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ARCTIC STRATEGY

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“Securing the Northern Flank”

Reflections toward Establishing the Department of Defense’s Newest Regional Center: The Ted Stevens Center for Arctic Security Studies

MAJ GEN RANDY “CHURCH” KEE, USAF, RETIRED

Executive Summary

The National Defense Authorization Act of 2021 provided the Secretary of Defense (SecDef) the authority to assess, plan, and establish a new Department of Defense (DOD) Regional Center, specifically oriented to the Arctic. Following a period of analysis on the merits of creating such a center, the Secretary announced the establishment of the Ted Stevens Center for Arctic Security Studies (Stevens Center or TSC) on 9 June 2021. As part of that announcement, SecDef Llyod Austin elaborated these key details: “The center will support the U.S. Interim National Security Strategic Guidance direction to work with like-minded partners and across the interagency to pool our collective strength and advance shared interests,” Austin said. “It will address the need for U.S. engagement and international cooperation to strengthen the rules-based order in the region and tackle shared challenges such as climate change.”¹

In the same spirit as the other DOD RCs, the Stevens Center will build strong, sustainable, domestic, and international networks of security leaders and promote and conduct focused research on Arctic security to advance DOD security priorities in the Arctic region. In accordance with the authorizations from NDAA 21, the DOD developed a plan to establish the Stevens Center and defined four mission areas to govern efforts and activities. These include:

- Advancing Arctic awareness, both among partners and within the increasingly professionalized field of US Arctic service;
- Advancing DOD Arctic priorities;
- Reinforcing the rules-based order in the Arctic; and
- In keeping with Secretary of Defense Austin’s priorities and the *Interim National Security Strategic Guidance*, addressing the impacts of climate change in the region.

The TSC is underway in pursuit of a “build while doing” strategy to organize, equip, and provide education, research, and multifaced engagement via virtual,

in-person, and hybrid methodologies to create strong, sustainable, international networks of multidiscipline security leaders to advance US national security priorities in coordination with allies and partners across the Arctic region.

In the same spirit of the named DOD Regional Centers (the George C. Marshall, William J. Perry, and Daniel K. Inouye Regional Centers), the Stevens Center honors the legacy of a highly distinguished, remarkable public servant, Sen. Ted Stevens (R–Alaska). Accordingly, the TSC will respect the legacy of Senator Stevens in establishing a DOD Regional Center to the benefit of US national security for the Arctic, while advancing such efforts with America’s allies and partners. The following pages provide background and details associated with establishing this new regional center.

Discussion

People and nations have been drawn to the North since the dawn of time. Indigenous peoples from Asiatic and European cultures have inhabited the Arctic since prehistoric times, learning and solving the challenges in how to survive and thrive in and across a difficult and, at times, forbidding part of the planet.

Following in the footsteps of the Arctic’s first inhabitants, nation states arrived, developed, and established territorial claims across the High North—in many cases, displacing the original residents in the name of exploration and commerce. With the arrival of defined national borders and national interests, Arctic states exercised sovereignty and control to protect and harvest resources, conduct development, and govern people.

The development of the Arctic has seen extraction and exploitation of natural resources, first with furs, then from oil-producing whales, followed by extraction of mineral wealth. Overall, despite the riches produced, the Arctic region has seen only modest benefit from the harvesting of its natural abundance, and currently, the Arctic remains underdeveloped and economically fragile. The Arctic also remains one of the few remaining places on the earth where a considerable percentage of people harvest their livelihood directly from the land and sea via subsistence measures.

The Arctic region represents several challenges and opportunities affecting US national interests. The Arctic is changing dramatically in terms of the physical environment and geostrategic challenges. As reported across the science community, Arctic warming is now estimated to be advancing three times or greater when compared to lower latitudes in the Northern Hemisphere. The Arctic region still contains vast amounts of potential mineral wealth and remains one of the wildest and most remote regions left on the planet. Approximately four million people live above the Arctic Circle, with approximately half that population resid-

ing across the Russian Federation. Below the Arctic Circle, many nations in the Indo-Pacific and the European continent maintain strong national interests in the Arctic. These Arctic interests can generally be described as including economic, transportation, environmental, as well as geostrategic factors. Among such factors are facets associated with national and regional security. For example, as Arctic region climate change continues to develop, industry and nations alike are seeing the Arctic as a region of opportunity, and now competing national claims for extended continental shelves across the Arctic basin are already well under way within the framework of the United Nations Convention of the Law of the Sea.² While competition within the Arctic continues to develop, it is important to remember, Arctic interests among Arctic nations include concerns for their respective citizens and a need for the region to remain peaceful and stable.

The United States became an Arctic nation in 1867 when the Russian Empire ceded its claimed Alaskan holdings in return for much needed cash. It is understood that at the time, key Russian decision makers believed that selling their Alaskan claims to a non-European country would prove useful for the overall balance-of-power challenges from Russia’s European competitors. While America’s purchase of Alaska enabled the United States to become an Arctic nation, America’s interests rightfully include more than Alaska—and today, collaborating with allies and partners, involves a pan-Arctic orientation.

Throughout history, the Arctic has not been a region where nations come to fight, conversely, the region has been a place of remarkable collaboration among various people groups—including governments. As a reflection of the unique spirit of collaboration across the High North, the Arctic Council,³ a non-security-oriented multinational forum representing all eight Arctic nations and six Arctic indigenous groups (regarded as equals to the Arctic states) advances several collaborations to benefit Arctic regional safety, environmental, science, educational, and economic activities. Since establishment in 1996, the Arctic Council has proven a useful and helpful forum to continue momentum in Arctic collaboration. In addition to the member states and indigenous groups, the Arctic Council currently has 38 observer groups, which include non-Arctic nations and nongovernmental organizations. Among these, as demonstrated via interaction with Arctic nations, academics and industry, the People’s Republic of China seeks and is achieving greater involvement in Arctic matters. It is important to note many non-Arctic nations in Europe and the Indo-Pacific (comprising many of the world’s economic engines) are engaging on the Arctic and a significant aspect of that engagement is through the Arctic Council.

It can fairly be said the Arctic has historically been too forbidding for nations to battle with each other, with the notable exception of the Cold War between the

United States and America's North Atlantic Treaty Organization (NATO) allies against the former Soviet Union. During an approximate 43-year-long struggle, America and its NATO allies witnessed competition and contest and faced off with their adversaries in the Soviet Union across the Arctic, including leveraging the ice-covered Arctic Ocean as a place to hold each other at risk with strategic deterrence staged under the sea.

Despite peaceful measures like those of the Arctic Council that have helped to continue aspects of "Arctic exceptionalism," the challenge of strategic competition returned to the High North starting in early 2007 with the establishment of Russian Long-Range Aviation, which saw Russian long-range bombers operating in and through the Arctic in patterns reminiscent of the Cold War. Since that time, Russia has refurbished and constructed additional military facilities along its Arctic shorelines and has made military operations in the Arctic a normative activity. The United States, along with NATO allies and partners, has responded to these Russian activities and has advanced activities and capabilities to demonstrate resolve and strength toward securing respective national and allied interests in the Arctic. In sum, meeting hard-power challenges with hard-power defense measures.

However, military competition is but one facet of friction; competition for natural resources, along with regional political and economic influence, has been steadily rising, fueled in part by the unparalleled rise in regional temperatures, which has reduced access barriers through a significant contraction of size and volume of the Arctic sea-ice pack since notice of such warming began in the early 1980s. As such, the hard truth is, while many facets of collaboration continue quite well in the non-security realm, the Arctic is now a space in which military powers maintain presence, posture, and prepare for conflict that most hope will never materialize.

The Arctic is intrinsic to US national and international security interests, and many of America's closest allies and partners share these interests. Underscoring these US national security interests are a host of awareness challenges of the changing Arctic, which ranges from environmental (including flora and fauna), business, social/societal, military, and governance aspects. In the broadest context, advancing Arctic awareness is needed as much as ever, particularly among the community of security practitioners. Studies and analysis that evaluate risks, challenges, and opportunities to inform decision makers along with corresponding education and engagement could prove quite important to addressing Arctic complexities, particularly when oriented to a broad set of security facets.

In early January 2021, the National Defense Authorization Act for Fiscal Year 2021 (NDAA 21) became US law. Included in Section 1089 of NDAA 21, provi-

sions permitting the SecDef to establish a new DOD Regional Center (RC) were authorized. The legislation articulated the need for DOD’s sixth and newest RC—one that would focus in providing education, studies, analysis, and multinational (and multidiscipline) engagement programs addressing US security risks for the Arctic region. Subsequently, following several months of study and providing the US Congress an analytical report as required by NDAA 21, the SecDef announced on the establishment of the **Ted Stevens Center for Arctic Security Studies** (as previously described in the executive summary).

Currently, the TSC is developing the following initial framework to guide on-ward development activity:

- **Vision:** Achieve inclusive awareness and understanding through advancing convergent, collaborative, and comprehensive security in accordance with Office of the Secretary of Defense (OSD) policy priorities and strategy.
- **Mission:** Provide education, research, and convening initiatives to build strong, sustainable, international networks of multidiscipline security leaders to advance US national security priorities in coordination with allies and partners across the Arctic region.
- **Value:** Through delivering relevant education, analysis, and symposia, the TSC contributes to informing civilian and military security practitioners and providing a useful forum that enhances people networks, all of which contribute to a stable, rules-based order in the Arctic that supports US national security interests.
- **Implementation:** Consistent with practices of the established DOD RCs, the TSC will support DOD Arctic regional engagement via conducting symposia, workshops, seminars, and exercises that advance US national security interests across the Arctic. Further, the center will support DOD goals to advance studies and analysis and education programs to improve professional understanding of Arctic security and other DOD priorities that overlap in the region.

As with the other RCs, the TSC supports the policy aims of the OSD; collaborates with the Joint Staff; and will support Arctic and climate security studies, exercises, education, and engagement need as derived from the Pentagon and unified commands; and address Arctic strategy implementation requests from the military departments/services. Among assigned and implied tasks, the TSC will provide Arctic- and climate security-oriented scholarship and research, advance partnerships in security and defense matters, and conduct multiagency and multinational symposia and seminars oriented on Arctic and climate security needs

for the DOD. The TSC anticipates providing special attention to the overall unified command lead for the Arctic, US Northern Command (USNORTHCOM) and its sub–Unified Command, Alaskan Command (ALCOM), due to ALCOM’s designated role as lead for Arctic affairs.

Due the intersection of Arctic interests from North America, Europe, Eurasia, and the Indo-Pacific, the TSC plans to work closely with the associated RCs in collaboration with the associated US geographic unified commands (e.g., Daniel K. Inouye Center for Asia-Pacific Security Studies with US Indo-Pacific Command (INDOPACOM)). Like the other centers, the TSC will advance initiatives and activities expressly designed for and aligned to better understand and advance security measures for the circumpolar Arctic, to support DOD needs in this unique region of increasing geostrategic importance and value.

To establish a successful DOD Arctic RC, partnerships and collaborations will be essential. Accordingly, the TSC will seek to establish defense and security partners within Alaska, across the United States, with defense allies internationally, in the circumpolar Arctic, and coordinated with existing RCs in the European and Indo-Pacific region to ensure that the new RC brings unique value to the DOD, to the nation, and to America’s allies and partners.

Specifically, it is important the new Stevens Center develop meaningful and dedicated partnerships with Arctic indigenous communities and organizations and with subject-matter experts across US Arctic-oriented universities and institutes. As the Arctic’s permanent populations have unmatched Arctic insights and understandings, there is so much that civilian and military security practitioners can and need to learn from the people who have known about the Arctic for a millennium. In addition to advancing such learning, the Stevens Center can also provide unique seminars and workshops that advance recommended solutions to improve many facets of security by teaming with Arctic indigenous leaders and collaborating with Arctic indigenous-led organizations.

To advance both the Arctic and climate security agendas, the center will strive to collaborate with the Interagency Arctic Research Policy Committee, US Arctic Research Commission, and Arctic professionals within the Departments of State, Commerce (National Oceanic and Atmospheric Administration), Interior (Bureau of Indian Affairs; Bureau of Ocean and Energy Management; and Bureau of Safety and Environmental Enforcement), and Energy (Arctic Energy Office and the National Laboratories).

Internationally, the TSC will seek to establish near-term collaboration with Canadian and Nordic allied and partner militaries, including the Canadian Joint Operations Command, Joint Task Force North, Danish Arctic Command, and military entities associated with Nordic Defense Cooperation, as well as other

Arctic-minded interests in the Indo-Pacific, Trans-Atlantic, and Eurasian regions in coordination with the established RCs, respective unified commands, and the OSD.

There is considerable value for the TSC to engage with the professional defense and security academic institutions across the United States, Canada, and European and Indo-Pacific countries to further develop circumpolar knowledge and expertise. This is vital to address as global geopolitical and economic interests in the Arctic region have increased due to the rapidly changing environment, technological advances, and an Arctic Ocean that is shifting, at least seasonally, from ice-covered to open water, enabling greater shipping activity, tourism, fishing, and development of other resources, such as oil and gas and minerals.

Rising competition in the Arctic among strategic competitors, such as Russia and China, is becoming a greater concern in the Arctic. By not soberly assessing threats and risks, along with strategies to reduce them, the United States and its allies and partners could experience growing confrontation and potential for conflict. Such conflict could range from economic warfare to aggressive military encounters and exercises in air and sea, low-intensity skirmishes, to armed combat among militaries comprised of enormous destructive means. In the near term, increased activities in the Arctic from both China and Russia represent a set of security and defense challenges that potentially hold US national interests at some level of risk. While Russia's Arctic interests, understandably, include defense of its own national sovereignty, its military buildup across the Arctic is larger than that required solely for defense. China's interests and continued investments in the Arctic are multifaceted and include considerable effort to access to marine protein, petrochemicals, mineral resources, transportation routes, scientific research (on land and sea), gaining experience in Arctic maritime operations, participation in Arctic governance (e.g., via the Arctic Council), and broader, geopolitical, and geostrategic interests.

As security interests in the Arctic rise, there is a parallel and increasingly compelling need to focus on security studies in the circumpolar Arctic. The results from these studies will help the United States address risks and vulnerabilities as well as opportunities to advance and gain improved initiative for America's defense and security allies and partners.

In sum, the Stevens Center will advance scholarship and affiliated engagement activities associated and in support of the DOD's *National Defense Strategy*. The center will also address the professional education needs for US forces assigned and/or aligned to Arctic security and defense missions and conduct associated allied and partner Arctic education seminars. Such efforts will strive to be inclusive of regional “whole-of-society” security concerns, consistent with practices of

the established RCs. Accordingly, the Ted Stevens Center will provide the DOD an intellectual and engagement center of gravity to understand the fundamentals of evolving Arctic and climate security risks and opportunities, advancing research, education, and engagement to provide networks and solutions needed to better secure US and allied and partner interests from a broad and multidiscipline vantage, becoming a DOD developed center of soft power to complement US hard-power capabilities for the Arctic region.

The mission and goals outlined above reflect the center's long-term aspirations and should not be viewed by the reader as a short-term action plan. To reach these goals, the Stevens Center will have to "build while doing," and there are several essential staff and faculty actions that need to transpire to advance the center to an initial operating capacity (IOC). In pursuit of "build while doing," the TSC will leverage in-person, virtual, and hybrid approaches to hasten the pathway to IOC, while also planning an intentional and inclusive route from IOC to full operating capacity and beyond. Establishing the Stevens Center as a collaborative and contributing member of the DOD RC community is an exciting and meaningful adventure.

Lastly, in the same spirit of the George C. Marshall, William J. Perry, Daniel K. Inouye Regional Centers of Security Studies, the Stevens Center of honors the legacy of a highly distinguished statesman, Sen. Ted Stevens (R-Alaska). For nearly his entire adult life, Senator Stevens was a devoted public servant, starting as a World War II airlift pilot in the China-Burma-India theater, continuing in his dedicated efforts in support of Alaska statehood, and inclusive of a historic career in the US Senate. The legacy of Senator Stevens includes a remarkable number of legislative achievements that advanced US interests, while leveraging the unique role that Alaska provides in supporting national security in the Arctic, North American, and Indo-Pacific regions. Accordingly, the Ted Stevens Center for Arctic Security Studies will respect and honor the legacy of Senator Stevens in establishing a DOD Regional Center to the benefit of US national security, while advancing such efforts with America's allies and partners via research, education, and engagement across the multidiscipline intersections of the Arctic.

Please stay tuned for more details in the coming weeks and months.

Maj Gen Randy "Church" Kee, USAF, Retired

Major General Kee is the Senior Advisor for Arctic Security Affairs, tasked with assisting with the establishment of the Ted Stevens Center for Arctic Security Studies, the Department of Defense's sixth and newest regional center. He previously served as the Executive Director of the Arctic Domain Awareness Center (ADAC) at the University of Alaska, a Department of Homeland Security Center of Excellence. Kee is a former commissioner of the US Arctic Research Commission. General Kee has led at the squadron, group, wing, and air ops center levels. His staff assignments include US Transportation Command, Headquarters USAF, and the US Joint Staff in both Operations plus Strategic Plans and Policy Directorates. He has contributed to US Arctic Strategy and supported domain-

“Securing the Northern Flank”

awareness technology development and Defense Support to Arctic crisis response. He culminated his military service as Director of Strategy, Policy, Planning and Capabilities for US European Command in Stuttgart, Germany. General Kee is a Global Fellow at the Woodrow Wilson Center Polar Institute and serves an important role for the Office of Naval Research led International Cooperative Exchange for Polar Research.

Notes

1. Please see: “DOD Announces Center to Collaborate on, Advance Shared Interests in Arctic Region,” *DOD News*, 9 June 2021, <https://www.defense.gov/>.
2. Please see: United Nations Convention on the Law of the Sea (1982), <https://www.un.org/>.
3. Please see: Arctic Council, website, 2021, <https://arctic-council.org/>.

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NORAD–USNORTHCOM

Commander’s House Armed Services Committee Statement

GEN GLEN VANHERCK, USAF, COMMANDER, NORAD & USNORTHCOM

*Chairman Smith, Ranking Member Rogers, and distinguished members of the Committee: Thank you for the opportunity to testify today, and for allowing me the honor of representing the Soldiers, Sailors, Airmen, Marines, Guardians, Coast Guardsmen, and civilians of United States Northern Command (USNORTHCOM) and North American Aerospace Defense Command (NORAD). I am especially privileged to represent the members of the Canadian Armed Forces who are a vital and essential part of the NORAD team.**

USNORTHCOM is the U.S. geographic combatant command responsible for defense of the United States homeland. USNORTHCOM is also tasked with providing defense support of civil authorities and engaging in theater security cooperation with regional allies and partners. NORAD is a distinct, bi-national command responsible for three missions in defense of the United States and Canada: aerospace warning, aerospace control, and maritime warning. Canadian Armed Forces personnel, to include my three-star NORAD Deputy Commander, are essential to our NORAD missions.

Since I assumed command of USNORTHCOM and NORAD, each day has afforded me the opportunity to lead a workforce of dedicated, innovative, and resilient warfighters and public servants. That fundamental commitment to our vital missions is clearly evident as USNORTHCOM and NORAD have kept the watch and defended our nations in what is certainly the most dynamic and complex strategic environment I have encountered in my 33 years in uniform.

Our competitors continue to take increasingly aggressive steps to gain the upper hand in the military, information, economic, and diplomatic arenas. USNORTHCOM meets each of those challenges head-on—and we have done so while supporting whole-of-government efforts to safeguard our citizens through the coronavirus pandemic and historically severe hurricane and wildfire seasons,

*Transcript of Statement of General Glen Vanherck, US Air Force, Commander, United States Northern Command and North American Aerospace Defense Command. before the House Armed Services Committee, 14 April 2021.

and also simultaneously synchronizing the deployment of troops to support federal law enforcement personnel on the southwest border. The cascading events of the past year placed unprecedented strain on our people, our interagency partners, and our institutions, and I am proud that we overcame each of those challenges and emerged more resilient.

That steadfast commitment is more important than ever as our competitors continue to target the homelands through multiple means in all domains. Defending our nations, our citizens, and our way of life requires constant vigilance, and USNORTHCOM and NORAD have demonstrated time and again that our commands remain determined, focused, and ready. But we must keep moving forward. Looking to the future, we will continue to pursue innovative new capabilities and strategies to detect, deny, deter, and, if necessary, defeat the mounting threats posed by peer competitors, rogue nations, transnational criminal organizations, and foreign and domestic violent extremists. No matter the challenge or circumstance, this Committee should rest assured USNORTHCOM and NORAD are always on guard.

Threats

The global geostrategic environment continues to evolve rapidly. While the United States has spent the last 30 years projecting power forward to combat rogue regimes and violent extremists overseas, our global competitors pursued capabilities to circumvent our legacy warning and defensive systems and hold our homeland at risk. Peer competitors like Russia and China are undermining the international rules-based order and challenging us in all domains. Further, rogue states like North Korea and Iran are also pursuing capabilities to nullify our military advantages, threaten our networks with cyber weapons, and—in the case of North Korea—develop nuclear weapons. Meanwhile, violent extremist organizations continue to devise plots to attack our citizens and our way of life.

During the Cold War, we were overwhelmingly focused on defending the United States and Canada from a single nation-state threat. After the Soviet collapse, Iraq's invasion of Kuwait and later the September 11, 2001 attacks shifted our focus to non-state and rogue actors. Today, we don't have the luxury of focusing regionally or on only one threat at a time. In the last decade, we've seen a sharp resurgence in the nation-state threat as our global competitors deploy increasingly sophisticated capabilities to hold the United States and Canada at risk and limit our options in a crisis. Concurrently, the terrorist threat continues to evolve in ways that challenge our homeland defense capabilities. As a result, today's threat environment is likely the most complex we have ever faced, as potential adversaries threaten us in all domains and from all vectors.

Russia

Russia presents a persistent, proximate threat to the United States and Canada and remains the most acute challenge to our homeland defense mission. Russian leaders seek to erode our influence, assert their regional dominance, and reclaim their status as a global power through a whole-of-government strategy that includes information operations, deception, economic coercion, and the threat of military force.

In peacetime, Russian actors conduct sophisticated influence operations to fan flames of discord in the United States and undermine faith in our democratic institutions. In crisis or conflict, we should expect Russia to employ its broad range of advanced capabilities—non-kinetic, conventional, and nuclear—to threaten our critical infrastructure in an attempt to limit our ability to project forces and to attempt to compel de-escalation. Offensive capabilities Russia has fielded over the last several years include advanced cyber and counterspace weapons and a new generation of long-range and highly precise land-attack cruise missiles—including hypersonics. These capabilities complicate our ability to detect and defend against an inbound attack from the air, sea, and even those originating from Russian soil.

Russia also continues to modernize all three legs of its nuclear triad. In December 2019, Russia fielded the world's first two intercontinental ballistic missiles (ICBMs) equipped with a hypersonic glide vehicle payload that will challenge our ability to provide actionable warning and attack assessment. In the coming years, Russia hopes to field a series of even more advanced weapons intended to ensure its ability to deliver nuclear weapons to the United States. These include the Poseidon transoceanic nuclear torpedo and the Burevestnik nuclear-powered cruise missile, which—if perfected—could enable strikes from virtually any vector due to its extreme range and endurance.

Finally, Russia continues to conduct frequent military operations in the approaches to North America. Last year, NORAD responded to more Russian military flights off the coast of Alaska than we've seen in any year since the end of the Cold War. These Russian military operations include multiple flights of heavy bombers, anti-submarine aircraft, and intelligence collection platforms near Alaska. These efforts show both Russia's military reach and how they rehearse potential strikes on our homeland. Last summer, the Russian Navy focused its annual OCEAN SHIELD exercise on the defense of Russia's maritime approaches in the Arctic and Pacific. The multi-fleet exercise, intended in part to demonstrate Russia's ability to control access to the Arctic through the Bering Strait, included amphibious landings on the Chukotka Peninsula opposite Alaska,

as well as anti-submarine patrols and anti-ship cruise missile launches from within the U.S. Exclusive Economic Zone.

China

China continues to pursue an aggressive geopolitical strategy that seeks to undermine U.S. influence around the globe and shape the international environment to its advantage. In the USNORTHCOM area of responsibility, China has made deliberate attempts to increase its economic and political influence with our close partners in Mexico and The Bahamas. While the United States remains the economic and military partner of choice in the region, China is seeking to grow its trade and investment in Mexico and, over the past few years, has invested in The Bahamas' vital tourism sector through marquee infrastructure projects. Militarily, China is rapidly advancing a modernization program that seeks to erode our military advantages and deter us from intervening in a regional conflict.

China remains among the world's most capable and brazen cyber actors, stealing volumes of sensitive data from U.S. government, military, academic, cleared defense contractors, and other commercial networks each year. In a crisis, China is postured to transition rapidly from cyber exploitation to cyber attack in an attempt to frustrate our ability to flow forces across the Pacific, and globally. China also continues to advance its counter-space capabilities that could threaten our space-based communications and sensors. In the foreseeable future, China will likely be able to augment its cyber-attack capabilities with a new family of long-range precision-strike weapons capable of targeting key logistical nodes on our West Coast that support U.S. mobilization and sustainment.

China also continues to expand and modernize its strategic nuclear forces to rival those of Russia and the United States in sophistication, if not in numbers. Over the last decade, China fielded dozens of road-mobile ICBMs and several ballistic missile submarines designed to enhance the survivability of China's nuclear deterrent and ensure its ability to retaliate following any attack. In the next decade, China will deploy a new generation of advanced weapons—some of them hypersonic—that will further diversify their nuclear strike options and potentially increase the risks associated with U.S. intervention in a contingency.

North Korea and Iran

The Kim Jong Un regime has achieved alarming success in its quest to demonstrate the capability to threaten the U.S. homeland with nuclear-armed ICBMs, believing such weapons are necessary to deter U.S. military action and ensure his regime's survival. In 2017, North Korea successfully tested a thermonuclear de-

vice—increasing the destructive potential of their strategic weapons by an order of magnitude—as well as three ICBMs capable of ranging the United States. In October 2020, North Korea unveiled a new ICBM considerably larger and presumably more capable than the systems they tested in 2017, further increasing the threat posed to our homeland. The North Korean regime has also indicated that it is no longer bound by the unilateral nuclear and ICBM testing moratorium announced in 2018, suggesting that Kim Jong Un may begin flight testing an improved ICBM design in the near future.

Iran continues to advance its military technologies and threaten the security of U.S. forces and allies throughout the Middle East. Iran adheres to a self-imposed range limit on its ballistic missile force that prevents it from directly threatening the United States. Nonetheless, Iran is developing and testing ICBM-relevant technologies through its theater missiles and space launch platforms—including its first successful orbit of a military satellite in April of 2020—that could accelerate the development of a homeland-threatening ICBM should Iran's leaders choose to pursue such a system. Iran retains the ability to conduct attacks via covert operations, terrorist proxies, and its growing cyber-attack capabilities, which it has already employed against U.S. financial institutions.

Violent Extremist Organizations

The terrorist threat has grown more diffuse, typified by simple attacks inspired from afar and carried out by individuals or small networks that are difficult for our law enforcement partners to detect and interdict. Foreign terrorist groups remain committed to attacking the United States, either directly or by inspiring home-grown violent extremists (HVEs) to act in their stead. Despite their territorial losses over the last several years, ISIS leaders—along with their more patient counterparts in al-Qa'ida—remain highly adaptive foes who are largely immune to traditional means of deterrence. Commercial and general aviation persist as preferred targets due to the disproportionate economic and psychological impact of such attacks. Meanwhile, foreign terrorists and HVEs continue to target U.S. military personnel both on and off base, as exemplified by the December 2019 shooting at Naval Air Station Pensacola.

Transnational Criminal Organizations

Transnational Criminal Organizations undermine the security of the United States, and that of our allies and partners, through increasingly violent and destabilizing activities that threaten the rule of law and our shared democratic institutions. These organizations have increased their collaboration with criminal groups

beyond North America, which has increased their resilience. In our interconnected Western Hemisphere and globally, we must minimize the negative effect of organized criminal activity by aligning strategies, policies, plans, and authorities with the associated personnel and resources—across the United States Government and with allies and partners—to significantly diminish this proximate threat. All of this requires a coordinated whole-of-government effort to understand and manage these networks, as well as shared domain awareness across our government, allies, and partners. This national security imperative is integral to contesting peer competitors.

Defending the Homeland

USNORTHCOM's defense of the homeland provides the foundation for the full spectrum of the Department of Defense's worldwide missions and supports the missions of every other combatant command. The ability to deploy forces overseas, support allies, deliver humanitarian assistance, and provide presence and reassurance around the globe relies on our ability to safeguard our citizens, as well as national critical infrastructure, transportation nodes, and leadership. As competitors field highly advanced and agile long-range weapons systems and seek to act on growing territorial ambitions, we are adapting our thinking, evolving our own capabilities, and enhancing our operations and exercises to accurately reflect a changing world while remaining a relevant force.

The United States has long relied on our nuclear arsenal to serve as the strategic deterrent against an attack on our homeland. In today's threat environment, strategic deterrence remains foundational to our national defense. A safe, secure, and effective nuclear force remains the most credible combination of capabilities to deter strategic attack and execute our national strategy. The U.S. strategic deterrent has helped to maintain a careful balance between nuclear powers and remains the bedrock of our national defense, as the longstanding doctrine of deterrence by punishment makes clear to potential adversaries that a large-scale attack on the United States or our allies would result in an overwhelming and devastating response.

However, over the last decade, our competitors have adapted new techniques and fielded advanced weapons systems with the potential to threaten the homeland below the nuclear threshold. Simply stated, the missiles and delivery platforms now in the hands of our competitors present a significant challenge to our legacy warning and assessment systems and defensive capabilities. Advanced systems posing threats to the homeland have already been fielded in large numbers, and our defensive capabilities have not kept pace with the threat. The notion that the homeland is not a sanctuary has been true for some time, and that will

remain the case for the foreseeable future. Therefore, we must ensure effective nuclear and conventional deterrents are in place to defend the homeland and ensure our ability to project power where and when it is needed.

Highly advanced cruise missiles, hypersonic missiles, and stealthy delivery platforms provide our competitors with the ability to hold targets in the homeland at risk with conventional weapons. That fact has led us to emphasize improved all-domain awareness and the development of a layered sensing grid to provide warfighters and decision makers at the strategic, operational, and tactical levels with increased awareness and decision space.

The reality of a vulnerable homeland and the risks associated with rising global competition are driving our commands to collaborate with interagency and industry partners to find and deliver smarter, more affordable technology. To outpace our competitors, we cannot be satisfied with incremental steps; instead, we must continue to increase the pace and tempo of our technological advancements. This work is essential, and we are proud of our close collaboration with a host of interagency and industry partners and international allies as we work together to outthink our competition, outpace threats, and defend what we hold most dear. That global focus and cooperation is also reflected in our growing wargaming capacity, including major homeland defense exercises such as VIGILANT SHIELD and our participation in the Large Scale Global Exercise series.

The Path to Decision Superiority

I believe our future success in USNORTHCOM, our fellow U.S. combatant commands, and NORAD requires all-domain awareness, information dominance, and decision superiority. Our competitors have invested heavily in weapons systems that can be launched against distant targets with little to no warning, as well as stealthy delivery platforms specifically designed to evade detection by existing sensors. As a result, the successful execution of USNORTHCOM and NORAD missions in the digital age relies on significantly improving global all-domain awareness through the development of a fused ecosystem of networked sensors extending from space to the seafloor.

This network will pull data from an array of repurposed systems, legacy sensors enhanced through low-cost software modifications, and a limited number of new sensors to provide robust indications and warning and persistent tracking of the full spectrum of potential threats to the homeland from the seafloor to on orbit. Integrating and sharing data from this global sensor network into common platforms will allow leaders to observe potential adversaries' actions earlier in the decision cycle, providing more time and decision space at all levels.

That decision space is where the true value of improved domain awareness resides. Harnessing the capability of distributed multi-domain sensors, machine learning, and artificial intelligence will provide military leaders, the intelligence community, and senior civilian officials with the information necessary to anticipate, rather than react to, competitors' actions.

All-domain awareness is the first critical step on the path to decision superiority, and USNORTHCOM and NORAD require and have prioritized capabilities that improve our domain awareness and global integration with our fellow warfighters. Sensors and systems such as Over the Horizon Radars, polar satellite communications, Integrated Underwater Sensor Systems, and space-based missile warning and tracking sensors are essential to our missions. And while the benefits to continental defense are clear, these capabilities will also help every U.S. combatant commander around the world while enhancing USNORTHCOM and NORAD's collective ability to defend the United States and Canada.

In September 2020, just after I assumed command of USNORTHCOM and NORAD, the commands partnered with the United States Air Force and United States Space Command in the second onramp demonstration of the Air Force's Advanced Battle Management System (ABMS). This large-scale joint force demonstration established a network with embedded machine learning and artificial intelligence to rapidly detect, track, and positively identify a simulated cruise missile threat, while providing a common operating picture and all-domain awareness for commanders at multiple levels.

The ABMS onramp demonstration provided a brief but exciting glimpse into the future of USNORTHCOM and NORAD. By creating potential pathways for accessing and distributing data in ways that allow leaders to think, plan, and act globally rather than relying on outdated regional approaches, we are significantly amplifying the capability of the joint force. Through these and other efforts, USNORTHCOM and NORAD are actively working to deliver information dominance by fusing new technologies to increase decision space for commanders and senior civilian decision makers. Ultimately, our objective is to enable leaders and commanders all over the world to quickly assess any situation and take the steps necessary to stay well ahead of an adversary's next moves in order to deter and deny in competition, de-escalate in crisis, and defeat in conflict.

The prototype Pathfinder data analytics project provides another example of how USNORTHCOM and NORAD are working to leverage existing but stove-piped data streams to the benefit of both operational and strategic decision makers. In our ongoing prototype efforts, Pathfinder gathers data from multiple distinct military and civilian air domain sensors and, through automation and machine learning models, produces a fused common operating picture to improve

the reliability of the data and increase the decision space that will someday soon be available in real time to our assessors and watch-standers. This low-cost, rapidly developed system will have long-term benefits for our domain awareness and has already shown some of the advantages that information dominance will provide to warfighters around the world.

Information is power, but only if it is accessible, sharable, and actionable. Unlocking the enormous potential of the data currently being collected by a global layered sensor grid will allow us to gain a decisive advantage over competitors and potential adversaries. Currently, vast quantities of data are trapped by incompatible systems and antiquated organizational structures. Breaking down these stovepipes is achievable, but doing so will require innovation and coordination across various agencies, to include technology that allows for timely exploitation of the massive volume of data collected by our sensor networks. More importantly, it will also depend on breaking away from a culture that favors compartmenting and isolating information, in order to fully realize the full potential of our capabilities—including those that reside with our allies and partners. As the defense and intelligence communities connect systems and sensors, consideration of national electromagnetic spectrum management policies is needed to ensure that necessary connections and bandwidth are accessible.

As our competitors rapidly develop and deploy advanced capabilities with clear intent to overcome the U.S. technological advantage, the Department of Defense and the U.S. Government as a whole must also modernize our requirements and acquisition processes to stay ahead. Given the current pace of technological advancement, the limitations of the two-year budgeting process and protracted acquisition timeframe simply do not allow us to take full advantage of the forward-thinking solutions our industry partners can offer. To succeed in this era of Great Power Competition, it is essential to rapidly deliver capabilities to the warfighter by streamlining the processes for prototyping, testing, and moving promising technologies into production.

The success of USNORTHCOM and NORAD's Pathfinder program, along with much of the work done by DOD's Defense Innovation Unit, show what is possible when we provide innovators and technical experts the resources and flexibility to tackle even the most daunting challenges. The same approach should also be applied to software development and acquisition. Success in competition and in conflict will increasingly depend on the ability to field software-based capabilities faster than our adversaries. For that reason, I am encouraged by the new model championed by the Office of the Under Secretary of Defense for Acquisition and Sustainment that will enable the Department of Defense to acquire

software through modern development practices and deliver needed capability at the speed of relevance.

Armed with timely and accurate information, equipped with modern sensors and software, and backed by a flexible and responsive conventional deterrent that provides defeat mechanisms below the nuclear threshold, commanders will achieve decision superiority with the options and time necessary to allocate resources wherever needed to deny or deter aggression in competition, de-escalate potential crises, and defeat adversaries should conflict arise.

Ballistic Missile Defense

The need for a robust and modern ballistic missile defense system has been strongly reinforced over the past year. Despite U.S. efforts in 2020 to reach an agreement with Kim Jong Un, North Korea continued its development of ICBMs capable of striking targets in the United States. As North Korea continues its pursuit of advanced long-range strategic weapons—including the new systems displayed during their 10 October 2020 parade—USNORTHCOM remains committed to maximizing the capability and capacity of our ballistic missile defense systems.

USNORTHCOM is focused on developing and fielding advanced sensors capable of tracking potential missile threats and providing improved discrimination capability to our warfighters and assessors. Simultaneously, USNORTHCOM is collaborating with our partners in the Missile Defense Agency (MDA) to ensure that the Next Generation Interceptor (NGI) is fielded and operational as soon as possible. Of note, USNORTHCOM worked hand-in-hand with MDA to ensure all of our operational requirements are addressed in the NGI acquisition process. When fielded, NGI will add 20 interceptors to the current inventory, and will provide greater reliability and capability.

As competitor missile technology advances, USNORTHCOM is also working with MDA toward a layered missile defense capability that will allow for a more flexible and responsive defense of the homeland against both ballistic missile and cruise missile threats. The successful engagement of an ICBM-class target by an SM3-IA interceptor on 16 November 2020 was an historic achievement and a critical step toward establishing this layered capability. Defending the United States homeland against the ballistic missile threat remains a complex and technically challenging endeavor, and I am grateful to the Committee for your continued support as we take the steps necessary to ensure the success of this critical mission.

Cruise Missile Defense

NORAD is devoting significant attention and resources toward mitigating the current and emerging threat presented by advanced, long-range cruise missiles. These sophisticated weapons are difficult to detect and can be launched from significant distances against targets in the United States and Canada from launch sites on Russian soil and by long-range bombers, attack submarines, and surface vessels. Whether subsonic or hypersonic, these missiles can range targets in the homeland and present a very real challenge for our defensive capabilities. Russia has already amassed an inventory of both nuclear and conventional variants, while China is expected to develop similar capabilities in the next decade.

The proliferation of these systems creates all the more incentive for focused investments in improved sensor networks, domain awareness, and information dominance capabilities. Those investments, coupled with the development of layered denial, deterrence, and defeat mechanisms capable of addressing current and emerging threats, are fundamental to the defense of our homeland.

The Arctic

The Arctic provides an avenue of approach to North America as well as a representation of the changing physical and geostrategic environment that is actively shaping our future plans and requirements. The escalation of Russian activity and Chinese ambitions in the region demonstrates the strategic importance of the Arctic. Competition will only increase as sea ice diminishes and competition for resources expands. Now and into the future, meeting the full scope of our mission requirements will require USNORTHCOM, our Service and fellow combatant command partners, and NORAD to devote attention, resources, and capabilities to the Arctic.

Improving our domain awareness, communications systems, and our ability to conduct and sustain multi-domain operations in the high north are all important priorities for both USNORTHCOM and NORAD. We are fortunate to be able to draw on the experience and expertise of the Arctic warriors found in the Canadian element of NORAD, as well as the soldiers and airmen of Alaskan Command and the Alaska National Guard. Multi-command Arctic exercises like ARCTIC EDGE, ICEX, and NORTHERN EDGE provide valuable experience and lessons learned for conducting multi-domain operations in the high north, while the Joint Pacific Alaska Range Complex (JPARC) offers expansive and demanding training opportunities for the Total Force.

USNORTHCOM and NORAD are expanding our knowledge base and ensuring that warfighters and partners are developing the skills and experience

needed to overcome the significant challenges presented by the extreme climate and physical environment of the high north. We are also moving forward with our Canadian partners to fulfill mutual objectives to modernize NORAD by leveraging industry advances in infrastructure and expeditionary capabilities that will strengthen our ability to sustain operations in and through the Arctic.

Every successful military endeavor is dependent on reliable communications. USNORTHCOM and NORAD are working closely with United States Space Force, each of the other military Services, United States Space Command, and industry partners to establish space-based communications networks that will provide greater reach, more flexibility, and the ability to communicate with every element of the joint force operating in the high north.

I want to thank the Committee for your support for improving Arctic communications through a commercial constellation of proliferated low earth orbit communication satellites. This effort is well underway and will dramatically improve communications for military users in the Arctic, as well as for civilians in remote, high latitude communities. The capability will pay lasting dividends for all users and will enhance our defense of the homeland, as well as our ability to provide defense support of civil authorities.

Partnerships

Our successes as a nation have long been due in large part to close collaboration with partners and allies. With history as our guide, USNORTHCOM and NORAD are building and fostering the critical interagency, interdepartmental, and international relationships that are so vital to any strategic endeavor. Just as we are knocking down stovepipes that impede the flow of critical data between organizations, we are also striving to expand our collaboration and communication with our partners.

Canada remains our essential ally in the defense of North America. For over 62 years, the extraordinary and irreplaceable relationship between the United States and Canada has been demonstrated through the constant vigilance of the world's only bi-national command, NORAD. That bond remains as vital as when the command was first established in 1958. Meeting NORAD's crucial missions to provide aerospace warning, aerospace control, and maritime warning in the United States and Canada has required the command to adapt and evolve to address new challenges and emerging technologies that threaten our homelands. Canada remains a true and trusted partner in our common defense and continues to share the economic and manpower costs associated with sustaining and modernizing vital NORAD capabilities.

Over the past year, our competitors repeatedly tested NORAD, but we have stood firm in our resolve and capability to defend the U.S. and Canadian homelands. The year 2020 saw Russian military aircraft entering the Canadian and Alaskan Air Defense Identification Zones (ADIZ) on multiple occasions to measure our responses to increasingly complex operations. As Russia continues to modernize its bomber fleets and improve the proficiency of its long-range aviation units, NORAD must maintain the ability to detect and respond to all air domain competitors.

In addition to our aerospace control mission, NORAD provides warning of potential maritime threats to the United States and Canada. This critical mission requires uninterrupted contact with U.S. geographic combatant commands, the intelligence community, and NATO partners to detect and track maritime vessels of interest well before they cross into the NORAD area of operations.

The importance of this mission was illustrated in September 2020 when Russia conducted portions of its Exercise OCEAN SHIELD in the Bering Sea off the coast of Alaska. NORAD (and USNORTHCOM) monitored the exercise, noting that although the Russian vessels remained in international waters, they were in close proximity to U.S. civilian fishing boats operating in the United States Exclusive Economic Zone. That Russia would conduct a complex military exercise so close to our shore demonstrates the necessity for a robust and capable NORAD today and well into the future.

As further evidence of both the global nature of the threat and the implicit trust in our bi-national command, NORAD is developing the requirements for the defense of the United States and Canada against advanced cruise missiles. In this capacity, NORAD works closely with the U.S. military Services, the Canadian Joint Operations Command, and a host of other dedicated DOD and Canadian Defence Ministry partners to share costs and ensure a clear, common understanding of the threat and what will be required to mitigate the risk to our nations.

Mexico is a vital partner in our cooperative defense, and the USNORTHCOM relationship with our Mexican military partners remains robust. While the COVID pandemic has forced both countries to cancel a number of in-person engagements and planned training events, USNORTHCOM and our Mexican military counterparts have ensured we maintain routine, close contact through virtual engagements. From leaders at the tactical level, to the Mexican military liaison officers assigned to our headquarters, and up to the Secretaries of National Defense (SEDENA) and the Navy (SEMAR), USNORTHCOM is proud of the military-to-military cooperation and the personal relationships fostered over the years with our Mexican counterparts. Through well-established forums such as the Bilateral Military Cooperation Roundtable, USNORTHCOM and our

Mexican partners have remained in close contact throughout the pandemic, and we continue to make substantive progress toward mutual security goals. The Mexican military faces significant challenges from violent drug cartels and from the effects of the pandemic, but USNORTHCOM and our Service components will continue to stand by our partners and work to enhance our domain awareness in the common defense of North America.

The Bahamas is an important partner that has faced extraordinary challenges over the last 18 months. The Bahamas continues to address the severe economic impacts resulting from Hurricane Dorian in 2019 and markedly decreased tourism resulting from the coronavirus pandemic. Even so, we continue to work closely with our Royal Bahamas Defence Force (RBDF) partners to improve regional maritime security in the southeast approaches to the United States. USNORTHCOM directly supports RBDF efforts by enhancing their domain awareness with maritime surveillance system radars currently being deployed across The Bahamas island chain. USNORTHCOM is firmly committed to our lasting collaboration with the RBDF and will continue to support our neighbors and valued partners.

USNORTHCOM has also worked with our partners in Mexico and The Bahamas to address our shared challenges in responding to the impacts of COVID-19. Since April, USNORTHCOM has been actively supporting response efforts to COVID-19, using Overseas Humanitarian Disaster Assistance and Civic Aid funds approved by Congress. To date, we have conducted 63 projects in support of the Mexican and Bahamian COVID-19 response, totaling \$7.29 million. A portion of that amount consists of reprogrammed CARES Act funds which Congress approved for that purpose. USNORTHCOM and U.S. Embassy support to Mexico and The Bahamas solidifies our position as the partner of choice for these nations and is critical to countering nation states, especially China, which continues its attempts to make inroads in both countries through offers for COVID-19 medical support, large-scale economic investments, information campaigns, and material support for infrastructure projects. Our relationships with Mexico and The Bahamas enhance regional security and stability and directly strengthen our ability to defend the homeland through continued close cooperation with these key partner nations.

Defense Support of Civil Authorities

USNORTHCOM provided defense support of civil authorities at an unprecedented pace in 2020, and many of those support missions continue today. As the Commander of USNORTHCOM, I serve as the DOD synchronizer for the federal pandemic response led by the Federal Emergency Management Agency

(FEMA) and the Department of Health and Human Services. In that role, we remain tightly integrated with the interagency effort to assist health care providers and our fellow citizens around the country. As we have supported our federal interagency partners throughout this difficult national effort, members at every level of our command have demonstrated extraordinary commitment to meeting every mission requirement while diligently safeguarding the health of our own civilian and military workforce.

The 2020 hurricane season saw 11 hurricanes make landfall in the United States, impacting countless Americans, while catastrophic wildfires ravaged millions of acres and displaced entire communities in multiple western states. The Commander of USNORTHCOM was designated as the DOD synchronizer for the federal responses to each of those disasters, and the Command stood ready to support FEMA and the National Interagency Fire Center with Title 10 assets.

Conclusion

As USNORTHCOM and NORAD look to a future marked by rapid shifts in the geopolitical environment and technological advancement, we are guided by the lessons of the past. Key among those is that we cannot overcome challenges in isolation. By viewing changing conditions and competitor actions from a global perspective, our problems become more solvable and the solutions more affordable. USNORTHCOM and NORAD will continue to build our partnerships, collaborate with fellow warfighters, and work toward overcoming shared problems rather than continuing to focus on point solutions to isolated threats.

To that end, I look forward to working with the Committee and with all of our innovative industry and interagency partners as we move quickly to develop and field the systems required to defend our nations now and well into the future. Together, I believe we can eliminate outdated barriers that only serve to stifle information sharing, and simultaneously foster a mindset that favors creative, forward-looking approaches over unproductive reliance on legacy systems.

Finally, and perhaps most importantly, we will continue to prioritize our most vital asset: our people. With that in mind, I would like to take this opportunity to publicly recognize the select group of USNORTHCOM and NORAD personnel responsible for standing the operational watch 24 hours a day, every day. Their mission is crucial to our defense, and these military and civilian watch-standers have spent much of the last year under strict but necessary isolation protocols to mitigate the risk of a COVID outbreak. They and their families have endured long periods of separation during an already difficult time, and they have done so without any expectation of public recognition. I am honored to lead men and

women of such selflessness and professionalism, and our citizens should rest assured these extraordinary defenders have the watch. 🇺🇸

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The Arctic in an Age of Strategic Competition

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In 1850, Robert McClure and the crew of the HMS *Investigator* completed the first recorded transit of the Northwest Passage from the Pacific Ocean to the Atlantic Ocean via the Arctic Ocean. After arriving in the Arctic, the expedition spent three years locked in the ice before abandoning their ship and completing their trip by dragging their gear in sledges on a 14-day march over the ice. Subsequently, a different ship transported them home to England. During the expedition, five men died, and the survivors suffered from starvation and scurvy. After being gone four years, McClure finally returned to England and was knighted, promoted in rank, and given a monetary award by the British Parliament.¹ In August 2016, the tourist ship *Crystal Serenity* sailed from Vancouver, Canada, through the Northwest Passage to New York, taking 32 days. They also stopped along the way for golf, shopping, and hiking. When cruising resumes after COVID-19, anyone can make the trip, provided they can pay the 22,000 USD ticket price.²

The changing climate and advancing technology have created a new environment and resultant impetus for increased activity in the Arctic. The Arctic is warming two times faster than the rest of the world.³ Temperatures in Utqiagvik, the northernmost village in Alaska, have broken records, as the fastest-warming location on the continent.⁴ This warming has led to a historical loss of sea ice, with the October 2020 measurement being the lowest recorded. In 2002, the northern ice pack was measured at 5.83 million km² while the 2020 extent was 3.74 million km² for a loss of 35.8 percent in just 18 years.⁵ Ice thickness has also decreased from an average of 3.64 m in 1980 to as low as 1.89 m in 2008.⁶

Due to these changes, the Arctic is rapidly becoming a new frontier of strategic importance. Once a remote region, sparsely inhabited and impenetrable, the Arctic is quickly becoming an enticing opportunity for faster merchant shipping, expanded exploration for natural resources, increased human habitation and tourism, and military deployments to secure northern borders. Beyond the nations bordering the Arctic, others such as the People's Republic of China (PRC) have increased their physical presence in the Arctic Ocean while investing heavily in

the region. A new period of competition has commenced at the top of the world that will influence the security of the entire planet.

Speaking at the Arctic Council Ministerial meeting in Rovaniemi, Finland, in May of 2019, US Secretary of State Mike Pompeo indicated that melting Arctic sea ice is set to unlock new “opportunities for trade” and create a “forefront of opportunity and abundance.”⁷ The Northern Sea Route (NSR), which runs along the north coast of Russia and within its exclusive economic zone (EEZ), is rapidly becoming ice-free for longer times during the year. Although unrecognized by the United States, Russia claims the NSR is within territorial waters and has subsequently imposed fees and various requirements for ships transiting the passage. In 2017, the first ship was able to transit the NSR without an icebreaker,⁸ and in May 2020, the earliest transit within the calendar year was achieved.⁹ By 2040, if current ice loss rates continue, it could be ice-free year-round.¹⁰ Already showing signs of increased traffic, 331 ships used the NSR in 2020, versus 277 in all 2019.¹¹ Ships transiting from Japan to Europe via the NSR shave 11,000 km off their trip.¹² Ships transiting from China to Northern Europe save hundreds of thousands of dollars in fuel costs. Annually, an Arctic shipping route from China to Europe would save the PRC 60–120 billion USD per year. The Chinese refer to this as the “Polar Silk Road” and consider it a key element to their success as a world power.¹³

The Northwest Passage is an alternative route that runs along the northern coast of North America from the Bering Strait to Europe. Like the NSR, the Northwest Passage is becoming economically viable as its sea ice melts. In 2014, the first cargo ship to travel unescorted by icebreakers delivered nickel from Quebec to China. It made the trip in 26 days, beating the timing of the normal route through the Panama Canal by more than two weeks. In all, 27 ships made the full transit through the passage in 2019.¹⁴ With numerous islands but far fewer ports and rescue assets, this route typically has more ice than experienced along the NSR. To make Arctic shipping in North America safer, Senator Lisa Murkowski (R-AK) proposed a new initiative, named The Shipping and Environmental Arctic Leadership Act (SEAL Act). In exchange for a fee, the United States and private fleets would provide icebreaker assistance, harbors of refuge, ice forecasting, oil spill response, and a rescue tug if needed. Funds earned would be used to support construction of deep-water ports in Alaska to support shipping.¹⁵

Retreating sea ice has opened additional on-land and at-sea locations for resource extraction. The US Geological Survey assessed that above the Arctic Circle rests about 13 percent of the world’s undiscovered oil and 30 percent of the world’s undiscovered gas, mostly in depths less than 500 m of water.¹⁶ This equates to 90 billion barrels of oil, 17 trillion ft³ of natural gas, and 44 billion barrels of natural

gas liquids.¹⁷ Numerous nations plan to mine rare earth metals, copper, phosphorus, and platinum in this vast expanse. Greenland's southern regions hold approximately 25 percent of the world's rare earth metals, critical to the manufacture of modern electronic components.¹⁸ Additionally, Russia constructed a liquid natural gas (LNG) extraction plant on the Yamal Peninsula, where gas reserves estimated to be worth billions of dollars await.¹⁹ In Alaska, the Qilak LNG North Slope Project plans to directly export natural gas to Asia.²⁰ Norway, whose oil industry comprises 18 percent of its gross domestic product (GDP) and is Europe's biggest oil producer, cleared the way for expanded oil exploitation in the Arctic Barents Sea.²¹ While the United States may choose to forego resource extraction due to environmental concerns, the list of projects and investors continues to grow as access to the Arctic increases. Complicating this issue are competing—and potentially contentious—claims by several Arctic nations on declared extended continental shelves. If recognized, the claimants would have exclusive rights to resources on or below the seabed beyond the normal EEZ.

Protein in the form of fish is becoming a high-demand item worldwide. Fishing stocks have declined in areas that are commercially fished, and many nations are scrambling for new locations. As the Arctic warms and ice declines, it exposes new fishing areas to exploit. In addition, some species of fish are migrating north due to rising ocean temperatures.²² In 2017, nine nations and the European Union signed a treaty to ban commercial fishing in 2.8 million km² of the Arctic for 16 years. This area is about the size of the Mediterranean Ocean and encompasses all the area north of the Arctic nations' northern EEZs. The goal is to study the impacts of climate change, research the unique marine ecological system, and establish sensible quotas and rules before fishing resumes. The agreement automatically renews every five years, unless superseded by a set of established rules, or if a single nation objects.²³

Tourism is another commercial venture gaining traction in the Arctic. As ocean routes open to traffic, the cruise industry is exploring new experiences for paying passengers. Beyond concerns over its impact on the environment and an influx of visitors into small, remote communities, the prospect of rescuing a cruise ship in the Arctic is challenging. As mentioned earlier, the Northwest Passage winds through a very remote region of Upper Canada where rescue forces are either scarce or nonexistent.²⁴ In March 2019, the MV *Viking Sky* lost power while cruising between cities in Norway. High seas prevented the use of lifeboats, and six helicopters began an evacuation. In the end, after 19 hours, only 479 of the over 1,300 people on board were evacuated when the engines were restarted. The ship was only 1.5 miles offshore in the Norwegian Sea throughout the evacua-

tion.²⁵ This same scenario hundreds of miles from the nearest rescue forces is much more sobering.

Great-Power Competition in the Arctic

To take advantage of these opportunities, many nations—particularly Russia and China—have initiated a multifaceted national-level campaign to capture resources while securing their territory and interests. Around 20 percent of Russia's GDP originates in the Arctic,²⁶ and the NSR transits the country's northern border—which is a full 50 percent of the total coastline above the Arctic Circle. China, despite not having any territory in the Arctic, is securing trade routes and resources through a campaign of increased presence, both physically and politically, and investment in the Arctic nations. Beijing's and Moscow's efforts are bearing fruit and are paying off economically, militarily, and politically.

Russia, by nature of having one-fifth of its territory located inside the Arctic Circle, has always considered the region of vital national importance. Its most recent Arctic Strategy, "Strategy of Development of the Arctic Zone of the Russian Federation and the Provision of National Security for the Period to 2035," outlined Russia's national interests in the Arctic and what Moscow considers to be threats to Russia's national security.²⁷ When the Soviet Union dissolved, the military bases and other infrastructure in Russia's northern regions were allowed to decay. After decades of quiet, and as tensions between Russia and other nations increased, a new program of rebuilding and reoccupying these bases is under way. Russia has extensively fortified and militarily occupied its once remote, sparsely populated, and thinly guarded northern border. The military buildup seeks to provide defense of the Russian homeland, control of the NSR, and access to the Arctic Ocean.²⁸ Near the Bering Strait, Russia has improved airfields and built radar stations, allowing its forces to monitor the flow of traffic into the region from the Pacific. Along the NSR, a series of coastal defensive systems have been erected to secure territory and defend Russia's Northern Fleet. In 2017, Russia published its naval doctrine, which highlights Moscow's desire to "dominate the high seas, including in the Arctic."²⁹ The Northern Fleet, which includes surface and subsurface vessels, is tasked with ensuring access to not only the Arctic Ocean but also the North Atlantic and the Greenland–Iceland–UK Gap. Russia's fleet of conventional and nuclear missile submarines can access the Atlantic and Pacific Oceans via the Arctic. Supporting Russia's Northern Fleet is the world's largest armada of icebreakers, 46 in service with 11 more planned. Additionally, several of these icebreakers have the capability to carry cruise missiles and electronic warfare systems.³⁰

Without territory that lies within the Arctic, China is focused primarily on access to resources and physical presence for military and merchant vessels. The PRC's Arctic policy, released in January 2018, asserted that as a "Near Arctic State" China will "participate in the exploration for and exploitation of oil, gas, mineral, and other non-living resources."³¹ It is estimated that between 2012 and 2017 the Chinese invested over 1.4 trillion USD in the Arctic nations, primarily in the energy and mineral sectors. In Greenland, Chinese investments accounted for 11.6 percent of GDP, and in Iceland it reached 5.7 percent.³² China expressed a desire to open a research station and satellite facilities in Greenland to match those already in operation in Sweden and Finland. The PRC even attempted to buy a former US Navy base in Greenland that would have provided China a port for civilian and military ships.³³ China has also invested in the Russian Yamal Peninsula LNG production, and in 2019, President Xi Jinping visited Russia for the launch of a joint venture to build ice-capable LNG tanker ships.³⁴

Chinese investments in Arctic infrastructure will enable physical access for its commercial and military vessels. China has offered to rebuild airfields in Greenland, oil rigs in Norway, railroads in Russia, and rolling stock in Canada. As noted in the US Coast Guard's *Arctic Strategic Outlook*, the PRC's persistent challenges to "the rules-based international order around the globe cause concern of similar infringement to the continued peaceful stability of the Arctic region."³⁵ China's malign behavior in the Indo-Pacific region provides insight and is a harbinger of what is to come, as China's economic, military, and scientific presence grows in the Arctic. One can easily surmise that China will attempt to use its future footholds in the Arctic to further undermine the international rules-based order.

In response to the increasing strategic significance of the Arctic, the US Department of Defense, US Navy, US Coast Guard, and US Air Force have each produced an Arctic strategy or outlook. The US Army expects to unveil its own strategy in 2021. These strategies aim to drive America's actions to maintain a peaceful, rules-based Arctic. These strategies are characterized by respect for national sovereignty and constructive engagement among the Arctic nations, while maintaining America's own freedom of navigation and ensuring the defense of the homeland. Each strategy calls for an increased and sustained presence, greater cooperation with Arctic allies, additional joint-force training and exercises in the Arctic, and corresponding investment in capacity and capabilities that yield an advantage in the unique environment. Implementing these strategies will be difficult, as the US defense budget is expected to remain relatively flat through 2025—with only a mild 10-percent increase in the following 10 years.³⁶ Further complications include budgetary pressures for substantial investments needed for

nuclear modernization and the shift to high-end capabilities to dominate near-peer adversaries.

Eleventh Air Force is leading the efforts to execute the USAF Arctic strategy, using decades of experience in the Far North. Activated as the Alaskan Air Force in January of 1942 to defend the Territory of Alaska during World War II, the unit was redesignated the Alaskan Air Command in 1945 and tasked with managing the air defense of North America. Throughout the Cold War, Alaska-based fighter aircraft sat alert, acting as “Top Cover for America” and ready to react to Soviet bombers around the clock. Today, in support of the North American Aerospace Defense Command, fighters, air-refueling tankers, airborne early warning and control systems (AWACS), and ground-based radar systems integrated with our Canadian allies continue to guard the North American Arctic.³⁷

Eleventh Air Force has seen firsthand the increased activity in the Arctic. Intercepts of Russian aircraft entering the North American Air Defense Identification Zone (ADIZ) set records in 2020. Not only are ADIZ penetrations more common but the geographic range has also increased and the types of aircraft and their associated missions have changed. Tu-142 maritime patrol aircraft have overflown the Aleutian Islands, Il-38 antisubmarine aircraft flew within 50 miles of US territory, and Su-35 fighters have escorted Tu-95 Bear bombers while being provided situational awareness from an A-50 AWACS. In June 2020, two such formations came within 32 miles of the Alaska coastline.³⁸

Eielson AFB (EAFB), in the Alaskan interior, has begun receiving two squadrons of F-35s. Initial testing of all F-35 variants at EAFB proved their ability to operate in the extreme cold weather found there. Winter temperatures routinely reach -40°F and have required EAFB Airmen to develop techniques and procedures to operate and maintain the USAF’s newest fighter in this most extreme environment.³⁹ Combined with the two F-22 squadrons on Joint Base Elmendorf-Richardson in Anchorage, the State of Alaska will host the largest force of fifth-generation aircraft in the world.

Education is critical to success in the Arctic and in the 2021 National Defense Authorization Act, the US Congress directed the establishment of the Ted Stevens Center for Arctic Security Studies, a new Department of Defense Regional Center. The USAF is inserting Arctic-focused studies into all levels of professional military education and is seeking partnerships with Arctic-focused civilian universities to build educational programs for future leaders. There will be more exercises in the Arctic and more participants will be attending. The exercise schedule will also change from avoiding the winter to actively seeking it out. Finally, increased participation in international organizations, Arctic think tanks, international exercises, and robust partnerships with Arctic indigenous communities will

allow the Joint Force to expand its Arctic expertise using tactics, techniques, and procedures developed by other Arctic experts.

Increased US presence in the Arctic will place pressure on already strained capacity. This augmented presence cannot be achieved by only air assets, occasional naval patrols, or sporadic land training; rather, sustained engagement requires air, sea, and land forces to be assigned and operated in the Arctic. Additionally, space-based assets must be established in proper polar orbits to be effective at high elevations and need to have their limited operating time devoted to Arctic taskings.⁴⁰ The lack of infrastructure in Alaska, which includes roads, ports, and railroads, combined with great distances, requires investment in training and operational infrastructure to support joint forces. The environment, despite warming, will drive research and development in Arctic-capable technologies, building materials, clothing, and other resources that are more expensive than their fair-weather equivalents. Any increased focus on the Arctic drives resource and manning bills that reduce availability and effectiveness in other regions.

Future of the Arctic

The future of the Arctic as a peaceful region open to shipping, responsible resource extraction, and security for its nations is not assured. Its delicate natural environment and climate are affected by activities originating thousands of miles away and creates additional problems that cannot be solved solely within the Arctic. While some nations seek cooperation and mutual benefits, others desire to shape the region in a manner that benefits only their own singular national priorities. The East and South China Seas rapidly developed into hotspots and potential crisis locations based on China's disregard for international laws and norms. The Arctic is now poised to become an area where China and others attempt to exert their economic power and influence. The desire for commerce, natural resources, and fishing will drive increased investments, greater spending on foreign infrastructure, more requests for scientific access, and additional expeditions to the Arctic to exert self-proclaimed rights in the region.

The effort to shape the Arctic's future has grown beyond a NATO, US European Command (EUCOM), US Indo-Pacific Command (INDOPACOM), or US Northern Command problem. The Arctic transects all these geographic commands and requires a combined effort. US joint forces must be shared among the European, Pacific, and North American Arctic regions to balance demands. A new approach can create a balance of presence in the Arctic, while increased INDOPACOM and EUCOM activities in the Far North can increase America's national presence in the region. Efforts within the services to create global multi-

domain command and control will optimize the deployment and execution of all joint forces, which subsequently creates efficiencies and reduces resource drain.

The new Arctic has already changed the dynamics of international commerce, the search for raw materials, access to the Far North, and military presence. History has shown that when America is slow to react to global challenges, the nation may find itself in a game of catch-up with the nations that acted quickly. However, the realities of US global commitments make it impossible to focus on the Arctic without accounting for the other regions of global competition. Only by thoughtfully executing, evaluating, and improving the nation's Arctic security strategies will the nation be able to achieve the allocation and sharing of critical resources that secure US national Arctic interests to better guarantee the Arctic's future as a secure and stable region. ❄️

Lt Gen David Krumm, USAF

General Krumm is the Commander, Alaskan Command, United States Northern Command; Commander, Eleventh Air Force, Pacific Air Forces; and Commander, North American Aerospace Defense Command Region, North American Aerospace Defense Command, Joint Base Elmendorf-Richardson, Alaska. He is the senior military officer in Alaska, responsible for the integration of all military activities in the Alaskan joint operations area, synchronizing the activities of more than 21,000 active-duty and reserve forces from all services. As Commander of the Alaskan Region of the North American Aerospace Defense Command, General Krumm directs operations to ensure effective surveillance, monitoring, and defense of the region's airspace. He is also responsible for the planning and execution of all homeland defense operations within the area of responsibility, including security and civil support actions. General Krumm also commands Eleventh Air Force, overseeing the training and readiness of five wings and Air Force installations located in Alaska, Hawaii, and Guam.

General Krumm entered the Air Force as a distinguished graduate of the Air Force ROTC program at Auburn University. He has served in a variety of flying, staff, and command assignments and has commanded at the flight, squadron, and wing levels.

General Krumm is a command pilot with more than 3,000 hours in the T-37, T-38, F-15C and F-22. During his career, he flew combat missions in support of Operation Southern Watch.

Col Matthew Nicholson, USAF

Colonel Nicholson serves as the Deputy Commander, Eleventh Air Force, JBER, AK. He serves as chief advisor to the Commander in executing the air component mission in Alaska, Hawaii, and Guam.

Colonel Nicholson graduated from the United States Air Force Academy in 1996. He has held a variety of operational, flying, and staff assignments, including Squadron Command, Eleventh Air Force Director of Operations and Plans, F-15C Instructor Pilot, Air Liaison Officer, HQ Air Force Staff Officer, Pacific Command Staff Officer, US Forces-Iraq Staff officer, and Wing Director of Staff.

Col Nicholson is a Command Pilot with more than 2,100 hours in the F-15C/D, B-52H, AT-38, T-38, and T-37. He has been qualified as a combat ready pilot since 2000, deploying in support of Operations Southern Watch, Iraqi Freedom, and Noble Eagle.

Note

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The Polar Trap

China, Russia, and American Power in the Arctic and Antarctica

DR RYAN BURKE

LT COL JAHARA “FRANKY” MATISEK, PHD

Before the war little or no consideration was given to the strategic potentialities of the Polar Regions, either north or south. As a result, our pre-war strategic thinking and our military and naval training was largely confined to the tropic and temperate zones.

—Rear Admiral R. H. Cruzen, US Navy (1948)

Admiral Cruzen’s ominous statement may sound like it comes from a science fiction novel, but he said this to an audience at the US Naval War College in 1948.¹ More than seven decades later, the United States still does not devote enough strategic thought to the Arctic or Antarctic. While US leaders have had spurts of polar interest throughout the years, with occasional demonstrations of presence and power projection, polar apathy has been the norm. This indifference has resulted in a bipolar problem of China and Russia circumventing American power in the Arctic and Antarctica. But does it even matter?

The polar regions are changing, with projections of ice-free summers in the Arctic and Antarctic by 2035 and 2060 respectively, meaning their strategic value propositions are increasing.² Neighboring polar powers are orienting their policies, postures, and military capabilities toward each region because the current international order looks increasingly orderless. Absent military confrontation, the United States will not contain the ambitions of China and Russia in the remote regions of the Arctic or Antarctica. Without an adequate US response (and coherent polar strategy), China and Russia will continue making gains in the polar regions, leading neighboring polar states to rebalance their military postures and alliances to keep pace in the evolving polar strategic competition.

As of 2021, the possibility of polar warfare with China and Russia remains low. However, the problem of tomorrow should be the debate of today, and tomorrow’s problem increasingly looks like competition and potential conflict over the polar regions rather than the false premise of preparing for a traditional war in Eastern Europe or the South China Sea. Thus, there needs to be an “American polar pivot” in policy and strategy (and military capability) to counter and/or deter malign actions by China and Russia in the Arctic and Antarctica.³

Compared with Russian Arctic military posture and Chinese Antarctic orientation, America is militarily behind. With recent Russian military and Chinese economic expansion, the Arctic is now en vogue for international security scholars and practitioners.⁴ In 2019 President Donald Trump, following in Harry Truman's footsteps, quipped of his interest in purchasing Greenland. While the media mocked the president's comments, they dismissed historic precedent and strategic implications: Greenland has tremendous geopolitical and strategic value in shaping future polar dynamics in the twenty-first century and beyond.⁵ The Department of Defense claims the "immediate prospect of conflict in the Arctic is low," but omits substantive discussion about Antarctica in its defense and security posture. The Polar regions are among the least understood strategic regions in the world, and the evidence supports that assertion.

The US Indo-Pacific Command (USINDOPACOM) is the geographic combatant command responsible for Antarctica. Despite this, its commander did not mention Antarctica once in his 41-page March 2021 testimony to the House Armed Services Committee.⁶ ADM Philip Davidson did, however, speak in detail about Russian activity in the Arctic as among one of the command's concerns, even though the USINDOPACOM area of responsibility (AOR) does *not* extend into the Arctic Circle. The command's northern boundary extends into the Bering Sea, thereby technically reaching the Arctic Region according to the US legal definition of the Arctic but hardly establishing itself as an Arctic-relevant command.⁷ The 11th Air Force operates in the Arctic but does so under the operational command of NORAD/NORTHCOM. The inconsistencies continue on the command's website. As of this writing, the site's "About" section proclaims that the USINDOPACOM AOR stretches "from Antarctica to the North Pole."⁸ This is a patently false statement and is indicative of a broader issue: the US defense establishment needs a geostrategic polar education. The intrigue of polar conflict is generating discussion marked by passionate arguments either sounding the alarm or quieting the herd.⁹

This article contends that US policy makers should understand the growing problem of suspicious Chinese and Russian actions in the polar regions. The dangers of an uncontested China and Russia may lead to a strategic imbalance in evolving regions of geostrategic and geopolitical relevance. Thus, there should be focused policy solutions and military capabilities dedicated toward ensuring that China and Russia do not further challenge the status quo at the North Pole and South Pole.

The Polar Picture

Antarctica receives scant attention relative to the Arctic in contemporary security affairs. The cold Arctic is a hot topic. Arguments concerning potential Arctic conflict have adopted two competing positions. The first group presents an *Arctic alarmist* narrative of geopolitical and geostrategic interest warranting attention from the US defense establishment to thwart the potential for Arctic conflict.¹⁰ The second group presents an *Arctic apologist* narrative, dismissing claims of strategic competition in the high north and apologizing to the international community for the dangerous rhetoric. Apologists promote Arctic apathy, believing that Arctic militarization is sensationalist rhetoric absent any legitimate concern and that the United States should abstain from engaging in Arctic militarization to avoid conflict. Similar dynamics present when confronting the strategic competition descending on Antarctica.

Given the divergence between the two intellectual camps and the influence each has on future polar affairs, it is prudent to consider their foundations and evolution. As we will see, each camp misses a critical commonality in their predictive end states: Regardless of whether the United States aggresses to or abstains from polar militarization, competition is happening such that confrontation is inevitable; and with confrontation comes conflict.

A Thawing Polar Debate?

In terms of potential polar conflict stemming from strategic competition, the Arctic takes center stage in academic and policy debates. The arc of Arctic security literature swings from the bellicose Arctic alarmist viewpoint to the nonbelligerent Arctic apologist perspective, with the latter viewed as the dominant (and preferred) position. Arctic apologists suggest that the United States should not increase Arctic militarization and that any advocacy otherwise is fearmongering and provocation or “poking the Russian bear.”¹¹

Arctic Apologists: Avoiding Confrontation

The Arctic apologist camp points to various reasons why the United States should refrain from power projection in the Arctic—such as limited American icebreaker capabilities relative to China and Russia, overstated geopolitical significance of the Arctic, and unneeded Arctic economic resources—that all collectively amount to nonintervention. Arctic apologists claim Arctic defense and security concerns unfounded melodrama and further accuse Arctic alarmists’ claims for Arctic militarization as creating the caricature of a truly cold war with China and Russia over polar bears and seals.

As US defense officials are gradually raising the Arctic profile, there is a disquieting narrative to US Arctic policy promoting a restrained approach. This camp contends that “there is no scramble for the Arctic” and that the United States must resist temptation to expand its Arctic military footprint—because doing so will give Russia an excuse to escalate militarily.¹² This narrative paints the Arctic as a traditional “zone of peace,” such that anything challenging that notion injects irrational fear.¹³ This narrative holds that Russian Arctic military expansion is innocuous and defensive, unworthy of international attention, and hardly enough to compel US military posturing in response. It views Russian Arctic militarization as a means for protection and economic survival in the face of perceived rival great-power expansionism in their own backyard. However, apologists ignore the growing Russian military activity in the Arctic, resting their assumptions on the supposedly normative notion of exceptional peace inherent in the polar region, assuming it too taboo for conflict. Ironically, these apologists anchor their position of a peaceful Arctic to the debunked notion of Arctic exceptionalism.

In 2015, researchers at the Finnish Institute of International Affairs examined the notion of Arctic exceptionalism: a “political vision . . . [with the Arctic] as a ‘zone of peace’ and a ‘territory of dialogue’ unlike any other region.”¹⁴ Though the Finnish scholars concluded Arctic exceptionalism as misguided, the idea of the Arctic as a remote and peaceful domain devoid of conflict has become a dominating narrative—in part because it is true. Whereas some scholarly articles advanced this peaceful position in recent years, the Arctic apologist normative narrative has gained the most popularity in the twenty-first century.¹⁵

Arctic apologists have taken their positions and filled the pages of online commentary, scholarly discourse, and even Twitter feeds with them. Public platforms are ripe with articles warning against the perils of Arctic militarization. Since 2015 alone, there are dozens of pieces advancing this position. For instance, Pincus and Berbrick contend the Arctic is not a top US geopolitical priority, encouraging nonmilitarized strategic engagement.¹⁶ Similarly, Robert Murray claimed there was “little to gain” for Russia if it were to engage in military conflict with North Atlantic Treaty Organization allies in the Arctic.¹⁷ He argues that Russian activities are a defensive effort to secure vital Arctic economic interests and that ideas of confronting Russia only provoke tension. Stephanie Pezard echoes similar sentiments about the United States treading lightly in the Arctic to avoid unnecessary militarization and competition.¹⁸ Pezard presents an apologist framework for avoiding Arctic competition and conflict, with a warning that “tit-for-tat dynamics [in the Arctic between the United States and Russia] could lead to escalation.”¹⁹

More recently, Rachael Gosnell contends that the Arctic Council has sufficiently neutralized Arctic tensions for years as a stabilizing institutional body, although Russia's 2018 exclusion from the Arctic Security Forces Roundtable has raised the specter of hostility.²⁰ Dave Auerswald suggests the United States should "play the long game," contending that freedom of navigation operations in the Arctic with insufficient capabilities are a waste of time.²¹ He contends that there would be a bigger payoff to creating a global public narrative that condemns Russia's Arctic actions rather than confronting the Russian threat militarily. To this end, others such as Robert English warn of the costs of getting involved in an "Arctic arms race," arguing that doing so would be motivated by "threat inflation" and would likely end similarly to one of America's past "foreign policy blunders."²² This is not a comprehensive illustration of the commentary denouncing Arctic militarization; rather, it is a mere sampling of the evolving position arguing for a passive approach to Arctic security that is—ironically—almost entirely reliant on increasingly fragile international institutions, norms, and traditions to maintain Arctic stability. There is even an evolving phenomenon in which Arctic apologists mock Arctic alarmists through dismissive and satirical writing, a scholarly positional harrying that seeks to discredit references to the Arctic as a potential geostrategic zone of competition and conflict.²³

Dozens of articles circulate with similar apologist positions advancing Arctic pacifism. Despite the Department of Defense's 2019 *Arctic Strategy* (as well as the Air Force, Army, and Navy strategies of the same tone) calling for increased Arctic awareness, enhanced Arctic operations, and rules-based order in the Arctic, the apologist narrative has been mainstreamed as a default US Arctic policy position.²⁴ Whereas online commentary is littered with utopian arguments assuming geopolitical centrism and calling for a restrained approach to Arctic security reliant on institutional liberalism and diplomacy, there is comparably little peer-reviewed academic scholarship that does the same. The dominant position in online commentary views the Arctic as an insignificant, unwinnable, and low-threat region, but others in both online and scholarly mediums argue the opposite and expect the Arctic—and its polar counterpart Antarctica—to be among the most important geopolitical and geostrategic hot spots that shape competition among the great powers in the twenty-first century and beyond.

Arctic Alarmists: Leverage Through Strength

Those arguing for greater American involvement in the Arctic note expanding Russian military infrastructure and Chinese economic interests for trade routes as ways the power balance can shift out of US favor absent corresponding orientation and posturing. According to this camp, Moscow's and Beijing's efforts indi-

cate deliberate attempts to outmaneuver the United States in the Arctic. Russia, under Vladimir Putin, counters America by engaging in political information warfare against the West. Moreover, US officials believe Russia is violating international treaties by virtue of testing low-yield nuclear weapons at an Arctic site in the Novaya Zemlya Islands.²⁵ China, under Xi Jinping, is also undermining America and the West. Chinese nuclear icebreakers will likely support the clearing of maritime channels for an evolving Chinese commercial industry and trade routes. However, since the economy is under the Chinese Communist Party, China will likely use its icebreakers in support of shrouded military objectives. Thus, future Chinese icebreaking and so-called commercial traffic might be a guise for positioning military assets in the Arctic, similar to the Chinese use of commercial fishing vessels in the South China Sea to veil military activity. With these and other activities in mind, Arctic alarmists point to many significant geopolitical and geostrategic indicators in their lobbying for Arctic importance.

Arctic security discourse tends toward climate discussions—identifying the Arctic as the pinnacle domain effected by anthropogenic changes to the earth's atmosphere. Since 2011, there have been four Arctic-focused edited volumes examining northern geopolitics, security, and climate change.²⁶ Though each book rebukes notions of Arctic tensions, the prevailing position contends that the Arctic is a complex domain of great-power rivalry and competition spurred by environmental changes and increased access. Each text is layered with content discussing the precarious position of international laws, institutions, and norms as they seek to collectively bind Arctic actors to a codified list of acceptable activities within a unique global commons returning to relevancy thanks to the twenty-first century surge for resources. Whereas some observers outline the evolving nature of Arctic militarization as reality—despite the Arctic's long-enjoyed designation as an international zone of peace—they acknowledge Russia's and China's advances but stop short of advocating similar advances for the United States.²⁷ While many scholars acknowledge the realities of renewed Arctic tensions, few extend their arguments to suggest deliberate Arctic militarization.

Despite this prevailing hesitancy, scholars grapple with observable realities leading to the conclusion that the Arctic is no longer exceptional or a zone of peace. But just as they contend with Arctic security issues in myriad ways, they also—with some exceptions—hold a predominantly optimistic outlook and advocate change and improvement to stave off future Arctic tensions and resulting conflict. Owing to their optimism, these scholars are better labeled Arctic “advocates” than they are “alarmists,” as they seek improvement by advancing the dialogue in constructive ways without blindly clinging to dated notions of Arctic stability.

Those who contribute to the discourse still see great-power economic interests and initiatives as conflict avoidance mechanisms but acknowledge that these interests can just as easily become points of future contention if mismanaged.²⁸ They acknowledge the trillions of dollars of untapped natural resources—ripe for exploitation by capable actors—as a major motivator for further Arctic undertakings.²⁹ But where the Arctic advocates stop and separate from Arctic alarmists is in their understanding of great-power activities and the underlying intent driving them.

The Arctic alarmists perceive Russian Arctic expansionist indicators as displaying similar intent to the 2014 annexation of Crimea while likewise extending China's actions in the South China Sea as a predictive analog for *their* Arctic intent. Some scholars dispute the “South China Sea as a precursor to the Arctic” argument and further question the existence of a Russo-Sino alliance.³⁰ Noting Russia–China tensions, Arctic alarmists insist that Russia and China exhibit *bandwagoning* behaviors and seek to supplant the United States as the global hegemon, perceiving the Arctic as an opportunistic avenue to do so. For Arctic alarmists, establishing a military foothold now, consistent with the US Air Force's 2020 *Arctic Strategy*, calls for an expanded infrastructure base in addition to power projection, vigilance, deterrence through cooperation, and cold-weather preparation.³¹ Arctic alarmists remind us that Russia operates nuclear-powered submarines in the Arctic, has dozens of military facilities in its Arctic territory, maintains a dedicated Arctic military command, and flies bomber sorties throughout the Arctic regularly. Russia is already years ahead of the United States in the Arctic.

To alarmists, Russian military efforts are a precursor to controlling the high north, challenging American command of the commons, asserting influence, and even holding the US homeland at risk. Already, Russian military capabilities threaten the American homeland due to their unstoppable hypersonic ballistic missiles based in the Arctic.³² In the words of former US Northern Command Commander General Terrance O'Shaughnessy: “The Homeland is not a sanctuary” the way it once was.³³

Scholars will continue to debate whether the Arctic matters for the United States such that it should compel military involvement. There will continue to be disputes over Chinese and Russian Arctic ambition relative to American interests. These discussions will grapple with whether Russia aggressively seeks offensive expansion or merely defensive security for its northern territories. Others will contend with whether China—as a self-proclaimed “near-Arctic state”—actually desires Arctic influence via its Polar Silk Road (part of China's major economic Belt and Road [BRI] initiative) or merely seeks to advance its own economic position via access to Arctic resources and alternative shipping lanes connecting

Asia and Europe.³⁴ We will continue reading about Russian icebreakers outnumbering American icebreaker capabilities 20-to-1, or even 40-to-1—the so-called icebreaker gap—and what the United States should (or should not) do about such a capability imbalance.³⁵ Moreover, Arctic alarmists will point to the continued Russian military buildup of Arctic infrastructure, the questionably legal control Russia claims over the Northern Sea Route, and the 2014 establishment of the Northern Fleet and its Arctic focus—coupled with Moscow’s planning and execution of thousands of Arctic exercises and infrastructure modernization efforts—as points of attention for the evolving Arctic significance.³⁶

For this side, Moscow’s economic and military commitment to the Arctic indicates significant interest and intent such that the United States must not dismiss it as irrelevant to future international security, especially considering the United States is an Arctic state with a national coastline on Arctic shores. We must reject the false notion of Arctic exceptionalism regarding the great-power competition of the twenty-first century. Instead, we need to adopt the notion of *Arctic essentialism* that sees the Arctic for its value in the international security chess game, not for the utopic zone of peace we hope it will be.

Focusing the Arctic Debate on Harsh Realities of Military Power

The Arctic is the only coastal region of the United States with an active strategic competitor conducting regular military activity off the coast, and yet northern air defenses are obsolete. The North Warning System (NWS) is an aging northern-tier radar array spread across Alaska and Canada meant to identify incoming missile threats. The NWS relies on 1980s technology and needs to be replaced.³⁷ This twentieth-century system is incapable of providing sufficient warning to defend against modern Russian air- and sea-launched cruise missiles able to strike North American targets from beyond existing radar coverage. The Russian hypersonic missile threat presents an objective capability that the United States cannot overcome.

Hypersonic missiles keep US planners up at night. These are dual-threat weapons combining the flight-path maneuverability of guided cruise missiles with the speed of ballistic missiles. They can be used in two ways: as a hypersonic cruise missile propelled by a hydrogen propulsion air-breathing engine, or as a hypersonic glide vehicle launched via a rocket before detaching to glide to its target. Irrespective of delivery method, hypersonic projectiles can accelerate several times faster than the speed of sound and are able to maneuver across thousands of miles in minutes, enabling them to negate modern missile defense systems. Further compounding the threat, hypersonic missiles can be launched from land-based mobile rocket launchers or fighter aircraft, can carry conventional or nuclear war-

heads, and maintain precision strike accuracy to within 10–20 meters of its target (though Russia claims within a meter).³⁸ The United States has no publicly revealed capability to reliably defend against hypersonic missiles. While some warn against buying into the hypersonic hype and contend the threat is embellished, the United States cannot take that risk. As such, Russia's deployments of hypersonic weapon systems to the Arctic should give US officials reason for concern.

In December 2019, Russia confirmed the deployment of the hypersonic Kinzhal (Russian for “dagger”) air-launched ballistic missile to the Arctic.³⁹ The aptly named Kinzhal can be launched from Russian fighter aircraft with a conventional or nuclear warhead traveling more than 7,600 miles per hour and strike targets 1,200 miles away with precision accuracy. Another recently deployed Russian hypersonic weapon, the Avangard hypersonic glide vehicle, reportedly travels 20–27 times the speed of sound (15,000–20,000 mph) and can strike targets up to 3,700 miles away.⁴⁰ But Russia hardly needs this range to reach the United States

Russia has an air and naval base on Wrangel Island, about 300 miles from the Alaskan coastline on the western edge of the Chukchi Sea.⁴¹ However, such close proximity is almost irrelevant with maneuverable land- or air-launched hypersonic missiles capable of traversing the Arctic Ocean to strike a target with nuclear warheads from more than 3,000 miles away in less than 10 minutes. At these standoff ranges, much of Alaska is within range of Russian Avangards if they were launched from any of the dozens of Russian military bases north of the Arctic Circle. These are—as Russia claims—unstoppable missiles that both Russia and China possess; the United States has neither a close analog nor the technology to sufficiently defend against them.

According to General O'Shaughnessy, Russian hypersonic missiles can “strike Alaska with little indication or warning.”⁴² The NWS is more than 30 years old and incapable of effectively tracking and warning against modern hypersonic missiles. To establish a good defense, the United States is pursuing answers to this tangible threat in the Arctic via its efforts to develop the Strategic Homeland Integrated Ecosystem Layered Defense (SHIELD), a system designed to detect and defeat threats to the United States. The problem is that SHIELD, while a fancifully named defense, is a long way from operational reality.⁴³ In the absence of a good defense against advancing adversaries in the Arctic, the United States needs a good offense in the surface domain to forestall these formidable systems. This security problem is only compounded by the fact that the situation is no better in the maritime domain.

Beyond the inadequacy of the NWS relative to modern Russian surface strike capabilities, Russia's new submarines are quieter and more difficult for US under-

sea surveillance capabilities to reliably track and predict. Russian submarines can effectively maneuver undetected throughout the Arctic Ocean.⁴⁴ US naval presence in the Arctic provides a “fundamental security confidence” for US power projection, but US naval capabilities are equally inadequate when it comes to polar operations relative to Russia and China.⁴⁵

As Russian capabilities advance both in speed and distance, the vast Arctic—as a new “battlespace”—begins to compress.⁴⁶ Battlespace compression leads to reduced reaction times and—given US reliance on twentieth-century technology—an inability to defend the US homeland against a modernized Russian Arctic force capable of exploiting US complacency in future strategic competition. The Pentagon insists that the 2019 *Arctic Strategy* is rooted in and informed by the 2017 *National Security Strategy (NSS)* and 2018 *National Defense Strategy*. The first pillar of the 2017 *NSS* is to “protect the American people, the homeland, and the American way of life,” and the first secondary pillar of this priority focus is to secure US borders and territory. Despite this charge, the United States cannot meet this intent on its northern Arctic border operating under the current technological disparity. This is a critical vulnerability, and the most recent 2021 *Interim National Security Strategic Guidance*, issued by the Joseph Biden administration, omits any reference to the Arctic and Antarctica.

Russian capabilities coupled with Chinese nuclear icebreakers and polar flying squadrons have collectively established a polar offset with greater polar military capabilities compared with those of America. Measuring and understanding intent is difficult to quantify and interpret, so predicting future conflict is equally challenging. However, the Arctic alarmist argument looks at objective indicators of the polar power policies and activities in the poles coupled with the changing geography and corresponding geopolitical environment to inform its collective position that the Arctic is now—or soon will be—an arena for great-power conflict. To this end, interpreting Arctic actions by strategic competitors is just as important as understanding their similar behavior patterns in Antarctica.⁴⁷

The South Pole Blind Spot

Polar geopolitics with an eye toward defense and security affairs—inclusive of both the Arctic and Antarctica—is not a topic of regular debate among academics and practitioners. Few have questioned how the polar regions collectively will evolve as geopolitical and geostrategic inflection points of competition. What are the strategic implications for Arctic competition relative to Antarctica?

Whereas Arctic security is now a regular discussion point, Antarctic dialogue generally assumes that the Antarctic Treaty System (ATS) will assure indefinite peace.⁴⁸ The Antarctic Treaty of 1959—and its complementary agreements form-

ing the ATS—is the primary regulatory framework for Antarctic activity. The Antarctic Treaty prohibits military maneuvers and specifies that military assets can be used only for assisting scientific research, logistics, and search-and-rescue missions. The Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol), signed in 1998, designates Antarctica as a “natural reserve devoted to peace and science.”⁴⁹ Thus, Antarctica has been—save for a handful of singular incidents mentioned above—entirely demilitarized since the treaty entered into force in 1961.⁵⁰

Despite the Antarctic Treaty’s restrictions on militarization, Chinese and Russian actions elsewhere indicate their willingness to deviate from international laws, rules, and norms. Some scholars and policy makers remain committed to the assumption that China and Russia will respect international institutions, despite numerous contradictory examples.⁵¹ Currently, Chinese actions in Antarctica blur the lines between military operations and research. Just as the Chinese expand their “civilian research presence” in the Arctic as an apparent veil for enabling a future military presence tied to economic interests, they likewise appear to be pursuing a similar approach in Antarctica through expanding capabilities and infrastructure projects including research stations, airstrip construction, and the creation of a dedicated Antarctic air squadron in 2016.⁵²

According to Anne-Marie Brady, China is “keeping other states guessing about its true intentions and interests” in Antarctica.⁵³ Brady and others perceive China’s increased Antarctic activity—now totaling 36 Antarctic expeditions and counting—as posturing for exploitation after the Madrid Protocol enters a period for renegotiation in 2048, or perhaps earlier if the Antarctic Treaty is abandoned.⁵⁴ To this point, speaking at the Mitchell Institute in 2019, US Air Force general Charles Brown recounted an incident in which a Chinese icebreaker experienced mechanical issues in the Antarctic region and, instead of traveling to New Zealand (the closest port of repair), suspiciously traveled direct to China. “Coincidence? Makes me a little suspect,” General Brown stated.⁵⁵ In the context of strategic competition and the potential for future conflict, Chinese and Russian motives must be reexamined.

Chinese military ambition is global in nature and underpinned by China’s BRI efforts. Beijing has invested (or attempted investments) in Greenland, Iceland, Canada, Nicaragua, sub-Saharan Africa, the South and East China Seas, Australia, New Zealand, Papua New Guinea, and other areas to form the linked network for the BRI as the primary vehicle for advancing its global hegemonic ambitions.⁵⁶ Antarctica is no exception. Considering these and other Chinese actions, we should not be surprised that General Brown publicly states the Antarctic is “just a number of years away” from a great-power competition similar to the Arctic.⁵⁷

Though Antarctica does not rival the Arctic in geographic relevance or economic importance to the United States, continued omission of Antarctica from the strategic competition narrative further enables Chinese exploitation of the ambiguities present in international agreements. As an example, the US State Department's 2019 *Indo-Pacific Vision* cover page has a map of the region, which excludes Antarctica, and rest of the document's 32 pages have no mention of the continent in any context.⁵⁸ These are subtly significant indicators of US Antarctic indifference, providing exploitative motivations for strategic competitors like Russia and China. Moreover, China increasingly views itself as a polar power.⁵⁹ The United States is not a near-Antarctic power by geographical standards, but by virtue of being a hegemon and defender of the commons it is a de facto near-Antarctic power.⁶⁰

There is too much at stake in the era of renewed strategic competition and the evolution of space as a future conflict domain for Antarctica to remain Washington's strategic blind spot. The United States must strengthen its partnerships with New Zealand and Australia (and other near-Antarctic partners) as gateway countries for Antarctic access. The continued use of Christchurch International Airport to fly annual Operation Deep Freeze missions in support of the US Antarctic Program warrants bolstered support.⁶¹ Scholars and policy makers must address Antarctica in future debates and include it in strategic discussions on polar defense and security, precisely because the future of American space power and operations is dependent on communication infrastructure in the polar regions.

Besides excluding Antarctica from the polar picture, the debate is superficial and devoid of historical context and theoretical considerations as predictors of future action. The discussion over true Russian and Chinese intent in the polar regions is ambiguous, and ambiguity begets speculation. With speculation saturating public commentary, the discourse continues to overlook the lessons of history. What about the evolving polar-region dynamic parallels history? And what can we learn to offer a glimpse into the future of potential polar conflict? In terms of strategic competition and conflict, history must be included to form a comprehensive predictive narrative influencing future policy and strategy. Policy that informs strategy toward particular ends is best informed by an understanding of the relevant history shaping the current environment. For the polar regions, history runs deep.

History and Context

Since the early twentieth century, the United States and many other nations have conducted polar military operations and military-supported scientific expe-

ditions. As more countries arrived in the polar regions, the need for international cooperation mechanisms grew. Both the Antarctic Treaty and the Arctic Council were designed as solutions to resolve polar tensions, with many holding these cooperative institutions in high regard. Yet, these supposedly effective institutions are seldom discussed in contemporary policy circles, as they both lack effective enforcement mechanisms. Historical antecedents are often useful points of departure such that we cannot afford to continue overlooking relevant history and theory in debates about future strategic competition in the Arctic and Antarctica. History provides insights on how command of the commons is at stake in the polar regions and how disagreement over who commands the commons is a reliable predictor of confrontation and eventual conflict.

From the seventeenth century to the early twentieth, the British controlled the maritime commons. Because they controlled the commons, they controlled the seas. Those who most control and influence a domain make the rules. China and Russia are attempting to establish polar dominance via their respective polar pivots. Polar presence will promote influence, which will lead to economic gain and increased global power sufficient to destabilize, potentially, the international system to the detriment of the West. Hegemonic stability theory holds that the world order is most stable under unipolarity with a single global hegemon. So, a Chinese or Russian challenge to American command of the commons—via related challenges to or departures from the existing polar claims and international covenants—will have certain destabilizing effects.⁶² Consider the tenets of the so-called long cycle theory: since the fifteenth century, hegemonic power transitions tend to occur, on average, every 75 years. It has been more than 75 years since the United States first assumed its status as the world leader. If history is any indicator, the United States is primed for challenge to its hegemony.⁶³

There are numerous warning signs of rising powers asserting regional hegemonic ambition in the Arctic and Antarctica. The budding Chinese and Russian “strategic partnership,”⁶⁴ a revisionist Russia relapsing to Cold War-era aggression and rhetoric, and China’s antagonistic global expansionism combined with known and demonstrated Polar interests, activities, and investments demonstrate commitment to change. Revisionist states have explicitly undermined US interests since at least 2010 such that their ambitions cannot be dismissed as innocuous or inconsequential. The polar regions are opportunistic targets of low-risk, high-payoff expansion for China and Russia given the relative lack of American polar presence and policy commitment.

Strategic competition is on the rise, and the ingredients for international confrontation and eventual conflict are brewing. The polar regions, more than any other, pose the greatest threat to current American hegemony. Two rising powers

are challenging the current power. History again tells us, by way of Graham Allison's descriptive problem of the *Thucydides Trap*, that when these conditions are present, the potential for conflict increases. In this way, there are indications about suggesting that we are progressing toward the realization of a similar *Polar Trap*.

The Polar Trap

Considering Chinese and Russian policies and actions, the polar regions are becoming easy power grabs. Whereas the United States stands as the current global hegemon, or the ruling power in historical narrative, increased activities by China and Russia in the polar regions—coupled with American strategic dithering elsewhere in the world—contribute to the necessary preconditions for realization of the Thucydides Trap. Coined by Graham Allison in 2015, the concept suggests that whenever the rise of an ambitious power threatens to dethrone the existence of a current hegemon, the likely result is war.⁶⁵

According to Allison, 12 of the 16 recorded cases of a rising power threatening a ruling one in the past 500 years resulted in war.⁶⁶ Some, such as Jonathan Kirshner openly, question Allison's assumptions and arguments, chiefly that his case-selection bias supports his theory *and* that the four cases where war did not result *all* occurred after 1945 where nuclear weapons changed the calculus behind great-power wars.⁶⁷ Still, there is empirical validity to the concept that provides utility in applying it to a lesser-known region. In this way, we generate a template for understanding future polar power competition and predicting a potential Polar Trap under similar circumstances.⁶⁸

The Thucydides Trap is illustrative of a security dilemma when a ruling power proactively confronts a rising power militarily over a contested domain, thereby leading to greater militarization and raising the potential for conflict. In each of Allison's cases, he identifies the period in which the conflict occurs, a ruling power, a rising power, a contested domain, and a binary outcome of war or no war. Using this framework, there are similarities to the evolving situation in the polar regions. Whereas the rise of Athens supposedly threatened Sparta and catalyzed war, continued tensions stemming from Russian and Chinese presence in the polar regions will likewise undermine American hegemony. Increased military activities by rival competitors will continue producing the conditions for confrontation.

Conditions for the Polar Trap

Allison's theory stems from his interpretation of Thucydides's writings in the *History of the Peloponnesian War*.⁶⁹ According to Allison, Thucydides focused on

the shift in the balance of power between Athens and Sparta as the basis for their eventual conflict. Allison contends Thucydides specified two primary drivers of the dynamic leading to the trap: (1) the burgeoning *entitlement*, sense of *importance*, and demand for *influence* by the rising power, coupled directly with (2) the rising power's *fear* and *insecurity*.⁷⁰ When a rising power demonstrated each of these attributes, Allison and his research team found that they challenged—in some way—the ruling power of the time. Though Allison's team limited its study to 16 cases, 75 percent of the historical cases meeting these criteria resulted in war.⁷¹ The team further identified two cases in which the United States was the ruling power and simultaneously threatened by at least one rising power: World War II and the Cold War.

In general, the international order maintains stability when states are satisfied with the order and thus adopt an orientation to preserve the status quo. Threats to the international order tend to come from dissatisfied states seeking to gain more territory, better status, or different rules. Dissatisfied states, then, adopt revisionist agendas and increasingly “mount challenges against the hegemon and its order” whenever the hegemon fails to accommodate their interests or actively seeks to restrict them.⁷² In this way, the circumstances of World War II are notably similar to twenty-first century great-power competition.

In World War II, the United States faced the Axis Powers: the German, Italian, and Japanese alliance intent on upending Western democratic norms. In today's competitive environment, Russia and China demonstrate similar motivations. Is Russia or China baiting the United States toward conflict with one so that the other can rise to power? The nuclear tensions and military posturing of the Cold War are similar to today's contemporary security environment in that the presence of nuclear weapons alone seems to prevent large-scale military conflict for fear of irrecoverable escalation into nuclear warfare.

Whereas the existence of nuclear weapons continues to serve as a mutual deterrent, great-power conflict is not a figment of twenty-first century imagination. Rather, an emerging body of scholarship suggests that great-power conflict can “unravel without anyone ever firing a shot.”⁷³ History tells us that during periods of hegemonic transition, the hegemon

faces increasing difficulties in maintaining its preferred international order; its relative decline encourages other states unhappy with that order to seek to renegotiate terms, build alternative arrangements of one kind or another, probe for weaknesses, and even directly challenge the dominant power or its allies. In the worst-case scenario, peaceful adjustment to the changing distribution of military and economic capabilities proves impossible; as it did in World War I and World War II, the system collapses into a devastating great-power war.⁷⁴

After 75 years of hegemony, the United States today is dealing with a revisionist Russia and rising China. History is not on Washington's side at the moment. Moscow and Beijing are working to build alternative global structures that alter the American-led status quo. Each continues prodding for US vulnerabilities, carried out via sharp power campaigns meant to undermine US domestic and US-led international institutions. China and Russia are actively pursuing military and economic influence efforts in the polar regions, as a perceived weakness to US primacy. With weakening status, Cooley and Nexon argue American hegemony can fall via three main mechanisms, or "pathways of change": *great-power challenges*, *changing small and weak state behaviors*, and *transnational contention*. There is evidence of each occurring in the contemporary international security environment.

Polar Pathways of Change

In terms of *great-power challenges*, (i.e., direct contestation from competing peer or near-peer states), the United States faces increasing challenges from both Russia and China spanning economic, diplomatic, and informational strategies. Military challenges remain distanced and indirect, but confrontations between US forces versus Russian and Chinese forces are becoming more frequent in the Arctic and the South China Sea, respectively. China's ascent to international influence has also led to notable *changes in small and weak state behaviors*. As an example, 18 of the 30 NATO member states currently have a signed memorandum of understanding to economically partner with China's BRI.⁷⁵ NATO states with ties to the BRI are predominantly among those considered weakest within the NATO alliance, furthering Cooley and Nexon's notion of changing small and weak state behaviors as a precursor to US hegemonic unraveling. What does China's BRI and its connection to the weak states within the NATO alliance say about NATO's future stability?

According to Cooley and Nexon, *transnationalism* entails the destabilization of previously held norms and foreign policy frameworks. They further contend that rising powers wishing to contest the ruling power and the established order adopt "wedge" strategies to dissolve the fabric of the order and its structure.⁷⁶ Hegemons such as the United States provide a collective security proposition to weaker states, incentivizing allegiance absent a better alternative. This proposition provides a security blanket (i.e., subsidy) to small states lacking strong economies to build and maintain organically powerful militaries sufficient for their own security.

When economic powers such as China enter the fray and offer financial incentives to small states, it can be a compelling and competing value proposition that strains existing alliances. In a form of *realpolitik*, if a powerful state can offer

sufficient incentive for a weaker state to question the value of its existing security blanket and ideologies, this threatens to unravel the threads of ideologically sewn alliances. With most NATO states economically partnered with China—a country the United States now labels as its “greatest potential adversary”—a question is raised about NATO’s legitimacy as an alliance durable enough to withstand Beijing’s economic wedge-driving.⁷⁷

Consider as well that many of the current international institutions serving as the “connective tissue” of the contemporary international order were established during the US unipolar moment.⁷⁸ These longstanding US-led institutions are at risk of dissolving at worst or repurposing and reorganizing at best. From 2017–2020, the Trump administration governed on an “America First” platform that openly denounced the value of and need for multilateralism, international organizations, alliances, and liberal values in general, viewing such arrangements as a “threat to American power.”⁷⁹ As the United States backed further away from international institutions under the Trump administration, questioned alliances and partnerships, and generally condemned the international community for collectively freeriding on the back of the US economy, Washington gave away its formal and informal position as hegemon—giving China an opening to make numerous peripheral gains at the expense of the West.

Chinese Conditions

In developing his theory, Allison focused on China as a rising power intent on challenging the United States as the current ruling power. To this end, Allison notes that Lee Kuan Yew—who Allison calls the “world’s premier China watcher”—predicted that China’s ambition is unquestionably global hegemony.⁸⁰ Adding to this, Chinese president Xi Jinping has stated on numerous occasions his unambiguous intent to change the world order by putting China on the path to “global eminence.”⁸¹ China’s growing sense of self-importance and global ambition are robust. Few doubt Chinese intentions of unseating the United States as the dominant global superpower. Worse, China has developed a “grievance-fueled sense of entitlement,” demonstrated in the ongoing territorial disputes in the South and East China Seas.⁸²

We should consider Beijing’s behavior here and in other areas as indicators of broadening—and largely unchecked—ambition. The United States is the only nation capable of counterbalancing Beijing’s ambition. However, China is leap-frogging US containment efforts and is on track to challenge American hegemony by trying to secure its own ports and airfields across the South Pacific.⁸³ Whereas the United States maintains more than 800 bases or installations world-

wide, its polar-region presence is comparably nonexistent.⁸⁴ Beijing knows this—and it is exploiting this American strategic oversight.

Absent military presence and strategic orientation to the north and south, the United States is unable to influence these areas the way it can elsewhere. Without a power to balance against at the ends of the earth, Beijing began its own polar pivot in 2017. China's self-proclaimed status as a "near-Arctic state" illustrates entitlement despite the fact that no such recognition exists.⁸⁵ A "near-Antarctic state" view of China is also fostered domestically in China by sending the second-most number of tourists to Antarctica of any country, thereby familiarizing its citizens with the continent and creating a narrative of China's destiny to manage the future of Antarctic control.⁸⁶

In further attempts to advance its polar influence, China's Polar Silk Road policy broadens its ambition to assert power and influence over the polar regions. China's Yellow River Research Station in Svalbard is among its most prized polar achievements. To the south, its newly developed Antarctic air squadron serves a research mission similar to that of the US Air Force logistics support of the National Science Foundation, yet questions remain about the nature of such activities due to ongoing Chinese efforts to conceal Chinese Antarctic operations.⁸⁷

Since Australia and New Zealand are members of the American-led "Five Eyes Alliance," Beijing knows that, in a crisis, neither country would support Chinese operations in Antarctica. Thus, China appears to be laying the groundwork for supporting Antarctic operations via infrastructure projects in the South Pacific near New Zealand and Papua New Guinea. Beijing is building a port facility and—presumably—military infrastructure at Luganville Wharf in Vanuatu, a small, underdeveloped island nation only 1,000 miles north of New Zealand, to the concern of Australian leaders.⁸⁸ Similarly, China inked a deal with Papua New Guinea to build a "comprehensive multifunctional fishery industrial park" on Daru, a small island community just off the country's southern coast and about 125 miles north of Australia.⁸⁹ This deal gives Beijing proximal access to northern Australia and Port Darwin, where Beijing has a long-term port lease that has deterred the US Navy and Marine Corps from establishing its own infrastructure.⁹⁰ The implications extend beyond Beijing's apparent attempts at driving a wedge between Australia and the US military's attempts at securing regional presence.

Daru Island sits approximately 4,100 miles south of China's Port of Shanghai—the world's largest container port—via maritime route. Hardly a coincidence, Daru Island is about 4,000 miles north via maritime route of China's newest Antarctic research station on Inexpressible Island in Terra Nova Bay in the Ross Sea—China's closest station to the US McMurdo Station on Ross Island.⁹¹ On

Daru Island, China gains dual-use (commercial and military) infrastructure at an equidistant location between its largest mainland port and its newest Antarctic research station while also securing a location that puts it in close proximity to its Darwin port and the geographic focal point of the US Navy and Marine Corps in the region. For context, we must couple these geostrategic moves with American military commanders' concerns with China's unwillingness to allow unfettered Consultative Party inspections of their five Antarctic research stations, per Article VII of the ATS.⁹² Continued Chinese secrecy in Arctic and Antarctic activities lends further weight to the argument that Beijing's polar ambition is malign—and that institutions meant to keep both regions peaceful are failing to enforce basic rules.

Those who continue to dismiss the rise of China as a threat to the United States and international norms are not paying attention. The Chinese economy is expanding to outcompete the United States in numerous indices (depending on one's measure of economic strength).⁹³ In terms of gross domestic product, China's meteoric ascent since the 1980s shows no signs of leveling off. Yes, using GDP as the basis of assessing China's economic strength is unidimensional in that it measures only production and ignores costs or consumption rates, but it is nonetheless a global indicator of a state's economic productivity. Some will argue that China—due to its enormous population and consumption needs—is an inefficient economy in terms of its net indicators (or, more generally, its productivity minus its costs).⁹⁴ Whereas China's GDP makes it the second-most powerful country in the world by that sole indicator, if we consider its net indicators inclusive of its productivity minus costs, Beijing's strength is far less impressive.

To this end, others contend that China is not a threat because of its fragile economy, that the significance of its global influence is overstated based on flawed logic, ignorant to the realities of unquenchable resource consumption needs. However, this position unwittingly advances the argument establishing China's insecurity and increasing ambition. Despite growing economic power by way of productive measures, China shows signs of insecurity and fear of continued American hegemony and an inability to satisfy its resource needs under the continued unipolar American-led world order. China seeks to enhance its global power position based on a “power-as-resources” strategy, circumventing international institutions in the polar regions and elsewhere to serve as potential cornerstones to securing resources to satisfy this thirst.⁹⁵

China is demonstrating strategic ambitions of challenging American hegemony. To meet its power-as-resources goal, Beijing's ambitious, entitled, self-righteous government and military pursue global influence via international infrastructure investments to stay relevant on the global stage. China's approach to

global influence through infrastructure investments and debt-trap diplomacy creates new spaces of power. Chinese actions have met the necessary preconditions for realization of the Thucydides Trap. While this so-called trap is an abstract academic conceptualization, we should consider its applicability to the polar regions.

Russian Conditions

While the Chinese only recently developed polar policies and military capabilities, Russia began its own polar pivot in 2001. It began with Russia filing the first of three unsuccessful (to date) territorial shelf claims to the United Nations seeking to extend its exclusive economic rights from the coast to the North Pole.⁹⁶ In 2007, Russia demonstrated its Arctic capability and intent by symbolically planting its flag on the geographic North Pole Arctic seabed.⁹⁷ Such Russian symbolism extends to Antarctica as well. In 2004, Russia built an Orthodox church at one of its Antarctic research stations. As a year-round operation, the church holds services for Russian researchers and is a visible demonstration of Moscow's sustainable presence and influence on the continent.⁹⁸ These self-important efforts have dovetailed with expanded military infrastructure projects in the Arctic, hostile actions in Georgia and Ukraine, and disingenuous claims that American military forces deployed to the Baltics are a threat to Russian sovereignty.⁹⁹

In raising concerns about US actions, Russia feeds the narrative that the United States is a global bully. President Putin's continued anti-Western rhetoric advances the argument that Russia seeks alternative institutional structures whereby the United States no longer serves as the default leader in geopolitical affairs and where Moscow enjoys status as a regional hegemon over Eurasia and the Arctic.

Russian sense of entitlement and self-importance mirrors that of the Chinese, but given geographic proximity, coastal access, and economic importance, Russian ambitions are focused in the Arctic rather than seeking global eminence. Moscow's aggressive posture toward the Northern Sea Route and threats to use military force against ships refusing to meet Russian requirements indicate its intent to control what it believes is legally Russia's—what Russia is *entitled* to control.¹⁰⁰ Such actions are a direct challenge to freedom of navigation and Washington's desire to command the commons toward this end, but Moscow pursues its agenda with supposed economic intent.

Approximately 20 percent of the Russian economy is dependent on the Arctic. The resources located there provide enduring interest for Russia to continue its contested claims to the high north. With the Russian economy tied the “primordial homeland,” the Arctic is a vital national interest. Considering Russian eco-

conomic dependence on natural resources, this Arctic interest is one of survival as Moscow seeks alternative means to support the economy and declining population. This, coupled with Russia's plans to link its control of the Northern Sea Route with China's Polar Silk Road, indicates a major initiative to influence and control evolving Arctic economic activities.¹⁰¹ Expanding Russian Arctic military infrastructure will make this a natural outcome, as the country's unfettered ability to operate in the region will give its power to dictate Arctic rules.

Following the reopening of Cold War-era Arctic military bases and an expanded Arctic footprint, Russia's intent to militarize the Arctic and secure its security interests is broadly advertised. Such a rapid and extensive military infrastructure investment in a targeted region indicates insecurity fueled by a desire to control and exercise sovereignty throughout the high north. Russia's fear of losing—or intent to maintain—Arctic influence is undeniable.¹⁰² Adding to their physical infrastructure, the Russians have reorganized northern military units and expanded their Arctic asset portfolio in attempts to assert military dominance in the region. The Northern Fleet is the “largest, most powerful, and most modern” of the Russian naval forces with daily activity throughout the Arctic, though it is not a large fleet in comparison to US naval fleets.¹⁰³ In Antarctica, Russia leverages its status as an ATS signatory to influence Antarctic operations in pursuit of its own objectives, despite disagreements with New Zealand and others.¹⁰⁴

Moscow demonstrated its assertiveness with the December 2019 announcement about operational hypersonic missile deployments in the Arctic.¹⁰⁵ Beyond this, Russia's icebreaker fleet is the largest in the world and growing; it has extensive air defense and electronic warfare capabilities; and its concern about American ballistic missile submarine deployments is well known.¹⁰⁶ As Russia expands the “Ice Curtain,” fear and insecurity fuel a military deterrent project in the Arctic. In other words: Russia seeks an aggressive-*looking* Arctic military posture to deter others and to maintain access to resources. Russia's economic instability and dependence on the Arctic's natural resources makes influence over the region imperative for future national growth and sustainment. However, military expansion alone does not indicate hostile intent.

There is credence to the idea that Arctic conflict is the last thing Russia wants, because war would degrade Russia's economic stability. But a militarily ambitious Russia in the Arctic—perhaps seeking only to deter others—has had the opposite effect. Rather than preventing increased militarization from NATO, the United States and its allies have expanded their Arctic postures and orientation. The security dilemma is now a polar dilemma. Russian Arctic aggression rises to Thucydidean proportion with indicators of intent to aggress toward a situation in which the United States is in a regionally subordinate role.

A potential or attempted shift in the balance of power—as Allison observed in his chosen cases—among today’s rivals grows more likely with each passing year of investments in Arctic capabilities. Applying Allison’s framework to the polar regions illustrates a rising Chinese power intent on securing influence in both the Arctic and Antarctica by way of polar flying squadrons, the Polar Silk Road policy, expanding investment in Greenland and Iceland, and a self-proclaimed label as a “near-Arctic state.” Likewise, Russia’s widening and contested claims to Arctic territory, combined with its buildup of military infrastructure—to secure its posture and interest in the region—make for an equally compelling concern indicative of an increasingly self-important state motivated in part by fear and insecurity. In this context, competing interests and actions toward the polar regions to date are beginning to meet Thucydides’s two preconditions for realization of this trap.

Avoiding an American Polar Trap

Critics of Allison’s Thucydides Trap argue his vision of hegemony’s rise and fall is too static, that it lacks nuance and consideration for the unique aspects of each period and the relative dynamics shaping competition and conflict decisions. Despite the critiques, Allison’s frame is a useful heuristic for considering the potentialities of great-power war stemming from polar-region confrontation and conflict. Just as German efforts toward “political hegemony and maritime ascendancy” threatened England in the early pre–World War I era, simultaneous—and sometimes complementary—Chinese and Russian efforts to reject the current international system threaten American hegemony.¹⁰⁷

Debates over the extent and intent of Chinese and Russian ambition continue. Whether they pose an existential threat to American hegemony is also debatable, but what is not debatable is that the levels of Chinese and Russian polar presence, power, posture, and policy dwarf those of the United States. There is a growing literature arguing that the US-backed world order is in decline and that Russia and China are the principal challengers to the ecology of this order—seeking to write the obituary to US hegemony. For those who reject notions of conflict with Russia or China, we know that it “makes no sense to think that hegemonic systems, or international orders more generally, will ever be free from violence and coercion.”¹⁰⁸

The evolving situation in the polar regions is indicative of China and Russia’s intent to challenge the status quo. With continued US inaction toward the polar regions, Russian and Chinese geostrategic advantages will increase, and the capabilities gap will widen to an insurmountable distance. This could lead to an American catastrophe if a polar crisis occurred.

Getting American Policy and Military into the Polar Race

The polar regions are ripe for future power tensions. In 2019 there were two major shifts in US Arctic military posturing, largely due to increased Russian activity in the high north. The 2019 announcement that the US Air Force will station F-35 squadrons at Eielson Air Force Base (Fairbanks), its northernmost Alaskan base, is a contribution to a necessary force posture capable of deterrence and response.¹⁰⁹ Across the Atlantic, the 2019 reestablishment of the US Navy's 2nd Fleet as the "maneuver arm for NAVNORTH, in the Atlantic and the Arctic," provides a ready naval force for international power projection to ensure freedom of the seas and to act as a regional deterrent.¹¹⁰ While this is not a dedicated Arctic Command per se, the US Navy's 2nd Fleet reopening (following its 2010 closure to reallocate budgets to other priorities) is in direct response to increased Russian activity in the Arctic. And in Europe, US rotational force deployments in the Baltics must continue, despite inflationary Russian rhetoric labeling these a "threat."¹¹¹ While deploying 700 Marines to Norway on short-duration rotations is insufficient for Arctic deterrence, it does provide a better understanding of the limits of equipment and personnel in polar conditions.

These American actions are akin to finger-wagging and fall short of consistent military presence, power projection, and strategic orientation. The 2nd Fleet's area of operations *includes* the Arctic but is not *dedicated* to the high north as its sole operational domain. The Arctic is bisected between US European Command and US Northern Command, further bureaucratizing operational priorities and spans of control. Worse, the lack of American influence in Antarctica is even more pronounced due to current ATS prohibitions on military activities. Still, China seems to be deviating from the ATS restrictions, or at least stretching the allowable limits of military logistics support, toward questionable ends. This is partly why the Trump administration released the Polar Memo, the first-of-its-kind White House memo on national security interests in the Arctic and Antarctica, including hints of developing and deploying weaponized icebreakers for polar-region military activities as a counter to similar Russian and Chinese development efforts.

China and Russia can exploit the Arctic and Antarctica because the United States has not prioritized them and thus lacks infrastructure, military capabilities, and policy intent necessary to counter malign actions in each region. The Russians and Chinese can secure a territorial and economic advantage in the polar regions while holding American interests at bay and even under threat of attack on the homeland in Alaska.¹¹² In this case, we have not one rising power but two—two rising powers that, despite tension elsewhere, have demonstrated a common in-

terest and willingness to collaborate in polar-region activities. Russia and China threaten to weaken US global leadership, and the United States currently lacks the capability and intent to counter revisionist behavior in the polar regions. The Biden administration—in the upcoming *NSS*—must acknowledge the danger of Chinese and Russian ambitions in the polar regions and direct the State Department and Pentagon to strategize various ways of countering their actions.

The United States cannot afford to adopt the Antarctic/Arctic apologists' passive approach toward the polar regions and falsely assume that Russian and Chinese actions are benign. Such a strategic miscalculation will set the stage for future conflict. The naysayers who dismiss potential polar conflict as twenty-first century paranoia should reconsider Graham Allison's thoughts on "man's capacity for folly":

However unimaginable conflict seems, however catastrophic the potential consequences for all actors, however deep the cultural empathy among leaders, even blood relatives, and however economically interdependent states may be—none of these factors is sufficient to prevent war, in 1914 or today.¹¹³

In 1935, the military aviation enthusiast Billy Mitchell argued that Alaska was "the most strategic place in the world."¹¹⁴ As noted in the epigraph, Admiral Cruzen would later caution the United States about not considering polar warfare. The American defense establishment has seen this polar problem coming for decades. Now that it has arrived, it should compel action and the consideration for new approaches to meeting this evolving power imbalance. The likelihood of conflict is increasing, especially as communicating with some satellites is dependent on infrastructure in each polar region.

The United States must consider the real threat of a modern-day Thucydides Trap in the polar regions. Most preconditions for realization of this trap have (or will soon) come to fruition. The United States must learn from history and act now to avoid the so-called Polar Trap rather than react later. Failure to act now and pursue policy actions to inform posturing, presence, and polar power projection will lead to the first geographic, geopolitical, and military power imbalance the United States has experienced in the post-World War II era. The possibility of the Polar Trap now raises the specter where not one but two competing powers threaten the ruling power, possibly upending the current global order. Polar conflict is not impossible or implausible; it is both possible and plausible.

Thus, American leadership must pursue four courses of action to ensure hegemony as well as freedom of movement in the Arctic and Antarctic Circles:

First, polar policies need be created that make it clear to China and Russia that the United States will no longer permit further rule- or norm-breaking in the

Arctic and Antarctica. This might mean giving clear guidance to a combatant command about having authority over all polar military operations.

Second, explicit polar strategies and budgets will need to be devised and followed through on to ensure that China and Russia cannot break the status quo in the polar regions without facing consequences. This means drawing red lines and funding polar warfare capabilities to ensure compliance with treaties and international law in each region.

Third, the United States must seek closer ties with partners and allies in the Arctic and Antarctic regions as a way of cooperating against Chinese and Russian transgressions in each region. Such a balancing approach makes it easier for the United States to counter China and Russia diplomatically in the polar regions by relying on neighboring proxies to further develop Polar warfare capabilities as a deterrent signal.

Finally, the United States must dedicate resources in the intelligence community toward better interpreting Chinese and Russian actions in the polar regions and toward neighboring infrastructure that might later support polar military operations. These actions are necessary for countering Chinese and Russian actions in each polar region and for ensuring that the American rules-based order continues without further contestation. ★

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China's Polar Silk Road

Implications for the Arctic Region

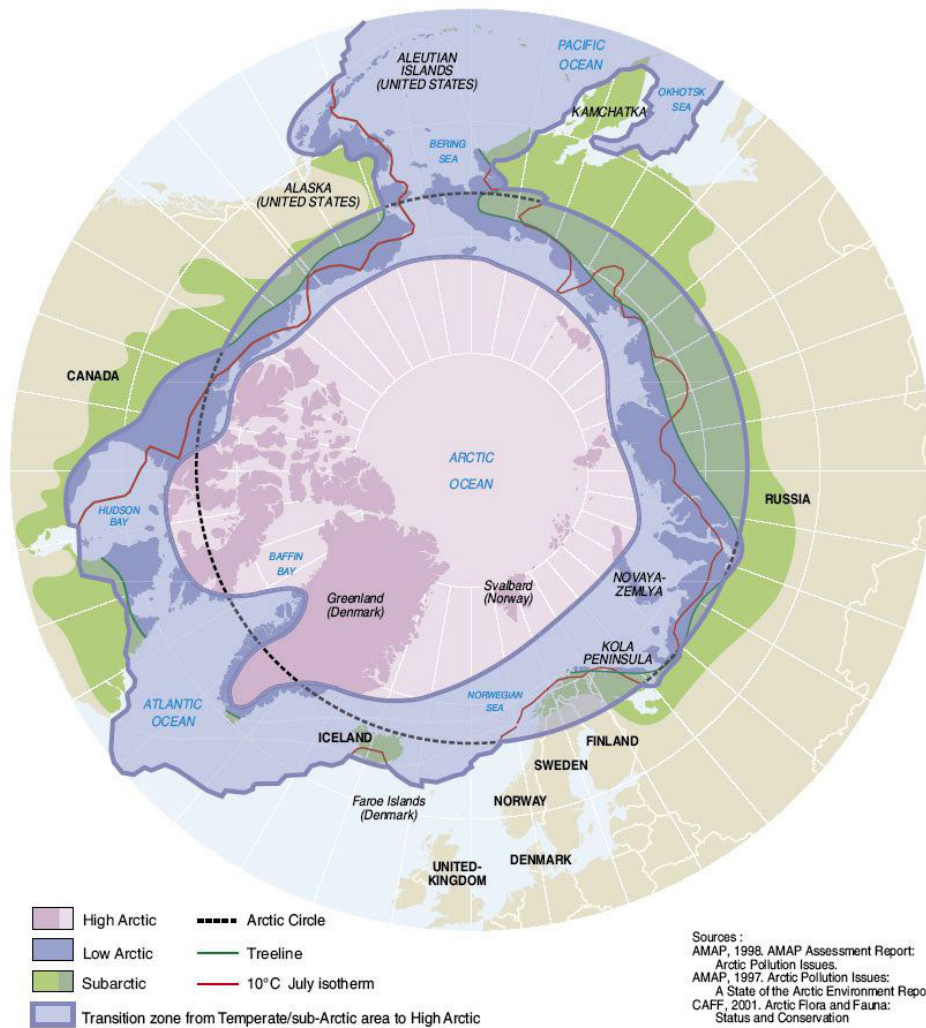
ANU SHARMA

The Arctic region has gained immense strategic, geopolitical, and economic importance in the twenty-first century. Its phenomenally rich biodiversity is responsible for the increased interest in this region by major powers such as the United States, Russia, and China, apart from the Arctic nations. However, the Arctic has also been in the news due to loss of ice, warming waters, increased sea levels, and the thawing of its permafrost. These are all due to increasing global temperatures and the extensive shifting of the Arctic's polar ice cap, eventually resulting in the thawing of sea ice. The increasing temperatures in the Arctic region have been drawing global attention for economic, geopolitical, and environmental reasons—among others. Unlike Antarctica, the Arctic is not a global common, with no overreaching treaty governing this region. All these factors have made the Arctic Five nations (Norway, Russia, Canada, Denmark, and the United States) as well as the three nations proximate to the Arctic Circle (Iceland, Finland, and Sweden) contemplate the probable scenarios related to the initiation of new navigational routes there. Furthermore, the discovery and utilization of untapped resources in this region have made it attractive to these nations and even vital for economic and geopolitical reasons. In the emerging geopolitical scenario, with the aim of acquiring great-power status and gaining geostrategic prominence, it has become crucial for nations to contemplate national strategies along with military capability in the Arctic. As far as strategic considerations, economic progress, geopolitical stakes, and sociocultural collaboration across borders have become important parameters.

With China emerging as one of the prominent players in the Arctic region, discussions and deliberations related to China's plans and policies have taken center stage. China has emerged from being a peripheral partner to an active member in the Arctic Council in the span of a decade. In that same decade, global warming and the emergence of new economic and strategic opportunities have led to the increased prominence of the Arctic not only in Chinese policy making but also in the policy-making circles of other major players such as the United States and Russia. Furthermore, from a scientific and environmental point of view, the Arctic region has emerged as a laboratory that every nation wants to explore.

Historically, this region was crucial during the Cold War due to intense military competition between the United States and the Soviet Union. During the Cold War, the region had faced a dramatic shift from being a subtle theater of operations (i.e., for the positioning of strategic weapon systems) to the center for various initiatives concerning transnational cooperation. During this period, the Arctic acted as a frontier between NATO and the Soviet Union and was littered with military bases and expensive hardware. However, after the disintegration of the Soviet Union, many of those assets were dismantled or allowed to decay. In contemporary times, this region is emerging as a geostrategic trigger point in a way similar to Cold War politics. With the exception of conventional Arctic nations, an increasing number of international organizations and non-Arctic nations—including China—are exhibiting amplified interest in this region. China proclaiming itself a “near-Arctic” state and assuming the position of being the keenest observer in the region is leading various other significant stakeholders in the region, such as Russia and the United States, to take note of China’s emerging Arctic policies. This context makes it important to analyze China’s emerging policies and plans.

In 2018, China released a white paper titled *China’s Arctic Policy* describing its policy in the Arctic. The analysis reflected China’s confident and proactive policies related to the region. Outlining Beijing’s precise aims there, the paper explicated Chinese stakes, linking them to the growing Belt and Road (BRI) trade initiative through the “Polar Silk Road.”¹ It can be said that Beijing’s aim is to build a Polar Silk Road in the Arctic region, thereby linking Asia and Europe through logistics and transportation channels traversing this region. Furthermore, China’s interests can be divided into two categories. First: Beijing’s close involvement in the domains of scientific research, resource survey (and the handling of this type of research), shipping, and maritime security. And second: the probable effects of climate change on the region, rightfully highlighted by China as a valid reason that warrants the concern of major players in Arctic matters. The thawing is producing a novel regional order for the practice of statecraft among Arctic and near-Arctic nations. As indicated by Chinese aspirations for its inclusion in the Arctic Council,² China identifies the prospect that its participation in the growth and expansion of the Arctic’s new regional order will lead to increased opportunity for Beijing to mold the Arctic to its advantage and its national interests. China’s aspirations related to the Arctic region and the evolution of its policy for the Arctic are discussed in detail further below.



Source: Arctic Centre

Figure 1. The Macro-Arctic Region, depicting the subregions therein

Issues in the Arctic Debate

The Arctic is not very populated; severe climatic conditions contrast abundant mineral resources that make it a significant air and water route. According to Joseph Roucek, “the Arctic Ocean is in reality the constituent of the Atlantic Ocean whose littorals include the landmasses of the Northern Hemisphere. It is also called as the ‘polar Mediterranean.’”³ The contemporary geopolitical scenario has imparted great significance to this region due to the presence of oil, gas, and other

noncombustible minerals as compared to the Antarctic region. This has led the Arctic to emerge as an ideal region in which technological developments related to resource utilization eventually force “a new evaluation of locational factors of the region.”⁴ This has eventually led the issue of governance to gain prominence, linked with diverse interests and aims of various nations (figure 1). The Arctic nations’ utmost desire is to pursue their rule of the area entirely; however, other nations visualize this region as part of the global commons. Much of the debate related to the legality of the Arctic region has focused on two aspects. First, whether there is a need to create new legal framework related to the Arctic region that is based on the International Treaty on the Arctic. (In fact, this International Treaty of the Arctic is based on the Antarctic Treaty.) And second, whether to authorize treaties signed in the past—for instance, changing the Arctic Council into a formal international organization.

The Ilulissat Declaration⁵ tried to communicate to other nations desiring to be part of the Arctic region that the original Arctic Five nations retain their primary role in governance. This was reaffirmed by the document, wherein it was declared that “by virtue of their sovereignty, sovereign rights and jurisdiction in large areas of the Arctic Ocean the five coastal states are in a unique position to address these possibilities and challenges.” Subsequently, the Arctic Five’s innate right to be the vanguard of Arctic politics was pronounced once again: “[T]he Arctic Ocean is a unique ecosystem, which the five coastal states have a stewardship role in protecting.” This perspective raised a question regarding the limitation on the rights of both Arctic and non-Arctic nations to impact the region’s future. This question remains unanswered in the current scenario, and its answer depends on the future orientation of the Arctic Five. The declaration also played a key role in defining or highlighting universal cooperation in the Arctic. In this regard, the littoral states have tried to work, both independently and in cooperation with each other, to preserve environmental stability. Not only that, but the cooperation between littoral states is also causal to the Arctic Council’s exertions and collaborating in scientific research and information-sharing.⁶

The Arctic is attracting the political interests of various nations that are quite far from the region. These include the European and Asian big and small powers as well as polar and tropical powers. This interest correlates, at various levels, to several geopolitical factors related to the Arctic—the geographical positioning and placement of the Arctic region amid the three continents (North America, Europe, and Asia). This leads to shorter trade distances between various destinations in these continents, thereby reducing the transit duration. There exists also the presence of mineral and industrial resources, especially oil and natural gas. This presence is one of the primary reasons for the increasing strategic signifi-

cance of this region. The Arctic's natural resources have, in turn, increased the possibility of economic and energy security for the nations that are involved in regional resource extraction; the sea lanes of communication (SLOCs) around this region and their relation to the manmade circumstances and operational conditions; effects of global warming and climate change (in turn offering better conditions for the exploration and exploitation of resources); and the regulatory similarity to the prevailing global ocean agreements, particularly the third United Nations Convention on the Law of the Sea of 1982 (UNCLOS III).⁷ In fact, these factors have been responsible for the interests of the major players, providing a glimpse of the geopolitical scenario in the Arctic. In all this power play, Russia and China have been heavily investing in the Arctic, which will eventually affect the American presence there. Besides the increasing political and geopolitical significance of the region, its economic aspect is also relevant. With the possibilities of an increasingly ice-free Arctic region looming large, countries such as China are now eyeing the economic profitability of the region due to untapped oil and gas resources and its shorter international transit routes.⁸

Based on the above discussion there are three major issues that have come to the forefront of the Arctic debate: natural resources, maritime routes, and environmental concerns. The strategic calculus of all the major players revolves around these three specific issues.

Natural Resources

Natural resources have become a prominent reason for the enhanced interest in the Arctic. With the thawing of the Arctic ice cap, the readily available natural resources and their easy accessibility are enticing for all the major powers of the world, including China. The energy resources have tremendous potential, but the unfavorable climatic conditions and technological barriers they present prevent the full utilization of these resources for the profitability of the parties involved. There is no clear agreement on the precise volume of the undiscovered oil and gas reserves, but the projected volume of the Arctic Shelf's undiscovered oil and gas reserves is estimated to be around 90 billion barrels, 1,670 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, according to the estimates of the American Geological Survey.⁹ These resources amount to almost 22 percent of the undiscovered resources in the world that can be harvested using existing technology. Out of this, almost 84 percent of these resources is anticipated to occur offshore.¹⁰ As such, major challenges can arise for the development of natural gas.

Even though this region is rich in natural gas resources, the development of the same could be hampered owing to the low market value of natural gas as com-

pared to oil. Additionally, consumers of natural gas located far from this region will have to bear greater transportation costs as compared to oil and natural gas liquid transportation.¹¹ Definitely, the difficult terrain and environment of the Arctic region—due to harsh climatic conditions as well as high and extremely cold winds—make the going difficult for the evolving energy projects. Consequently, it results in shorter operating seasons, which eventually require special equipment, thereby increasing costs. In contrast, the dearth of infrastructure networks poses its own challenges, making transportation difficult and economically burdensome due to longer travel distances and harsh weather, drastically and directly affecting the transportation timelines as well.¹² In environmental terms, the Arctic's ecologies are fragile and can be very easily disrupted due to the exploration activities inherent to oil and gas development. At the same time, the melting of tundra may become problematic for the construction of natural gas pipelines. This can eventually increase the significance of liquefied natural gas (LNG) and maritime transportation.



Source: Dr Jean-Paul Rodrigue, Department of Global Studies & Geography, Hofstra University, <https://transport-geography.org/wp-content/uploads/Map-Polar-Routes-Simplified.pdf>.

Figure 2. Polar shipping routes

Maritime Routes

There are currently two main maritime routes that are emerging from the Arctic: the Northwest Passage (NWP) and the Northern Sea Route (NSR). There are other plausible maritime route options that are available such as the Transpolar Sea Route (TSR) and the Arctic Bridge (figure 2).

At present, the passage is possible only in the summer months. However, due to presence of ice, the NWP route is still not viable.¹³ Furthermore, the COVID-19 pandemic added to an unanticipated delay in this effort. Once established, the NWP will definitely lessen maritime shipping distances and shipping time considerably. The maritime distance between East Asia and Western Europe would be only 13,600 km via the NWP as compared to 24,000 km traversing through the Panama Canal. The NWP was made operational in 2007 during the summer months.¹⁴ America has long maintained its right to pass its sea vessels through this shipping route without asking formal permission from Canada. Canada's disagreement with this practice and the United States' steadfast attitude toward this sea route have led to a mild disagreement between the two neighbors. However, this disagreement was resolved (with more of a political than legal fix) through the signing of the Canada–United States Arctic Cooperation Agreement in 1988.¹⁵

The NSR is located along Russia's Arctic coast. It is speculated that this maritime route likely will be the first to be free of Arctic ice; therefore, it has the highest commercial viability. It would minimize the maritime distance traveled between East Asia and Western Europe from 21,000 km via the Suez Canal to 12,800 km through this new route. Also, it will reduce the transportation time by 10–15 days. In the past, this route was used to supply military and resource extraction throughout the Soviet Arctic during the Soviet era. However, due to the fall of the Soviet Union in the early 1990s, this traffic dropped drastically but picked up pace again in the 2000s.¹⁶ In 2009, two German ships, *Beluga Fraternity* and *Beluga Foresight* (along with a Russian icebreaker escort), completed the first commercial journey across the NSR, linking Busan city (South Korea) to Rotterdam (the Netherlands) after various layovers. Trials by other shipping lines through this route haven't been particularly successful commercially.¹⁷ It was also at this time that the NSR was opened for international transits, with Russia employing resources for developing the route at various levels—including the introduction of changes in federal laws and regulations. Simultaneously, Russia also ventured into developing offshore and onshore infrastructure, as well as publicizing new shipping opportunities. However, this heightened interest of the major players in the NSR as a potential profitable maritime route has also emphasized the hindrances

related to the stable development and operation of this route. These challenges refer to the possible economic and environmental risks in the course of the NSR, due to the ambiguity related to the duration of the viable navigation season and sudden disparities arising in the oceanic and sea ice regimes in this region.¹⁸

Another emerging Arctic Sea route is the TSR. This route would utilize the central part of the Arctic Sea to connect the Bering Strait (which separates Russia and the United States slightly south of the Arctic Circle) with the Atlantic Ocean near Murmansk (a port city in northwest Russia). However, at present the route, even though most viable, remains hypothetical. The Arctic Bridge connects Murmansk (Russian port) or Narvik (Norwegian port) to Churchill (Canadian port). This bridge could be utilized for this transit route. Although this route is not a trans-Arctic route intrinsically, its aim is to link the two hinterlands (Northwest Europe and the North American Midwest) via the Arctic.

Definitely, freight transport within Arctic waters requires icebreakers and ice-class carriers. Currently, Russia tops the list of owning icebreakers with 46 (11 under construction and four planned) followed by the United States with five ice breakers (and three planned) and China with three ice breakers (and one under construction).¹⁹ China has become the first nation to use an atomic-powered icebreaker that competes in size with Russia's largest nuclear-powered icebreakers. It is pertinent to mention here that Russia is the only nation to have nuclear icebreaker capability. A nuclear icebreaker will enhance China's ability to navigate the Arctic Ocean even during the adverse winter climate. China's plans to develop a nuclear icebreaker can be considered as the most recent step in an effort to pursue a more active role in Arctic diplomacy.²⁰

Environmental Concerns

The Arctic's unique natural characteristics include severe weather conditions, extreme disparity in light and temperature, massive snow and ice cover in winter, and vast tracts of permafrost.²¹ The region is rich in hydrocarbons and fish stocks. The Arctic's environment is quite delicate and susceptible to technological development. Therefore, it has a pressing need for protection, as this region is the prime juncture for the network of ecological interactions of the whole planet. This region has witnessed the negative effects of climate change most of all, and due to these climatic variations, the Arctic has gained immense significance—to the detriment of the environment.²² The Arctic region includes three major biomes: the polar desert (nearest to the North Pole), the tundra, and the boreal forest (aka taiga in Eurasia) located in the southern parts of the Arctic. The region is the most affected of all by global warming. It is certain that climate change in this region has been responsible for physical, ecological, sociological, and economic impacts

around the globe. The major contemporary apprehensions are consequences due to long-range air and sea transport of pollutants as well as specific human activities. These include interference with ancient animal migration routes, oil and chemical spills into the sea, and the unanticipated influences of climate change resulting in the melting of the ice cover. Many of these effects will take an incredible amount of time and effort to reverse. These aftereffects of global warming have drastically affected the physical, chemical, biological, and human components of Arctic ecosystems. The damage is incalculable, widespread, and quickening. In fact, global warming has resulted in a domino effect of alterations in the physical form of the Arctic environment, which includes the melting of sea ice and rise in the sea level, reduction of albedo (surface reflectivity), coastal erosion, and enhanced warming of the ocean due to feedback loops among various climate factors.²³

China's "Polar Silk Road"— Conceptualization & Implementation

China's interest in the Arctic and the evolution of its Arctic policy began in 2010. However, the Arctic was not high in its list of foreign policy agenda at that time. These interests and ideas diversified with the increase of Chinese diplomatic and economic activities in the region. In fact, China aimed to increase its foothold there by involving itself in Arctic affairs and working to be acknowledged and included as an Arctic stakeholder. Through a video message, the Chinese foreign minister, Wang Yi, claimed that China is a "near-Arctic state" and, to substantiate this argument, discussed China's long history of Arctic interests going back to China being a signatory to the Spitsbergen (Svalbard) Treaty²⁴ in 1925.²⁵ He mentioned this at the Third Arctic Circle meeting held in October 2015 at Reykjavik, Iceland. It clearly indicates that through this he was trying to highlight—and legitimize—China's increasing interests and role in the Arctic region. These ideas were further reaffirmed and made visible in 2017 when the *Vision for Maritime Cooperation Under the Belt and Road Initiative* was released by China's National Development and Reform Commission in collaboration with the State Oceanic Administration. This document highlighted the "blue economic passage . . . leading up to Europe via the Arctic Ocean."²⁶ The basic idea of linking Europe and Asia through the melting Arctic was then extended and hailed as the "Polar Silk Road" in Beijing's white paper discussing its Arctic policy in 2018.

However, Chinese thinking behind the development of Arctic routes and investments goes back to 2013, when China decided to invest in the Russian Yamal LNG Project. Chinese stakeholders in the Arctic region have gradually become active in Arctic matters ever since May 2013, when China received observer status in the Arctic Council. In mid-2013, a commercial ship of the China Ocean Ship-

ping Company, *MV Yong Sheng*, commenced on the first trip from a Chinese port to Rotterdam through the NSR. It followed the maiden transit route taken by Chinese icebreaker *RV Xuelong* from China to Iceland in 2012 via an Arctic Sea route.²⁷

China's vision, policies, and actions related to the Arctic have focused on scientific aspirations. These look to the effects of climate change on this region, especially on its geography, climatology, geology, glaciology, and oceanography. China has built, developed, and maintained its own scientific station in the Arctic region since 2004 for that reason. The station, known as the Yellow River Station, located on Svalbard, is run by the Chinese Arctic and Antarctic Administration.²⁸ Since 1993, after purchasing the icebreaker *Snow Dragon* from Ukraine, China has conducted several expeditions to both the Arctic and the Antarctic regions. China has launched several expeditions and increased its efforts to develop networks and cooperation with other Arctic nations. China, seemingly like other non-Arctic nations, is actively taking part in general science diplomacy, collaborating with other nations through research activities to legitimize and support its rising presence and influence in the region. These scientific collaborations help China smooth out its Arctic diplomacy and facilitate its regional growth by improving and consolidating its image and relations with other Arctic states through trust-building and assimilating China into Arctic governing circles. In this regard, China is establishing scientific alliances with Russia to carry out collaborations in exploration exercises and research missions, as well as to explore the new and emerging shipping routes that will help China overcome its well-known "Malacca Dilemma."²⁹ However, it should be noted that China–Europe trade through the Malacca/Suez route via the Indian Ocean has more immediate and larger European concerns as compared to China's nascent Polar Silk Road. Almost 80 percent of trade between China and Europe passes through the Strait of Malacca, including oil trade. At the same time, it can also not be ruled out that China's Polar Silk Road through the Arctic region can create more competition for European nations in various fields such as maritime trade, shipbuilding, emerging growth niches in blue economy, and the global presence of the Chinese navy. These can result in friction between Chinese intentions in the Arctic versus claims by the European nations there.³⁰ It can be said that China's push to develop the Polar Silk Road will not diminish the importance of Strait of Malacca for either Europe or China. At the same time, the contestations between the two in the Arctic might result in retaining the significance of Strait of Malacca as a trade route.

Another important reason for China to take extensive interest in the Arctic region also pertains to commercial drivers and apprehensions related to safeguarding and expanding its energy supply chains. Chinese energy firms are vying for

access to the Arctic's onshore oil and gas explorations in the coming years. The usage of Arctic Sea routes, exploration, and development of the resources in this region can have a major impact on Chinese energy strategy—China being the top energy consumer in the world. China's monetary might, technological know-how, market base, knowledge, and expertise will play significant roles in broadening the shipping route networks. China has attempted to clarify its mutual interests with other Arctic states, linking it with a shared future with other global players.

Another important driver of China's Arctic policy remains the SLOCs. The Belt and Road Initiative expansion to the Arctic region is built particularly on the promotion of maritime operations through the NSR along the Russian coast in the Arctic Ocean. Due to the melting of glaciers and sea ice, global warming, and climate change, the Arctic region's vast resource wealth has been acknowledged as a new economic hinterland. The region contains almost one-fourth of the world's unexplored oil and gas resources, in addition to other natural resources. Therefore, all these factors combined stimulate China's enhanced aims as well as the emerging geopolitical dynamics. Greater demand for energy and hydrocarbon resources at home to boost the domestic economic scene, as well as the full utilization of the Arctic maritime routes, emerge as significant, economically helpful possibilities for China. Also, navigation routes such as the NSR and the NWP are vital for the expansion of the BRI in the Arctic region. China's proclamation of being a near-Arctic state is its attempt to strengthen its legal right to increase its influence in the geopolitical developments. In this scenario, the white paper clearly proclaims China's ambitions and how it wants to use the Polar Silk Road to link its enormous commercial and infrastructure projects in Asia and Europe through an extension of the BRI to the Arctic.

Moreover, Chinese alliance and cooperation with other nations through bilateral and multilateral means have become clear through policy expansions. An example is China's collaboration with Russia for its Yamal LNG project.³¹ Yamal is the linchpin of China's Arctic infrastructure projects and signifies an "anchor" project intended to establish a commercial presence that will eventually back all the related investments in the region under the BRI umbrella.³² To move forward in advancing maritime cooperation as part of BRI, Beijing in 2017 declared plans for three purported "blue economic passages" that will connect Asia with Africa, Oceania, Europe, and beyond.³³ Among them, there is a single passage route that links China with Europe through the Arctic Ocean. It officially connects the BRI to Beijing's Arctic interests, aims, and ambitions. China approaches the Arctic region from multiple perspectives, including Beijing's interest in resources, trade and investment owing to domestic requirements, and preserving a symbolic presence in the geopolitics of the Arctic. China's Arctic engagement takes place

through bilateral partnerships, mainly with the European Arctic states, as well as multilateral alliances through institutional engagement, largely the Arctic Council. In all this, Russia has so far shown a welcoming attitude toward Chinese involvement in the NSR and Arctic; however, the pace of Chinese involvement has been quite slow. But China's strong desires and ambitions are pushing it to quicken the pace as well as "gradually increasing its participation in projects that represent its crucial interests."³⁴ China is also one of the most important nations that is involved in international maritime trade. China is placed fourth in the ownership of vessels around the world and executes 90 percent of its commercial trade through maritime transport.³⁵

It can safely be said that China's engagement in the Arctic is based on win-win gains between China and various other players including Russia. This has been underscored by participation in multilateral cooperation with other Arctic nations and by being a part of Arctic Council. China's emergence confirms its strengthening presence in global power politics. In the Arctic, China's engagement tracks its official policy as declared in its white paper highlighting its determination to sustainably utilize opportunities to turn geopolitical dynamics in China's favor. Due to repeated declarations by China regarding climate change and other environmental threats, it has shown its intent to protect this region from environmental hazards—that is, China is intent on projecting a perception of being a concerned and accountable nation in the Arctic region. However, it should be kept in mind that China is the largest emitter of greenhouse gases globally, followed by the United States and India.³⁶ China's permanent membership at the United Nations Security Council, observer status at the Arctic Council, and emergent bilateral and multilateral partnerships with several Arctic nations allow China to claim a legitimate presence in Arctic affairs. This claim is again reaffirmed by China's self-proclamation of being a "near-Arctic state," with the ultimate goal of reinforcing the validity of its soft-power presence in the Arctic.

At the same time, the challenges facing China range from the difficult geographical environment of the Arctic to the economics related to infrastructure and investment projects China is undertaking in the region. Added to this is a delicate environmental balance that makes human activities challenging. At present, oil resource extraction in the Arctic is comparatively less cost-effective when compared to extraction in any other parts of the world, coupled with the uncertain risks associated with Arctic conditions. This has emerged as the primary reason for the reluctance of businesses to invest in projects there. Similarly, the Arctic routes—especially the NSR—are not yet advanced enough to serve as regular international navigation routes. Still, China's move toward the Arctic can be considered strategic. And the recent developments under the BRI's extension to the

Arctic suggest that China is progressively, but definitely, becoming more assertive in its regional multilateralism.

Russian and American Actions in the Arctic

Russia and the United States have jockeyed for regional supremacy in the Arctic as the melting ice cap provided the opportunity to explore the resource-rich region. Both nations share a maritime border along the Bering Strait and around the Arctic Ocean. They also share a mutual interest in continued collaboration related to preserving Arctic waters. This has accelerated the race for hegemony. The shifting geopolitical environment has forced other major players and stakeholders to step up their game.

United States

The United States, by virtue of Alaska, has repeatedly asserted its position in the Arctic region, highlighting its substantial interests. US military forces, mainly the Navy and the Coast Guard, have focused their attention on planning operations. The US Department of Defense (DoD), US Navy, and the Coast Guard all released Arctic strategy documents in 2019 detailing their strategy vis-à-vis the Arctic.³⁷ However, the emergent debate has focused on whether the DoD and the military services are allocating sufficient resources and taking adequate actions to defend American interests. This issue has also gained traction with congressional oversight committees. Furthermore, the US Coast Guard possesses two operational polar icebreakers—the heavy polar icebreaker *Polar Star* and the medium polar icebreaker *Healy*; the Coast Guard has received funding to procure three new heavy icebreakers.³⁸ In addition to all the apprehensions raised in Congress, a major source of friction between the United States and Russia remains, related to the NSR: the major exercise in March 2020 was proposed to take place in Norway, between the United States (with 7,500 troops likely to participate) and other NATO countries.³⁹ This was aimed to understand the American desires and ambitions. The exercise, code-named Cold Response 2020, was supposed to involve a massive mock battle with an imagined Russian invading force. However, following the outbreak of the COVID-19 pandemic, Cold Response 2020 was cancelled in early March 2020 to prevent the outbreak and exposure of this pandemic to armed forces.⁴⁰

To better understand the Arctic policy of the United States, CSIS scholar Heather A. Conley identifies three prime features that are influencing this American strategy. First and foremost is the geopolitical factor—the great-power competition between the United States and the largest Arctic coastal nation, Russia.

Added to these apprehensions is the self-proclamation by China of being a “near-Arctic state.” Second is the environmental factor—gradual changes in the Arctic’s maritime and territorial environment perplexing scientists while also promoting the development of flexible governance structures. And third is the economic factors that are linked with the exploration of mineral resources and global commodity prices.⁴¹ For the United States, as for many Arctic nations, the changing conditions and national policies form the basis of a new Arctic doctrine of sorts. US concerns are based on resources, national and homeland security, science, and foreign policy. In the Arctic, these policies are inextricably linked. Historically, the United States staked its claim to Arctic territory in 1867 with the purchase of Alaska from Russia. When Alaska was integrated into the United States, it started witnessing the movement of people looking for mineral resources, especially the Gold Rush of 1889. In later years, circumpolar political cooperation assumed a prominent place on the US agenda. Most recently, two major factors made it imperative for the United States to become urgently engaged in Arctic affairs. First was former US president Barack Obama’s initiative of making climate change an issue of political priority (notwithstanding his country domestically struggling with the issue of climate change). Second was the initiative by the Arctic Council to take a proactive role in Arctic governance, which gained momentum with the signing of a legally binding agreement related to cooperation in search and rescue operations. The Council seemed to be gradually evolving from what had often been called a “high-level discussion club” to “a body of practical significance.”⁴² American ambitions related to the Arctic were strengthened when the then-US president Obama formed the Arctic Executive Steering Committee in 2015 to support the White House in coordinating Arctic strategies.

All these factors underscore how economic development, competitiveness, and the easy availability of large Arctic resources remain the driving forces behind America’s Arctic policies. However, in official political rhetoric, international cooperation and collaboration remain a work in progress. Conflict and strategy also remain important in American policy making. In this debate, two issues appear at the forefront. First is the association to UNCLOS, as the diminishing sea ice has raised questions about maritime rights and rights to marine resources; this issue has gained considerable political traction. Second, the shift in America’s Arctic policy has been related to attitudes toward climate change. In this discussion, President Obama’s posture stands in contrast to his predecessor, George W. Bush. With the election of President Donald Trump, the focus shifted toward climate change denial and facilitating prospects for the Alaskan oil and gas industry. For continuity in the United States’ Arctic policy to remain, it is necessary that these two competing views be resolved in the Joe Biden administration.

Russia

Russia visualizes itself as the top Arctic power, and in fact it is the largest Arctic nation by virtue of land and population. Added to this, Russia's commercial and military investments in the region have produced significant returns. Geographically, Russia accounts for 53 percent of Arctic Ocean coastline. It is hardly surprising that Russia wants to enhance its impact on trade, energy, and defense-related opportunities. All these form part of Russia's Arctic strategy. As part of Russian diplomacy, working with regional and international organizations serves to enhance its influence. Backing the Arctic Council and the Arctic Economic Council makes Russia a frontrunner in Arctic affairs, validating its moves—which include promoting environmental conservation and the welfare of the Arctic's Indigenous population. All these aspects of Russian Arctic strategy are regularly strengthened, making Russia an Arctic nation keen on cooperating with all concerned parties.⁴³ At the same time, jointly working with the other Arctic nations remains a crucial purpose of Russian leaders as they attempt to claim widespread stretches of the Arctic seabed.⁴⁴

Official Russian doctrine identifies the significance of the future of the region and calls for collaboration for preserving it. The Russian energy strategies of 2003 and 2009 and the National Security Strategy of 2009 enumerate natural resources as being vital to Russian growth and development. In this context, the two Russian Arctic strategy documents (2008 and 2013) emphasize regional and multilateral cooperation to meet national security interests.⁴⁵ Since 2013, Russia has spent several billion dollars on construction/upgrades of seven military bases on islands and peninsulas throughout the NSR, positioning its advanced radar and missile defense systems—with the capability of striking aircraft, missiles, and ships—in the areas where temperatures can fall below -50°C.⁴⁶ Russian strategy related to military deployment in the Arctic also reinforces its nuclear deterrence and contributes to its military operations around the world. Russia's military doctrine released in 2015 discusses the Russian initiative to defend its northern edges through an all-inclusive (i.e., land, air, nuclear, and maritime) command structure. Russia's Northern Fleet, which is located in the Arctic, has crucial access to the Atlantic Ocean. The fleet's tactical nuclear weapons and strategic submarine capabilities strengthen Russian deterrence. Furthermore, Russia's western Arctic zone also connects the Baltic Sea to the Kola Peninsula, where prepositioned Russian forces guard its northern flank from NATO.⁴⁷ This provides Moscow with complete military coverage of its full coastline and adjoining waters. This will put ships traversing through the region under Russian oversight. Also, with the low volume of traffic during the three ice-free months, it is much easier to manage. However,

as anticipated, with the growing volume of maritime traffic and burgeoning shipping business, Russia has pressed for legislation to enhance its control over Arctic routes. It has given Rosatom supreme authority for managing access to the NSR by utilizing icebreakers that can shepherd ships,⁴⁸ including with its first-of-its-kind nuclear-powered icebreaker. All these factors and deployments indicate that Russia views the possibility of confrontation to be more likely than collaboration in the Arctic region.

As for Russia's Arctic strategy, there emerge two plausible narratives. First, Russian conduct in the Arctic region is motivated by nationalism, expansionism, and aggression. Russian activities, unilateral and militarily aggressive, are designed to achieve and protect its national interests. The second narrative is that Russia's policy is guided by realistic economic motivations and a proclivity to cooperate on Arctic issues in regional and multilateral institutions. Yet, there emerges a third narrative, characterizing the Russian Arctic strategy as more nuanced, "neither benevolent nor belligerent." Pavel K. Baev of the Carnegie Endowment explains that Russia visualizes the Arctic through a nationalistic rather than an economic prism. The changing political and economic dynamics in the world, as well as the uncertainty related to the actual oil and gas reserves in the region, have pushed Russia to take a step back and analyze the situation before plunging in. Russia's determination to develop the resources of the Arctic region has pushed it to over-protect its Arctic territories. But this can make Russia politically isolated from Arctic partners that are unmoved by Russia's power games. In such a scenario, pursuing Moscow's Arctic aims may be more risky than rewarding.⁴⁹

On the issue of Russian-Chinese cooperation in this region, it is increasingly becoming part of negotiations after both countries pledged collaboration in the field of oil and gas explorations in Siberia—Russia's Far East. This demonstrates that although China is also keen on developing the energy projects in the Arctic region—and with Russia showing interest to forge an alliance with China on this issue—there are several political, strategic, and regional challenges. It will be necessary for Russia to show political benevolence to actually attract Chinese investments for developing Russian-Chinese energy cooperation. At the same time, international sanctions imposed on Russia can act as a hindrance and have an adverse effect on Chinese willingness to become involved in various investment and energy cooperation projects with Russia. Also, the contemporary volatile political and economic scenario might have made the Russian market less attractive to Chinese companies, which are also under ever-increasing pressure to gain profitable and secure deals.⁵⁰

Conclusion

China's Arctic policy is mildly revisionist, as it poses both challenges and opportunities for cooperating with circumpolar states. This article has outlined that China's white paper portrays how it envisages the Arctic region, highlighting a strategic position in favor of China's interests in SLOCs, resource extraction, scientific exploration, and climate policy. At the same time, the white paper reinforces China's position, one in which China can project authoritative guidelines to marshal its Arctic activities. China's admission to the Arctic Council with member status as a permanent observer sends a clear message regarding its intentions to influence Arctic matters. What kinds of competitions and frictions emerge in the Arctic region remain to be seen. China's assertions of being a "near-Arctic state," a "responsible power," and an "important and legitimate stakeholder" form a major part of the argument in the white paper. At the same time, adherence to an international legal framework and environmental norms remains at the heart of Chinese politics. With its expanding BRI plans, China has emerged as one of the most powerful economies in the world, with the primary aim of promoting its political influence in world affairs. Beijing regards the BRI's extension to the Arctic through the Polar Silk Road as a project that will help it further realize China's ambitions to become a political and economic global power. As an economic powerhouse, China aims to play a leading role in global politics. However, China is chasing this dream through alternate methods as compared to traditional norms (i.e., a peaceful rise to great-power status through sustained economic growth). The Polar Silk Road, if successfully functional, can underwrite China's economic ability globally, promote its strategic soft-power diplomacy, and ultimately achieve its aim to be a truly great power.

The mounting tensions between the United States and China will pose a challenge to China's Arctic strategy. At the same time, China's involvement and behavior related to the South China Sea dispute might pose its own hindrance to the bigger goal. It will be beneficial for China not to engage in confrontational behavior due to the strategic value of the Arctic. At the same time, through various economic and commercial commitments, China has taken constructive diplomatic steps to cultivate relations with the Arctic Council that will facilitate Chinese interests. China has entered into joint ventures with Russian gas companies, in addition to building an embassy in Iceland and financing the Kouvola–Xi'an train in Finland. China has also warmed relations with Norway and Greenland through various investments. This inflow of investments will, in turn, help Greenland to lessen its reliance on Denmark. Moreover, all this has helped China to increase its foothold in Arctic nations. Though China has maintained positions

that it is concerned about the climate and environment of the Arctic region and has economic interests there, it cannot be ruled out that all this may be only a small portion of the larger geopolitical narrative that China is pursuing as it strives to be recognized as a responsible major power with growing global reach at a time when the United States is stepping back from international commitments. ❁

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Preparing for an Arctic on the Move

Developing Integrated, International Partnerships for the Ted Stevens Center for Arctic Security Studies

DR. VICTORIA HERRMANN

The confluence of increased global economic connectivity, environmental variability, and natural hazards—all amplified by global climate change—have catalyzed new mobilities in the region’s dynamic littoral spaces. On land, migratory birds, mammals, and insects are temporally and spatially changing their movements as increasing surface temperatures result in an earlier onset for the growing season and the expansion of the northward range of Arctic coastal ecosystems. At sea, rising water temperatures and diminishing sea ice are causing simultaneous changes in the migration and range of marine mammals and fish. And humans—traversing both sea and land as fishermen, subsistence hunters, whalers, tourists, Coast Guardsmen, soldiers, sailors, airmen, ship operators, and coastal residents at large—are responding to these ecological, geohazard, and climatic changes by redrawing their own mobilities. By most any measure—demographics to diseases, economies to ecosystems, ships to species—the Arctic is on the move.

None of these littoral migrations exist in a vacuum. Rather, they are networked together through ecological, societal, and economic interdependencies that hold the potential to exacerbate geopolitical tensions and act as a threat multiplier to the national security of the United States and allied Arctic nations. To advance the security community’s understanding of the complex interface of changing migration patterns requires an inclusive, diverse cohort of researchers capable of integrating science, traditional and local knowledge, and military experience.

The Department of Defense’s recent announcement to establish a new defense department regional center for the Arctic holds the potential to meet that need by fostering international, cross-sector partnerships to jointly advance ideas and to tackle the shared security challenges that exist at the nexus of human, economic, and ecosystem migration catalyzed by coastal environmental variability and natural hazards in the circumpolar north. This article begins with an overview of the current contours of Arctic migrations, followed by an analysis of their implications for national security. It then presents the need for augmented bilateral and multilateral research to address the security consequences of Arctic migrations within and beyond the region, before concluding with a proposed framework to

address these research gaps at the regional center. By prioritizing expert network building and multilateral research on the security dimensions of Arctic migrations, the new Ted Stevens Center for Arctic Security Studies can develop critical insights about new, uncertain circumpolar mobilities with allies and partners.

Arctic Migrations in a Changing Climate

The movement of species, humans, and cultures has always been a defining attribute of the Arctic. From the hunter-gatherer populations who travelled across Siberia and into Beringia during the Late Pleistocene period, to the twenty-first century Sámi reindeer herders across Sápmi in northern Europe, the Arctic has had a network of intersecting mobilities for millennia. And yet, the accelerated pace of ecological and societal changes today is introducing a new normal for the Arctic with new, and at times unpredictable, patterns of concurrent movement for peoples, economies, and species.¹

Global climate change is perceived to be the principal driver of these changes.² The Arctic region has been warming at more than twice the global average since at least the 1970s, catalyzing process changes, geohazard risks, and slow- and sudden-onset disasters. Rising air temperatures have intensified the hydrological cycle and have increased regional humidity, precipitation, river discharge, glacier equilibrium line altitude, and land ice wastage. Concurrently, a warming Arctic has led to more extreme weather events such as frost droughts, extreme winter warming (a “false spring”), a decrease in sea ice thickness and extent and spring snow cover extent and duration, the warming of near-surface permafrost, and a resultant increase in coastal and riverine erosion. Permafrost thaw, wildfires, and erosion are impacting the mobilities of coastal peoples in different ways. In some instances, sudden-onset disasters like fire and flood have forced communities into emergency evacuations, while other communities are seeking relocation as a response to slow-onset disasters like erosion and permafrost thaw.

These physical transformations also have corresponding ecological consequences, as biophysical disruptions cause cascading effects throughout the trophic levels. Box and colleagues’ “Key Indicators of Arctic Climate Change: 1971—2017” surveys a 47-year period of change in the Arctic to reveal that such biophysical disruptions include

increased delivery of organic matter and nutrients to Arctic near-coastal zones; condensed flowering and pollination plant species periods; timing mismatch between plant flowering and pollinators; increased plant vulnerability to insect disturbance; increased shrub biomass; increased ignition of wildfires; increased growing season CO₂ uptake, with counterbalancing increases in shoulder season and winter CO₂ emissions; increased carbon cycling, regulated by local hydrol-

ogy and permafrost thaw; conversion between terrestrial and aquatic ecosystems; and shifting animal distribution and demographics.

Biology and ecology researchers have focused on the range shifts and biodiversity redistribution in fish, sea birds, and marine mammal populations and assemblages;³ on change in predator-prey systems in coastal spaces used by both terrestrial and marine species;⁴ and on the northward expansion and shifting plant species composition of boreal and tundra vegetation.⁵ The changing movements of species and ecosystems catalyzed by the Arctic's physical transformations are not isolated. Though their velocity, spatial, and temporal mobilities are distinct from one another, changes in Arctic coastal range, biodiversity redistribution, predator-prey adaptations, and vegetation expansion not only overlap, intersect, and interact with one another, but are also transforming the mobility patterns of the Arctic's human systems in new, and at times uncertain, ways.

Why Security Implications of Arctic Migrations Matter

The Arctic's changing physical and biophysical processes detailed above have direct and indirect effects on the food, economic, health, human, and national security of the Arctic's coastal residents and littoral Arctic nation-states. In one example, the confluence of marine changes illustrates the far-reaching security implications of Arctic migrations at both the local and national scale. At sea, the distribution shift of ice-associated marine mammals, the northward expansion of temperate marine mammals, and the interaction between these two changes are resulting in competitive pressure and greater risk of predation, disease, and parasitic infection for some endemic Arctic species that in turn impact the food security of Arctic residents.⁶ These changes cause variations in access to, availability of, and quality of traditional food resources—affecting the quality of diet for the Arctic's Indigenous coastal communities.⁷ Beyond nutrition, impact to subsistence hunting and fishing for Indigenous communities negatively influences the spiritual health, resilience, intergenerational cohesion, and economic sustainability of Arctic Indigenous coastal communities. Changes in fish and marine mammal species (often with cascade effects) mean different temporal and geographic mobility patterns of hunting and fishing for the Arctic's Indigenous coastal populations. Commercially, climate change, ocean acidification, and resultant changes in marine productivity are restructuring projections in fisheries' catches, revenue, and sustainable management in the Arctic. Estimates suggest that the Atlantic-Pacific fish interchange enabled by Arctic warming will change 39 percent of global marine fish landings.⁸ Where the once-inhospitable environmental conditions in the Arctic formed a barrier separating most marine organisms in the

North Atlantic from those in the North Pacific, by 2100, up to 41 species could enter the Pacific and 44 species could enter the Arctic because of shifting temperatures.

This increased activity in the marine economy has cascading impacts on the need for more robust and resilient port city infrastructure, migrant labor, and coast guard support. Locally, Arctic residents, fishermen, mayors, and subsistence hunters are the first responders to any maritime security threat in American Arctic and Subarctic waters. As need for emergency response and management rises, it is critical for maritime security operations to provide technical, financial, and communication support for these first responders in an era of increased commercial shipping and cruise tourism.

As commercial fish stocks alter their migratory patterns because of changes in the geophysical marine environment, they give rise to national security concerns.⁹ As contended by blue economy scholar Dr. Andreas Osthagen, “Arctic states—or their respective Arctic regions—are heavily dependent on fisheries as a source of economic wealth and food security. *States are thus willing to go to great lengths to protect their sovereign rights in their economic zones.*” The United States is no exception to this rule. Seafood harvested in the state of Alaska accounts for roughly 60 percent of total US seafood harvests, between 5 to 6 billion pounds annually.¹⁰ The potential security and conflict concerns around species migrating out of US waters necessitate proactive research into migration modeling and augment networks of allied security scholars, practitioners, and coast guards.

While climate change in the Arctic is the primary driver of new mobilities and associated security challenges, it is not the sole driver of changing, increasing movement within and across the region.¹¹ The intensification, deepening, and broadening of international ties in the Arctic, primarily occurring in coastal cities, concurrently affect economies, cultures, built environments, and natural systems.¹² Increases in polar shipping, Arctic tourism, foreign infrastructure investment, and the study of global climate change itself are changing the movement of southern migrant labor, invasive species, technologies, and human visitors into the circum-polar region while simultaneously changing the mobilities of Arctic residents to capture the economic opportunities in port cities brought by new arrivals. Regionally, the availability of better health care, education, employment, and connectivity in Arctic coastal cities also incentivizes rural residents to urbanize, establishing a dynamic web of rural-urban mobilities.

As physical changes, biophysical shifts, and increased connectivity all challenge Arctic ecosystems, settlements, and economies to adapt to new patterns of movement, Arctic researchers, local leaders, and security practitioners have observed, studied, and analyzed these regional variations. Despite the important interac-

tions, interdependencies, and intersections of the drivers and security consequences of changing patterns of coastal mobilities, Arctic migration research is isolated by disciplinary barriers. Research projects, capacity-building initiatives, and academic publications are often narrow in scope, focusing on a single driver or effect in human or natural systems through linear pathways that limit their application to strategic security decision making.

The Need for Bilateral and Multilateral Research on Arctic Migration and Security

Current research and capacity-building projects on Arctic migrations are isolated into discipline-specific research communities. At their broadest point, these disparate research initiatives focus on issues such as: (1) sovereignty and governance consequences for Indigenous peoples; (2) climate change impacts on communities, including public health, cultural heritage, climate-induced displacement, forced relocation, and urban colocation; (3) species redistribution and range shifts, under which there are several sub-communities of ecology, biogeography, macroecology, evolutionary ecology, marine biology, and terrestrial biology; (4) infrastructure and engineering adaptations to permafrost thaw, disasters, and climate conditions; (5) cascading disasters, search and rescue needs, and national security interests in the region; and (6) the increased development of port cities, tourism, public finance, shipping, and energy development.

While research and capacity-building projects that focus on the changing structure and function of the Arctic's individual components are important contributions, the failure to examine changing Arctic mobilities within a holistic view toward national security creates gaps in understanding the processes and interactions between components within the system at large. Interactions between the Arctic's social, economic, and infrastructure systems and hydrological, atmospheric biological, and geological systems that result in changing coastal mobility patterns are bidirectional. They are characterized by a two-way dynamism of nonlinear interactions such as feedback loops, thresholds, and time lags that vary across Arctic spaces and timelines.¹³ Providing security leaders, nation-states, and local stakeholders an understanding of the tradeoffs, synergies, and feedbacks that exist between these networked systems of mobility is critical to ensuring that decisions are based on the best available knowledge of all interrelated components.

There is a documented need to bring the Arctic's disparate research communities together, and in particular to "encourage more research on how species will move and interact in cold environments, the consequences for biodiversity, and

animal and human health and wellbeing,” so that cooperation can “facilitate rapid response, and maximise the use of limited research and management resources.”¹⁴ More generally, “Constructing approaches that emphasize an integrative framework and comprehensive methods for understanding complexities of human-nature interactions is an urgent and growing priority.”¹⁵

A Framework for Multilateral Migration Research at the Ted Stevens Center for Arctic Security Studies

A stated goal of the Ted Stevens Center for Arctic Security Studies is to build strong, sustainable international networks of security leaders with US allies and partners. Secretary of Defense Lloyd Austin noted:

The center will support the U.S. Interim National Security Strategic Guidance direction to work with like-minded partners and across the interagency to pool our collective strength and advance shared interests. It will address the need for U.S. engagement and international cooperation to strengthen the rules-based order in the region and tackle shared challenges such as climate change.

Given both the security challenges of and opportunities for cooperation presented by Arctic migrations, the Center’s leadership might consider the drivers and security consequences of new Arctic migrations as an inaugural research topic. Such a research focus could help facilitate productive communication, exchange, and collaboration between allied partners, stakeholders, and security practitioners. And, by engaging civilian scientists and Arctic researchers involved in the National Science Foundation’s Navigating the New Arctic funding program alongside the security community, the Center would also provide a US-led international synthesis effort and forum for dialogue capable of leveraging existing and future US and international research investments.

The Arctic Security Studies Center can coordinate a network of security leaders and researchers studying the shifting mobility patterns in the Arctic resulting from the double-exposure of climate change and globalization, to advance the United States’ understanding of the security impacts of coastal environmental variability-induced migrations. To accomplish this, four objectives can guide the implementation of such multilateral research and development capacity:

1. Synthesize current research, knowledges, and projects on Arctic migrations across disciplines and identify disciplinary gaps in knowledge that impact geopolitical tensions, military operations, and national security.
2. Identify transdisciplinary linkages, intersections, and interactions between extant research produced by the US defense and civilian research communities.

3. Prioritize research topics on the migration of Arctic peoples, economies, cultures, and ecosystems catalyzed by environmental variability and natural hazards that hold the biggest potential to impact national security.

4. Link siloed research communities related to Arctic migration research, scientific initiatives, security studies scholars, Indigenous knowledge holders, and engineers working independently on migration topics into integrated, interdisciplinary teams to maximize cooperation and eliminate unnecessary duplication of efforts.

In each of these objectives, it is imperative to not only include but also provide research leadership positions for Indigenous knowledge holders. This extends beyond a research group focused on migration and security. While there has yet to be an appointment of an executive director of the Center, once in place, the leadership of the Ted Stevens Center must work at large to bring Indigenous expertise and experiences to the research and work conducted therein. As the Center advances toward the goal of building a more inclusive dialogue on security challenges in and beyond the Arctic, its inaugural leadership should consider how it can ensure every conversation and project made to focus on Arctic security is guided by a combination of local and national leadership.

Widening the Security Perspective for a Climate-changed Arctic

People across the world have experienced a rapid transition into a new, more dangerous normal. COVID-19 has redefined how we calculate risks to our health—to our very lives—daily. In 2020, residents of the US had to assess the safety of going grocery shopping and of hugging our loved ones. Humans are resilient, and the past year has proven our individual and collective ability to adapt—but not without sacrifice and immense loss. COVID-19 has shown each of us what living in a new, more dangerous normal is like, and what it takes to operate securely in a time of enormous uncertainty. It's given us just a glimpse of what it is like to live in a climate-changed Arctic, where residents calculate climate risks daily—not in some far-off future, but today. For America's northernmost citizens, for the world's northernmost residents, climate change is already an everyday, life-threatening reality. And as climate change catalyzes new patterns of intersecting mobilities of ecosystems, people, and economies, the region's move into the Anthropocene allows for an unprecedented opportunity to understand the mechanisms that drive migration, address the security challenges of those contemporary movements, and seek solutions that will create a resilient, secure future.

To ensure that future, it is incumbent upon those tasked with our national security to safeguard American lives in the Arctic against those aforementioned

climate impacts, and to become an Arctic nation that leads—not follows—in a rapidly changing region. This is no small task. The United States is often described as the reluctant Arctic nation. With historically inadequate investment in Arctic leadership and a lack of sustained funding for resilient civilian and military infrastructure, the United States lags behind every other Arctic state. For the United States to lead in the Arctic, it requires three considerations: (1) what further knowledge is needed to understand the security consequences of this new normal, and how to equip the US security community with such knowledge; (2) how to build effective networks with civilian scientists, stakeholders, and allied partners on critical security research; and (3) whose voices are needed to bolster proactive US Arctic leadership. Building out global leadership through the security challenges of Arctic migrations at the Ted Stevens Center for Arctic Security Studies can directly address these three considerations and develop more effective military-civilian and cross-border strategic partnerships.

US residents will leave their new pandemic normal after COVID-19, but Arctic residents will continue to live in a dangerous state of emergency. Developing US research capabilities to understand and address new, uncertain Arctic mobilities that may act as threat multipliers to the many dimensions of Arctic security—from local food security to national maritime security—is critical not just for the Arctic but for every region across the world. From catalyzing more frequent cyclones to intensifying wildfires in the American West, what happens in the Arctic doesn't stay in the Arctic—it affects us all. ★

Dr. Victoria Herrmann

Dr. Herrmann was previously the president and managing director of The Arctic Institute. She is currently on a year-long sabbatical to complete a fellowship and will return to The Arctic Institute in Fall 2022. Victoria has testified before the US Senate, served as the Alaska review editor for the *Fourth National Climate Assessment*, contributes to *The Guardian* and *Scientific American* on climate policy, and was named one of the most 100 influential people in climate policy worldwide in 2019 by Apolitical. She has published in many peer-review journals, and her expert opinion has appeared on *CNN*, *BBC*, and *NPR* among others.

As an assistant research professor at Georgetown University, she served as the inaugural principal investigator of the National Science Foundation-funded Arctic Migration in Harmony: An Interdisciplinary Network on Littoral Species, Settlements, and Cultures on the Move, a major international initiative to integrate discipline-isolated research on changing Arctic migration patterns and advance knowledge on the movement of peoples, economies, cultures, and ecosystems catalyzed by environmental variability. She serves on the Arctic Research Consortium of the United States' Board of Directors, on the Steering Committee of the Climigration Network, and as an IF/THEN Ambassador for the American Association for the Advancement of Science. She was previously a junior fellow at the Carnegie Endowment, a Fulbright Awardee to Canada, a Mirzayan Science and Technology Policy Fellow at the National Academies of Sciences, and a Gates Scholar at the University of Cambridge, where she received her PhD in geography.

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The Indo-Pacific Dimension in US Arctic Strategy

DR. REBECCA PINCUS

The focus of US strategic thinking today is on China and the Indo-Pacific region. This has remained so through multiple presidential administrations and several years of complex global challenges, including the COVID-19 pandemic. While the two major political parties are far apart on many issues, there is remarkable bipartisan consensus on the China challenge. An example is the US Innovation and Competition Act, passed by a bipartisan 68–32 vote in the Senate in June 2021.¹ The legislation provides funds for key technological sectors, including computer chips, where competition is fierce, seeking to boost emerging fields and avoid Chinese dominance of key sectors.

The Interim National Security Strategic Guidance, issued by the Joseph Biden administration in March 2021, describes China as “the only competitor potentially capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system.” Throughout the document, the Indo-Pacific and China are consistently given first position as priorities for US strategy. For example, “our presence will be most robust in the Indo-Pacific and Europe” and “our vital national interests compel the deepest connection to the Indo-Pacific, Europe, and the Western Hemisphere.” Similarly, competition with China is discussed extensively, in contrast to Russia, which is given relatively scant treatment.

The Biden administration is reflecting consensus in the US defense community. The *2018 National Defense Strategy* similarly identified China as the primary US problem and the Indo-Pacific as the priority region.² The *2021 Annual Threat Assessment* from the Office of the Director of National Intelligence describes “China’s push for global power.”³ Assessments from academia and the think-tank community are part of this broad consensus, although there are degrees of difference.⁴

Alongside the clear strategic prioritization of the Indo-Pacific comes a growing interest in the Arctic region, although this remains a far lower priority. The US Air Force,⁵ Army,⁶ and Navy⁷ all recently issued Arctic strategic papers, and the Department of Defense (DOD) issued an Arctic strategy in 2019 as well.⁸ Interest is growing in the Arctic region for several reasons, including the changing climate and Russia’s well-publicized military buildup along its extensive Arctic periphery.

In addition, the Chinese government has evident interest in the Arctic region: its 2018 Arctic policy white paper describes China as “an active participant, builder and contributor” and “an important stakeholder” in Arctic affairs and identifies China’s goals as “to understand, protect, develop and participate in the governance of the Arctic.”⁹

These two regions—the Indo-Pacific and the Arctic—may be adjacent, but they are very different. Similarly, while China has expressed interest in the Arctic region, it is geographically located in the Indo-Pacific. And yet US-Chinese competition is a global phenomenon (and perhaps even beyond, taking space into account). What does this growing interest in the Arctic mean for the Indo-Pacific? How does prioritization of the Indo-Pacific affect the Arctic? Placing growing strategic interest in the Arctic in the context of the United States’ overarching prioritization of the Indo-Pacific yields actionable conclusions.

A first observation relates to DOD’s position in the priority region. The DOD continues to build its desired posture and balance of forces in the Indo-Pacific. A decade after President Obama’s “pivot to Asia,”¹⁰ the effort to rebalance US forces from the Middle East and Europe to the Indo-Pacific continues to move slowly. At the time, then-Secretary of State Hillary Clinton authored an article identifying key security objectives in the Indo-Pacific: defending freedom of navigation in the South China Sea, countering North Korean nuclear activities, and transparency in key regional military activities.¹¹ Ten years later, these challenges have grown: Zack Cooper and Adam Liff recently wrote that “America still needs to rebalance to Asia.”¹²

DOD’s 2019 “Indo-Pacific Strategy Report” noted that United States Indo-Pacific Command (USINDOPACOM) had more than 2,000 aircraft, 200 ships and submarines, and 370,000 personnel in its area of responsibility, mostly in Japan and Korea.¹³ Guam is a strategic hub supporting US forces in the region. However, the Strategy Report acknowledged the major challenges of readying US posture in the Indo-Pacific for a high-end fight: “Our armed forces are learning to expect to be contested throughout the fight.”¹⁴ Challenges include force modernization across multiple new platforms (including unmanned systems, cyber, and space), as well as the “tyranny of distance”—the sheer distance of the Indo-Pacific from the United States.¹⁵

The size of the Indo-Pacific region, and its distance from the continental United States, raises the costs of a US rebalance. These costs are compounded by the high-end nature of military competition in the region, as well as new generations of technology. In 2020, USINDOPACOM released an investment plan, titled “Regain the Advantage,” that laid out resourcing requirements for “establishing the necessary linkages between the strategy, required capacity, capabilities, and

budgetary priorities.”¹⁶ The plan called for more than \$20 billion over six years.¹⁷ The plan noted that “USINDOPACOM’s force design and posture must enable the convergence of capabilities from multiple domains and create the virtues of mass without the vulnerability of concentration,”¹⁸ implicitly acknowledging the threat posed by Chinese strike capabilities in theater. It went on to state that “this requires a force posture and joint force laydown west of the International Date Line . . . properly positioned to defend in depth, while possessing the capabilities and authorities to respond to contingencies across the region.”¹⁹

While USINDOPACOM is expected to advocate for additional resources, it has found a receptive audience in Congress. Congress established the Pacific Deterrence Initiative (PDI) in the 2021 National Defense Authorization Act to improve the posture and readiness of US forces in the region, devoting \$6.9 billion over two years.²⁰ Much like the 2021 Innovation and Competition Act, the PDI reflects bipartisan consensus on the challenge posed by China and the need for extra resourcing to meet that challenge.

The bipartisan consensus on shoring up the US position in the Indo-Pacific was underscored in July 2021, when Kurt Campbell, the Biden administration’s Indo-Pacific coordinator, gave remarks in which he stated bluntly: “I think we recognize that the United States has a lot of work to do. . . . We have historically a strong position in Asia. That position has slipped and we are at risk, and we need to make substantial investments across the board.”²¹

Much analysis has focused on needed improvements to US force posture in the Indo-Pacific, and many proposals are under discussion.²² The PDI itself, as well as the DOD’s spending plan, have all received critiques. Nevertheless, the roiling discussion makes clear that current US posture is not considered adequate, that major new spending is politically feasible, and that there are no simple solutions.

In this context, it is hard to imagine significant resources becoming available to other geographic regions such as the Arctic. Congress is facing a strong demand signal in the Indo-Pacific, and there appears to be enough bipartisan consensus to appropriate funds to meet this priority. However, the larger federal budget is under significant strain from ongoing pandemic-related displacement, and a divided Congress has slowed the legislative process.

A second observation is the position of the United States’ main competitor: the military challenge posed by an increasingly assertive China in the Indo-Pacific. As the DOD’s 2020 annual report on China states, the People’s Liberation Army is growing in capabilities and concepts, strengthening China’s “ability to counter an intervention by an adversary in the Indo-Pacific region and project power globally.”²³ A RAND report titled “War with China” concluded that “fighting would start and remain in East Asia, where potential Sino-US flash points and

nearly all Chinese forces are located.” Furthermore, the RAND authors note that “much of the Western Pacific” could be dragged into a war zone due to US and Chinese disposition of forces.²⁴ In June 2021, Secretary of Defense Lloyd Austin approved a classified directive “ensuring that the department lives up to the stated prioritization of China as the number one pacing challenge.”²⁵

Hal Brands has argued that, while “war is most likely to break out along China’s immediate periphery,” the keys to US–Chinese competition are the smaller states caught in the middle.²⁶ Brands identified four—Germany, Djibouti, India, and the Philippines—as particularly important. Notably, whether the prism of conflict is on China’s periphery or focused on third-party states, the Indo-Pacific region is where the preponderance of risk is located.

Globally, competition with China is dispersed across political-diplomatic, economic, and information domains. In 2020, the administration of Donald Trump released a report titled “United States Strategic Approach to the People’s Republic of China,” identifying three challenges posed by the People’s Republic of China (PRC) to the United States. The first identified, “Economic Challenges,” including protectionist trade practices, especially linked with technology; acquisition of US companies and assets; unauthorized cyber intrusions; the spread of corruption and environmental degradation associated with the massive Belt and Road Initiative; and the “use of economic leverage to extract political concessions . . . or exact retribution.”²⁷ These concepts were expanded in a policy planning paper by the State Department, released publicly in November 2020. The report, “The Elements of the China Challenge,” detailed what was termed “economic co-optation and coercion abroad,” including “debt-trap diplomacy.”²⁸

In the Arctic region, where the PRC has no sovereign territory and no military presence to speak of as of yet, this is also true. The Stimson Center’s Yun Sun notes that “China’s economic engagement in [the Arctic] could be a precursor to much more invasive political and strategic ambitions,” as well as that “China’s Arctic infrastructure development has the potential for dual-use facilities, paving the ground to Beijing’s permanent security presence in the region.”²⁹

Therefore, competition with China in the Arctic is, at present, not primarily military in nature. It is about preventing China from developing an economic or political position in the region that would justify a future military presence to protect. Evidence for this conclusion can be seen in the annual unclassified DOD “China Military Power Report,” which in 2019 devoted a special section to China in the Arctic that focused on Chinese oceanographic research in the Arctic, “which could support a strengthened Chinese military presence in the Arctic Ocean [and] could include deploying submarines.”³⁰ The following year, this prospective language was absent.³¹ In the Arctic, strategic Chinese investments and

influence-building activities are concerning, and they are rightfully receiving scrutiny across the US government.³²

The primary focus of economic or influence competition with China in the Arctic region may not be within DOD, although it is the largest department involved. State, Treasury, Commerce, Energy, and other departments may play important roles. Economic competition, including strategic investment, has received significant attention in recent years, focusing on investment in the United States as well as in third-party countries.

For example, in 2018, the Committee on Foreign Investment in the United States (CFIUS) was strengthened through the Foreign Investment Risk Review Modernization Act (FIRRMA), which broadened the authorities of both CFIUS and the president to review and take action to address national security concerns arising from certain foreign investments.³³ Treasury implemented FIRRMA through two regulations, which went into effect in February 2020. In brief, the FIRRMA regulations expanded and strengthened CFIUS review to include minority investments, as well as mandatory declarations for critical technologies, infrastructure, or data, as well as foreign entities that are partly owned by foreign governments.³⁴

In addition to congressional action to shore up screening of foreign investment in the United States, the United States is working to build consensus with allies and partners about the challenges posed by China. Cyberhacking is a major focus: in July 2021, the administration issued a statement noting “[a]n unprecedented group of allies and partners—including the European Union, the United Kingdom, and NATO—are joining the United States in exposing and criticizing the PRC’s malicious cyber activities.”³⁵

The June 2021 communiqué issued by NATO contained language on China: “China’s stated ambitions and assertive behavior present systemic challenges to the rules-based international order and to areas relevant to Alliance security.”

Greenland and Iceland frequently arise in discussions of potentially harmful Chinese investment in the Arctic region. Notably, Chinese strategic investment in Greenland and Iceland, as well as in other Arctic states, takes on added significance and urgency in the context of high-level US and NATO military interests in those locations: Thule Air Base in Greenland, and Keflavik in Iceland.

Even unspoken, potential competition with China may be an element of US strategy in the Arctic. For example, in May 2021, Secretary of State Antony Blinken traveled to Greenland to meet with the Premier Mute Egede of Greenland. Secretary Blinken explained, “I’m in Greenland because the United States deeply values our partnership and wants to make it even stronger.”³⁶ He pointed to the reopening of the US consulate in Nuuk, Greenland’s capital, after 70 years,

and explained, “At a time when the world is ever more complicated and challenging, it’s very important to reinvigorate out—not only our alliances, but our partnerships with countries that share our interests and values.”³⁷ The subtext in this statement is unmistakable.

Competition with China in the Arctic region therefore might be concentrated, at present, in forms of state power other than military: in the DIME framework (diplomacy, intelligence, military, economic), the D-I-E may be the most important streams of effort in the short term, while China’s military presence is largely prospective.

These observations frame the relationship between the Arctic and Indo-Pacific regions. Further, they provide a basis for developing strategic assumptions and recommendations for the future. Placing the Arctic and Indo-Pacific into a strategic hierarchy of US-Chinese competition in which the Indo-Pacific is primary and the Arctic is secondary helps clarify policy choices.

For example, one strategic conclusion might be that low-cost diplomatic, intelligence, and economic efforts should be centered in the Arctic, so that high-cost military efforts can be focused on the Indo-Pacific; that these efforts should increase US influence and block the growth of Chinese influence in the Arctic.³⁸ Given the primary focus on the Indo-Pacific and the need for expensive, high-end military capabilities—as well as other spending on competitive domains, such as science and technology, and space, as identified in the Innovation and Competition Act, described above—an approach to the Arctic that centers on diplomacy, intelligence, and economic development also may be fiscally achievable.

In the future, should China develop Arctic military capabilities, up to and including polar-capable ballistic missile submarines, this strategic calculus may evolve. However, the United States’ focus on China as the primary rival, and the Indo-Pacific as the primary theater of confrontation, appears to be enduring. Assessments of Arctic strategy should bear in mind that it is not the primary competitive theater between the US and China and further that the Arctic should be prevented from becoming a more competitive theater if at all possible. ✪

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What Makes an Arctic Nation?

Looking Within at American Arctic Narrative

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In the Arctic region since the end of the Cold War, if not before, there has been a mismatch between the national interest of the United States as expressed on paper versus the drive to act on feelings expressed by the American public. The era of great-power competition, played out against the backdrop of rapid environmental changes and increasing commercial interests, has accelerated focus on the Arctic region across the US defense enterprise.¹ And though looking outwardly at the stated and implicit intentions of the People's Republic of China and Russian Federation in the region is valuable for strategists, we should also think about our internal strengths and weaknesses with regard to perceptions, investments, and actions in the Arctic of today and tomorrow.

Expanding Interests

The attention placed on the Arctic has roots in the early 1990s, when climate change was first mentioned in President George H. W. Bush's *1991 National Security Strategy* and President William J. Clinton's issuance of Presidential Decision Directive 26 (PDD-26) titled "United States Policy on the Arctic and Antarctic Regions."² PDD-26 was essential for structuring the executive branch and budgeting for scientific research and logistics in the polar regions, but it hardly caused a media sensation.

In 2009, President George W. Bush established a new US policy (National Security Presidential Directive 66/Homeland Security Presidential Directive 25) for the Arctic region that superseded the Arctic portions of PDD-26, leaving Antarctic policy intact.³ Therein, President Bush made clear that the "United States is an Arctic nation"; his successor, President Barack Obama, embraced this in the last portion of his *2010 National Security Strategy*, the first to contain a section on "Arctic Interests."⁴

In May 2013, President Obama issued a separate "National Strategy for the Arctic Region," followed by the issuance of the Department of Defense "Arctic Strategy" in November 2013.⁵ The release of the US Coast Guard's "Arctic Strategic Outlook" in 2019, the US Air Force's "Arctic Strategy" in 2020, and the US Navy's "Strategic Blueprint for the Arctic," the US Army's "Regaining Arctic Dominance" guidance, and the Department of Homeland Security's "Strategic

Approach for Arctic Homeland Security” in 2021 highlight recent defense and security prioritization of the northern polar region as climate warming takes hold and opens new areas to trade and resource exploitation.⁶ On the procurement front, defense leadership and Congress have reached a consensus on the need for polar security investments and prioritization, with funding for ski planes, the Polar Security Cutter program, and Arctic port studies.⁷

America’s Arctic Heritage

The exponential, upward curve in strategic document production demonstrates that US policy has rediscovered the security value of its Arctic homeland. While some of this is an acute awareness of the existential threats to sea ice, temperatures, permafrost, and ecosystems, the visible Russian and Chinese naval, aerial, maritime, space, and commercial presence in the Arctic have given policy makers a reminder that Alaska is very much a part of the United States.

Congressional and media focus on weapons and technologies acquisitions of F-35 fighter aircraft, ballistic missile defense systems, radar systems, and space surveillance in Alaska has led many to believe that the northern front is a vast, white, depopulated wasteland sprinkled with military resources and training facilities. This vision obscures some of the greatest assets our nation has with respect to the Arctic region: the land and sea itself, the social and cultural heritage of Alaska Native peoples, and our nation’s human capital.

Alaska as we know it was purchased from the Russian Empire and transferred by treaty in 1867 to the United States.⁸ However, Alaska Natives were present on the land for thousands of years prior. Though largely outside the scope of this work, the history of America’s largest state by area is thus rich and complex and can be studied from multiple perspectives to account for Indigenous heritage and the US federal government’s involvement.

In 1935, Brigadier General William L. “Billy” Mitchell, a key early proponent of American airpower, told the House Military Affairs Committee: “I believe in the future he who holds Alaska will hold the world, and I think it’s the most strategic place in the world.”⁹ Basing aircraft there provides clear time-distance advantages in accessing Eurasia. The Alaskan theater was critical in World War II (when Japan invaded the Aleutian Islands) and the Cold War. This geostrategic refrain is often referenced by US congressional delegations from Alaska vying for infrastructure budgets and defense resourcing.¹⁰ Their voices and those of military leaders familiar with the theater have seemed trapped in an echo chamber until the renewed surge of strategic competition narratives.

Defining an “Arctic State”

One item sparking interest in the Arctic is Russia’s chairmanship of the Arctic Council, set to last until 2023.¹¹ The Arctic Council is a consensus-based international forum of Arctic Indigenous peoples and eight national governments for cooperation across Arctic affairs related to the environment and social and economic development. It is not a treaty-bound organization, but its founding charter, the Ottawa Declaration of 1996, specifies there are eight official Arctic States: Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States.¹²

There are a few definitions of “the Arctic.” First is the strict geographical definition of all portions of the globe above 66°34’ North latitude (the Arctic Circle). Second is the political definition instituted in the Ottawa Declaration, defining “Identified Geographic Areas” that extend farther south to encompass the Bering Sea, Hudson Bay, and territories in the high-50° latitudes.¹³ Additionally, there are two environmental definitions: the area north of the northern tree line, and the area in which the average daily temperature in summer does not exceed 10° Celsius (50° Fahrenheit).¹⁴ These latter definitions are shifting along with climate change and may alter political conceptions of what the Arctic is in the future.

As a percentage of territory and coastline, the Arctic portion of the United States is low relative to some of the other states. Russia has 53 percent of the Arctic Ocean’s coastline, for example, stretching across 24,150 kilometers, compared to the 1,790 kilometers of Alaskan Arctic coastline.¹⁵ More than 40 percent of Canada is within the Arctic Council’s Identified Geographic Areas, and large proportions of each of the Scandinavian member nations’ territories are included.¹⁶

There is no doubt that Russia is an Arctic State, and it invests, acts, and defends its interest as such with military forces, bases, icebreakers, aircraft, and a dedicated Northern Fleet.¹⁷ As well, 2.5 million Russian citizens live in the Arctic, including members of 40 Indigenous groups.¹⁸ This inherent relationship with the unique regional environment and its peoples is not without struggle for the Russian government. Siberia—long thought of as a place for gulags, hard labor, and mineral extraction—faces similar domestic challenges in narrative for most of the population. There is a great need for government support and infrastructure repair as individual villages and regions fight to maintain livelihoods and protect themselves from physical changes such as melting permafrost, coastal erosion, raging forest fires, and the dangerous combination those elements present to the industrial processes and chemicals stored in Arctic facilities.¹⁹ Though news of natural

and commercial disasters in the Russian Arctic is not always reported openly, Moscow cannot easily forget its Arctic endowment.

The People's Republic of China, by contrast, has none of the above inherent stakes to claim it is an Arctic State. It has no historical territory, geographic adjacency, or peoples there. Nevertheless, it has relentlessly pursued access to the region for resource development, scientific, and trade purposes. Despite its status as a non-Arctic State, China managed to obtain Permanent Observer Status at the Arctic Council in 2013.²⁰ China has called itself a "Near-Arctic State," issued an official "Arctic Policy" paper in January 2018, and most recently embarked on its "Polar Silk Road" initiatives via the 2021–2025 Five-Year Plan.²¹ China's stated intentions have been backed up with budgetary investments in polar research, the launch of the second icebreaker in its inventory (the R/V *Xue Long 2*, China's first domestically built icebreaker), and multiple transits of Arctic sea routes by Chinese shipping fleets.²²

These actions have attracted high-level attention in the United States and among NATO allies. In a fiery speech at the May 2019 Arctic Council Ministerial Meeting in Rovaniemi, Finland, US Secretary of State Mike Pompeo stated: "Beijing claims to be a 'Near-Arctic State,' yet the shortest distance between China and the Arctic is 900 miles. There are only Arctic States and Non-Arctic States. No third category exists, and claiming otherwise entitles China to exactly nothing."²³

US-Chinese and US-Russian relations currently are on downward spirals. However, the Arctic is a global commons. Human activities worldwide affect the health of Arctic marine and terrestrial ecosystems, while that degradation in turn affects our climate, wind, and weather patterns here in the United States. The Arctic Council was formed to collaborate on these issues and has provided opportunities for international understanding and cooperation in search and rescue, science, the environment, and other areas.

The Role of Narrative and Polar-Mindedness

Our capacity to lead globally and regionally will be dependent on narrative. We have seen the importance of this in battles of information and disinformation across borders and domestically. A narrative of external fixation on the actions of the People's Republic of China and Russian Federation *does* have its place in the battle for budgets. The United States has a long, upward crawl ahead to invest in resilient infrastructure, icebreakers, ski planes, and communications systems in Alaska, Greenland, and at NATO bases.

It is time to open the aperture beyond procurement and look within. The United States is an Arctic State through and through. The land, the coast, the tundra, the

mountains, the rivers, the ice—they are all Arctic. The psychological, cultural, and social elements of geography are essential. There is a need for a unification of these fields to have success in preserving the environment itself, the people’s way of life, and the geopolitical standing of the United States.

If narrative is where the battle is to be fought, then Arctic identity cannot be a theory on paper. The elements of heritage and culture must be embraced in a powerful display of *truth* and *fact*—that Alaska is both a point of pride and an American responsibility. Polar-mindedness—appreciating the relevance of the polar regions to national and international policies and our daily lives—can help us venerate the legacy of the Arctic in a way that serves the national interest.²⁴

A polar-oriented mindset that reverberates through our education system, science and technology investments, and strategic thought would be beneficial to harnessing the human capital of our diverse nation. This expression of truth in narrative must not become exploitative of Alaska Native communities but should instead engage and support them as they face the burden of environmental and political challenges ahead.

The keystone to our success in the Arctic during the era of great-power competition is right in front of us. It is within us. The Department of the Air Force’s “Arctic Strategy” highlights the importance of cooperation with allies and partners.²⁵ This overarching line of effort acknowledges the roles of Indigenous communities and traditional international partners in a military context. But it could go further in recognizing that the strength of our operations in the Arctic does not begin in Alaska alone. It starts with partnerships in academia, industry, civic society, and population-wide interest across all US states and territories. 🌟

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