



ACCUSARS II

Advancing Collaboration in Canada-U.S. Arctic Regional Security II

*A Strategic Foresight Exercise for the U.S.
and Western Canadian Arctic Regions*

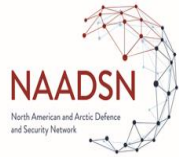
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Advancing Collaboration in **Canada-U.S.** Arctic Regional Security II (ACCUSARS II) *A Strategic Foresight Exercise for the U.S. and Western Canadian Arctic Regions*

Summary Report

Principal Authors:

Randy “Church” Kee, Maj Gen (Ret.) USAF, MS, Executive Director, UAA
Connor Keesecker, BA, ADAC Communications and Research Associate, UAA

Incorporating Notes and Content By:

Danielle Cherpako
Jill Barclay
Justin Barnes
Nicholas Glesby

Submitted on Behalf of ADAC leadership Team:

Douglas Causey, PhD, Principal Investigator, University of Alaska, Anchorage (UAA)
Nettie Labelle-Hamer, PhD, Research Director, Vice Chancellor of Research at University of Alaska Fairbanks (UAF)
Randy Kee, Maj Gen (Ret.) USAF, MS, Executive Director, UAA and Commissioner, U.S. Arctic Research Commission
Heather Paulsen, MBA, Finance Director, UAA
LuAnn Piccard, MSE, PMP, Project Management Director, UAA
Jason Roe, USCG (Ret), Assistant Director & Senior Research Professional, UAA
Elizabeth Matthews, MS, Education and Administrative Manager, UAA
Connor Keesecker, BA, Research and Communications Associate, UAA
Kelsey Frazier, MS, Research Associate, UAA



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Introduction and Overview

During the Advancing Collaboration in Canada-U.S. Regional Security (ACCUSARS) I Workshop on 17-18 September 2020, workshop participants developed a practical characterization on the North American Arctic region. Participants defined this region as an important international crossroads where issues of a warming impacts on the environment, international trade, and global security intersect. These discussions reinforced how state-sponsored and commercial actors from around the world seek to share in the long-term benefits of an accessible Arctic. Some of this increased activity in the region has the potential to challenge and potentially threaten U.S. and Canadian sovereign interests, including foreign investment, tourism and scientific research.

Continuing this important Canada-U.S. discussion on Arctic regional security, ACCUSARS II sought to examine the emerging trends in the medium- and long-term aspects in the North American Arctic security environment to create a useful **Strategic Foresight Assessment (SFA) oriented to the U.S. and Western Canadian Arctic regions** (Alaska, Yukon and Northwest Territories). The virtual event gathered of academics and practitioners from across the region in order to anticipate potential North American Arctic futures. Workshop organizers utilized SFA methods to identify gaps in capabilities and in turn define future risks, challenges and opportunities across Canada and U.S.

Recent reporting from the fall of 2020 and early 2021 highlights that the Arctic continues to warm at 3-4 times the rate of lower latitudes in the Northern Hemisphere.¹² Arctic warming is creating a cascading number of impacts that contribute to reducing Arctic sea ice, melting ice sheets, thawing Arctic permafrost, all of which is affecting the entirety of the Arctic ecosystem, including people residing in the region.

Media is increasingly focused on new human activity in the region and in turn raising concerns Regarding nation-state and non-state actors. The Russian Federation continues to invest in enhancing its military footprint and capabilities along its long Arctic shorelines. The People's Republic of China continues to advance its relationships and investment efforts with Arctic nations, to include co-development of Russian Arctic energy production. Reports on "Great Power Competition" (or perhaps better described as "strategic competition") between Russia, China, and the U.S. continues to elicit attention across the military communities associated with the North Atlantic Treaty Organization (NATO). Meanwhile, reports on industry continuing its exploration and harvesting of mineral wealth and marine life along the Arctic periphery continue to signal economic opportunities in the Circumpolar North.

Planners and decision makers rely on forecasts of where Arctic changes will lead so that they can anticipate measures to mitigate hazard and risk while leveraging emerging opportunities. Most forecast methodologies are mathematically derived and are useful predictors of future outcomes.

¹ Intergovernmental Panel on Climate Change, Special Report on the Ocean and Cryosphere in a Changing Climate: Polar Regions, (2019) United Nations. <https://www.ipcc.ch/srocc/chapter/chapter-3-2/>

² Ballinger, T., Overland, J, Wang, M., Bhatt, U., Hanna, E., Hanssen-Bauer, I., Kim, S.-J., Thoman, R., Walsh, J. Surface air temperature. Arctic Report Card: Update for 2020. (2020). Retrieved from: <https://www.climate.gov/news-features/featured-images/2020-arctic-air-temperatures-continue-long-term-warming-streak>

Conversely, there is enduring value in strategic foresight activities in which a multidisciplinary community of participants, with varied backgrounds, working together as a team, seek to offer 'foresight' rather than forecasts of future conditions. As the U.S. Office of Personnel Management describes:

“Strategic foresight is not about predictions of the future. In a complex and uncertain world accurate prediction is a fiction. Strategic foresight instead, is about being prepared for different futures that are all possible, plausible and preferred.” Strategic foresight calls for detailed and systematic analysis of driving forces and trends of *change* before the development of strategies or plans. Strategic foresight is aimed at finding solutions and responses that are likely to best suit the (evolving) mission and/or organization. Strategic foresight activities enable better preparedness, because they generate explicit, contestable and flexible sense of the future and in so doing, makes it possible to identify and test assumptions we have about our current environment. Strategic foresight provides insight about the meaning of possible futures which enables organizations to capitalize on opportunities and develop new business strategies that emerge from understanding those opportunities.”³

Government and industry leverage aspects of Strategic Foresight Assessments (SFA) to advance planning and support medium- to long-term decision-making. The North Atlantic Treaty Organization has advanced efforts in SFA and future looking entities within the U.S. military, notably, Headquarters' U.S. Coast Guard's Future Concept Division (DCO-X) under the banner “Evergreen” leverage SFA methods and practices.

Building upon a June 2017 workshop on Security in the Arctic Borderlands Region, the North American Marine and Environmental Security Workshop in September 2018, the Alaskan Command's Arctic Symposium held in November 2019, and ACCUSARS I held in September 2020, NAADSN and ADAC co-hosted ACCUSARS II workshop to focus on specific initiatives that will improve understanding and enhance collaboration between Canada and U.S. Arctic security and defense professionals.

Led by ACCUSARS co-hosts at the North American and Arctic Defence and Security Network at Trent University at Peterborough Ontario and the Arctic Domain Awareness Center at the University of Alaska, ACCUSARS II was held as a virtual event on 25-26 March 2021.

Workshop Day 1 reviewed discussions and findings from ACCUSARS I and oriented these discussions to the U.S. Arctic and Canada's Western Arctic. Workshop Day 2 aggregated day 1 activities to create several potential foresight future alternatives focused on potential macro-trends that cut across the foresight futures for the U.S. and Western Canadian Arctic in order to frame gaps and shortfalls. The activities of Day 2 illustrated and evaluated gaps and threats, yielding knowledge outcomes that support policy makers as well as defense and security practitioners. The culmination of Day 2 was the creation of a basic baseline SFA for the U.S. and Western Canadian Arctic oriented to multidisciplinary and multidimensional risk.

³ Office of Personal Management. Policy, Data, Oversight: Human Capital Management: Strategic Foresight. (retrieved 2021). <https://www.opm.gov/policy-data-oversight/human-capital-management/strategic-foresight/>

Workshop method - Panel presentations followed by breakout group reflections, captured and promulgated via a comprehensive report. Chatham House protocols were in effect for the entire workshop. The workshop was recorded in order to produce a summary report, but this recording will not be released to the public.

Workshop objective - Workshop planners seek insights from workshop participants for their professional and informed perspectives in order to create a report of concerns, opportunities, recommendations and inquiries to address anticipated challenges to the medium and longer term North American Arctic security environment (oriented to Alaska and Western Canadian Arctic).

Subsequent Workshops - September 2021 – ACCUSARS III: Developing a regionally focused SFA oriented to Eastern Canadian Arctic and Greenland.

Workshop Day 1

Opening address: [Understanding the developing landscape of the North American Arctic.](#)

Mr. Tony Penikett, former Premier of Yukon, currently affiliated with Simon Fraser University, Vancouver, British Columbia.



Following welcome and orienting remarks by remarks by Dr. Whitney Lackenbauer, (NAADSN), and Maj Gen (Ret), Church Kee, (ADAC) Former Yukon Territories Premier Tony Penikett presented a keynote speech entitled “Understanding the Developing Landscape of the North American Arctic.” For the keynote, Mr. Penikett defined the characteristics of the new Western Arctic (Yukon Territories/Northwest Territories/Alaska specifically) while identifying the greatest challenges to the region and best opportunities.

According to our distinguished speaker, the greatest challenge for the Arctic, and as it is for the entire planet, is Climate Change. Within the context of the Arctic, the greatest challenge resulting from this global crisis is the degradation of permafrost. Thawing permafrost is already having dramatic effects across the Arctic, threatening infrastructure and entire coastal communities.⁴ The Northwest Territories Association of Communities estimates that current damage levels of infrastructure could cost between 1.2 billion and 1.6 billion Canadian Dollars in the Northwest Territories alone, and it is estimated that the cost of permafrost thaw to infrastructure will cause 51 million Canadian dollars of damage each year.⁵ Permafrost thaw is threatening entire communities as exemplified by Shishmaref, an Alaskan community on Sarichef Island in the Chukchi sea, which has been forced to relocate due to coastal erosion exacerbated by permafrost thaw.⁶

Permafrost thaw also presents a direct threat to the entire globe as thawing permafrost releases more carbon into the atmosphere. A quarter of the world’s landmass is tundra and serves as a large reservoir for the world’s carbon dioxide. As more permafrost is thawed, carbon dioxide and methane are released into the atmosphere contributing to a positive feedback loop that accelerates further warming of global average temperatures.⁷ If/as conditions continue, Canada’s permafrost is poised to emit more carbon dioxide than all human activity across the globe.

While harvesting carbon dioxide directly from air and sequestering it underground remains technologically challenging, it is possible to encourage natural processes of carbon sequestration in the world’s boreal and arctic tundra. Encouraging plant growth in the tundra of Alaska, Canada, and

⁴ Hjort, J., Karjalainen, O., Aalto, J. et al. Degrading permafrost puts Arctic infrastructure at risk by mid-century. *Nat Commun* 9, 5147 (2018). <https://doi.org/10.1038/s41467-018-07557-4>

⁵ Levitt, M. Nation Building at Home, Vigilance Beyond: Preparing for the Coming Decades in the Arctic, Report of the Standing Committee on Foreign Affairs and International Development. (2019). House of Commons/Chambre Des Communes Canada. 42nd Parliament, 1st Session. <https://www.ourcommons.ca/Content/Committee/421/FAAE/Reports/RP10411277/faaerp24/faaerp24-e.pdf>

⁶ Marino, E. The long history of environmental migration: Assessing vulnerability construction and obstacles to successful relocation in Shishmaref, Alaska. (2012). *Global Environmental Change*, Volume 22, Issue 2. <https://doi.org/10.1016/j.gloenvcha.2011.09.016>.

⁷ Schaefer, K. et. Al. The impact of the permafrost carbon feedback on global climate. (2014) *Environmental Research Letters*. <https://iopscience.iop.org/article/10.1088/1748-9326/9/8/085003/pdf>

Russia for example could prevent the further release of carbon and degradation of further permafrost.

Mr. Penikett agrees with the assessment of Canadian political scientist Thomas Homer Dixon who described climate change as a global collective action problem. Given the scope of the challenge, collective action is required to address permafrost thaw in the Arctic. Mr. Penikett suggested that national policymakers should first consult with their more northerly residents as they determine how to act. Mr. Penikett suggested that national should come north and engage in a cross-border dialogue on how the North can address the concern of thawing permafrost. While this crisis is a serious challenge, it also is an opportunity for communities from Alaska, Yukon, Northwest Territories, and Nunavut to demonstrate leadership.

Moving onto Arctic Security, Mr. Penikett described three primary perspectives that dominate debates about Arctic Security:

1. **National Security/Military Perspective:** This focus was articulated by former Canadian Prime Minister Stephen Harper and the Conservative Party in general as the former government promoted defense issues as the forefront of Arctic security.
2. **Human Security:** This broader framework, promoted by the Canadian Foreign Affairs Minister Lloyd Axworthy and the Trudeau Cabinet, includes housing, health, and environmental issues into the lens of Arctic Security.
3. **Community Security:** A third view, offered by Dr. Franklyn Griffiths of the University of Toronto, argues that the reference point of security should not be the individual or the state but the local community level. This framework was illustrated in a collection of papers entitled *The North American Arctic: Themes in Regional Security*.⁸

As the Canadian Arctic has a relatively small population scattered across a large landmass, Mr. Penikett suggests that this third perspective of “Community Security” is most applicable to the unique security dynamics of the Arctic. This framework, see Figure 1, emphasizes a deep conception of security, encouraging wide cooperation between distant and diverse communities in order to coordinate long term investments beneficial across the entire region.

Secure Community Framework

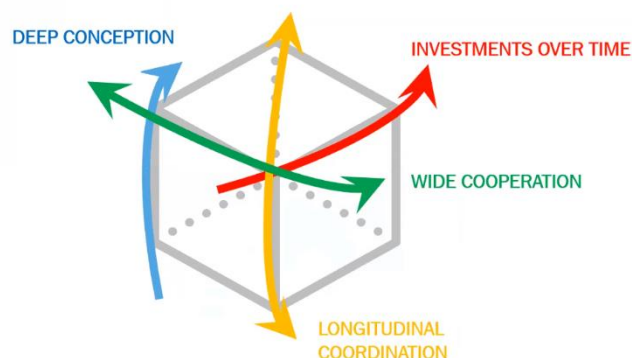


Figure 1 Visualization of the Secure Community Framework

A community focused security framework is also useful when considering the indigenous perspective of the Arctic. Indigenous language and culture transcends modern borders between nation-states, provinces, and states, constituting a very different ‘territorial map’ of North America than the current borders between and within the United States and Canada (See Figure 2). Indigenous like the Gwich'in and Tlingit Nations continue to maintain their common cultural identity on both sides of the Canadian and U.S. borders. Therefore visualizing Arctic territory through an indigenous perspective presents an important

⁸ Menezes D. & Nicol H. (Eds.). *The North American Arctic: Themes in Regional Security*. (2019). London: UCL Press. <https://www.jstor.org/stable/j.ctvhn0b1k>

strategic opportunity to build a greater Arctic identity.

While a common Arctic identity across nation states is advanced through the Arctic Council, the multilateral institution lacks a defined mandate for security issues. The Arctic Council however has facilitated the development of agreements like the International Maritime Organization's International Code for Ships Operating in Polar Waters (Polar Code)⁹ and the Agreement on Cooperation on Aeronautical and Search and Rescue in the Arctic¹⁰ which fit into the overall Arctic security infrastructure. However, regional governments like the Yukon Territory, Nunavut, or the State of Alaska do not have a voice or a vote within the Arctic Council. This could be remedied as the Kingdom of Denmark's delegation includes representatives from Greenland and the Faroe Islands. A similar example exists within Canada as the government includes Quebec prominently in its delegation to the Organization International de la Francophonie (OIF). Instead, delegations to the Arctic Council are sent from Ottawa or Washington D.C.

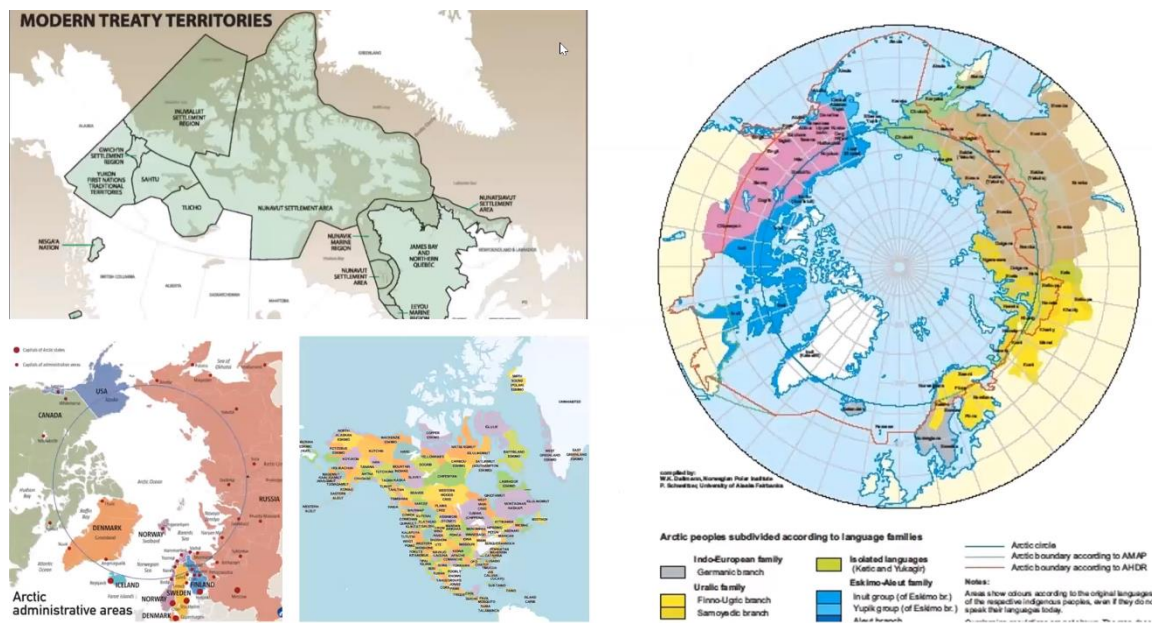


Figure 2 Indigenous Cultural and Linguistic Groups of the Arctic (Slide presented as a part Plenary Session)

Next Mr. Penikett identified some of the defining characteristics of the new Arctic and the core values of northern communities in the 21st Century. Ultimately these constitute an overall rejection of the legacy of colonialism that defined indigenous interactions with the nation-state in previous centuries and instead embrace the heritage of indigenous cultures. Core values include:

- Democracy over colonialism
- Indigenous-Settler reconciliation
- Continuation of ancient communities and their cultural and linguistic legacy
- Sustainable economic development and environmental responsibility
- Respect for climate science and indigenous traditional knowledge

While the democratic nation-states in the Arctic have come to embrace these values, authoritarian nation-states like the Russian Federation and People's Republic of China are to some extent, outliers

⁹ International Maritime Organization. International Code for Ships Operating in Polar Waters (Polar Code) Retrieved 2021: <https://www.imo.org/en/MediaCentre/HotTopics/Pages/Polar-default.aspx>

¹⁰ Arctic Council. Agreement On Cooperation On Aeronautical And Maritime Search And Rescue In The Arctic. (2011) Ministerial meeting in Nuuk, Greenland, May 12, 2011. <http://hdl.handle.net/11374/531>

of this Arctic worldview. However, Mr. Penikett emphasized that this should not prevent academics, Indigenous, civilian, and military leaders from working with Russia on common Arctic challenges like permafrost. Overall cooperation between Arctic communities, despite conflict or tensions between nation-states is critical not only for the future of the region but the planet as a whole.

Following his presentation, Mr. Penikett answered questions from the audience. The first question addressed lingering issues that could provide the most issues if they are not addressed in the coming decades. Mr. Penikett identified that the 'Boom & Bust' cycle of northern economies will present serious challenges in the future unless regional and national governments work to develop a more sustainable economic model for northern communities. The reliance of northern communities on the resource extraction industry has left the region vulnerable to large swings between economic expansion and contraction. Alaska for example experienced its longest recession from 2015-2019 due to collapse of global oil prices, only to experience a deeper economic crisis with the outbreak of the COVID-19 pandemic.¹¹ Similarly, the closure of mines that have supported communities across Yukon has left many residents wary of advancing new mineral extraction projects as previous projects left long-term environmental damage but only short-term economic benefits for communities.¹² While northern communities are in need of new infrastructure to support increasing human activity in the Arctic, governments should ensure that these investments are sustainable despite permafrost thaw.

This related to the following question which addressed the question of how northern communities should balance economic development with its effect on both the local environment and global climate change. Mr. Penikett reiterated his belief that northerners should have the ability to self-determine their own economic frameworks. Before the 1970s, Yukon and the Northwest Territories were limited in their ability to govern themselves or impact Canadian national policy. That dynamic has changed with the succeeding land claims settlements and devolution of provincial-type government powers to territorial governments. Nunavut, the most northerly and Indigenous of the Canadian Arctic territories, has yet to achieve a similar level of self-government. Mr. Penikett proposed that this is result in part of lingering attitudes that indigenous people are incapable of governing themselves, which Mr. Penikett identified this as an absurd proposition given the thousands of years that Indigenous people have thrived in the High Latitudes.

In following questions, Mr. Penikett again emphasized the need for national governments to partner and maintain dialogue with regional governments and northern communities. In order to facilitate this, all levels of government must become comfortable with the idea of overlapping jurisdictions. When a tribal entity asserts their rights for example, this does not necessarily mean they are invading the provincial or state jurisdiction. Instead policymakers can maintain an equilibrium that allows for federal, provincial, territorial, Indigenous law to coexist.

Panel Discussion 1: Unclassified Trends in developing Arctic security risks to the Arctic.

With a specific focus towards Alaskan and Western Canadian Arctic region: What is common and what is distinct?

¹¹ Guettabi, M. Alaska's economy and the pandemic. (2020) Institute for Social and Economic Research. University of Alaska Anchorage. <https://iseralaska.org/publications/?id=1813>

¹² 12. City of Whitehorse. Resource Development Preparedness Strategy. (2016) <https://www.whitehorse.ca/home/showdocument?id=7608>

Panel Moderator: Church Kee

Panelists:

- MG Peter Andrysiak, USA, Deputy CDR, ALCOM and CDR, USARAK, Joint Base Elmendorf-Richardson, Alaska.
- CAPT Leanne Lusk, Commander, USCG D17 Sector Anchorage, Joint Base Elmendorf-Richardson, Alaska.
- BGen F.W. Radiff, RCAF, Canadian deputy, Alaska NORAD Region, Joint Base Elmendorf-Richardson, Alaska.
- Mr. Shawn Peters, Assistant Special Agent in Charge, Bureau of Investigation Anchorage Alaska.
- CAPT (Navy) Jake French, RCN, Deputy Commander, Joint Task Force North, Yellowknife Northwest Territories (NWT).
- Assistant Commissioner, Arctic Region, Neil O'Rourke, Canadian Coast Guard, Yellowknife, NT.



Panel description and focus: In ACCUSARS I, various presenters highlighted how “great power politics” has returned globally with implications for the Arctic along multiple vectors, particularly in the military and economic spheres.

Reflecting upon activities of concerning rises/intensification of military activities, such as the Russian military exercises and Long-Range Aviation, Chinese research cruises, other flag nation activities, and law enforcement trends towards illicit trafficking and other illegal activities, this panel will inform workshop participants on potentially important and emergent areas of security risks as related by operational-level leaders of U.S. security and defense forces and activities. From personal and professional reflection, presenters were asked to consider the challenge and the challengers to counter in preserving Canada and U.S. security in the Arctic, specifically to the Alaskan and Western Canadian Arctic. Based on such reflection, presenters were asked to consider their “projections” of current activities that may/could negatively impact Canadian-U.S. national security interests towards a 10–15-year distant future.

Panel Summary

Panelists considered the evolving nature of the geopolitical dynamics of the High North and how governments are responding within this new environment to provision national and domestic security. Panelists noted that there is an ongoing debate on whether nation-states are starting to turn away from consensus building in the Arctic and moving towards greater geopolitical competition. This competition is generally characterized as ‘great power’ competition (or a competition between

Great Power), which includes near-peer adversaries like the People's Republic of China, the Russian Federation, and the United States with its defense and security allies in Canada and Europe. Panelists noted efforts made through the 20th Century and early 21st toward consensus building in the Arctic Region, which has contributed to stability and free of conflict. However if this stable aspect is eroding, the question remains how quickly will peace and stability decay over the next 10 to 15 years? Additional questions remain on what "rules" or normative behavior lacks consensus within the international order of the Arctic and how nation-states may reach compromise on these issues in a growing climate characterized by geopolitical competition. Panelists noted the importance to consider the new geopolitical environment beyond antiquated frameworks of the Cold War. The threats posed by China and Russia to the international rules-based system established in the wake of World War II are unique and quite different from the threat posed by the Soviet Union in the latter half of the 20th Century. Panelists noted that it is important for policymakers in the United States and Canada to remain focused on maintaining dialogue and strong partnerships with both international allies and citizens across Northern communities. Additionally, panelists noted that despite the competitive or adversarial nature of rhetoric between nation-states there remain important opportunities to partner with the Russian Federation to work together on security issues affecting nations across the Arctic. While the geopolitical environment may become more competitive, it does not necessarily need to lead to a state of confrontation, nor conflict.

As for communities within the High North, environmental changes and changes in population dynamics are creating new security challenges in the 21st Century. Panelists reiterated that the line between traditional defense issues or 'Hard Security' issues have blurred with 'Soft Security' issues, or domestic concerns from the national to community level. As these concerns related to one another, panelists noted the importance for civilian and military organizations to form partnerships and share security responsibilities. Continuing and expanding local partnerships like the Canadian Ranger program for example remain critical for achieving domain awareness to benefit national security and support domestic needs like law enforcement, safety and search and rescue in a harsh and austere environment. Partnerships as well...can contribute to economic development.

Panelists noted that while the seasonal ice extent has reduced over the past three decades and ice seasons have become more unpredictable. Lack of a predictable ice season increases the risk of maritime operations and may contribute towards making maritime operations more expensive. Panelists noted that these aspects of a changing environment is occurring at the same time that indigenous and rural populations in Canadian Archipelago are growing at a faster rate than before, increasing the overall demand for regional shipping services and other logistics measures from lower latitudes. Additionally, the fish stocks that communities have traditionally relied upon are moving north (which is particularly notable in the Bering and Chukchi Seas), creating food security concerns for some communities and new economic opportunities for others.

Panelists next addressed the U.S. Army Arctic Strategy which was released to the public in March 2021 entitled "Regaining Arctic Dominance." The strategy recognizes the growing importance of the Arctic as a region of global competition amongst nation-states. This has expanded the significance of Alaska and the Arctic in the U.S. Army's global strategy as the High North could serve as a power projection platform adding new capability to address the U.S. and Canada's strategic competitors. In turn, the global significance of the Bering Strait as a potential "competitive space" has expanded as

well. Overall, the strategy reflects the U.S. Army's attempts to understand the geopolitical implications of climate change.

The U.S. Army Alaska has adopted a leading role in informing the development of the Army's Arctic Strategy as Alaska alone makes the United States an Arctic Nation. In recognition of the growing significance of Alaska, U.S. Army Alaska headquarters will become an operational headquarters and the U.S. Army is preparing all Alaska-based brigade combat teams for full Arctic capability. This also includes plans to station a multidomain task force in Alaska to support Arctic operations, expanding upon existing assets and growing capabilities in cyber/electronic warfare. This multi-domain task force will also leverage joint space assets to expand communications and surveillance capabilities in a region where vast distances make air and space enabled avenues of approach critical to operations. The U.S. Army will leverage Alaska to train troops based in the state as well as in other parts of the United States for cold-weather operations. Ultimately, the U.S. Army aims to return to its cold-weather operational capability achieved in the 1980s with a fully modernized force equipped to survive and win in the Arctic domain.



Figure 3 Paratrooper participating in Arctic Warrior 2021 (retrieved from www.army.mil)

¹³To promote Arctic combat readiness to face near-peer adversaries in Arctic conditions, the U.S. Army conducted Arctic Warrior 2021 in February 2021. Units spent over a month of a half in and out of field training in cold weather operations in the interior of Alaska. Training in this unforgiving environment affords the U.S. Military with valuable insights on how to improve operations in Alaska and the Arctic.

Panelists observed that the Russian Federation continues to develop defensive and offensive capabilities in the Arctic. The United States will need to continue investments in new capabilities, such as light vehicles capable of operating in extreme cold conditions, as Russia is ahead in proficiency in operations in the Arctic. Similarly the

People's Republic of China is expanding surveillance and data collection capabilities into the Arctic through the Digital Silk Road Initiative which aims to connect China with Norway, Finland, and Russia via trans-border undersea data cables.¹⁴

Given the actions and ambitions of near-peer competitors, the United States has adopted a defensive position as opposed to enabling options for the U.S. to create dilemmas for its adversaries. Expanding these options requires the ability for the U.S. Army to conduct sustained operations in a

¹³ Skripnichuk, A. St. Sgt. Spartan Paratroopers Kick Off Arctic Warrior 21. U.S. Army. Photo retrieved from: https://www.army.mil/article/243157/spartan_paratroopers_kick_off_arctic_warrior_21

¹⁴ Fouquet, H. China's 7,500-Mile Undersea Cable to Europe Fuels Internet Feud. (2021) Bloomberg Businessweek. <https://www.bloomberg.com/news/articles/2021-03-05/china-s-peace-cable-in-europe-raises-tensions-with-the-u-s>

crisis from a position of advantage in the Arctic. As multi-year sea ice recedes and activity expands along the Northern Sea Route, the Bering Sea Route may become a pivotable choke point. Given this possibility, the U.S. military must be well positioned to ensure freedom of navigation in the Arctic and may need to establish operational stations along the Aleutian Island Chain and new stations along the North Slope of Alaska. As Canada and European allies have advanced Arctic capabilities, the U.S. should partner with its allies to learn how to build a more competitive Arctic fighting force.

Panelists noted that the U.S. Coast Guard (USCG) has one of the longest operational histories of any service branch of the U.S. Military with operations in the Arctic Ocean since the 1867 Alaska Purchase. Along with other branches of the U.S. Military, USCG services are expanding along with changes within the operational environment. In April 2019, the USCG published its Arctic Strategic Outlook which reaffirms the service's long standing commitment to advancing and protecting U.S. national security interest in the region.¹⁵

The Outlook specifies three main lines of effort:

1. Enhance USCG capabilities to operate effectively in a dynamic Arctic domain
2. Strengthen the rules-based order in the Arctic region
3. Innovate and adapt to promote resilience and prosperity for U.S. communities in the Arctic

The U.S. Committee on the Marine Transportation projects that by 2030 vessel traffic through the Bering Strait could increase to more than 370 transits, which is roughly three times the 2008 traffic levels.¹⁶ While tourism in the Arctic has been largely centered within Europe and Russia, it is expected to expand in the U.S. and Canada as well. Russian natural gas extraction operations in the Arctic are driving an expansion of traffic along the Northern Sea Route, proving that year round transportation of Liquefied Natural Gas in the Beaufort, Chukchi, and Bering Seas is physically feasible. All these factors, and the potential for maritime traffic to increase even further in coming decades, is placing new demand for the USCG to monitor, protect and regulate activity the Arctic region.

In order to provide safe access routes for the movement of vessel traffic along the Arctic coast of the United States, the Coast Guard is developing the Alaskan Arctic Coast Port Access Route Study.¹⁷ The information gathered during this study may result in the establishment of new vessel routing measures for maritime transportation in the U.S. Arctic EEZ. As the USCG ability to conduct operations is reliant on availability of port infrastructure, the USCG and all other maritime services are becoming more experienced in prosecuting missions without the support of port-based infrastructure. Panelists noted that the U.S. is somewhat unlikely the U.S. Government will develop a U.S. Arctic Deepwater port within the next 10 years (however, industry and state/local government

¹⁵ USCG. Arctic Strategic Outlook. (2019) United States Coast Guard. <https://www.uscg.mil/arctic/>

¹⁶ U.S. Committee on the Marine Transportation System (2019). A Ten-Year Projection of Maritime Activity in the U.S. Arctic Region, 2020–2030. Washington, D.C. https://www.cmts.gov/downloads/CMTS_2019_Arctic_Vessel_Projection_Report.pdf

¹⁷ U.S. Coast Guard, DHS. (2018) Port Access Route Study: Alaskan Arctic Coast. 83 FR 65701. 2018-27604. Retrieved June 2021 <https://www.federalregister.gov/documents/2018/12/21/2018-27604/port-access-route-study-alaskan-arctic-coast>

may eventually partner with the U.S. federal government in such an establishment in a sooner timeframe).

USCG has also invested in its relationship with their Canadian colleagues through joint operations with the Royal Canadian Navy during Arctic Shield 2017. The relationship has been formalized through agreements like the Canada-United States Joint Marine Pollution Contingency Plan, which is designed to deal with accidental or unauthorized released pollutants along the shared maritime boundary. The plan provides a coordinated mechanism for planning, preparation, and response to spills and contiguous waters between Canada and the U.S.

Despite the increased USCG presence and partnership with Canada, the long distances between remote inhabited areas in the North American Arctic limit the ability to respond effectively to threats or hazards. Response times and capability are still dependent on the proximity of assets to an incident. As this heightens the importance on the limited infrastructure assets currently in place in the U.S. Arctic, there are several initiatives in place to evaluate the effects of climate change and identify which structures are at the highest risk to permafrost degradation and coastal erosion. In order to address future and current vulnerabilities in the Arctic, the USCG is seeking to expand and diversify its capabilities in the region. Panelists noted that filling the security void in the region does not solely rely upon military force, but by fulfilling the prevention and response capabilities that citizens expect from their governments.

Higher dimensions of national security for both Canada and the United States is addressed by the Northern American Aerospace Defense Command (NORAD). The ability for NORAD to meet this mission is challenged by changes in the geography of the Arctic. Reduced sea ice and accompanying increase in human activity within the regions expands the amount of territory and actors that NORAD must maintain total awareness of in order to provide a secure defense. This means that NORAD must work more extensively with partners including all levels of uniform service in the United States and Canada. Panelists noted that relationships with Indigenous groups across the Arctic are particularly important. It is vital for NORAD to cultivate a flow of critical information from across the Arctic by fostering strong relationships of Alaskan Natives and the First Nations people of Canada. By enhancing relationships built on mutual respect, NORAD can help protect the indigenous way of life from outside threats and, in so doing, protect North America (in particular, Canada and the U.S.).

While the mission of NORAD has remained constant, the manner in which the mission has been conducted has changed. As technological and political dynamics change, NORAD is focused on identifying future threats and ensuring that Canada and the United States are prepared to meet those challenges through a unified, bi-national military mandate. Maintaining situational/domain awareness is arguably the most important and difficult of NORAD's responsibilities within its mandate. Particularly within the cyber domain it is very difficult to know what is known or unknown by the U.S. and Canada's near-peer competitors and NORAD alone cannot achieve all-domain situational awareness.

As noted by panelists, the provision of security in the Arctic domain is not limited to military services. Law enforcement agencies like the U.S. Federal Bureau of Investigations (FBI), U.S. Department of Homeland Security, and the Royal Canadian Mounted Police, provides critical services to citizens in

the North American Arctic that promote overall domestic security in the Arctic. Law enforcement is engaged in countering criminal threats like drug and human trafficking, which have tremendous impact on the security of northern communities if left unchecked. The agencies like the FBI also investigate corruption cases of local or state officials which have a disproportionate impact on isolated rural communities in Alaska. The FBI also managed counterintelligence threats from overseas adversaries including cybercrime. Chief among these counterintelligence threats in the cyber domain are attempts by foreign actors to sow discord in public discourse in an attempt to undermine the democratic process in the United States and Canada. Russia in particular has been the most aggressive in their attempts to conduct influence campaigns within the United States via social media in a goal to undermine the public credibility of democratic states. China however leverages cyber capabilities to gain economic influence and commercial advantage in markets across the globe. In infrastructure poor regions like the High Latitude North, offers by Chinese state-owned corporations to invest in new resource extract projects, infrastructure, or communications networks can be highly attractive for local communities, but these investments could be leveraged by the PRC for geopolitical purposes in the future that come at the expense of U.S. and Canadian security.

Panel Discussion 2: The Arctic Economic Security Environment: Navigating Uncertainty

Panel Moderator: Whitney Lackenbauer

Panelists:

- Mr. David Clarke, President and Chief Operating Officer, Qilak LNG, LLC, Anchorage, Alaska.
- Ms. Christi Bell, Executive Director, Business Enterprise Institute, University of Alaska Anchorage, Anchorage Alaska.
- Dr. Rob Huebert, University of Calgary, Alberta
- Mr. Taylor Holshauser, Director of Business Development, Alaska Ocean Cluster, Anchorage, Alaska

Panel description and focus: Discussions during ACCUSARS I framed the re-emergence of the Arctic as an area of contestation that requires more deliberate political and economic focus. In seeking to understand the emerging Arctic economic security environment in 10-15 years distant, what are implications of local/regional uncertainties of economies in Alaskan and Western Canada's Arctic? This panel brought together diverse perspectives from industrial strategists, corporate leaders, Arctic technology experts, and academics to discuss emerging challenges to Economic Security in an increasingly dynamic Arctic environment, focused on regional areas of interest. Shifting dynamics in the Arctic include increased political and economic uncertainty surrounding oil and gas exploration, northward moving fisheries, mining and mineral extraction, infrastructure development, and the potential for new Arctic communications and other innovations to drastically reshape the technological landscape.

Panel Summary

When considering the economic security of Arctic communities, panelists noted the importance of adopting a long-term inclusive approach to economic development. Planning should be based on



robust engagement with community members with a focus on consensus building. Panelists noted the importance of considering factors and actors outside of the public sphere and suggested that policymakers should consider how to promote sustainable ecosystems of entrepreneurship that enable local community actors to meet needs not met by the public sector. While this process can take longer than the political cycle, it will make comprehensive cross-regional planning more sustainable and nimble to face unforeseen challenges like the COVID-19 pandemic.

An essential component of economic security for communities across the Western North American Arctic are fisheries. Seafood has sustained indigenous communities from time immemorial and continues to support communities across Alaska. While fisheries products remain one of Alaska's largest exports, the Alaskan fishing industry has changed remarkably little since the 1950s. This is due to a variety of factors including long standing regulations like the American Fisheries Act which defines how industry operates. Overall there has been limited investment in innovation in Alaskan fisheries. The average fishing vessel over 40 feet in Alaska was built in 1975. There are almost a dozen vessels in Alaska with hulls that were made in 1912 or 1913. While these have been maintained and modernized, vessel operators have been slow in adopting new technologies to support their operations. Similarly, there has been little change in the population of fishermen over the past decade. The average age of fisherman in 2010 was 40 years old, and in 2020 the average age was 50. As the market has been slow to innovate, the fishing industry in Alaska is more exposed to foreign competition as the price of Alaskan fisheries products has gone down over the last 30 to 40 years. Panelists noted however there are opportunities to increase the efficiency of fishing operations in Alaska through the adoption of remote sensing technology. These innovations contour well with the need to track changes in fish populations in the High North in order to understand the dynamic effects of climate change on northern fisheries.

As noted previously, natural gas exploration in the Arctic has been a prominent economic development opportunity across the Arctic. As the Yamal Liquefied Natural Gas (LNG) project in Russia has demonstrated the feasibility of near-year round LNG shipping in the Arctic through ice class LNG carriers. There are approximately 15 of these vessels which are currently in operation along the Northern Sea Route (NSR...which parallels the North coast of Eurasia) and another six have been ordered for additional Russian Arctic LNG projects. In January 2021, three of these vessels completed the earliest unescorted winter transit of the eastern route of the NSR to deliver LNG products to markets in East Asia. These technological innovations have provoked interest in replicating these methods in other markets in the Far North including Alaska. Qilak LNG is one such project, which proposes utilizing ice-breaking LNG carriers, similar to what are utilized along the Northern Sea Route in Russia, to deliver an estimated reserve of 32 trillion cubic feet of natural gas in the U.S. Arctic directly to markets in East Asia. The project has been proposed as a potentially more cost effective option to a 39 billion USD trans-Alaskan gas pipeline which the State of Alaska has pursued over the past decade and could be cost competitive with Yamal LNG as Alaska is much closer to markets (and will transit much shorter ice laden waters) to markets in East Asia.

LNG Supply-Demand Forecast

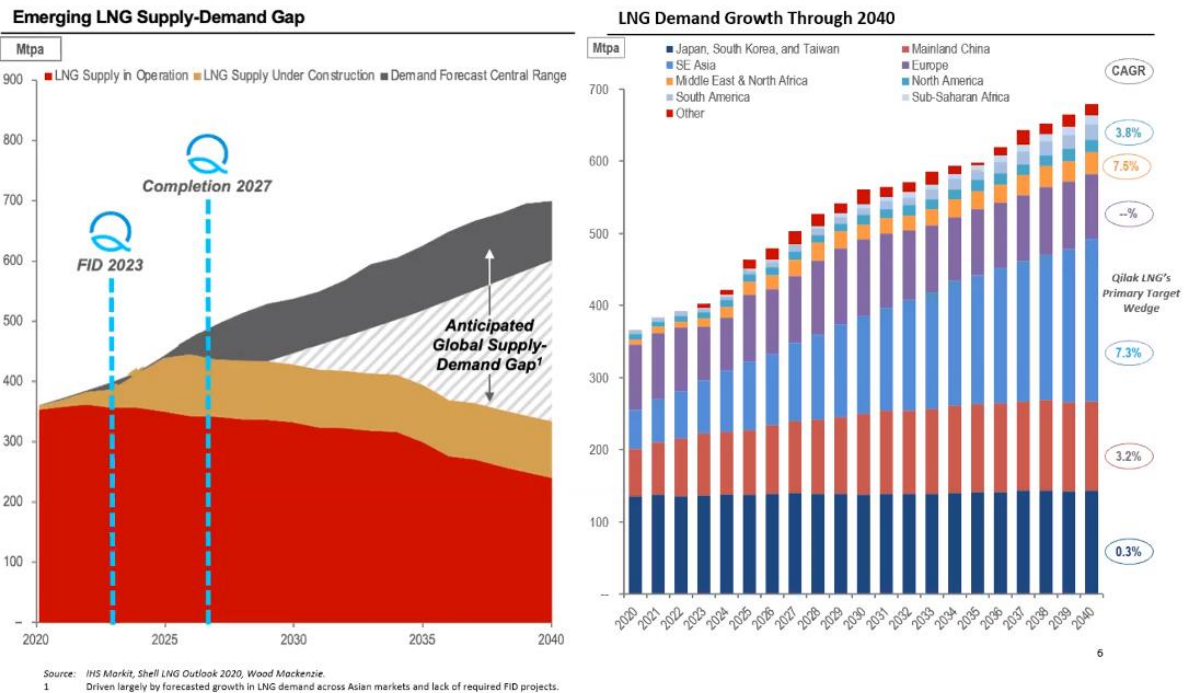


Figure 4 LNG Supply-Demand Forecast (Slide presented in Panel)

Finally panelists considered several geo-economic factors that will likely impact the Western North American Arctic over the next 10-15 years. First panelists considered normative divide in North America on the issue of environmental regulation, particularly as it relates to offshore oil and gas development in Canada and the United States. Perceptions regarding the potential environmental impact of these projects has generated high-stakes political contestation in both Canada and the United States and will continue to impact the ability of economic development projects to move forward. Additionally, panelists also considered the possible long-term ramifications of the COVID-19 pandemic on economies in North America. Due to travel restrictions in conjunction with abrupt economic shocks of the pandemic, the Canadian and United States economies have become more dislocated which could have a long-term impact on communities in the Western Arctic. Ultimately panelists concluded that there is a need for greater coordination in economic decision making between Canada and the United States given the interconnectedness of the North American economy.

Strategic Foresight Activity Day 1: Converting Themes and Trends into Indicators of Threat/Risk

In 2020, the North American and Arctic Defence and Security Network (NAADSN) applied the [NATO Strategic Foresight Analysis](#) (SFA) findings to Canadian Arctic defence and security policy and to help frame a [conceptual model that anticipates and conveys an understanding of the future Canadian Arctic security environment](#). ACCUSARS II leveraged this document to advance sub-regionally aligned documents for essentially the “Western” portion of the North American Arctic.

- In advance of the ACCUSARS II workshop, participants were provided with the NAADSN Canadian focused SFA whose narrative outlines relationships between NAADSN SFA trends and Arctic defence and security implications across multiple scales, national), and, ideally, identifies key indicators that might suggest changing risk or threat calculations in the defence and security domains.
- Participants were asked if they agree with the assumptions and projections and if they apply to the North American Arctic as a whole.
- Based on these observations and discussions, participants were asked what the primary indicators of changing risk or threat levels to the North American Arctic are.

In four (4) breakout groups, ACCUSARS participants assessed regional components of the North American Arctic defence/defense and security implications of one theme (political, human, economics/resources, and environment) in detail. Each breakout group targeted one of the major themes identified by the 2017 NATO Strategic Framework Assessment (SFA) as particularly relevant to defense and security implications for a regional component of the North American Arctic (specifically, the Alaskan, Yukon and Northwest Territories Arctic regions). Brief descriptions of each theme were provided by the workshop planners, as well as placemats for each respective theme, which provide a description of the **risks, threats, and challenges** associated with each theme as they relate to the most recent U.S. and Canadian documents on Arctic strategy.

The 4 breakout themes, including breakout group moderator, were:

- **Group 1: Political aspects**
 - Moderated by Troy Bouffard, CASR, University of Alaska Fairbanks, Fairbanks Alaska.
- **Group 2: The Roles of Remote Communities**
 - Moderated by Dr. Lil Alessa, President’s Professor, University of Idaho, Moscow Idaho.
- **Group 3: Environmental aspects**
 - Moderated by Dr. Craig Tweedie, Professor, Biological Sciences - Environmental Science and Engineering - Environmental Science (College of Science) University of Texas, El Paso Texas.
- **Group 4: Economic / Resources**
 - Moderated by Whitney Lackenbauer, Network Lead, North American Arctic Defence and Security Network, Trent University

Day 1 Activity Summary

In Day 1 of the SFA, participants independently identified potential risks, threats, and interests relevant to Arctic Security in the Western North American Arctic. After developing these specific items, participants held a group discussion to determine if these risks or interests were shared by the United States and Canada or specific to one nation or the other. The following is a brief summary of discussion of each of these groups and their results of their categorization efforts.

Group 1 Discussion Summary

Participants in Group 1 focused on how nation-states are currently navigating the regional concerns on a multilateral and bilateral levels. As it currently stands, there is no mutually recognized forum for discussing military security issues within the Arctic, the Arctic Council remains the primary multilateral forum for addressing security issues within the region. As Arctic Council was founded as mechanism for maintaining the Arctic as ‘zone of peace’ isolated from geopolitical competition, the Councils ability to maintain stability in the face of growing “great power” competition between the Russian Federation, United States, and People’s Republic of China remains an important question in the coming 10 to 15 years. Participants identified former Secretary of State Mike Pompeo’s speech to Council in 2019 as one of the more significant moments in the political history of the Arctic Council.¹⁸ In the speech Secretary Pompeo declared the Arctic “an arena of global power and competition” and openly warned Russia and China to cease “aggressive” actions in the Arctic. Participants noted that this could be perceived as a significant break from the more cooperative atmosphere of meetings of the Arctic Council in the past.

As a new Presidential Administration took control of the White House in 2021, participants identified political turnover in the governments of the Arctic states, and the resulting discontinuity of policy, as a potential source of instability in the region. In contrast, the political systems of Russia and China have maintained continuity of leadership and therefore continuity of policy in regard to the Arctic. This may prevent the Arctic Council from adopting longer termed policies aimed at countering issues resulting from climate change and increased human activity in the Arctic. Despite the discontinuity in policy towards the Arctic, the United States and Canada have a high density of common problems in the Arctic and therefore have maintained common interest in the region.

Group 1: Risks, Threats, Interest Sorted by Nation-State Stakeholder

United States	Both	Canada
China overtaking U.S. as leading Global Superpower	Arctic Council mandate does not address military security issues	Falling behind in technological innovation in the region
Russia Influences change in international norms, esp. Bering Strait region and freedom of navigation	CCP information and financial influence campaigns	Canada claims NWP as internal waters but claim is not recognized by others
China/Other IUU fishing impacting food security for subsistence users	Risk-space warfare, including degradation or elimination of GPS, comms, and reconnaissance	Canada Internal politics reducing effectiveness of bi-national role in missile defense and NORAD mission
Climate Change impacts to critical infrastructure in Alaska	Risk misinterpreting Russian Military build up within their own Arctic leading to	Post Covid 19 budgets and needed defense/hard security

¹⁸ Arctic Council. Speech by Secretary of State of the United States of America. (2019). Arctic Council Ministerial Meeting May 7, 2019, Lappi Arena Rovaniemi, Finland. <http://hdl.handle.net/11374/2409>

that Lower 48 constituents do not support	escalation or erosion of cooperation	upgrades. Falling behind on shared mutual defense burden
	Chinese economic/resource development	If an indigenous community were to welcome full integration of non-CA authorities e.g. education, comms, political affiliation, how would Ottawa or province respond?
	Continental defense risks: below threshold activities in the Arctic	Manage growing differences in expectations for Ottawa vs. Washington
Both (continued)		
Inabilities to operate across a continuum of urgencies short to long term, building common interest in adversaries and allies alike		
Limited presence to monitor activities in and adjacent to E.E.Z.		
Lack of facilities and infrastructure to execute SONS event in Arctic		
Politics drives actions in arctic. Implications of South China Sea actions/reactions in Arctic		
Shared missile defense for North America becomes political tense between U.S. and Canada (modernization of Nuclear Arsenal Defense)		
Lack of facilities and infrastructure to execute mass casualty rescue, triage, and transport victims		
IUU fishing impacts on Arctic nations' fishing within their respective E.E.Zs		
Ability to identify and harness global scale process understanding (like pandemic time-sclae0 in order to maintain cooperation and stability		
Cycles of political change over time could impact continuity of governance and impact political norms (continuity of urgency)		

Group 2 Discussion Summary

Participants in Group 2 began by finding consensus of several definitions of words considered within the exercise. These keywords included *Risk* and *Threat*. Participants identified risk as a more abstract source of harm while threat was defined as something either present or future that is observable and capable of creating known problems. Ultimately risk was defined as a more fluid term while threat is more concrete.

When considering the national security threats of China and Russia, participants suggested that they perceived Russia as less of a threat than China, while Russia overall was 'just trying to keep up' with its geopolitical rivals. Participants then discussed the discrepancies between national and local interest. One discrepancy emerges from the opportunity for Chinese corporations to invest in the resource extraction projects within the Arctic. As one participant noted, locals may not see as much of a distinction between a Chinese owned company versus a British company as both confer the same potential economic benefits to local communities. As one participant noted, previous experiences with Chinese investments in mining projects in Canada were perceived as positive. Chinese investors were described as culturally sensitive and cooperated well with First Nations communities in the region. This creates a discrepancy within national level policy as nation-states

may have a national interest in preventing greater Chinese exploitation of resources within the Arctic. This puts local communities into a dilemma of advancing their economic security or advancing national policy or “being patriotic.”

In part this dilemma is due to lack of visible threat from Chinese investment in Northern communities. While real motives behind these investments produce definite security concerns in the long run, it is challenging for communities to reject greater investment in Ottawa or Washing D.C. are not providing a viable alternative form of investment. Participants noted that China is operating on a long-term geopolitical level to erode the economic and eventually the political sovereignty of communities and nation-states through economic leverage.

Next participants identified several areas where foreign or government investments could greatly improve the economic security of local communities. Communications infrastructure in remote communities is another point where Chinese investment could greatly benefit local communities but conflict with national security prerogatives. As Chinese state-owned companies would provide the communications infrastructure, the PRC would improve their domain awareness and intelligence collection capabilities in the High North. Participants noted that while this would provide short term benefits to communities, it could again be leveraged for Chinese interests that would erode the sovereignty of local communities. One participant noted that the North Slope Borough had been approached by Chinese investors regarding the development of communications infrastructure in Alaska. Additionally, as communities in the Arctic are highly reliant on expensive sources of power generation, diesel fuel in particular, energy production will be a central challenge in the next 15 years.

As some participants noted, the attractiveness of the economic prosperity presented by foreign investment illustrates the need for governments to invest in improving the socio-economic conditions of Northern communities. Participants noted that self-governance is an important priority for many Northern communities in the Arctic as there remains a narrative that national governments have not devoted enough attention to Arctic issues. This has led some communities, particularly Indigenous communities, to seek wider cross-border transnational forums to articulate their policy concerns and develop a unified political consensus. In particular, these regional wide efforts are important for preservation of Indigenous culture in nations across the Arctic. Participants noted that in order for national governments to facilitate mutual respect with communities, national governments should utilize programs like the Canadian Rangers as opportunities to learn from Indigenous people. This was articulated as a “two way conversation” in which national governments are “taught” as much as Rangers are instructed to provide emergency services or domain patrols.

Ultimately participants noted that many of these points of friction between national governments and local communities are “soft power issues with direct hard power implications.” Therefore it is necessary to ensure that local communities are included in the policy making process and have a voice in Arctic affairs.

Group 2: Risks, Threats Interest Sorting by Category*

*Note: Group 2 determined that all were of shared interest and instead separated by Category

Economic	Security	Governance	Infrastructure	Communications
Economic Development of the High North	Security as two-way conversation	Ensure that all are involved in decision making	Environmental threat from erosion/storm surge	Communications infrastructure/networks
Ottawa/DC aren't providing alternative to foreign investment	Including remote communities in conversations regarding security	Regional representation in international forums	Impact of "loss" of fossil fuels	Narratives around governance
Challenges of perception of foreign investment (in local communities)	Rangers/Territorial Guard concept	Including smaller governments	Energy sustainability in northern communities	Balance of sovereignty and governance
Trade-offs for "economic denied environments"	Listening to remote communities	Multiple tiers of government as a double-edged sword	Adapt to tech. advancements for northern communities	Cultural preservation
			Transportation networks and accessibility of remote communities	Trans-boundary indigenous networks

Group 3 Discussion Summary

Participants focused on identifying specific environmental issues that are either current or potential issues for Western Alaska. China was identified as one threat to fishing stocks within the Bering, Chukchi, and Beaufort Seas as increasing demand for fish protein in the Chinese market could lead China to engage in illegal, unregulated, or unreported fishing activities. Participants expressed the concern that China could extend its illegal fishing practices seen areas across the Pacific to the Arctic as fishing stocks move north. If these actions go undetected or unaddressed, this could lead to overharvesting and the depletion of fishing stocks either protected by Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean or utilized legally by local fishermen.

Ultimately permafrost degradation was presented as an overwhelming risk to the Arctic environment, as previously addressed in the plenary session. Not only does it present a direct risk to civilian and military infrastructure in the Arctic but melting of permafrost would also release a large amount of greenhouse gases into the atmosphere. Additionally, permafrost loss presents a risk to wider Arctic ecosystems as it supports vegetation that species like caribou subsistence upon. More esoteric risks, but still real threats, include the release of dormant or previously extinct pathogens into the environment as was thought to be the cause of an outbreak of anthrax in Siberia in 2016.¹⁹ This could present a threat to species, including humans, across the globe as migratory birds that nest in the Arctic have the potential transport pathogens across the world.

Overall participants emphasized the need for scientists to engage in informing a shared understanding of the Arctic environment across all levels of government in Canada and the United States. This research should be inclusive of Indigenous knowledge and perspectives and directly address issues affecting Indigenous food security. Ultimately environmental understanding has linkages to national defense interest as it enables greater domain awareness.

Group 3 Risks, Threats, Interests Sorting by Nation-State Stakeholder

United States	Both	Canada
Offshore under-ice oil well/pipeline rupture	Arctic Council mandate does not address military security issues	Sea Level Fall (relative) in central and eastern Canadian Arctic due to isostatic rebound/specific regional concerns vs overall trends
	Land surface subsidence following permafrost degradation and its impact on relative sea level rise	Urgent need to raise awareness of the future impact of climate change in order generate action
	Poor or compromised environmental decision making today is legacy that next generation will absorb	Lack of technology to deal with a crude oil in ice laden waters

¹⁹ Doucleff, M. Anthrax Outbreak In Russia Thought To Be Result Of Thawing Permafrost. (2016) National Public Radio. <https://www.npr.org/sections/goatsandsoda/2016/08/03/488400947/anthrax-outbreak-in-russia-thought-to-be-result-of-thawing-permafrost>

	Unregulated bio and geo prospecting	Need to assess at risk infrastructure for medium/long term impacts
	Defense actors do not adequately perceive environmental change as risk/threat	Need to increase ability to deal with marine environmental disaster in the Arctic Archipelago
Both (continued)		
How concerned should we be of frozen pathogens unthawing in Arctic Soils		
Aging former military dump sites and release of contaminants into the environment		
Access of scientific community to security and defense actors		
Communicating scientific findings in a way that conveys trends but also uncertainty		
Complex and interacting environmental and ecological components and factors		
Cumulative impacts of climate change increased human activity and implications		
Microplastics entry into the food web		
Migratory fauna and flora impacted by global pressures		
Differentiating between role of government in climate change mitigation and adaption at the Arctic level. How do these policies fit into an effective overall strategy?		
Including next-generation into decision making apparatus		
Awareness of climate change and permafrost feedback dynamics make economic development of oil and gas in the Arctic politically untenable. Climate change is increasingly becoming securitized		
Shared understanding of scientific process		
Snow on ice effects not recognized		
Loss of vegetation due to permafrost thaw		
Ensure improved inclusion of traditional/local knowledge for risk, change, observation, data/information interpretation		

Group 4 Discussion Summary

Group 4 first addressed issues related to infrastructure development and economic investment in the Western Arctic. Like Group 1, much of this discussion focused on the issue of foreign investment in infrastructure in the Arctic region. Participants noted that permafrost degradation presents both near term and long term economic impacts on the Arctic region. Damage to roads, ports, and airports/air strips, presents a serious threat to the transportation infrastructure in the Arctic. As existing infrastructure will likely require significant reinvestment in the near future, new investments could be perceived as cost prohibitive due to the high cost of upkeep. This presents a long term risk of disinvestment in the Arctic region at a time when investment is needed to ensure the security of the transportation system to account for increased human activity.

United States	Both	Canada
Increasing congestion in the Bering Strait as LNGC transits increase. Impact of subsistence activities	Climate change "black swans" (extreme weather, etc.)	Investing in the wrong things (not identified as priorities of the Canadian Rangers) for them, which may undermine the spirit of the Canadian Rangers system

US federal government funding for all 6 new USCG PSCs	Security forces properly equipped to respond to issue in an Arctic environment	Denial of FDI on security grounds precludes improved economic indicators and leads to growing polarizing between N and S Canadians
Permafrost degradation leads to road, rail, and port infrastructure collapse, severing supply chains and transportation	Communications infrastructure that is funded and controlled by corporations	Canada Internal politics reducing effectiveness of bi-national role in missile defense and NORAD mission
United States	Both	Canada
Foreign fishing fleets as platform for illicit intelligence gathering	Foreign infiltration of university-based or other innovation hubs leads to "free" competitor access to Arctic tech and leading-edge ideas	Differing priorities between gov and Inuit/Indigenous peoples in terms of economic development options leading to conflict between gov and communities, but also within communities/between community members
Disaster response in support of increased utilization of the Arctic regions of the US	Sensors/ comm systems compromised by foreign-manufactured components that secure clandestine access/control to adversaries	Perceived federal govt overinvestment in the North, with few conventional economic returns, leads to backlash and polarization
US Jones Act drives up cost of Ice Breaking vessels operating in US waters	Scientific research as cover for resource mapping and competitive advantage to non-like-minded state or non-state actors	Government not investing in a timely manner in safety equipment
Transition to "green economy" leads to collapse of AK oil and gas industry	Benefit agreements do not provide adequate returns to local communities/ revenue leaving the region	Maritime Spill Response in Northwest Passage
Lack of Deepwater ports North of the Bering Strait for refuge and logistical support	Dual use buoys placed by RF or PRC	Deep water ports being funded by foreign investors
Winter Season Under-Ice Oil Wellhead Break/Release	Investing in updating old technology (NWS, icebreakers, etc.) without necessarily considering whether we are working "smarter" or just updating older systems	Failure to invest adequately in trade infrastructure
	How do Indigenous communities share in any	Government inability or potentially unwillingness to

	wealth generated by resource development?	address long stand health issues in our northern regions
	Lack of Search and Rescue infrastructure and capability in the Beaufort and Chukchi Seas	Power struggle between ITK/NTI and Govt of Nunavut leads to uncertainty, lack of private investment, and entrenches dependency
United States	Both	Canada
	Cooperation between US and Canada in supporting commercial shipping activities in the Arctic	Failure to invest in proper border management infrastructure and services
	A continued emphasis on developing new tech/ideas/etc. outside of the Arctic and THEN adapting it for the Arctic, rather than creating/brainstorming with the Arctic environment, community needs, etc., in mind from the beginning (puts us at a potential disadvantage re: Russia)	Nunavut Land Claims Agreement currently set up so that parcels of land "owned" by Inuit communities to some extent has to be exploited through resource extraction. What will change with the devolution agreement, besides communities getting more \$ from extractive activities? The blame for ongoing economic issues could shift away from government to communities.
	Increased maritime infrastructure encourages traffic from non-like-minded states/actors	Tourism taking precedent over creative/diversified economies, leading to a continued lack of long-term economic development
	Unrealized land / property purchases by other nations	Failure to improve enforcement capacity for maritime environmental protection
	Banning by major banks of investments in the Arctic	Devolution agreements leading to a significant shift in economic priorities
	Russian misinformation/disinformation to dissuade investment in NA Arctic	Internal Inuit debate over development leads to freeze in mining development and shipping, fomented by foreign influence activities
	Investing too soon in infrastructure that may not last	Canadian failure to implement NORAD upgrade agreements -

	in the long-term, because we don't have extensive research/knowledge yet, putting all of our eggs in one basket	specifically by over-extending implementation
United States	Both	Canada
	Unsustainable fishing practices in Central Arctic Ocean	Huawei 5G network secures foreign access/ control over data/ communications
	Noise from increased vessel traffic impacting whale migration routes	Delays and rising costs of DeWolf-class AOPS and their CCG counterparts leads to implosion of Canadian domestic shipbuilding industry
	Breakdown in communication/ relations between corporations (domestic and foreign) with Indigenous communities	Continued lack of a national energy strategy, or one that if ever developed misses the opportunity to properly engage indigenous communities leading to further complications
	Decimation of caribou herds	
	One state wanting/encouraging FDI from a third country the other deems a security risk	
	Efforts by the PRC to force the USG into a decision point by causing a crisis in Canada/s EEZ	
	An increase in development projects results in a population growth in the region and communities are not equipped to provide services.	

Workshop Day 2

Panel 3: Arctic Residents of Alaska and Western Canada: Arctic Security starts here.

Panel description and focus: Discussions during ACCUSARS I highlighted how changes to the physical environment bring new opportunities as well as tremendous challenges for Indigenous communities and other Arctic residents. Northern peoples bring essential capacity and knowledge to security and defence in the Arctic, and it is incumbent on US and Canadian policymakers to nurture positive relationships with these core rightsholders and stakeholders. This panel brought together Public Safety professionals, biologists, Native Health researchers, Arctic Subsistence Hunters and Arctic Science Leaders to discuss various aspects of potential, 10–15-year distant security challenges to Arctic Residents. Arctic residents face a uniquely dynamic convergence of threats from pandemics, subsistence species migration, health and food security challenges, and local foreign influence.



Panel Moderator: by Maj Conrad Schubert, Joint Task Force North, Yellowknife NWT.

Panelists:

- Ms. Bridget Larocque, Policy Advisor/Researcher, Arctic Athabaskan Council Yellowknife, Northwest Territories.
- Dr. Liza Mack, Executive Director, Aleut International Association, Anchorage, Alaska.
- Mr. Ted Smith, Tribal Health Emergency Preparedness Manager, Alaska Native Tribal Health Consortium, Anchorage, Alaska.
- Mr. Nagruck Harcharek, Director of Operations, (and former Director of Science) Ukpogvik Inupiat Corporation, Utqiagvik, Alaska (Confirmed)
- Dr. Peter Kikkert, Irving Shipbuilding Chair of Arctic Policy and Assistant Professor of Public Policy, St. Francis Xavier University, St. Francis Xavier University, Antigonish, Nova Scotia.

Panel Summary

Panelists reiterated the importance of traditional subsistence lifestyles to the overall cultural and economic security of indigenous people in the High North. As noted, before, decisions made regarding subsistence rights and land use in southern capitals have a disproportionate impact indigenous people and rural communities. Panelists acknowledged that policymakers, academics, and industry often presume to speak on behalf of indigenous people without listening to their perspectives. While panelists did consider expected challenges in the next 10 to 15 years, current challenges with expectations of long-term impact came to the forefront including the impact of the COVID-19 pandemic. One prominent example is the impact of the pandemic on air transportation, which serves as the only reliable means of transportation for people and cargo for many remote communities in Canada and Alaska. While this allowed communities to more easily control their exposure to the pandemic, it also came with unique disadvantages. In Alaska, the largest air carrier for remote communities, RavnAir, declared bankruptcy and stopped flights due to the pandemic,

cutting off many communities from reliable scheduled cargo and passenger flights.²⁰ While service has since resumed, this episode exposed the fragility of the transportation system for remote communities in Alaska. Additionally the pandemic also highlighted housing and sanitation deficits in rural communities which play an important role in the event of a public health crisis. The lack of medical infrastructure and qualified healthcare professionals meant that the survivability of severe cases of COVID-19 was often lower in rural communities.

When considering the security landscape of Indigenous communities in the next 10 to 15 years, panelists considered the balance between the economic and social security enabled by western resource extraction industries and the traditional subsistence lifestyles. For many Indigenous communities, subsistence and employment in the resource extraction industry is not in conflict but complimentary. As the oil and mining industries change in the Western Arctic, Indigenous communities are considering economic security beyond the oil and mining jobs that have sustained communities throughout the 20th Century. If environmental management is successful, then subsistence lifestyles will always be available for Indigenous people however the transition away from employment in oil and mining could be difficult for many communities. Panelists did note that there are economic opportunities for communities to participate in Arctic science, both in hosting scientific research and contributing indigenous knowledge to 'western' scientific research products. By bringing indigenous communities into the production of scientific research, locals will have a voice in how resources are allocated in scientific research and the scientific community will benefit the knowledge gained from thousands of years of experience living in the Arctic.

Panelists acknowledged the importance of programs like the Canadian Rangers in promoting emergency management capabilities and overall community resiliency. The Canadian Rangers are self-sufficient, part-time non-commission members of the Canadian Armed Forces Reserve that provide an important role in domain awareness in the Far North. The importance of their role has increased given the effects of climate change and increase of human activity in remote parts of the Canadian Arctic. Canadian Rangers participate in surveillance patrols and are prepared to respond to search and rescue emergencies and natural disasters. Ultimately Rangers serve as important ambassadors for the Canadian Armed Forces to remote communities and provide a vehicle for community members to inform the decisions of the Canadian national government. Panelists suggested that a similar model could be adopted in the United States through an expansion of the U.S. Coast Guard Auxiliary Program. Panelists pointed to the Alaska Village Public Safety Officer Program (VPSO) as another potential model for how to approach community emergency management. While the VPSO program has faced challenges with funding, VPSO officers play an integral role in public safety in remote Alaskan communities. These roles include ensuring boating safety to building community resiliency through emergency planning. Panelists noted that the Yukon has embraced the VPSO model and have begun implementing a similar program in some communities. Panelists also noted the Australian Army Aboriginal Community Assistance Program as another informative model for public safety in remote communities.

²⁰ 21. Brooks, J. Southern California company will take over some RavnAir service after bankruptcy auction. (2020) Anchorage Daily News. <https://www.adn.com/business-economy/2020/07/09/southern-california-company-will-take-over-some-ravn-air-service-after-bankruptcy-auction/#:~:text=RavnAir%20declared%20bankruptcy%20in%20April,in%20remaining%20debt%2C%20plus%20interest>

Panel 4: Insights into Maritime operations and environmental change

Panel description and focus: Presentations during ACCUSARS I reinforced how an unpredictable, changing Arctic requires continuous reassessment of geopolitical and environmental conditions and domain awareness. This panel brought together Naval, Coast Guard, defense strategy professionals to discuss emerging risks/threats to waterways caused by environmental and geopolitical change. Panelists described the emerging roles of maritime/sea operations forces, (oriented to Alaska and Western Canadian Arctic regions) as well as other government departments/agencies, in demonstrating sovereignty, enforcing laws, and exercising deterrence against activities that undermine or threaten to undermine CANUS interests in the 10-15 years distant North American Arctic?

Panel Moderator: Troy Bouffard, Center for Arctic Security and Resilience, UAF, Fairbanks, Alaska.



Panelists:

- Dr. Lilian “Doc” Alessa, President’s Professor, University of Idaho, Moscow Idaho.
- Mr. Shannon Jenkins, USCG, USCG Senior Arctic Policy Advisor, HQ USCG (CG-5PW).
- Dr. Craig Tweedie, Professor, Biological Sciences - Environmental Science and Engineering - Environmental Science (College of Science) University of Texas, El Paso, Texas.
- Dr. Adam Lajeunesse, Irving Shipbuilding Chair in Canadian Arctic Marine Security Policy and Assistant Professor at the Brian Mulroney Institute of Gouvernement, St. Francis Xavier Université, Antigonish, Nova Scotia.
- LCdr Hal Shiels, Royal Canadian Navy, Ottawa.
- Mr. Steve Thompson, Acting Superintendent, Maritime Search and Rescue – Canadian Coast Guard, Arctic Region, Ottawa.

Panel Summary

As the maritime environment changes in the Western Arctic, the variety of maritime operators and operations is evolving in concert. This presents new challenges and opportunities for maritime communities and the Canadian and U.S. Coast Guards. This requires adequate awareness of changes in the maritime Arctic domain, which starts first awareness of changes in the physical environment. These changes are influencing operational changes for Coast Guards and the industry and are accelerating the resulting geopolitical dimensions of the Arctic system. Panelists suggested that while all domain awareness is an important goal, this can be enabled through greater decentralization of data collection through reliance on community based observations. Ultimately, the better policymakers and academia understands the trajectory of change in the Arctic environment, the better governments will be able to make policy proactively rather than reactively.

A particularly dynamic region of the North American Arctic is the Northwest Passage. Like the Northern Sea Route in Russian, traffic along the Northwest Passage has steadily increased as well. While not at the same volume of traffic, the Canadian Coast Guard has observed increases in the number of vessels transiting the route related to tourism. High profile vessels like the *Crystal Serenity* which transited the passage in 2016 have drawn more attention to the commercial potential of Arctic tourism. In 2010, a total of 11 cruise vessels carried out 17 voyages in the Arctic with a total of 3424 crew members and passengers. In 2019, there were 15 vessels which completed a total of 24 voyages with 8382 crew and passengers on board, marking a 145% increase in total number of persons on board in 9 years. The growth in maritime Arctic tourism is expected to continue as there were in 2021 at least 27 new Arctic expedition vessels under construction worldwide. Six of these vessels will have a polar class of 6 or above, representing a remarkable leap forward in the capability of polar tourism vessels. Panelists noted that these commercial enterprises are focused on delivering a 'genuine' Arctic exploration experience and cruise operators have included submarines, helicopters, and other vehicles in order to allow passengers to have closer encounters with nature. This means that cruise operators have expanded far beyond traditional routes that have far better hydrography in order to seek novelty for each of their cruises. Therefore the Canadian Coast Guard is preparing for a higher likelihood of incidents in the coming decades as more vessels venture further into the Arctic, outside of the maritime transportation system of the Northwest Passage. As the industry develops, the Coast Guard is taking precautions to collect information on vessel and passenger movements, and most importantly monitoring areas where commercial demand exists in order to allow for a safe advancement of tourism in the Arctic.

Panelists next considered geopolitical aspects of the Arctic Maritime Domain. Given the emergence of the People's Republic of China as a global military and economic power, panelists noted the need for greater cooperation and resource sharing between Canada and the United States. While China is unlikely to establish a military presence in the maritime regions of the Arctic within the next 10 to 20 years, Chinese threats to the maritime domain will likely be presented in the form of commercial hybrid fleets that enable plausible deniability from the Chinese government. Panelists noted China will likely only become more aggressive as its economic and military power grows. Given the unique nature of the threat, this will place far greater strain on the communications and surveillance apparatus maintained by the United States and Canada. Panelists noted that information sharing has long been highlighted as the first requirement for an effective joint response. Given the shared nature of the threat, there is far greater need to share communications and maritime infrastructure to establish presence and domain awareness in the maritime Arctic. Ideally this would result in a continuous picture of the baseline in civilian, military, air, sea, and space assets of the Arctic domain capable of monitoring threats like illegal fishing.

In regard to the pace of change in maritime traffic, panelists suggested that growth will likely be steady but moderate in the next 10 to 15 years. While industries like tourism are increasing, activities around resource extraction in the Western Arctic have remained relatively unchanged compared to baseline of previous decades. However, panelists did note the potential for large scale resource extraction projects to significantly change the rate of change in maritime traffic in the Arctic. A similar phenomenon has occurred within the Northern Sea Route as the Yamal LNG project has significantly increased vessel traffic through the Bering Strait. As these projects can take over a

decade to complete before they begin transporting products, policymakers will have time to be proactive and implement policy and infrastructure to support the safe development of the maritime transportation system. Panelists suggested this should include investments in more extensive mapping of transportation corridors to ensure traffic lanes are safe for the passage of vessels. As large icebergs can disrupt the sea floor, creating potential obstacles for vessels, hydrographic data should be frequently updated in regions that are frequented by commercial vessels. Other environmental considerations include the potential of inland meltwater to disrupt oceanic and bathymetric conditions, creating a greater imperative for hydrographic monitoring.

Strategic Foresight Activity: Addressing and Prioritizing security concerns.

As a starting point to the Strategic Foresight Activity in ACCUSARS II, planners presented participants with three “plausible future alternatives” oriented to the year 2035. These futures are oriented to three principal factors: Environment, Economy and Security (traditional law enforcement and defense). While the term “security” can serve as a follow-on word to a number of descriptive concerns (such as economic security, environmental security, etc.), for the sake of ACCUSARS II, organizers are artificially constraining the factors that define future alternatives to the above 3 (economy, environment and security).

Influenced by different dynamics of change in regional economy, environment and impacted by a number of geostrategic and governance influences to security, ACCUSARS II organizers described three alternative futures:

1. ***Today is tomorrow.*** A linear projection of today’s current baseline. (Very little has changed in environment, economic and overall security). Factors:
 - a. Geostrategic influences seek stability for international political discourse,
 - b. Russia’s Arctic military buildup stagnates.
 - c. China’s Arctic ambitions slow due to pressures elsewhere
 - d. Arctic environmental changes dampen, confounding Arctic science, Arctic icepack slows the rate of diminishment.
 - e. Economy stagnates due to crushing global debt from massive overspending on COVID19 relief from 2020-2023. Arctic economies remain weak but functioning.
 - f. Subsistence lifestyles continue but are complicated by stagnate natural resources.
 - g. Power generation across Arctic Alaska, Yukon and NT gets more stable with microgrids and alternative resources providing heat and electricity.
 - h. Fish stocks move from Bering into Chukchi Sea.
 - i. Storm surge and flooding continue across Arctic coastal regions but is manageable.

2. ***Rising China and Rapidly Warming Arctic.*** A projection in which China’s rising power and environmental concerns catalyze and prioritizes challenges and concerns. Factors:
 - a. Arctic warming reaches a point in which Greenland ice sheet dramatically melts at rates exponentially higher than 2021.
 - b. Arctic Ocean cold water layer overlying warm Atlantic current degrades to the point where Arctic sea ice largely melts each season.

- c. Permafrost and erosion escalate, Bering, Chukchi and Beaufort Sea coastal regions are unable to stabilize older construction due to deterioration in soil conditions.
- d. Economy is constrained by wide-spread carbon caps, greatly diminishing Canada and U.S. market ability to compete in Global markets.
- e. China, less constrained by carbon caps and favorable trade relations, exploits its advantage to become the number 1 global economy.
- f. New Natural Gas technologies make LNG a “Green” resource.
- g. Fish stocks, originally in Bering, now found in Beaufort Sea. Mackenzie River delta feeds nutrients into local waters that combined with warming conditions greatly escalate available fish proteins.
- h. Storm surges and flooding across North American “Western” Arctic becomes chronic, costly and deadly.
- i. Increased access to former ice-covered regions results in a rush for resources in minerals in on and offshore regions in the North American Arctic (minus petroleum).
- j. Emboldened by economy, China invests heavily in security forces, now escorts vessels through the Bering Straits and into the Arctic basin for trans-polar commerce.
- k. Russia’s military advancement suffers, and economic partnership with China transitions to one in which China dictates terms to Russia, and Russia complies, because it has no other real alternative.

3. Russia reconciles with the west to check rising China with a predictably warming Arctic.

Canada, U.S. and Europe reclaim a dominate economy, and climate warms at predicted and so far, manageable rates. Factors:

- a. Russia decides that Arctic nations need to band together to counter concerns from “outside the Arctic.” Moscow reaches out to Washington and Ottawa for special relationship to counter concerns from Indo-Pacific region, considered unfavorable to Moscow.
- b. Arctic warming continues, but technology solutions are keeping warming rates manageable (for example, Permafrost degradation remains largely in check).
- c. Economies in Canada and U.S. regain footing following post COVID 19 double digit inflation, followed by sharp recession and onward recovery.
- d. Arctic economies discover new sustainable resource, receive outside investments and build-up of local industry along the Beaufort Sea regions.
- e. Due to economic growth, new investment in roads and airports commence.
- f. Arctic communities experience lower costs for logistics due to the development of Arctic capable airships, with a rise in quality of lifestyles.
- g. Rising economy and less severe weather, brings in new residents with seeking to live their goals of “North to the Future.”
- h. Russia vessels, expand their presence across the Arctic basin to “protect Arctic nations from non-Arctic nations.”
- i. Tourism rises and a corresponding investment in ports and attractions, interests to see the Northwest Passage becomes highly sought adventures.

After reviewing these alternatives, participants were asked to prioritize the risks, threats, and defined in the Day 1 session of the Foresight Activity. Participants then voted on their top priorities and categorized these concerns based on their applicability to each of the scenarios presented in the Activity.

Participants returned to their respective working groups from Day 1 which included:

- **Group 1: Political aspects**

- Moderated by Troy Bouffard, CASR, University of Alaska Fairbanks, Fairbanks Alaska.
- **Group 2: The Roles of Remote Communities**
 - Moderated by Dr. Lil Alessa, President's Professor, University of Idaho, Moscow Idaho.
- **Group 3: Environmental aspects**
 - Moderated by Dr. Craig Tweedie, Professor, Biological Sciences - Environmental Science and Engineering - Environmental Science (College of Science) University of Texas, El Paso Texas.
- **Group 4: Economic / Resources**
 - Moderated by Whitney Lackenbauer,.Network Lead, North American Arctic Defence and Security Network, Trent University

The goal of this activity was to provoke participants to consider the capabilities and policy priorities that should be adopted in order to manage these collective threats, interests, and risk. The following is a summary of the key concerns identified by participants and categories by their applicability in the aforementioned three scenarios.

Group 1: Political Aspects Day 2 Results

Today is Tomorrow	Rising China and Rapidly Warming Arctic	Russia reconciles with the West as a check to rising China as the Arctic warms predicably
Continental Defense risks: below threshold activities through the Arctic	IUU fishing and impacts on Arctic Nations fishing within respective EEZ	Foreign direct investment (presented as economic and foreign intelligence tool)
Chinese economic/resource development	Chinese economic/resource development	Enable to operate across a 'continuum of urgencies' short-to-long term, building common interests among allies and adversaries alike
Limited presence to monitor activities in and adjacent to EEZ	Break down in communications across all security fronts. Arctic Council, UN, unable to address environmental, economic, human security etc.	Limited presence to monitor activities in and adjacent to EEZ
Politics drives actions in the Arctic. E.G. Implications of South China Sea causes actions/reactions in the Arctic	Climate change and associated risks (i.e. infrastructure on permafrost, opening of resource lanes, etc.)	Politics drives actions in the Arctic. E.G. Implications of South China Sea causes actions/reactions in the Arctic
China overtaking as the lead global economic power	China overtaking as the lead global economic power	Continental Defense risks: below threshold activities through the Arctic

Group 2: The Roles of Remote Communities

Today is Tomorrow	Rising China and Rapidly Warming Arctic	Russia reconciles with the West as a check to rising China as the Arctic warms predicably
Is Chinese Direct Foreign Investment in the North a challenge? What is the underlining goal, impact, community benefit?	Rangers/Territorial Guard Concept	How do Indigenous communities express their voice?
Ottawa/DC are not providing alternatives to foreign direct investment	Is Chinese Direct Foreign Investment in the North a challenge? What is the underlining goal, impact, community benefit?	Adapt to technological advancements for northern communities
Security is a two-way conversation	DC and Ottawa not engaging in Arctic affairs	Trans-boundary Indigenous cooperation
Infrastructure-environmental threat erosion/storm surge	Regional representation in international forums	Rangers/Territorial Guard Concept
Communications Infrastructure	Environmental threat to infrastructure (erosion/storm surge)	Ensure everyone is included policymaking process
	How do Indigenous communities express their voice?	Regulatory framework of development
		Is Chinese Direct Foreign Investment in the North a challenge? What is the underlining goal, impact, community benefit?

Group 3: Environmental Aspects Day 2 Results

Today is Tomorrow	Rising China and Rapidly Warming Arctic	Russia reconciles with the West as a check to rising China as the Arctic warms predicably
We need to increase research required to support decisions	Concern that defense actors do not appreciate risk of climate change	Need to increase ability to deal with marine environmental disasters in the Canadian Arctic Archipelago
Inclusion of next generation in decision making process	Cumulative impacts of climate change and increased human activity implications in the Arctic	Urgent need to raise awareness of impact of climate change
Shared understanding of Scientific Process	Do reductions in sea ice provide opportunity to	Differentiating between role of government in mitigating

	establish mariculture and “blue economy”	climate change and adapting to change in the Arctic as an overall strategy
Inclusion of Indigenous knowledge in data gathering and interpretation	Need to assess infrastructure risk in medium/long term	Applying observations of climate change disasters in other parts of the world to U.S. Canada Context
Concern that defense actors do not appreciate risk of climate change	Disinvestment in the Arctic due to concerns over permafrost degradation	Continental Defense risks: below threshold activities through the Arctic
	Urgent need to raise awareness of impact of climate change	Entry of microplastics into the Arctic food web
		Land surface subsidence following permafrost degradation and impact on relative sea level rise

Group 4: Environmental Aspects Day 2 Results

Today is Tomorrow	Rising China and Rapidly Warming Arctic	Russia reconciles with the West as a check to rising China as the Arctic warms predicably
Security forces properly equipped to respond to issue in an Arctic environment	Climate Change “black swans” (extreme weather, etc.)	An increase in development projects results in a population growth in the region and communities are not equipped to provide services.
Unsustainable fishing practices in Central/Arctic Ocean/straddling stocks	Chinese control over a local government using economic levers	Unsustainable fishing practices in Central Arctic Ocean/straddling stocks.
Out-migration from isolated communities to urban hubs/south	Scientific research as cover for resource mapping and competitive advantage to non-like-minded states	Failure to share information considered propriety/sensitive leading to unfavorable redundancies/gaps
Failure to improve enforcement capacity for maritime environmental protection	Breakdown in communication/relations between corporations (domestic and foreign) with Indigenous communities	Security forces properly equipped to respond to issue in an Arctic environment
Lack of search and rescue infrastructure and capability	Differing priorities between gov and Inuit/Indigenous peoples in terms of economic development options leading to conflict between gov and	Lack of Search and Rescue infrastructure and capability in the Beaufort and Chukchi Seas

	communities, but also within communities/between community members	
		How do Indigenous communities share in any wealth generated by resource development?
		Scientific research as cover for resource mapping and competitive advantage to non-like-minded states

Analysis of Strategic Foresight Assessment Outcomes

Group 1: Political Aspects

Group 1 emphasized the role of China across all three scenarios, highlighting the strategic importance of China's relationship with the Arctic regardless of changes in the climate and relative geopolitical strength of the nation. As within other groups, the greater threat of China to the Arctic is presented through the role of direct foreign investment in Arctic regions.

Participants also emphasized the risk of both Canada and United States to identify and address both urgent short-term threats and long-term risks due to the political leadership turnover in both countries. At a multinational level, the ability for regional state actors to address common challenges and build common interest primarily relies upon ability of the United States and Canada to maintain alliances with democratic Arctic nations in Europe. Again, the potential of foreign direct investment could create friction between nations as governments pursue economic development opportunities over longer term national interest.

Participants noted that there is a difference between political capital and financial capital noting that investment does not necessarily ensure political alliances. This is especially important within the context of Greenland which has greater strategic importance to North American Bi-National security in the Arctic. A bi-national approach would be necessary in order to counter the growing influence of China in Greenland. Greenland also serves as important bridge in the relationship between European partners and North American. Overall, participants suggested there is a greater strategic opportunity in inviting Greenland deeper into North American Arctic security arrangements, as it would strengthen the alliance of democratic nations across North America and the Arctic.

Group 2: Local Community Aspects

Through the exercise, participants in Group 3 determined higher priority interest and/or risk. One of the challenges that crossed all three scenarios was law enforcement and national security perspective. Concerns about Chinese investment in the North and that being a challenge. What's the goal? What's the impact? What's the community benefit? That made an appearance in all three scenarios.

Another issue addressed was the need to increase local capacity to address increase services that enable greater community security. Participants identified that enhancements to community-based observations would be key in addressing the issue of overall capacity. Within the context of the United States, this could include enhancing the U.S. Coast Guard Auxiliary program to include more communities in the U.S. Arctic. Additionally, participants identified the role of the research community and questioned whether researchers are doing enough to leverage existing capacity of local communities to develop research that benefits remote and Indigenous communities. Finally, participants reiterated the importance of targeting investments to enhance capacities to the maximum benefit of local communities and the national interest. This again includes community based observation systems but should also include greater transportation and communications infrastructure. Determination of key investments would be best achieved by insuring the inclusion of local and regional representation in the national policymaking process.

Secondly, Participants identified the importance of transboundary communication and the growing international cooperation amongst remote communities across the Arctic for local communities to advocate for policy priorities at the national and international level. These networks also enhance the ability for local observations to be channeled and shared across the Arctic, developing a greater awareness of Arctic change. Related to this is the need for local communities to determine methods for investing within their own capacity. Therefore participants highlighted the need for great dialogue between communities to develop new methods of community/economic development that appropriate for the Arctic context.

Group 3: Environmental Aspects

When considering the environmental aspects of the three scenarios, and the future expectations of event participants, participants emphasized three key aspects: *Investment, Awareness, and Resilience*.

In order to meet environmental challenges in the next 15 years, pan-arctic data-gathering networks will need to be improved. Participants suggested an inclusive model that includes higher level national security domain awareness tools with the academic community and local observations. Artificial Intelligence could be leveraged in order to manage a sophisticated information network that includes from across the Arctic. Participants determined that inclusive data tools like this will be necessary in order to prepare Western North American Arctic for a warmer Arctic. As China's interest in the Arctic grows, participants questioned whether or not some Chinese research assets could be leveraged as well. As there greater bi-national security concerns surrounding involving China in Arctic affairs, participants left this as an open question. Participants determined that greater research cooperation between academics in Russia, Canada, and the U.S. would be mutually beneficial for informing Arctic nations on how to respond environmental changes.

Across all scenarios, participants noted an expectation in the increase of maritime traffic in the coastal areas of the Western North American Arctic. This in turn will increase the importance of investments in infrastructure and response assets capable to responding to emergencies in remote areas. Participants identified the need for greater investment in research in oil-ice interactions in order determine best practices in Arctic oil spill response. Additionally, greater investment should be made in understanding the effects of microplastics in Arctic marine ecosystems.

As following generations will experience the greater consequences from climate change, participants noted the need to invest in educating the next generation of Arctic scientists and leaders. Participants suggested mechanisms for including younger generations as governments formulate climate mitigation policy and adaptation solutions for the Arctic.

Group 4: Economic Aspects

In Group 4's analysis of the scenarios presented in the exercise, participants agreed that Scenario 1, in which current baseline trends continue into the future without dramatic change, to be the most likely scenario. However Group 4 participants agreed that Scenario 2, in which warming accelerates and China emerges as an eminent global superpower, is the most concerning.

Regardless of the scenario participants determined that emergency management should be a key priority for investment in the Western North American Arctic. As associated commercial activity expands, there is a greater need for more robust emergency management in order to mitigate potential oil spills and expand search and rescue capabilities in the region. Specifically, the growth of tourism in Canada and the United States will expand the need for Coast Guard services during the summer operational season.

As it relates to Scenario 1, unsustainable fishing practices, particularly from illegal, unregulated, or underreported fishing activities, in the Bering Sea emerged as key threat. Secondly, out-migration from remote communities is a particular concern in both Alaska and Northern Canada. If these out-migration trends continue, participants identified that remote communities would have reduced capacity to meet challenges associated with greater human activity in Arctic. Again, participants noted the need for increased emergency response capacity in the Western Arctic region.

In Group 4's analysis of Scenario 2, China would present itself as greater threat to bi-national security in the North American Arctic through direct foreign investment. As a warmer Arctic could make more of the region accessible to resource extraction enterprises and China would have greater economic capacity to invest in commercial ventures in the Arctic, there would be greater friction between local communities and national government over whether to accept foreign investment. Participants this could lead to greater Chinese control over economic resource in the Arctic and the erosion of national sovereignty in the Arctic for both Canada and the U.S. However participants noted that this could lead to greater conflicts between Indigenous communities and corporations investing in commercial enterprises in the Arctic region. Overall, local communities would be less equipped to respond to unsustainable or environmentally harmful industrial practices in the Arctic.

Finally, in applying the lens of Scenario 3, Participants observed increased development could result in greater population growth in communities in the Western Arctic. This could be analogous to population growth in the Alaskan North Slope following the development of the Prudhoe Bay oil discovery. This again would require further investment in emergency management to mitigate the environmental and human security threats in the region. Participants also noted the concern of whether Indigenous or local communities ultimately share in the wealth generated by increased investment in Arctic.

Conclusion

As discussed in the preparation materials for ACCUSARS II, the National strategies for Canada and the U.S. Federal agencies drive policy and resource decisions that affect the security of each respective nation...of course which includes the Arctic regions of both Canada and the U.S. The State of Alaska and the Provinces of Yukon and Northwest Territories drive regional governance, with local and tribal governance providing granular understanding of the developing threats, risks and opportunities of the region. Looking to the future, it is important to understand, from the current baselines of security and defense, what are the policy, planning and resourcing decisions needed near term, to effect better outcomes from the range of possible conditions that could emerge and dominate CANUS policy makers, national regionally, and locally...in the years to come? As strategies continue to evolve in the current U.S. and Canadian national leadership, knowledge-products, which capture insights and perspectives, and bi-national collaboration, provide a unique opportunity to inform planners and policy makers alike as they revise and develop new Federal strategies and policies in Ottawa and Washington D.C. for respective national actions in the Arctic. Such collaboration should extend to regional and local decision makers as well, in order to strengthen the fabric of CANUS cooperation in and across the North American Arctic.

The purpose of the Advancing Collaboration in Canada-U.S. Arctic Regional Security workshop series is not only to determine expectations for trajectory in the political, environmental, and economic systems of the North American Arctic but to inform regional policy in how Canada and United States can best meet bi-national objectives in Arctic security. As participants noted throughout ACCUSARS II, which looked directly at factors relating to the Western North American Arctic, local communities and regional governments have an important role in ensuring human security within the Arctic Region. The State of Alaska and the Provinces of Yukon and Northwest Territories drive regional governance, with local and tribal governance providing granular understanding of the developing threats, risks and opportunities of the region. Looking to the future, it is important to understand, from the current baselines of security and defense, what are the policy, planning and resourcing decisions needed near term, to effect better outcomes from the range of possible conditions that could emerge and dominate CANUS policy makers, national regionally, and locally in the years to come.

As strategies continue to evolve in the current U.S. and Canadian national leadership, knowledge-products, which capture insights and perspectives, and bi-national collaboration, provide a unique opportunity to inform planners and policy makers alike as they revise and develop new Federal strategies and policies in Ottawa and Washington D.C. for respective national actions in the Arctic. Such collaboration should extend to regional and local decision makers as well, in order to strengthen the fabric of CANUS cooperation in and across the North American Arctic.

Strategic Foresight is a unique and uniquely applicable tool to challenge planning assumptions about the drivers of change in the mid and longer term future. Strategic Foresight of ACCUSARS II, was a remarkable success in every measure. ADAC and NAADSN wish to thank the HQ USCG DCO-X “Evergreen” team for their incredible contributions to this important workshop. Simply superb and greatly appreciated!



From a Geopolitical vantage the developing aspects of strategic competition in and across the Arctic between China, Russia and the U.S. (which does impact the alliances and partnerships of NORAD and NATO, need not result in confrontation, nor escalation to conflict. However, in light of such competition, there needs to more focus on measures to assure nation states wary of each other and the same time further advances need to be made to add resilience to the citizens who call the region home (and in particular, measures to address the unique challenges of the Arctic region of Alaska, Yukon and NWT). Economic and ecological measures that enable improved lifestyles and reduce food and social and environmental insecurity in this part of the Arctic are needed and needed sooner than later. This is not intended to be a call for greater social welfare, but instead, for measures of entrepreneurial investments that can result in self sustainment uniquely oriented and connected to the cultural heritage of the people who call the region home...who are citizens of two great nations inextricably linked together in the Arctic: Canada and the United States.

The North American & Arctic Defence and Security Network (NAADSN) at Trent University and the Arctic Domain Awareness Center sincerely appreciate all who contributed their time and insight into ACCUSARS I and II. It was through their willingness to listen, learn, and inform that made this document possible. NAADSN and ADAC look forward further collaborating with both existing and new existing partners for ACCUSARS III in September 2021.

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