Great power competition and the increase in human activity in the Arctic as a result of the depletion of Arctic ice has made the vast region a source of growing political, economic, military, and ecological interest as well as concern. Should the limits of the Arctic Council as a governing body be a source of concern? Are there other mechanisms that might enforce the Council’s guidelines? What precisely are US interests in the Arctic, and is Washington devoting sufficient resources to advance them? Particularly since Russia’s invasion of Ukraine, should the US and its allies on the Arctic Council stress competition or cooperation with Russia, a key Arctic state?

The Arctic: Opportunities, Challenges, and a Way Forward

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Introduction

Despite seasonal flux, the extent of Arctic Ocean sea ice continues to recede, resulting in economic opportunities arising from new shipping routes and mineral exploration but also presenting potential security challenges to the existing international trading system. The Arctic will become a new region for great-power competition in the coming decade. The goals of this paper are to: (1) understand the rapid environmental transition occurring in the Arctic and analyze the resultant economic opportunities enabled by new shipping routes; (2) examine the great power competition that is resulting from the ice melt; (3) discuss potential flashpoints resulting from the shift towards trans-Arctic commercial shipping; (4) explain the current state of the U.S. Arctic capability. Overall, if the U.S. remains dormant to the changing regional dynamics, it will be less economically competitive with China, enable Russian influence to spread throughout the region, and may encounter growing global instability.

Rapid Environmental Transition and the Economic Opportunity

The Arctic Ocean is no longer extensively frozen and is going through a rapid environmental transition due to rising atmospheric and ocean temperatures. Temperatures in the Arctic continue to warm four times as fast as the rest of the world due to Arctic Amplification.\(^2\) Since 1979, the long-term trend of sea ice extent is decreasing at a rate of 7.4 percent per decade.\(^3\) Recently, the routes have been navigable during the summer-fall months due to reduced sea ice extent. For example, the wintertime maximum sea ice extent was the lowest on record in 2017 and only marginally improved in 2018.\(^4\) According to the Global Change Assessment Model (GCAM) 4.5, between 2025-2030, shipping routes through the Arctic will be opened to ice-strengthened cargo ships capable of operating in ice up to four feet thick year-round. If the ice is over four feet thick, shipping companies could use heavy icebreaking ships to break up thicker, multiyear ice. See Figure 1 – Map of the Arctic Region in Appendix A.

The decreasing sea ice extent has the possibility of making this previously frozen, unnavigable ocean into a future super-highway for commercial shipping. Growing accessibility will also drive economic opportunities ranging from oil, gas, and mineral extraction, including gold, uranium, and tungsten to fishing and ecotourism.\(^5\) Due to unpredictable weather and ice floes, commodities and bulk goods will have the most significant economic upside, as those items do not have the tight delivery schedule required for perishables.\(^6\) The Arctic is only 6% of the total Earth’s surface but is estimated to have 13% of the world’s oil reserves and 30% of the
natural gas. The Arctic’s vast resources, limited host-government representation, and disputed territorial claims will result in a geopolitical scramble.

The eight Arctic States, whose countries have territory north of the Arctic Circle – Canada, Greenland (Denmark), Iceland, Norway, Sweden, Finland, Russia, and the U.S. – are all members of the Arctic Council, the “leading intergovernmental forum promoting cooperation in the Arctic.” Russia, as a landmass adjacent to 50 percent of the Arctic – about 7,000 km, has been the most active state operating in the region, investing billions of dollars in its oil and gas fields in the region to bolster its extraction economy. Under the 1982 UNCLOS – the main international treaty focusing on maritime rights – countries are limited to a territorial sea of 12-nautical miles and an exclusive economic zone (EEZ) of 200-nautical miles adjacent to their coasts. Non-Arctic states, such as China, have even joined the Arctic Council as observers to ensure they have a seat at the Arctic table due to the region’s growing importance.

The Northern Sea Route (NSR) – also known as the Northeast Passage – is along Russia’s Arctic coast. The NSR navigation season currently lasts five months, beginning in July and lasting through the end of November. During this time, all of the NSR seaways are in one-year ice, which can be up to 1.6 m thick, but the standard Russian nuclear-powered icebreaker (Arktika Class) can open passages through 2.3m thick ice. Unsurprisingly, Russia is developing more capable icebreakers like the Russian LK-60 and the LK-110 Icebreakers, which will make the NSR accessible year-round. The NSR will likely be the first significant route open for large commercial transportation due to Russia’s involvement in the Arctic and capacity to keep the route open with its 40 icebreakers – the largest fleet in the world. Most of the NSR is under Russian control, providing revenue – icebreaker escorts cost about $300,000-400,000 USD – and providing the Kremlin the ability to deny access, sink or detain foreign ships, or raise rates for using their ice-free highway. The NSR reduces the maritime distance between Western Europe and East Asia to 12,800 km from 21,000 km via the Suez Canal - about a 37% reduction in transit time or 10-15 days with current shipping speeds. For example, instead of a 48-day travel time from Dalian, China to Rotterdam, Netherlands, would be a 35-day journey using the NSR. To illustrate this further, it is about 15,000 km from a South Korean port to England via the NSR but roughly 20,000 km via the Strait of Malacca and Suez Canal. However, ships that use the NSR must abide by Russian regulations and obtain permission from an unpredictable nation. As for the route itself, the NSR provides the least protection from fetch–wind blowing in a constant direction that generates waves–causing significantly rougher seas, and adding to safety concerns and insurance policies, but the cost savings may be worth the potential hazards. See Figure 2 – Map of the Arctic Shipping Routes in Appendix A.

The Northwest Passage (NWP) runs from the Canadian Arctic Archipelago (CAA) to Alaska. The NWP reduces the maritime journey between East Asia and Western Europe from 24,000 km to 13,600 km. The NWP could also connect the west and east coasts of the United States enabling a “North American Arctic marine highway.” For example, this would decrease the travel distance between Seattle and New Jersey ports via the NWP compared to navigating through the Panama Canal. When the NWP is maintained by icebreakers and charted, it will be a safer route than the NSR due to the inland waterway in the CAA, which would preserve ships from harsh winds and dangerous waves. The NWP has been poorly charted, and the CAA shields the sea ice from breaking up during the summer and fall months. However, as sea ice extent retreats and Canada sees the economic opportunity, it will ensure its icebreaker fleet keeps the route open or it will concede revenue it could take from the NSR. Canada would control most of
the NWP and could also charge for access to the route due to maintenance and emergency response requirements like Russia. Canada is not entirely free of controversy over the NWP; however, Canada is viewed as a more equitable and trustworthy country on the international stage, especially after Russia’s invasion of Ukraine in 2022, so companies will most likely take the risk-averse path with Canada versus the Russian route, which would be subject to the whims of the Kremlin—or breaking any lasting international sanctions for its invasion into Ukraine. Yet, route selection will depend upon the origin and destination of the goods.

The Transpolar Sea Route (TSR) is the most direct route between Asia and Europe, bypassing EEZs of Arctic coastal states. Since the TSR lies outside the territorial jurisdiction of any state and is the quickest route, it will become the predominant shipping route through the Arctic during the summer and fall months by 2035 and during certain winter months between 2035-2060.18 Critics state that Arctic shipping lanes will not become viable until mid-century due to safety considerations, higher insurance rates, and lack of infrastructure to resolve an emergency. However, over the past several years, ships have navigated through the Arctic demonstrating the route’s viability. In the summer of 2020, shipping giant Maersk Corporation plans to send more ships through the Arctic which, if successful, may spur other corporations to assume the risks associated with shipping through the Arctic to maintain competitive pricing.19 Critics also neglect to acknowledge the insurance price savings from not transporting cargo through pirate-infested waters off the Horn of Africa. The lack of infrastructure to respond to a crisis, whether threats to crew safety or the environment, will be less of a priority for countries and corporations trying to establish their competitive advantage by shipping through the Arctic.

**Great Power Competition – China and Russia in the Arctic**

Competition for finite resources and shipping routes spurs disputes, and disputes among great powers are generally never isolated. Disputes in the Arctic could manifest in other regions where the great powers operate, leading to more competition. As China, Russia, and the U.S. compete for finite resources and shipping routes in the Arctic, there could be proxy wars in different regions. Moreover, the Arctic will likely increase asymmetric competition to shape the geostrategic environment.20 The three main questions the U.S. will have to respond to are: first, how will the U.S. compete with the emerging Russian monopoly over trans-polar commercial marine transportation and the militarization of the Arctic? Second, if the U.S. Navy and its allies dominate in the Indian Ocean, why would China not find it more beneficial to go through the Arctic Ocean where Russia has a far more significant presence than the U.S. and even NATO – and what does this mean for power politics? Third, if the Arctic becomes a location for greater cooperation between China and Russia, how will this impact U.S. interests? While China and Russia have traditionally been skeptical of each other’s intentions, if not downright adversaries, their cooperative relationship is growing, mainly as the sanctions on Russia after its 2014 Crimea takeover and then its 2022 invasion of Ukraine proper limited Western multinational corporations in the energy sector from working with Russia. These sanctions drove Russians to seek the technical expertise from Beijing which was more than eager to find alternative sources for their energy needs that mitigates the threat of strategic choke points controlled by the U.S. This leads to a significant foreign policy question, will there be greater collaboration or cooperation between Russia and China in the future?

*Russian Arctic Expansion:*
According to the 2019 DoD Arctic Strategy, the prospect of militarized conflict in the Arctic is low but remains a growing concern if the US does not prepare for contingencies. However, Russia’s military investments in the Arctic are quite large. An example which illustrates Russia’s perception of the Arctic: in 2007, Russia deployed a nuclear-powered icebreaker along with two submarines to plant its flag on the North Pole’s sea floor, claiming the Lomonosov Ridge.21 Russia routinely orders its strategic bombers to fly over the Arctic Ocean. Moreover, Russia routinely patrols its portion of the Arctic sea routes that transit through the Bering Strait between the United States and Russia.

Russia has demonstrated persistent investments in its Arctic capabilities and capacity and is flexing its military power throughout the region. Contemporaneously, U.S. investments have been comparatively modest, leading to a capability gap that threatens U.S. interests in the Arctic. Yet, establishing a U.S. geographic combatant command (GCC) in the Arctic to counter Russia would be redundant to U.S. European Command, and fears of Russia in the Arctic are overstated; its capacity in the region are not sufficient at this point to justify a COCOM. Russia operating in the Arctic is not a new phenomenon but discerning between potential dual-use of its Arctic capabilities can exacerbate a security dilemma. The Russian people have a centuries-long presence in the Arctic, and the region remains a cornerstone of their national identity. Russia today views the Arctic as not only one of its largest deposits of oil and gas but its superhighway to transport its liquid natural gas (LNG) to Asia. About 70% of Russia’s oil and natural gas reserves are embedded along its continental shelf. As a landmass adjacent to 50 percent of the Arctic, Russia has been the most active state operating in the region, investing billions of dollars in its oil and gas fields to bolster its extraction economy.

Russian military investment into the Arctic reflects its modernization priority to protect Russian national interests – oil fields.22 Although Russia conducted a rapid build-up in the Arctic during the past decade, the Kremlin is discovering that refurbishing Soviet-era Arctic military bases is cost-prohibitive—especially if Crude oil prices return to historic prices. Moreover, some Arctic scholars view Russian expansion into the Arctic as unsustainable, especially with the continued economic sanctions from its invasion of Ukraine in 2022 and a potential peak oil-demand in 2029 by some estimates due to energy-transition drivers.23 Despite current elevated Crude oil prices, the long-term cost-benefit analysis may hamper continued Russian investment. Protecting national interests does not always have to lead to conflict. The U.S. still has massive military and technological superiority over Russia and its large capacity to produce oil and gas could undermine Russia’s standing as an energy superpower. Furthermore, Russia’s intensification of extending its military capacity and influence in the region could fuel more significant uncertainty in the global environment, especially amongst Arctic nations. Such uncertainty would help drive global investment monies to safe havens like U.S. treasuries, postponing or canceling investment plans in the Arctic.

Chinese Arctic Ambitions:

China has maintained some semblance of involvement in Arctic affairs since 1925 with its signing of the Spitsbergen (Svalbard) Treaty.24 The recent growth of Chinese interests in the Arctic has been evident. In January 2018, China released its Arctic Policy white paper, declaring its intention to actively participate in Arctic affairs as a “near-Arctic State,” demonstrating it viewed itself as an “important stakeholder in the Arctic.”25 Interestingly, the shortest distance between China and the Arctic is roughly 900 miles. China understands that changes in the Arctic will be consequential to its climate system and ecological environment.26 Thus, changes to the
Arctic affect China’s “economic interests in agriculture, forestry, fishery, marine industry, and other sectors.” In truth, changes in the Arctic have clear implications for the entire world as the Arctic serves essentially as a global air-conditioner. China’s interests in the Arctic will continue to grow as Arctic shipping routes become increasingly viable, offering a way to help resolve its energy concerns by purchasing oil and gas from Russian extraction operations in the Arctic. China aims to make these new shipping routes part of its new Polar Silk Road. As mentioned above, China has already begun to conduct commercial trial voyages.

The Chinese understand that the Arctic shipping routes will help achieve its ‘Chinese Dream’ national strategy, which focuses on economic prosperity, sovereignty, and territorial integrity through increasing its economic, diplomatic, and military power. Chinese President Xi Jinping’s and the CCP’s legitimacy is tied to continued economic growth and nationalism. As China continues to pursue economic ventures and gain influence worldwide, Beijing will be more willing to challenge the international order to achieve its national rejuvenation.

From the point of view of nuclear weapons strategy, the Arctic is a vulnerable northern flank of China and an opportune place to deploy nuclear-equipped submarines for U.S. integrated deterrence. China has been growing its ballistic missile submarine fleet consisting of six Jin-class SSBNs. Some reports cite that deploying Chinese nuclear-capable submarines into the Arctic could reduce the missile flight distance to the U.S. mainland by 3.5 times. This poses a problem for both China and the United States as the Arctic becomes another geographic area to threaten each other’s mainland, especially from a lack of presence in the area.

Some observers argue that global shipping routes are well-established, and nations and multinational corporations would be hard-pressed to change them. However, the move to Arctic shipping routes would be welcomed by China, which is actively trying to reduce its strategic vulnerabilities – 80 percent of China’s oil imports pass through the Strait of Malacca. Moreover, China has already partnered with Russia to develop a pipeline system and shipping to deliver oil and gas, which have traditionally been shipped to China through the Persian Gulf and the Indian Ocean. China is also heavily investing in the China-Pakistan Economic Coordinator (CPEC) that will circumvent the risk China assumes by relying on the Strait of Malacca, a strategic maritime choke point that can be blocked by the U.S., its regional rival India, or another power. In brief, China’s key goals are to bolster its access to cheap, reliable energy, ship its exports as effectively and economically as possible, and reduce strategic vulnerabilities.

Potential Flashpoints – The Impact of New Shipping Routes

In addition to potentially exacerbating Great Power Competition, the acceleration of Arctic sea ice melt is likely to have worldwide repercussions. The Arctic region has remained relatively stable, with many positive cooperative trends among Arctic nations that have allowed Arctic nations to realize the potential benefits of greater access to the region’s resources. However, this regional stability is increasingly fragile due to the challenges posed by Russia and China as well as the changing physical environment caused by climate change. Along with the growing complexity of the Arctic security environment, increased accessibility of Arctic routes will likely cause economic and political uncertainty and perhaps instability along traditional shipping routes and for areas within the melting Arctic region. Ship traffic out of the Indian Ocean and into the Arctic will cause a large economic downturn for existing transportation nodes, especially in those countries that receive a large portion of their country’s revenue from transfer costs like Panama, Egypt, Malaysia, and Singapore. The economic stability of those
countries may very well prompt political instability. Economic downturn and political instability, in turn, will encourage the flight of international sources of investment and development, reinforcing a downward spiral.

The opening of these new routes without U.S. and Canadian presence may also exacerbate current human trafficking and drug smuggling that occurs through Alaska. Mexican Cartels have been reported to use Alaska as an access point for their drug trade. There is limited capacity and capability of the Alaska police services to handle the increase in accessibility that results from the melting Arctic. Furthermore, coastal erosion and the melting of permafrost continue to adversely affect infrastructure and living standards along the Alaskan coast. To take one example, the decline in sea ice that protects the Arctic coastline from storms is damaging established communities. To alleviate the harm requires massive infrastructure investment to retrofit the area or relocate entire communities. Thus, communities are forced to move – though many cannot financially do this – or continue to face increased challenges and economic depression. The side-effects of either choice could result in further harm: members of the communities falling prey to drugs or extortion schemes or becoming involved in or turning a blind eye to illicit activity in their communities. Furthermore, the lack of economic opportunity coupled with crumbling infrastructure may make Chinese investment attractive to indigenous communities facing no other solution. It would not be outside of Beijing’s playbook to petition distressed communities or even U.S. states to become members of their Polar Silk Road. For example, in 2017, Alaska was planning a state-led Alaska LNG Project with China, but the plan was blocked in 2018 by newly elected Governor Michael Dunleavy. Indigenous communities may become ensnared by Chinese investments in critical infrastructure for the communities, much like what occurred in Sri Lanka and Malaysia.

Other threats to the environment can be imagined. Container ships will inevitably carry and enable the spread invasive non-native species that could alter or diminish the Arctic ecosystem. And with any human presence, there is an increase in trash fallout, especially plastic waste, which will only increase in the region, further hindering the ecosystem. For example, marine species can become tangled in plastic debris or ingest plastics which block the species’ digestion, limiting the species’ ability to survive and either eat or be eaten within the food chain. This creates a human food security issue that will impact not only indigenous communities that rely primarily on the existing ecosystem but major industries such as the U.S. $6 billion fishing industry. Subsistence communities like the native populations in Alaska also face food security concerns due to shifting wildlife migration patterns and an overall reduction in the population of the animals from the melting of the Arctic. Traditional hunting areas will become more dangerous due to the growing instability of the ice, leading to their relocation, which in turn will cause an increase in human and animal displacement. The prohibitive costs of transporting food and supplies coupled with the dramatic reduction in traditional hunting areas will force the native communities to either relocate – which is prohibitively expensive in itself – or remain and face food security issues combined with the myriad of other challenges these communities already face.

Furthermore, an ever-growing food crisis in the Arctic could lead to an increase in political radicalization as well criminal enterprises. The Arctic States, including Russia, have a common interest in ensuring the region remains stable. Policy-makers and the military need to be ever mindful that economic and ecological catastrophe will threaten civil unrest and could lead individuals and groups towards violent economic or political behavior, the exact opposite of U.S.
strategic goals. As LTG John Castellaw, USMC (Ret) states, “food crises grow terrorists,” which will “eventually require deploying the men and women of our military.”37 Native communities in the Arctic remain some of the poorest communities with a massive youth bulge existing amid often tenuous economic conditions. Estimates predict that their traditional hunting grounds will soon be exhausted; the crumbled infrastructure, lack of employment opportunities, and devastation from climate change could make these areas in the Arctic fertile grounds for recruitment of transnational criminal organizations or terrorist groups.

Finally, from a military capacity perspective, the increase in ecotourism as sea ice decreases each year represents a serious challenge. The number of cruise ships transiting the Arctic continues to increase (120 per year in 2008 to 290 in 2016), but the corresponding search and rescue (SAR) assets have not.38 Currently, the U.S. and Canada have limited SAR capability and capacity. Plus, the tyranny of distance remains a persistent challenge for operating in the Arctic. For example, the U.S.’ closest Coast Guard Air Station to the Arctic is in Kodiak, AK, which is approximately 820 nautical miles south of Utqiagvik, AK (northern tip of Alaska) – nearly the distance between Miami, FL and Boston, MA.39 Cruise liners are assuming more risk by operating in the Arctic since the U.S. and Canada are unable to respond to an emergency in the Arctic in a timely manner. Both countries would be required to reallocate resources to bolster SAR capability, which begs the question – where will resources be reallocated from?

The United States as an Arctic Nation

The U.S. shoreline in the Arctic is 2,521 miles – it is an Arctic nation.40 Though an Arctic nation, the U.S. currently lags in preparing for this new strategic region, lacking focus and priority in the Arctic.41 For example, the 2017 National Security Strategy list the Arctic once and only in passing, the 2018 National Defense Strategy does not mention the Arctic at all, and the 2021 Interim National Security Strategy also does not reference the Arctic–just climate change. In keeping with this relative lack of priority, there has been limited congressional testimony devoted to the Arctic.42 Many scholars argue that the U.S., via the USCG and DoD, is underprepared for the emerging realities of the Arctic. As former USNORTHCOM Commander, General Terrence O’Shaughnessy states, “The Arctic is not just a place you can pick up and go to.”43 Despite this warning, the Navy does not have adequate plans to acquire Arctic-specific vessels.44 An aircraft carrier had not entered the Arctic since the 1990s until NATO’s 2018 Trident Juncture exercise.45

The old adage that economic security is national security remains true in the Arctic.46 The U.S. has viewed securing global shipping lanes that are critical for commerce and energy as a vital interest. The U.S. military, mainly the Navy, dominates and maintains open sea lanes where the vast majority of trade is transported. Other landlocked or less powerful countries rely on the U.S. to maintain these open and free-trade routes for their economies.47 Since resources are finite, U.S. Combatant Commands (COCOMs) will ultimately require greater discrimination about where and how limited resources are applied. To meet these growing security challenges, the U.S. will have to either increase its naval assets to patrol the Arctic, redirect current fleets to the Arctic (most likely sacrificing a current mission), or assume risk with limited U.S. military presence in the Arctic. Due to the contentious debate over the size of the current defense budget, the problem of procurement timelines, and the obstacle of service parochialism, the U.S. will most likely redirect its forces rather than build more ships. The resources the DoD are provided are finite; as a consequence, attention and resources are prioritized and unevenly divided among Europe, the Middle East, the Indo-Pacific, Africa, and Latin America. The silver lining could be
that with the decreased importance of the Suez and Panama Canals, there could be fewer requirements for current forces in the adjacent oceans. However, this reduction of forces would allow China to extend its influence and eventually flourish with a reduced U.S. presence.

The bulk of the military’s missions in the Arctic involves presence patrols via aerial and naval surveillance, collecting targeting information and intelligence support, and refueling capabilities testing. Interest – and knowledge – in the Arctic has remained minimal outside of military operations conducting intelligence on Russian expansion and use of the territory. The debate over U.S. foreign policy in the Arctic has mostly just begun to become centered on the growth of Russian assets as well as protecting future trade routes via shipping lanes. Few Members of Congress – and even fewer members of the public – are aware of Russian capabilities in the Arctic. They have yet to realize that the Arctic could be a region of international scientific cooperation, maritime transportation, and conservation of natural resources rather than great power competition.

The U.S. Coast Guard is the primary federal agency that operates in the Arctic to ensure safety, homeland security, and environmental stewardship. The USCG is responsible for icebreaking in both the Arctic and Antarctica, and a significant portion of its operations are in support of the National Science Foundation (NSF) research activities. However, the USCG is quite limited in its capacity, since the U.S. currently only has one heavy-sized (USCGC Polar Star) and one medium-sized (USCGC Healy) icebreaker that are operational and generally serve in Antarctica and the Arctic, respectively. The Polar Star is 44-years old and surpassed its originally intended 30-year service life. It remains burdened with maintenance issues even after an extensive process of reactivation in 2013. The estimated costs of a new heavy icebreaker for the U.S. is estimated around $1 billion and will take five years to design, engineer, and manufacture. Congress finally appropriated enough funding for a new icebreaker after a decade of request and alarm from the U.S. Coast Guard with the passage of the FY2019 Department of Homeland Security funding bill.

The USCG is aiming to have a fleet of six new icebreakers (3-heavy and 3-medium) which would enable the USCG to “meet the unique mission demands that have emerged from increased commerce, tourism, research, and international activities in the Arctic and Antarctic,” starting by 2024. Despite the fact that polar ice is diminishing, there is still a requirement for icebreakers to keep the polar region accessible for military, search and rescue, and counternarcotic operations in the Arctic. Unsurprising given the current political climate and inefficiency of the U.S. Congress, a much cheaper and shorter construction duration could be achieved by purchasing icebreakers from Finland. Instead, the contract for the new icebreakers was awarded to VT Halter Marine Inc. – a shipbuilder on the Gulf Coast of Mississippi – which has to design, engineer, and construct a type of vessel that has not been made in the U.S. for decades.

Some experts have suggested that inter-state competition in the Arctic is exaggerated. Others, including policy-makers, view the Arctic region through a prism of broader great power competition. They argue that the U.S. and its allies have common strategic interests and must make clear commitments to each other. While in pursuit of regional stability, the U.S. military has increasingly expressed deep concern over Russian expansion into the Arctic. But a military-led response will only exacerbate the militarization of the region. Challenges in the Arctic are often borderless, frequently trans-regional, and almost always non-military in character. Contemporary civil-military scholars articulate the need to halt the ever-increasing militarization
of U.S. policy. For example, the U.S. military intervened with combat operations 126 times between 2000-2017, which is a greater rate than the 111 times between 1950-1999. This leads many scholars to highlight the importance of a strategic approach that focuses on diplomacy, scientific cooperation, and economic opportunities, not a militarization of the Arctic.

**Conclusion**

The Arctic will become a forefront region for great-power competition. This paper examined the economic and security challenges the U.S. will face resulting in the shift towards trans-Arctic commercial shipping and the growing importance of the Arctic. Global interdependence and new shipping routes have increased the complexity of national security. If the U.S. wishes to remain a global leader and maintain its economic superiority, then the U.S. must be proactive, not reactive. There is some merit in the claim that until these routes become viable year-round, the Arctic will remain a small fraction of the total amount of tonnage carried along southern routes. However, it remains a fact that the Arctic sea ice extent will continue to recede, and these routes will become more accessible. Whether in 5 or 25 years, these routes will begin competing with and eventually capture portions of the current shipping routes’ traffic and revenue. The question is, which countries and corporations will have already established sufficient influence to frame the rules, charter the routes, and capture the reward?

**Discussion Questions**

1. Do the changing environmental conditions in the Arctic create more opportunities or challenges for the United States as it navigates the 21st century?
2. Does the United States need to engage to a greater extent in the Arctic? If not, why not? If yes, does the United States have the resources and/or political will to do so?
3. As Russia looks to expand its oil exports to China, does this create a problematic partnership for the United States? Or is it a short-term relationship of necessity between two historically antagonistic regional rivals hiding old wounds such as the Russia-Chinese border disputes?
4. What, if any, are the roles that multinational corporations play in the Arctic regarding resource extraction, ecotourism, environmental cleanup, etc. What should they do differently? Does the U.S. have adequate oversight of corporate interests in the Arctic? To what extent is oversight and monitoring by the U.S. government necessary?
5. How will Russia’s invasion of Ukraine impact the process and deliberations of the Arctic Council (Russia is the current leader of the Arctic Council)?
6. Will the Arctic remain peaceful? Will it be a location for Great Power conflict or cooperation? What are the key variables that will determine future trends?
Suggested Readings


Appendix A

Figure 1: Map of the Arctic Region

Figure 2: Map of the Arctic Shipping Routes
The views reflected here are those of the author and do not represent the official position of the United States Military Academy, United States Army, or the Department of Defense.


6 Masters, “The Thawing Arctic: Risks and Opportunities.”


10 The Observer States of the Arctic Council are the following: France, Germany, Italy, Japan, The Netherlands, China, Poland, India, Korea, Singapore, Spain, Switzerland, and the United Kingdom. Additionally, six Indigenous People’s organizations serve as Permanent Participants, and twenty-six other governmental and non-governmental organizations. Note: China claims itself as a near-Arctic nation.


13 The NSR can be completely free of ice between September and October in a given year. See Will Stewart, “Russia Warning: Moscow Could Sink or Detain Foreign Ships in Arctic Waters under New Rules,” Express (UK), March 6, 2019, https://www.express.co.uk/news/world/1096558/russia-news-foreign-navy-ship-warning-arctic-northern-sea-route.


20 Author’s Note: asymmetric competition describes activities below open war on the cooperation-competition continuum. See Lillian Alessa, James Valentine, Sean Moon, and Andrew Kliskey, “Asymmetric Competition in the Arctic: Implications for North American Defense and Security,” Journal of Indo-Pacific Affairs, U.S. Winter 2021,


24 The Spitsbergen Treaty was signed on February 9, 1920 and came into force on August 14, 1925. The Spitsbergen Treaty established Spitsbergen under Norwegian administration and legislation, but all nations have access and the right to economic activities there. It also mandated that Spitsbergen remain demilitarized. Today, the term Svalbard Treaty is more common, but the historical name remains Spitsbergen. See “The Svalbard Treaty,” Arctic Portal Library, Date Accessed April 6, 2020, http://library.arcticportal.org/1909/1/The_Svalbard_Treaty_9ssFy.pdf.


26 “China’s Arctic Policy,” The State Council Information Office of the People’s Republic of China.

27 “China’s Arctic Policy,” The State Council Information Office of the People’s Republic of China.


32 China Power Team, "How Much Trade Transits the South China Sea?"


39 USCG, “Arctic Strategic Outlook,” 11.


45 Woody, “The US Navy is learning how to operate in the Arctic, and more ships may not be the answer.”


49 There are three other ice-capable ships operating with a U.S. flag. The Aiviq is a Polar Class 3 icebreaker that Shell uses to emplace anchors for oil rigs. The Nathaniel B. Palmer is an ice-capable research ship owned by Offshore Service Vessels LLC and is used by the U.S. National Science Foundation. The USCGC Polar Sea is the sister ship to the USCGC Polar Star but has remained out of service since 2010 due to maintenance issues and exists today as a parts donor for the Polar Star.


