THE UNITED STATES AND CHINA IN THE ARCTIC
A Roadmap for Sino-US Cooperation on Energy, Climate Change, and Global Governance

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<td>ARPA</td>
<td>Arctic Research &amp; Policy Act</td>
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<td>AIIB</td>
<td>Asian Infrastructure Investment Bank</td>
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<td>BLM</td>
<td>Bureau of Land Management</td>
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<td>DOD</td>
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<td>Exclusive Economic Zone</td>
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<td>International Seabed Authority</td>
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<td>LNG</td>
<td>Liquid Natural Gas</td>
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<td>MPA</td>
<td>Marine Protected Area</td>
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<td>NATO</td>
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<td>NAFTA</td>
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<td>NEP</td>
<td>Northeast Passage</td>
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<td>NSR</td>
<td>Northern Sea Route</td>
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<td>NWP</td>
<td>Northwest Passage</td>
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<tr>
<td>OES</td>
<td>Bureau of Oceans &amp; International Environmental &amp; Scientific Affairs</td>
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<td>OPA</td>
<td>Office of Ocean &amp; Polar Affairs</td>
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<tr>
<td>PLA</td>
<td>People’s Liberation Army</td>
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<td>PRIC</td>
<td>Polar Research Institute of China</td>
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<td>RFE</td>
<td>Russian Far East</td>
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<td>TSR</td>
<td>Transpolar Sea Route</td>
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1. Introduction

The global competition for undeveloped oil, natural gas, and unconventional energy resources in the Arctic sits at the crossroads of two of the most pressing concerns of this century: climate change and energy security. The Earth’s circumpolar region is both a vital and vulnerable frontier holding immense potential for energy, scientific exploration, trade, and transportation, and it is warming at rates as much as double the global average as a result of positive surface-albedo and water vapor feedbacks in the polar climate system, which act together to enhance the effects of climate change. This phenomenon, known as polar amplification, has triggered accelerated sea ice melting over the last several decades. Changes in the Arctic will in turn affect global weather and climate through factors like the release of methane and decreases in the Earth’s surface reflectivity induced by the loss of ice cover, causing the planet to absorb even more incoming solar radiation. Since 1980, Arctic sea ice volume has decreased by 75%, and according to the 2014 IPCC AR5 report, climate models have projected that significant areas of the Arctic may be ice-free in the summertime by as early as the 2050s in the high-warming scenario.

Governance of the Arctic is rooted profoundly in the international system. According to the terms of the United Nations Convention on the Law of the Sea (UNCLOS), the Arctic

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and most of its natural resources lie within the Exclusive Economic Zones (EEZs) of five coastal countries: Canada, Denmark, Norway, Russia, and the United States, all of whom are members of the Arctic Council, the intergovernmental forum that deals with issues faced by Arctic states and Arctic indigenous populations.5

Although the People’s Republic of China (hereinafter referred to as “China”) does not have any territory that borders the Arctic, it has long expressed an interest in the region’s development. In 2009, China requested permanent observer status in the Arctic Council and received it in May 2013, allowing representatives of the Chinese government to attend Council meetings for the first time but not to vote officially on any matters. China’s permanent observer status requires that it recognize “Arctic States’ sovereignty, sovereign rights and jurisdiction in the Arctic” as well as that “an extensive legal framework applies to the Arctic Ocean, including, notably, the Law of the Sea.”6 In January 2018, in its first official Arctic policy white paper, China declared that it perceives itself as a “near-Arctic state.” The white paper highlighted the importance of the incorporation of the Arctic into the larger Belt and Road Initiative (BRI), Chinese President Xi Jinping’s massive effort to build infrastructure across Eurasia. However, China’s behavior in the Arctic so far has suggested that it will continue to forge partnerships with Arctic states like Russia, who have legal rights

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to Arctic resources, rather than act unilaterally against internationally agreed-upon rules of conduct in the region.\

In light of China’s growing interest and presence in the Arctic, as melting ice renders Arctic energy resource extraction more feasible and opens valuable passageways for shipping, there is no doubt that interactions between the United States and China in the region will increase. Will these interactions be cooperative or rivalrous? Can the US and China collaborate in the Arctic given mounting tensions over trade and in the South China Sea? Why should they? On what issues is collaboration most pressing, mutually beneficial, and potentially fruitful? To answer these questions, I explore the geopolitical changes that have occurred and will continue to occur in the Arctic as a result of anthropogenic climate change, the impacts of which are felt acutely in the polar regions. In Sections 2 and 3 of the essay, I discuss American and Chinese policy and strategic approaches to the Arctic and examine the extent to which the US and China have common and conflicting interests therein. In Section 4, I make the case for cooperation between the two countries, arguing that the interests of the two are not fundamentally at odds in the region and instead that the Arctic represents an important opportunity for the US to engage with China, cope with its rise, and hold it accountable to its environmental promises while moderating the most detrimental ecological effects of Russia and China’s joint plans for Arctic development, some of which are already in motion. In Sections 5 and 6, I consider the barriers to cooperation between the US and China as well as the potential for conflict in the Arctic at large. Finally, in Section 7, I make

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policy recommendations for the United States that I believe to be most imperative for improving its overall leadership in the Arctic while cultivating a collaborative relationship with China in the region’s governance. Although the Arctic will become an increasingly active arena for global trade and natural resource competition over the course of this century, it also represents a critical opportunity for cooperation between the United States and China on issues pertaining to climate change, energy trade, freedom of navigation, and sustainable development.

Figure 1.1. The Arctic boundary as defined by the Arctic Research and Policy Act (ARPA). Source: United States Arctic Research Commission (May 2009).
2. China: Arctic Policy and Interests

In January 2018, amid growing speculation by foreign observers, China issued its landmark Arctic white paper, describing for the first time its national interests, priorities, and policy towards the Arctic. Notably, the white paper was made available online in English via China’s State Council and the Xinhua News Agency.\(^8\) The document clarifies that China views itself as a “near-Arctic state” and that, as such, it expects to be actively and legitimately involved in the region’s affairs, although the term itself confers no legal rights. Though China only recently codified its Arctic strategy, its interest in the polar regions is not novel. Eight years prior to the document’s publication, the state-owned China News Service reported that Chinese Rear Admiral Yin Zhuo had stated that “the Arctic belongs to all the people around the world” and that “no nation has sovereignty over it,” maintaining further that “China must play an indispensable role in Arctic exploration as [it has] one-fifth of the world’s population.”\(^9\) In addition, scientific expeditions to the Arctic and Antarctic, spearheaded by the Shanghai-based China Polar Research Institute, began as early as the 1980s. However, over the last several decades, China’s polar ambitions have grown well beyond its appetite for scientific research and inquiry. In 2017, the Chinese Communist Party (CCP) incorporated a route to Europe through the Arctic in its “Vision for Maritime Cooperation”

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\(^8\) “China’s Arctic Policy,” January 26, 2018, english.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

under the BRI, and China’s 2018 Arctic policy only further cements the significance of Arctic trade routes to President Xi’s global vision.

Until recently, China’s involvement in the Arctic had progressed largely without fanfare and with relatively little attention or concern from the West. This state of affairs has been favorable to the CCP, which endeavors to paint itself as a cooperative power respectful of current laws surrounding Arctic governance, and to whom favorable domestic and global public opinion on its activities is a priority. In her book, China as a Polar Great Power, Anne-Marie Brady remarks that China has been “cautious about revealing its full intentions in the polar regions to global public opinion,” especially given its growing technological capabilities and commercial investment in the region as well as its non-Arctic state status. Why, then, if China has been unforthcoming about its Arctic policy in the past, did it choose 2018 to officially disclose it? Although the Arctic white paper is an important culmination of China’s growing interests and involvement in the Arctic, its publication is not without uncertainty. For one, China’s Arctic ambitions likely exceed what has been outlined in the white paper. Second, the timing of the document’s release may be strategic: It is possible that the paper serves to focus and limit the steadily increasing foreign speculation on its Arctic ambitions and the place it has in the context of the CCP’s foreign policy. Another possibility is that China has reached a tipping point in its ongoing preparation to explore and develop the Arctic. The CCP may also believe that the world is now more receptive to its plans, or otherwise that further sensitivity and secrecy on the matter could harm its image.

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In some ways, the Chinese Arctic white paper reveals what has already long been suspected about China’s Arctic policy: It names problems that countries will face in common, like climate change, the risks of remote navigation, and development that is both sustainable over the long-term and respectful to existing populations and ecosystems. Historically, China’s approach to the Arctic has emphasized soft issues like scientific research and environmental protection – this is a necessity as China is legally inhibited by its non-Arctic state identity. China, at least outwardly, will continue to use scientific research as a non-threatening point of entry into Arctic issues. But China is equally if not more interested in the energy resources and transportation routes that the Arctic offers, and it has already begun to leverage its economic strengths to participate in the extraction and development of these.

The January 2018 white paper describes China’s overall policy goals in the Arctic as “to understand, protect, develop and participate in [its] governance,” in accordance with the basic principles of “respect, cooperation, win-win-result and sustainability.”

China recognizes that the interests of individual Arctic states are varied, and thus has sought to establish stronger bilateral ties with a number of them rather than to confront them as a uniform bloc. Accordingly, it has increased its diplomatic presence in the Nordic countries, signing a free trade agreement with Iceland in April 2013. It has also conducted dialogues on the law of the sea and polar issues with non-Arctic states like the United Kingdom, France, Japan, and South Korea.

2.1. China’s Global Outlook

China’s geostrategic interests in the Arctic are linked to its greater foreign policy. In order to understand how China’s plans for the Arctic fit into its larger global strategy, it is important that we first consider the values that inform China’s existing foreign policy. In the early 1990s, Chinese leader Deng Xiaoping articulated his “24-Character” diplomatic policy (二十四字方针), which here I translate roughly as “calmly observe, secure our position, handle affairs with composure, hide our capacities and bide our time, maintain a low profile, be good at self-defense, never be the leader.” An archived Ministry of Foreign Affairs Chinese-language summary of the proceedings of the 16th National Congress describes the sanctions imposed by Western countries after the 1989 protests at Tiananmen as a “severe test” to China. However, the document also reveals that the Party Central Committee, under then-CCP General Secretary Jiang Zemin, remained committed to implementing the 24-character guidelines put forward by Deng, acknowledging that resisting Western pressure and expanding diplomatic space could and was to be pursued simultaneously with the improvement of relations with the West.

More than a decade-and-a-half later, Xi Jinping’s global ambitions no longer fit neatly into Deng’s 24-character rules. With Xi at the helm, China has not shied away from challenging American hegemony, both economically and militarily, especially in the Asia-Pacific theater. With the world’s second largest military spending budget behind only the
United States, China’s ability to challenge US forces in the disputed waters of the region using anti-access/area denial (A2/AD) among other approaches has grown rapidly over the past two decades. But Tsinghua University Professor Yan Xuetong argues that China’s global ambitions for the 21st century are narrower than many in the Western foreign policy establishment are eager to assume. In September 2018, China’s top diplomat, Wang Yi, addressed the Council on Foreign Relations in New York City, claiming that China “will not repeat the old practice of a strong country seeking hegemony” and that “still less will China take the place of the United States.” Likewise, a few months later, in a speech in Beijing celebrating the 40th anniversary of China’s reform and opening, Chinese President Xi Jinping reiterated that China would never seek global hegemony and further that it would not develop at the expense of other nations. It may be that the “peaceful development” rhetoric, which dates back decades to Jiang Zemin, functions as public messaging intended to assuage the concerns of China’s neighbors and rivals, but it is also not implausible that the CCP sincerely lacks the interest and the incentive to sustain a costly and widespread global military presence, to lead international organizations that might restrict its own policies, or to serve as a heavy-handed steward of its own civil and political ideology abroad. Instead of unseating the United States as the world’s leading superpower, Yan writes,

19 “Highlights of Xi’s Speech at a Conference Celebrating 40 Years of Reform, Opening-up,” China Daily, December 18, 2018, www.chinadaily.com.cn/a/201812/18/WS5c1854a7a3107d4c3a001612_1.html,
Chinese foreign policy in the near future will focus on maintaining the conditions necessary for the country’s continued economic growth, which will push leaders to avoid open conflict with the United States.\(^{20}\)

Still, this assumption comes with a caveat: As China’s foreign policy is vulnerable to domestic opinion and popular nationalist sentiment buoyed often by the CCP itself, especially as the country’s economic growth slows, the dynamic Chinese population may exert pressure on its government to pursue a more assertive foreign policy in areas like the South China Sea. In *China’s New Nationalism*, Peter Hays Gries warns that Chinese nationalism should not be viewed by Western scholars and media simply as a tool of the CCP, to be manipulated or abandoned at will.\(^{21}\) Instead, as Jessica Chen Weiss explains in *Powerful Patriots*, China’s nationalism is a “double-edged sword,” wherein the relationship between public nationalism and the Chinese central government is beneficial when the Chinese government wishes to show resolve but can make diplomatic compromise and flexibility problematic when nationalist sentiment runs high.\(^{22}\)

That said, it is national sovereignty that is the fundamental principle upon which the CCP’s vision of the international order rests, and on sensitive territorial issues such as those involving Taiwan, Tibet, and Xinjiang, Beijing remains uncompromising towards Western interference. Even as an increasingly global power, China has pursued a decidedly less interventionist foreign policy than the United States has, and focuses instead on multilateral

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economic and infrastructure-oriented agreements like the sprawling BRI. Military involvement, if any, will occur if China is tested in the Western Pacific, where it seeks to enhance its strategic position and maintain a well-defined sphere of influence. In the Arctic, however, China is likely to continue to operate within the bounds international law, while exploiting weaknesses therein.

Publicly, China has aligned its plans for the Arctic with the BRI, linking its Arctic strategy with larger projects in infrastructure connectivity, financial integration, and economic development. China's drive to influence the rules that govern the Arctic fits naturally into its attempts to seek greater influence in matters of global governance under President Xi. In the Arctic, where norms are still emerging and global attention towards the region remains markedly less than elsewhere, China has thus far been able to pursue its agenda respectfully but assertively, without major opposition.

2.2. The Polar Silk Road

Including the Arctic as part of the BRI rationalizes China's involvement in a distant region over which it has no sovereign claim. A major attraction of the Arctic for China is its sea routes, chief among which are the Northwest Passage (NWP), the Northern Sea Route (NSR), and the Transpolar Sea Route (TSR) (Figure 2.2). In 2017, the icebreaking research vessel Xue Long (Snow Dragon) became the first Chinese ship to have navigated all three.24

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An English-language Xinhua news article publicized the expedition's focus on non-sensitive scientific issues such as ocean acidification and plastic pollution, underscoring the Chinese National Arctic and Antarctic Data Center’s history of sharing polar research data internationally.\(^1\)

Use of the two principal Arctic trade routes, the NWP and NSR, could reduce shipping times between China and Europe as well as between China and North America by up to several weeks in ice-free months compared with traditional routes.\(^2\) During the summer of 2011, the NSR saw a record traffic of 33 ships.\(^3\) However, the third route, the TSR, which crosses the middle of the Arctic through ostensibly international as opposed to Russian or Canadian waters, is currently accessible only by heavy icebreakers and will likely remain inhospitable to shipping for decades to come. Currently, all maritime passageways through the Arctic still suffer from sparse infrastructure as well as from poor search-and-rescue capacity. As long as seasonal variations in Arctic conditions remain relatively unpredictable, these obstacles will discourage regular and reliable transportation through the region by keeping the cost to insure vessels and cargo high.

While increases in maritime transportation efficiency of this magnitude could significantly reduce both fuel costs and shipping-related emissions, avoiding trans-Indian ocean routes such as those that cross the Strait of Malacca, the Bab el-Mandeb, and the volatile Suez Canal could also improve the general security of Chinese commercial

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\(^1\) Dongmiao Zhang, "China's Ice Breaker to Try Arctic Rim Expedition," Xinhua, July 18, 2017, [www.xinhuanet.com/english/2017-07/18/c_136452997.htm](http://www.xinhuanet.com/english/2017-07/18/c_136452997.htm).


\(^3\) Malte Humpert and Andreas Raspotnik, "The Future of Arctic Shipping," The Arctic Institute, February 01, 2018, [www.thearcticinstitute.org/future-arctic-shipping](http://www.thearcticinstitute.org/future-arctic-shipping).
maritime vessels. Arctic transport, unlike that off the African horn and in the Red Sea, is not plagued with the criminal violence and threats to shipping associated with piracy. Moreover, access to Arctic shipping routes may also allow the Chinese to bypass waters and chokepoints like the Cape of Good Hope and Suez Canal that have historically been dominated by the US Navy, providing additional geopolitical flexibility and stability. By strengthening diplomatic ties with countries along these routes, China aims to safeguard the security of its energy imports.

**Figure 2.2.** Map of Arctic shipping routes: Northwest Passage in red, Transpolar Sea Route in green, and Northern Sea Route in blue. Source: The Arctic Institute (Oct. 2012).
2.3. Arctic Mineral, Oil, and Natural Gas Resources

The United States Geological Survey (USGS) estimates that 13 percent of the world’s undiscovered crude oil and 30 percent of its undiscovered natural gas are located north of the Arctic circle, primarily in offshore locations – the equivalent of roughly 90 billion barrels of oil, 1669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids.\(^{28}\) As Arctic sea ice retreats, energy resource extraction efforts will become more feasible, although still limited by harsh and unpredictable weather, inadequate infrastructure, and great distance to manufacturing and processing centers, both onshore and off, for the foreseeable future.

As of April 2019, China’s most substantial participation in Arctic energy resource extraction is in the onshore Russian Yamal liquid natural gas (LNG) project. In exchange for significant investment by Chinese firms, China is contracted to receive 3 million tons of Yamal LNG from the project per year.\(^{29}\) The first Yamal LNG delivery occurred in April 2018 via the longer Suez Canal route, taking around 40 days to complete. Three months later, the Eduard Toll and Vladimir Rusanov delivered Yamal LNG supplies to China’s Jiangsu province via the Northern Sea Route in half the time.\(^{30}\) The reduction in navigation time resulted in a decrease in transportation costs, from approximately $91.50 to $64 per LNG ton.\(^{31}\)


The International Energy Agency (IEA) projects that China alone will account for a third of the increase in global natural gas demand from 2017 to 2023, thanks in part to growth in its industrial consumption, clean air initiatives, and ongoing policy to move the residential sector and the energy mix more broadly from coal to gas.\textsuperscript{32} In March 2019, at the annual parliament meeting, Chinese Premier Li Keqiang announced value-added tax cuts for the manufacturing, transportation, and construction sectors as part of a new stimulus plan to manage “downward pressure” on the Chinese economy.\textsuperscript{33} However, although changes in China’s energy demand may push it to look abroad to secure new sources of energy imports, Norwegian scientist Christopher Hsiung argues that China’s Arctic oil and gas interests will, in fact, remain modest for the time being. Hsiung attributes this to a widening array of foreign import options, high production costs, and the overall economic slowdown.\textsuperscript{34} Even as Chinese demand for liquid natural gas grows, it may still not fully offset the LNG surplus that has plagued Asia, lowering spot prices by 60 percent since mid-2018. While increases in demand surpassed those of supply from 2016 to 2018, new production from the United States, Australia, and Russia is expected to create an LNG production surplus of over 2 percent in 2019.\textsuperscript{35}

In addition to oil and natural gas, the Arctic also possesses vast deposits of mineral resources, including diamond, iron ore, gold, phosphate, silver, copper, and zinc, although

extraction remains an arduous and environmentally degrading process. Further south, in Greenland, melting ice caps have opened coastal regions to Chinese mining projects, the most important of which is the Kvanefjeld joint venture in southern Greenland for uranium and rare Earth metal extraction. The rights to mine resources in areas beyond national jurisdiction are managed by the International Seabed Authority (ISA), on which China’s scientist at the UN Commission on the Limits of the Continental Shelf sits. Presently, China has three deep seabed mining contracts with the ISA. On the subject of mineral resources, China’s Arctic white paper is vague about its interests, mentioning only its commitment to clean energy and low-carbon development as well as to respecting the “sovereign rights of Arctic States over oil, gas and mineral resources in accordance with international law.” However, it is unclear exactly how Chinese firms will promote clean energy development as mineral resource extraction is responsible for a significant portion of the world’s carbon emissions and biodiversity loss.

Figure 2.3. Estimated undiscovered oil (green, left) and gas (red, right) in the Arctic. Source: USGS (2008).

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2.4. Scientific Research and Exploration

One of the most publicly touted reasons by China for its interest in the Arctic has been the pursuit of scientific and climate-related research. The Polar Research Institute of China (PRIC), founded in 1989, is responsible for coordinating China’s Arctic research program and academic exchange activities.\footnote{Gate to the Poles, \url{www.polar.org.cn/en/index/}.} Headquartered in Shanghai, the institute’s Arctic research focuses on polar glaciology, oceanography, upper atmospheric physics, biology, ecology, and space science.\footnote{“Scientific Research,” 中国极地研究中心 (Polar Research Institute of China), 2011, \url{www.pric.org.cn/detail/category.aspx?c=4}.} In 2003, China opened the Arctic Yellow River Station on the Svalbard archipelago in accordance with the terms of the 1920 Svalbard Treaty, which gave signatories equal commercial rights to the islands and was instrumental in the archipelago’s transformation into an international hub of scientific research.\footnote{Treaty Relating to Spitzbergen: Message from the President of the United States, Transmitting a Treaty Relating to Spitzbergen, Signed at Paris on February 9, 1920, by the Plenipotentiaries of the United States, Great Britain, Denmark, France, Italy, Japan, Norway, the Netherlands, and Sweden (Washington: G.P.O., 1924).} In general, prior to the release of the white paper, the Chinese government made a concerted effort to fund scientific research with “low political sensitivity,” like that on climate change, in order to make major Arctic powers more receptive to China’s polar activities.”\footnote{Anne-Marie Brady, \textit{China as a Polar Great Power} (Washington, D.C.: Woodrow Wilson Center Press, 2017).} Having an established science program was also an important criterion for Arctic Council observer status, which China obtained in 2013.\footnote{Steven Lee Myers, “Arctic Council Adds 6 Observer States, Including China,” The New York Times, October 19, 2018, \url{www.nytimes.com/2013/05/16/world/europe/arctic-council-adds-six-members-including-china.html}.}
2.5. Climate Change

Geographically, China views itself as a “near-Arctic” state in part because the changes transpiring in the Arctic climate will have a “direct impact on [its own] climate system and ecological environment, and, in turn, on its economic interests in agriculture, forestry, fishery, marine industry and other sectors.” Indeed, melting Arctic land ice cover and ocean thermal expansion over the next century will cause sea level rise and coastal flooding, potentially displacing millions of people along China’s coastlines. Climate change in the Arctic not only affects the climate of Arctic littoral states and “near-Arctic” states like China, it affects the entire globe: Arctic sea ice decline will cause large-scale changes in atmospheric and ocean overturning circulation, which will in turn affect weather patterns as far south as the mid-latitudes.

At the global level, China participates in the formulation of rules concerning climate change, the environment, international maritime issues, and fisheries management. In the 2018 Arctic white paper, China cites its status as a permanent member of the UN Security Council in order to justify its interest in promoting peace and security and fighting climate change in the Arctic. It underscores the need for developed countries to “fulfill their commitments under the UN Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement, and [provide] support to fellow developing countries in addressing climate change.”

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3. The United States: Arctic Policy and Interests

The 1968 discovery of oil in Prudhoe Bay in Alaska inaugurated the early push for a more coherent US policy approach to the Arctic. In 1971, President Richard Nixon, in the now-declassified National Security Decision Memo-144, stated that the United States would “support the sound and rational development of the Arctic, guided by the principle of minimizing any adverse effects to the environment; will promote mutually beneficial international cooperation in the Arctic; and will at the same time provide for the protection of essential security interests in the Arctic, including preservation of the principle of freedom of the seas and superjacent airspace.” Apart from during Cold War escalation with the Soviet Union, US Arctic policy can be characterized in large part by a reluctance to engage substantively in Arctic affairs. However, over the last three decades, the US has become more receptive to Arctic international cooperation and in recent Arctic policies under Presidents Barack Obama and George W. Bush has embraced it.

In January 2009, the Bush administration issued a formal document outlining US Arctic policy. Excerpt from NDSC-66/HSPD-25 (“Arctic Region Policy”):

It is the policy of the United States to:
1. Meet national security and homeland security needs relevant to the Arctic region;
2. Protect the Arctic environment and conserve its biological resources;
3. Ensure that natural resource management and economic development in the region are environmentally sustainable;

4. Strengthen institutions for cooperation among the eight Arctic nations (the United States, Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, and Sweden);
5. Involve the Arctic's indigenous communities in decisions that affect them; and
6. Enhance scientific monitoring and research into local, regional, and global environmental issues.

President Obama’s national Arctic strategy in 2013 was in many ways an extension of NDSC-66/HSPD-25. In it, he built on President Bush’s guidelines by identifying three “lines of effort” for Arctic policy, which were 1) to advance United States security interests, 2) to pursue responsible Arctic region stewardship, and 3) to strengthen international cooperation. In September 2016, the Department of State’s International Security Advisory Board issued a report on US Arctic policy calling for swift accession to UNCLOS and increased presence, domain awareness, and cooperation with other Arctic states. "

The US Department of State’s Office of Ocean and Polar Affairs (OPA) in the Department’s Bureau of Oceans and International Environmental and Scientific Affairs (OES) is responsible for formulating and implementing US policy on the Arctic. Until recently, the Arctic has been a relatively low priority for the Trump administration.

3.1. UN Convention on the Law of the Sea

The United Nations Convention on the Law of the Sea (UNCLOS), also called the Law of the Sea Treaty, is an international agreement that defines the rights and responsibilities of nations with regard to their use of the world’s oceans: It established

freedom-of-navigation rights, set territorial sea and Exclusive Economic Zone (EEZ) boundaries, outlined rules for extending continental shelf rights up to 350 miles offshore, created the International Seabed Authority (ISA) to oversee the formation of property rights in minerals discovered beneath the deep ocean floor, and instituted conflict-resolution mechanisms for disagreements over limits to the continental shelf, among other issues. The treaty also introduced rules for natural resource management and environmental protection.

The United States is the only Arctic state that has not yet ratified the Law of the Sea Treaty, although it recognizes all but Part XI of the Convention as customary international law. However, without official ratification, the US is legally unable to expand its EEZ in the Arctic. According to UNCLOS, an EEZ comprises the area of coastal water and seabed within 200 nautical miles of a country’s coastline, in which the country possesses jurisdiction over the exploration and extraction of natural resources, including activities such as fishing and drilling. Proponents of UNCLOS argue that acceding to it will protect US national security, advance economic interests, ensure the security needed for investment in offshore oil and gas facilities, and protect the environment. Detractors capitalize on the last-named reason as a major liability that would make the United States vulnerable to environmental as well as climate-related lawsuits in the Arctic, and note that the US already enjoys many of the benefits of UNCLOS even without official accession.

The most vocal opposition to UNCLOS originates from a group of conservative skeptics that tends to view international treaties such as UNCLOS as detrimental to US sovereignty. Despite this, accession to UNCLOS was urged by President George W. Bush in 2007, who explained that joining the Convention would “give the United States a seat at the table when the rights that are vital to [its] interests are debated and interpreted.” Likewise, in 2012, Secretary of State Hillary Clinton testified strongly in favor of ratification of the treaty before the US Senate Committee on Foreign Relations, which ultimately led to the Committee’s own endorsement of its ratification. In 2012, before his appointment as Secretary of State by President Donald Trump, Rex Tillerson, then CEO of ExxonMobil, also argued in favor of ratification of the treaty, noting that without it, the US’s ability to defend its own maritime claims as well as to challenge the conflicting claims of other states is weakened. President Trump's position on UNCLOS remains unclear.

3.2. Military Strategy

In February 2017, urged by Senator Dan Sullivan, R-Alaska, the US Department of Defense (DOD) published an updated version of its 2013 Arctic strategy report, which was released concurrently with the Obama White House’s national Arctic strategy report. The
2016 version, completed while President Obama was still in office, restates the DOD’s commitment to preserving the global mobility of US military and civilian vessels throughout the Arctic, conducting freedom-of-navigation operations to challenge excessive maritime claims by other states where necessary. The report is sensitive to heightened Russian military activity in the Arctic as well as to recent Russian violations of Ukrainian, Georgian, and Moldovan territorial integrity. In response to these, the DOD pledged to continue its training and exercises in Europe under Operation Atlantic Resolve. Nonetheless, caveats are scattered throughout: The DOD warns that Arctic operations are inherently difficult and dangerous, identifying shortfalls in weather prediction and remote sensing capabilities, complications in high-latitude communication, and a shortage of ice-capable navigation vessels. Overall, the tone of the report is cautious rather than aggressive. Notably, it does not yet mention China as a concern or threat in the region.

Although the 2016 DOD report on Arctic strategy is conspicuously lacking in a coherent air-power strategy, both the US Navy and Coast Guard have published plans to fortify their Arctic presence in the coming years, in part in response to growing Russian military activity in the region. In October 2018, for the first time in nearly 30 years, a US aircraft carrier entered the Arctic Circle in preparation for carrier strike group exercises. According to a Navy press release, the Nimitz-class aircraft carrier USS Harry S. Truman traveled north to demonstrate the “flexibility and toughness of US naval forces through high-end warfare training with regional allies and partners.” However, while the carrier made the

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journey without incident, several of its smaller escort and supply ships faced difficulties in navigating the icy waters of the Arctic. Similarly, when the Iwo Jima Amphibious Ready Group sailed from Iceland to Norway in the same month, the larger assault ship traveled safely while a smaller accompanying ship was damaged and forced to turn back.\textsuperscript{37} Although the Navy has maintained a presence in the Arctic since the 1960s, most of it has been through submarines and patrol aircraft instead of warships. Previously, the USS America was the last ship to have operated in the Arctic, as part of the North Atlantic Treaty Organization (NATO) North Star exercise in 1991. As the Navy sends more maritime vessels to the Arctic, it will need to contend with the risks associated with travel in the unpredictable and hostile conditions of the region.

Meanwhile, to better manage the hazards of polar navigation, the US Coast Guard has turned its focus towards the construction of new polar icebreakers. In February 2019, Congress approved a spending bill that included $655 million for the design and construction of a new icebreaker, with $20 million allocated for materials to build a second later on.\textsuperscript{38} However, the new icebreaker could take at least 6 years to complete and is slated to operate primarily in the Antarctic rather than in the Arctic. Currently, the only heavy icebreaker capable of traversing the icier portions of the Arctic is the 43-year-old Polar Star, which exceeded its 30-year intended service life and had to be refurbished in 2012. The Polar Star is capable of cutting through ice of thickness up to 21 feet when backing and ramming, and

\textsuperscript{37} Megan Eckstein, "Navy May Deploy Surface Ships to Arctic This Summer as Shipping Lanes Open Up," USNI News, January 08, 2019, news.usni.org/2019/01/08/navy-may-deploy-surface-ships-arctic-summer-shipping-lanes-open.
through ice up to six feet thick at speeds of 3 to 4 knots. In contrast, the Healy, the Coast Guard’s only other working icebreaker, although newer and larger, is capable of breaking up only 8 feet of ice when backing and ramming, and 4 feet when in motion.\textsuperscript{39} Another icebreaker, the Polar Sea, was decommissioned in 2010 after repeated diesel engine failures – its parts have since been removed and used to keep the Polar Star operational.\textsuperscript{60}

As Russia and China’s activity in the Arctic increases, scrutiny of the two countries’ behavior by senior US government officials has also risen. In June 2019, the White House’s National Security Council is expected to release a document detailing a new Arctic defense strategy focused on China, in collaboration with the Pentagon.\textsuperscript{61}

### 3.3. Alaska

The State of Alaska lies at the heart of US Arctic policy. As the northernmost third of the state is located within the Arctic Circle, Alaska serves as the basis for the United States’ claim to the Arctic and reason for its legal status as an Arctic littoral state. Alaska features heavily in the Arctic policies of Presidents Obama and Bush. Notably, President Obama’s 2014 Arctic strategy demands that all lines of effort “involve Arctic partners, particularly the State of Alaska and Alaska Natives in the Arctic region.” For decades, Alaska has also provided an ample supply of oil and natural gas for the US’s energy needs. Revenues from


\textsuperscript{40} Christopher Woody, "Coast Guard Passed On Arctic Exercise Amid Fears Its Garbage Icebreaker Would Require Russia's Help," Task & Purpose, April 15, 2019, [taskandpurpose.com/coast-guard-polar-star-exercises-russia](http://taskandpurpose.com/coast-guard-polar-star-exercises-russia).

the oil and natural gas industry represent a key component of Alaska’s economy and have funded most of the budget of the Alaska state government, which regulates waters belonging to the state up to 3 nautical miles from the coast, while the rest up to 200 nautical miles is regulated by the federal government. Alaska’s North Slope contains six of the largest oil fields in the US along with one of the largest gas natural gas fields, and Alaska's Prudhoe Bay field is one of the 10 largest oil fields in the country, although its reserves are decreasing steadily.\(^{62}\)

Figure 3.3. Arctic boundary map for Alaska as defined by ARPA. Source: United States Arctic Research Commission (May 2009).

3.4. Environmental Stewardship

Historically, US policy towards the Arctic has prioritized environmental stewardship, sustainable development, ecosystem preservation, and the rights of indigenous populations. As early as 1972, US President Richard Nixon expressed the desire to actively develop and pursue programs for increasing bilateral and multilateral cooperation in the Arctic, especially in the areas of scientific research, resource development, and environmental protection. In NSDM-144, President Nixon stated that the US would support the “sound and rational development of the Arctic, guided by the principle of minimizing any adverse effects to the environment.” In 2009, the US Navy’s Task Force on Climate Change released the Navy Arctic Roadmap in conjunction with the Navy Climate Change Roadmap, calling climate change “a national security challenge with strategic implications” that would lead to “increased tensions in nations with weak economies and political institutions.” The same year, President Bush’s official US Arctic policy acknowledged the “effects of climate change and increasing human activity in the Arctic region” and prioritized the protection of the Arctic environment even over the immediate extraction of its natural resources.

President Obama’s “National Strategy for the Arctic” furthers Bush’s environmental goals by defining four specific objectives, which are 1) to protect the Arctic environment and conserve Arctic natural resources by monitoring the status of its ecosystems and the risks of

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climate change; 2) to balance economic development, environmental protection, and cultural values; 3) to increase understanding of the Arctic through scientific research and traditional knowledge, with a focus on land ice, sea ice, biodiversity, permafrost melting, and supporting native Arctic peoples; and 4) to chart the Arctic region for safer navigation and identification of ecologically sensitive areas and natural resource reserves. In the 2014 “Implementation Plan for the National Strategy for the Arctic Region,” the Obama Administration notes that climate change is already affecting the nation’s population, with Alaska residents most vulnerable. Further, it states that in order to ensure a cohesive policy approach to the Arctic that accounts for the effects of climate change, implementation of Arctic national strategy must be aligned with the Executive Order on Preparing the United States for the Impacts of Climate Change.

In November 2016, to prevent drilling in the Alaskan Arctic, the US Department of the Interior banned drilling in the Beaufort and Chukchi Seas between 2017 and 2022, and limited – although did not completely ban – drilling in Alaska’s Cook Inlet. In December 2016, to pre-empt President Trump’s more aggressive approach to energy resource extraction, President Obama and Canadian Prime Minister Justin Trudeau announced together that they would extend protections against Alaskan drilling indefinitely in the United States-Canada Joint Arctic Leaders’ Statement, with the extent of these protections to be reassessed every five years. Although President Obama’s Arctic strategy reflects an overall
increase in interest in energy resources and security from President Bush’s policy, President Obama was also responsible for instituting many of the safeguards that today protect the Alaskan Arctic from energy resource extraction. Overall, there exists a general continuity between the Arctic policies of Presidents Bush and Obama - environmental concerns dominate both.

3.5. Energy Security

The United States is the second largest consumer of energy in the world after China and is the seventh largest consumer of energy per capita. Notably, in the last 10 years, the trade gap in US energy products has decreased - in 2007, the value of energy imports was roughly 10 times larger than that of exports, while in 2017, the value of imports was only 1.5 times greater than exports, according to the US Energy Information Administration (EIA). This is because US dependence on energy imports has fallen thanks to an oil and gas renaissance driven by technological advances that have allowed for the widespread adoption of horizontal drilling and hydraulic fracturing (“fracking”) practices.

A cornerstone of President Obama’s 2013 Arctic strategy positions the Arctic as a major provider for future US energy security. Despite emphasizing “sustainable” and “responsible” development practices, President Obama’s strategy calls the development of

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Arctic oil and gas resources consistent with the US's “all of the above” approach to developing new domestic energy sources, including renewable technologies in addition to oil and gas. Efforts to reduce reliance on oil imported from unstable regions and strengthen US energy security were touted under President Obama, although not indiscriminately. For example, in November 2015, he rejected the Keystone XL pipeline proposal out of environmental concerns over water quality and production practices as well as in response to domestic pressure from environmental activists. In November 2016, President Obama also instituted a ban on drilling in federal Arctic waters and in December 2016 extended these protections indefinitely.

Energy security, which has historically been a major political priority in the United States, now receives less attention due to the recent boom in shale oil and gas. According to former Secretary of the Interior Ryan Zinke, under President Trump, the US is in a position to become not just energy independent but “energy dominant,” thanks to fracking and plans to loosen drilling regulations. However, in the Arctic, Trump has met setbacks in his push for aggressive fossil fuel development: In March 2019, his attempt to lift the Obama-era ban on oil and gas drilling in the Arctic ocean was ruled unlawful by a federal judge. The outer continental shelf of the United States covers over a billion acres off the coast of Alaska, with a significant portion of the undiscovered oil in the Arctic believed to be located in the waters off of Alaska’s northern coast. Still, even as temperatures warm, conditions in the Arctic

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remain hostile to infrastructure development, exploration, drilling, processing, storage, and transportation.

Domestic debate over whether or not to drill in the Alaskan Arctic is essentially divided into two camps: One side argues that opening Arctic lands and seas for energy resource exploitation is necessary for ensuring long-term US energy security, while the other sees the contribution of the oil and gas from this region toward energy security as inadequate to justify the dangers posed to the environment in their extraction.74 For instance, the Alaska Gasline Development Corp’s (AGDC) March 2018 assessment of Alaskan Arctic LNG development concludes that “however attractive it might appear to build a project similar to Russia’s Yamal LNG on Alaska’s Beaufort Sea coast, on closer inspection AGDC believes this approach is not viable from cost, schedule, technical, environmental, and permitting standpoints... untested technological solutions needed for siting on the Beaufort Sea would escalate the risk profile of Alaska LNG and diminish its commercial viability.”75 For now, the United States can afford to prioritize environmental protection over energy resource extraction in the Arctic because it enjoys a wealth of resource availability in easier-to-access areas where infrastructure already exists. Moreover, while oil and natural gas prices remain low, the commercial appeal of large-scale LNG ventures in the Alaskan Arctic will likely continue to be minimal.

3.6. Indigenous Rights

Indigenous peoples have lived in the Arctic for thousands of years. To survive, many have relied on hunting, gathering, fishing, and herding for sustenance, although some in Greenland also practice farming. Today, roughly 4 million people inhabit the circumpolar region, including more recent non-Native arrivals. Groups that are native to the Arctic include the Inuit in Canada and Greenland and the Athabascan in Alaska.76 According to the US Department of the Interior, the 229 federally recognized Native villages in Alaska are home to more than 80,000 Tribal members in total.77

In general, US leaders have been vocal supporters of indigenous rights in the Arctic. Discussion of the rights of indigenous populations has made its way into every official report on US Arctic policy since 1994, and has only been fortified in subsequent iterations. At talks over the future of the Arctic in Ottawa in 2010, Secretary of State Hillary Clinton criticized the conference’s Canadian organizers for failing to invite indigenous groups, stating that all those “who have legitimate interests in the region,” including indigenous peoples, should have been invited.78 To this end, in 2013, President Obama’s Executive Order 13580 created the Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska. The resulting report included input from the State of Alaska, Tribal governments, and Alaska Native organizations, among others, and called for the

76 ‘Arctic People,’ National Snow and Ice Data Center, nsidc.org/cryosphere/arctic-meteorology/arctic-people.html#native_people.
strengthening of partnerships in the Arctic with Alaska Tribal governments. In 2016, in response to requests from Alaska Native communities, President Obama established the Northern Bering Sea Climate Resilience Area, protecting the cultural and subsistence resources of more than 80 tribes, and urged Canadian Prime Minister Justin Trudeau to develop a new Arctic policy framework with input from First Nations, Inuit, and Métis people to replace Canada’s existing Northern Strategy.

In February 2019, at the 116th Congressional session, the bipartisan Arctic Cultural and Coastal Plain Protection Act (H.R. 1146) was reintroduced. The bill, if passed, would safeguard the Arctic National Wildlife Refuge coastal plain against the oil development allowed in the Tax Cuts and Jobs Act (Public Law 115-97), which was passed in December 2017. The bill’s introduction comes after the Bureau of Land Management (BLM) held hearings in several Alaskan communities, where Alaska Native leaders attended and largely supported a continued drilling ban within the refuge. Though the federal government is responsible for 60 percent of Alaskan lands and waters from 3 to 200 nautical miles offshore, 12 percent of Alaska’s land is still Native-owned, and to date, a significant portion of Alaskan oil and gas development has taken place on Native lands located on Alaska’s North Slope.

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In offshore areas, Aboriginal groups in Alaska have challenged a drilling program planned by Shell Oil. In 2007, when Shell oil drill ships and support vessels threatened to disturb the migration path of the bowhead whale in the Beaufort Sea, Alaskan Inupiats responded by suing the company. Ultimately, an injunction from the US Ninth Circuit Court halted Shell’s efforts to drill in the Arctic. However, over the last decade, some Native Alaskan groups have also shared in the profits from offshore drilling leases. By 2018, the Inupiats had taken over Shell’s offshore leases in the Beaufort Sea, with the intention to develop them⁸¹, underscoring the complexity of and variation in the choices faced by indigenous peoples in the Arctic when it comes to natural resource extraction.


The United States and China share a number of overlapping interests on key issues in the Arctic, including the protection of its environment and ecosystems, the sustainable development of its natural resources, the continued scientific exploration of the threats and opportunities associated with climate change, and the safeguarding of the security and stability of the region overall. China’s desire to participate more broadly in Arctic affairs is not inherently threatening to the United States. However, a continued deficit in involvement by the US in Arctic affairs could result in missed opportunities and a future political landscape in the Arctic that is dominated by China alongside an increasingly unfriendly Russia. Thus, it would be advantageous for the US to cooperate with China to ensure that further developments in the region align with its own interests. Moreover, engagement with China in the Arctic may also be beneficial in bolstering understanding and trust between the two countries during a time when tensions have mounted over trade and in the South China Sea. Although much of the Arctic remains inhospitable to development and sizeable returns in energy investments will likely not materialize in the immediate future, it is precisely when rules and norms in the region are emerging that the United States should pursue an active role in shaping them, as China has wisely positioned itself to do. Bilateral cooperation with China in the Arctic has the potential to be mutually beneficial – going forward, if the two countries can overcome areas of difference and address questions that are important to both, China could prove an attractive partner for the US in matters of Arctic as well as global governance.
4.1. Climate Change and Sustainable Development

Over the next century, the sea level rise caused by increasing temperatures and melting land-based ice sheets is expected to erode coastlines, destroy coastal cities, render rich agricultural land unusable, and devastate critical infrastructure. Prolonged droughts and heat waves coupled with diminished rainfall in some areas will restrict agricultural output, reduce flow to rivers, and limit water supplies for irrigation and consumption as well as for nuclear and hydraulic power facilities, which require high volumes of water to run. As the hydrological cycle intensifies, other regions will experience heavier precipitation, greater rates of flooding, and storms of increasing frequency and intensity as warmer air can hold more water vapor, the most common greenhouse gas. The most noticeable effects of climate change will likely be those that place limitations on human access to essential resources like food, water, and energy. In the US intelligence community’s 2013 Worldwide Threat Assessment, Director of National Intelligence James Clapper describes “shifts in climate” and “competition and scarcity involving natural resources” as threats to national security and factors that will exacerbate tensions and conflicts worldwide, forcing human migration, aggravating state weaknesses, and triggering riots over access to resources, particularly in less developed areas that are already more prone to violence and instability.\(^\text{85}\)

Paradoxically, global resource scarcity is a problem that the development of the Arctic may ultimately have a role in accelerating as well as resolving. The Arctic contains extensive deposits of oil and natural gas that will aid in meeting global energy demand, but human and

industrial activity there could cause an anthropogenic warming feedback loop: Further Arctic development and natural resource extraction will lead to greater temperature rise, which will result in additional sea ice loss and other destructive climate impacts, which will in turn both allow for and motivate higher-volume resource extraction, and so on. In addition, scientists worry that the opening of Arctic shipping routes and exploitation of polar resources could spell large-scale hazards and bring unpredictable risks. For instance, containing and cleaning up an oil spill in the harsh weather conditions and amid sparse search-and-rescue stations in the Arctic would be arduous with today's technology, especially when one considers that only a small fraction of lost oil is retrieved in spills that occur in settings that are warmer, more hospitable, and far better-equipped to deal with them. Equally concerning is the effect that increased drilling in the Arctic will have on the planet through the continued burning of fossil fuels and subsequent release of greenhouse gases like carbon dioxide. Melting Arctic permafrost will also release methane, a greenhouse gas more potent than CO₂, into the atmosphere, the effects of which are currently not accounted for in climate models. Methane accumulates in subsurface hydrocarbon reservoirs like coal beds and natural gas deposits, and the Arctic methane reservoir is roughly 1200 Pg, 240 times the global atmospheric methane pool of 5 Pg. Given this, even a small fraction of Arctic methane release is likely to have considerable impacts on the Earth’s climate system.⁸⁶

Targets to reduce carbon emissions as outlined in the Paris Climate Accords aim to strengthen the global response to the threat of climate change by limiting greenhouse gas

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emissions, all to prevent global temperature rise from exceeding 2 degrees Celsius above pre-industrial levels. These targets are already unlikely to be met by the 2040s, when greenhouse gas emissions must begin to decrease in order for the central goal to be achieved. If the melting of the Arctic leads to sustained energy resource extraction, meeting these targets will be unrealistic at best and impossible at worst. Thus, the US and China have incentive to cooperate to ensure the fair and sustainable development of mineral, energy, and living resources in the Arctic. Both countries, along with eight other Arctic and non-Arctic bodies including Russia and the EU, already cooperate on commercial fishing in the Central Arctic Ocean. In 2018, they signed the first ever executive agreement to employ a legally binding, precautionary approach to protecting an area from commercial fishing before it has even begun.\(^7\) On matters of marine environmental protection, China even recognizes international law as precedent to domestic law.

In its first white paper addressing its policy and strategy in the Arctic, China claims that one of the primary drivers of its interest in the region is scientific research on the effects of climate change as a mechanism to “resolve global environmental issues,” with environmental stewardship a leading priority.\(^8\) Still, to take these assertions at face value would be naive. China’s 2014 report on its national polar policy research – full copies of which are no longer accessible and partial ones available only in Mandarin – reveals the Chinese government’s own awareness that “the international community’s general concern

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for the environmental protection of the Arctic provides an opportunity for China to participate in Arctic affairs.”

In spite of written and verbal commitments to sustainable development, one need only look at China’s extensive record of ecological degradation both at home and abroad to understand that, with China, there often exists a gap between promise and implementation when it comes to the environment. As China seeks to incorporate its vision for a Polar Silk Road through the Arctic into existing plans for the BRI, skeptics have raised concerns over the debt traps, opaque contracts, political favoritism, and the overall lack of transparency surrounding Chinese banks and state-owned-enterprises, the institutions charged with financing and constructing the majority of BRI infrastructure. Moreover, top CCP officials have repeatedly expressed the Party’s desire to alleviate its domestic production overcapacity problem by migrating pollution-heavy steel, glass, and cement facilities to the BRI’s participant developing countries, merely restructuring China’s carbon-intensive production model and redistributing rather than truly mitigating emissions, all while Chinese President Xi Jinping is praised for his global leadership on climate change.

Nevertheless, no meaningful global emissions reductions plan is complete without the inclusion of China and the United States, the world’s largest emitter of greenhouse gases and largest emitter of greenhouse gases per capita, respectively. Together, the two countries emit around 40 percent of total greenhouse gas emissions. Although the US announced its intention to withdraw from the Paris Agreement in 2016 under President Donald Trump, it would be misguided to assume the move reflects future US strategy for climate change.

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89 International attention on the protection of the Arctic environment provides an opportunity for China to participate in Arctic affairs.

mitigation and emissions reduction. In particular, Article 28 of the Paris Agreement requires a 3-year membership period and another 1-year waiting period thereafter in order for a country’s withdrawal to be formally recognized. Under these stipulations, the earliest the United States can have officially exited the Paris Agreement is November 4, 2020, a day after the 2020 US presidential election. In addition, many U.S. states have pledged to continue to work towards emissions reductions regardless of Trump’s intent to withdraw. Ironically, it is the US’s exit from the Paris Agreement that has furthered Chinese leadership on global climate change mitigation. Top CCP officials have been vocal in their criticism of President Trump’s decision to withdraw from the painstakingly-negotiated Paris Climate Accords, and as the US and its key allies diverge further on whether and how to address the planet’s warming and its consequences, signatories of the agreement have looked increasingly towards China for guidance.

In spite of President Trump’s disavowal of global warming as a legitimate phenomenon, as the 2020 US presidential election looms, support for action on climate change by Democrats in Congress has risen sharply. For instance, the Green New Deal, which proposes that the US become carbon-neutral by 2030, although more vision than concrete policy, has become a litmus test for 2020 Democratic presidential contenders, many of whom support the plan in part if not in full. As China pursues its ambitious international trade and infrastructure agenda across Asia, Europe, and now in the Far North, only the US

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is capable of holding China accountable to its public commitment to decreasing emissions, both in the Arctic and outside of it. As the guiding principles of both countries’ Arctic policies are deeply rooted in environmental protection and responsible development, this will be an area that brings them together rather than draws them apart.

4.2. Energy Trade

The relationship between the United States and China – as consequential as it is sprawling – has deteriorated steadily over the past year. Economic tensions between the two countries erupted into a full-blown trade war during the summer of 2018 over the massive trade imbalance between the two, in addition to forced technology transfers and intellectual property theft, among other issues. In spite of this, the US and Chinese economies are surprisingly complementary: China is the US’s largest trading partner, and according to the Office of the US Trade Representative, US goods and services trade with China totaled an estimated $710.4 billion in 2017, while the total trade deficit with China was $335.4 billion.93

In the Arctic, the United States and China stand to benefit from increased mutual engagement for the reason that it would decrease tensions in a relationship that they and the world cannot afford to become more antagonistic. Although enforceable structural changes are necessary to address fundamental imbalances in the trade relationship, energy trade has the potential to ease the trade deficit both in the short- and long-term: The US has an abundance of oil and natural gas resources while China’s demand for the latter continues to

93 "The People’s Republic of China,” United States Trade Representative, ustr.gov/countries-regions/china-mongolia-taiwan/peoples-republic-china.
rise as its government strives to reduce the country’s dependence on coal. In 2017, China’s demand for gas increased by 27 percent, including a 46 percent increase in LNG. Furthermore, because China’s domestic oil production has slowed, it has also experienced a net increase in demand for foreign oil. In 2017, following the lift of the crude oil export ban in 2015, US exports of crude oil exceeded 1 million barrels per day. That year, China imported 234,000 barrels per day of crude oil from the US. Liquid natural gas exports also grew in 2017, which saw more than $1 billion worth of LNG exports to China.\textsuperscript{94}

In April 2017, President Xi made a surprise stop to Alaska where he met with then-Alaskan Governor Bill Walker, who pitched an LNG project aimed at Asian markets to the leader and emphasized China’s status as Alaska’s largest trade partner.\textsuperscript{95} Firms like the Alaska Gasline Development Corporation (AGDC) have also been eager to take advantage of China’s growing appetite for natural gas. In the fall of 2018, AGDC signed a supplemental agreement with Sinopec Group, the Bank of China, and CIC Capital, who had agreed collectively to finance the AGDC’s Alaskan LNG pipeline project a year prior.\textsuperscript{96} Under the agreement, AGDC would reserve 75 percent of the project’s production capacity for Sinopec, while the Chinese company would provide most of the funding for the project.\textsuperscript{97} Deals like these underscore the importance of the Arctic to China’s long-term energy security interests.


and are illustrative of the role that the US can play in satisfying them, while transitioning away from coal and strengthening bilateral ties in the less carbon-intensive natural gas trade.

4.3. Balance of Power

According to neorealist balance of power theory, states will build up military capabilities (internal balancing) or form counterbalancing alliances (external balancing) in order to constrain rising states that pose a potential threat to their continued dominance. In Opposite but Compatible Nationalisms, Randall Schweller notes that rising powers are “expected to be outward-looking, to show competitive international faces, to expand when and where they can.” A common argument in realist international relations theory is that rising states tend to become increasingly assertive as their relative economic and military power grows, broadening their foreign interests at the expense of declining states. However, empirically, rising states have not invariably adopted predatory strategies to challenge declining ones. While it is not my intention to debate the validity of these theories, I do note that both in rhetoric and policy, China’s rise, perhaps more than that of any other state, has been deeply concerning to the United States. Recently, senior officials in the Trump administration have painted China as a revisionist power intent on disrupting US economic and security interests. In a speech accusing Chinese operatives of meddling in the November 2018 midterm elections, Vice President Mike Pence stated that China “wants nothing less

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than to push [the United States] from the Western Pacific and attempt to prevent [it] from coming to the aid of [its] allies."\(^{100}\)

Along these lines, the US has sought to manage China’s rise and economic growth using a combination of internal and external balancing and expanded engagement with China.\(^{101}\) Many American experts view China as an ideological foil, military threat, economic predator, and strategic competitor, while Chinese experts are suspicious of US efforts to contain China and limit its growth and influence.\(^{102}\) However, even as direct competition between the US and China increases, Stephen Hadley writes that “if competition becomes the sum total of the relationship, the result will be a lose-lose for both Washington and Beijing.” Such a trend, he argues, would preclude cooperation between the two countries on important global issues ranging from environmental degradation and resource scarcity to terrorism and the spread of disease.\(^{103}\) In order to cope with China’s rise, the US cannot attempt, as Secretary of State Mike Pompeo suggested, to “oppose it at every turn”\(^{104}\); the US also feasibly cannot, as some have urged\(^{105}\), completely extricate China’s economy from its own. Rather than turn inward and alienate itself from the world, Oriana Skylar Mastro argues that “when China sets up its own institutions, as it did with the Asian Infrastructure


\(^{103}\) Ibid.  


Investment Bank (AAIB) in 2016, the United States should join the new organizations early on to influence their development,” in service of the ultimate goal of building a more comprehensive international order that “cannot be pulled in China’s illiberal direction.” The same principle can and should be extended to the Arctic region.

The relationship between the US and China today can be broadly characterized as “cooperative rivalry,” but even cooperative rivalry requires substantive and salient areas of cooperation in order to be sustainable. On global issues, Jeffrey Bader argues that a sensible approach to US-China relations should identify “issues on which China, because of its own evolving interests, can and should play a greater role in supporting the global system.” Although his list of examples does not mention the Arctic, engaging with China in the Far North would accomplish exactly that. Instead of allowing China to fortify its presence unchecked in a region where the interests of the two countries are largely aligned, the US can have a greater influence on China’s activities by engaging with rather than confronting or ignoring it.

4.4. Arctic and Global Leadership

As more states become observers to the Arctic Council, the US, as an Arctic state, and China, as a non-Arctic state, represent natural leaders of Arctic governance. Regionally as well as globally, cooperation between the US and China has driven and will continue to

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drive multilateral processes. In the past, bilateral engagement between the two countries has allowed them to leverage their size and influence together to organize and stimulate action from other countries, particularly on energy and environmental issues. Notable examples of this include US- and China-led action that resulted in the successful negotiation and widespread adoption of the Paris Agreement, the Kigali Amendment to the Montreal Protocol, and, most recently, the CORSIA Resolution. As rules for Arctic governance are still being established, the United States and China can again leverage their strength in tandem to shape them in ways that are considerate not only of Arctic states but of non-Arctic states, who will also be affected by decisions made about Arctic development due to the region’s significance in the global climate system.

Because of the diversity of the actors in the Arctic, some competition and disagreement, especially in the form of territorial disputes, is inevitable. All parties, however, have a vested interest in maintaining the security and stability of the region, which is home to valuable natural resources and transportation routes, indigenous peoples, and wildlife; this will require the peaceful and diplomatic settlement of any territorial disputes. Like the US, China views the Northwest Passage and the Northern Sea Route as international waters, while both Canada and Russia, have made attempts to claim parts of them as their own, respectively. On this point of contention, China will most likely support the United States as it is opposed to measures that further restrict access to the Arctic by non-Arctic states.

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5. Barriers to US-China Arctic Cooperation

5.1. South China Sea

Similar to the Arctic, the South China Sea contains vast quantities of energy resources, with more than 7 billion barrels of proven oil reserves and 900 trillion cubic feet of natural gas, according to the World Bank. Its waters are among the world’s busiest, a characterization that could be true of some Arctic shipping routes by the end of this century or perhaps even earlier. However, conflict or disagreement with the United States in the South China Sea may strain cooperation in the Arctic, particularly on matters related to the Law of the Sea. Likewise, the degree of China’s recognition of and willingness to comply with UNCLOS laws in the South China Sea may have implications for its behavior regarding its adherence to international maritime law in the Arctic.

Although territorial disputes involving China and its neighbors in the South China Sea have existed for decades, the region has seen increasing militarization in recent years, in part in response to China’s burgeoning military and economic power and, with it, its newfound assertiveness. Arguably the most controversial of China’s actions in the South China Sea is its use of the “nine-dash line” in a map submitted to the UN in 2009 as the boundary of its claim to waters and territories over the heavily contested Scarborough Shoal as well as the Paracel and Spratly Islands, which together comprise nearly the entirety of the South China

Sea region. In 2014, the US government deemed China’s “nine-dash line” claims to be in violation of UNCLOS, which dictates that a country’s EEZ extends 200 nautical miles from the continental shoreline or, of particular relevance here, from habitable islands.

When ratifying UNCLOS in 1996, China issued a concurrent statement stipulating that warships must seek prior authorization for innocent passage through its territorial seas, to the prominent opposition of the United States. Although the US has largely restrained from taking a stance on maritime disputes between China and its neighboring countries, it continues to conduct freedom-of-navigation operations in the South and East China Seas. In September 2018, US Air Force B-52 bombers flew over both, and shortly thereafter, the destroyer USS Decateur sailed within 12 nautical miles of disputed reefs in the region, prompting stern condemnation by the Chinese and maneuvers the Pentagon deemed “unsafe” by a Chinese destroyer in response. In the Asia Pacific theater, China’s goal is to expand its political, economic, and defensive influence. If the US wishes to contain China’s presence, it may feel compelled to increase its own military presence in the region, increasing the likelihood of conflict.

Another complicating factor is that China has rejected international mediation for settling territorial disagreements, maintaining instead that such disagreements should be resolved through direct arbitration between the states involved. In a dispute with the Philippines over contradictory territorial claims, China repeatedly rejected the Philippines’

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proposal to bring the conflict to the International Tribunal on the Law of the Sea, a UN mechanism for resolution. However, although China refuses to recognize certain aspects of UNCLOS in its own neighborhood, in the Arctic it remains committed to upholding the Law of the Sea as it permits freedom of navigation through important shipping routes through the region. In addition, the Arctic is of far less historical and cultural importance to China, and China does not possess an EEZ within it. Thus, in the Arctic, China likely views UNCLOS as protective and permissive rather than constraining.

5.2. Russia

The Sino-Russian relationship is based on a fundamental opposition to US unilateralism. This partnership has expanded since the collapse of the Soviet Union, strengthened in particular by cooperation on energy infrastructure and a worldview that favors multipolarity with a center of global power shifted east. Recently, the tense relationship between the US and Russia coupled with the Trump administration’s provocative actions towards China on trade has encouraged further rapprochement between Russia and China. Geographically speaking, there are far more reasons for Russia and China to collaborate than for the US and China or the US and Russia. Russia and China share more than 2000 miles of borders, and it is important for both countries to maintain peace and stability at these. Russia and China also have incentive to cooperate on issues related to energy, like the Power of Siberia, an enormous pipeline that delivers natural gas from Russia to China, as well as on

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trade. Russia is primarily an exporter of raw materials while China consumes massive amounts of oil and gas, and this balance has led to a prolific trading partnership between the two.\textsuperscript{115}

The Sino-Russian relationship is also grounded in norms shared by China and Russia but not by the United States. For decades, the United States has been staunchly opposed to a return to a spheres-of-influence kind of world order. This is directly counter to Russia’s desire to maintain exactly that in the former Soviet Space. In the South China Sea, China has patently similar ambitions. As authoritarian countries, the governments of both China and Russia place high priority on regime survival and stability, and they tend to support each other on issues related to cyberspace, censorship, and internet governance. China and Russia’s conflicts elsewhere in the world may also drive them closer together.

That said, the Chinese-Russian relationship is complex, with enduring mistrust and resentment on both sides. There are significant areas of concern when it comes to the Chinese-Russian relationship. For example, Chinese investment in the Russian Far East (RFE) has fueled fear that China could be effectively expanding back into the region, territory which once belonged to the Chinese, a fear that has been exaggerated and sensationalized in the Russian media. There are also major imbalances in terms of population and GDP, which gives China the upper hand in power and influence with the other. However, in the Arctic, this dynamic is turned on its head: There, Russia acts as a gatekeeper for China, as China requires partnership with an Arctic littoral state for lawful access to the region. Given both

countries’ tense relationships with the West and mutual benefits when it comes to the Arctic, without engagement by the US with China, it is likely that the partnership between Russia and China will strengthen to the extent that the two countries stand to gain more from cooperation than competition. In 2018, for the first time in history, the Russian military exercise, Vostok-2018, included for more than 3000 Chinese troops in Eastern Siberia\(^{116}\), suggesting that the partnership could become more strategic.

Russia’s economic growth since the Cold War has been driven principally by its hydrocarbon energy production and exports. Revenue from oil and gas production comprises a quarter of Russia’s GDP and half of the federal budget, thus making the state heavily dependent on energy as income.\(^{117}\) Out of the United States, China, and Russia, energy exports are most important to the Russian economy. Consequently, Russia’s activities in the Arctic are motivated in large part by the potential economic benefits. The Arctic Circle contains up to 30 percent of the world’s remaining undiscovered natural gas, 20% of its liquefied natural gas, and 15% of its oil\(^{118}\), and the identification and extraction of new natural resources is crucial to Russia’s economic future. Already, Russia has constructed the world’s first sea-based nuclear power plant in the Arctic Ocean, which will be capable of powering a city of 100,000 people at its launch, according to Rosatom, the Russian state corporation


\(^{117}\) Perovic, Jeronim et al., Russian energy power and foreign relations: implications for conflict and cooperation. Routledge, 2009.

specializing in nuclear energy responsible for the project. The reactor, dubbed “Akademik Lomonosov,” will supply power to oil rigs as well as to the coastal town of Pevek.\textsuperscript{119}

In addition to energy, Russia is interested in the Arctic for military and defense purposes. As part of its 2009 Arctic policy under then-President Dimitri Medvedev, Russia affirmed its intent to maintain a “a necessary fighting potential of groupings of general-purpose armies of the Armed Forces of the Russian Federation, other armies, military formations, and organs in [the Arctic].”\textsuperscript{120} Russia views the Arctic as an important component of its defense and has been engaging in militarization of the region in recent years, during which it established the Russian Joint Strategic Command “North” for defense. As of 2018, Russia has 4 Arctic brigade combat teams, 14 airfields, 16 ports, and 41 icebreakers.\textsuperscript{121} In contrast, the US has one functional icebreaker that is capable of traversing the Arctic. Russia also plans to reopen former Soviet military bases above the Arctic Circle, with air force involvement.

Finally, Russia is interested in the Arctic for the control and use of the NSR (NEP). As mentioned previously, global warming could render the Arctic free of sea ice for at least 3 months out of the year by as early as mid-century, thus allowing for easier transport through the NSR. This could reduce the time it takes to reach Europe from East Asia significantly and is why Russia has submitted multiple petitions to the United Nations claiming exclusive

\textsuperscript{121} David Hambling, "Does the U.S. Stand a Chance Against Russia's Icebreakers?" Popular Mechanics, April 04, 2018, https://www.popularmechanics.com/military/navy-ships/a19673250/future-icebreakers/.
control over 1.2 million square kilometers of the Arctic, including the North Pole, based on scientific evidence gathered by the Russian foreign ministry. Although Russia’s claim to the Arctic sea shelf has legal bases, its first petition was rejected in 2002, and its latest one puts it again in direct conflict with claims by a handful of other Arctic states.

In the Arctic, Russia provides access while China supplies vital sources of funding and investment, which are considerably more stable than joint ventures with Western companies as Chinese funding sources are not subject to the ups and downs of politically motivated sanctions. A notable example of successful cooperation between the two countries is on the extraction of LNG on Russia’s Yamal Peninsula. In November 2018, the China National Offshore Oil Company (CNOOC) received its first LNG shipment from Russia’s Yamal Arctic gas project, the first of its kind.122 In 2013, the Russian firm Novatek signed a contract with the China National Petroleum Corporation for a 20 percent stake in Yamal LNG, along with France’s Total SA, a multinational integrated oil and gas company. Novatek, which holds a 60 percent share in the project, agreed to supply at least 3 million metric tons of LNG to China annually.123 Although the project was derailed due to US and EU-imposed sanctions on the Russian Federation in July 2014 in response to the annexation of Crimea, the Yamal LNG venture was able to continue when Chinese banks committed over $10 billion to the project, more than a third of the total funding.124 Additionally, in 2015, Novatek

sold roughly 10 percent of Yamal LNG to China’s “Polar Silk Road” Fund, in exchange for a loan equivalent to USD $830 million to be repaid over the course of 15 years. Beyond energy projects, China’s investment is linked also to transportation infrastructure development. In June 2018’s Shanghai Cooperation Organization summit in Qingdao, China, leaders of the China Development Bank and Russia’s Vnesheconombank (VEB) signed a major bilateral investment deal that prioritized the development of the NSR, the Russian Arctic maritime route that connects Asia to Europe, above 70 other projects. Although Russia’s collaboration with China in the Arctic is largely one of convenience rather than of friendship, alignment in this region only strengthens the relationship as a whole.

![LNG transportation routes and distances from Yamal LNG.](image)

**Figure 4.1.** LNG transportation routes and distances from Yamal LNG.  

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5.3. Political Uncertainty

Because one of the primary motivations for dealing with the Arctic is its effect on global climate change, US-China cooperation there may be stalled by legislative inaction and political uncertainty with respect to climate change action in the United States. The Trump administration has approached the Arctic differently than the Obama and Bush administrations. For example, under President Trump, the bilateral relationship between the US and Canada has shifted focus from the Arctic to other areas like the renegotiation of the North American Free Trade Agreement (NAFTA). Climate change has made the Arctic a higher priority for Russia and China, while the current US administration denies the existence of anthropogenic global warming altogether. On the whole, President Trump’s “America first” mindset has resulted in weaker US leadership and participation in international cooperation both on climate change and in the Arctic. In August 2017, Secretary of State Rex Tillerson eliminated the position of US Special Representative to the Arctic, one that remains vacant as of April 2019, suggesting that leadership in the Arctic is not as high a priority for the Trump administration. In terms of the relative precedence of the Arctic to the US legislative branch, US policymakers may prioritize more urgent challenges faced by the US in the Middle East, Asia-Pacific, Latin America, or wherever threats are more immediate, rather than in the Arctic.

In the last year alone, US citizens in every corner of the country have shouldered the effects of climate change in the form of extreme weather – from wildfires on the West Coast, to hurricanes on the East Coast, to the weakening of the jet stream bringing frigid temperatures to the Midwest. However, the fact that the effects of climate change are both
spatially and temporally scattered can hamper urgency to implement uniform mitigation and adaptation strategies. Indeed, many climate impacts will occur well beyond the short-term electoral schedules of American democracy. Thus, meaningful legislative action on climate change requires persistent cross-party agreement over the time-scale of decades. In the current climate of polarization that dominates both houses of Congress, even short-term consensus between Republicans and Democrats on climate action appears unlikely.

Additionally, many of the individuals who will feel the strongest effects of climate change are too young to vote or too distant for their vote to be impactful. In any scenario, anthropogenic climate change is likely to cause environmental changes that infringe upon private property rights. Yet, those who are most likely to face such violations often reside in areas lacking adequate and forceful representation – or sometimes representation entirely – in Washington. For example, residents of Puerto Rico and other US territories do not have voting representation in Congress, nor are they entitled to electoral votes for President. At the same time, the consequences of extreme weather in some of these places have resulted in costs in the USD billions; US island territories will experience the brunt of sea level rise and the property damage that is associated with it.

Meanwhile, in China, although no citizen possesses the right to vote in a national election, billions of dollars of investment into renewable energy and drastic environmental regulation to limit emissions have occurred and been implemented in recent years. President Xi Jinping was handpicked by his predecessors and just last spring amended the Constitution in a way that would allow him to stay in power indefinitely. Although this development was alarming to many China observers, such a move provides Xi the time and the continued
authority to pursue his aggressive environmental agenda. Even if Xi were to step down, the
difference between his and his successor’s environmental policies would likely not be as
drastic as that between, for example, former President Obama and current President Trump.
When, in the US, successive leaders often undo wholesale the legislation enacted
painstakingly by their predecessor(s), it is no wonder political progress is stunted.

The responsiveness of a political system to the preferences of its citizens underlies
both democratic theory and practice – a positive relationship between public opinion and
public policy is central to these. Policy responsiveness in democracies generally comes from
electoral pressures and threats of sanction. Elected representatives respond to public
demands in theory because that is how they may be reelected, although deep-pocketed
corporations and individuals may hold disproportionate influence over the policy decisions
of a candidate via lobbyists and indirect spending contributions. Responsiveness to mass
demonstration and collective action is another important form of political responsiveness. It
is not difficult to find examples of mass demonstration in the US – for instance, the “March
for Our Lives” on gun control which took place last year drew an estimated crowd of 200,000
in D.C. alone. Similarly, the 2017 Women’s March saw over 400,000 participants, inspiring
demonstrations by millions not only across the country but around the world. However,
neither resulted in the sweeping legislative action that was hoped for by participants.

Although the freedom of speech inherent in our democracy allows and encourages
protest, the response by officials and any resultant changes in law or legislation may be
smaller in magnitude than under the CCP in China, even at local levels. In the US, the
actionable steps constituents may take to capture the attention of their lawmakers are to call
them, to head to the polls, to demonstrate. Citizens do not threaten to complain to their representatives’ superiors, which could threaten their jobs, as Chinese citizens sometimes do. Perhaps in part because of the existence of democratic elections, political accountability in the US is far less top-down than otherwise. The systemization of peaceful transitions of power in democracies quells the possibility of officials being forcibly overthrown, while for the CCP, collective action threatens the very survival of the regime, as it did at Tiananmen in 1989. Thus, the Chinese central government is more motivated to respond to issues that have high potential for collective action. In China, environmental concerns (climate change, air and water pollution, toxic waste disposal) are among the most important of these. However, all of this is not to say that legislatures bodies in democracies are inherently welcoming to climate inaction, nor that authoritarianism is preferable for dealing with environmental problems. A country with an authoritarian regime, for example, is far more vulnerable to the will of its central leader.

Cooperation between the US and China is necessary for any global climate action agreement, in which the Arctic will be central as warming in the region affects the entire world. Nevertheless, urgency in implementing mitigation strategies, including as they pertain to the Arctic, is limited by legislative inaction and political uncertainty in the United States and by low transparency and accountability by the Chinese government and Chinese firms that finance ambitious development projects. At times, it seems that the conceptual commitment to climate change mitigation is fundamentally at odds with the practical

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implementation of natural resource exploitation touted in both US and Chinese strategies in the Arctic. However, in the long-term, both Arctic and non-Arctic states would benefit from an Arctic environment in which mineral, oil, natural gas, and living resources are extracted responsibly and sustainably, and goods are transported safely, with attention to risk management and disaster response. Working together, the United States and China have the capacity to avoid a tragedy of the commons scenario on the high seas and mitigate harmful degradation to the local environment in addition to the impacts of climate change, which extend far beyond the Arctic itself.
6. Potential for Arctic Conflict

The potential for interstate conflict in the Arctic has both endogenous and exogenous dimensions. Within the region, disputes exist between Arctic coastal states over border and territorial claims, regulation and control of Arctic shipping routes, and extension of the continental shelves under UNCLOS for resource ownership and extraction. For example, the US and Canada disagree over the ownership of a small portion of the Beaufort Sea between Canada’s Yukon territory and the US state of Alaska, where the EEZs of the two countries overlap.\footnote{Beaufort Sea: U.S. and Canadian Claims,” Who Owns the Arctic?, byers.typepad.com/arctic/beaufort-sea-us-and-canadian-claims.html.} Similarly, Canada and Denmark share a dispute over the tiny Hans Island in the 22-mile wide Nares Strait that separate the two countries.\footnote{Dan Levin, “Canada and Denmark Fight Over Island With Whisky and Schnapps,” The New York Times, November 07, 2016, www.nytimes.com/2016/11/08/world/what-in-the-world/canada-denmark-hans-island-whisky-schnapps.html.} Perhaps even more serious than clashing territorial claims is the issue of the status of two key Arctic maritime transportation routes, the NWP, which runs along the coast of Canada, and the NSR, which passes through Russian territory. Freedom of navigation and the right of innocent passage is allowed under UNCLOS through any nation’s EEZ and territorial sea but not through its internal waters. Thus, whether the NWP or NSR are viewed as internal waters or as international straits is important to the United States, which has long been a proponent of the freedom of movement required to support global trade and security. Moreover, control over these passageways would confer the right to enforce environmental and safety regulations therein. With regards to the NSR, Russia has invoked Article 234 of UNCLOS,
which allows an Arctic coastal state to enforce environmental requirements and pollution-control measures in the waters of its EEZ that are covered in ice. Russia currently mandates that ships traversing the NSR be accompanied by a Russian icebreaker and pay the associated operational fees, which has raised concerns over cost and access for countries like China interested in the use of this passageway. The last major potential source for internal conflict in the Arctic is related to the extension of EEZs up to 350 nautical miles from the continental shelf under UNCLOS guidelines, which would grant states exclusive rights over valuable mineral and energy resources located in the deep seabed.

In spite of these disagreements, the dynamics of Arctic governance have historically been cooperative: Most intra-Arctic differences have been approached and many resolved diplomatically. Every Arctic state has membership on the Arctic Council, which most recently declared its commitment to settling Arctic disputes using mechanisms created by UNCLOS, an international treaty that all but the US have ratified. Additionally, most natural resources lie within clearly demarcated portions of the EEZs of Arctic nations, where there are no disputes. For these reasons, Juha Käpylä and Harri Mikkola warn that the potential for intra-Arctic conflict should not be overstated, as this may “generate self-fulfilling prophecies.” Instead, they argue, if conflict were to arise in the Arctic, it is most likely to be extra-Arctic in nature, stemming from dynamics outside the region. Finally, it is worth noting that any endogenous conflict in the Arctic by definition would not concern China directly, as China does not possess any territorial rights in the region.

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7. Policy Recommendations for the United States

7.1. Initiate Formal US-China Dialogue on the Arctic

While between the US and China only the US is able to introduce an initiative or create a task force within the auspices of the Arctic Council, the US may still seek Chinese cooperation to fund its projects. As the level of speculative and competitive rhetoric with China on the Arctic is escalating, the US should set the tone early for a cooperative relationship with China in the traditionally peaceful circumpolar region by opening a formal dialogue for Arctic issues in which China will more transparently communicate its plans for Arctic resource extraction ventures with Arctic Council member states like Russia, in exchange for US acknowledgment of China’s interests in the region.

The talks, which should take place in the US state of Alaska, would allow the two nations to identify and solidify specific priority areas where their interests are overlapping. Ultimately, this dialogue should evolve into something more global and comprehensive, with involvement by senior government officials as well as the creation of relevant task forces, addressing issues related to energy, climate change, and maritime regulations and environmental protection, with the Arctic just one component therein. Unfortunately, an undertaking on such a scale may be difficult to achieve when existing Trump White House-led talks on tense issues like trade and security have not materialized, or, in some cases, already collapsed. Still, in the Arctic, the US and China’s interests are mostly aligned, and open communication between the two may aid in the eventual formation of a more far-reaching climate and energy bilateral communications forum.
Where agreements reached by the Arctic Council are through uniform consensus, even one party’s dissent can derail the success of an entire initiative. However, outside of the Arctic, US and Chinese bilateral engagement has proven in the past to be effective in producing multilateral results, especially on environmental issues. The same is likely to be true on a smaller scale within the Arctic region, where China’s fiscal relationship with a contrarian Russia can be used to leverage, for example, the passage of a legally binding agreement to replace the current non-binding agreement on emissions standards for black carbon, a potent aerosol emitted by ships that contributes both to warming and to air pollution.

7.2. Update and Ratify UNCLOS

The US is the world’s foremost naval power, but it has yet to ratify the more than 30-year-old Law of the Sea Treaty – signed by 167 countries as of April 2019 – leaving a vacuum of leadership in maritime administration. In order to be an active, credible, and effective participant in Arctic governance, the US must join the United Nations Convention on the Law of the Sea. Without ratification of UNCLOS, the US cannot legally expand its EEZ via its extended continental shelf. Without ratification, the US also cannot legally challenge territorial claims like those of Russia to the Arctic Lomonosov Ridge, which would grant Russia jurisdiction over the North Pole. However, before the US ratifies the treaty, it should seek to strengthen the enforcement, reporting, and surveillance mechanisms associated with the fulfilment of UNCLOS obligations. First, unlike the UN Framework Convention on Climate Change (UNFCCC), among other recent global conventions, UNCLOS has no
separate body assigned to ensure or even to monitor its implementation. Next, because UNCLOS was negotiated before the effects of climate change were widely understood, its language concerning greenhouse gas emissions is noticeably deficient – Article 212 of UNCLOS cursorily addresses atmospheric pollution, which is related to but distinct from greenhouse gas emissions.

UNCLOS is not static: Since its adoption in 1982, it has been amended twice. In its annual report in 2014, the Global Ocean Commission suggests that a third implementing agreement is necessary for UNCLOS to adequately reflect contemporary maritime governance and protective needs. The Commission argues that the new implementing agreement should address areas of the ocean that lie outside of national jurisdiction, allow for the designation of Marine Protected Areas (MPAs) on the high seas, clarify the responsibilities of flag states, and set up institutions for compliance measurement and enforcement.\(^{131}\) If the United States were to leverage its own accession to UNCLOS in the effort to close the implementation gap between the treaty’s standards and enforcement, it may strengthen the authority, legitimacy, and relevance of the Convention as a framework for governance today, not just in the Arctic but around the world.

7.3. Invest in Arctic Navigation and Communications Technology

The lack of technology, ships, and heavy icebreaking vessels in the Arctic will preclude a leadership role for the United States in the circumpolar region and will make

effective partnership or rivalry with other Arctic and Arctic-adjacent states increasingly difficult. Assured access to the Arctic can only be achieved with adequate technology. Thus, in order to improve its understanding of and access to the Arctic terrain, the United States Congress should fund the expansion of its fleet of polar icebreakers through the US Coast Guard, of which it currently has only one, compared to Russia’s more than 40. It should also improve polar communications technology through NASA, the American civilian space agency, as satellites in a geostationary orbit, while providing strong coverage over lower latitudes, do not, by design, do so over the poles.

7.4. Increase Diplomatic Engagement with Arctic States

The United States should strengthen bilateral and multilateral engagement with Arctic states, both within and beyond the auspices of the Arctic Council. In doing so, it should not neglect common-sense partners like Canada for Arctic development, with whom it should reach an agreement over the status of the Northwest Passage. Increased human activity in the Arctic will create a need for more robust search-and-rescue organization by all members – the US should continue to work with Arctic Council members, including Russia, to make substantive contributions rather than superficial assurances to the improvement of these capabilities, as agreed to by member states of the Arctic Council. The US should continue to promote the sharing of scientific research between states in addition to international scientific collaboration on Arctic research and exploration. The US government should also fill key personnel vacancies like the US Special Representative to the Arctic as soon as possible.
8. Summary and Conclusion

The Arctic is not an isolated system. Rather, the consequences of its development are intertwined with the rest of the world. The viability of the region’s natural resource exploitation depends on fluctuations in the global energy market, and changes in the Arctic climate have extensively documented effects on the global climate system. While both US and Chinese Arctic policy emphasize environmental protection, China has becoming an increasingly active investor in natural resource extraction in the Arctic, most prominently vis-à-vis Russia. Because China is limited by its status as a non-Arctic state, it must pursue partnerships with states that have legal rights to the Arctic. As the most active Arctic power, and with more than 40 operational icebreakers, Russia has proven to be China’s most frequent collaborator thus far. Meanwhile, Russia, faced with tightening Western sanctions, has warmed to China’s growing interest along with the more stable investment that China is able to provide for key energy and infrastructure projects. Still, the Sino-Russian partnership in the Arctic is constrained by mistrust on both sides and does not preclude collaboration between the US and China on common interests related to climate change mitigation, sustainable development, fisheries management, environmental protection, air pollution, freedom of navigation, and a complementary natural gas trade.

In addition to increasing engagement with China in the Arctic, the United States should undertake the following actions to better position itself for leadership in the region: It should first update and ratify the UN Convention on the Law of the Sea. By strengthening international enforcement mechanisms for UNCLOS, the US can hold Russia and China
accountable to maritime environmental, transportation, pollution, and safety regulations, while slowing the overall pace of development. Next, the United States should bolster its scientific exploration and understanding of the Arctic region, in part to solidify its own extended EEZ claims, by investing in better navigational and communications technology, which are currently outdated or lacking in entirety. Finally, instead of turning away from intergovernmental organizations like the Arctic Council, the United States must embrace them and commit to maintaining an active presence therein.

For the United States, mutually beneficial cooperation with China in the Arctic will not only strengthen relations between the two countries overall but will also allow it to ensure that the development of the geopolitically important Arctic region aligns with its own priorities. As I have demonstrated in this essay, the Arctic is a region in which China’s strategic intent is complementary rather than contradictory to US Arctic as well as broader global interests – it is precisely in these areas that the United States should engage with rather than alienate China, leveraging Chinese interests and capabilities to work together to address the global challenges of the 21st century.
References


"Arctic People." National Snow and Ice Data Center. nsidc.org/cryosphere/arctic-meteorology/arctic-people.html#native_people.


