic but reflect a more skeptical and cautious approach to cooperation with China on a range of issues.[2] These concerns further relate to how the intensifying great-power rivalry between the United States and China has a growing influence in the Arctic.[3] Thus, a complex mix of crosscutting global and regional security dynamics increasingly plays out in the Arctic, making the maneuvering of regional states more challenging. More and more issues are securitized, and concerns about dual-use applications have also been growing, restricting cooperation with China on, for example, research, infrastructure, and resource extraction projects. How has China so far reacted to this development? Beijing has adopted a wait-and-see approach and taken a step back, conducting a "tactical retreat" from the Arctic minus Russia.[4] Establishing presence and influence in the Arctic, however, is still one of China's persistent strategic priorities, and therefore China will seek to reengage. This reengagement will thus be in an Arctic security context much influenced by the ongoing war in Ukraine.

2. Oscar Almén and Christopher Weidacher Hsiung, *China's Economic Influence in the Arctic Region: The Nordic and Russian Cases*, FOI-R--5326--SE (Stockholm: Swedish Defence Research Agency, June 2022); and Stephanie Pezard et al., *China's Strategy and Activities in the Arctic: Implications for North American and Transatlantic Security*, RR-A1282-1-v2 (Santa Monica, CA: RAND Corporation, 2022).

3. Camilla T. N. Sørensen, "Intensifying US-China Security Dilemma Dynamics Play Out in the Arctic – Implications for China's Arctic Strategy," in *Arctic Yearbook 2019*, ed. Lassi Heininen, Heather Exner-Pirot, and Justin Barnes (Rovaniemi, FI: Thematic Network on Geopolitics and Security of the University of the Arctic, 2019).

4. Camilla T. N. Sørensen, *The Ice Dragon – Chinese Interests in the Arctic*, Hybrid CoE Strategic Analysis 19 (Helsinki: Hybrid CoE, November 2019), 1–8.

Why Is the Arctic of Strategic Importance for China?

Three specific but interrelated factors have driven China's strategic prioritization of the Arctic over the last decade. The first is the strengthening of China's Arctic research capacity and knowledge. The country has focused on gaining a better understanding of the changing Arctic climate to predict and prepare for its implications as well as to establish China gradually as a valuable partner of the Arctic states and stakeholders.[5] Such state conduct is often termed "science diplomacy"—instances in which China, as do other non-Arctic states, seeks to use research activities to legitimize and strengthen its presence in the region.[6] Yet, the content and focus of China's research agenda have been broadening in the recent decade—and perhaps especially in recent years—as the country's domestic focus of establishing itself as a leading power within the domains of knowledge and innovative, new technologies has been further emphasized as a result of the intensifying, great-power rivalry with the United States.[7]

In China, the polar regions (that is, the Arctic and the Antarctic), the deep seabed, and outer space are seen as "new strategic frontiers" understood as very challenging areas in which to operate, resulting in a constant urge on the part of Chinese researchers, engineers, and other professions to advance their knowledge and improve their technological capabilities and solutions.[8] China's ability to conduct research and other activities in the Arctic is therefore also valued in Beijing for the way it contributes to promoting and raising the overall level of innovation and technology in China, which constitutes a key priority in the country's national development strategy for restructuring and upgrading the Chinese economic model. Such emphasis on the Arctic as a crucial frontier for increasing China's level of technological advancement implies ensuring Chinese access to the Arctic is a means in China's national development

5. Anne-Marie Brady, *China as a Polar Great Power* (Cambridge, UK: Cambridge University Press, 2017), 171–76.

6. Rasmus Bertelsen, Li Xing, and Mette Højris Gregersen, "Chinese Arctic Science Diplomacy: An Instrument for Achieving the Chinese Dream?," in *Global Challenges in the Arctic Region: Sovereignty, Environment and Geopolitical Balance*, ed. Elena Conde and Sara Iglesias Sánchez (Oxfordshire, UK: Taylor & Francis, 2016), 442–60.

7. Xiangning Wu, "Technology, Power, and Uncontrolled Great Power Strategic Competition between China and the United States," *China International Strategy Review* 2 (2020): 99–119.

8. *Xinhuanet,* "国家安全法草案拟增加太空等新型领域的安全维任务" [The draft National Security Law will increase security in space and other new areas], China News Service (website), June 24, 2015, http://www.chinanews.com/gn/2015/06-24/7363693.shtml; and Brady, *Polar Great Power*, 7.

strategy and the development and application of new technologies in the Arctic thus becomes an end in itself.[9]

In recent years, China has begun to conduct increasingly sophisticated scientific experiments as part of its Arctic research expeditions.[10] These experiments give China Arctic knowledge as well as the opportunity to use and develop the country's knowledge and technological capabilities under harsh and challenging conditions. This Chinese attitude to the Arctic as a "strategic frontier" is a crucial point in understanding why, despite recent setbacks (for example, the aforementioned "tactical retreat" from the Arctic by China as the United States and other Western Arctic states have become more wary of China), China's emphasis on establishing itself as an Arctic stakeholder is persistent and long-term. This is a Chinese strategic priority that is linked to the domestic agenda and therefore official documents continue to encourage an expansion of the country's Arctic research activities and capacity.[11] Of course, the knowledge and technology developed from these activities have both civilian and military use (that is, dual-use applications) and thus also play into Beijing's civil-military fusion strategy and its strategic priority of developing a world-class military.[12]

The second driver behind China's growing strategic prioritization of the Arctic over the last decade is ensuring the country's access to Arctic resources assessed as important to secure and diversify China's supply. This driver applies to a broad range of resources (such as oil, gas, and rare earth minerals) that the region holds in large amounts and that are now becoming more accessible. Furthermore, China, which already possesses one of the world's largest distant-water fishing fleets, has shown increasing interest in ensuring access to Arctic fishing grounds.[13]

9. Camilla T. N. Sørensen and Christopher Weidacher Hsiung, "The Role of Technology in China's Arctic Engagement: A Means as Well as an End in Itself," in *Arctic Yearbook 2021*, ed. Lassi Heininen, Heather Exner-Pirot, and Justin Barnes (Rovaniemi, FI: Thematic Network on Geopolitics and Security of the University of the Arctic, 2021).

10. Wei Zexun et al., "Overview of the 9th Chinese National Arctic Research Expedition," *Atmospheric and Oceanic Science Letters* 13, no. 1 (2020): 1–7.

11. Central Commission for Cybersecurity and Informatization, 十四五国家信息化规划 [14th five-year plan for national informatization] (Beijing: Chinese Communist Party, December 2021).

12. Elsa B. Kania, *In Military-Civil Fusion, China Is Learning Lessons from the United States and Starting to Innovate* (Washington, DC: Strategy Bridge, August 2019).

13. William G. Dwyer, "China's Strategic Interests in the Arctic," *Army War College Review* 2, no. 2 (May 2016): 8–9.

The third driver is promoting and securing favourable access to Arctic sea routes, which, aside from their crucial importance for extracting Arctic resources, are considered attractive alternatives to the longer and strategically vulnerable routes through the Strait of Malacca and the Suez Canal.[14] The general assessment is Arctic sea routes will not be commercially viable in the near future, but China—particularly, the Chinese state-owned shipping company China Ocean Shipping Company, Limited (COSCO)—seems to have a more optimistic outlook.

The Transpolar Sea Route, which cuts straight across the North Pole, seems to be of particular growing interest to China.[15] The route is the shortest of the three Arctic sea routes. In addition, unlike the Northeast Passage and the Northwest Passage (NWP), the Transpolar Sea Route runs through international waters, where all states have freedom of navigation; hence, China's ships would not have to follow the specific regulations of any one Arctic state. The most relevant of these regulations is Russia's regulation that applies to the Northeast Passage (see figure 12-1).[16]

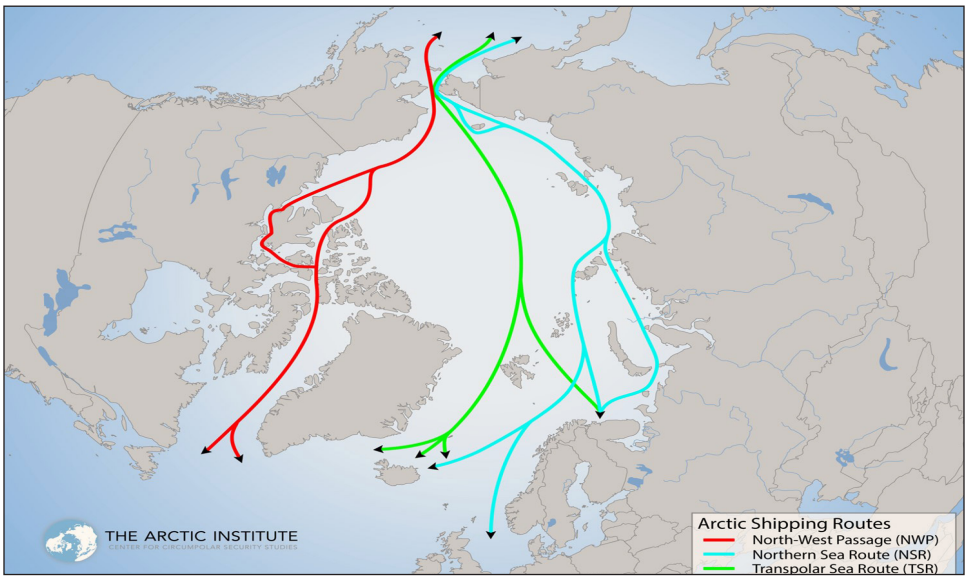

Figure 12-1. Arctic shipping routes
(Copyright of Malte Humpert, Arctic Institute – Center for Circumpolar Security Studies)

14. Ryan D. Martinson, "The Role of the Arctic in Chinese Naval Strategy," *China Brief* 19, no. 22 (December 20, 2019).

15. Mia Bennett, "The Arctic Shipping Route No One's Talking About," *Maritime Executive* (website), May 8, 2019, https://www.maritime-executive.com/editorials/the-arctic-shipping-route-no-one-s-talking-about?__ac_lkid=3e7-cc58-1ee8-9f6d17170d5ecfa.

16. Arctic Institute, "Arctic Maps – Visualizing the Arctic," Arctic Institute (website), May 17, 2016, https://www.thearcticinstitute.org/arctic-maps/.

The Chinese Strategic Approach in the Arctic

Turning the focus to how Beijing so far has tried to secure and promote these Arctic interests, the approach has been to establish strong and comprehensive relationships with as many Arctic states and stakeholders as possible and to increase China's engagement in Arctic governance gradually. Consequently, the main Chinese tactic has been to offer benefits (such as specific knowledge or investments) at different levels to the Arctic states and various stakeholders, who then develop their own interests in keeping China engaged in the region and further developing relations with Chinese stakeholders. Keenly aware China does not have Arctic territory, Beijing depends on Arctic states seeing benefits in China's involvement in the region. In other words, China has sought to knit itself into the region on multiple levels through bilateral and multilateral agreements and engagements (for example, within research, infrastructure, and resource extraction).

Yet, the challenge for Beijing is this tactic has not been working. Thus far, China has had little success. The intensifying great-power rivalry between the United States and China and the worsening atmosphere of and growing tension in relations between China and the EU play into the dynamics of the Arctic as well, making China's strengthening of relations and attempt to increase Chinese presence and activities in the region, except for with Russia, more difficult.[17]

In recent years, Beijing has adjusted its approach to and engagement in the region, including the country's framing of or narrative about China in the Arctic. The adjustment has been pragmatic and one in which China has toned down its Arctic ambitions (for example, it has recently refrained from referring to itself as a "near-Arctic state").[18] Rather, Beijing reemphasizes cooperative policies and how engagement with Chinese stakeholders—which includes access to Chinese knowledge and technology—can benefit Arctic states and stakeholders. In addition, various Chinese entities in the Arctic tend to keep a low profile and avoid challenging Arctic states (for example, China's research expeditions conducting activities in international waters). Consequently, Beijing has adopted a wait-and-see approach; it has taken a step back (the aforementioned tactical retreat from the

17. Camilla T. N. Sørensen and Jørgen Staun, "Incompatible Strategic Cultures Limit Russian-Chinese Strategic Cooperation in the Arctic," *Scandinavian Journal of Military Studies* 6, no. 1 (2023): 24–39.

18. State Council Information Office of the People's Republic of China, "China's Arctic Policy" (white paper, State Council Information Office of the People's Republic of China, January 26, 2018), https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

Arctic, minus Russia) to observe what the United States can or will offer other Western Arctic states and stakeholders that have previously been more open to cooperation with China (for example, Greenland, Iceland, and Finland). If the United States is not able or willing to deliver on its many promises (for example, stronger US economic engagement), China anticipates prospects for its engagement in the region will improve again. In the interim, China has increased its focus on strengthening Arctic cooperation with Russia.

New Strategic Opportunities Following the War in Ukraine?

This directs focus on the initial key question "does China have new strategic opportunities to establish its presence and influence in the Arctic following Russia's invasion of Ukraine?" So far it appears as if China is taking advantage of a weakened Russia in the Arctic—for example, obtaining attractive deals on gas and oil from the Russian Arctic as well as advancing some of China's more long-term interests in the region—thereby gradually improving the prospect for establishing its presence and influence in the Arctic. Even before Russia's invasion of Ukraine, signs indicated the changing balance between Russia and China was influencing dynamics in the Arctic (for example, in the previously mentioned Sino-Russian joint statement from February 2022). Moscow's approval of the inclusion of the Arctic in a Sino-Russian joint statement for the first time arguably indicates how a weakened Russia increasingly dependent on China could be willing to compromise on its resistance toward allowing non-Arctic states into the region, including into Arctic governance. Previously, Moscow has been a keen supporter of only Arctic states engaging in Arctic governance (for example, Moscow was hesitant to include non-Arctic states, including China, in the Arctic Council as observers in 2013, only agreeing to such after strong reassurances that the privileges of the Arctic states would be upheld and the non-Arctic states would respect the existing Arctic governance structure).[19] Now, the Russian bargaining position has weakened, and China arguably has more room to push for governance that does not originate from the Arctic nor gives privileges to the Arctic states. As written in the Chinese white paper on the Arctic from January 2018 (which is depicted in figure 12-2):

19. Rolf Folland, "Arctic Strategy: Deterrence and Détente," *Journal of Indo-Pacific Affairs* (website), October 3, 2022, https://www.airuniversity.af.edu/JIPA/Display/Article/3173373/arctic-strategy-deterrence-and-dtente/.

> China is committed to improving and complementing the Arctic governance regime. . . . China upholds the current Arctic governance system with the UN Charter and the UNCLOS as its core, plays a constructive part in the making, interpretation, application and development of international rules regarding the Arctic, and safeguards the common interests of all nations and the international community. . . . The governance of the Arctic requires the participation and contribution of all stakeholders.[20]

Figure 12-2. China's Arctic Policy

In hinting at its preference for governance that is not specific to the Arctic, China clearly has ambitions to increase its role and influence in Arctic governance. From Beijing's point of view, Arctic governance is not for Arctic states alone. In addition, the Arctic governance regime is seen as preliminary, and as the Arctic evolves and non-Arctic states gain more presence and influence, the Arctic governance regime also has to evolve.[21] With the weakened Russian bargaining position and the primary Arctic governance institution (that is, the Arctic Council) on pause

20. State Council Information Office of the People's Republic of China, "China's Arctic Policy"; and "China Publishes Arctic Policy, Eyeing Vision of 'Polar Silk Road,'" *Xinhuanet* (website), January 26, 2018, http://www.xinhuanet.com/english/2018-01/26/c_136926357_2.htm.

21. Camilla T. N. Sørensen, "The Evolving Chinese Strategy in the Arctic: Entering the Grey Zone?," in *Hybrid Threats and Grey Zone Conflict: The Challenge to Liberal Democracies*, ed. Mitt Regan and Aurel Sari (Oxford, UK: Oxford University Press, forthcoming).

following the Russian invasion of Ukraine, openings for Beijing to push its agenda further have materialized. Beijing could start to push for a more open—or an international—alternative to the Arctic Council.

So far, Beijing has not made such a push, but the Western Arctic states should be aware sanctioning, political condemnation, and diplomatic isolation have weakened Russia's resistance toward allowing China a stronger role in the Arctic, including in Arctic governance. Arguably, this risk also relates to weakening Russian resistance if Beijing starts to push for more Chinese dual-use activities in the Russian Arctic or even an outright Chinese military presence. The subsequent question is how many strategic gains China believes it would be able to achieve by adopting such a strategic offensive in the Arctic, taking into account the potential negative consequences for its relations with European states and the United States. One thing seems certain—as China continues to enhance its economic, political, and military power vis-à-vis Russia's stalling economy, weakening political influence, and failing military, the Chinese confidence and sense of entitlement in the Arctic are likely to grow.

Yet, the concern in the Western Arctic states should be if China first succeeds with Russia's passive acceptance to establish an alternative governance mechanism or a stronger Chinese presence and increased activity, including military presence and activity, in the Arctic, then reversing such a development would not be easy. Such a development would likely occur as a gradual change of the status quo in the region to China's advantage. The risk of such a development and the resulting long-term implications for Arctic governance and security should be included in considerations for dealing with Russia in the Arctic following the country's invasion of Ukraine.

Selected Bibliography

Almén, Oscar, and Christopher Weidacher Hsiung. *China's Economic Influence in the Arctic Region: The Nordic and Russian Cases*, FOI-R--5326--SE. Stockholm: Swedish Defence Research Agency, June 2022.

Brady, Anne-Marie. *China as a Polar Great Power*. Cambridge, UK: Cambridge University Press, 2017.

Pezard, Stephanie et al. *China's Strategy and Activities in the Arctic: Implications for North American and Transatlantic Security*, RR-A1282-1-v2. Santa Monica, CA: RAND Corporation, 2022.

Sørensen, Camilla T. N., and Christopher Weidacher Hsiung. "The Role of Technology in China's Arctic Engagement: A Means as Well as an End in Itself." In *Arctic Yearbook 2021*. Ed. Lassi Heininen, Heather Exner-Pirot, and Justin Barnes. Rovaniemi, FI: Thematic Network on Geopolitics and Security of the University of the Arctic, 2021.

Sørensen, Camilla T. N., and Jørgen Staun. "Incompatible Strategic Cultures Limit Russian-Chinese Strategic Cooperation in the Arctic." *Scandinavian Journal of Military Studies* 6, no. 1 (2023): 24–39.

Sørensen, Camilla T. N. "Intensifying US-China Security Dilemma Dynamics Play Out in the Arctic – Implications for China's Arctic Strategy." In *Arctic Yearbook 2019*. Ed. Lassi Heininen, Heather Exner-Pirot, and Justin Barnes. Rovaniemi, FI: Thematic Network on Geopolitics and Security of the University of the Arctic, 2019.

Sørensen, Camilla T. N. "The Evolving Chinese Strategy in the Arctic: Entering the Grey Zone?," in *Hybrid Threats and Grey Zone Conflict: The Challenge to Liberal Democracies*, ed. Mitt Regan and Aurel Sari. Oxford, UK: Oxford University Press, forthcoming.

State Council Information Office of the People's Republic of China, "China's Arctic Policy." white paper, State Council Information Office of the People's Republic of China, January 26, 2018. https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

— 13 —

The Changing Human Terrain of a Warming Arctic: Expanding Partnerships between Special Forces and Diverse, Local Populations

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The Arctic is quickly becoming one of the most complex and fascinating regions on Earth from a human-domain standpoint, but special operations planning or training does not always sufficiently incorporate the security implications of evolving demographic trends. Many US military leaders are now well versed in how the Arctic is warming four times faster than anywhere else on Earth due to climate change.[1] Military leaders in the United States are aware of the melting circumpolar world becoming a new "gold rush" region where Russia and China are increasingly competing with the United States strategically, militarily, and economically as they seek out control of 15 percent of the world's untapped oil, 30 percent of the planet's untapped natural gas, an abundance of rare-earth minerals, and lucrative polar shipping lanes.[2] Special Forces leaders have heard the glaciers are receding, the permafrost is melting, and the sea ice is retreating.[3] Meanwhile, special operators are urgently pivoting from decades of desert expertise to the fundamentals of tactical operations in extreme-cold conditions. What combination of gloves works best in minus 60 degrees Fahrenheit? How does one prevent condensation

1. Mika Rantanen et al., "The Arctic Has Warmed Nearly Four Times Faster Than the Globe since 1979," *Communications Earth & Environment* 3, no. 168 (2022).

2. Roger Howard, *The Arctic Gold Rush: The New Race for Tomorrow's Natural Resources* (London: Bloomsbury, 2009).

3. "World of Change: Arctic Sea Ice," NASA Earth Observatory (website), n.d., accessed on December 13, 2022, https://earthobservatory.nasa.gov/world-of-change/sea-ice-arctic.

from forming on goggles? Why can lubricant not be used on firearms in the extreme cold?

Yet, in all the frantic activity and flurry of preparation for operations above the Arctic Circle, education for special operators often leaves out one critical element of preparatory analysis and training: climate change. Thus, from an environmental security standpoint, how are the human populations of the circumpolar north evolving with climate change; what are the security dynamics of these trends; and how can Special Forces connect with new, diverse populations as partners in a warming Arctic?

For thousands of years, the circumpolar world has been one of the most remote and least populated regions on Earth. Even today, only 4 million people live above the Arctic Circle, with 2.5 million of these individuals residing in northern Russia.[4] One in 10 Arctic residents is indigenous, and up to 90 different languages are spoken in the northern polar region.[5] But as the Arctic warms, the region will continue to experience important demographic trends and open to more development in places where Special Forces will operate, like northern Alaska. As a result, the forces must familiarize themselves with these demographic changes.

Demographic diversity is significant in the Arctic, and special operators must understand the population trends in the areas in which Special Forces will most likely be stationed. Special operators must be certain not to label the geography, culture, terrain, or people of the Arctic. Demographic patterns are a critical component of sociocultural intelligence and military planning, and the Arctic is diverse in many ways. Historically, Western military powers and colonial expedition teams have often stereotyped the Arctic as a frozen wasteland populated by fur-covered people in igloos. But the Arctic has always been remarkably linked to other parts of the world, awash in unique ethnic identities, and rich in human populations with exceptional skills in thriving, not just surviving, in one of the world's most brutal environments.[6]

4. "Arctic Peoples," Arctic Council (website), n.d., accessed on December 13, 2022, www.arctic-council.org/explore/topics/arctic-peoples/.

5. Rosa-Máren Magga and Ellen Inga Turi, "How Arctic Indigenous Peoples Are Revitalizing Their Languages," Arctic Council (website), May 10, 2021, https://arctic-council.org/news/revitalizing-arctic-indigenous-languages/.

6. Timothy Heleniak, Eeva Turunen, and Shinan Wang, "Cities on Ice: Population Change in the Arctic," *Nordregio* (website), n.d., accessed on December 13, 2022, https://nordregio.org/nordregio-magazine/issues/arctic-changes-and-challenges/cities-on-ice-population-change-in-the-arctic/.

Today's circumpolar region is even more complex than it has been historically. The circumpolar region is one of the most socially dynamic areas on Earth as climate change reshapes the region from both a physical and a population perspective. Special Forces planners and operators would do well to understand the richness of the communities in the Arctic by supplementing reading and guest lectures with on-the-ground, extended, repeated site visits to communities above the Arctic Circle.

The highest priority for Special Forces, from a human terrain standpoint, is to understand and track regularly the changing demographic patterns of the forces' primary intended area of operations: the American High North above the 66th parallel in northern Alaska. Special Forces should understand four main demographic trends. First, indigenous populations are growing in several key areas of the Arctic, including northern Alaska. Native communities are growing significantly in Alaska as a whole.[7] For instance, the population of North Slope Borough, which is a majority indigenous, in the Alaskan Arctic grew by 21 percent between 2010 and 2021 to 10,972 persons.[8] Even in Canada, the number of residents identifying as aboriginal is expected to grow to between 2.5 million and 3.2 million by 2041.[9] Growth in indigenous populations is important for the military to appreciate because much of the land in the US Arctic is often under the control of both tribal entities and native authorities. Operating in the US High North is essentially impossible without the approval and involvement of local indigenous populations.

Second, Arctic populations are diversifying in many areas. Much of this growing diversification is due to the significant need for general and skilled labor in the sparsely populated Arctic. For example, in North Slope Borough, although the majority of the population of 11,000 persons is indigenous, other populations have grown significantly in recent years.[10] Between 2010 and 2020, for instance, the African American and Hispanic populations grew by 72 percent and 120 percent, respectively;

7. Andrew Kitchenman, "2020 Census Data Is Out. Here's How Alaska Has Changed in the Last 10 Years," *KTOO News* (website), August 12, 2021, https://www.ktoo.org/2021/08/12/2020-census-data-is-out-heres-how-alaska-has-changed-in-the-last-10-years/.

8. "Our Changing Population: North Slope Borough, Alaska," USA Facts (website), July 2022, https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/alaska/county/north-slope-borough/.

9. "Indigenous Population in Canada—Projections to 2041," Statistics Canada (website), October 6, 2021, https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2021066-eng.htm.

10. "Quick Facts: North Slope Borough, Alaska," US Census Bureau (website), n.d., accessed on December 13, 2022, https://www.census.gov/quickfacts/northslopeboroughalaska.

the Asian population increased by almost 51 percent; and the Pacific Islander community grew by an astonishing 209 percent.[11] Seven percent of the population of North Slope Borough is now foreign born, and roughly eight percent of the population comprises Asians and Pacific Islanders.[12] Many of the newcomers to the area are part of the long history of Pacific migrants who have worked in Alaska for years but are now increasingly being driven to migrate to the Arctic by climate factors in their original regions. The high salaries associated with general labor in the remote Arctic are still attracting Pacific migrants. But the severe degradation of local economies in the Pacific by climate change is increasingly pushing migrants away from their homes. This destruction is due to sea-level rise, more severe disaster damage, the acidification of the ocean, coastal erosion and flooding, reductions in fishery resources, the infiltration of sea salt into drinking water, high foreign debt obligations to address climate consequences, and related challenges.[13] Furthermore, the significant linguistic diversity in much of the Arctic, including in the US High North, may surprise special operators. For example, 37.8 percent of residents in North Slope Borough speak a language other than English at home.[14] Residents commonly hear Visayan, Tagalog, Spanish, Russian, Hawaiian, Samoan, Thai, Korean, and many other languages in communities like Utqiagvik, Alaska. Although English may be widely understood, indigenous elders may still speak Inupiaq or other native languages, many of which are sadly classified as rare linguistically, which can make finding interpreters a challenge.

Third, Arctic populations in several countries may become younger in the future as climate change warms the region and spurs more economic opportunities for youth.[15] In many remote, isolated Arctic regions, few large urban settlements exist because such settlements have traditionally been difficult to build and maintain. Most Arctic settlements have only a few thousand residents. Russia has historically had the largest Arctic settlements, in part because of its use of forced labor

11. "2020 Decennial Census: How Many People Live in North Slope Borough, Alaska," *York Daily Record* (website), n.d., accessed on December 13, 2022, https://data.ydr.com/census/total-population/total-population-change/north-slope-borough-alaska/050-02185/.

12. "Our Changing Population."

13. Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation, and Vulnerability* (Cambridge, UK: Cambridge University Press, 2022).

14. "Quick Facts."

15. Mads Qvist Frederiksen, "The World Needs the Arctic and the Arctic Needs People," *Wilson Quarterly* (Winter 2022), https://www.wilsonquarterly.com/quarterly/the-new-north/the-world-needs-the-arctic-and-the-arctic-needs-people.

to build them and the presence of relatively more accessible climate conditions in that region.[16] The emigration of younger working adults has long been a challenge in the Arctic because they leave their homes for larger urban areas and better economic opportunities outside brutal Arctic environments.[17] The emigration of young Arctic residents has sometimes resulted in Arctic villages having a disproportionately high percentage of older residents. But as the Arctic develops economically through warming, the region may become more attractive to younger, single people and working families. This pattern is certainly evident in Alaska, where indigenous families have higher fertility rates than white populations on average, and young, nonindigenous workers from other states and nations are recruited as skilled and unskilled laborers.

Fourth, the presence of fly-in, fly-out workers in the Arctic will likely increase, at least for the foreseeable future, to address the Arctic's shortage of skilled workers. This trend is already extant in communities such as Prudhoe Bay, Alaska, where many energy workers, engineers, and other "Slopers" serve rotating shifts in company man camps on the tundra as the laborers come in from other states for work.[18] Likewise, because much of the Arctic is medically underserved, many Arctic communities rely on doctors and travel nurses who rotate in and out for limited periods of time during circumpolar assignments. This trend is certainly extant in the Arctic boroughs in Alaska, which rely heavily on travel nurses, providers, and medical specialists who come and go. Similarly, National Science Foundation researchers, university academics, National Oceanic and Atmospheric Administration meteorologists, and other scientists are increasingly coming to the Arctic from around the world to study the impact of global warming on this fragile ecosystem. These scientists are becoming part of the highly skilled migrant labor communities in places like Utqiagvik (formerly Barrow), Alaska, and concentrated in areas such as the Naval Arctic Research Laboratory facilities near the grounds of Ilisagvik College.

These new demographic trends in a warming Arctic can present challenges for security and defense forces. At its core, the Arctic's human terrain will become increasingly more indigenous as well as complex,

16. "10 Largest Cities within the Arctic Circle," World Geography (website), n.d., accessed on December 13, 2022, http://www.theworldgeography.com/2011/12/10-largest-cities-within-arctic-circle.html.

17. Eugenia Potravnaya and Sergey Tishkov, "Why Young People Leave the Arctic: The Results of Sociological Research," *Institute of Physics Conference Series: Earth and Environmental Science* 962 (2022).

18. "Prudhoe Bay, Alaska," Data USA (website), n.d., accessed on December 13, 2022, https://datausa.io/profile/geo/prudhoe-bay-ak/.

diverse, and globally interconnected. Special Forces will need to establish meaningful, genuine, and enduring civil-military partnerships with multiple populations and communities as a prerequisite for operating in the High North. Survival above the Arctic Circle has always required intense human collaboration and local presence, and Special Forces must understand the Arctic neighborhood in which they will be serving. Because of the diversification of the region, emergency assistance and disaster response operations will increasingly be needed from a multicultural standpoint—potentially, in dozens of languages. Some of those languages will be rare, as indicated previously, minimizing the availability of interpreters. At the same time, some of the populations in the US Arctic may have limited literacy skills in their native languages, let alone English, thereby requiring greater face-to-face interaction and outreach during emergency messaging.

Likewise, military planners and specialists in sociocultural intelligence will need to analyze regularly and understand the security implications of rapidly changing demographics in Arctic areas of operation where human traffickers, transnational criminal organizations, and foreign intelligence agents could sometimes be present. Authorities on the ground exercise limited oversight of the Arctic. Special Forces should work collaboratively with the US Coast Guard, US Customs and Border Protection, Transportation Security Administration, the Department of Homeland Security, the FBI, local law enforcement, and other entities in understanding and addressing the very real potential for spies and multinational criminal organizations to function in the US High North. Indeed, Alaska shares a maritime border with Russia, which, at the closest point, is only two-and-a-half miles away from the United States in the Bering Sea along the Diomede Islands. (In October 2022, two Russians fled their country by boat and landed on Saint Lawrence Island in Alaska. These individuals were seeking asylum in an attempt to avoid being conscripted into the Russian military to fight in the Russia-Ukraine War).[19]

Despite the potential security challenges posed by an increasingly complex Arctic society, the US military and other security organizations will likely find many more outstanding opportunities for enhanced partnerships with civilians in these rapidly changing communities. In the US Arctic, establishing contractual relationships with local indigenous populations, tribal authorities, native corporations, and other such entities will become

19. Alex Horton, "Russians Flee by Boat to Alaska After Putin's Military Mobilization," *Washington Post* (website), October 6, 2022, https://www.washingtonpost.com/national-security/2022/10/06/russians-flee-alaska/.

a priority for the US military. The indigenous are the original winter warriors, and opportunities abound to connect with these families on an ongoing, meaningful basis. These opportunities include the following.

- When above the Arctic Circle, Special Forces could make contractual arrangements with tribes to provide language interpreters, remote area guides, bear patrol guards, subject matter experts, logistical support, and trainers.

- Postsecondary tribal organizations such as Ilisagvik College in Utqiagvik, Alaska, could provide short-term, affordable, online Inupiaq language education for troops who will be operating in the US Arctic and interacting with Inupiat populations. Ilisagvik College even offers certificates in Inupiaq studies and outstanding online, hybrid, and in-person courses on local northern Alaskan culture that would be invaluable for military liaison officers and others.

- The University of Alaska Fairbanks is one of the nation's premier postsecondary institutions for studies on the circumpolar world and is a remarkable resource on the diversity of native cultures and languages in the North American Arctic. The university has library collections and historical reserves on the native populations above the Arctic Circle as well as the several hundred other tribes that call Alaska home.

- The Inupiat Heritage Center in Utqiagvik could be instrumental in coordinating talking circles and learning sessions with local elders on indigenous knowledge. The center is operated by the National Park Service and is centrally located next to the largest supermarket in Utqiagvik and the city's library, which Ilisagvik College operates. The Inupiat Heritage Center has large meeting rooms and helpful staff who can assist with coordinating formal meetings with the community.

- Many indigenous families in the US Arctic are subsistence hunters. These families rely on the bowhead whale, caribou, seals, salmon, and other wildlife for food. As such, the legendary whaling captains and crews can provide invaluable hunting and survival training to troops.

- From a gender perspective, indigenous women in the US High North often specialize in the skin sewing of traditional animal pelts and fibers. These women could provide advice, guidance, and subject matter expertise on protective clothing in the High North as well as knowledge of local medicinal and edible plants for use in emergency situations.

- Special Forces should also be actively present at important US Arctic cultural events. These opportunities include, for instance, helping families process the bowhead whales they hunt and pull to shore in May and the fall. The indigenous, who celebrate the hunt by sharing food with the entire community, are honored when visitors partake in these events. The summer Nalukataq community festival, which includes traditional blanket tossing and other activities, would be an excellent way to meet many local Arctic residents in Alaska. Indigenous families are honored when visitors such as military leaders come to meet with indigenous elders and key leaders; participate in traditional dances; listen to indigenous stories; and consume raw bowhead whale, seal, walrus, caribou, and other polar staples. Numerous holidays and community gatherings are celebrated in the High North; thus, Special Forces should send representatives, including senior leaders, to these events to show respect and learn the ways of the community.

Although Special Forces should prioritize building relationships with the indigenous communities that make up the majority of residents and control the bulk of the territory above Alaska's Arctic Circle, other nonindigenous populations reside in the area and often have unique skill sets that could be of value to the military. These skill sets include the following.

- Alaska prides itself on its fierce love of independence, self-sufficiency, and libertarian values in a ruggedly beautiful yet dangerous environment. Fourteen percent of Alaskans are veterans—the highest percentage of veterans in any state in the nation. Many would be happy to provide Special Forces with valuable operational information by

serving as volunteer weather, cultural, climate change, coastal, and inland sensors and spotters.[20]

- The growth in younger populations in the Arctic over time might also serve as a source of new recruits for various military and Army National Guard units. Special operators inspire young people; as a result, special operators could help mentor young people and encourage them to pursue military careers. In particular, female military members would have a strong positive influence on young girls in the US Arctic.

- Many Samoans and other Pacific Islanders actively serve on local fire, emergency medical, and search teams in the US Arctic. By default, Samoans and Pacific Islanders will partner with any military, Department of Homeland Security, and Army National Guard entities involved in disaster response, search and rescue, and emergency activations in the US High North.

- Many families above the Arctic Circle are closely tied to churches and other religious institutions. Special Forces chaplains could partner with local faith leaders on outreach and engagement efforts. Most religious leaders provide religious services in person in larger communities like Utqiagvik but may need to share buildings if the congregations are not large enough. Other communities have fly-in, fly-out priests and other religious leaders who stay in the Arctic for a few weeks at a time, though lay volunteers more commonly conduct regular services. In remote villages, residents often listen to Sunday services from larger churches in Alaska that live stream on Facebook and other platforms to reach remote rural residents. Some of the religious groups in the far Alaskan north include Presbyterians, Mormons, and Catholics.

- Alaskan bush pilots have a legendary wealth of knowledge on Arctic air logistics, extreme weather flying, and northern polar meteorology. These pilots work privately with hunting,

20. Zachariah Hughes, "Alaska Vets by the Numbers," Alaska Public Media (website), November 11, 2015, https://alaskapublic.org/2015/11/11/alaska-vets-by-the-numbers/.

fishing, and outfitter organizations throughout Alaska as well as at regional commuter terminals in Arctic towns.

- Similarly, Alaska and the North American Arctic host some of the world's toughest dogsled marathons through brutal conditions, such as the Iditarod Trail Sled Dog Race, the Yukon Quest, and other grueling outdoor events. Wielding rich Arctic wilderness survival skills, dogsled marathon mushers may compete unassisted in these events for hundreds, if not a thousand or more, miles with their dog teams. The mushers reside in significant numbers in communities around Kotzebue in the Northwest Arctic Borough and Nome in Alaska. These outdoorsmen are always ready to provide knowledge on extreme outdoor treks.

- Alaska, which has the longest coastline of any state in the nation, also has more than 30,000 fishermen. Alaskan fishermen catch more fish and seafood than the fishermen in all other states combined. The fishing industry is the state's largest private employer, and seafood is Alaska's largest export. Although many of the fishermen live in the southern part of Alaska, their boats can be found throughout the Bering Sea and other waters around Alaska. Many are seasoned experts on local currents, maritime operations in extreme cold weather, and changes in marine animal populations due to climatic shifts. Alaskan fishermen could also serve informally as the eyes and ears of Special Forces on the open waters and potentially spot an increase in foreign vessels—particularly, Chinese vessels—around Alaska.[21]

- Medics within Special Forces units should establish partnerships with local Arctic health providers and organizations before operating in the High North. These local health personnel can be invaluable during emergencies; disasters; training exercises; blizzards;

21. Laine Welch, "Economic Report for Alaska Fishing Industry Economic Offers Some Surprising Numbers," *Anchorage Daily News* (website), updated January 25, 2022, https://www.adn.com/business-economy/2022/01/24/economic-report-for-alaska-fishing-industry-economic-offers-some-surprising-numbers/.

and any potential conflicts that may require additional medical staff, evacuation assistance, and patient stabilization. In the US Arctic, few large hospitals exist, but Samuel Simmonds Memorial Hospital in Utqiagvik, Norton Sound Health Corporation in Nome, Maniilaq Health Center in Kotzebue, and Fairbanks Memorial Hospital are important institutions for Special Forces units to tour ahead of time and learn about their capabilities. Similarly, Special Forces should visit local Community Health Aide Program centers in each of the indigenous villages in far northern Alaska. Alaskan community health aides/practitioners, who are typically indigenous, run these outstanding facilities. The centers have basic emergency rooms, medical supplies, and telehealth capabilities. All of these organizations are well linked to tertiary-level hospitals in Anchorage. Medical evacuation companies above the Arctic Circle also serve these centers, providing emergency medical technicians, paramedics, and pilots to help to transfer critically ill patients from rural Arctic Alaska to higher levels of care further south. All of these personnel could help Special Forces to provide emergency care in remote areas under extreme conditions.

- Public affairs officers, liaison officers, and other Special Forces community engagement staff may find connecting with local media outlets in the US Arctic particularly beneficial. These outlets could include, for example, nonprofit public radio stations such as KBRW in Utqiaġvik and KOTZ in Kotzebue. These stations, which provide local, state, and national news, have ample space during their weekly broadcasting hours to feature guest interviews, announcements about important events happening on the tundra, and recurring local shows. The stations, which have many listeners across the US Arctic, conduct most of their outreach in English, along with special segments in the Inupiaq language for older indigenous residents. Small, local community newspapers such as the *Arctic Sounder* serve both indigenous and other residents in the northwest Arctic and northwest boroughs of Alaska in print and online. These newspapers could be good sources of periodic

> military and security messaging to the public. Both indigenous and nonindigenous residents of the US Arctic widely use Facebook, TikTok, and other social media platforms. In remote communities on the tundra, special messaging and announcements to the indigenous villagers are often conveyed using very high frequency radio between houses.

In sum, climate change is affecting more than just the ice pack, permafrost, and glaciers of the far north. Climate change is fundamentally reshaping the human populations that live in the region and contributing to new demographic patterns with profound implications for Special Forces operating in the US Arctic. Now is the time to break the ice and plunge into the messy melting pot of today's culturally complex societies in the Arctic. The US military cannot afford to be a subarctic force that only visits communities above the 66th parallel during periodic training exercises. Indeed, special operations forces should have representatives or liaison officers consistently present above the Arctic Circle so the forces can have intimate knowledge of the evolving key leaders, cultural assets, and social vulnerabilities of the region.

For thousands of years, human survival in the polar regions relied on individuals contributing their own unique skills to the betterment of the group. Indeed, Arctic peoples have never respected individual achievement and arrogance as much as the stated traditional Inupiat values—namely, cooperation, family and kinship, humility, humor, hunting traditions and respect for nature, knowledge of language, love and respect for elders, sharing, and spirituality. Special Forces must be regularly present above the 66th parallel to gain credence as Arctic players in the freezing, barren, white desert of the Arctic. Special Forces must maintain an Arctic presence to gain the respect of the indigenous and nonindigenous residents of this fascinating ecosystem, where people thrive, not just survive, during windchills of minus 80 degrees Fahrenheit, two months of endless summer sun, and 67 days of nonstop winter darkness. Indeed, Special Forces must now adopt a deeper understanding of Arctic environmental security from both a physical perspective and a social science perspective on the ground to become one with the communities they are charged with serving in an evolving High North.[22]

22. "Mission, Vision, Values," Ukpeagvik Inupiat Corporation Alaska (website), n.d., accessed on December 14, 2022, https://uicalaska.com/about-uic/mission-vision-values/.

Selected Bibliography

Heleniak, Timothy, Eeva Turunen, and Shinan Wang. "Cities on Ice: Population Change in the Arctic." *Nordregio* (website), accessed on December 13, 2022. https://nordregio.org/nordregio-magazine/issues/arctic-changes-and-challenges/cities-on-ice-population-change-in-the-arctic/.

"Our Changing Population: North Slope Borough, Alaska." USA Facts (website), July 2022. https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/alaska/county/north-slope-borough/.

Howard, Roger. *The Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*. London: Bloomsbury, 2009.

Hughes, Zachariah. "Alaska Vets by the Numbers." Alaska Public Media (website), November 11, 2015. https://alaskapublic.org/2015/11/11/alaska-vets-by-the-numbers/.

"Indigenous Population in Canada—Projections to 2041," Statistics Canada (website), October 6, 2021, https://www150.statcan.gc.ca/n1/pub/11-627-m/11-627-m2021066-eng.htm.

Magga, Rosa-Máren and Ellen Inga Turi. "How Arctic Indigenous Peoples Are Revitalizing Their Languages." Arctic Council (website), May 10, 2021. https://arctic-council.org/news/revitalizing-arctic-indigenous-languages/.

Welch, Laine. "Economic Report for Alaska Fishing Industry Economic Offers Some Surprising Numbers." *Anchorage Daily News* (website), updated January 25, 2022. https://www.adn.com/business-economy/2022/01/24/economic-report-for-alaska-fishing-industry-economic-offers-some-surprising-numbers/.

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The Unconventional Approach to Arctic Security: Increasing Domain Awareness through the US Army Special Operations Forces' Indigenous Approach

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ABSTRACT: This article explores various requirements needed for the Department of Defense to becompetitive in the Arctic region. In particular, the role of US Army Arctic Special Operations Forces should be developed and leveraged as part of competitive operationalsolutions. While capability definitions and gaps remain a persistent doctrinal challengein development and implementation, history, culture, exercises, and allies could greatlycontribute to Arctic ARSOF progress. Furthermore, Indigenous knowledge must be acknowledged and leveraged to ensure the greatest chance for enduring Arctic operational success. Only then will all the specialized gear and training lead to genuine competitive advantages needed to deter adversaries and secure the homeland.

It is no secret that the Arctic is heating up in the wake of climate change—figuratively and literally. Despite a history characterized more by cooperation than competition, the shrinking ice shelves and rising temperatures are fueling a race to secure economic benefits.[1] The Russian Federation is pursuing monetizing a commercially viable Northern Sea Route and has also voiced extensive claims to the vast deposits of oil and natural gas as well as base, precious, and rare earth metals. Paranoid about the deleterious security effects threatening its economic future posed by the opening of the Arctic,

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1. Henrik Breitenbauch, Kristian S Søby Kristensen, and Jonas Groesmeyer, "Military and Environmental Challenges in the Arctic," Carnegie Europe, *New Perspectives on Shared Security: NATO's Next 70 Years*, ed. Tomáš Valášek (Brussels: Carnegie Europe, 2019), 45–50, https://carnegieendowment.org/.

Russia has invested billions into refurbishing Soviet-era infrastructure and maintaining large Arctic capable formations and capabilities, though their Arctic capabilities are likely being degraded to some extent by their ongoing invasion of Ukraine.[2] Equally alarming, the People's Republic of China has forced its way into the Arctic through legal frameworks (Arctic Council and international treaties such as the UN Convention on the Law of the Sea) and aggressive investment projects under its Polar Silk Road campaign.[3]

Over the past few years, the Department of Defense (DoD) has recognized the threat posed by our strategic competitors in this region and crafted Arctic strategies to address our current shortfalls.[4] Yet, in an era defined by increased fiscal constraints and potentially emerging crises with Russia and China, the question for US leaders has become what level of investment is necessary to effectively compete in the Arctic? Further, what are the specific requirements of each of the services in what is primarily a maritime domain, characterized by remote communities and scant infrastructure? The services' published strategies are not widely inclusive of special operations forces (SOF) despite the challenges of the Arctic being ripe for SOF's unique traits and increased return on investment in austere environments.[5] Army SOF (ARSOF) provides unique capabilities to the Arctic joint force to reduce risk by working with indigenous populations to provide domain awareness, strengthen relationships, and build logistical networks. This value proposition is especially relevant in a theater of operations that will always be peripheral to US strategy, strains logistical systems, and has a high barrier to entry in terms of specialized supplies, equipment, and training.

2. Eugene Rumer, Richard Sokolsky, and Paul Stronski, "Russia in the Arctic—A Critical Examination," Carnegie Endowment for International Peace, 29 March 2021, https://carnegieendowment.org/.

3. Anu Sharma, "China's Polar Silk Road: Implications for the Arctic Region," *Journal of Indo-Pacific Affairs* 4, no. 7, Special Issue (October 2021), 67–86, https://www.airuniversity.af.edu/.

4. Office of the Under Secretary of Defense for Policy, "Report to Congress: Department of Defense Arctic Strategy," June 2019.

5. United States Army, "Regaining Arctic Dominance: The U.S. Army in the Arctic" (Chief of Staff Paper #3, Headquarters, Department of the Army, 19 January 2021), https://www.army.mil/.

Vignette

The year is 2025, and the Arctic remains an arena of increasing strategic competition over economic and territorial gains. Along the western slope of Alaska, a small indigenous tribe is located in the remote village of Teller. Teller is less than 50 miles from the Russian coastline and is home to approximately 250 residents. Not far from Teller, a Chinese-funded drilling company has agreed to help develop Alaska's liquefied natural gas sector through a private deal with an Alaskan native corporation.[6] Over the years, the village infrastructure has slowly deteriorated due to global warming and the lack of government funding to correct the many problems caused by thawing permafrost and soil erosion.[7] The attitude of the population toward the U.S. government is neutral due to their limited engagement with state and federal entities over the past few years and their increasing feeling of isolation. This marginalization has been exacerbated by the continued effects of climate change in degrading their already inadequate infrastructure.

Last week, the Chinese drilling company sent a small delegation to the village to build a relationship and ensure the company's work would not negatively affect the village. During the meeting with the village elders, an agreement was made to allow some Chinese employees to live among the population of Teller. In return, the company would provide funding to upgrade the village infrastructure. The deal is a 10-year contract that will allow the Chinese-backed company to maintain and expand Chinese influence throughout the region. While it may seem benign, this relationship could be the beginning of a malign actor presence that will spread throughout Alaska and further isolate the many indigenous villages in the region from the U.S. government if left unchecked.

Although this story is fictional, it could become a reality if the DoD does not start engaging more effectively with the many vulnerable indigenous populations throughout the Alaskan coastline before our adversaries do. Countering malign influence would benefit from critically reexamining a crucial piece of American history—DoD's use and reliance on the indigenous population to create security capacity in the High North. In the Arctic, this was done with the Alaskan Scouts during the Second World War. The Alaskan Scouts were a volunteer military

6. "Economic Impacts," ANCSA Regional Association, n.d., https://ancsaregional.com/.

7. Ming Xiao, "Infrastructure and Community Resilience in the Changing Arctic: Status, Challenges, and Research Needs," Arctic Institute Center for Circumpolar Security Studies, 23 March 2021, https://www.thearcticinstitute.org.

organization that employed more than 6,000 native Alaskans to conduct surveillance and support activities along the remote coastlines. There are a multitude of opportunities in Alaska that would not only increase US national security posture, but also allow ARSOF soldiers to refine their Arctic tactics, techniques, and procedures. These refined skills would also help build ARSOF credibility and capability for combat operations in Europe while training and exercising in the High North.

Defining Arctic Capability

One of the underlying issues of the Arctic problem set is the lack of understanding of the environment and the capabilities required to survive, thrive, and operate in harsh Arctic conditions. If you ask five military leaders what *Arctic capable* means, you will likely get five different answers. In the Army's 2021 Arctic Strategy, *Regaining Arctic Dominance*, the term "Arctic" in Arctic-capable / ready was defined as five distinct environments: Arctic (all season), sub-arctic, extreme cold weather (ECW), high altitude, and mountainous.[8] While some similarities exist between these harsh environments, they are not analogous. It is vital to understand the differences between these five environments and their respective requirements. Combining these environments under one term and expecting soldiers and units to achieve or maintain a state of readiness at each echelon is not feasible.

It is too much to ask of one unit to maintain a skill pathway that includes mountaineering, ECW, high altitude, sub-arctic, and arctic. For example, in Army Special Forces, each SF Company has a team designated as a "mountain team" and is required to maintain a 'level 1 qualification' for military mountaineering. Even the most qualified mountain team in the Special Forces Regiment would not be considered Arctic-capable. Becoming Arctic-capable requires, as our Scandinavian partners do, immersion in actual environmental conditions throughout the entire training and pathway to validation, or validation pathway. This requirement has severe implications for the length of time a unit can maintain a required state of readiness, primarily if that unit is not stationed in an environment that allows for constant environmental immersion.

Furthermore, when most military leaders hear the term Arctic, they usually think of the words: cold, frozen, and winter. However, the Arctic is an all-season environment where summer and

8. United States Army, "Regaining Arctic Dominance."

winter present equally complex, but distinct, operational challenges. Additionally, the Arctic region includes different types of terrain depending on the area of operations (Alaska, European High North, etc.). Being Arctic-capable in one region does not mean a unit is fully prepared for others. For example, units that train in the High North of Scandinavia will need to adapt their tactics, techniques, and procedures for operations in northern Alaska or Canada due to vast differences in the environment and conditions, even during the same seasons. When examining the training opportunities for units in an Arctic environment, nearly all training venues are below the Arctic Circle and, therefore, are considered sub-Arctic. In other words, most Arctic training does not occur in an Arctic environment. This includes the Northern Warfare Training Center (NWTC) in Alaska and the Swedish sub-Arctic Warfare Training Center (SWTC) in Arvidsjuar, Sweden.[9] Furthermore, most U.S. units only train at these sub-Arctic venues in the winter when mobility is much easier, and conditions are more favorable in many ways.

ARSOF requires more training, equipping, and Arctic experience than is currently provided by existing training courses. The Winter Warfare Detachment at 10th SFG(A) implements a Winter Warfare Course to expand team-level winter operational capabilities. The course trains individuals on how to shoot, move, communicate, and survive in a winter operating environment and is used as a training and validation exercise for Special Forces teams deploying to the High North or Arctic regions.[10] Yet, while winter warfare and Arctic warfare have some similarities, they are not analogous. The skills required to survive in the Arctic cannot be truly trained or exercised in Colorado or Montana. For Naval Special Warfare, SEAL Qualification Training students are sent to the Special Operations Forces Cold Weather Maritime Detachment at Kodiak, Alaska, to learn how to operate in moderately cold maritime environments. None of these training locations are in the Arctic and only provide minimal Arctic proficiency to units.

One of the hurdles to changing our Arctic training posture is the misperception that cold weather and the Arctic are the same.

9. "Northern Warfare Training Center," US Army, 13 November 2018, https://www.army.mil; and "U.S. Marines Participate in the Swedish Basic Winter Warfare Course," Defense Visual Information Distribution Service, 22 January 2018), https://www.dvidshub.net/.

10. Public Affairs Office, 10th Special Forces Group (Airborne), "WWD Introduces New Winter Training," Fort Carson Mountaineer, 16 April 2021, https://www.fortcarsonmountaineer.com; and "Ted Stevens Center for Arctic Security Studies: DOD's Newest Regional Center" (information paper, US Department of Defense, 10 March 2022).

The Arctic as an environment is not confined to the extreme cold and snow, which the collective consciousness defaults to, but is characterized by extremes; near-constant darkness and cold in the winter juxtaposed with near-constant light and impassable terrain in the summer months. We must understand that to have a functional capability in the Arctic, we must be prepared for year-round operations and will find that in certain aspects, especially from a mobility standpoint, the summer may be more challenging than the winter.[11]

Senior leaders must consider the difficulties inherent in requiring a unit to maintain proficiency in multiple related yet distinctly different capabilities. Furthermore, distinct, Arctic-capable / Arctic-ready definitions must be understood across the joint force. Each service should have a standardized validation pathway for units expected to be Arctic-capable. This standard should include Arctic-specific tasks at individual and unit (collective) levels and eventually be institutionalized in doctrine and recognized by our partner nations to qualify U.S. units for participation in joint exercises in other Arctic nations. Currently, most U.S. units must attend a Nordic nation's Arctic/ winter warfare course as a prerequisite to any Arctic joint exercises in the High North.[12] As an Arctic nation, the U.S. can use Alaska's strategic location not only as a power projection location, but also as a world-class training ground to prepare for expeditionary deployments to colder climes.

Capability Gaps

Over the past few years, U.S. policymakers and military leaders have released Arctic-specific strategies to address the unique environmental challenges in the strategic nexus between three geographic combatant commands (Northern Command, Indo-Pacific Command, and European Command).[13] Yet, there is still a massive gap between the U.S. military's current capabilities and its aspirations to compete in the Arctic. This is equally true across conventional and special operations formations, as the past 20 years of focus on the Global War on Terrorism led to nearly complete atrophy in the military's ability to operate in the Arctic. Many of the skills and lessons learned during

11. Sections of the Eielson AFB runway are unable to handle certain aircraft in the summer months due to soil conditions under the runway.

12. "Exercise Cold Response 2022—NATO," *North Atlantic Treaty Organization*, 7 March 2022, https://www.nato.int.

13. Hall, "2019-DOD-Arctic-Strategy."

the Cold War have been lost, for example, the regular use of Nordic-style skis for winter training by the 10th Special Forces Group and the consistent practice of High-Frequency waveform communications by most ground force units.

Despite increasingly high-profile rhetoric about the region's strategic importance, the military's recent execution of training and operations (such as ARCTIC EDGE, VIGILANT SHIELD, and ARCTIC WARRIOR) in the Arctic might best be classified as "Arctic tourism." Military units deploy for a few weeks to train but do not really build true Arctic capabilities. In an environment with as many demands and challenges in the summer as in there are in the winter, military Arctic tourism does little to incubate the capabilities needed for military forces to survive, thrive, and effectively operate in the harsh Arctic environment, especially for prolonged durations. The increased mentions of Arctic security issues, challenges, and opportunities in the various defense policy, planning, and strategy documents have yielded some progress, for example, the 10th Special Forces Group in Colorado now has a winter warfare training course, the 11th Airborne Division has been reactivated in Alaska, and the Ted Stevens Center for Arctic Security Studies is standing up in Anchorage.[14] Yet, there is still more effort needed to develop a true operational capability in the Arctic.

To effectively compete in the Arctic, leaders, and units across the conventional forces and ARSOF must prioritize manning, training, and equipping their Arctic-focused formations to achieve true, all-season Arctic capability. As the U.S. is one of eight Arctic Nations, this current capability gap represents a gap in the U.S.'s ability to properly support the 2022 *National Defense Strategy*'s (*NDS*) top priority: "Defending the homeland," particularly for America's 49th State – Alaska. Furthermore, the Arctic capability gap must be bridged to fully comply with all four of the *NDS*' priorities.[15]

It is also worth noting that these priorities apply not only to the homeland and the Alaskan Arctic, but also to the Canadian Arctic and High North of our Scandinavian and Baltic partners, from whom we can learn a great

14. Public Affairs Office, "WWD Introduces New Winter Training"; and "Ted Stevens Center for Arctic Security Studies: DOD's Newest Regional Center."

15. U.S. Department of Defense, "Fact Sheet: 2022 National Defense Strategy," n.d., NDS Priorities:
    1. Defending the homeland paced to the growing multi-domain threat posed by the PRC.
    2. Deterring strategic attacks against the United States, allies, and partners.
    3. Deterring aggression while being prepared to prevail in conflict when necessary.
    4. Building a resilient joint force and defense ecosystem.

deal. Our partners enjoy a benefit that most of our military does not; they grew up in an Arctic or sub-Arctic environment and have lived there for most of their lives. They possess an inherent capability that perhaps only our Alaskan natives have in the United States. Many partner nation units consciously designed their manning, training, and equipping structures to meet the needs of the environments in which they operate. Their lifestyles reinforce critical skills essential to operating in that environment. To illustrate the different mindsets, it is helpful to note the difference between the U.S. and our Arctic partners. When it snows six inches in Ft. Carson, Colorado, the Commanding General will close the post to mitigate safety risks and soldiers stay home and enjoy family time. When it snows two feet on bases in Norway, Sweden, and Finland, the soldiers ski to the ranges and ride snowmobiles to training events. The Arctic conditions are simply part of their training, not a barrier to it.

Although most other Arctic nations have a much higher baseline for Arctic capabilities in their conventional and special operations forces, they also have designated units that are mission-aligned to the Arctic and sub-arctic environment and specifically manned, trained, and equipped to operate there and provide domain awareness. The Canadian Rangers and Danish Sirius Patrol are examples of military Arctic-focused small units for which the U.S. DoD simply does not have an equivalent. However, the operational utility of these units is well known and illuminates a potential gap in our current force structure. Although vastly different, both units are focused on conducting surveillance and sovereignty patrols in the most remote parts of their Arctic territories and serve as their nations' eyes and ears in sparsely inhabited lands.[16] Additionally, European High North countries work closely with their Home Guard units to facilitate domain awareness and readiness in remote regions and have numerous units that maintain a high level of Arctic capabilities year-round.[17]

The current deficit of capabilities between U.S. forces and those of our Arctic partners is not only a detriment to our credibility and rapport, but also to the numerous opportunities for training and building domain awareness through bilateral and multilateral training events in the High North. Although the European High North is very different from the North American Arctic, many parallels still make our partners' understanding

16. Office of the National Defence and Canadian Armed Forces Ombudsman, Government of Canada, "Canadian Rangers," January 2022, https://www.canada.ca/; and Denver David Robinson, "The World's Most Unusual Unit," *Christian Science Monitor*, June 2016, https://www.csmonitor.com/.

17. Forsvaret, Norwegian Armed Forces, "The Norwegian Home Guard," n.d., https://www.forsvaret.no/.

of the environment relevant to the USNORTHCOM and USEUCOM areas of responsibility. Uniquely, the U.S. Army has the opportunity to train in an environment on home soil that is in many ways more challenging than what it might experience in expeditionary deployments to the European High North.

ARSOF's Value Proposition

ARSOF's first and most important value proposition is its inherently small footprint, which is ideal for operating in remote, harsh, and geopolitically sensitive areas. The Arctic has traditionally been defined more by cooperation than by competition. Avoiding any international misperception of U.S. militarization of the Arctic is essential to international credibility in the rules-based Arctic.[18] SOF have traditionally been used in peripheral theaters or to support conventional operations that focus on the primary warfighting objectives.[19] Second, ARSOF has been the force of choice to address the strategic opportunities resident in the indigenous communities and through combined operations with international partners. Engagement and integration with the indigenous communities in both Alaska and with our partners in Northern Europe not only provide significant benefits in a defensive posture, but might also be leveraged to put additional pressure on the Russian Federation as these tribal communities usually have close cross-border relationships with communities on both sides of the Bering Strait or across the High North into Russian territory.[20] With a population so vulnerable to influence, Arctic natives must see the U.S. as a more legitimate influence than they do our adversaries in the region. Third, the inherently expeditionary nature of ARSOF units allows for smaller logistical requirements, which can be fully supported by air movement and is therefore ideal in an environment that makes sustained logistics for large formations extremely difficult. In comparison, most conventional land forces in the Arctic are constrained to the limited road networks year-round, especially in the summer as the Arctic terrain turns to swamp-like conditions that make land-based mobility and logistics extremely restrictive. Finally, due to the small size of ARSOF units, training and equipping

18. Hall, "2019-DOD-Arctic-Strategy."

19. For example, 10th Special Forces Group's operations in Northern Iraq in a supporting effort to the main axis of advance toward Baghdad.

20. Fen Montaigne, "Tracing Alaska's Russian Heritage," *Smithsonian Magazine*, 7 July 2016, https://www.smithsonianmag.com/.

these formations for Arctic operations will be inherently less expensive than for large-scale conventional forces.

While ARSOF plays a critical role across the spectrum and phases of conflict, the pre-conflict competition phase is essential to its utility throughout the remaining phases. It is a SOF Truth that, "Competent special operations forces cannot be created after emergencies occur."[21] This axiom is equally applicable to the relationships and skillsets that underpin ARSOF effectiveness across the range of special warfare tasks and highlights the need to increase our readiness in the Arctic before a crisis occurs in that region. In the event of large-scale combat operations against a near-peer competitor, SOF is unlikely to be the main effort; however, the Arctic is also unlikely to feature as a primary zone of future conflict. Yet SOF can and should be used as a hedge to mitigate strategic and operational risk in the region and to achieve national security objectives in what will likely be a peripheral theater. The way to ensure success is to operate in the Arctic alongside indigenous populations and international partner forces. This unconventional approach, however, will require different investments and shifting ARSOF priorities from the current practice of Arctic tourism into a more persistent presence by designated forces to build a true Arctic capability within U.S. Special Operations.

Reciprocal Opportunities

Native Alaskans represent approximately 15% of the total population of Alaska, with over 110,000 people.[22] This population is distributed across more than 225 communities, speaking over 20 languages, and classified into 5 ethnic groups. Many of these communities exist along the western and northern coasts of Alaska, along the Bering Strait and the Arctic Ocean, and make up the largest percentage of military veterans per capita among all U.S. demographics.[23] Numerous indigenous communities have poor or failing infrastructure, are isolated from the rest of the state, and are a prime target for malign actors seeking to undermine the United States. The severe lack of infrastructure represents both an opportunity for adverse influence by our strategic competitors and a reciprocal opportunity for the U.S. DoD. Investing in indigenous Alaskan communities is a chance to deny competitor influence, rebuild trust with Native Alaskan communities

21. US Special Operations Command, "SOF Truths," n.d., https://www.socom.mil/.

22. US Census Bureau, "QuickFacts: Alaska," n.d., https://www.census.gov/.

23. "National Congress of American Indians," n.d., https://www.ncai.org/policy-issues/education-health-human-services/veterans.

while establishing multi-use infrastructure with multi-domain effects, and increase our military's Arctic readiness. As Alaska Senator Lisa Murkowski recently stated:

> Infrastructure is one of the foundations of modern society, impacting everything from food security, health care, education, commerce, and our ability to operate militarily. It is no different in the High North. However, in many parts of the Arctic, infrastructure is often poor or simply non-existent, which is detrimental and unfair to its residents, and should be unacceptable to us as an Arctic nation.[24]

These communities, accessible almost exclusively by air or sea, fit squarely into Senator Murkowski's diagnosis and are precisely the environments in which ARSOF units thrive. The U.S. government's force of choice for operating through or with indigenous populations is Army Special Forces, more commonly known as Green Berets. Working with indigenous populations is the cornerstone of Special Forces. Since their inception in 1952, Green Berets have conducted these types of missions worldwide to achieve U.S. national security objectives.

ARSOF can engage with Alaskan Natives to leverage their ability to act as local "eyes and ears" in support of U.S. national security, while simultaneously learning how to survive and operate in some of the harshest conditions in the world. This role could be the beginning of a potential redux of the Alaskan Scout program focused on increasing domain awareness, deterring malign actors in the homeland, and strengthening the relationship between the government and these populations. This reciprocal relationship of an indigenous approach would not only strengthen US national security and assist in rebuilding military Arctic capability, but could also help address critical infrastructure issues in these communities.

At its least ambitious level, the indigenous approach would leverage the environmental and survival knowledge that is resident in Native Alaskan communities. This basic survival knowledge would go a long way toward rebuilding the foundational skills that ARSOF operators will need to operate in an Arctic environment. Today ARSOF forces are not manned, trained, nor equipped to survive, compete, and dominate in this or similar environments. Things as simple as how to conduct route planning,

24. Lisa Murkowski, "U.S. Engagement in the Arctic, Present and Future," *Wilson Quarterly*, 18 February 2022, https://www.wilsonquarterly.com/.

types of equipment to bring, movement over terrain, and medical care in the Arctic are things that indigenous communities have developed and mastered over the centuries, yet outside of individual efforts that experience has not been translated into military TTPs (tactics, techniques, and procedures) or SOPs (standard operating procedures). Nor has it been widely integrated into the Alaskan National Guard, whose footprint has been reduced to a presence mostly concentrated around Anchorage and Juneau.

An effective method would be to create Arctic training lanes prior to large-scale exercises, like ARCTIC EDGE or ARCTIC WARRIOR, to learn the foundational skills needed for the operational environment, as opposed to the current approach of training Arctic skills in strictly alpine environments in Colorado or Montana. This could be further developed in the exercises themselves, by creating lanes in partnership with the indigenous communities that provided the foundational training, and then adding supplemental training to reinforce those foundational skills. At ARCTIC EDGE 2022, no Special Forces soldier spent more than seven consecutive hours outdoors. With guidance and mentorship from communities that have thrived in this landscape for millennia, we can certainly increase the capabilities of our formations, while addressing commanders' risk considerations which, while not out of place, have degraded Arctic training opportunities in the past. The incorporation of tactical level elements with a diverse set of Indigenous communities would also increase the command's understanding of the operational environment to better prioritize the small-scale construction funds that usually accompany large exercises. These projects could and should be dual-use to provide value within the exercise and to the Natives afterward.

In a slightly more ambitious scenario, the lanes within exercises would prepare indigenous communities that participate to perform the domain awareness tasks, critical infrastructure defense, and logistical and mission support activities they would be well suited to perform in a real-world confrontation with strategic competitors. This could either be an overt goal of the exercise or an inadvertent consequence of hiring Alaskan Natives as role-players within the exercise. In the most ambitious scenario, there would be continuous Special Forces presence in Alaska, either in the form of an Arctic warfare training center run by the Special Warfare Training Center and School or by operational Special Forces units (either active or National Guard) permanently stationed within the state.

In all these scenarios it is important to remember that relationship building, and more importantly sustainment, requires long-term investments of time, effort, and resources. It is hard to maintain effective relationships in a place as remote as Alaska in general, and its coastal communities in particular, when there is no permanent presence or habitual unit affiliation. Building these habitual relationships would help to decrease the vulnerability of the Native populations and further prevent malign influence, like the example mentioned in the above vignette, from festering in the homeland.

Strategic Standpoint

With the recent releases of Arctic strategies and legislative initiatives from Congress, interest in the Arctic is increasing within the defense community. Senators from four states outside of Alaska have expressed interest and concern in the DoD's military readiness in the Arctic in the past few years.[25] Yet, during a time when the Russian invasion of Ukraine is ongoing, and tensions over Chinese saber-rattling over Taiwan continue, the Arctic has seemingly taken a backseat as a genuine priority within the DoD. This is reflected in the lack of prescriptive guidance in Arctic strategy, as well as the lack of funding.[26] As the combatant command overall responsible for the Arctic line of effort in the DoD, USNORTHCOM recently submitted a classified Arctic capabilities assessment that highlights specific gaps and areas for development within the DoD's capabilities in the Arctic. However, with so many competing priorities across the services, urgency supersedes importance, and the ability to prepare for future challenges rarely gets the attention it deserves. This is not meant to disparage the efforts of the Arctic Domain Awareness Center under the Department of Homeland Security or the recently established Ted Stevens Center for Arctic Security Studies.[27] The Ted Stevens Center has been allocated over $10 million in funding this fiscal year based on the 2021 National Defense Authorization Act to meet the three defense objectives outlined in the 2019 DoD *Arctic Strategy*: defend the homeland, compete when necessary for the balance of power, and ensure

25. Rick Larsen, "U.S. Talk on Arctic Must Be Matched With Investment," *Huffington Post*, 3 September 2016), https://www.huffpost.com/.

26. Hall, "2019-DOD-Arctic-Strategy."

27. "Arctic Domain Awareness Center Overview to U.S. Coast Guard D17" (presentation, University of Alaska, 15 February 2019), https://arcticdomainawarenesscenter.org/.

common domains remain free and open.[28] Nevertheless, the units of action for the Arctic remain mostly unaffected in the near term.

Aside from the importance of the Ted Stevens Center, numerous leaders among the Joint Staff agree on two additional aspects of the military in the Arctic. First, we must not discount a land-based force's significance in the Arctic. Although most domain awareness in that environment will come from the sea and the air, the indigenous approach can only be accomplished through the land. The center of gravity in the Arctic remains the population and infrastructure, both of which are vulnerable. Second, as in many cases throughout history, ARSOF leads the way in military innovation. As demonstrated in ARCTIC EDGE 2022, ARSOF forces experimented with numerous specialized skills and equipment in the Arctic to understand what works and what must be modified or changed to increase survivability and lethality.[29] Yet ARSOF is doing so as Arctic tourists with limited amounts of funding, authorities, and time spent in the environment.

Conclusion

In an environment as challenging as the Arctic, it takes years to build military capabilities to a level that can effectively compete with and deter our adversaries. To truly increase domain awareness, rather than just survive, the DoD must pursue a policy of persistent presence by designated forces. Although the Arctic is not a uniquely SOF problem set, strategic leaders often consider SOF the force of choice in gray zone competition.[30] As an enterprise, SOF must be better trained and equipped to operate in the Arctic to support national security objectives. The importance of the indigenous approach in building domain awareness and competing with our adversaries in the rules-based Arctic requires an immediate increase in ARSOF capabilities in the region and the priorities placed upon them.✪

28. "William M. Thornberry National Defense Authorization Act for Fiscal Year 2021" (Star Print, 1 January 2021), https://www.congress.gov/; and "Ted Stevens Center for Arctic Security Studies: A U.S. Department of Defense Regional Center; Approved Center Implementation Plans, Objective and Milestones (POAM)," 9 February 2022.

29. Daisy Bueno, "SOCNORTH Increases Arctic Capabilities During Arctic Edge 2022," *Defense Visual Information Distribution Service*, 7 April 2022, https://www.dvidshub.net/.

30. Joseph L. Votel et al., "Unconventional Warfare in the Gray Zone," *Joint Force Quarterly* 80 (January 2016), https://ndupress.ndu.edu/.

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Indigenous Peoples and Arctic Security: Building Partnerships to Secure the North American Arctic

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A Special Forces team links up with a local Alaska Native person who will guide it to a long-range radar station along the northernmost coastline of Alaska. The temperature is a bitter 40 degrees below zero Fahrenheit, with winds gusting up to 25 miles per hour. This time of year, the sun does not shine; everything is dark, with only the snow reflecting the little existing ambient light. The team conducts its reconnaissance of the radar site, ensuring it is secure and looking for evidence of other hostile forces that may be in the area. This scenario is part of a US Joint military exercise that is conducted every two years in Alaska. Native communities provide resources, knowledge, and information to US and Canadian forces that are developing capacities to secure and defend the North American Arctic.

Increased accessibility to natural resources and navigational routes in the Arctic due to rapid climate changes has elevated interest from both domestic and foreign nation-states (such as Russia and China). As a result, the Arctic region has experienced increased competition for resources and access to and through the Arctic, which has led to Arctic security postures. To support securing the Arctic, the Department of Homeland Security reinforces the rule-based order and maintains persistent domain awareness.[1] The people who live in and near the Arctic have a vested interest in ensuring all domains (that is, air, land, space,

1. Office of Strategy, Policy, and Plans, *Strategic Approach for Arctic Homeland Security* (Washington, DC: Department of Homeland Security, January 11, 2021).

and waters) are secured and sovereignties are legitimized. The Arctic, as a polar region, can be viewed through different zones (see figure 15-1) that do not have a clear geographical boundary when considering the population within the Arctic. The subarctic is integral to thinking about the Arctic and those who live and thrive in the region. Although the number of Indigenous people living in the Arctic region is about 10 percent of the total population of four million, these people are the preponderant inhabitants outside the few city centers in the region. The Indigenous people have legitimate sovereignty that is internal to recognized Arctic nation-state governments.[2] See figure 15-1 for a map of the high, low, and subarctic regions of the Arctic.[3]

Particularly within the North American Arctic—the United States, Canada, and Greenland (Kingdom of Denmark)—those who live outside major population centers predominately identify as Indigenous peoples. The Indigenous population is highest in the Canadian Arctic and Greenland, where they constitute 75 percent of the total population.[4] In Canada, more than half of the 150,000 Arctic inhabitants are Indigenous.[5] In the United States, 82 percent of rural Alaskans are Alaska Native people.[6] The Greenlandic Inuit make up nearly 90 percent of Greenland's total population.[7] In these remote and austere lands and coastal regions, indigenous people have a vested interest in ensuring their way of life, access to critical resources, and cultural integrity are paramount. Given indigenous people have internal sovereignty within a sovereign nation-state, national governments and indigenous peoples have a shared interest to collaborate and invest in securing the North American Arctic.

2. "Who We Are," Arctic Council (website), n.d., accessed on December 11, 2022, https://arctic-council.org/.

3. "Definitions of the Arctic," Arctic Centre at the University of Lapland (website), n.d., accessed on December 11, 2022, https://www.arcticcentre.org/EN/arcticregion/Maps/definitions.

4. Shinan Wang and Johanna Roto, "Indigenous Population in the Arctic," Nordregio (website), March 21, 2019, https://nordregio.org/maps/indigenous-population-in-the-arctic/.

5. Heidi Kutz, "Canada," Arctic Council (website), n.d., accessed on December 11, 2022, www.arctic-council.org/about/states/canada/.

6. "First Alaskans Institute," First Alaskans Institute (website), n.d., accessed on December 11, 2022, www.firstalaskans.org.

7. "Indigenous Peoples in Kalaallit Nunaat (Greenland)," International Work Group for Indigenous Affairs (website), n.d., www.iwgia.org/en/kalaallit-nunaat-greenland.html.

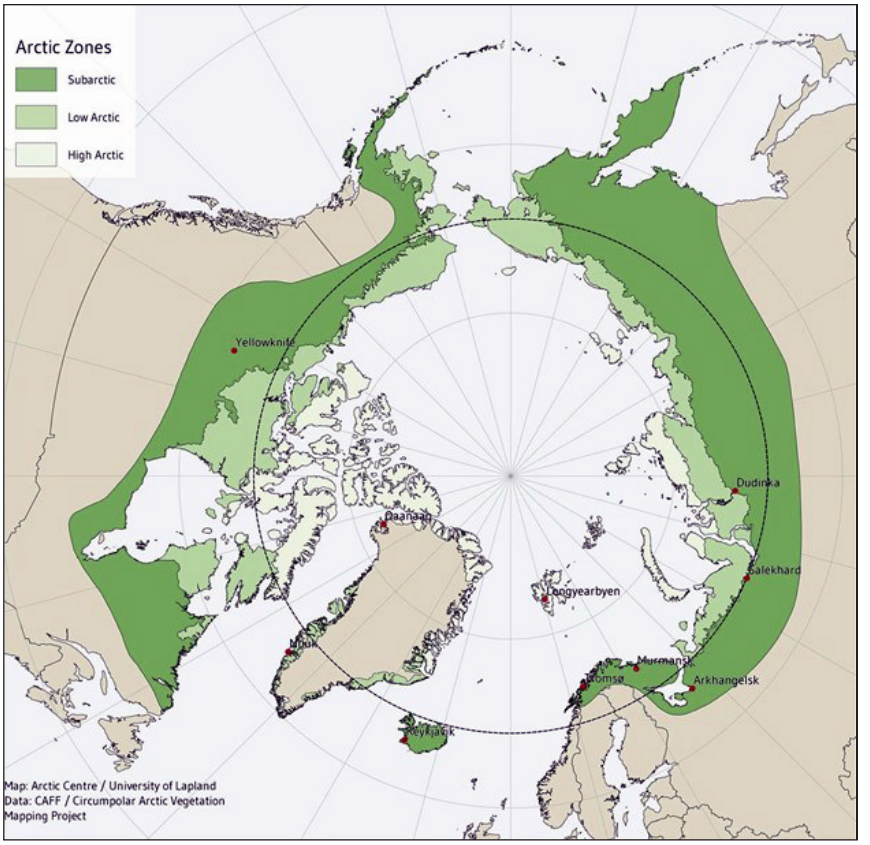

Figure 15-1. Arctic defined by vegetation zones
(Reprinted with permission of the Arctic Centre)

Trust Responsibility

Governmental prohibition of cultural practices, marginalization, and forced acculturation into Western culture are just a few collective efforts to delegitimize native people and their claims. In recent years, Indigenous leaders throughout Canada and the United States have worked to solidify and legitimize the sovereignty of Indigenous Nations and to acknowledge and address some of the historical traumas the Indigenous have experienced.[8] In this vein, some measures have been taken to reconcile these past traumas.

For the Alaska Native people, the 1971 Alaska Native Claims Settlement Act represented an agreement to settle land claims levied

8. Maria Yellow Horse Brave Heart et al., "Historical Trauma among Indigenous Peoples of the Americas: Concepts, Research, and Clinical Considerations," *Journal of Psychoactive Drugs* 43, no. 4: 282–90.

by Alaska Native communities and organizations. The act resulted in the formation of a collection of Alaska Native corporations that were compensated financially (nearly $1 billion US dollars) and to whom land was distributed (44 million acres).[9] As a result, federally recognized tribes have the right to request government-to-government consultation on Department of Defense activities that may have an impact on the tribes. Although they do not have the same authorities as tribes, Alaska Native corporations have the right to consultation over resources for which the entities are responsible. But the corporations do not have the right at this time to request government-to-government consultation.[10] Although the Alaska Native Claims Settlement Act is imperfect, it has advanced the legitimacy of Alaska Native people's claims within the federal system.

The Indian Act of 1876 and the Constitution Act of 1982 were two critical laws that advanced the requirement for reconciliation with and self-governance by the Indigenous people of Canada.[11] Indigenous governing bodies have increased their legal authorities, which has, in turn, shaped the interactions between the Canadian Armed Forces and how they train and operate in the northernmost territories and provinces. When training and operating in the Arctic areas of Canada, the Canadian Armed Forces work with Native-owned businesses and governing bodies to coordinate, sustain, and support military activities. The Canadian Armed Forces are obligated to coordinate with Native governing bodies; in addition, any logistical support provided must be organic to the region. Otherwise, outfitting and sustaining such forces could be nearly unsurmountable.

Greenland enjoys self-government within the Kingdom of Denmark, but the latter has extended few formal self-governing authorities to the Inuit people of Greenland.[12] For defense security, Greenland relies on Denmark, given the high cost associated with securing the former's island borders. But the level of collaboration that exists between Greenlandic Inuit people and royal Danish forces in defense of Greenland is unclear.

9. Martha Hirschfield, "The Alaska Native Claims Settlement Act: Tribal Sovereignty and the Corporate Form," *Yale Law Journal* 101, no. 6 (April 1991): 1331–55.

10. Office of the Under Secretary of Defense for Acquisition and Sustainment, *DoD Interactions with Federally Recognized Tribes*, Department of Defense (DoD) Instruction 4710.02 (Washington, DC: Office of the Secretary of Defense, September 24, 2018).

11. Mary C. Hurley, *The Indian Act* (Ottawa, CA: Parliamentary Research Branch, October 4, 1999).

12. Maria Ackrén, *Development of Autonomy in Greenland—From Home Rule to Self-Government* (Bolzano, IT, Flensburg, DE, and Cluj-Napoca, RO: Autonomy Arrangements in the World, 2022).

The increase in the legitimacy of Indigenous people in the Arctic is likely to gain momentum. This advancement necessitates a trust responsibility that may overshadow the historically—and even presently—oppressive and marginalizing behaviors, policies, and laws of central governments. For American Indians and Alaska Native people, the US federal government has a trust responsibility to the well-being of Native people that has been established by law, executive orders, and policies.[13] Looking ahead, the political, economic, and climate implications on these three countries demand a collaborative and inclusive effort to secure and, if necessary, defend the North American Arctic.

Enduring Trust through Securing the Homeland

Climate change impacts, sovereignty validation, and economic development are just a few shared interests between Indigenous communities and organizations and national government interests. But approaches to Indigenous people's inclusion continue to require attention. For instance, issues of trust and unresolved historical trauma require the development of a shared strategic vision, and well-defined pathways for deterring foreign encroachment, protecting resources, and providing defense warrant more effort. An enduring trust relationship between Indigenous leaders is foundational and necessary. Collaboratively identifying and navigating these shared problem sets can serve to build trust equity that could lead to a more unified effort to secure the sovereignty of Indigenous people and strengthen the security posture of the homeland.

The formation of effective and innovative efforts in securing the North American Arctic is dependent, in part, on the populace's understanding of the various emerging vulnerabilities. Economic competition, maritime control, cyber manipulations, and climate change are examples of vulnerabilities that government agencies, vested organizations, and Indigenous enterprises could approach collaboratively. The process of developing innovative solutions is iterative in that political power must be shared with Indigenous people to permit conversations to be legitimized. Without a voice in power, inclusivity is limited.

Many people recognize several issues that need to be resolved to rectify past grievances and address inequities that continue unabated in governing and social policies, systemic biases, social norms, and other forms that perpetuate

13. Larry B. Leventhal, "American Indians—The Trust Responsibility: An Overview," *Hamline Law Review* 8 (1985): 625.

colonialist attributes. Yet four domains could prove useful in contributing to the emerging narrative of trust, security, and sovereignty: economic development, social accountability, political purposefulness, and cultural autonomy. Building shared experiences that fuel a purposeful and meaningful set of behaviors contributes to social well-being and increases trust.

The first domain is economic development, which contributes to multifaceted aspects of security (food, water, medical, and shelter security, to name a few). Governing bodies have the financial resources to develop infrastructure, provide social care, maintain operations for municipal functioning, and develop innovations. With the right balance of federal contracting of services, projects, and equipment and rural, Indigenous companies employing their own people, Native communities would have greater capacity to invest in themselves. But the investment must exceed the threshold from marginally surviving to a level at which prosperity is possible.

Approaches worth considering include increased economic opportunities that can be wide in range. For example, with infrastructure projects, defense forces could collaborate and coordinate with Indigenous companies and municipalities to identify projects that could have dual usage. Airstrips, control towers, roadways, and marine ports are just a few examples of projects that could be enhanced both to meet commercial or public needs and provide capacity for military use. This shared usage could provide access and maneuverability for military forces while commercial enterprises advance innovations and scalability.

Second, social accountability allows for Indigenous people to rectify marginalizing policies and practices. Regrettably, history throughout Canada and the United States is replete with traumatic practices that continue to have ramifications. Marginalizing women, as noted in the Indian Act, is an example of how existing policies in Canada demonstrate the need to improve access to all. (The Indian Act is a Canadian federal law pertaining to Indian status, bands, and Indian reserves. Many people view the act as invasive and paternalistic because it authorizes the government to regulate and administer the day-to-day lives of registered Indians and reserve communities.)[14] Many rural Alaska Native communities do not have adequate sanitation systems or potable water. Instead, in some villages, some households have to portage their human waste from the house

14. "Welcome to Indigenous Foundations," Indigenous Foundations (website), n.d., accessed on December 11, 2022, https://indigenousfoundations.arts.ubc.ca/home/.

to a sewage collection point.[15] These conditions are potential invitations for other nation-state actors who seek inroads into communities to understand vulnerabilities better and influence public opinion.

Improving health care accessibility could contribute to the collective psyche of inclusivity as well as improve wellness among rural Indigenous communities. The health disparities are well documented, with disproportionate rates of diabetes, hypertension, and reduced life expectancy among Native people. During the coronavirus disease 2019 pandemic, many rural communities had difficulties accessing health care because of the limited availability of flights to health care hubs. Developing partnerships between the military and Indigenous communities for use of aircraft to assist individuals who need care that is beyond the village's capacity and could be brought to a more appropriate health care facility is a possible means of military engagement with the local population.

Third, political purposefulness in this context connotates establishing and reinforcing political power within Indigenous governing systems. Internal sovereignty permits Indigenous people to self-govern and make policy decisions that are more culturally attuned or relevant. Providing opportunities for Native leaders to contribute to defense or security conversations and decision-making activities improves the chance Indigenous equities are represented and included in the formation of laws, policies, and practices. Instead of vying for political power or control for self-service, focusing on external issues, such as those noted above, ensures collaboration in solving problems and building opportunities based on the shared value of improving national security. Unfortunately, the privileged must come to terms with the realities of these disparities and compromise for the betterment of the collective. The past grievances Indigenous people have highlighted must be acknowledged and efforts made to reconcile the people's grievances satisfactorily.

Native people are making important shifts in the political equity scale, but it is far from balanced. Greater efforts are needed to include influential Native voices that can shape the larger conversations of national security, thereby incorporating Indigenous concerns and priorities. When examining the impacts of climate change, both federal agency partners and Indigenous governing entities have a responsibility to find collective solutions that address critical concerns. The melting of permafrost affects military infrastructure

15. Laura Eichelberger, Korie Hickel, and Timothy K. Thomas, "A Community Approach to Promote Household Water Security: Combining Centralized and Decentralized Access in Remote Alaskan Communities," *Water Security* 10 (August 2020).

stability, and warming temperatures influence fisheries and sea mammal life patterns. Finding overlaps on those shared problems can help to establish common ground on complex issues as well as build trust in interactions and outcomes.

As economic and health disparities decline, power is more equitably distributed, and Indigenous representation is more effectively incorporated into the shared security responsibility, the fourth domain—cultural sovereignty—gains greater legitimacy. Greater political capital, economic influence, and social equity foster the development of cultural identity, causing the Indigenous and surrounding communities to embrace and accept traditional practices, language revitalization, and other forms of cultural expression further.

Subsistence living is greatly associated with cultural identity among Native people in Alaska. Management of caribou herds, fisheries, and lands exemplifies how a lifestyle that depends on nature to feed, heal, and protect Alaska Native people is part of their cultural identity. For instance, one area in which Native people have campaigned to ensure their communities can feed themselves has been advocating for game and fishery management. Synchronizing hunts according to natural cycles, which has worked for Native people throughout their existence, is a part of their cultural identity and development. As tools are prepared, young hunters are brought into the hunt and meat is shared among the community generation after generation.[16]

Conclusion

The collaborative possibilities to address the security of the North American Arctic must include the Native people of the lands. All citizens have a vested interest in protecting natural resources that support a way of life, countering competitive encroachment, and fostering development and sustainability. Authenticating the sovereignty of both Indigenous people and federal governments is not without friction or competition. But keeping the focus on securing maritime borders; enforcing the rule of law; and deterring foreign, nefarious activities are just a few areas in which collaboration can promote a trust narrative that can usurp the historically traumatizing one. Native people are citizens

16. Thomas F. Thornton, "Subsistence in Northern Communities: Lessons from Alaska," *Northern Review* 23 (Summer 2001): 82–102.

of their respective countries and must be included in national and even international security conversations.

The shared responsibility of securing the High North persists. With increased trust comes increased capacity to collaborate on finding solutions to inherent conflicts that emerge from solving security issues. In addition, the results lead to a narrative that honors cultural diversity, shares political power, and advances economic interests more equitably across the North American Arctic region, which figure 15-2 depicts.[17]

Figure 15-2. Tribes of the Arctic and subarctic
(Reprinted with permission of Encyclopaedia Britannica)

17. Cynthia O'Brien and Allyson Shaw, "Native People of the Arctic and Subarctic," *National Geographic Kids* (website), n.d., accessed on July 31, 2023, https://kids.nationalgeographic.com/history/article/native-people-of-the-arctic-and-subarctic.

Selected Bibliography

Ackrén, Maria. *Development of Autonomy in Greenland—From Home Rule to Self-Government*. Bolzano, IT, Flensburg, DE, and Cluj-Napoca, RO: Autonomy Arrangements in the World, 2022.

Brave Heart, Maria Yellow Horse et al. "Historical Trauma among Indigenous Peoples of the Americas: Concepts, Research, and Clinical Considerations." *Journal of Psychoactive Drugs* 43, no. 4: 282–90.

Eichelberger, Laura, Korie Hickel, and Timothy K. Thomas. "A Community Approach to Promote Household Water Security: Combining Centralized and Decentralized Access in Remote Alaskan Communities." *Water Security* 10 (August 2020).

Hirschfield, Martha. "The Alaska Native Claims Settlement Act: Tribal Sovereignty and the Corporate Form." *Yale Law Journal* 101, no. 6 (April 1991): 1331–55.

Hurley, Mary C. *The Indian Act*. Ottawa, CA: Parliamentary Research Branch, October 4, 1999.

Leventhal, Larry B. "American Indians—The Trust Responsibility: An Overview." *Hamline Law Review* 8 (1985).

Office of Strategy, Policy, and Plans. *Strategic Approach for Arctic Homeland Security*. Washington, DC: Department of Homeland Security, January 11, 2021.

Office of the Under Secretary of Defense for Acquisition and Sustainment. *DoD Interactions with Federally Recognized Tribes*. Department of Defense Instruction 4710.02. Washington, DC: Office of the Secretary of Defense, September 24, 2018.

Thornton, Thomas F. "Subsistence in Northern Communities: Lessons from Alaska." *Northern Review* 23 (Summer 2001): 82–102.

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Indigenous Energy Diplomacy in the Arctic: Probing the Complexity with Cases in Sápmi and the Inuvialuit Region

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Conflicts over energy resources are not new, nor is the discourse of multiple crises. At least two oil crises occurred in the 1970s, both caused by disruptions of oil supplies from the Middle East. These crises were followed by an oil glut and the drastic drop in oil prices in the 1980s.[1] The current global oil and energy crisis began in 2021 in the wake of the coronavirus disease 2019 pandemic, when the world was faced with shortages and increased oil, gas, and electricity costs. Factors playing into the current energy crisis include oil price wars, supply-demand disparities, and accelerating climate change, all of which were further exacerbated in February 2022 by the Russian invasion of Ukraine. Whereas a couple of decades ago, the discourse of multiple simultaneous crises focused on the excesses and failures of economic globalization, today, we increasingly talk about "polycrisis": a combination of multiple interacting, systemic crises that compound the risks and threats to humanity and the planet.[2]

1. Robert D. Hershey Jr., "How the Oil Glut Is Changing Business," *New York Times* (website), June 21, 1981, https://www.nytimes.com/1981/06/21/business/how-the-oil-glut-is-changing-business.html.

2. Lourdes Beneria, "Markets, Globalization and Gender," in *Gender, Development and Globalization: Economics as if All People Mattered* (New York: Routledge, 2003); Mario Blaser, Harvey Feit, and Glenn McRae, ed., *In the Way of Development: Indigenous Peoples, Life Projects and Globalization* (London and New York: Zed Books and International Development Research Centre, 2004); David McNally, *Another World Is Possible: Globalization and Anti-Capitalism* (Winnipeg, CA: Arbeiter Ring, 2006); Joseph E. Stiglitz, *Globalization and Its Discontents* (New York: Norton, 2002); and Adam Tooze, "Chartbook #130: Defining Polycrisis – From Crisis Pictures to the Crisis Matrix," Chartbook (website), June 24, 2022, https://adamtooze.substack.com/p/chartbook-130-defining-polycrisis.

"Indigenous energy diplomacy" is a relatively new term, but Indigenous peoples have long practiced various forms and degrees of traditional kinship diplomacies as well as more recently engaged in mainstream diplomacy in global politics and international relations on issues related to energy and in particular, energy resource Indigenous energy diplomacy within the Arctic region. Energy diplomacy is a complex practice that differs among Arctic Indigenous peoples, such as the Sámi and Inuit energy diplomacies in the current context of energy crisis and energy resource conflict.

Standard definitions of diplomacy are state driven and state centric and have been a central focus of study in International Relations, a discipline that has traditionally excluded Indigenous peoples as global actors from its analyses of politics.[3] International Relations has also long remained blind to Indigenous diplomacies, begging the question, "What forms of diplomacy are considered to be legitimate?" In addition to very limited knowledge of traditional diplomatic conventions among many Indigenous peoples, a key challenge is whether mainstream, dominant conceptions could or should be employed when considering and discussing Indigenous diplomacies, which are typically founded upon distinct ontologies of reciprocity and relationality.[4]

Indigenous diplomacies as established practices are neither new nor homogenous. Yet Indigenous diplomacies have received more sustained scholarly attention only in the past few decades, thanks in part to growing Indigenous advocacy in multilateral arenas, such as the UN and

3. David Bedford and Thom Workman, "The Great Law of Peace: Alternative International Practices and the Iroquoian Confederacy," *Alternatives* 22, no. 1 (January 1997); J. Marshall Beier, *International Relations in Uncommon Places: Indigeneity, Cosmology, and the Limits of International Theory* (New York: Palgrave Macmillan, 2005); Neta C. Crawford, "A Security Regime among Democracies: Cooperation among Iroquois Nations," *International Organization* 48, no. 3 (Summer 1994); and Franke Wilmer, *The Native Voice in World Politics: Since Time Immemorial* (Newbury Park, CA: Sage, 1993).

4. Ravi de Costa, "Cosmology, Mobility and Exchange: Indigenous Diplomacies before the Nation-State," *Canadian Foreign Policy* 13, no. 3 (2007); Leanne Simpson, "Looking After Gdoo-naaganinaa: Precolonial Nishnaabeg Diplomatic and Treaty Relationships," *Wicazo Sa Review* 23, no. 2 (Fall 2008); J. Marshall Beier, "Introduction: Indigenous Diplomacies as Indigenous Diplomacies," in *Indigenous Diplomacies*, ed. J. Marshall Beier (New York: Palgrave, 2009); and Joseph Bauerkemper and Heidi Kiiwetinepinesiik Stark, "The Trans/National Terrain of Anishinaabe Law and Diplomacy," *Journal of Transnational American Studies* 4, no. 1 (January 2012).

Arctic Council.[5] Notwithstanding this recent interest, we must bear in mind Indigenous diplomacies continue to be "far more nuanced and complex, and more wholly *sui generis* than a focus on recent developments at the UN alone might reveal them to be."[6] Indigenous diplomacies need to be engaged "as meaningful in themselves and on the terms of their own founding, not merely for their having come finally and belatedly to be taken seriously by states (and, even more belatedly, by disciplinary International Relations)."[7]

Contemplating Indigenous diplomacies in the twenty-first century and in the context of systemic global crises across multiple axes, Makere Stewart-Harawira emphasizes the need for the "reembedding of Indigenous philosophies and ontologies at the heart of [Indigenous] diplomatic endeavors."[8] Stewart-Harawira outlines the gradual process of restructuring Indigenous self-determination as economic development (instead of political status) through ideologies and frameworks of neoliberal economics and neoconservative politics evident in land claim agreements and treaty settlements negotiated between Indigenous peoples and states. These agreements and settlements have resulted, Stewart-Harawira suggests, in the "corporatized governance structures and politico-economic endeavors of today [that] bear little resemblance to historical Indigenous modes," which ultimately benefits the state more than Indigenous peoples.[9] In the Arctic, a prime example of this approach and restructuring is the 1971 Alaska Native Claims Settlement Act, which saw the establishment of regional and community Alaska Native corporations as part of a settlement of Indigenous rights to pave the way for oil and gas production and development.[10]

5. James Youngblood Henderson, *Indigenous Diplomacy and the Rights of Peoples: Achieving UN Recognition* (Saskatoon, CA: Purich, 2008); Sheryl Lightfoot, *Global Indigenous Politics: A Subtle Revolution* (New York: Routledge, 2016); Frances Abele and Thierry Rodon, "Inuit Diplomacy in the Global Era: The Strengths of Multilateral Internationalism," *Canadian Foreign Policy* 13, no. 3 (2007); Dorothée Cambou and Timo Koivurova, "The Participation of Arctic Indigenous Peoples' Organizations in the Arctic Council and Beyond," in *Routledge Handbook of Indigenous Peoples in the Arctic*, ed. Timo Koivurova et al. (London: Routledge, 2020); and Nikolas Sellheim, "The Arctic Council and the Advancement of Indigenous Rights," in *Arctic Triumph: Northern Innovation and Persistence*, ed. Nikolas Sellheim, Yulia V. Zaika, and Ilan Kelman (New York: Springer, 2019).

6. Beier, "Introduction," 2.

7. Beier, "Introduction," 2.

8. Makere Stewart-Harawira, "Responding to a Deeply Bifurcated World: Indigenous Diplomacies in the Twenty-First Century," in *Indigenous Diplomacies*, 209.

9. Stewart-Harawira, "Responding," 215.

10. Martha Hirschfield, "The Alaska Native Claims Settlement Act: Tribal Sovereignty and the Corporate Form," *Yale Law Journal* 101, no. 6 (April 1992).

This chapter considers these two modes proposed by Stewart-Harawira of placing Indigenous ontologies at the center of their diplomacies on the one hand, and reinscribing Indigenous self-determination as economic development, to illustrate the diverse landscape of contemporary Indigenous energy diplomacy. The chapter focuses on Sámi reindeer herding in Norway vis-à-vis the wind industry and the energy security development in the Inuvialuit Settlement Region in the Northwest Territories, Canada.

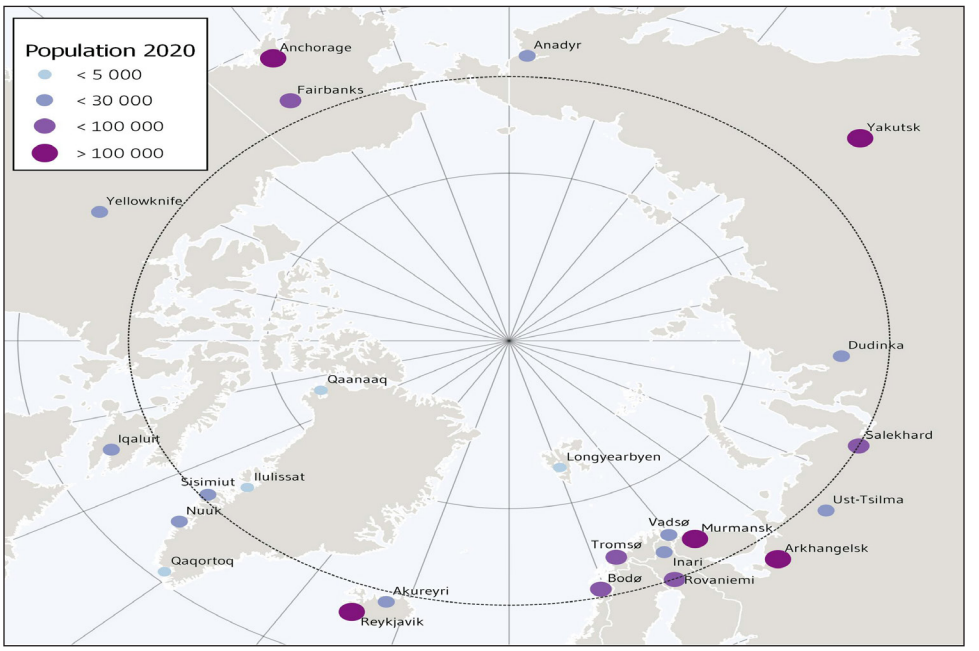

Figure 16-1. Population centers in the north

The Sámi and the Inuit are both transnational in the sense their traditional territories (and present-day regions) span across several nation-states (see figure 16-1).[11] The Inuit territories range from Alaska and the Canadian Arctic to Greenland and Siberia, Russia, and the Sámi region extends from central Norway and Sweden to northern Finland and the Kola Peninsula in the northwest of Russia. "Transnational" is a misleading term, considering how both people regard themselves as one people who have lived on their territories well before the existence of the nation-states. Both peoples have long traditions and forms of kinship diplomacies, though they have received very little scholarly attention (at least as diplomacies). Voluntary associations, collective persistence, political realism, adaptability, and strategies to avoid win-lose confrontations,

11. Arto Vitikka and Arctic Centre, "Population Centres in the North," Arctic Centre (website), n.d., accessed on April 1, 2023, https://www.arcticcentre.org/EN/arcticregion/Maps/Cities.

among others, have characterized traditional Inuit diplomacy.[12] The Sámi practiced internal forms of diplomacy such as the Verdde system, which is characterized by reciprocal relations and exchange between Sámi families of different livelihoods.[13] Historical Sámi trading relations on coastal regions go back to at least 800 AD, but very little is known of related diplomatic practices.[14]

Since the early days of the global Indigenous movement in the 1960s and 1970s, the two Arctic Indigenous peoples, the Sámi and the Inuit, have been in the forefront of advancing Indigenous diplomacy and international cooperation. The Sámi Council, a Sámi nongovernmental organization established in 1956, was involved in forming the World Council of Indigenous Peoples at the Tseshaht reservation in Port Alberni, British Columbia, in October 1975.[15] The Inuit Circumpolar Council (formerly the Inuit Circumpolar Conference), an Inuit nongovernmental organization, was established in 1977. The two Arctic Indigenous nongovernmental organizations played a major role in the UN Working Group on Indigenous Populations in the 1980s and, later, the drafting of the UN Declaration on the Rights of Indigenous Peoples (2007) and the establishment of the UN Permanent Forum on Indigenous Issues (2010). Furthermore, the Sámi Council and the Inuit Circumpolar Council are two of the three founding Permanent Participants of the Arctic Council, the third being the Russian Association of Indigenous Peoples of the North, which represents 40 Indigenous peoples living in the north of the Russian Federation.

Globally, the Arctic Council is a unique intergovernmental forum because its core structure involves Arctic Indigenous peoples through the category of Permanent Participants (currently, six Arctic indigenous organizations) that have full consultation rights in the Council's negotiations and decisions. Notwithstanding this right and the Arctic Council

12. Frances Abele and Thierry Rodon, "Coming in from the Cold: Inuit Diplomacy and Global Citizenship," in *Indigenous Diplomacies*, 118.

13. Inger-Marie Oskal, "Verddevuohta Guovdageainnus – ovdal ja dál," in *Cafe Boddu: Essaycoakkáldat 1*, ed. Harald Gaski (Kárásjohka, NO: Davvi Girji, 1991); and Sheelagh Daniels-Mayes and Kristina Sehlin MacNeil, "Disrupting Assimilationist Research Principles and Practices in Australia and Sweden: Self-Determination through the Enactment of Indigenous Diplomacies," *Whitehead Journal of Diplomacy and International Relations* 21, no. 1 (Fall/Winter 2019).

14. Lars Ivar Hansen, "Trade and Markets in Northern Fenno-Scandinavia A.D. 1550–1750," *Acta Borealia* 1, no. 2 (1984); and Roger Kvist, "Den samiska handeln och dess roll som social differentieringsfaktor-lule lappmark 1760–1860," *Acta Borealia* 3, no. 2 (1986).

15. Douglas Sanders, *The Formation of the World Council of Indigenous Peoples* (Copenhagen, DK: International Work Group for Indigenous Affairs, 1977).

being premised on active, meaningful participation and the involvement of circumpolar Indigenous peoples, the Permanent Participants were not consulted about the suspension of the Council's activities in 2022 due to Russia's war in Ukraine. This omission shows how during states of exception, diplomacy with Indigenous peoples is neglected, even within established frameworks of diplomacy such as the Arctic Council.

Energy Diplomacy

During the 1979 second oil crisis, caused by the Iranian Revolution, energy diplomacy emerged to characterize states' objectives to provide and guarantee energy security. Today, energy diplomacy is seen as an important tool of foreign policy that seeks to improve access to energy resources and markets through dialogue, negotiation, lobbying, and advocacy.[16] The growing impact of energy on national security and the economy explains the emergence of energy diplomacy.[17] Also practiced by multilateral institutions, energy diplomacy comprises several variants. For example, the objective of contemporary EU energy diplomacy is to expedite the global energy transition.[18]

Because the climate crisis is upon all of us, the urgency to move away from fossil fuels and decarbonize all sectors of society rapidly has been growing. Climate change has both direct and indirect consequences on Arctic Indigenous peoples. Direct impacts include permafrost thaw; increased rain on snow, which leads to icing; and wetter and windier weather in general, all of which severely imperils traditional economies and livelihoods.[19] Indirect impacts consist of increased pressure on Indigenous territories by accelerating extractivism and renewable energy projects in the name of green transition.[20]

16. Marco Giuli, "Getting Energy Diplomacy Right: A Challenge Starting at Home," European Policy Centre (website), October 23, 2015, https://www.epc.eu/en/Publications/Getting-energy-diplomacy-right~1d05b0.

17. Ana Bovan, Tamara Vučenović, and Nenad Perić, "Negotiating Energy Diplomacy and Its Relationship with Foreign Policy and National Security," *International Journal of Energy Economics and Policy* 10, no. 2 (January 2020).

18. Anna Herranz-Surrallés, "An Emerging EU Energy Diplomacy? Discursive Shifts, Enduring Practices," *Journal of European Public Policy* 23, no. 9 (2016).

19. Nicholas Tyler et al., "The Shrinking Resource Base of Pastoralism: Saami Reindeer Husbandry in a Climate of Change," *Frontiers in Sustainable Food Systems* 4 (2020).

20. Alexander Dunlap, "The 'Solution' Is Now the 'Problem': Wind Energy, Colonisation and the 'Genocide-Ecocide Nexus' in the Isthmus of Tehuantepec, Oaxaca," *International Journal of Human Rights* 22, no. 4 (2018).

Some Arctic countries such as Norway and Iceland, generate nearly all their energy from renewable resources. At the same time, Norway is a major oil-producing country globally, with plans to boost production further in 2023.[21] Fossil fuel extraction also remains the mainstay of energy and the economy for Russia and Alaska. Russia is expanding the development of its Arctic gas reserves, and renewable energy production continues to be insubstantial.[22] Renewable energy policy frameworks such as Green Deals, however, are pushing for more extensive renewable energy development in the Arctic. The 2021 EU Arctic policy, for example, seeks to "stimulate an innovative green transition" and asserts oil, coal, and gas need to stay in the ground.[23]

Arctic Indigenous Energy Diplomacies

Everyday energy security concerns, such as the high cost of heating and lighting homes and communities in a region where winters are long and dark, are shared by most Arctic Indigenous peoples. But considerable variance exists between, say, remote Inuit communities in the Canadian Arctic with widespread reliance on a discontinuous electric grid infrastructure and Sámi communities in Scandinavia that are connected to reliable national energy grids and supply lines. Indeed, up until fall 2022, electricity in northern Sweden, including in Sámi communities, was cheaper than in the south of the country due to the high production capacity of hydroelectricity in the north.[24] Arctic Indigenous energy concerns and hence, diplomacies can also radically differ from one another in their approach to the global energy transition. Although the Inuvialuit in the Northwest Territories of Canada seek to switch to wind energy, the Sámi in Scandinavia consider wind energy green colonialism. In short, although energy insecurities are shared, the solutions are not.

21. Charles Kennedy, "Norway to Boost Oil & Gas Production as It Expects Record 2023 Revenue," Oil Price (website), October 6, 2022, https://oilprice.com/Latest-Energy-News/World-News/Norway-To-Boost-Oil-Gas-Production-As-It-Expects-Record-2023-Revenue.html.

22. S. A. Dyatlov et al., "Prospects for Alternative Energy Sources in Global Energy Sector," *IOP Conference Series: Earth and Environmental Science* 434 (2020); and N. Y. Kirsanova, O. M. Lenkovets, and A. Y. Nikulina, "The Role and Future Outlook for Renewable Energy in the Arctic Zone of Russian Federation," *European Research Studies Journal* 21, Special Issue no. 2 (2018).

23. Josep Borell Fontelles, *A Stronger EU Engagement for a Peaceful, Sustainable and Prosperous Arctic, Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions* (2021) 27 (Brussels, BE: European Commission, October 13, 2021).

24. Peter Sköld, "Perpetual Adaption? Challenges for the Sami and Reindeer Husbandry in Sweden," in *The New Arctic*, ed. Birgitta Evengård, Joan Nymand Larsen, and Øyvind Paasche, 2015 ed. (New York: Springer, 2015).

Arctic Indigenous peoples are not, by and large, in a position of engaging in energy diplomacy in the conventional sense. The peoples are not states with their own foreign policy and are not in charge of national security and the economy, although exceptions exist. Greenland, with its population nearly 90-percent Inuit, has jurisdiction over the national economy per the 2009 Act on Greenland Self-Government. In many ways, Indigenous territories in the Arctic are today ground zero for the transition away from fossil fuels, both in terms of the critical minerals and resources needed for the shift and areas suitable for large-scale wind and hydro development. In such a context, Arctic Indigenous energy diplomacy is both obvious and necessary because it involves activities that improve Indigenous participation and involvement in national and regional energy governance, including planning, policy and decision making, implementation, and construction.

In many ways, Indigenous peoples such as the Sámi, Inuit, and others have already been engaging in energy diplomacy for decades. One could suggest one significant dimension of Indigenous international diplomacy has always been about energy development. Energy diplomacy has gained a new critical edge for nation-states and Indigenous peoples alike in the past few years. Nevertheless, Arctic Indigenous energy diplomacies are not uniform. Although Arctic Indigenous peoples share many similarities, the regions and peoples' approaches to energy security and energy development differ notably and significantly. A problem shared across the region is despite Arctic Indigenous peoples having long engaged in energy diplomacy (even if it has not been called such), the region has been deliberately overlooked and dismissed by state and corporate actors.

Inuvialuit Energy Diplomacy

In 1984, the Inuvialuit region, which is in the western Arctic and is one of the four Inuit regions in Canada, was the first to sign a land claim settlement. The settlement was also the first such agreement in the Northwest Territories. The Inuvialuit Final Agreement was followed by the establishment of the Inuvialuit Regional Corporation the same year. The agreement establishes the Inuvialuit own 90,000 square kilometers, including 13,000 square kilometers on which the Indigenous people have subsurface rights. The agreement also included a payment of 152 million Canadian dollars from the federal government. The Inuvialuit Final Agreement provides the Inuvialuit with wildlife harvesting rights in the region. Omitted from the 1984 negotiated

agreement, self-government is currently being negotiated with the federal and territorial governments.

In my visit to one of the Inuvialuit communities, Inuvik, in September 2022, I learned the community of over 3,000 inhabitants is almost entirely dependent on diesel. The inhabitants consume five million liters of diesel annually, making Inuvik the Northwest Territories' largest diesel-powered community. In addition, Inuvik recently switched from natural gas to diesel, partly because of the failure of the Mackenzie Gas Project.[25] Today, the fuel used for home heating, diesel, is being trucked from southern Alberta. To enhance local energy security and lower the cost of living, Inuvik is in the process of constructing a wind turbine 20 kilometers outside town. Officials hope the single turbine, which arrived on a barge during my stay, will reduce the amount of diesel needed for power in the community by 30 percent. The Inuvik Wind Project is one of the countless victims of rising transport and other costs, as well as supply-chain problems. As a result, the project was more than $20 million over budget as of September 2022.[26]

Many Indigenous communities are energy insecure due to their remoteness, the high cost of energy, aging infrastructure, and the associated carbon footprint and pollution.[27] This phenomenon, which is not new, has been created by colonial energy governance based on centralized, large-scale extractive energy sources that rarely generate local benefits.[28] To change these circumstances, Indigenous communities have been taking control of their energy production and, hence, their energy security and

25. Walter Strong, "Mackenzie Valley Pipeline Project Officially One for the History Books," *CBC News* (website), updated December 28, 2017, https://www.cbc.ca/news/canada/north/mackenzie-valley-gas-project-no-more-1.4465997.

26. "'Milestone' Hit as Wind Turbine Arrives in Inuvik, but Project Now More Than $20M over Budget," *CBC News* (website), updated September 21, 2022, https://www.cbc.ca/news/canada/north/inuvik-wind-turbine-project-costs-1.6590597.

27. Makenzie MacKay, Brenda Parlee, and John R. Parkins, "Towards Energy Security in the Inuvialuit Settlement Region: Insights from Community Members and Local Residents," *Local Environment* 26, no. 9 (2021).

28. Mary Finley-Brook and Curtis Thomas, "Renewable Energy and Human Rights Violations: Illustrative Cases from Indigenous Territories in Panama," *Annals of the Association of American Geographers* 101, no. 4 (July 2011).

governance over the past decade. Often, these initiatives involve renewable energy, such as solar and wind.[29]

The reasons for Indigenous peoples to appreciate renewable energy include local economic benefits, reliability, community suitability, capacity building, environmental concerns, and energy autonomy. But the development of renewable energy in Indigenous and other communities is often met with considerable institutional barriers. A recent study from the western Arctic suggests, "the idea of community renewable energy is too simplistic in the highly complex governance landscape" of the Inuit Settlement Region.[30] Local, bottom-up energy approaches are important, but equally important is carefully considering the large number of diverse actors involved in energy governance. As an example, national energy policies can limit opportunities for communities to enter the energy market. In the Northwest Territories, bureaucracy and the Northwest Territories Power Corporation's monopoly in the electricity market are seen as barriers to community involvement in and leadership of projects.[31] Moreover, as the Inuvik Wind Project demonstrates, vast distances, minimal infrastructure, and the high cost of transportation and construction greatly impede any energy development in the Arctic, making the attainment of Indigenous and local energy security a major challenge.

Current Inuvialuit energy diplomacy takes the form of pushing for local energy security and sovereignty as part of enacting greater political autonomy, including ongoing self-government negotiations with territorial and federal governments. Land claim and self-government agreements bring limited recognition of Indigenous self-determination and economic opportunities locally and beyond by resolving uncertainty related to Indigenous land and resource rights. Wealth creation of this kind can be controversial in Indigenous communities. Not all agree with or benefit from standard capitalist and corporate economic development, which often stand at odds with Indigenous economies and

29. Anatole Boute, "Off-Grid Renewable Energy in Remote Arctic Areas: An Analysis of the Russian Far East," *Renewable and Sustainable Energy Reviews* 59 (June 2016); Daria Gritsenko and Hilma Salonen, "A Local Perspective on Renewable Energy Development in the Russian Arctic," *Elementa: Science of the Anthropocene* 8, no. 1 (2020); Janet Hunt et al., "Transition to Renewable Energy and Indigenous People in Northern Australia: Enhancing or Inhibiting Capabilities?," *Journal of Human Development and Capabilities* 22, no. 2 (2021); Roopa Rakshit et al., "Energy Transition Complexities in Rural and Remote Indigenous Communities: A Case Study of Poplar Hill First Nation in Northern Ontario," *Local Environment* 24, no. 9 (2019); and Robert D. Stefanelli et al., "Renewable Energy and Energy Autonomy: How Indigenous Peoples in Canada Are Shaping an Energy Future," *Environmental Reviews* 27, no. 1 (March 2019).

30. MacKay, Parlee, and Parkins, "Towards Energy Security," 1139.

31. MacKay, Parlee, and Parkins, "Towards Energy Security."

on-the-land subsistence harvesting and cultural practices that have growing significance in the context of the global food crisis. Inuvialuit energy diplomacy also demonstrates the ways in which the bureaucratization of energy governance constrains local, bottom-up approaches to energy security.

The author's intention is not to suggest the Inuvialuit are uninterested in centering their ontologies or philosophies in their diplomatic activity. Rather, the purpose of this discussion is to call attention to the obstacles to Inuvialuit diplomacy that have been established by state institutions and policies, including the federal government's formulaic framework of negotiating self-government.[32] One recent example of the Inuvialuit asserting their philosophies was the passing of the Inuvialuit Family Way of Living Law by the Inuvialuit Regional Corporation Board of Directors in November 2021.[33]

Sámi Energy Diplomacy

In Norway, the reindeer herding region extends from Finnmark county in the north to Trøndelag county in the south, covering approximately 40 percent of Norway's landmass. As a result of the cumulative, long-term effects of various forms of development (hydro, forestry, mining, tourism, and infrastructure), reindeer grazing areas have been radically reduced and fragmented in the past century. In recent years, the wind industry has played a central role in Norway's rapid energy transition. The wind industry is extremely area intensive, and its scale is even more sizable when considering the entire industrial system involved (roads and other infrastructure). This scale has resulted in the loss of pastures and the closure of migration routes. Without access to their pastures, the reindeer herders are forced to reduce the size of their herds to potentially unviable levels. About half of the wind energy construction in Norway is currently taking place in the areas that are central to reindeer herding without the free, prior, and informed consent of the Sámi people. In several cases,

32. Paul Nadasdy, *Sovereignty's Entailments: First Nation State Formation in the Yukon* (Toronto, CA: University of Toronto Press, 2017); and Rauna Kuokkanen, *Restructuring Relations: Indigenous Self-Determination, Governance, and Gende*r (New York: Oxford University Press, 2019).

33. "Inuvialuit Regional Corporation Celebrates the First Anniversary of the Passing of the First Ever Inuvialuit Law – Inuvialuit Qitunrariit Inuuniarnikkun Maligaksat," Inuvialuit Regional Corporation (website), November 25, 2022, https://www.irc.inuvialuit.com/news/inuvialuit-regional-corporation-celebrates-first-anniversary-passing-first-ever-inuvialuit-law.

wind development has ended up being considerably larger in scale than initially planned.[34]

Sámi reindeer herding districts have sued the wind industry in Norway on several occasions. The most well-known case involves the South Sámi community of Fovsen Njaarke in the Trøndelag region, which has been confronted with nearly 30 wind industry projects—considerably more than other districts. In October 2021, the Fovsen Njaarke reindeer district unexpectedly won its case against Fosen Vind energy company in the Supreme Court of Norway. The court unanimously concluded the expropriation of reindeer grazing areas by the energy firm and the licenses granted by the state were against the law. The Sámi Parliament of Norway and others have called for the demolition of the wind turbines, but the government is unwilling to follow the decision by its own supreme court. At the time of writing, the fate of the nearly 200 wind turbines in operation in the Fovsen Njaarke region is unclear.

Sámi energy diplomacy currently takes the form of opposing the further loss and expropriation of their territories, of which only 4 percent has not been impacted by some form of industrial development. The two key points Sámi reindeer herders emphasize repeatedly include compensation and cumulative impact. Compensating for the lost pastures is impossible because money cannot buy new ones; "extra" lands and pastures do not exist. The cumulative impact of multiple resource developments amounts to a "death by a thousand cuts." Besides being a livelihood, reindeer herding is the backbone of Sámi culture and inseparable from language preservation, especially in the South Sámi regions such as Fovsen Njaarke, where the history of colonization and state assimilation policies have operated the longest and radically reduced the number of Sámi language speakers.

The case of Sámi reindeer herders versus the wind industry and the transition to renewable energy are examples of placing Indigenous ontologies at the center of diplomatic endeavors. The Sámi case poignantly demonstrates how the dominant (in this case, the EU) energy diplomacy is on a collision course with Indigenous energy diplomacy, which focuses on resisting "green colonialism."[35] I have argued elsewhere that the other

34. Carl Österlin and Kaisa Raitio, "Fragmented Landscapes and Planscapes—The Double Pressure of Increasing Natural Resource Exploitation on Indigenous Sámi Lands in Northern Sweden," *Resources* 9, no. 104 (August 2020); and Anna Skarin, Per Sandström, and Moudud Alam, "Out of Sight of Wind Turbines—Reindeer Response to Wind Farms in Operation," *Ecology and Evolution* 8, no. 19 (October 2018).

35. Susanne Normann, "Green Colonialism in the Nordic Context: Exploring Southern Saami Representations of Wind Energy Development," *Journal of Community Psychology* 49, no. 1 (January 2021).

side of decarbonization is that Sámi reindeer herding seems to be sacrificed for the green energy transition.[36] Unsurprisingly, the direct and indirect effects of climate change have been referred to as "the Sámi paradox": The Sámi are negatively and concurrently impacted by both the warming climate as well as the renewable energy transition that seeks to address it.

Conclusion

As in the case of the Inuvialuit, achieving energy security through conventional energy diplomacy is part of Arctic Indigenous energy diplomacy, evident in the Inuvialuit case. This often conflicts with national policies and institutionalized frameworks that curtail Indigenous energy diplomacies. On the one hand, self-government may place Indigenous peoples and communities in a better position to push for greater energy sovereignty. On the other hand, bureaucratization and institutionalization followed by the establishment of land claim and self-governance structures may further contribute to the challenging policy and regulatory framework.

Another dimension of contemporary Indigenous energy diplomacy that is manifest in the Sámi case involves ensuring Indigenous futures, which depend on the survival and existence of Arctic Indigenous lands, waters, and ecosystems. If the objective of dominant energy diplomacy is to accelerate the global energy transition, as in the EU policy, the goal of Indigenous energy diplomacy is to ensure the transition is not done in a way that sacrifices the life and living conditions of those whose home is the Arctic and the High North.

This chapter has introduced the concept of Indigenous energy diplomacy and provided a quick glimpse into two recent examples of Indigenous energy diplomacy in the Arctic. Obviously, much more research in the area of Indigenous energy diplomacy is needed to shed light on current diplomatic controversies and energy conflicts as well as to advance understanding of Indigenous forms of and approaches to diplomacy on Indigenous terms. In addition, both recognizing Indigenous energy diplomacy and taking it into account in policy and diplomatic arenas are needed. Considering the eight Arctic states have, through the Arctic Council, committed to collaboration with Arctic Indigenous peoples as part of the institutional design, Arctic nation-states' policy frameworks are expected to take Indigenous energy diplomacy

36. Rauna Kuokkanen, "Are the Reindeer the New Buffalo? Climate Change, the Green Shift, and Manifest Destiny in Sápmi," *Meridians* 22, no. 1 (forthcoming).

seriously. If not, Arctic Indigenous peoples have no other option than to resort to other approaches, such as protests and peaceful, direct action, to secure Indigenous futures in their Arctic homeland.

Selected Bibliography

Beier, J. Marshall. "Introduction: Indigenous Diplomacies as Indigenous Diplomacies," in *Indigenous Diplomacies*, ed. J. Marshall Beier. New York: Palgrave, 2009.

Dunlap, Alexander. "The 'Solution' Is Now the 'Problem': Wind Energy, Colonisation and the 'Genocide-Ecocide Nexus' in the Isthmus of Tehuantepec, Oaxaca." *International Journal of Human Rights* 22, no. 4 (2018).

Finley-Brook, Mary, and Curtis Thomas. "Renewable Energy and Human Rights Violations: Illustrative Cases from Indigenous Territories in Panama." *Annals of the Association of American Geographers* 101, no. 4 (July 2011).

Kuokkanen, Rauna. "Are the Reindeer the New Buffalo? Climate Change, the Green Shift, and Manifest Destiny in Sápmi." *Meridians* 22, no. 1 (forthcoming).

Lightfoot, Sheryl. *Global Indigenous Politics: A Subtle Revolution*. New York: Routledge, 2016.

MacKay, Makenzie, Brenda Parlee, and John R. Parkins. "Towards Energy Security in the Inuvialuit Settlement Region: Insights from Community Members and Local Residents." *Local Environment* 26, no. 9 (2021).

Normann, Susanne. "Green Colonialism in the Nordic Context: Exploring Southern Saami Representations of Wind Energy Development." *Journal of Community Psychology* 49, no. 1 (January 2021).

Skarin, Anna, Per Sandström, and Moudud Alam. "Out of Sight of Wind Turbines—Reindeer Response to Wind Farms in Operation." *Ecology and Evolution* 8, no. 19 (October 2018).

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Visiting Defence Fellow Kingston Conference on International Security Conclusion

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The Arctic has always been important to Arctic nations and, by extension, the world. Although vast and untouched due to its harsh climate and terrain, the Arctic is rich in untapped economic and strategic resources that have tremendous economic potential for Arctic states. In combination with the oil, gas, and rare-earth minerals that pepper the region, the Arctic's wealth produces national security dilemmas for its countries. The region is also sparsely populated almost exclusively by indigenous peoples whose human security—determined by a myriad of distinct socioeconomic and geographic issues—has always been challenging. None of these challenges are new when discussing the Arctic. The Arctic region was brought into sharper focus in 2022, however, for two main reasons. First, climate change is rapidly altering the landscape and waterways, increasing accessibility on and through the region, despite the dangers these newly created littoral seas present. Second, the world, including the Arctic territory, is now irrefutably subject to great-power strategic competition. Although many of the Arctic issues are the same as before—and, indeed, are at a stage that was predicted decades ago—the need for policy and action to acknowledge and address Arctic security is more pressing now than ever before. Indeed, #ArcticSecurityMatters.

This year's conference revealed many Arctic security considerations, all of which can be perceived through four broad themes: the real-time impact of climate change on the people, the land, and accessibility; the importance of considering social, human, and economic aspects

of security through meaningful consultation and the inclusion of the indigenous people; clearly demarcated strategic wrestling over Arctic resources; and the need for increased cooperation—despite decreased Russian cooperation—to ensure a secure and sustainable Arctic during this period of unprecedented change.

Climate Change

In their submissions to this volume, several of the contributors observed that to make the Arctic safe, secure, and stable, climate change has to be addressed first and foremost. Climate change and its impacts in the Arctic and High North have had irreversible global effects. Melting permafrost impacts the wildlife and people that occupy the Arctic, negatively affects global water levels, and adds to volatile weather patterns. Although this concern has always been present, these impacts are now happening in real time.

Climate change has opened Arctic accessibility, which is still very problematic. Strategic competition is now evident as the ability to extract economic and strategic resources becomes more and more viable. Although this aspect of the Arctic will be addressed later, one must examine how climate change is affecting national security.

In the months following the 2022 Kingston Conference on International Security, entitled, "International Competition in the High North," one observed continued maneuvering from many governments to prioritize their efforts in the Arctic as well as increased tensions over territorial claims. One also observed intrusions into North American airspace and territorial waters. Without doubt, increased economic intrusions by competitive states have occurred, the most evident being China and its interest in rare-earth minerals throughout the Arctic. Entrepreneurs are often seeking access to strategic resources. This activity reinforces the priority Arctic nations place on addressing the Arctic environment, its people, and the security of the sparsely populated and unforgiving region. As part of these increased efforts, greater effort needs to be placed on conferring with indigenous people in consultation and on policy considerations.

Indigenous Consultation and Consideration

Tribal entities and indigenous authorities have stewardship and political responsibility over most of the North American Arctic. This ownership makes operations in the High North extremely difficult without tribal and indigenous support and, at times, approval. Although Canada has integrated the indigenous voice into regional security through the likes of Joint Task Force North and the Canadian Rangers, the United States is looking to achieve similar integration into its Arctic defence activities. Regardless, the harsh climate, vast distances, limited seaports, and rough terrain challenge regional military operations and, more importantly, compete with the resources needed to meet the basic needs of indigenous peoples. Arctic operations are incredibly resource intensive due to limited infrastructure and supplies; therefore, any forces operating in the Arctic must be self-sustaining or risk straining and depleting local community resources. This need for support and to avoid creating friction with the local population reinforces the requirement for transnational diplomacy with the indigenous peoples and communities across the entire Arctic. Security forces must be aware of the impact of their presence, and any development efforts—including defence and security—should be "dual use" to benefit the local communities and people of the Arctic as well as meet strategic needs. This shared usage requires any project to have the right mix of sustainability, profitability, and sovereign presence, benefiting the needs of all stakeholders. Dual-use projects are more important for the Arctic, given the limited infrastructure and technology available to the region's population. Therefore, North American Aerospace Defense Command (NORAD), United States Northern Command, and Canadian Armed Forces modernization efforts must ensure dual-use projects support national security objectives and improve the infrastructure, telecommunications, supply chains, and renewable energy resources of local communities.

Exploring Arctic infrastructure in great detail, the Kingston Conference on International Security reinforced any major improvements to infrastructure in the Arctic, no matter how well intentioned, could result in a security dilemma for unscrupulous investors focused on profit or resource extraction above all with no regard to the regional economic and security benefits. Improvements to Arctic telecommunications and infrastructure through defense spending could also be perceived as threat signaling to other nations and continue to fuel international strategic competition.

Additionally, recent advances in science and technology to address climate change may lead to improved infrastructure and economic

development opportunities for remote Arctic communities. Unfortunately, the cost of development projects is higher in the High North and the Arctic, creating the "Arctic dilemma," which is broadly framed as economic, social, and resource issues that are at risk of exploitation by rival powers amidst increased strategic competition. Any activity in the Arctic can have immediate, negative, second- and third-order effects. Deep thought, collaboration, and clear strategy will help nations navigate this precarious space.

Strategic Competition

As noted previously, with its rich natural resources, the Arctic is also a focus for international economic and resource competition. For government, business, and indigenous leaders, finding the right balance between the international need for oil, gas, and rare-earth minerals and the development of much-needed regional green energy is challenging. Political leadership also must balance the needs and benefits of development against environmental impacts that can have outsize negative impacts compared to other regions.

Moreover, any discussion of the Arctic must recognize Russia, the second-largest Arctic nation by population. Despite being an Arctic strategic competitor, Russia managed to maintain lines of communication and cooperation in the Arctic with Western nations over the last 20 years, until the country's invasion of Ukraine. Even if international relations were sometimes strained, the Arctic was still one area where common ground could be found. These mutual interests were in areas such as science and technological research and cooperation with indigenous peoples of the Arctic and the High North. But with the Russian invasion of Ukraine, the Arctic Council suspended its activities in March 2022. In response, Russia amended its Arctic policy in February 2023 to prioritize national interests in the Arctic over cooperation with other Arctic states in the economic, science and technology, and cultural realms.

Increased uncertainty driven by strategic competition from China is also now evident. In 2018, China published an Arctic policy declaring the country as a so-called "near-Arctic state." This announcement is a controversial claim that has created global consternation over China's designs to reshape Arctic governance. Additionally, causing alarm in Canada and the United States, China and Russia conducted a joint naval exercise in the American exclusive economic zone around Alaska in late 2022. Tensions increased in February 2023 when alleged Chinese surveillance

balloons were spotted traversing North America in both Canadian and American airspace, after which they were intercepted and downed. In sum, the previously cooperative approach to the Arctic is now framed against national interests, and the threat of military action is increasing as a result. Thus, the need for Arctic cooperation is more pressing now than ever before as a matter of national security for all Arctic nations.

Arctic Cooperation

Cooperation enables nations to address mutual regional challenges to ensure the safety of the nations' people. This teamwork ensures the environment and resources are protected and the homeland is defended. Achieving these objectives requires international and regional collaboration to balance the strategic opportunities and challenges that are unique to the Arctic and the High North.

Through the lens of security and defence policy the Kingston Conference on International Security 2022 provided, collaboration between Canada and the United States must deepen over the coming decades. This strengthening collaboration and like-minded approach will become more apparent as both countries' Arctic priorities align, promoting, in turn, continued interoperability between the two nations. For example, in 2019, the Government of Canada worked with indigenous representatives and their six territorial and provincial governments to codevelop *Canada's Arctic and Northern Policy Framework*. The framework focuses on ensuring the region's people and environment are safe, secure, and well defended. Similarly, the US government published the *National Strategy for the Arctic Region* in October 2022, outlining the strategic goals for a peaceful, stable, prosperous, and cooperative region. Additionally, NATO continues demonstrating increased interest in Arctic security, where the need to align broader Western objectives and policies is evident. This continued collaboration must also include the voice of the indigenous populations who are integral to their nations' populations and whose connection to the land cannot be ignored.

Conclusion

The Arctic continues to deserve the highest priority because the climate and security challenges the region faces will only continue to worsen in the future. Canadian Armed Forces Chief of the Defence

Staff General Wayne Eyre's closing remarks to the Kingston Conference on International Security 2022 seem almost prophetic. Eyre warned the Arctic region was under pressure from polarizing politics and the rules-based international order was extremely fragile and would only get more volatile. Therefore, maintaining a stable and secure Arctic is vital. Nonetheless, even with the competition between Arctic and other states, climate change "looms over everything." In the future, both Canada and the United States will continue to face challenges in maintaining the delicate balance of security and stability through increased threats of great-power competition and the impacts of climate change. Nonetheless, Canada and the United States must achieve this goal in collaboration with like-minded partners and the two countries' indigenous communities. Without this alignment of interests, Arctic security will be difficult—if not impossible—to attain.

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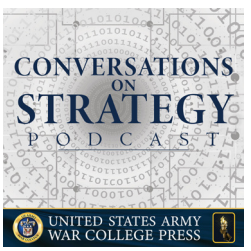

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