The Arctic Institute's 2025 China Series

EDITED BY PAVEL DEVYATKIN

THE ARCTIC INSTITUTE
CENTER FOR CIRCUMPOLAR SECURITY STUDIES

Contents

To cite this report:

The Arctic Institute “2025 China Series,” Edited by Pavel Devyatkin, The Arctic Institute. https://www.thearcticinstitute.org/

This report is published as part of the ArcGov project, funded by the Norwegian Research Council & High North Center for Business and Governance.

Cover photo: “Spitsbergen in Depth”, Sue Dowling, 2011.

About The Arctic Institute

Established in 2011, The Arctic Institute is a nonprofit organization headquartered in Washington, D.C. with a team of researchers across the world. As the region's preeminent think-and-do-tank, we are committed to promoting diverse voices, knowledge, and new ideas on Arctic policy.

The Arctic Institute's mission is to help inform Arctic policy in the context of the climate crisis. We believe that Arctic decision-making must be based upon interdisciplinary, inclusive research that addresses the most pertinent issues facing the circumpolar region. That's why our team leads research projects, supports scholarly publications, and organizes events that elevate diverse perspectives, including young scholars and those from communities that have been historically marginalized. The Arctic Institute is building the future of Arctic research through partnerships across the globe. We welcome ideas for collaboration in our mission to promote the Arctic as a secure, just, and sustainable region.

Introduction

PAVEL DEVYATKIN

China's Yellow River Arctic Station on Svalbard, 2010. Photo: Eating the Sun

China's role in the Arctic continues to be an important research focus in 2025. The Arctic Institute's 2025 Series on China's role in the Arctic presents over a dozen original articles from international scholars that help elucidate China's growing Arctic activities. This series builds on our previous China series from 2020 and 2023.

Over the past few decades, China's interest in the Arctic has increased and been shaped by economic, political, scientific and environmental interests. First joining the International Arctic Science Committee in 1996, China has long been involved in polar research and has conducted polar expeditions with its Xue Long icebreaker vessel. China established the Yellow River Station in 2004 in Svalbard, Norway, to conduct climatic studies and became an observer state to the Arctic Council in 2013, only allowing China's participation in working groups but not in the negotiation of agreements in the institution. China declared itself a "near Arctic state" in 2018 with the publication of its Arctic Policy, a white paper that outlines China's interests in the Arctic. The document presents China's interests in scientific, economic, and governance activities in the region and calls the Arctic the "common heritage of humankind."

The articles in the series center on two core themes: (1) China's Arctic engagement in the context of great power competition and global geopolitics, and (2) China's Arctic engagement in local and regional socioeconomic structures. The series explores China's relationship with Russia, U.S. alarm over China's Arctic engagement, opportunities for U.S.-China cooperation, and China's role in Arctic governance. Moreover, the series explores the normative

foundations of China's Arctic activities, China's sub-regional cooperation with Russia, China's work in satellite and subsea cable infrastructure, and Chinese interests in rare earth minerals.

The research presented in this series advances remarkable conclusions. Authors argue against the Western Arctic states' alarm over China's role in the Arctic and rather consider the opportunities for cooperation with China. Min Pan and Henry P. Huntington consider a framework of "selective cooperation" for China and the seven Western Arctic states. Li Xiaoning argues that sub-regional Arctic cooperation is a "strategic stabilizer" that can reduce the fluctuations in the relations between major powers. Barry Zellen argues that the U.S. portrayal of China as a threat to the Arctic is rooted not in strategic reality, but in paranoia and an anti-China ideological bias. In contrast, Erdem Lamazhapov and Andreas Østhagen encourage the U.S. to pay more attention to China's growing role in the Bering Sea and North Pacific Ocean.

Authors note that much academic and policy attention has been paid to the Sino-Russian partnership, but issues of territorial sovereignty (among other issues) remain points of contention in this relationship. Roman Zhilin emphasizes divergence in the fundamental views of Russia and China in their Arctic relationship and how the two countries support limited situational cooperation. Abbas Qaidari applies a game-theory analysis of China–Russia Arctic cooperation to show how uncertainty drives divergent behavior.

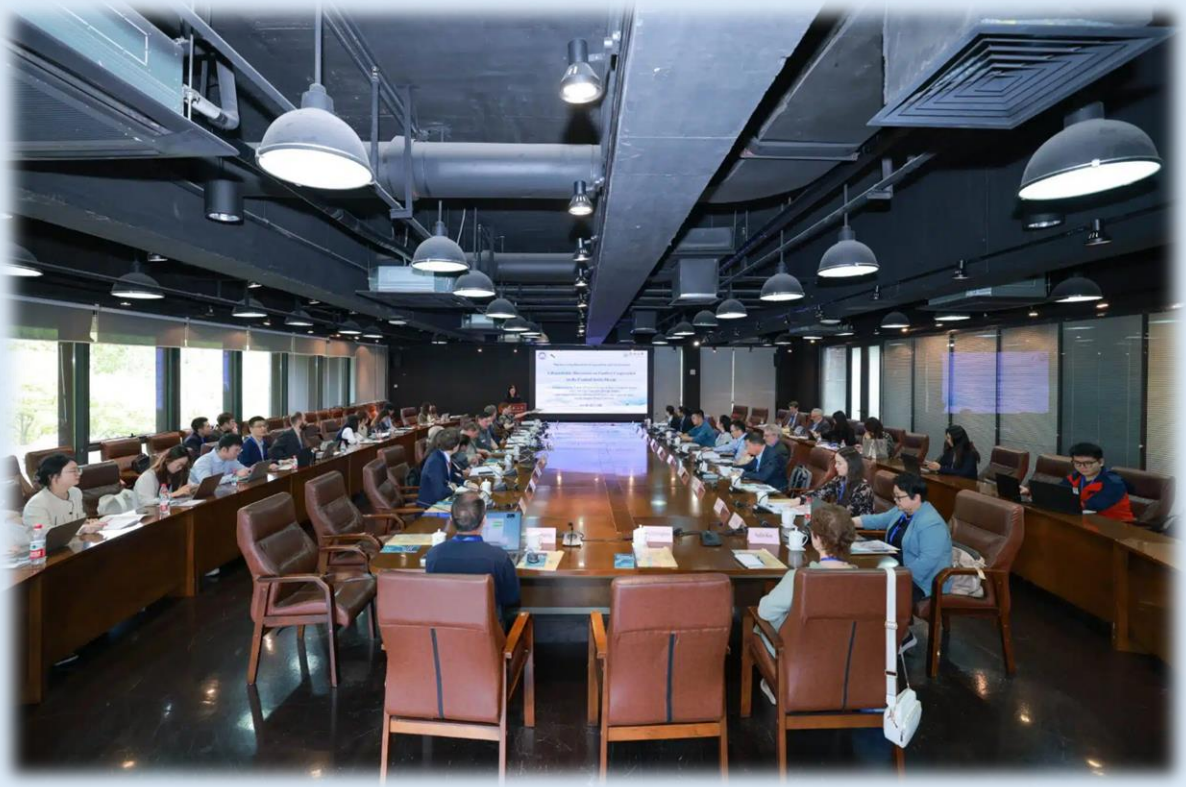
Authors argue that China's role in other parts of the world, development of digital infrastructure, and competition for critical minerals have lessons for understanding China's Arctic activities. Abeeha Shamshad argues that China's Arctic engagement can be understood by considering the experience of China's Belt and Road Initiative in Pakistan. Aybala Lale Kahraman explores the role of satellite and subsea cable infrastructure in China's digitizing of its position in Arctic great power competition. Gørild M. Heggelund, Iselin Stensdal and Erdem Lamazhapov explore what the competition for critical minerals means for China's role in the Arctic.

Authors examine the normative foundations of China's Arctic strategy and debate whether it is a hybrid warfare campaign that aims to expand China's influence and reshape Arctic governance or whether China aims to present itself as a reliable partner. Riva Panchal argues that China's Arctic strategy is a hybrid practice of influence grounded in pragmatic investment, diplomatic signaling, and normative flexibility. Sampo Sanaksenaho examines how China's discourses of multilateralism, respect and convergence serve China's long-term strategic and normative ambitions in the Arctic. Zoha Fatima argues that China is exploiting the governance gap left by the United States and subtly reshaping the Arctic governance agenda by presenting itself as a stable, sustainable, and globally engaged actor. Juliana Rapper argues that China is targeting the Arctic Council, exploiting governance fractures and advancing alternative normative frameworks that challenge the existing order. Marco Volpe examines China's participation in the Central Arctic Ocean Fisheries Agreement as a case of science diplomacy and China's growing role in regional governance. In general, the series presents disparate perspectives on the nature of China's Arctic activities. The diverse collection of articles seeks to present a holistic view of China's role in the Arctic.

Pavel Devyatkin is a Senior Associate at The Arctic Institute.

What if? "Strategic Competition" vs. "Selective Cooperation"

MIN PAN and HENRY P. HUNTINGTON



April 2025 Central Arctic Ocean Roundtable event at Tongji University. Photo: Min Pan

A prominent Western narrative portrays China as eagerly pursuing economic and strategic goals in the Arctic. U.S. Defense Department documents refer to this specter as “strategic competition.”[1] The other Arctic states that are also part of NATO appear similarly concerned.[2] While outside the scope of this article, Russia too may be wary of greater Chinese influence in a part of the world central to Russia’s economy and national defense.

Here, we will focus on the relationship between China and the “Arctic 7” (Canada, Greenland, Finland, Iceland, Norway, Sweden, and the United States) and, perhaps more importantly, on the respective perceptions of that relationship. We will also consider an alternative narrative of “selective cooperation” and what that could mean for China and the Arctic 7. Perception can become reality, and it is worthwhile to consider whether a different perception of China’s role in the Arctic could lead to a different reality than one of increased competition and confrontation.

There appears to be some evidence supporting the “strategic competition” narrative. China’s Belt and Road Initiative includes the Polar Silk Road, a network of routes and infrastructure

connecting Asia and Europe, especially via the Northern Sea Route.[3] In addition to ship traffic, the Polar Silk Road at its most expansive includes a north-south rail line in Finland, port facilities in Norway, and river and rail links in Russia. By any measure, the Polar Silk Road would be an enormous economic undertaking, involving many countries and industries, with an expected payoff to match. China's geopolitical influence would presumably be enhanced as well.

In addition to the Polar Silk Road, China has explored investing in airports in Greenland as well as in a natural gas pipeline in Alaska. Despite initial enthusiasm, Greenland and the U.S. both became wary of increased Chinese influence, and the proposed deals have amounted to nothing. China's interest in mining in Greenland has likewise fallen short of its ambitions, due both to Greenlandic opposition to mining in general and to American resistance to China gaining a foothold in what the U.S. sees more and more as a place of great geostrategic significance.

China has also pursued a number of smaller initiatives that nonetheless have raised questions about its intentions. The Aurora Institute in Iceland and the Yellow River Station in Ny Ålesund, Svalbard, are scientific ventures, but they have been subject to speculation about ulterior motives. Similarly, China's icebreakers and their research cruises in the Arctic Ocean are often cast as "dual purpose" missions, combining scientific inquiry with military-oriented surveillance and training.[4]

China's words have also drawn scrutiny and some degree of criticism. Although its 2018 Arctic Policy is relatively benign, emphasizing cooperation and respect for territorial sovereignty as well as Arctic Indigenous Peoples, China's self-description as a "near-Arctic state" has not been appreciated by at least some Arctic states. The U.S. in particular has ridiculed China for this self-assigned category, insisting instead that there are only Arctic states and non-Arctic states.[5]

Finally, there is the question of military activity, especially in cooperation with Russia. China and Russia have worked together in northern waters, and Chinese warships have approached U.S. waters around Alaska. The military capabilities of both China and Russia are of concern to the Arctic 7, especially in light of Russia's increase in military activity and infrastructure in its Arctic region. Strategic competition is one thing, but the flexing of military muscles is a major escalation in tension.

A common theme through all of these examples is the degree to which the prevailing narrative of strategic competition influences the perception of Chinese activity. The Polar Silk Road is indeed ambitious, but the vast majority of the proposed developments exist only on paper and are now rarely mentioned at all.[6] Indeed, a recent study finds that the scale of China's investment in the Arctic is far smaller than generally perceived in the West.[7]

As another example, many countries have research stations in Svalbard, but somehow India's Himadri Station attracts far less attention than the Yellow River Station. China's research vessel *Xue Long* conducts scientific expeditions in the Arctic, focusing on climate-change monitoring and ecosystem studies, but again its activity attracts far more attention than Japanese, Korean, or German vessels. China's idea of its status as a near-Arctic state is that

the Arctic is geographically close to China, and climate change in the region has significant implications for the country. China is willing to cooperate with Arctic nations to jointly address the challenges of climate change. Despite (mis)interpretations by others, China's use of the term "near-Arctic" can also simply mean that China wishes to be a good neighbor. Military activities and ambitions cannot and should not be easily dismissed, but it is also worth noting that increased attention to the Arctic is not one-sided, as NATO has undertaken various exercises in the North Atlantic and the Arctic.

We do not pretend to have insight into the mindset of China's leaders (nor the mindsets of the leaders of the Arctic 7). It is entirely possible that the darkest interpretations made by the Arctic 7 do in fact represent at least some of what China seeks in the Arctic. But it is also important to consider other evidence that may suggest that a different narrative is also possible. The fact that a coherent narrative exists does not make it true, any more than stating the idea of strategic competition proves it to be accurate.

On paper, there is little to distinguish China's Arctic Policy from similar policies issued by Japan, South Korea, and several other countries. Words, however, are cheap, and it is reasonable to ask whether China's actions match its stated policy and its emphasis on cooperation.[8)] Since 2013, China has been an observer at the Arctic Council. This designation gives China (and other observer states and organizations) the right to attend Arctic Council events, but not to participate in discussions about Council policies or activities. Nonetheless, China has increasingly contributed to projects undertaken by Arctic Council working groups.[9)] Similarly, China participates in the International Arctic Science Committee (IASC) and other circumpolar research bodies, helping conduct and guide Arctic research.

China has a larger role in the 2018 Central Arctic Ocean (CAO) Fisheries Agreement. The agreement has 10 parties, all on an equal footing, unlike the Arctic Council. The parties include the Arctic coastal states of Canada, Greenland/Denmark, Norway, Russia, and the U.S., as well as China, Iceland, Japan, Korea, and the European Union. China had to overcome some concern that the agreement was intended to benefit Arctic coastal states at the expense of distant-water fishing nations, so joining the agreement was not without some at least modest cost to China.[10)] At the same time, China was recognized as an important part of Arctic governance. The agreement also calls for an extensive research and monitoring program, which China has been active in developing, including inviting non-Chinese scientists to join its upcoming research cruises in the Arctic.

China's economic activities in the Arctic have followed international business norms, again consistent with its Arctic Policy. These activities include making use of the Northern Sea Route and investing in and receiving exports from the Yamal Liquified Natural Gas (LNG) facility in northern Russia.[11)] These activities are hardly exceptional. European shipping companies had used the Northern Sea Route until the Ukraine war led to economic sanctions on Russia. France had been a major investor in the Yamal plant, until the imposition of sanctions. South Korea constructed the tankers used to carry the LNG to Asian ports. In other words, there is little on the surface at least to distinguish China's course of action from that of other Arctic and non-Arctic states.

Because other factors also influence the relationships between China and the Arctic 7, we cannot expect China to be welcomed with open arms into all Arctic matters. Disagreements about trade, human rights, and more continue to dampen various forms of interaction between China and others. Nonetheless, the available evidence also supports an alternative narrative of China's Arctic ambitions and the path to which they could lead, noted earlier as "selective cooperation."

In some ways, selective cooperation is already occurring, as shown in the Arctic Council and CAO Fisheries Agreement examples. While the Arctic Council has minimized Russian involvement since the start of the war in Ukraine, the work of the fisheries agreement has continued with remarkably little disruption. It is a minor case but suggests the possibility of some form of "Arctic exceptionalism" may be possible, in which Arctic affairs are decoupled from global affairs.[12)]

If we pursue the selective cooperation narrative further, the obvious question is how China and the Arctic 7 might build on their admittedly limited cooperation at present. We suggest a few modest ideas here for places to start, and welcome readers to consider how they might suggest that cooperation could be further explored. We do not expect that further cases of cooperation will reduce the sense of strategic competition, at least in the short term, but we hope that trying a different approach could in fact help shift perceptions and lead to a different outcome than one based on fear and mistrust.

"Science diplomacy" remains a viable way for countries to cooperate even amid other tensions. The International Space Station is one example. Antarctic research is another, as is Arctic research. IASC enjoys a general sense of cooperation. Arctic Council projects display more formal collaboration on specific undertakings. Under the CAO Fisheries Agreement, the ten signatories are creating a coordinated research program. As interest in the Arctic continues to grow, these examples provide much to build upon. Scientists and their respective institutions can pursue cooperation in many ways, all of which have the potential to increase mutual understanding and to find common interests.

Similarly, scholarly and cultural exchanges can provide opportunities both for learning and for identifying new opportunities for collaboration. As one example, the CAO Fisheries Agreement calls for the inclusion of Indigenous knowledge in its research and monitoring program, a concept that is relatively new to Chinese researchers but well developed in North America. While the concept of Indigeneity has a very different history in China than in North America, the role of Arctic Indigenous Peoples is important to Canada, Greenland, and the U.S. especially. Chinese scholars can learn from Arctic Indigenous scholars and practitioners to better understand the rich history—and the pitfalls—of academic-Indigenous relations in the Arctic. Exchanges involving young scholars may be similarly productive in creating working relationships and offering new perspectives.

Economic cooperation may be harder in some ways, but diplomatic cooperation may be possible, building on the example of the CAO Fisheries Agreement. Arctic shipping is likely to continue to increase, and parts of the Transpolar Sea Route through the high seas of the Central Arctic Ocean may become commercially viable by mid-century. This route is also subject to hazardous weather and lies far from any form of assistance. Building on the Polar

Code of the International Maritime Organization (IMO) is one way to develop governance proactively rather than letting industry practice set the standard. China's role as a major shipping nation with strong Arctic interests would position it well to take a constructive part in any such effort. A commitment to responsible shipping practices could in turn suggest ways to explore economic cooperation related to commerce, rather than just the exploitation of Arctic resources.

A final point regarding a shift towards selective cooperation is that all those involved need to pay close attention to how their words and actions are interpreted and, at times, misinterpreted. China may believe that its claim to "near-Arctic" status has been misunderstood, but at least some of the burden to correct that misperception lies with China to better explain what it actually means. The U.S. may regard China as a strategic competitor, but it also needs to understand how that designation affects its own perceptions as well as China's actions in response. In other words, better communication is needed on both sides, along with a willingness to reconsider one's understanding in order to identify better ways to achieve one's aims.

While there remain real differences between China and the Arctic 7 (and indeed among the Arctic 7 themselves), they still share many goals such as peaceful relations, sustainable use of Arctic resources, and responsible governance. Whether "strategic competition" accurately captures what is actually happening, it does reflect the perceptions of many on both sides. "Selective cooperation" provides an alternative pathway for achieving those common goals, not least by helping shift perception to allow the possibility of different interpretations of the actions taking place in the Arctic. Different perceptions may lead to different outcomes, so the choice matters.

Min Pan (潘敏) is a professor at School of Political Science and International Relations at Tongji University, People's Republic of China. Henry P. Huntington is Arctic Science Director at Ocean Conservancy.

References

↑1 Office of the Undersecretary for Defense Policy (2019) Report to Congress: Department of Defense Arctic strategy. U.S. Department of Defense. https://media.defense.gov/2019/Jun/06/2002141657/-1/-1/1/2019-DOD-ARCTIC-STRATEGY.PDF. Accessed on 28 May 2025

↑2 Andersson P (2024) The recent backlash against China in the Nordic Arctic: prospects for future Chinese engagement in the region. Brief No. 5 2024. Swedish National China Centre. https://www.ui.se/globalassets/ui.se-eng/publications/other-publications/the-recent-backlash-against-china-in-the-nordic-arctic-prospects-for-future-chinese-engagement-in-the-region.pdf. Accessed on 28 May 2025

↑3 Zreik M & Derendiaeva O. (2025) The Polar Silk Road: China's strategic engagement and its implications for Arctic governance. *Polar Geography* 1-21. https://doi.org/10.1080/1088937X.2025.2477000

↑4 Grady J (2024) Chinese Arctic research expeditions inform military, economic goals, say experts. USNI News, December 12, 2024. U.S. Naval Institute. https://news.usni.org/2024/12/12/chinese-arctic-research-expeditions-inform-military-economic-goals-say-experts. Accessed on 28 May 2025

↑5 Pompeo MR (2019) Looking North: sharpening America's Arctic focus. May 6, 2019, Rovaniemi, Finland. https://2017-2021.state.gov/looking-north-sharpening-americas-arctic-focus/. Accessed on 28 May 2025

↑6 Lamazhapov E, Stensdal I, & Heggelund G (2023) China's Polar Silk Road: long game or failed strategy? November 14, 2023, The Arctic Institute, https://www.thearcticinstitute.org/china-polar-silk-road-long-game-failed-strategy/. Accessed on 28 May 2025

↑7 Edstrom AC, Hauksdottir GRTh, & Lackenbauer PW (2025) Cutting through narratives on Chinese Arctic investments. Harvard Kennedy School, Belfer Center for Science and International Affairs, https://www.belfercenter.org/research-analysis/china-arctic-investments. Accessed on 16 August 2025

↑8 Su P & Huntington HP (2021) Using critical geopolitical discourse to examine China's engagement in Arctic affairs. *Territory, Politics, Governance* 11(3), 590-607. https://doi.org/10.1080/21622671.2021.1875035

↑9 Arctic Council (2025a) *People's Republic of China*. https://arctic-council.org/about/observers/peoples-republic-of-china/. Accessed on 28 May 2025.

↑10 Zou L & Huntington HP (2017) Implications of the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea for the management of fisheries in the central Arctic Ocean. *Marine Policy* 88, 132-138. https://doi.org/10.1016/j.marpol.2017.11.019

↑11 Deng Y (2019) Petro China CNOOC has joined hands again and is planning to take a stake in the Arctic LNG Project at the same time. [In Chinese]. http://finance.sina.com.cn/roll/2019-04-26/doc-ihvhiqax5227531.shtml. Accessed on 28 May 2025

↑12 Pan M & Huntington HP (2024) China-U.S. cooperation in the Arctic Ocean: prospects for a new Arctic Exceptionalism? *Marine Policy* 168:106294. https://doi.org/10.1016/j.marpol.2024.106294

A Grand Illusion: America's Anti-China Arctic Policy Is Rooted in Paranoia and Political Bias, Not Strategic Reality

BARRY SCOTT ZELLEN

Drift ice camp in the middle of the Arctic Ocean as seen from the deck of the Chinese research icebreaker Xue Long. Photo: Timo Palo

America has long prided itself on being the guardian of the world's rules-based order, and has until recently roundly criticized both Russia and China for working outside these rules (but now, with a rapprochement with Putin's Russia in its early stages, the White House is lately focusing its scolding, primarily, upon China) – when it in fact appears that Washington has done all it can in recent years to blackball, marginalize, and isolate both Russia and China from the very world system it claimed to be defending.[1)] The resulting alignment of interests and policies between Moscow and Beijing, and the intensifying perception of a menacing Russia-China axis that threatens the democratic West, are in large part a self-fulfilling prophecy induced by the very strategic myopia that China hawks – serving an electorate hostile to China's rise (and its widely perceived threat to the American industrial economy) and intent on precipitating a new Cold War – have intentionally fostered.[2)]

The Red Arctic: A Self-Fulfilling Prophecy

America's recent preoccupation with Russia, China, and their increasing alignment in the Arctic (reflected in Russia's 2023 updated foreign policy concept as part of Moscow's Eurasian pivot, driven by the West's crippling sanctions, which essentially evicted Russia from the globalized world of economically integrated nations), greatly accelerated after Russia invaded Ukraine. Russia's embrace of China was, consequently, a defensive move to offset critical economic ties that bound Russia to the West that were severed in the wake of its 2022 invasion, perceived in the West as an unjust and unprovoked war of aggression while in the East and much of the Global South as a just (or at least logical) war of sovereign restoration.

The Moscow-Beijing Arctic alignment has been in lockstep with the West's economic and diplomatic isolation of Russia, and the increasingly militarized efforts by America and its partners to sever trade links tying Russia's Arctic energy resources to European markets – dramatically illustrated by the September 2022 sabotage, by means of an undersea explosive attack, of the Nord Stream 1 and Nord Stream 2 natural gas pipelines majority-owned by Gazprom, at great risk to the marine ecosystems polluted by this presumably Western attack (blamed by some on the United States,[3)] and by others on Ukraine,[4)] and curiously by yet others on Russia itself[5)] despite the illogic of such a view – part of a tightening noose to de-globalize Russia from the interconnected and interdependent world economy of the post-Cold War era.

This has forced Moscow to quickly pivot toward Eurasia to offset its sudden loss of access to Western markets, and to leverage its more protected northeastern Arctic shipping lanes, after having invested heavily in its shorter and more easily accessible year round sea lanes to the West, part of its robust energy integration with Europe after the Cold War central to German diplomatic and economic policy up until 2022. As the *New York Times* recently reported: "Since Russia invaded Ukraine in February 2022, Moscow's new bond with Beijing has shifted the global balance of power. The rapidly expanding partnership is one of the most consequential, and opaque, relationships in modern geopolitics. Russia has survived years of Western financial sanctions following the invasion, proving wrong the many politicians and experts who predicted the collapse of the country's economy. That survival is in no small part due to China."[6)]

Russia's Resurgence and the Collapse of Circumpolar Unity

While circumpolar unity and collaboration has defined American Arctic policy since the Cold War ended, Russia's military resurgence and increased military interventions in former Soviet territories have catalyzed an increasing wariness of Russia in the Arctic, evident in numerous American Arctic policy and strategy updates since 2016. Despite this new tilt in policy, the bones of American Arctic policy retain their collaborative spirit, albeit increasingly truncated as universal circumpolar cooperation yields to new strategic divisions between Russia and the West in the Arctic from 2022-24, before quickly pivoting to a new US-Russia rapprochement while anti-China sentiment remains ever strong since the 2024 election.

In its 2024 Arctic strategy update, DoD articulated its interests through an increasingly alliance-centric lens. As the Pentagon described:

The Arctic is a strategically important region for the United States. DoD's foremost objective is to protect the security of the American people, including those that call the Arctic home. … Vital for homeland defense, the North American Arctic region hosts aerospace warning, aerospace control, and maritime warning capabilities for the binational U.S.-Canada North American Aerospace Defense Command (NORAD). The North American Arctic region is also integral to the execution of IndoPacific operations, as the northern flank for projecting military force from the U.S. homeland to that region. … The Arctic serves as an avenue for power projection to Europe and is vital to the defense of Atlantic sea lines of communication between North America and Europe. The Arctic includes multiple strategically significant maritime chokepoints. Reduction in sea ice due to climate change means chokepoints such as the Bering Strait between Alaska and Russia and the Barents Sea north of Norway, are becoming more navigable and more economically and militarily significant.[7)]

China's Arctic interests and its growing collaboration, driven by the West's isolation of Russia since its 2022 Ukraine invasion, featured prominently in DoD's perception of the Arctic strategic environment.[8)] The aforementioned undersea attack on the Nord Stream pipelines, amidst western pressure on Germany to sever its energy ties to Russia, accelerated the decoupling of the West from Russia to quickly wean Western states off their dependency on Russian oil and gas exports (a hallmark of the East-West economic integration that cemented the post-Cold War peace), forcing Moscow to quickly pivot to Eurasia where it has found new markets for its energy resources, not just China but also two highly Westernized and predominantly democratic Asian states, Singapore and India, which take a more balanced approach to East-West divisions in world politics that better align with the historical experience and diplomatic values of the Global South, opening new opportunities for Russia as Western doors suddenly swing shut.

Moreover, even though Moscow and Beijing are now closely aligned, it would be shortsighted to presume this alignment will remain enduring given their past enmity and the potential for a future breakup. Indeed, according to the *New York Times*, newly acquired and independently authenticated intelligence documents from Russia reveal deep concerns in its FSB counterintelligence community with Moscow's alignment with Beijing, and describe Russia's efforts to counter the many emergent long-term threats China could pose against Russian interests, including future assertions by China of territorial claims intent on redressing unjust historical treaties that codified imperial Russia's 19th century expansion onto Chinese-controlled territories: "Mr. Putin and Xi Jinping, China's leader, are doggedly pursuing what they call a partnership with 'no limits'. But the top-secret FSB memo shows there are, in fact, limits. … In public, President Vladimir V. Putin of Russia says his country's growing friendship with China is unshakable — a strategic military and economic collaboration that has entered a golden era. But in the corridors of Lubyanka, the headquarters of Russia's domestic security agency, known as the FSB, a secretive intelligence unit refers to the Chinese as 'the enemy'."[9)] Further, "China is searching for traces of 'ancient Chinese peoples' in the Russian Far East, possibly to influence local opinion that is favorable to Chinese claims," the document says. In 2023, China published an official map that included historical Chinese names for cities and areas within Russia."[10)] As the *New York Times* further describes: "Russia has long feared

encroachment by China along their shared 2,615-mile border. And Chinese nationalists for years have taken issue with 19th-century treaties in which Russia annexed large portions of land, including modern-day Vladivostok. That issue is now of key concern, with Russia weakened by the war and economic sanctions and less able than ever to push back against Beijing."[11)]

China's Threat to the Arctic: An Illogical Strategic Misperception

Curiously, it is China and not Russia that tops the list when it comes to the DoD's priorities and concerns as articulated in its 2024 Arctic strategy – a noteworthy but in many ways illogical strategic prioritization of what can be considered the least salient of Arctic security threats: "PRC and Russian activities in the Arctic — including their growing cooperation — the enlargement of NATO, and the increasing effects of climate change herald a new, more dynamic Arctic security environment. These changes, as well as the growing cooperation between Russia and the PRC, have the potential to alter the Arctic's stability and threat picture. They also present opportunities for DoD to enhance security in the region by deepening cooperation with Allies and partners."[12)] As the updated strategy describes: "The PRC includes the Arctic in its long-term planning and seeks to increase its influence and activities in the region. Though not an Arctic nation, the PRC is attempting to leverage changing dynamics in the Arctic to pursue greater influence and access, take advantage of Arctic resources, and play a larger role in regional governance.[13)]

Not mentioned, yet no less relevant, is that China's Arctic policy resembles in many ways in form and substance that of its neighbors, particularly Japan, as do its Arctic capabilities which more closely resemble Japan's than Russia's, with whom it is conflated by the Pentagon. Moreover, also left out is the importance of strategic context: China has risen fast and high as a global power, seeking "to pursue greater influence and access"[14)] all around the world as all great powers do. Implicitly, this echoes the views of many a "China hawk" who parochially believe China should not be permitted to pursue its global interests like all great powers do – and has been accompanied by a parallel effort to marginalize Arctic indigenous peoples, muzzling their more logical arguments in favor of continued circumpolar unity and engagement across the re-emergent East-West fault line of world politics since the Ukraine War began. Indeed, China is not alone in asserting its Arctic interests and ambitions, not even close. Japan, Korea, Singapore, and India are also increasingly active non-Arctic states with expanding Arctic interests and ambitions, and these should not be perceived as threats to the Arctic or to the West, when in fact they are to the benefit of Arctic peoples, many of whom continue to live in poverty and face persistent gaps in health, nutrition, and economic security with their fellow countrymen to the south, and who welcome increasing interest in developing their homelands after long histories of neglect and exploitation.

The Pentagon's Obsession with Beijing's Arctic Ambitions

In its 2024 Arctic strategy, the Pentagon reveals its strategic obsession with China has clouded its judgment, not the first time American policy has been rooted in a grand illusion. This was evident during its tragic, two-decade-long Vietnam intervention, as it was again during its tragic, two-decade-long intervention in Afghanistan. Breaking with previous Arctic

strategies, DoD's 2024 strategy elevates non-Arctic China with not a hectare of Arctic territory under its flag to the top of its threat matrix, above even mighty Russia, the largest of the Arctic states with sovereign control over more than half the Arctic region.

In its strategy, DoD describes China's Arctic presence, noting: "The PRC seeks to bolster its operational expertise in the Arctic, where its presence, while limited, is increasing. The PRC operates three icebreakers—the Xue Long, Xue Long 2, and Zhong Shan Da Xue Ji Di—which enable the PRC's dual civil-military research efforts in the Arctic. Over the course of the PRC's 13 Arctic research expeditions to date, the vessels have tested unmanned underwater vehicles and polar-capable fixed-wing aircraft, among other activities. People's Liberation Army Navy (PLAN) vessels have also demonstrated the capability and intent to operate in and around the Arctic region through exercises alongside the Russian Navy over the past several years."[15)]

Not mentioned, however, is that China's increasing Arctic presence mirrors that of dozens of other non-Arctic states. China, like other non-Arctic states, holds observer status at the Arctic Council, with an Arctic presence that dates back to the interwar years of the early 20th century, as evident in their status as signatories to the Spitsbergen Treaty that internationalized access to Svalbard's economy, part of a global commons in the polar world that many nations, not just China, embrace. Moreover, DoD's concern with China's "dual civil-military" efforts in Arctic research mirrors that of the United States and all of its Arctic and non-Arctic partners, who until recently worked together to span old East-West divisions in the Arctic and for whom dual-use is a fact of life for Arctic research, where government funding and security policy priorities have a profound effect on Arctic research.

DoD's alarm over China's dual use is thus wholly unconvincing, as dual use is much more a norm than a subversion of norms in Arctic research, despite claims by DoD-funded scholars to the contrary.[16)] As one official of the now-shuttered Wilson Center explained to *NPR*: "I think we see the PRC attempting to undermine regional governance and to increasingly advance this narrative that non-Arctic states should have influence in the region. So I think that is something where we do see the PRC influencing the governance conversation in a way that is contrary to U.S. interests … China sends its research ice breakers to the Arctic every year ostensibly to collect climate data. But, of course, they're also collecting, you know, intelligence data and mapping submarine cables and all that kind of thing because, you know, everything they do is dual use."[17)] In contrast, dual use is very much normalized when it comes to domestic utilization of the Arctic, a troubling double standard. At Arctic Encounter 2025, "'Dual-use' infrastructure and technologies—that is, those that can be used for both civilian and military (or, perhaps simply multiple) purposes—was introduced several times as beneficial for both Arctic communities as well as national security presence, which is a different take than in some other recent conferences which have focused on potential threats posed if such instruments are in the hands of adverse actors."[18)]

Indeed, much of the U.S. polar research community in the academic world depends on U.S. government and military support for icebreaker access, as well as other infrastructure and transportation support from the Thule Air Base in North Greenland to Antarctica. Just as the Pacific Ocean is not and never truly was an American lake despite the predominance of U.S. naval power in the post-World War II Pacific, the Arctic is not and has never been an American

lake as Russia flanks more than half of the Arctic basin, far surpassing America's or its allies' Arctic littoral territories. Tiny Iceland in the High North Atlantic barely touches the Arctic, with only its northernmost island of Grimsey straddling the Arctic Circle, and Denmark is Arctic only through its colonial possession of Greenland. Sweden and Finland have no coastal access to the Arctic Ocean at all, which explains why, at that first, surprisingly divisive (within the West) Arctic Ocean Conference held in Ilulissat, Greenland, on May 27-29, 2008, these three Arctic states weren't even invited, causing much diplomatic tension within the NATO aligned Arctic.

Normalizing China's Arctic Interests: The Arctic as a Global Commons

Within this context, China's Arctic interest and its limited, seasonal, and mobile presence, whether by ice breaker, submarine, aircraft, or visiting researchers seasonally resident on the Arctic territory of a sovereign host nation, seems at best a sideshow, and its placement as the top concern regarding the Arctic strategic environment as presented in the 2024 DoD's Arctic strategy is at best illogical, and at worst a dangerous strategic distortion of reality. The 2024 DoD Arctic Strategy further elaborates its concern with China's Arctic interest and presence: "Although the vast majority of the Arctic is under the jurisdiction of sovereign states, the PRC seeks to promote the Arctic region as a 'global commons' in order to shift Arctic governance in its favor. The PRC's 2018 Arctic Policy claims non-Arctic states should contribute to the region's 'shared future for mankind' due to the Arctic's global significance. Its 'Polar Silk Road' has been used to gain a footing in the Arctic by pursuing investments in infrastructure and natural resources, including in the territory of NATO allies."[19)]

This pejoratively mischaracterizes China's view of the Arctic as part of the global commons, which is more fairly described by Trym Eiterjord in his 2023 article discussing China's 14th five-year plan at The Arctic Institute, who cautions that "[i]t is important not to overstate the significance of the Arctic's inclusion in [China's] current five-year plan," adding that the "148-page-long document affords only a single sentence to the region."[20)] The Arctic "showing up in a section on maritime governance and marine economic development signals a geopolitical vision of the region centered around its high seas area and its marine resources, matching earlier observations that Beijing sees the Arctic largely in the context of ocean governance. Beijing has in recent years begun to articulate more clearly its own vision of the global commons, at least domestically."[21)]

The tendency by Western experts to overstate China's influence and ambition in the Arctic is described in detail in a new report published by Harvard's Belfer Center for Science and Diplomacy, which finds "Chinese Arctic ambitions and activities are contentious," and Western commentators "often frame Chinese investments in an adversarial way, describing Chinese activity in alarmist language in terms of scale, scope, and risk. Analysts have the tendency to mix proposed investments with actual investments."[22)] Indeed, the "scale and scope of actual Chinese investments are often exaggerated in media and public debate, and unsuccessful proposals are often taken into consideration when presenting the total amount of Chinese investment," distorting reality in a manner it finds "striking."[23)]

Indeed, while DoD unfairly and cynically casts Beijing's vision of the Arctic as part of the global commons as a ploy "to shift Arctic governance in its favor," the Arctic as global

commons is in fact a widely held view shared by many northerners, Indigenous and non-Indigenous people alike, including visionary two-term Alaska governor Wally Hickel. In addition to serving twice as Alaska's governor, Hickel – who served as Interior Secretary in President Nixon's cabinet and famously saw not only the Alaska Pipeline built on his watch, but also welcomed the historic passage of the first comprehensive Arctic land claim accord with Indigenous peoples of the Arctic, the Alaska Native Claims Settlement Act (ANCSA) of 1971 – promoted Alaska and the Arctic as not only part of the global commons, but the solution to what ecologist Garrett Hardin called the "tragedy of the commons," as Hickel developed in his 2002 book, *Crisis in the Commons: The Alaska Solution*.[24)] Viewing the Arctic as a global commons is not a nefarious plot to undermine American hegemony, but the logical outcome of a generation of globalization linking East and West since the Cold War ended; America's strategic anxiety over a thawing Arctic's central position in the globalized world, and China's embrace of this reveals weakness more than strength, trepidation more than confidence.

The West's Long Legacy of Neglect for the Arctic

U.S. policy toward both Russia's controversial claims that the Northern Sea Route is internal to Russia and Canada's comparable claim that the Northwest Passage is internal to Canada, which rejects both nations' claims, counterargues that these waterways are in fact part of the world ocean and thus part of the global commons. It is thus hypocritical of Washington to criticize China for advocating a similar view. Indeed, if America and its allies sufficiently invested in their own Arctic territories, built sufficient Arctic infrastructure, and developed remote Arctic economies to lift Arctic peoples out of endemic and persistent poverty, they would be in a better position to defend such a view. But China's pragmatic realization that there is mutual opportunity for investing in the Arctic that can benefit Arctic peoples long neglected by their sovereign states is only possible because of such neglect and long periods of Arctic disinterest in the United States and other Arctic states for their far northern peripheries. If the Arctic less resembled the third world, having earned its own and even less developed designation as the "fourth world," and more resembled the first or even the second worlds, such a position would have more legitimacy.

Indeed, there would be few inroads for China's Polar Silk Road had America and its allies shown true and sustained interest in their respective Arctics – and had climate change not opened up so much of the Arctic to external access, it is likely that the region's relative neglect would have continued. Even when there is evidence of a commitment to the Arctic and its development in the West, as seen in periods of resource booms from the Klondike gold rush to the North Slope oil rush to Nunavut's uranium rush to Greenland's rare earth metals rush, such interest is usually ephemeral, and marked by clashes of interest between indigenous peoples, non-indigenous settlers, external commercial interests, and governments, part of an ongoing dialectical interaction that endeavors to align disparate interests but often results in economic stagnation and protracted underdevelopment, as seen with repeated failures despite intensive reconciliation efforts to build a pipeline connecting Canadian Arctic petroleum resources to southern markets.

Let's Welcome – Not Hinder – China's Historic Rise

If anything, China is rising to the challenge of Arctic development made possible by failures in the West to fully develop its own remote Arctic territories. China should therefore be welcomed as an economic partner that reflects China's global stature and upon which so many Western nations depend, and not as a spoiler intent on disrupting the Arctic status quo or tilting regional governance in its favor. Indeed, China's participation in Arctic economic activities, and engagement with regional governance structures as it does elsewhere in the world, is part and parcel of being a global power. It is time to put such anti-China prejudices aside.

Just as it is illogical to see China sit atop DoD's list of concerns with the Arctic strategic environment, it is illogical to see Russia, the largest Arctic state by far, come second after China on DoD's strategic map of the Arctic, when China is a non-Arctic state. Indeed, it is profoundly worrisome that America, universally considered the world's greatest military power – fresh from its 2021 strategic defeat in Afghanistan against the materially inferior Taliban, over two decades after it invaded Iraq on faulty intelligence of a non-existent WMD threat, and 70 years after it stumbled into its disastrous Vietnam intervention – still can't get its priorities right or assess the strategic environment objectively in a manner that correlates with reality. With such a long string of military defeats to weaker adversaries from Vietnam to Afghanistan behind it, and a proxy war in Ukraine with Russia that has failed to keep Ukraine whole and yet risks escalation to general war, it is disconcerting to find DoD's 2024 Arctic policy so badly inverted, and so dangerously decoupled from strategic reality.

Barry Scott Zellen, PhD, is a Research Scholar in the Department of Geography at the University of Connecticut (UConn), a Senior Fellow (Arctic Security) at the Institute of the North, and author of numerous books on Arctic geopolitics, including most recently Arctic Exceptionalism: Cooperation in a Contested World (Boulder: Lynne Rienner Books, 2024).

References

Timofeev I (2025), "Russia and China in the Era of Trade Wars and Sanctions," *Russia International Affairs Council* (RAIC), July 4, https://russiancouncil.ru/en/analytics-and-comments/analytics/russia-and-china-in-the-era-of-trade-wars-and-sanctions/. Accessed on 1 September 2025; Bateman J (2022), "The Fevered Anti-China Attitude in Washington Is Going to Backfire," Politico, December 15, https://www.politico.com/news/magazine/2022/12/15/china-tech-decoupling-sanctions-00071723. Accessed on 1 September 2025 ↑1

Bateman J (2022), "The Fevered Anti-China Attitude in Washington Is Going to Backfire," *Politico*, December 15, https://www.politico.com/news/magazine/2022/12/15/china-tech-decoupling-sanctions-00071723. Accessed on 1 September 2025; Guzman C and Ewe K (2024), "Where Donald Trump and Kamala Harris Stand on China," *Time.com*, September 11, https://time.com/7020042/trump-harris-china-explainer-trade-tariffs-taiwan-war-human-rights/. Accessed on 1 September 2025 ↑2

↑3 Hersh S (2023), "How America Took Out The Nord Stream Pipeline," *Substack.com*, February 8, 2023, https://seymourhersh.substack.com/p/how-america-took-out-the-nord-stream. Accessed on 1 September 2025

↑4 Entous A, Barnes J and Goldman A (2023), "Intelligence Suggests Pro-Ukrainian Group Sabotaged Pipelines, U.S. Officials Say," *New York Time*s, March 7, https://www.nytimes.com/2023/03/07/us/politics/nord-stream-pipeline-sabotage-ukraine.html. Accessed on 1 September 2025

↑5 Ruiz R and Scheck J (2022), "In Nord Stream Mystery, Baltic Seabed Provides a Nearly Ideal Crime Scene," *New York Times*, Decemer 26, https://www.nytimes.com/2022/12/26/world/europe/nordstream-pipeline-explosion-russia.html. Accessed on 1 September 2025

↑6, ↑9, ↑10, ↑11 Sonne P and Troianovski A (2025), "Secret Russian Intelligence Document Shows Deep Suspicion of China; Russia's spy hunters are increasingly worried about China's espionage, even as the two countries grow closer," *New York Times*, June 7, https://www.nytimes.com/2025/06/07/world/europe/china-russia-spies-documents-putin-war.html. Accessed on 1 September 2025

↑7 United States Department of Defense (2024) *2024 Arctic Strategy*, 21, June, 2. https://media.defense.gov/2024/Jul/22/2003507411/-1/-1/0/DOD-ARCTIC-STRATEGY-2024.PDF. Accessed on 1 September 2025

↑8 For a more detailed discussion, *see* Zellen B (2024), The Pentagon's New (Upside Down) Arctic Map, *The Arctic Institute*, 5 December, https://www.thearcticinstitute.org/pentagons-new-upside-down-arctic-map/. Accessed on 1 January 2025

↑12, ↑13, ↑14, ↑15, ↑19 United States Department of Defense (2024), *2024 Arctic Strategy*, 21 June, 3. https://media.defense.gov/2024/Jul/22/2003507411/-1/-1/0/DOD-ARCTIC-STRATEGY-2024.PDF. Accessed on 1 September 2025

↑16, ↑17 Northam J (2024) "Pentagon Sounds Alarm Over Russia-China Cooperation in the Arctic," *NPR's All Things Considered*, 2 August, https://www.npr.org/2024/08/02/nx-s1-5052089/pentagon-sounds-alarm-over-russia-china-cooperation-in-the-arctic. Accessed on 1 September 2025

↑18 Abbie Tingstad, "Arctic Encounter 2025: The importance of pragmatism in a post-exceptionism world," *Arctic Today*, August 8, 2025, https://www.arctictoday.com/arctic-encounter-2025-the-importance-of-pragmatism-in-a-post-exceptionism-world/. Accessed on 1 September 2025

↑20, ↑21 Eiterjord T (2023) "What the 14th Five-Year Plan says about China's Arctic Interests." *The Arctic Institute*, 23 November, https://www.thearcticinstitute.org/14th-five-year-plan-chinas-arctic-interests/. Accessed on 1 September 2025

↑22, ↑23 Edstrøm A, Hauksdóttir G, Lackenbauer W & Varvares T, "Cutting Through Narratives on Chinese Arctic Investments," Belfer Center for Science and International Affairs, June 23, 2025, https://www.belfercenter.org/research-analysis/china-arctic-investments. Accessed on 1 September 2025

↑24 Hickel W (2022) *Crisis in the Commons: The Alaska Solution*. Oakland: ICS Press.

Alaska, not Greenland, should worry the United States in the Arctic

ERDEM LAMAZHAPOV and ANDREAS ØSTHAGEN

Chinese Coast Guard vessels traversing icy waters during the joint exercise with Russia in 2024. Photo: China Coast Guard

In 2024, China inched closer to its dream of superpower status. During the span of a few months, Chinese bombers were identified off the coast of Alaska, the Chinese Coast Guard entered the Arctic Ocean via the Bering Strait, and the Chinese Navy kept exercising in the Bering Sea. These activities are not only one-off signaling maneuvers meant to irk Washington. They are also a sign of things to come.

It was the Trump administration that first brought attention to China's Arctic activities, partly by focusing on Chinese interest in Greenland, back in 2019. That concern, however, never materialized. Strategic security issues there can be sufficiently managed by the US and its allies, first and foremost the Kingdom of Denmark.

However, China's increased presence in the Pacific Arctic should spur the Trump administration's further focus on Arctic security issues in *that* spatial domain. The increasing military activities of China centred around the Eastern Arctic region are a strategic and symbolic signaling off the coast of Alaska, and represent a move to support Russia in its Arctic standoff with the U.S.

Growing tension in the North Pacific Theatre

The slither of the Pacific dividing Russia's Kamchatka Peninsula and Alaska houses Russia's easternmost and closest permanent naval base to Arctic waters. It is home to Russia's Pacific

Fleet nuclear-powered submarines, in addition to some surface ships. On the US side is Eielson Air Force Base and Joint Base Elmendorf-Richardson.

Gretarsson Physical geography of Alaska and the Bering Sea with emphasis on oceanographic features of the Bering Sea and the Commander-Aleutian island arc

Tensions have been on the rise since 2020, when Russian military activity in this maritime space increased. Russian military exercises interfering with Alaskan fishers have caused concern over the violation of US rights, as well as the fear of escalation between the fishers and the Russian Navy. Increasingly, naval operations in the Bering Strait and the Chukchi Sea from the Pacific Fleet are also becoming common, adding to Russia's Arctic presence alongside the Northern Fleet located in the European Arctic.

Although you can walk across the ice between Russia and the U.S. in wintertime, from Little Diomede Island (U.S.) to Big Diomede Island (Russia), it is not the geographic proximity between those two countries that is driving concerns over great power rivalry. Rather, it is Russia's growing dependency on China that is the underlying cause for concern.

Both in 2021 and 2022, the U.S. Coast Guard encountered Chinese and Russian warships operating jointly off the coast of the Aleutian Islands. After a 2023 Russian-Chinese exercise

near Alaska, U.S. news outlets like ABC highlighted concern of the event, calling it 'unprecedented in size'. Suddenly Alaskan security issues received countrywide attention.

Moreover, for the first time, in summer of 2024 Chinese and Russian bombers were conducting joint operations in the Alaska Air Defense Identification Zone, albeit not violating US airspace. In September 2024, coast guard vessels from both countries conducted joint operations in the same region.

China's increasing role in the Bering Sea

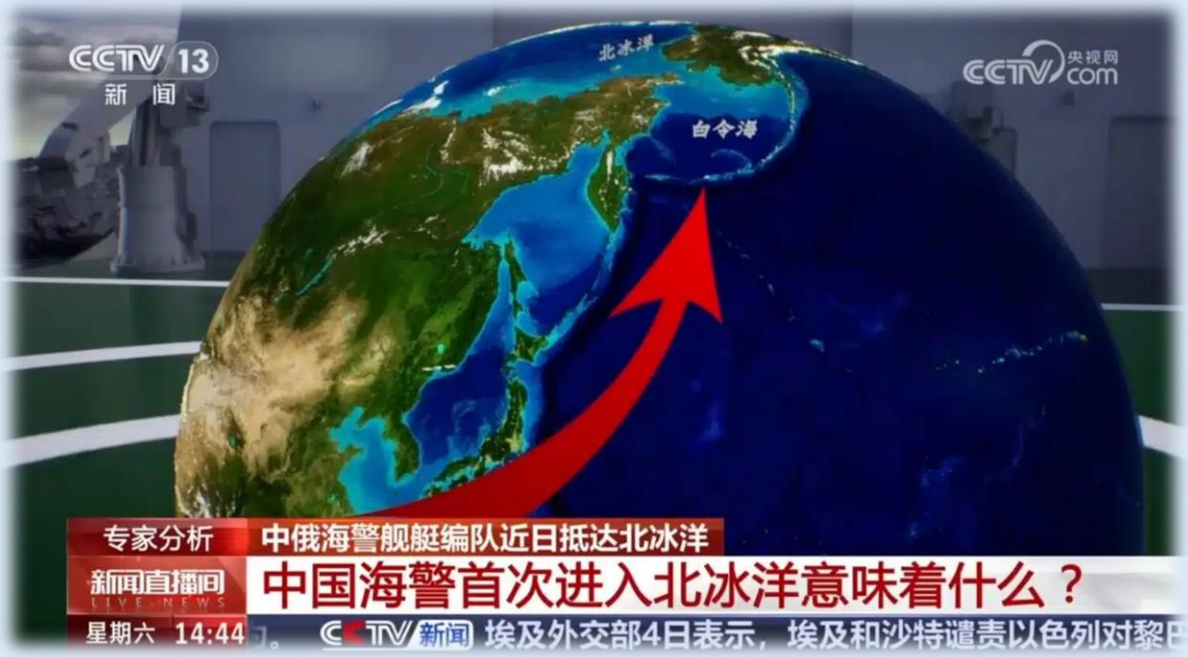
Although China attaches strategic significance to the Eastern Arctic, including the Bering Sea, Sea of Okhotsk, and the Chukchi Sea, the level of Chinese activities has until recently remained modest. Chinese military vessels appeared in the Arctic for the first time in 2015. Russo-Chinese military posturing increased dramatically following the Russian full-scale invasion of Ukraine in February 2022.

First, Russia and China increased the scope of joint activities, which usually take place in the vicinity of Japan. In recent years, the scope of joint exercises gradually moved North, with joint naval patrols taking place in the Bering Sea every year since 2022. In 2024, China and Russia conducted their eighth joint aerial strategic patrol, which for the first time took place over the Bering Sea entering the Alaska Air Defense Identification Zone.

Second, Russia is expanding the scale of its military exercises since 2022. Russia's main goal is to show the combat readiness of its reduced military capabilities, including the navy in the eastern theatre. China participates heavily in these exercises, using this as an opportunity to show support to Russia and to train the navy in the Sea of Okhotsk.

Third, China's own exercises in the North Pacific are a completely new type. In July 2023, China held the first North/Joint-2023 (北部·联合-2023) exercise. Unlike the previous exercises organized jointly or by Russia, this was an exercise organized solely by China, in which Russia took part as a guest. In late September, China again organized the North/Joint-2024 (北部·联合-2024) exercise. This time, the exercise lasted much longer (nearly two weeks, in contrast to four days in 2023).

China seeks to signal its status as a great power, rather than achieve military goals, however. First, the activity aims to develop China's abilities and competence to operate in remote waters and spatial domains both in tandem with Russia, and independently. Second, this increased military activity is meant to signal to U.S. decision makers that China can break out of the island chain, counter American presence in South and East Asia, especially South China Sea, while also showcasing the military implications of increased Sino-Russian cooperation close to the U.S.



China Central Television Screenshot from China Central Television showing a showing a map of the North Pacific Ocean and a red arrow pointing to the Aleutian Islands

Greenland is a distraction

In the summer of 2024, the Pentagon released its fourth Arctic strategy (the others came out in 2013, 2016 and 2019 respectively). US officials have increasingly named China (as well as China's confluence with Russia) as security risks to the US in the Arctic. Others warn about China's long-term geoeconomic interests and actions, calling for a different way of conceptualizing 'threats' from China in the Arctic.

It is apparent that a shift in the US federal government's Arctic security interest and engagement occurred early in the first Trump administration from around 2019. Statements from top politicians, new strategies launched by various branches of the Armed Forces, and investments – albeit modest – in Arctic capabilities in Alaska all materialised around this time. Most recently, the US has sought to allocate even more funding to construction of icebreakers and ports.

The renewed interest in Arctic security affairs is overdue. However, the focus of late on Greenland is misplaced. In Greenland, strategic security threats emanating primarily from Russia can be sufficiently managed through the U.S. military presence there, alongside its cooperation with the Kingdom of Denmark, Canada, and the wider NATO alliance.

In the North Pacific the situation is potentially more uncertain. This year, China is planning to start construction of yet another icebreaker, while the US Coast Guard Polar Security Cutter seems to have been delayed until 2030. Although the Arctic is considered a distant and unfamiliar operational environment for China, joint military exercises in the region underscore a strategic collaboration between China and Russia aimed at countering U.S. influence in the Indo-Pacific.

The increased scope of Sino-Russian military and coast guard cooperation in the Arctic also underlines the two countries' resolve to security cooperation in that space. The scrambling of fighter jets to identify Chinese bombers, the presence of Chinese vessels north of the Bering Strait, and the disruption of Alaskan fisheries due to military exercises may become more frequent in years to come.

For China, showing the flag in the Arctic is more about status-seeking than military interests. Still, China's emerging power as a maritime power has changed the strategic significance of the North Pacific. That is where the U.S. may wish to focus its attention when addressing Arctic security concerns.

Erdem Lamazhapov is a PhD Fellow at the Fridtjof Nansen Institute, Oslo, Norway. Andreas Østhagen is the Research Director for Arctic and Ocean Politics at the Fridtjof Nansen Institute, Oslo, Norway, as well as a Senior Fellow at The Arctic Institute.

A Pragmatic Approach to Conceptual Divergences in Russia-China Relations: the Case of the Northern Sea Route

ROMAN ZHILIN

Vladimir Putin attending a meeting with Xi Jinping during the Russian delegation's visit to China in 2024. Photo: Ministry of Transport of the Russian Federation

The Russian Arctic has undergone a significant transformation, emerging from the "oblivion" of the 1990s to become the second highest territorial priority in the 2023 Foreign Policy Concept.[1)] Today, the region holds a central role in both budgetary planning and the domestic media. While the development of the Russian Arctic requires a comprehensive and integrated approach, the enhancement of logistics and transport infrastructure remains a cornerstone of international cooperation in the region.

The Northern Sea Route (NSR) receives the greatest attention as a potentially vital maritime corridor for both domestic and international use. It features prominently in all Russian strategic documents related to the Arctic and serves as a "litmus test" for assessing both the desired and actual progress in regional development.

Although the Arctic maintained its "exceptional" status following the initial deterioration of Russia–West relations in 2014, the recent phase of the Ukrainian crisis has necessitated an urgent shift toward cooperation with non-Arctic partners. Over the past three years, Russia's

“turn to the East” has shaped a new strategic vision for regional engagement. This reorientation is frequently invoked in media narratives and official political discourse as a rationale for the ambitious trade targets set forth in the “Northern Sea Route Development Plan” prior to February 2022.

“Near-Arctic China”

China is now most frequently mentioned in a positive context in key speeches of President Vladimir Putin and Foreign Minister Sergey Lavrov.[2] In 2024, the Russian-Chinese Subcommittee on Cooperation on the Northern Sea Route was established[3]—an institutional mechanism for joint decision-making that has no equivalent in Russia’s relations with other countries. Additionally, on the sidelines of the St. Petersburg International Economic Forum (SPIEF) 2024, Russian Rosatom and Chinese NewNew Shipping signed an agreement, enabling Russian and Chinese shipping companies to organize year-round navigation along the NSR.[4] That same year, Chinese shipping companies nearly doubled the number of their voyages along the route. According to Russia’s ambitious projections, Chinese transit through the NSR could reach up to 50 million tons annually by 2030.[5] China also remains the leading investor in Russian liquefied natural gas (LNG) projects and a key supplier of critical technological capacities.

Both Russia and China are often identified as primary security challenges in strategic documents and public statements by senior U.S. and NATO officials, including in the Biden Administration’s National Security Strategy and Arctic Strategy.[6] The frequent pairing of the two countries in NATO rhetoric[7] elicits a reaction from Russian domestic media,[8] which reinforces the perception of a deepening Russia–China partnership in the public discourse.

China has become Russia’s principal partner in the development of freight transportation and Arctic infrastructure. This strategic alignment is evident not only in Russian domestic narratives but also in the perceptions of NATO member states.

Reality check

Despite numerous joint statements affirming the strategic importance of the Arctic for resource development and logistics, the region does not rank among Beijing’s top priorities according to its own strategic standards. China’s interests span nearly the entire globe, with its primary focus directed toward regions that offer the highest economic returns on investment. The Arctic, by contrast, is hindered by extreme climatic conditions and, despite the effects of global warming, remains a commercially unpredictable region in the near term.[9]

In the first year of Russia’s isolation by Western countries, transit traffic along the Northern Sea Route declined by 90%.[10] The record-high figures reached in 2023 were largely the result of Russian corporations redirecting cargo flows, rather than a surge in interest from foreign partners.[11] It is noteworthy that the “NSR Development Plan until 2035” (dated August 1, 2022) remains an operative policy document with established freight transportation targets. However, from 2018 to 2024, the principal framework guiding Arctic development was the federal project “NSR Development”.[12] For instance, the 2023 freight target under this project

was set at 36 million tons, a goal that was successfully surpassed.[13] Nevertheless, this figure was still 10.5 million tons below the forecasted 46.82 million tons outlined in the appendix to the "NSR Development Plan".[14] In 2024, the targets of neither document—both of which projected an ambitious 80 million tons—were achieved.

The evident gap between aspirational goals and actual performance is gradually being acknowledged at the official level. According to the RBC news agency, during a closed meeting held by the Rosatom State Corporation in September 2024, two scenarios were proposed.[15] One of these was labeled "negative", forecasting that cargo traffic along the NSR would reach only 117 million tons by 2031 and 150 million tons by 2035—substantially lower than the figures stipulated in official planning documents. Invoking the "China factor" to justify such ambitions cannot, on its own, substantiate these large-scale projections. Moreover, new promises and plans with China only put more pressure on the Russian government and leave no room for adjustments of its goals for the NSR.

Although the northern direction is frequently mentioned during meetings between Russian and Chinese delegations, it rarely dominates the agenda. For example, in the most recent joint statement issued following Xi Jinping's visit to Moscow, the topic is referenced in just one sentence placed at the end of the document.[16] Annual consultations on Arctic cooperation are held each September, but interagency coordination during the remainder of the year remains limited. Even though the Subcommittee on Cooperation on the Northern Sea Route is an exceptional development, it took more than two years to create it. The willingness to create a joint body[17] to coordinate shipping was also indicated back in 2023.

In addition, China is gradually reassessing its position in the Arctic region. According to the South China Morning Post, a source close to the Chinese government reported that "China has stopped using the term 'Near-Arctic state,' and there is now a significant decline in interest in the Arctic. Beijing's cooperation with Moscow should be seen as episodic rather than strategic."[18] While the Arctic remains an internal priority for Russia, its importance to China is primarily tied to pursuing economic interests and expanding its sphere of influence. Given that Beijing's foreign policy priorities may shift based on economic conditions, it is difficult to consider the Arctic a long-term strategic focus for China.

The legal dimension of this relationship warrants particular attention. Despite joint declarations, the two countries continue to diverge in their fundamental views on Arctic governance. Prior to February 2022, leading Russian experts maintained that all disagreements over the legal regime of the Arctic in general, and the Northern Sea Route in particular, could be resolved through "rational dialogue."[19] Since then, however, Russia has tightened and clarified navigation rules within its internal Arctic waters,[20] regulated the passage of foreign warships,[21] and secured approval for its application to extend the boundaries of its continental shelf.[22] Furthermore, a 2021 decree issued by the Government of the Russian Federation established new baseline points for measuring the breadth of its territorial sea, thereby expanding Russia's territorial waters and Exclusive Economic Zone (EEZ).[23]

In contrast, Beijing's stance, as outlined in its 2018 White Paper on Arctic policy, reflects a more ambiguous interpretation of international law. The document affirms China's

commitment to “protecting the interests of all countries and the international community.” According to the Chinese position, “freedom of navigation and the right of all countries to use Arctic routes should be ensured.”[24)] The White Paper also asserts that “non-Arctic states have the right to explore and develop resources in the international seabed area.” Without specifying particular straits or maritime zones, Beijing implicitly supports the principle of Arctic internationalization. While such statements are not inherently problematic, their inclusion in official strategic documents may give rise to tensions or questions—even among close partners.

Legal divergencies in the interpretation of UNCLOS provisions in the Arctic waters form the basis for potential conflict. Considering China’s approach to international maritime law, particularly in asserting its claims in the South China Sea, there is a possibility that Beijing may take a more assertive stance in the Arctic as well. However, for now, these disagreements remain theoretical and do not represent an actual conflict between the two countries.

A practical, not strategic partnership

China’s interest in the Arctic—particularly in the Russian sector—has grown both qualitatively and quantitatively, encompassing geopolitical as well as economic dimensions. Scientific research activities in the Arctic, along with the construction of heavy icebreakers, have been incorporated into China’s national development strategy, as outlined in its 2021–2025 plan.

This pragmatic engagement is accompanied by a tendency to defer solutions to long-term challenges. The two countries’ perspectives on the Arctic differ significantly: for Russia, the region is a strategic priority in both domestic and foreign policy, with China occupying a central role in the latter. In contrast, China regards the Arctic as a peripheral area, not expecting rapid development there over the next decade. This divergence is particularly notable given Russia’s continued ambitions to expand freight and transit operations along the Northern Sea Route, despite the constraints imposed by Western sanctions. Consequently, although bilateral cooperation has seen meaningful progress, Russia’s ambitious Arctic development plans—where China is expected to play a pivotal role—appear increasingly unrealistic.

Between 2014 and 2022, Moscow’s Arctic policy remained diverse and lacked firm institutionalization; the Arctic had yet to be established as a strategic priority in national policy documents, and regulatory frameworks for the NSR remained incomplete. By 2025, after identifying various contentious issues, Russia narrowed its Arctic partnerships to states in the “East,” which adopt distinct conceptual approaches. In the long term, Russia and China will need to clarify and coordinate their positions on Arctic development. For now, their relationship is characterized by pragmatism and situational cooperation, but not by a strategic long-term approach.

Roman Zhilin is a Junior Researcher at the Department of European Security at The Institute of Europe of The Russian Academy of Sciences.

References

↑1 President of Russia (2023) Decree on approval of the Foreign Policy Concept of the Russian Federation. Moscow: The Kremlin. http://www.kremlin.ru/events/president/news/70811. Accessed on 22 May 2025

↑2 TASS (2023) 'Putin stated about the desire of Russia and China for equal cooperation in the world'. TASS, 18 October 2023. https://tass.ru/politika/19045133. Accessed on 22 May 2025

↑3 Strana Rosatom (2024) 'Russia and China will create a subcommittee', Rosatom. https://strana-rosatom.ru/2024/05/21/rossiya-i-kitaj-sozdadut-podkomissiju-p/. Accessed on 22 May 2025

↑4 Neftegaz (2024) 'Rosatom intends to transport up to 3 million tons of transit cargo via the Northern Sea Route in 2024', Neftegaz. https://neftegaz.ru/news/transport-and-storage/837475-rosatom-v-2024-g-nameren-perevezti-po-smp-do-3-mln-t-tranzitnykh-gruzov/. Accessed on 22 May 2025

↑5 Neftegaz (2024) Production partnership, Power of Siberia-2, NSR, Neftegaz, 17 May 2024. https://neftegaz.ru/news/partnership/834210-proizvodstvennoe-partnerstvo-sila-sibiri-2-smp-zavershilsya-vtoroy-den-vizita-v-putina-v-kitay/. Accessed on 22 May 2025

↑6 The White House (2022) 'National Strategy for the Arctic Region'. The White House. https://bidenwhitehouse.archives.gov/wp-content/uploads/2022/10/National-Strategy-for-the-Arctic-Region.pdf. Accessed 22 May 2025

↑7 Panella, C. (2024) 'The US Army has its eyes on the Arctic', Business Insider, 13 March. https://www.businessinsider.com/why-us-army-is-training-soldiers-to-fight-in-arctic-2024-3. Accessed on 22 May 2025

↑8 Big Asia (2025) Maria Zakharova spoke about Russia's cooperation with China and India in the Arctic, Big Asia, 17 May 2025. https://bigasia.ru/mariya-zaharova-rasskazala-o-sotrudnichestve-rossii-s-kitaem-i-indiej-v-arktike/. Accessed on 10 August 2025

↑9 Alekseev, D. (2023) 'Ice Advantage: How the New Government Plan Will Affect the Development of the Northern Sea Route', Izvestia, 8 August 2022. https://iz.ru/1375583/dmitrii-alekseev/ledianoe-preimushchestvo-kak-novyi-plan-pravitelstva-povliiaet-na-razvitie-sevmorputi. Accessed on 22 May 2025

↑10 Port News (2023) 'Cargo Transportation via the Northern Sea Route for the Incomplete Year of 2023', Port News. https://portnews.ru/news/357784/. Accessed on 22 May 2025

↑11 Interfax (2024) 'Cargo Transportation via the Northern Sea Route in 2023 amounted to 36.254 million tons', Interfax, 10 January 2024. https://www.interfax.ru/russia/939623. Accessed on 22 May 2025

↑12 Morvesti (2023) The Ministry of Transport has published the passport of the federal project "Development of the Northern Sea Route", 11 August 2023. https://morvesti.ru/news/1679/104268/. Accessed on 22 May 2025

↑13 Ministry of Transport of the Russian Federation (2024) Rosatom expects an increase in cargo transportation volumes to 40 million tons via the NSR in 2024', Ministry of Transport of the Russian Federation, https://mintrans.gov.ru/press-center/branch-news/4637. Accessed on 22 May 2025

↑14 Government of the Russian Federation (2022) 'Northern Sea Route Development Plan', Government of the Russian Federation http://static.government.ru/media/files/StA6ySKbBceANLRA6V2sF6wbOKSyxNzw.pdf. Accessed on 22 May 2025

↑15 RBC (2024) Rosatom Allows Deviation of Northern Sea Route Cargo Flow Volume from Plan', RBC, 17 September 2024. https://www.rbc.ru/economics/17/09/2024/66e848979a7947126c129334. Accessed on 22 May 2025

↑16 President of Russia (2025) Joint Statement of the Russian Federation and the People's Republic of China on Further Deepening Comprehensive Partnership and Strategic Interaction in the New Era in Commemoration of the 80th Anniversary of the Victory of the Soviet Union in the Great Patriotic War, the Victory of the Chinese People in the War of Resistance against Japanese Aggression and the Founding of the United Nations. Moscow: The Kremlin. http://www.kremlin.ru/supplement/6309. Accessed on 22 May 2025

↑17 Interfax (2024) Russia and China are ready to create a joint body for the development of the Northern Sea Route ', Interfax, 21 March 2023. https://www.interfax.ru/russia/892174. Accessed on 22 May 2025

↑18 South China Morning Post (2025) 'Warming US-Russia ties could put China's Arctic ambitions on ice, experts warn', South China Morning Post, 16 March 2025. https://www.scmp.com/news/china/diplomacy/article/3302384/warming-us-russia-ties-could-put-chinas-arctic-ambitions-ice-experts-warn. Accessed on 22 May 2025

↑19 Zagorsky, A. (2016) 'Russia and China in the Arctic: real or imaginary disagreements?', World Economy and International Relations, 60(2), pp. 63-71. https://doi.org/10.20542/0131-2227-2016-60-2-63-71

↑20 Government of the Russian Federation (2022) 'Resolution No. 2496 of December 29, 2022 on the approval of the Rules for Navigation in the Internal Sea Waters of the Russian Federation for Vessels under Foreign Flags', Government of the Russian Federation. http://publication.pravo.gov.ru/Document/View/0001202212310003. Accessed on 22 May 2025

↑21 Government of the Russian Federation (2023) 'Resolution No. 1102 on the Rules for Navigation and Presence of Foreign Military Vessels and Other State Ships Operating for Non-Commercial Purposes in the Territorial Sea, Internal Sea Waters, Naval Bases, Military Ship Berthing Points, and Sea Ports of the Russian Federation', Government of the Russian Federation. https://base.garant.ru/12117086/. Accessed on 22 May 2025

↑22 Breum M. (2023) 'Russia gets approval for the data behind much of its Arctic Ocean seabed claim', Arctic Today, 17 February 2023. https://www.arctictoday.com/russia-gets-approval-for-the-data-behind-much-of-its-arctic-ocean-seabed-claim/. Accessed 22 May 2025

↑23 Government of the Russian Federation (2021) 'Resolution No. 1959 of November 16, 2021 on the Approval of the List of Geographical Coordinates of Points Determining the Location of Baselines from Which the Width of the Territorial Sea of the Russian Federation is Measured', Government of the Russian Federation. http://publication.pravo.gov.ru/Document/View/0001202111190024?index=18&rangeSize=1. Accessed 22 May 2025

↑24 State Council Information Office (2018) China's Arctic Policy. https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm. Accessed on 22 May 2025

Navigating Uncertainty: China-Russia Arctic Security Cooperation in a Game-Theoretic Framework

ABBAS QAIDARI

Arctic troops of the Russian Federation in 2016. Photo: Ministry of Defence of the Russian Federation

Long insulated by geography and climate, the Arctic is no longer a passive backdrop in international affairs. It has become a region where environmental volatility intersects with shifting global power structures. Melting sea ice is not simply a climate phenomenon—it is a catalyst for reconfiguring trade routes, resource access, and strategic calculations.[1)] Amid this transformation, Russia and China have emerged as central players, albeit with asymmetrical roles shaped by their differing Arctic positions and capabilities. Russia anchors its Arctic presence through history, geography, and military infrastructure. China, though external to the region, has pursued an Arctic policy grounded in scientific collaboration, economic investment, and normative engagement.[2)]

Their Arctic postures are shaped by overlapping interests but divided by strategic ambiguity. Both actors stand to benefit from cooperation on infrastructure development and access to emerging maritime routes. Yet, uncertainties—about climate trajectories, resource availability, and external pressures from actors such as NATO—create diverging incentives. These uncertainties are compounded by the absence of robust enforcement mechanisms and the fragile state of trust between the two powers.[3)]

In this context, game theory provides a useful framework for analyzing possible trajectories of China–Russia interaction. Unlike narrative scenarios, a formal model can capture how strategies shift in response to changes in payoffs, environmental conditions, and belief systems. This article introduces a simplified yet structured game-theoretic analysis, comparing strategic choices under two environmental regimes: Stable Ice and Rapid Melt. The model incorporates Bayesian learning and stochastic environmental change, showing how belief updates and dynamic uncertainty influence cooperation or defection over time.

By quantifying strategic incentives and identifying tipping points, the analysis clarifies under what conditions cooperation may emerge, erode, or transform. This approach aims to inform Arctic policy by making the mechanics of uncertainty explicit and offering insight into the evolving logic of Sino-Russian alignment in the circumpolar north.

Game-Theoretic Framework

Players, Strategies, and Payoffs

Russia and China must choose a strategic posture in the Arctic. Broadly speaking, a country can cooperate with the other in joint security and development efforts, or defect (act independently/competitively). Cooperation could mean joint infrastructure projects, shared scientific missions, or coordinated patrols. Defection represents pursuing interests unilaterally, perhaps securing resources alone or maintaining exclusive military control. Payoffs measure the utility (strategic and economic value) each player gains from an outcome. These depend on both choices and the external environment. For example, under Stable Ice conditions (limited new resources), cooperation yields moderate benefits, while defection by one side reduces the cooperator's share. Consider this illustrative payoff matrix for a Stable Ice scenario:

Table 1. Payoff Matrix for Russia and China under Stable Ice Conditions

Russia/China	**Cooperate (C)**	**Defect (D)**
Cooperate (C)	(8,6)	(4,7)
Defect (D)	(7,4)	(3,3)

In this table, the first number is Russia's payoff and the second is China's. In Stable Ice conditions, mutual cooperation (top-left) yields a payoff of (8,6) as both share costs and gains. If one cooperates while the other defects (top-right or bottom-left), the defector secures more benefit alone (7) while the cooperator gets less (4). Mutual defection (bottom-right) yields the lowest payoff (3,3) due to duplicated effort and rivalry.

As ice melts more rapidly, the stakes grow. In a Rapid Melt scenario with abundant new routes and resources, joint gains are higher but so is temptation to exploit. For instance:

Table 2. Payoff Matrix for Russia and China under Rapid Melt Conditions

Russia/China	**Cooperate (C)**	**Defect (D)**
Cooperate (C)	(10,10)	(5,12)
Defect (D)	(12,5)	(2,2)

Here both cooperating yields high payoffs (10,10). If Russia cooperates and China defects, Russia gets 5 while China gets 12 (China takes a bigger share alone); vice versa for (12,5). Mutual defection is very poor (2,2).

Each payoff table can be encoded as a utility function. For example, in the Stable Ice case let $X_R=1$ if Russia cooperates (0 if defects) and X_C likewise for China. Then Russia's payoff is:

$$U_R = 8X_RX_C + 4X_R(1-X_C) + 7(1-X_R)X_C + 3(1-X_R)(1-X_C),$$

China's payoff is:

$$U_C = 6X_RX_C + 7X_R(1-X_C) + 4(1-X_R)X_C + 3(1-X_R)(1-X_C),$$

These formulas yield the numbers in the table when X_R, X_C take 0 or 1. In the Rapid Melt scenario, the coefficients would change to (10,10,12,2) accordingly. More generally, one could define continuous strategy variables (e.g. levels of investment or fleet presence) and write linear or nonlinear utilities, but our discrete illustration captures the main incentives.

Stochastic Transitions Between States

The Arctic environment can change over time. We model climate state as a simple two-state process: *S* (Stable Ice) and *R* (Rapid Melt). Let

$p=P(S\to R)$, $q=P(R\to S)$

be the one-period transition probabilities. The Markov transition matrix is:

P=1-P p q 1-q

For example, if p=0.2 and q=0.1, each period has a 20% chance the Arctic shifts from stable to rapid melt (e.g. due to accelerated warming), and 10% to revert (say an unusually cold spell). Over time the long-run fraction of periods in the Rapid state is $p/(p+q)$.

Players choose strategies each period, then the state may switch according to these probabilities. Expected payoffs combine both cases. For instance, if $\pi=P$ (Rapid next period), Russia's expected payoff from cooperating (if China cooperates) is $(1-\pi)\times 8 + \pi \times 10$ in our examples. The chance of state changes also means strategies can adapt over time.

Uncertainty and Belief Updating

China and Russia may not know future conditions with certainty. Each can update beliefs as new information arrives. For example, suppose China's prior probability of Rapid Melt next year is $\boldsymbol{\pi}$. It observes a climate "signal" $\boldsymbol{s}$ (e.g. a record-warm summer), which has likelihood $Pr(s|Rapid)$ if the Rapid state is true and $Pr(s|Stable)$ if not. By Bayes' Rule, the updated probability of Rapid Melt is

$$Prs = \frac{PrRapid\pi}{PrRapid\pi+PrStable1-\pi}$$

If the signal is much more likely under rapid-melt conditions, this increases $Pr(Rapid)$. A higher belief in rapid warming makes cooperation more attractive (since cooperative payoffs in the Rapid scenario are higher). For instance, if China initially believed $\pi=0.3$, and receives a signal with $Pr(s|Rapid)=0.8$ and $Pr(s|Stable) = 0.2$, then $Pr(Rapid|s) \approx 0.63$. This boosted probability raises expected cooperative payoffs.

Belief updating works similarly if China is uncertain about Russian intent or the credibility of agreements. Observing Russia's actions or communications would update China's belief in Russia's cooperativeness. Over repeated interactions, such Bayesian learning can shift strategy choices.

Scenario Outcomes and Strategic Insights

Stable Ice Scenario

Under a Stable Ice outlook (low ice melt probability), payoffs from Arctic ventures are moderate. Referring to our Stable-Ice matrix, mutual cooperation gives (8,6), but each player tempts unilateral defection to get 7 instead of 8. In fact, analysis of that payoff matrix shows the Nash equilibria are the two asymmetric outcomes: one country cooperates while the other defects. Mutual cooperation is not an equilibrium because, for example, China would prefer to defect if Russia cooperates (increasing China's payoff from 6 to 7). In practice this implies a "trust gap" scenario: one side may cooperate expecting reciprocation, but the other has an incentive to withhold.

Policy implications are that with limited immediate gains, neither side fully trusts the other. Russia might offer joint projects hoping China will invest, but worry China will then push Russia out. China might hold back in fear Russia will renege on resource sharing. The game-theoretic model highlights the need for confidence-building (such as legal agreements) before stable conditions.

Rapid Melt Scenario

If the Arctic warms rapidly, the total gains grow (as in the Rapid-Melt matrix). In this scenario, both cooperating yields a payoff of (10,10), which is large. However, each still has a temptation to defect: e.g. if China expects Russia to cooperate, China could defect and get 12

instead of 10. In our example payoffs, the only Nash equilibria remain the asymmetric ones. Even with greater joint potential, mutual cooperation can fail without credible enforcement.

The difference is context: with high stakes, policymakers may be more willing to invest in trust and enforcement. For instance, long-term contracts or joint ventures can raise the cooperative payoffs or penalize defectors, shifting the equilibrium. In our model terms, such measures would increase the *(C, C)* cell or decrease the payoff of (D, anything). If, for example, an international insurance scheme compensated a cheated cooperator, Russia and China might both find cooperation worthwhile.

In a dynamic setting, repeated interaction also matters. If Russia and China interact over many periods, each can punish the other's defection (e.g. by withholding future cooperation). This can sustain cooperation even if a one-shot game would predict defection. Formally, with a high enough discount factor δ, the infinite-horizon game admits cooperative equilibria. In practice, this means that stable, long-term Arctic partnerships or repeated joint exercises can help overcome short-term temptations.

Role of External Pressure

External actors like NATO/Western states influence the game indirectly. Suppose NATO increases Arctic naval exercises and security presence. This adds external "threat pressure." In game terms, this can be modeled by increasing the payoff to mutual cooperation (e.g. a security bonus) or increasing the cost of defection (vulnerability). Qualitatively, greater NATO activity tends to push Russia and China closer together, because both then have more to lose from acting alone.[4)]

For example, if an Arctic Treaty under NATO safeguards grants joint rights to cooperating states, Russia and China would gain extra value by banding together. In our framework, the (C,C) payoff cells might increase by a constant T when facing a common challenge. Western policymakers should note aggressive posturing in the Arctic could inadvertently make Russia and China collaborate more tightly. Combining pressure with dialogue (e.g. inviting them to Arctic council discussions) might avoid unintended incentives.[5)]

Belief Dynamics and Strategy Shift

Throughout these scenarios, shifting beliefs can trigger strategy changes. Initially, if both nations deem a stable ice regime likely, they may adopt low-cooperation, self-reliant strategies. But as evidence of rapid warming accumulates, Bayesian updating raises $\pi = P(\text{Rapid})$, altering expected payoffs. For example, if Russia moves from a 50% to a 70% belief in imminent rapid melting, its expected payoff from cooperating (given China cooperates) rises from $0.5 \times 8 + 0.5 \times 10 = 9$ to $0.3 \times 8 + 0.7 \times 10 = 9.4$. Meanwhile, the defection's payoff goes from 9.5 to 10.5. Defection still dominates in this example, but the gap shrinks as π increases. Only when π is very high, or if cooperative gains are institutionally boosted, does cooperation become clearly superior.

This illustrates threshold effects: policymakers can compute the critical probability where cooperation pays off. In practice, it means investing in monitoring (like shared climate data) can push beliefs past that threshold, facilitating joint strategies.

Policy Implications

The formal analysis of China–Russia Arctic cooperation through a game-theory lens offers more than abstract insight. It reveals concrete leverage points for policy design, strategic forecasting, and risk mitigation. As environmental and geopolitical uncertainty shape state behavior, strategic outcomes increasingly depend on how actors perceive and respond to evolving information.[6] The following section outlines six interrelated policy implications emerging from the model: the centrality of information-sharing, the potential to engineer incentives, the role of scenario-based planning, the influence of external actors, the value of multilateral forums, and the utility of incremental cooperation in security.

Value of Shared Information

The model demonstrates that belief asymmetry—where actors assign different probabilities to future environmental states—contributes to suboptimal outcomes. When Russia and China operate with divergent expectations about Arctic melting or each other's intentions, cooperation becomes riskier.[7] Enhancing transparency in climate data and strategic intent is therefore a low-cost, high-impact intervention.

Joint satellite monitoring initiatives, shared sea ice projections, and climate signal reporting mechanisms can increase alignment in beliefs. For example, *the Arctic and Antarctic Research Institute (AARI)* in Russia and China's *Polar Research Institute* could co-produce seasonal forecast bulletins. Such efforts would reduce the likelihood of misperception-driven defections, allowing strategies to converge around a shared understanding of environmental probability distributions. In Bayesian terms, increasing access to credible and shared signals tightens posterior convergence and enables more stable equilibria in repeated games.[8]

Incentive Engineering and Institutional Design

The payoff matrices suggest that even under high-potential conditions (e.g., rapid melt scenarios), defection can dominate unless cooperative payoffs are institutionally reinforced. This points to the utility of "incentive engineering"—structuring agreements and institutions to shift the game's equilibrium toward cooperation.

Bilateral agreements on cost-sharing for Arctic infrastructure (e.g., LNG terminals, deep-sea ports), third-party arbitration mechanisms, and pre-negotiated revenue-sharing formulas can reduce the risk that one party will renege after initial investments. China's investment in Yamal LNG, a project led by Novatek and supported by the Russian state, illustrates the potential for cooperative ventures to succeed when backed by clear legal protections and mutual economic benefit.[9] From a game-theory perspective, such agreements effectively increase the utility of the *(C, C)* cell while penalizing unilateral deviation, narrowing the gap between short-term incentives and long-term trust.

Scenario Planning for Strategic Flexibility

The model's stochastic transitions and probabilistic payoffs highlight the importance of scenario planning. Because strategic incentives are conditional on environmental regimes—Stable Ice versus Rapid Melt—policy approaches must be adaptive to changing climatic signals.[10] Governments should develop flexible Arctic strategies tied to key thresholds. For instance, if projected ice-free days along the Northern Sea Route surpass a specific threshold for three consecutive years, this could trigger joint Sino-Russian investment in maritime rescue infrastructure or shipping corridor management.

The framework allows policymakers to calculate "tipping probabilities"—threshold belief levels at which cooperation becomes the dominant strategy. Such data can inform the timing and nature of diplomatic engagement, helping states prioritize either confidence-building under uncertainty or formal institutionalization when beliefs converge.

Managing the Role of External Actors

External powers, particularly NATO members and Arctic Council states, exert indirect pressure on China–Russia Arctic dynamics. The model illustrates that an increase in perceived external threat (modeled as an exogenous change in payoffs) can reinforce cooperation between China and Russia, even in the absence of deep trust. For example, expanded NATO naval exercises in the Barents or Norwegian seas could be interpreted by Russia as a signal of encirclement, thereby increasing the relative value of bilateral alignment with China.[11]

However, this alignment may not necessarily serve the long-term interests of regional stability or transparency. Western policymakers must therefore calibrate Arctic engagement carefully. A dual-track approach that balances presence with inclusion—such as offering Russia continued roles in Arctic Council science working groups and supporting China's observer status—can blunt the incentive for exclusive alignment while preserving deterrence.[12] In effect, external actors shape the structure of the game indirectly and must be aware of how their moves alter other players' perceived payoffs.

Multilateral Norm-Building and Commitment Devices

Repeated interaction in multilateral forums adds another layer to the repeated game model. When China and Russia engage regularly in institutions like the Arctic Council or the International Maritime Organization (IMO), they internalize shared rules and expectations. These institutions serve as informal commitment devices, raising the reputational cost of unilateral deviation.

Moreover, multilateral engagement introduces third-party monitoring and norm-setting that enhances the credibility of cooperative strategies. Rules on maritime traffic control, environmental regulation, or fisheries management—when negotiated in multilateral forums—can embed both countries in a broader regime of mutual obligations.[13] This reduces

reliance on bilateral enforcement mechanisms and helps to anchor long-term cooperation, especially in a domain where hard enforcement is difficult.

Cooperative Security as an Incremental Strategy

While high-level strategic trust remains elusive, the model suggests that cooperation can be built incrementally through lower-risk, operationally useful security initiatives. Joint search-and-rescue (SAR) operations, coordinated maritime traffic systems, or port facility sharing arrangements represent "low politics" cooperation with "high payoff" symbolic and practical value. These initiatives not only increase the value of the *(C, C)* outcome in payoff terms, but also generate observable signals of intent, feeding into belief-updating mechanisms in future iterations of the game.

One example is the Arctic Coast Guard Forum, which brings together maritime agencies from Arctic states, including Russia, for cooperative SAR exercises. Though China is not a member, similar bilateral mechanisms could be explored to build institutional routines and test cooperative reliability in narrow but meaningful domains.

Conclusion

The game-theory analysis of China–Russia Arctic cooperation underlines how uncertainty—whether environmental, strategic, or informational—drives divergent behavior. It also identifies specific mechanisms through which that uncertainty can be reduced or managed: transparent information-sharing, incentive-structuring agreements, flexible scenario-based planning, calibrated external engagement, multilateral norms, and incremental security cooperation.

By formalizing payoffs and belief dynamics, the framework offers policymakers a clearer view of the strategic logic governing Arctic interactions. Rather than assuming inevitability—of either alignment or conflict—the model reveals that the outcomes are conditional and contingent. The future of Arctic cooperation will not likely depend on fixed interests, but on how states respond to evolving information, shared risks, and shifting incentives.

In a region defined by rapid transformation, policy must be strategically grounded and dynamically adaptive, prepared to respond to emerging tipping points and capable of recalibrating as conditions evolve. Game-theory tools can play a crucial role in supporting this adaptability, offering structured insight into a highly fluid geopolitical space.

Abbas Qaidari is an International Security Researcher and Member of the Canadian International Council.

References

↑ 1 Lynch AH & Norchi H. C & Li X (2022) The interaction of ice and law in Arctic marine accessibility. *PNAS*, 21 May, https://www.pnas.org/doi/epub/10.1073/pnas.2202720119. Accessed on 6 May 2025

↑ 2 Kauppila L & Kopra S (2022) The war in Ukraine as a Critical Juncture: China, Russia, and Arctic collaboration up to 2035. *Arctic Yearbook 2022*: 233-248.

↑ 3 Chen C (2023) China-Russia Arctic cooperation in the context of a divided Arctic. *Arctic Institute*, 04 April, https://www.thearcticinstitute.org/china-russia-arctic-cooperation-context-divided-arctic/. Accessed on 9 May 2025

↑ 4 Andersson P (2024) Sino-Russian cooperation in the Arctic: Implications for Nordic countries and recommended policy responses. *Swedish Institute of International Affairs*, 22 October, https://www.ui.se/globalassets/ui.se-eng/publications/other-publications/sino-russian-cooperation-in-the-arctic_implications-for-nordic-countries-and-recommended-policy-responses.pdf. Accessed on 10 May 2025

↑ 5 Staalesen A (2016) Norway's new Arctic oil licences on the table. *Independent Barents Observer*, 17 May, https://www.thebarentsobserver.com/industry-and-energy/norways-new-arctic-oil-licenses-on-the-table/143683. Accessed on 20 May 2016

↑ 6 Szukp M (2020) Sentiments, strategic uncertainty, and information structures in coordination games. *Games and Economic Behavior, Elsevier* 124: 534-553.

↑ 7 Andersson (2025) Polar Partners: What Sino-Russian Arctic cooperation means for Europe. *China Observers*, 25 February, https://chinaobservers.eu/polar-partners-what-sino-russian-arctic-cooperation-means-for-europe/. Accessed on 9 May 2025

↑ 8 Hill S J. (2017) Learning together slowly: Bayesian Learning about political facts. *The Journal of Politics* 79(4): 1403-1418.

↑ 9 Humpert M (2025) China looking to buy more Russian Arctic LNG as EU aims to announce plans in May to Phase out. *High North News*, 21 April, https://www.highnorthnews.com/en/china-looking-buy-more-russian-arctic-lng-eu-aims-announce-plans-may-phase-out-imports. Accessed on 10 May 2025

↑ 10 Goodman SH & Guy K & Maddox M & Hansen V & Sending O & Winther I (2021) Climate Change and security in the Arctic. *Council on Strategic Risks (CSR), and The Norwegian Institute of International Affairs(NUPI)*, January, https://climateandsecurity.org/wp-content/uploads/2021/01/Climate-Change-and-Security-in-the-Arctic_CCS_NUPI_January-2021-1.pdf. Accessed on 10 May 2025

↑ 11 Boulegue M & Alander M & Collen C & Lucas E & Sendak C & Viksnins K (2024) up North: Confronting Arctic insecurity implications for the United States and NATO. *The Center for European Policy Analysis (CEPA)*, 05 December, https://cepa.org/comprehensive-reports/up-north-confronting-arctic-insecurity-implications-for-the-united-states-and-nato/. Accessed on 7 May 2025

↑ 12 Rumer E & Sokolsky R & Stronski P (2021) Russia in the Arctic-A critical examination. *Carnegie Endowment for International Peace*, 29 March, https://carnegieendowment.org/research/2021/03/russia-in-the-arctica-critical-examination?lang=en. Accessed on 10 May 2025

↑ Koivurova T & Molenaar E.J (2009) International Governance and regulation of the Marine Arctic. *WWF International Arctic Programme*, January,
1 https://files.worldwildlife.org/wwfcmsprod/files/Publication/file/4e4mgcfnx2_International_Governance_and_Regulation_of_the_Marine_Arctic_Three_Reports_Prepared_for_the_WWF_International_Arctic_Program.pdf. Accessed on 11 May 2025
3

From the Indus to the Ice: China, Pakistan, and Lessons for Arctic Engagement

ABEEHA SHAMSHAD

Chinese and Pakistani border guards clasp hands at the Karakoram Highway's Khunjerab Pass, the highest paved international border crossing globally. Photo: Anthony Maw

As China's presence in the Arctic expands across scientific and security dimensions, understanding patterns in China's global engagement is vital. An examination of China's strategies, potentially informed by historical diplomatic philosophies such as the tributary system,[1)] reveals important patterns. This system used economic exchange with neighbouring states to manage hierarchical relationships and assert influence, offering valuable indicators for anticipating China's Arctic future and ambitions.

Notably, China capitalizes on perceived gaps in partnerships left by traditional powers, including the United States, to expand influence via economic statecraft. This has been demonstrated powerfully in Pakistan, an example which provides a crucial lens through which to analyze potential trajectories in the Arctic. While not a direct blueprint, this pattern reveals an adaptable strategic logic that may resonate with Arctic actors, including Greenland, who seek economic development and greater autonomy, particularly if they perceive waning engagement from well-established partners.

The Pakistan Precedent: China's Economic Statecraft Filling a Void

Shifts in US engagement with Pakistan illustrate this dynamic. While the US provided significant aid post-9/11,[2] its relations with Pakistan fluctuated. The US reduced aid levels, particularly when the Trump administration reduced security assistance starting in 2018, citing concerns over Pakistan's counterterrorism efforts.[3]

This period coincided with the formal launch and expansion of the China-Pakistan Economic Corridor (CPEC)[4] in 2015, a flagship project of China's Belt and Road Initiative (BRI)[5] currently valued around $62 billion.

CPEC encompasses massive infrastructure development,[6] including power plants, highways, railways, and the strategic Gwadar port, aiming to connect China's Xinjiang region with the Arabian Sea through Pakistan.

China's significant investment promised economic uplift for Pakistan but also deepened its economic reliance on Beijing. This reliance raised serious concerns about debt sustainability.[7] By 2024, nearly 22 percent of Pakistan's external debt was owed to China, much of it linked to CPEC.[8]

China's strategy thus creates an asymmetrical symbiosis: while Pakistan gains infrastructure, occasionally of uncertain purpose,[9] and a strategic partner, China gains access to the Indian Ocean, expands its regional influence, and promotes the BRI model. The perceived reduction in a consistent US partnership with Pakistan appeared to create space for China's economic statecraft to flourish within the existing Sino-Pakistani relationship.

In this dynamic, China leverages its economic ties with another country for better strategic positioning. The use of this strategy echoes aspects of historical precedents like the tributary system, in which economic exchange, though different in form from modern debt financing, was central to establishing relationships and affirming China's global status.

Thus, some scholars explicitly analyze the BRI as a potential "neo-tribute system,"[10] focusing on its entwined economic and symbolic dimensions aimed at enhancing the Chinese state's legitimacy.

Within this framework, a partner state such as Pakistan provides modern-day 'tribute' not through symbolic goods or the act of kowtowing, but through tangible strategic assets such as preferential access for Chinese firms, political alignment on the world stage, and the aforementioned Gwadar port. In return, China bestows the 'imperial gift' of massive infrastructure loans and projects that, while promising development, simultaneously solidify a creditor-debtor dynamic in pursuit of a poorly-defined shared destiny. As a result, Beijing's centrality is reinforced, echoing the core logic of the tributary system, with China as price-maker and over 140 countries as potential price-takers under the rhetoric of empowering largesse.[11]

China's Arctic Gambit: Adapting the Playbook

In the Arctic, China's strategy includes pursuing scientific research[12] (e.g., the Yellow River Station in Svalbard, *Xue Long* icebreaker expeditions), seeking opportunities for resource extraction (often in partnership with Russia),[13] promoting the Polar Silk Road[14] and asserting diplomatic interests as a self-declared "Near-Arctic State."

China's significant scientific investment in the Arctic functions as strategic infrastructure by establishing a presence, gathering environmental and resource data potentially useful for primary surveillance radar navigation and resource exploitation, building partnerships with other countries, and thereby legitimizing its claims for a greater role in regional governance.

While China emphasizes cooperation, its Arctic activities face Western scrutiny. Western concerns focus on the potential military applications of China's dual-use research and infrastructure (e.g., satellite ground stations, research facilities) and deepening security cooperation with Russia, particularly after Russia's increased isolation post-2022.[15] This Sino-Russian partnership is crucial for China, as it provides access (including the Northern Sea Route) and resource opportunities, particularly in energy.

However, this reliance on Russia fuels Western anxieties and ties China's Arctic prospects to Russia's volatile international standing, complicating relations with other Arctic states.

Greenland: An Arctic Test Case?

Greenland presents a scenario with potential parallels to China's relationship with Pakistan, albeit with some distinctions. Greenland is strategically located, rich in resources such as rare earth elements, and seeking greater economic independence from Denmark. Could perceived inconsistent support or engagement from Western partners like the US[16] and Denmark create an environment where Greenland finds Chinese investment more appealing?

Past incidents illustrate how political discourse can cultivate uncertainty,[17] such as US rhetoric about purchasing Greenland, later replaced by renewed engagement, including a reopened consulate in Nuuk and aid packages.

However, the differences between Greenland and Pakistan are profound. Greenland is a part of the Kingdom of Denmark, a member of NATO, and thus entitled to NATO protection. The Arctic possesses unique governance structures (such as the Arctic Council) and heightened environmental sensitivities. Furthermore, China faces established Arctic states wary of its long-term intentions, and past Chinese bids for critical Arctic infrastructure, including airports, have faced pushback due to security concerns.[18] A CPEC-style scenario of Chinese investment in Greenland seems unlikely, as far as depth of involvement and potential for perceived or actual reliance on China.

Instead, any Greenlandic interest in Chinese investment might represent a strategic hedging tactic – exploring options for Greenland to gain leverage with Copenhagen and Washington to pursue development goals – rather than a fundamental shift away from traditional partners.[19]

China could aim its narrative of "win-win" cooperation to appeal to these aspirations, while seeking economic opportunities in Greenland amidst Western security vigilance.

Conclusion: Lessons for Arctic Engagement

While the Arctic context differs significantly from South Asia, China's involvement with Pakistan illuminates one element of China's strategic playbook: exploiting a country's perceived gaps in engagement from traditional powers to engage in economic statecraft through investment. This underscores how crucial it is for Western Arctic states, particularly the US and Denmark concerning Greenland, to maintain consistent, respectful engagement that addresses local economic priorities and aspirations for autonomy.

Western states' failure to maintain robust partnerships risks inadvertently creating openings for China's influence model, even within existing alliances. Effectively navigating the Arctic's complex future requires a nuanced understanding of the historical echoes and contemporary applications driving China's global strategy. Western states should therefore foster regional stability through sustained partnership and cooperation on shared challenges such as climate change, while remaining vigilant about the evolving geopolitical and security landscape shaped by Great Power Competition and the Sino-Russian axis.

Abeeha Shamshad is a strategic communications professional with research interests in Great Power Competition (GPC) and international development.

References

↑1 Hevia JL (2016) Tributary systems. *The Wiley-Blackwell Encyclopedia of Globalization*. John Wiley & Sons: Wiley-Blackwell

↑2 Congressional Research Service (2023) *Pakistan and U.S.-Pakistan Relations*. R47565. https://www.congress.gov/crs-product/R47565. Accessed on May 9, 2025

↑3 Kugelman M (2025) Trump's $397 Million Exception for Pakistan. *Foreign Policy*, 25 April, https://foreignpolicy.com/2025/04/25/trump-us-pakistan-funding-foreign-aid/. Accessed on 15 May 2025

↑4 Zhang H & Malik AA (2024) Fulfilling Promises for the China-Pakistan Economic Corridor. *Georgetown Journal of International Affairs* (GJIA), 16 December 2024, https://gjia.georgetown.edu/2024/12/16/13728. Accessed on 12 May 2025

↑5 Lamazhapov E, Stensland I and Heggelund G (2023) China's Polar Silk Road: Long Game or Failed Strategy?, *The Arctic Institute*, 14 November, https://www.thearcticinstitute.org/china-polar-silk-road-long-game-failed-strategy/. Accessed on 11 May 2025

↑6 Cobbinah J (2025) China-Pakistan Economic Corridor: A Study of Chinese Investment in Pakistan. *International Journal for Multidisciplinary Research* 7(1): 34644. https://www.ijfmr.com/papers/2025/1/34644.pdf. Accessed on May 11, 2025

↑7 Peshimam GN (2023) *U.S. concerned about debt Pakistan owes China, official says*. Reuters, 16 February 2023, https://www.reuters.com/world/asia-pacific/us-concerned-about-debt-pakistan-owes-china-official-says-2023-02-16/. Accessed on 19 May 2025

↑8 Shahid A (2025) *China rolls over $2 billion loan to Pakistan*. Reuters, 8 March 2025, https://www.reuters.com/world/asia-pacific/china-rolls-over-2-billion-loan-pakistan-2025-03-08/. Accessed on 19 May 2025

↑9 Butt R (2025) *No passengers, no planes, no benefits. Pakistan's newest airport is a bit of a mystery*. AP News, 23 February 2025, https://apnews.com/article/pakistan-china-gwadar-airport-balochistan-militants-81ecfc16827015321183a1f5a52e631d. Accessed on 19 May 2025

↑10 Hobson J & Zhang S (2022) *The Return of the Chinese Tribute System? Re-viewing the Belt and Road Initiative*. Global Studies Quarterly, 30 December 2022, https://academic.oup.com/isagsq/article/2/4/ksac074/6965802. Accessed on 19 May 2025

↑11 Curtis S & Klaus I (2024) *The Belt and Road City: Geopolitics, Urbanization, and China's Search for a New International Order.* New Haven: Yale University Press

↑12 Pezard S et al. (2025) *China's Economic, Scientific, and Information Activities in the Arctic*. RAND Corporation, 23 January 2025, https://www.rand.org/content/dam/rand/pubs/research_reports/RRA2800/RRA2823-1/RAND_RRA2823-1.pdf. Accessed on 12 May 2025

↑13 Sørensen CTN & Klimenko E (2017) Emerging Chinese–Russian Cooperation in the Arctic. *SIPRI*. https://www.sipri.org/sites/default/files/2017-06/emerging-chinese-russian-cooperation-arctic.pdf. Accessed on May 12, 2025

↑14 State Council Information Office of the PRC (2018) China's Arctic Policy. http://english.scio.gov.cn/2018-01/26/content_50313403.htm. Accessed on May 12, 2025

↑15 Andersson P (2024) Sino-Russian Cooperation in the Arctic: Implications for Nordic Countries and Recommended Policy Responses. *Swedish Institute of International Affairs, Swedish National China Centre.* https://www.ui.se/globalassets/ui.se-eng/publications/other-publications/sino-russian-cooperation-in-the-arctic_implications-for-nordic-countries-and-recommended-policy-responses.pdf. Accessed on May 12, 2025

↑16 Olesen MR (2021) Getting by in a Troubled Arctic: The Kingdom of Denmark and the Great Powers. *International Centre for Defence and Security (ICDS)*. https://icds.ee/en/getting-by-in-a-troubled-arctic-the-kingdom-of-denmark-and-the-great-powers/. Accessed on May 12, 2025

↑17 Kofod J (2025) *To safeguard the Arctic, Trump should work with Denmark and Greenland*. Atlantic Council, 11 February 2025, https://www.atlanticcouncil.org/blogs/new-

atlanticist/to-safeguard-the-arctic-trump-should-work-with-denmark-and-greenland/. Accessed on 12 May 2025

↑18 Spence J, Hanlon E (2025) *Explainer: The Geopolitical Significance of Greenland*. Belfer Center, 16 January 2025, https://www.belfercenter.org/research-analysis/explainer-geopolitical-significance-greenland. Accessed on 19 May 2025

↑19 Andersson P (2025) *China already left – so what is Trump's Greenland gambit about?* Swedish National China Centre, 17 January, https://kinacentrum.se/en/publications/china-already-left-so-what-is-trumps-greenland-gambit-about/. Accessed on 13 May 2025

Soft Snow Dragon: China's Arctic Policy Legitimation Discourses between 2012 and 2019

SAMPO SANAKSENAHO

Arctic sunset. Photo: NOAA's National Ocean Service

As a non-Arctic country, China has no legitimate territorial right within the Arctic Circle, and yet its presence and influence in the region have grown significantly, most notably in the 2010s.[1)] This paper identifies the discourses and legitimation strategies used by Chinese political leaders and diplomats to justify China's involvement in Arctic affairs between 2012 and 2019. It also examines how these discourses connect with broader themes in Chinese foreign policy, particularly the foreign policy narrative of "a shared future for mankind," a key concept promoted by President Xi Jinping since 2012. The narrative aims to construct a multilateral and equal international system, but which would be based, by critical interpretations, on Chinese wisdom and worldview.[2)]

The results reveal three main discourses that China utilized to legitimate its Arctic presence between 2012 and 2019: multilateralism, respect, and convergence. Each of these discourses consist of two or three thematic focuses that formed the overall discourse.

In general, all the discourses emphasized China's soft power influence in the Arctic region, but they also revealed important interests for China, such as economic objectives. The

discourses are also contextualized within China's foreign policy objectives, such as the narrative of 'a shared future of mankind'.

The analysis is conducted by critical discourse analysis, with theoretical support from Theo van Leeuwen's framework for studying strategies of legitimation. These are authorization, rationalization, and narrativization.[3] They are utilized to dissect how China presented its Arctic policy and presence as legitimate, necessary, and morally grounded.

Primary data consists of speeches by the Chinese foreign minister, vice foreign minister, vice premier and ambassadors (2012, 2015, 2017); observer review report submitted to the Arctic Council (2016) and an ambassadorial interview (2019) about China's Arctic policy. Historical reasoning is also utilized to place China's Arctic discourses in the broader context of its geopolitical ambitions and evolving role in global governance.

Multilateralism

The first legitimation discourse, multilateralism, framed China as a cooperative and rule-abiding global actor. In this discourse, three thematic focuses that China emphasized were climate change mitigation and active participation in multilateral forums.

China portrayed its actions in the Arctic as serving the global good, improving peace, and encouraging mutual benefit and cooperation though rationalization and narrativization. For instance, Chinese officials, such as vice foreign minister Zhang Ming, frequently brought up terms like "win-win cooperation" and "shared governance,"[4] linking their Arctic policy to broader global challenges such as environmental degradation. In addition, Zhang rationalized in his speech to align China's involvement with global environmental concerns as well, stressing that the effects of Arctic climate change overcome regional boundaries and affect all of humanity, therefore granting China a stake in Arctic affairs.[5]

China also stressed its activity in multilateral forums through narrativization. This refers to the use of narratives in which content is framed toward either positive or negative outcomes.[6] This approach was present, for example, in a speech by China's Vice Premier Wang Yang at the Arctic Forum in 2017, in which he highlighted the goals of China's Arctic policy: "promote the improvement of multiple governance patterns in the Arctic, and actively carry out multi-level and wide-ranging international cooperation, so as to achieve mutual benefit and win-win results."[7] Here, Wang employed narrativization by portraying China as an active actor promoting solutions beneficial to all stakeholders in the Arctic. In this sense, Wang narrativized China's multilateral engagement to produce positive outcomes and thus legitimize China's influence in the Arctic region.

Despite the constant emphasizing of cooperation and activity, China's multilateralism discourse reveals certain contradictions. While emphasizing international collaboration, China has on the other hand traditionally preferred bilateral over multilateral diplomacy, particularly in strategically important regions for China such as the South China Sea.[8] This tension between multilateralism and bilateralism has also been evident in China's Arctic policy, where bilateral agreements and projects with Arctic states typically overshadow multilateral commitments because bilateral engagement is often perceived more effective.

Respect

The second discourse, respect, positioned China as a respectful, culturally sensitive actor that supports Indigenous peoples, established practices, and scientific exploration in the Arctic. This discourse therefore centres on scientific exploration and respect for Indigenous peoples. By highlighting its investments in Arctic research stations and icebreaker missions, China presented itself as a nation contributing to collective knowledge and environmental stewardship and in this way showed respect for the established practices in the Arctic. Authorization and narrativization were evident in China's references to long-standing traditions of exploration and research such as the repeated mention of the Xue Long (Snow Dragon) icebreaker[9] as a symbol of continuity and peaceful engagement.[10]

The purposes behind the focus areas of the respect discourse reflect, in addition to serving as legitimation, interests that are important to China. Scientific exploration especially contains such interests. China has been interested in the Arctic region's significant energy resources and the shorter trade routes made possible by melting ice. In 2018, it announced the Polar Silk Road initiative as part of its Arctic policy strategy to capitalize on these economic opportunities. The aim of the initiative is to create shorter transportation routes for China and gain access to the Arctic's energy resources, such as gas and oil, which has also created a need for China to strengthen its Arctic scientific research efforts.[11] This need lies behind the discourse of respect, making science and research as a focus of legitimation but simultaneously serve China's own interests.

The narrative of "shared future of mankind'' was also reflected in the respect discourse. For instance, Foreign Minister Wang shed light on China's scientific and research efforts when he stated in a 2015 speech that China would, as always, remain committed to Arctic scientific research and practical cooperation.[12] He justified this by asserting that research in the Arctic is a shared responsibility of humanity, framing China's scientific and research work as an effort to respect the practices of Arctic states. Similarly, in 2012, China's Ambassador to Sweden, Lan Lijun, emphasized that most China's Arctic activities are scientific research.[13] Thus, the emphasis on science and research within the respect discourse of China's Arctic policy can be understood as having a dual function: it highlights China's dedication to and respect for the needs and values of the Arctic region and its countries serving as a form of legitimation while simultaneously advancing China's own interests, for instance through the Polar Silk Road initiative.

China also claimed in 2012–2019 to respect the traditions and needs of Arctic Indigenous peoples, a key concern of the Arctic Council. However, such claims often lacked concrete evidence and were articulated in vague, symbolic terms. Chinese officials, such as Vice Foreign Minister Zhang Ming in 2015, emphasized that China conducts financial support for Indigenous initiatives.[14] However the specifics of such support remained unclear. On the other hand, this obscurity was somewhat clarified by offering concrete contributions in China's 2016 observer state report to the Arctic Council: "China has participated in the Indigenous Peoples' Secretariat project to celebrate the 20th anniversary of the Arctic Council."[15] This indicates that China felt the need to demonstrate respect for the Indigenous peoples of the Arctic region, aligning itself with the practices of the Arctic Council and its member states.

The sincerity and depth of China's commitment to Indigenous rights and participatory governance can however raise questions. For example, China does not officially recognize any ethnic group within its own borders as indigenous. However, on the international level, China has supported the rights of indigenous peoples for a considerable time.[16] Therefore, analysing the real sincerity of China's commitment to Indigenous rights is challenging.

In conclusion, the respect discourse served an important legitimating function for aligning China with the values and norms upheld by Arctic states and institutions. By emphasizing scientific exploration and respect for Arctic Indigenous peoples, China aimed to legitimate its Arctic policy comprehensively. However, these focus points within the discourse also revealed contradictions and a dual-purpose function. Therefore, one could argue that the respect discourse had a soft exterior but an interest-driven core.

Convergence

The third discourse, convergence, reflected China's efforts to construct an identity as a "near-Arctic state" and emphasize its 90 years-long presence in the region. Through this discourse, China underscored its direct causality and historical connections to the Arctic. These are also the thematic focuses of the convergence discourse.

China argued that due to climate change and global interdependence, no state can remain unaffected by developments in the Arctic. For example, China's Ambassador to Iceland, Jin Zhijian stated in 2019 that the developments in the Arctic have a clear link for China:

"China is also closely involved in the trans-regional and global issues in the Arctic, especially in such areas as climate change, environment, scientific research, utilization of shipping routes, resource exploration and exploitation, security, and global governance. These issues are vital to the existence and development of all countries and humanity, and directly affect the interests of non-Arctic States including China."[17]

Jin highlighted China's growing closeness and presence in the Arctic using expressions such as "closely involved", "are vital to" and "directly affect even non-Arctic states." These expressions present the idea that developments in the Arctic have a direct causal relationship with China and its interests, thereby justifying China's presence and increasing engagement in the region. Jin's emphasis also reflected the thinking of a "shared future for mankind". Since developments in the Arctic are crucial for all of humankind, China's approach for deeper involvement in the region is portrayed as legitimate. In this way, Jin legitimized China's Arctic engagement and policy through narrativization, which can be interpreted in this case as portraying negative outcomes. In Jin's legitimation, he argued that if non-Arctic or near-Arctic states like China do not participate in Arctic affairs, it could have disastrous consequences for all of humanity.

In addition to direct causality as a thematic focus on the convergence discourse, China also emphasized its 90 years-long presence in the region. Ambassador Jin and Vice Foreign Minister Zhang, for instance, stressed that China had turned its eyes to the Arctic for almost a century ago, in 1925. Zhang mentioned the following in his speech in 2015: "In 1925 China acceded to the Svalbrad Treaty, which marked the beginning of China's participation in Arctic

affairs."[18] The Vice Foreign Minister utilized legitimation through authorization of tradition,[19] which means appealing to historical practice.

However, in China's emphasis of convergence as a legitimation, there are also issues that may undermine its credibility. The emphasis on China's history and achievements in Arctic policy can raise questions. Although China has been active in Arctic science and research since the 1990s,[20] its broader Arctic policy only truly began to take shape in the 2010s. As recently as 2009, then-Deputy Foreign Minister Hu Zhengyue declared that China had no Arctic policy.[21] In contrast, the more recent statements by Foreign Minister Zhang and Ambassador Jin about China's 90-year Arctic presence reflected a different view. This illustrates the rhetorical shift in China's Arctic policy in the 2010s but also raises questions about the emphasis on its history and achievements as part of the convergence discourse.

China's convergence with the Arctic in 2012–2019 was not merely a matter of legitimation but was tied more broadly to the context of Chinese foreign policy, which includes China's understanding of discursive power in international politics. Puranen and Kopra define this discursive power as China's ability to control international political narratives, which, if successful, would lead to the country gaining normative and legal influence—for instance, in the Arctic region.[22] This political thinking is reflected, for example, in the emphasis on the direct effects of the discourse of convergence, where the Arctic was framed as a shared mission for all humankind. Ambassador Jin highlighted this in an interview in 2019: "The future of the Arctic concerns the interests of Arctic states, the well-being of non-Arctic states, and all of humanity."[23] Deputy Foreign Minister Zhang also stated in 2015 that Arctic challenges, such as climate change, require shared responsibility from all nations.[24] By engaging with the Arctic region, China sought to construct the governance of the area as a task for all humanity and thus positioning itself as a responsible great power while increasing its influence in the region.

By identifying and framing itself as a near-Arctic state, China aimed to normalize and institutionalize its participation in Arctic governance, even without formal territorial claims. This convergence discourse reminds the broader narrative of China's global responsibility and its aspiration to shape the rules of international engagement. It also reflected a shift in China's approach to diplomacy in the early 2010s—from reactive postures to proactive, norm-setting behavior. However, the emphasis on historical presence raised questions on the credibility of convergence discourse.

Conclusion

All three of the discourses legitimating China's Arctic policy emphasized soft power in both their overall tone and outward appearance. However, beneath this soft exterior, the core was revealed to be shaped by interests. This was most clear in the respect discourse, which emphasized Arctic science and research, and was linked to China's economic interests such as the Polar Silk Road initiative. Additionally, the tension with bilateralism within multilateralism discourse also reflects this nature. The characteristics of the discourses' soft exterior and interest-driven core also reflect their dual-use nature; they serve both to justify China's Arctic policy and to advance China's own interests. Therefore, the discourses are not unambiguous, as their outward appearance does not fully reflect their true meaning.

In addition, the discourses—multilateralism, respect, and convergence—are united by the foreign policy framework of "a shared future for mankind." This narrative promotes global cooperation based on Chinese moral and philosophical principles. It is a rhetorical device used to position China not as a revisionist power, but as a stabilizing force advocating peaceful development and mutual respect. It is therefore reasoned to state that this essentially also guided the legitimation discourses in China's Arctic policy, as well as their focus points. The use of narrativization, which was the most recurring legitimation strategy across all discourses, also supports this view. The repeated use of it in the speeches and reports of Chinese representatives indicates China's pursuit of continuity and its long-term major foreign policy goals. At the same time, it served to frame China's own objectives and actions as beneficial to all Arctic states and to humanity comprehensively.

In conclusion, China's Arctic legitimization discourses in 2012–2019 were emblematic for its evolving foreign policy. They were rooted in soft power and cooperative rhetoric yet serving China's long-term strategic and normative ambitions at the same time. By analyzing how China legitimized its Arctic presence, the findings offer valuable insights on the broader dynamics of international legitimacy and the role of discourses in shaping regional and global order.

Sampo Sanaksenaho is a master's student in Social Sciences, majoring in Political History at the University of Turku, and a trainee at the Arctic Centre, University of Lapland, Finland.

References

↑1 Koivurova, Timo and Sanna Kopra. *Chinese Policy and Presence in the Arctic*. Leiden; Boston: Brill, 2020.

↑2 Kallio, Jyrki. "Multilateralism with Chinese Characteristics." *Multilateral Cooperation in an Era of Strategic Competition: Options for Influence for Finland and the European Union*, edited by Juha Jokela, Katja Creutz and Alana Saul. Helsinki: Prime Minister's Office, 2023, 64–74.

↑3 van Leeuwen, Theo. "Legitimation in Discourse and Communication." *Discourse & Communication*, 1/2007, 91–112. https://doi.org/10.1177/1750481307071986

↑4, ↑5, ↑14, ↑18, ↑24 Zhang, Ming, "*Keynote Speech by Vice Foreign Minister Zhang Ming at the China Country Session of the Third Arctic Circle Assembly*." 17 October 2015, Ministry of Foreign Affairs of the People's Republic of China.

↑6, ↑19 van Leeuwen, Theo. "Legitimation in Discourse and Communication." *Discourse & Communication*, 1/2007, 91–112. https://doi.org/10.1177/1750481307071986

↑7 Wang, Yang, "*Wang Yang: Work Together to Open up a Bright and New Future for the Arctic*." 29 March 2017, Ministry of Foreign Affairs of the People's Republic of China.

↑8 Hong, Nong. “Emerging Interests of Non-Arctic Countries in the Arctic: A Chinese Perspective.” *Polar Journal*, 2/2014, 271–286. https://doi.org/10.1080/2154896X.2014.954888.

↑9 Alexeeva, Olga and Frédéric Lasserre. “The Snow Dragon: China’s Strategies in the Arctic.” *China Perspectives*, 3/2012, 61–68. https://doi.org/10.4000/chinaperspectives.5958.

↑10, ↑17, ↑23 Jin, Zhijian, “*Morgunblaðið* Publishes A Signed Article by Ambassador Jin Zhijian Entitled *China Is An Important Force For Development In The Arctic*.” 15 October 2019, Ministry of Foreign Affairs of the People’s Republic of China.

↑11 Wang, Yaohui and Yanhong Ma. “Costly Signaling and China’s Strategic Engagement in Arctic Regional Governance.” *Politics and Governance*, 2024. https://doi.org/10.17645/pag.7222.

↑12 Wang, Yi, *“Video Message by Foreign Minister Wang Yi At the Opening Ceremony of the Third Arctic Circle Assembly”*, 17 October 2015, Ministry of Foreign Affairs of the People’s Republic of China.

↑13 Lan Lijun, 2012. “Statement by H.E. Ambassador Lan Lijun at the Meeting between the Swedish Chairmanship of the Arctic Council and Observers“, Arctic Council Archive. https://oaarchive.arctic-council.org/items/b131ea94-15fc-4a0a-9892-8c4a4c4eca8d. Accessed on 19 November 2025.

↑15 Observer Review Report People’s Republic of China, 2016, Arctic Council Archive.

↑16 Koivurova, Timo, Liisa Kauppila, Sanna Kopra, Marc Lanteigne, Mingming Shi, Malgorzata (Gosia) Smieszek, Adam Stepien, Juha Käpylä, Harri Mikkola, Egill Thor Nielsson and Matti Nojonen. “*China in the Arctic; and the Opportunities and Challenges for Chinese-Finnish Arctic Co-operation*.” Publications of the Government´s Analysis, Assessment and Research Activities. Helsinki: Prime Minister’s Office, 2019. http://urn.fi/URN:ISBN:978-952-287-636-2.

↑20, ↑21 Alexeeva O & Lasserre F (2012) The Snow Dragon: China’s Strategies in the Arctic. *China Perspectives* (3/2012): 61–68.

↑22 Puranen M & Kopra S (2023) China’s Arctic Strategy – a Comprehensive Approach in Times of Great Power Rivalry. *Scandinavian Journal of Military Studies* (1/2023): 239–253.

China's Adaptive Diplomacy and Economic Statecraft in a Fragmented Arctic Order

RIVA PANCHAL

Arctic sea ice extent: A rapidly evolving geopolitical frontier. Photo: NASA Goddard Space Flight Center

The Arctic has re-emerged as a critical axis of 21st-century geopolitics. This transformation is driven by the accelerating effects of climate change and the strategic recalibrations of major powers seeking to access the region's untapped potential. China's entry into the Arctic is particularly significant. Despite being a non-Arctic state, China has increasingly positioned itself as an indispensable stakeholder in Arctic development. The state's presence in the Arctic is neither incidental nor opportunistic. It is a strategic outcome of long-term planning grounded in the logic of economic statecraft, adaptive diplomacy, and a deliberate shift in global governance norms. Its Arctic ambitions are tightly interwoven with the strategic logic of the Belt and Road Initiative (BRI), from which the "Polar Silk Road" (PSR) concept derives.[1)] The PSR reflects China's long-term vision: to integrate the melting Arctic into global trade routes, energy corridors, and governance frameworks.

At the heart of China's Arctic trajectory lies a subtle but strategic calculus: to embed itself in regional governance, trade, infrastructure, and environmental narratives in ways that are politically non-threatening but economically entrenching. This approach transcends simple economic opportunism and reflects a deliberate recalibration of China's foreign policy instruments for the unique conditions of a fragile, semi-regulated, and heavily securitized

Arctic order. China's Arctic strategy is a case study in strategic patience, where long-term investments in reputation, partnerships, and scientific credibility are gradually converted into geopolitical capital. This article argues that China's Arctic engagement is best understood not through the lens of opportunism, but as a deliberate, multidimensional strategy grounded in economic pragmatism, strategic hedging, and discursive legitimacy.

Polar Silk Road as a Strategic Extension of the BRI

The BRI is not merely an infrastructure blueprint—it is China's most ambitious foreign policy platform for reshaping global trade, connectivity, and political influence. The PSR, first outlined in China's 2018 Arctic Policy White Paper, should be viewed as a geographic and strategic expansion of the BRI into the High North.[2)] It signifies the inclusion of Arctic maritime and energy corridors into China's broader network of geopolitical influence, spanning land and sea from Southeast Asia to Northern Europe.

Whereas the traditional BRI emphasizes terrestrial infrastructure and port connectivity across Eurasia and Africa, the PSR pivots toward maritime dominance through Arctic routes. By promoting the PSR, Beijing aims to ensure that it is not a passive beneficiary of Arctic access but a co-architect of the region's emerging trade geography and norms. In doing so, China attempts to reframe Arctic connectivity as an integral part of global supply chains, where Chinese logistics firms, energy companies, and financial actors are indispensable facilitators.

Diplomatically, the PSR is framed through China's narrative of "win-win cooperation" and global public goods, but its underlying logic mirrors Beijing's BRI approach—projecting influence through economic asymmetry. Chinese state-backed banks, policy institutions, and corporations use infrastructure financing as a vector for soft power, subtly drawing Arctic and near-Arctic nations into a web of interdependence.[3)] Moreover, by offering alternatives to Western financing and logistics frameworks—especially in post-sanction Russia—China positions itself as a stabilizer and an alternative development partner in the Arctic system.

This combination of economic embeddedness and diplomatic framing ensures that the PSR is not a peripheral addendum to the BRI but an Arctic-specific modality of the same strategic ambitions: expanding China's role in global governance while avoiding overt confrontation. The PSR seeks to connect East Asia with Europe via the Northern Sea Route (NSR), drastically shortening transit times by up to 40% compared to the Suez Canal.[4)] Since 2013, China's COSCO Shipping has completed more than a dozen trial voyages along the Northern Sea Route (NSR), initially aimed at assessing logistical feasibility. However, since 2022, COSCO's activity along the NSR has slowed, largely due to geopolitical disruptions stemming from Russia's invasion of Ukraine. Sanctions on Russia and reputational risks have compelled many global shipping firms, including COSCO, to reassess their Arctic transit strategies.[5)] Nonetheless, these voyages signal more than logistical experimentation; they form part of a gradual normalization of Chinese presence in Arctic shipping lanes.

The infrastructure component of the PSR mirrors patterns established under the BRI. In Russia, China has become a major financier of Arctic energy projects, most notably the Yamal LNG and Arctic LNG 2 ventures. The China National Petroleum Corporation and the Silk Road Fund collectively own significant stakes, while Chinese banks have extended billions in

credit.[6] These projects ensure China not only secures critical energy supplies but also co-authors the development narrative of the Russian Arctic.

Embedding Through Economic Partnerships: Case Studies in the Arctic Periphery

The 2022 suspension of Arctic Council cooperation with Russia, triggered by the political fallout of the Ukraine war, ruptured the region's long-standing multilateral framework. Once regarded as a consensus-based institution exemplary of low-tension diplomacy, the Arctic Council now faces unprecedented institutional fragmentation. China, though only an observer, has used this vacuum to recalibrate its Arctic positioning, leveraging what Robert Keohane describes as "functional asymmetries"—gaps in multilateral engagement that can be bridged through alternative diplomatic or economic routes.

China's Arctic influence is perhaps most visible through its strategic use of economic statecraft. It employs what David Baldwin terms "positive economic sanctions": strategic investments, loans, joint ventures, and aid packages designed not only to serve developmental goals but also to generate long-term political leverage. Beyond Russia, China has carefully cultivated bilateral relationships with smaller Arctic and Arctic-adjacent states to deepen its economic footprint and ensure access to future governance mechanisms. In 2013, China became the first major power to sign a Free Trade Agreement with Iceland. This agreement laid the groundwork for broader cooperation, including geothermal energy development, tourism, and Arctic research. One tangible outcome of this cooperation is the China-Iceland Arctic Science Observatory, operational since 2018 in Karholl, northeast Iceland. The facility conducts joint atmospheric, astronomical, and geophysical studies and is operated by China's Polar Research Institute and Iceland's RANNIS (Icelandic Centre for Research). The Observatory allows China to maintain a year-round scientific presence within the Arctic Circle—providing a platform for environmental monitoring and collaboration with Icelandic institutions. Through co-managed scientific infrastructure, China embeds itself in local knowledge production and policy networks, positioning itself not merely as a research partner but as a stakeholder in Arctic scientific governance. This institutional presence contributes to its broader legitimacy claims as a responsible, contributing actor in Arctic affairs, particularly as it continues to assert the narrative of the Arctic as a "shared space" of global concern.[7]

In Greenland, a semi-autonomous Danish territory, China has pursued rare earth mining and dual-use infrastructure projects such as airports and harbors. These initiatives often align with local political aspirations for economic self-reliance and greater autonomy from Denmark. For example, Chinese bids to construct airports in 2018 and interest in the Kvanefjeld rare earth project were framed in ways that appealed to pro-independence factions within Greenland's parliament. Though not overtly political, such proposals reflect China's subtle engagement with local elites by supporting development narratives that enhance its strategic foothold. These initiatives sparked strategic pushback from Copenhagen and Washington—culminating in Denmark rejecting several Chinese bids for infrastructure development due to security concerns.[8] Still, the sheer scale and persistence of China's engagement illustrate its intent to penetrate Arctic logistical networks.

In Norway, the port of Kirkenes has been identified by Chinese stakeholders as a potential Arctic logistics hub.[9] Situated near the NSR and proximate to key maritime chokepoints, Kirkenes is seen as a future node in China's Arctic transport corridor. Similarly, China's involvement in feasibility studies for a trans-Arctic railway linking Kirkenes and northern Finland further suggests a long-term interest in integrating the Arctic into China-centric trade flows.[10]

These investments are not merely about securing market access. They constitute what political economist William Norris describes as "commercial diplomacy"—the strategic use of economic activity to generate political capital. By embedding itself in the economic lifeblood of Arctic localities, China ensures it cannot be easily excluded from future rule-making processes. Beijing's capacity to build track II and track I.5 engagements with Arctic states, as well as with non-Arctic Global South actors, allows it to cultivate alternative governance nodes that circumvent formal institutional bottlenecks.

A core pillar of China's Arctic engagement strategy lies in its use of scientific diplomacy. Unlike in more securitized arenas like the South China Sea, China has maintained a discourse of cooperation and shared global responsibility in the Arctic. It frames its activities through the lens of environmental stewardship, aligning itself with global concerns over climate change and biodiversity loss. China's Yellow River Station in Svalbard has been active since 2004, conducting research on atmospheric sciences, marine ecosystems, and climate modeling. The station enables China to participate in long-term scientific monitoring projects with Arctic states, offering a platform for soft power projection.[11] Additionally, China has developed and deployed icebreakers such as the Xue Long and Xue Long 2, which not only enhance scientific capabilities but also serve as symbols of technological prowess.[12] China has also developed its own suite of Earth observation satellites, some with polar-oriented capabilities, which contribute to real-time monitoring of ice melt, atmospheric conditions, and potential maritime routes.[13]

However, the alleged dual-use nature of polar research—especially in satellite surveillance, bathymetric mapping, and subsea communication—has prompted concern among Western powers. The Pentagon and NATO allies have questioned the strategic utility of China's Arctic data, particularly as China expands its satellite constellation and underwater monitoring systems.[14] While critics cite risks of civilian data supporting submarine navigation or space-based surveillance, these claims are often speculative and lack corroborating evidence of militarization. Yet, the ambiguity persists, partly because China itself has not articulated clear boundaries between its scientific, commercial, and strategic objectives.

A constructivist reading of China's Arctic strategy reveals that much of its legitimacy-building effort hinges on redefining Arctic norms. By participating in climate change initiatives, contributing to Arctic biodiversity studies, and invoking the environmental vulnerabilities of the Global South, China reshapes the discursive space of Arctic politics to make non-Arctic participation appear necessary and beneficial. This discursive shift, though subtle, represents an effort to reshape Arctic governance from a club model of regional sovereignty to a more porous regime responsive to global concerns.

Strategic Hedging and Multilateral Balancing

China's Arctic behavior illustrates a classic hedging strategy—balancing between cooperative postures and latent capabilities while avoiding direct confrontation. This approach allows China to cultivate influence without triggering institutional backlash. Despite its close energy and logistics ties with Russia, China has also sought cooperative channels with Nordic countries, Canada, and Arctic-adjacent partners like South Korea and Japan.

Its 2018 Arctic Policy White Paper articulates support for the sovereignty of Arctic states while simultaneously calling for inclusive governance based on international law. This dual discourse allows China to argue that the Arctic's environmental and economic stakes justify broader participation. Within the Arctic Council, China has maintained its observer status since 2013 and continues to participate in working groups on climate, biodiversity, and maritime safety. Unlike Russia, which has revitalized Cold War-era Arctic bases, and the U.S., which has deployed submarines and aircraft in joint Arctic drills,[15] China has not established any permanent military presence north of its territory. Its partnership with Russia is marked by economic, not military, convergence. Joint naval drills have occurred, but they are limited in scale and frequency. By abstaining from overt power projection, China protects its narrative of benign engagement and avoids securitization by Arctic stakeholders. This enhances its diplomatic flexibility and credibility as a multilateral participant. Moreover, this allows China to maintain compatibility with both Western-aligned Arctic states and revisionist actors like Russia. These engagements reflect a hedging strategy that minimizes overreliance on Moscow while embedding Beijing in broader regional discussions. This distributed approach reflects a realist strategy of redundancy: avoiding strategic bottlenecks by cultivating multiple access points to the same geopolitical theater.

China's participation in observer groups within the Arctic Council, its investments in Arctic scientific diplomacy, and its ongoing participation in Arctic-themed UN discussions all serve as instruments of this broader multipolar diplomacy. The flexibility of its approach—alternating between state-to-state deals and multilateral platforms—enables it to maximize strategic gain while minimizing exposure to political risk. More recently, China's hesitation to endorse Norway's chairship of the Arctic Council following Russia's exclusion reveals its nuanced diplomatic stance.[16] While not openly challenging the Council's legitimacy, China subtly signals that Arctic governance must remain multipolar and inclusive—or risk fragmentation. The sum of China's Arctic activities—commercial, scientific, diplomatic—points toward a singular objective: to move from observer to indispensable stakeholder. It has done so not by seeking territorial claims or military footholds, but by embedding itself in the Arctic's material and institutional systems. In this sense, China's Arctic strategy resembles a form of infrastructural realism: using the tools of connectivity, logistics, and economic interdependence to reshape geopolitical hierarchies.

This approach echoes broader patterns in China's global strategy. Just as the BRI has enabled China to establish transcontinental influence without formal political alliances, the Polar Silk Road offers an Arctic corollary—linking economic cooperation with geopolitical presence. It also reflects a unique form of norm entrepreneurship. By promoting a narrative of shared destiny and cooperative development, China seeks to legitimize its Arctic role within existing

legal and institutional frameworks, while quietly expanding its capacity for independent action.

Conclusion: Implications and Strategic Futures

China's engagement in the Arctic is a case study in adaptive strategy and long-range planning. It represents neither benign cooperation nor malign revisionism, but a hybrid mode of influence grounded in pragmatic investment, diplomatic signaling, and normative flexibility. The challenge for Arctic states is not merely to assess China's intentions, but to recognize the structural shifts that enable such non-Arctic powers to play outsized roles in regional politics. In this context, China's foreign policy can be best understood through a blend of neoclassical realism—which highlights how domestic interests and systemic constraints shape strategic choices—and the logic of complex interdependence, which emphasizes the use of economic and institutional linkages to advance influence without direct confrontation.

Rather than challenging Arctic sovereignty directly, China seeks influence through embeddedness—leveraging investment, research, diplomacy, and institutional signaling to become an actor whose exclusion would impose costs on the region. This negotiated inclusion does not require formal membership or territorial claims; it is achieved through the strategic accumulation of relevance. As the Arctic becomes more accessible and economically viable, tensions between sovereignty and global governance will intensify. China's presence will continue to test the balance between regional control and international participation. Whether the Arctic remains a zone of peaceful cooperation or becomes another theatre of strategic rivalry will depend on how existing stakeholders choose to engage—or contain—China's rise.

In either case, ignoring China's presence is no longer an option. The onus now falls on Arctic states to determine whether their governance model can adapt to a world of transregional influence and globalized environmental interdependence. Rather than erecting barriers to participation, Arctic governance should embrace regulated, transparent engagement that channels rising powers like China into mutually beneficial roles. Without a conscious evolution of Arctic governance to reflect contemporary multipolarity, efforts to exclude China may only drive its influence underground or into alternative structures.

Riva Panchal is a Visiting Lecturer and Research Scholar at Pandit Deendayal Energy University.

References

↑1 Zreik, M. and Derendiaeva, O. (2025) 'The Polar Silk Road: China's strategic engagement and its implications for Arctic governance', *Polar Geography*, pp. 1–21

↑2 Xinhua (2018). *China's Arctic Policy*. http://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm. Accessed 15 May 2025

↑3 Doshi, R., Dale-Huang, A. and Zhang, G. (2021). *Northern expedition: China's Arctic activities and ambitions*. Brookings. https://www.brookings.edu/articles/northern-expedition-chinas-arctic-activities-and-ambitions/. Accessed 12 May 2025

↑4 Humpert, M. (2011). *The Future of the Northern Sea Route – A 'Golden Waterway' or a Niche Trade Route*. The Arctic Institute – Center for Circumpolar Security Studies. https://www.thearcticinstitute.org/future-northern-sea-route-golden-waterway-niche/. Accessed 28 October 2025.

↑5 Yang, C. (2025). *How China Is Driving a Surge in Shipping Traffic along Arctic Sea Routes*. South China Morning Post. https://www.scmp.com/economy/china-economy/article/3314324/how-china-driving-surge-shipping-traffic-along-arctic-sea-routes. Accessed 29 July 2025

↑6 Yermakov, V. (2024). *Arctic LNG 2: The litmus test for sanctions against Russian LNG*. The Oxford Institute for Energy Studies, pp. 2–5.

↑7 Škoba, L. (2013). *China-Iceland Free Trade Agreement*. *Library of the European Parliament*. https://www.europarl.europa.eu/RegData/bibliotheque/briefing/2013/130631/LDM_BRI(2013)130631_REV1_EN.pdf. Accessed 14 May 2025

↑8 Lucht, H. (2018). *Chinese investments in Greenland raise US concerns: Strictly business? Danish Institute for International Studies*. https://pure.diis.dk/ws/files/2515096/chinese_investments_in_greenland_WEB_1.pdf. Accessed 14 May 2025.

↑9 Staalesen, A. (2019). *Kirkenes port developers put their faith in the Chinese*. The Barents Observer. https://www.thebarentsobserver.com/news/kirkenes-port-developers-put-their-faith-in-the-chinese/228287. Accessed 15 May 2025.

↑10 Kopra, S. (2020). *China and its Arctic Trajectories: The Arctic Institute's China Series 2020*. The Arctic Institute – Center for Circumpolar Security Studies. https://www.thearcticinstitute.org/china-arctic-trajectories-the-arctic-institute-china-series-2020/. Accessed 15 May 2025.

↑11 Kantchev, G. (2024). *Russia and China Defy the West Deep in the Arctic*. The Wall Street Journal. https://www.wsj.com/world/svalbard-russia-china-arctic-trade-e6187bd8. Accessed 16 May 2025

↑12 Humpert, M. (2018). *China Launches Domestically-Built 'Xue Long 2' Icebreaker*. High North News. https://www.highnorthnews.com/en/china-launches-domestically-built-xue-long-2-icebreaker. Accessed 15 May 2025.

↑13 Humpert, M. (2020). *China to Launch Satellite to Monitor Arctic Shipping Routes*. High North News. https://www.highnorthnews.com/en/china-launch-satellite-monitor-arctic-shipping-routes. Accessed 15 May 2025.

↑14 Funaiole, M.P., Hart, B., Bermudez Jr, J.S. and Powers-Riggs, A. (2023). *Frozen Frontiers: China's Great Power Ambitions in the Polar Regions*. Center for Strategic and International Studies. https://features.csis.org/hiddenreach/china-polar-research-facility/. Accessed 16 May 2025

↑15 Baker, M. (2022). With Eyes on Russia, the U.S. Military Prepares for an Arctic Future. *The New York Times*. 27 Mar. https://www.nytimes.com/2022/03/27/us/army-alaska-arctic-russia.html .Accessed on 16 May 2025

↑16 Jonassen, T. (2022). *China: 'Will Not Acknowledge Arctic Council Without Russia'*. High North News. https://www.highnorthnews.com/en/china-will-not-acknowledge-arctic-council-without-russia. Accessed on 12 May 2025

China's Arctic Strategy and Hybrid Warfare: Targeting Governance and Strategic Responses

JULIANA RAPPER

Gao Feng, China's Arctic Ambassador at the Arctic Circle Forum in Tórshavn, Faroe Islands in May 2018. Photo: Arctic Circle

China's Arctic strategy is a hybrid warfare campaign that combines overt and covert means to expand influence and reshape Arctic governance. This essay addresses the question: how is China leveraging International Organizations (IO's) to expand its strategic and economic influence in the Arctic, and what implications does this have for regional security and governance? This analysis applies the Hybrid Centre of Excellence (CoE) framework by elucidating how China's hybrid tactics have been employed to undermine the Arctic Council's governance efficacy, particularly following China's implicit backing of Russia's 2022 invasion of Ukraine. Furthermore, it assesses alternative opportunities of IO's through the North Atlantic Treaty Organization (NATO) structural constraints under Article 6 that limit proactive Arctic engagement, and proposes four comprehensive policy pathways.

China's Hybrid Warfare Against the Arctic Council Post-Ukraine War

The Arctic Council, composed of eight Arctic states (Sweden, Finland, Iceland, Greenland, Canada, the United States of America, Norway, and Russia), serves as the dominant governance forum for the region. China holds observer status, but has no voting rights or direct decision-making power.[1)] In the wake of Russia's invasion of Ukraine in February 2022, the Arctic Council experienced a de facto paralysis as Western Arctic states paused their participation with Russia. China's hybrid strategy to become a polar great power via economic, scientific, and military means[2)] has exploited this fracture because of its refusal to condemn Russia's actions, and its continued economic and political cooperation with Moscow has weakened the Arctic Council's unity and legitimacy. By aligning with Russia (an Arctic state) on matters such as deepening bilateral cooperation in resource exploitation, infrastructure development, military partnerships, and scientific research, China simultaneously positions itself as a supporter of an Arctic Council member that regularly violates international law, thus impairing the Council's capacity to pursue justice or coordinated responses to violations.[3)] This evolving partnership was illuminated by the March 2022 decision of the other seven members of the Arctic Council to pause participation in all meetings of the Council and its subsidiary bodies in response to Russia's invasion of Ukraine.[4)]

China has intensified its "lawfare" approach, challenging the Council's sovereignty frameworks by promoting alternative governance models that emphasize the Arctic as a "global commons" and a "community with a shared future".[5)] Some examples include China's criticizing the Arctic Council as a "regionalist" institution failing to consider global interests; leveraging international legal frameworks (such as UNCLOS); and utilizing bilateral diplomacy and soft power (especially with Greenland and Iceland) to reduce resistance to China's governance ambitions. This effectively dilutes the exclusive prerogatives of the Arctic states and the Council's established legal order.[6)] This approach, coupled with China's increased scientific and economic footprint, pressures the Council's authority and complicates consensus-building. The Arctic's governing landscape is rapidly changing and characterized by gaps between international and national laws, inconsistent enforcement capabilities, and a lack of transparency, which provides fertile ground for China's hybrid tactics to operate beneath the threshold of armed conflict, as noted by the Hybrid CoE.[7)] The Arctic Council's incapacity to unify on critical security issues post-2022 has effectively created a governance vacuum that China exploits to entrench itself economically, scientifically, and politically.[8)] In sum, China's hybrid warfare strategy against the Arctic Council following the starting of the war in Ukraine reflects a deliberate effort to exploit institutional vulnerabilities, fracture consensus, and advance alternative normative orders favourable to Chinese strategic interests. In particular, China aims to advance alternative governance models like the Polar Silk Road, deepen bilateral economic ties with Russia and vulnerable Arctic states, expand scientific research with dual-use applications, and increase military capability development including icebreaker deployments and submarine knowledge gathering.[9)]

Changing Geopolitical Landscape

The notion of a unified "One Arctic" has splintered into two geopolitically separated spheres of influence: first, the West (through NATO); and, second, the East (with Russia and its partners, such as China).[10] The Russian invasion of Ukraine and the process of (re)militarising the Arctic initiated by Moscow more than a decade and a half ago, did not include other actors, not even partner countries with which the Kremlin maintained close cooperation in the defence sector. Between January 2022 and June 2023, the number of Chinese-owned companies registered in the Russian-controlled Arctic surged by 87 percent compared to the previous two years, reaching a total of 234 firms.[11]

NATO's Arctic Posture Under Article 6: Reactive Rather Than Proactive

Article 6 of the North Atlantic Treaty defines the geographic scope of NATO's collective defence obligations, explicitly including the North American and European Arctic.[12] However, several structural and operational factors constrain NATO's proactive engagement in the Arctic. First, despite increased awareness of Arctic security challenges, NATO lacks a unified and comprehensive Arctic policy that integrates diverse security dimensions, including hybrid threats and conventional military challenges across the political-military spectrum. As a defensive alliance, NATO remains reactive to traditional escalations or crises, rather than preventive. Second, geopolitical and alliance dynamics further complicate the landscape. The recent accession of Finland and Sweden expands NATO's Arctic footprint but also intensifies the complexity of coordination. The alliance remains cautious about overt militarization in the Arctic to avoid provoking Russia, contributing to an ambiguous deterrence posture that risks under-preparation for hybrid or sub-threshold warfare. Third, there are several technological and infrastructural gaps. NATO members, including the US, face capability shortfalls such as insufficient icebreaker fleets and limited Arctic ISR (Intelligence, Surveillance, Reconnaissance) assets, which impede situational awareness and rapid response capabilities. The alliance's defensive posture becomes apparent through these gaps, which emerge as they react to China's hybrid activities alongside Russia's increasing militarization. The current passive approach of NATO's Arctic strategy under Article 6 results in potential delays or inadequate responses to threats. Consequently, NATO's Arctic posture under Article 6 is currently insufficiently proactive, risking a delayed or ineffective response.

Contextualizing NORDEFCO

Nordic Defence Cooperation (NORDEFCO) is a regional defence cooperation platform among the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden), offers a complementary mechanism with established military and security expertise and interoperability.[13] NORDEFCO functions as a critical platform for Nordic defense collaboration, promoting interoperability, joint exercises, and coordinated responses to emerging security threats in the Arctic and surrounding regions. NORDEFCO's growing importance is underscored by the enhanced security cooperation among Nordic countries, including bilateral statements of intent and trilateral agreements that facilitate closer operational integration.[14]

Policy Recommendations: Navigating Between Status Quo and Strategic Innovation

To address China's hybrid warfare in the Arctic and NATO's constrained posture, four policy pathways emerge:

Option 1: Continue Current Approach (Status Quo)

Maintaining the current fragmented and reactive posture risks further erosion of Western influence and governance coherence in the Arctic. While politically less contentious, this approach may cede strategic advantage to China and Russia, allowing hybrid threats to grow unchecked.

Option 2: Strategic Integration of NORDEFCO and NATO Security Dialogue

The strategic integration of Nordic Defence Cooperation (NORDEFCO) with NATO's security dialogue[15] presents a critical pathway to enhance collective defence, regional stability, and interoperability across the Nordic and Euro-Atlantic regions. This recommendation responds to the changing security environment of the Arctic and Northern Europe that demands a strong and integrated response because of Russia's rising military presence alongside China's strategic competition. The integration should be pursued through enhanced strategic dialogue, joint operational planning, infrastructure development, hybrid threat resilience, and inclusive engagement mechanisms, ensuring that both Nordic nations and NATO allies act cohesively in safeguarding the Euro-Atlantic security environment.[16]

Option 3: NATO Develops a Dedicated Arctic Policy and Capability Framework

NATO formulating a comprehensive Arctic policy to acknowledge hybrid threats as a requirement for ensuring regional security will ensure all members and their relevant interests in securing the region are communicated. Key elements may include developing Arctic-specific doctrine that considers the evolving nature of hybrid tactics, fostering interoperability and joint exercises that integrate hybrid threat scenarios.[17] Further, by enhancing political-military coordination among NATO members, including new members Finland and Sweden, and Arctic partners. Collaborating with civilian agencies and private sector actors, given the hybrid threat's multi-domain nature, aligning national and alliance capabilities for a layered response.[18] This proactive approach would better position NATO and its partners to anticipate and counter hybrid threats before there is an escalation to kinetic conflict.

Option 4: As the Arctic Council stagnates, hybrid governance, not hybrid warfare, may define the new Arctic order. China's slow entrenchment through 'legitimate' channels is less a threat from outside and more a mirror to our internal incoherence

As the Arctic Council experiences stagnation and diminished effectiveness, it is imperative to recognize that the emerging Arctic order will be shaped more by hybrid governance dynamics than by overt hybrid warfare. China's gradual expansion across the region through legitimate channels such as scientific cooperation, economic investments, and multilateral institutional participation should not be viewed solely as an external threat.[19] Rather, it reflects and exploits the internal incoherence and fragmentation among Arctic states regarding strategic priorities and governance cohesion. Arctic countries should focus on strengthening Arctic governance structures by reforming them to eliminate institutional deficiencies and improve transparency and policy coordination while ensuring inclusivity. The reinforcement of unity and consistency among Arctic nations and their partners will decrease China's influence because its strategy depends on existing governance gaps to pursue its interests. Strengthening solidarity and coherence among Arctic states and their partners will mitigate the appeal and influence of external actors like China, whose strategy leverages the current governance deficits to advance its interests. By reframing the Arctic challenge in terms of hybrid governance rather than hybrid warfare, Arctic states can more effectively safeguard their sovereignty, uphold international law, and ensure sustainable and peaceful development in an era of increased geopolitical competition.

Conclusion

China's hybrid warfare in the Arctic from 2022 to the present has tactically targeted the Arctic Council, exploiting governance fractures and advancing alternative normative frameworks that challenge the existing order.[20] NATO's largely reactive posture under Article 6 risks a lack of readiness and significant consequences for allies. Addressing these challenges requires a multi-pronged approach balancing diplomatic engagement through the Arctic Council and robust military-political integration via NATO. Only through such calibrated strategies can Western interests and the rules-based Arctic order be preserved in the face of China's comprehensive hybrid strategy.

Juliana Rapper is a graduate student in Political Science at the University of Waterloo.

References

↑1, ↑9 Puranen, M., Kopra, S., 2023. China's Arctic Strategy – a Comprehensive Approach in Times of Great Power Rivalry. Scandinavian Journal of Military Studies 6, 239–253. https://doi.org/10.31374/sjms.196

↑2 Bouffard, T., 2024. Arctic Narratives and Political Values: Arctic States, China, NATO, and the EU. NATO Strategic Communications Centre of Excellence.

https://nllp.jallc.nato.int/iks/sharing%20public/arctic-narratives-and-political-values-updated-final.pdf. Accessed 1 December 2025

↑3 Lange-Ionatamišvili, E. & Allan, I., 2018. Arctic Narratives and Political Values: Russia, China and Canada in the High North. NATO Strategic Communications Centre of Excellence. https://stratcomcoe.org/publications/arctic-narratives-and-political-values-russia-china-and-canada-in-the-high-north/116. Accessed 1 December 2025

↑4, ↑5, ↑6 Pézard, S., Flanagan, S.J., Harold, S., Chindea, I.A., Sacks, B.J., Tingstad, A., Finazzo, T., Kim, S., 2022. China's strategy and activities in the Arctic: implications for North American and Transatlantic security, Research Report. RAND Corporation, Santa Monica, CA. https://www.rand.org/pubs/research_reports/RRA1282-1-v2.html. Accessed 1 December 2025

↑7, ↑17, ↑18 Giannopoulos, G., Theocharidou, M., 2021. The Landscape of Hybrid Threats: A Conceptual Model. The European Centre of Excellence for Countering Hybrid Threats. https://www.hybridcoe.fi/publications/the-landscape-of-hybrid-threats-a-conceptual-model/. Accessed 28 October 2025

↑8 Basaran, I., 2017. The Future of Arctic Navigation: Cooperation between the international maritime organization and Arctic Council. Journal of Maritime Law and Commerce. Vol. 48, No. 1

↑10, ↑11 Filijovic M & Jardine S (2024) Russia's Queenside Castling in the High North: A Strategic Risk or Opportunity for the West? 8 October, https://www.thearcticinstitute.org/russias-queenside-castling-high-north-strategic-risk-opportunity-west/. Accessed 28 October 2025

↑12 North Atlantic Treaty Organization, 1949. The North Atlantic Treaty. National Archives and Records Administration (NARA), Washington, D.C., USA

↑13, ↑15, ↑16 Dahl, A.-S., 2024. NORDEFCO and NATO: "Smart Defence" in the North? NATO Defence College. https://www.ndc.nato.int/fr/download/nordefco-and-nato-smart-defence-in-the-north/. Accessed 1 December 2025

↑14, ↑19 Hong, N., 2024. How the West can navigate Sino-Russian cooperation in the Arctic. Institute for China-America Studies. https://chinaus-icas.org/research/how-the-west-can-navigate-sino-russian-cooperation-in-the-arctic/. Accessed on 28 October 2025

↑20 Dyck, C., 2024. On thin ice: The Arctic Council's uncertain future. Marine Policy, Vol 163, https://doi.org/10.1016/j.marpol.2024.106060

China's Strategic Role in Arctic Environmental Governance Under the Climate-Sceptic Trump 2.0 Administration

ZOHA FATIMA

Road on the ice of the Barents Sea. Photo: Ehehey

The Trump administration's withdrawal from the Paris Agreement in 2017 and the imposition of tariffs on Canadian steel and aluminium in 2018 signalled a prioritisation of economic nationalism and energy development over multilateral climate cooperation in the Arctic.[1)] These shifts also led to institutional stagnation in forums like the Arctic Council, as scientific cooperation and climate-focused working groups saw reduced United States' engagement.[2)] The potential return of such policies under a second Trump presidency (Trump 2.0) raises the prospect of further disengagement from regional environmental governance frameworks. In contrast to the United States' retreat, China has steadily capitalised on the opportunity to enhance its Arctic footprint and seems well-postioned to fill the governance vacuum left by a retreating United States under Trump 2.0.

China's Arctic Policy

Over the past few decades, China has steadily signalled its growing interest in the Arctic region, transitioning from a marginal observer to an increasingly assertive stakeholder. This shift was formalised in its 2018 White Paper on Arctic Policy, which outlined China's strategic objectives and framed its identity as a "near-Arctic state".[3] The document emphasised China's commitment to scientific research, environmental protection, and participation in Arctic governance, while also promoting the development of the Polar Silk Road (PSR) as part of its broader Belt and Road Initiative (BRI). China's integration of Arctic strategy into national and subnational planning is matched by material investments in polar technology—such as icebreakers and shipbuilding—signalling a long-term bid for autonomous access and influence under its PSR vision.[4] The White Paper also framed China as a responsible climate actor, citing commitments to environmental protection, polar research, and cooperation through Arctic Council.[5] This policy paper also underscored China's comitment to addressing global climate change, citing the Paris Agreement and pledging to expand polar climate research and monitory stations.

China was granted observer status in the Arctic Council in May 2013, following a six-year application process that began in 2007.[6] Prior to this, China had attended Arctic Council meetings as an ad hoc observer since 2006. The decision was widely welcomed in Chinese media and marked a significant milestone in China's gradual institutional integration into Arctic governance. Yet as China's Arctic diplomacy appears outwardly multilateral and cooperative, domestic strategic discourse offers a more revealing perspective. In internal Chinese academic and policy frameworks, the Arctic is categorised as an "important maritime interest" (重要海洋利益, *zhongyao haiyang liyi*) and a "strategic new frontier" (战略新疆域, *zhanlüe xin jiangyu*).[7] These labels place the Arctic within a second-tier hierarchy of geopolitical value, not equal to core interests like Taiwan or the South China Sea, but still crucial to China's long-term vision as a maritime and global power. The "strategic new frontier" designation aligns the Arctic with outer space, cyberspace, and the deep sea: all seen as emerging domains of great power rivalry. By naming the Arctic in these terms, Chinese actors help institutionalise its relevance within broader state strategy, justify increasing resource allocation, and frame its governance role as part of China's global rise. Beyond the geopolitical framing, China's Arctic engagement also includes scientific research, polar technology development, and subnational interests – elements increasingly reflected in national and subnational five-year plans. More insight into this trajectory can be gleaned from specialised provincial planning documents rolled out since 2021.[8] This strategic framing underpins China's diplomatic efforts to institutionalise its presence in Arctic forums and subtly advance its influence under the guise of multilateral cooperation. At the same time, China participates in Arctic Council working groups on environmental monitoring and protection, and operates the Yellow River Station in Svalbard to support polar climate research.[9]

China's deepening role

As Mike Sfraga – former United States Ambassador-at-Large for Arctic Affairs – has argued, the absence of consistent United States' Arctic leadership risks ceding critical governance

space to rivals, such as China, who are more proactive in shaping regional norms and infrastructure.[10] He warned that "leadership in the Arctic is not a luxury but a necessity," emphasising that inconsistency undermines trust with allies and hinders long-term strategic planning. In response to Trump 2.0-era tariffs, China has currently pledged to "fight to the end"[11] and enforced restrictions on the export of seven rare earth minerals – critical to the United States' defence manufacturing and green technology sectors.[12] These countermeasures expose vulnerabilities in the United States' industrial ambitions and highlight China's growing leverage in strategic domains, aiming to influence relations with other Arctic states. Further, these economic countermeasures are not merely retaliatory; they form part of the broader strategy through which China seeks to enhance its Arctic influence by weakening United States' credibility among its traditional allies.

China's ties with Russia

China continues to deepen cooperation with Russia in the Arctic, especially as its broader efforts to establish port-related partnerships in Nordic countries such as Norway, Sweden, and Greenland have faced political and security roadblocks. Russia—with its extensive Arctic coastline—has been far more welcoming of Chinese investment, facilitating joint ventures under the PSR framework.[13] Projects such as Yamal LNG and collaboration on the NSR exemplify this strategic convergence. Yet such large-scale fossil fuel ventures sit uneasingly with China's Paris climate commitments, raising doubts about whether its Arctic environmental rhetoric translates into practice. In 2024, for instance, Chinese company COSL Drilling Europe was authorised to drill in the Barents Sea under contracts with Norwegian firms Equinor and Vår Energi, despite repeated warnings from Norway's domestic intelligence services about China's growing ambitions in the Arctic.[14] This cooperation reflects how China is willing to pursue PSR objectives even amid political friction, positioning itself as a pragmatic and persistent Arctic actor.

However, this alignment with Russia is not without limits. China's approach, centred on multilateralism, scientific cooperation, and environmental governance, contrasts with Russia's focus on unilateral control, militarisation, and extractivism. This strategic divergence has caused China to also consider partnerships with other Arctic states.[15] Kirkenes, a Norwegian port near the Barents Sea and close to the Russian border, holds strategic appeal for China. Its year-round ice-free status and potential rail links to Finland make it a prospective transshipment hub for cargo via the NSR.[16] In this regard, China seeks not only access but legitimacy—emphasising cooperation, international norms, and multilateral forums to position itself as a stable actor in a contested region. These projects also raise environmental governance questions, as increased Arctic shipping carries risks for fragile polar ecosystems.

Resultantly, infrastructure development in Kirkenes has stalled, in part due to heightened scrutiny from Norway's security apparatus, which views Chinese investment in critical infrastructure as a national risk.[17] This has strained Sino-Norwegian relations and curtailed China's efforts to establish a Western-friendly Arctic foothold. Nevertheless, China appears committed to maintaining latent strategic opportunities like Kirkenes, should political conditions shift. The divergence in strategy between China and Russia has ultimately reinforced Beijing's desire to diversify its Arctic partnerships, particularly in Europe's northern

frontier, balancing cooperation with Moscow against a broader push for multilateral legitimacy.

There are also rising concerns with the shifting geopolitical situation in the region as the increasing rivalry among the United States, China, and Russia forms a proxy for broader global power competition. Russia's assertive Arctic strategy, driven by the melting ice caps, centres on securing access to newly available shipping lanes and vast natural resources—factors that have turned the region into a high-stakes geopolitical frontier.[18] Simultaneously, Russia's strategic cooperation with China in the Arctic infrastructure and resource exploitation is alarming for the United States. The 2024 United States Department of Defense report also warned that this alignment between China and Russia extends across "multiple instruments of national power,"[19] raising concerns about destabilising activities such as GPS jamming and provocative military flights in the Arctic.

The May 2025 Xi-Putin summit further underscored the resilience of the China-Russia partnership amid the intensifying United States pressure. In a notable rhetorical shift, their joint statement omitted the long-standing "Three Noes" formulation—especially the assertion that the relationship is "not an alliance"—marking a departure from past language.[20] Instead, the statement described the partnership as having "unique strategic value" and rejected any external interference. While the partnership remains officially non-confrontational, this deliberate ambiguity allows for deeper coordination while deterring external scrutiny, particularly from the United States. Such signalling has direct implications for Arctic governance and security. Alongside this deepening China-Russia alignment, a parallel battleground for Arctic influence is emerging in Greenland.

Greenland and Arctic Security

Greenland's geopolitical significance stems not only from its resource wealth and strategic location but also from the overlapping ambitions of the United States, China, and local authorities. Trump's attempt to 'purchase' Greenland—and public assertion that "we're going to get Greenland"[21] despite firm Danish and Greenlandic opposition—and the Pentagon's subsequent decision to shift Greenland from European Command to U.S. Northern Command underscore Washington's urgency to retain influence amid an evolving Arctic order.[22] Concurrently, despite Beijing's cautious approach and limited follow-through, Greenland's repeated overtures to China reflect ongoing power manoeuvring that underscores the island's value in this critical Arctic gateway.[23] These sovereignty contests complicate the pursuit of unified environmental governance, as diverging national priorities and local interests hinder coordinated sustainable development efforts.

The United States' intensified interest in Greenland reflects broader strategic imperatives tied to the Arctic's emerging status as a critical northern maritime corridor. As climate change accelerates seasonal thawing, the Arctic Ocean is projected to become increasingly navigable, potentially reducing shipping times between Asia, Europe, and North America by up to 40%.[24] This prospective PSR presents not only immense economic opportunities through faster trade and access to untapped natural resources but also a strategic challenge to the United States' dominance of global sea lanes. In this context, Greenland's location serves as a geopolitical fulcrum—control and influence here are essential for the United States to

counterbalance growing Chinese and Russian ambitions in the Arctic. Without maintaining a foothold on Greenland, Washington risks losing leverage over these emerging Arctic routes, which could contribute to a gradual erosion of American hegemony in global trade and security dynamics.

US retreat and China's rise?

These contrasting approaches of the United States and China have significant implications for the future of Arctic environmental governance. Under Trump 2.0, the United States' climate scepticism and economic nationalism threaten to accelerate the erosion of multilateral institutions and cooperative frameworks that have maintained relative stability in the region. By retreating from global climate commitments and prioritising unilateral economic interests, Washington risks undermining the collaborative stewardship crucial for managing the Arctic's complex environmental challenges. For the United States, maintaining influence in the region remains vital to preserving the existing global order and its hegemonic role. While some scholars highlight Russian ambivalence toward China's Arctic ambitions, the broader governance vacuum left by a retreating Trump 2.0 administration also positions China to deepen bilateral ties with Nordic states and leverage multilateral environmental diplomacy to enhance its Arctic legitimacy, concerning Washington.[25)]

These methods align with China's emphasis on multilateralism, scientific cooperation, and climate adaptation to project soft power and gain legitimacy among both Arctic and non-Arctic actors. Through active engagement in Arctic Council working groups and investments linked to its PSR, China presents itself as a stable, globally engaged actor. However, its growing influence raises questions about balancing economic development with environmental protection, especially given the broader BRI ambitions. China's strategic use of export restrictions to deter allied cooperation further complicates Washington's ability to rally partners, a challenge compounded by the United States' tariffs alienating traditional allies.

Meanwhile, the Xi-Putin partnership, though framed as a personal alliance, aims to project stability amid perceived Western volatility. Putin's pledge of "constant personal control" and Xi's invocation of historical ties demonstrate a calculated coherence that China leverages to bolster its Arctic presence as the United States retreats from climate diplomacy and strains alliances. China's framing of the Arctic as an "important maritime interest" and "strategic new frontier" elevates the region's priority within its policy system, legitimising deeper engagement. As the Arctic shifts from a cooperative to a competitive space, China's calculated engagement, framed as multilateral but motivated by strategic gain, could redefine the environmental governance architectures for years to come. China thus projects both a cooperative, climate-conscious identity and a pragmatic extractive agenda, leaving its role in Arctic environmental governance contested between its multilateral climate rhetoric and its pursuit of extractive opportunities.

Zoha Fatima is a researcher focused on Arctic governance and geopolitics. She recently completed her MSc in Diplomacy and International Security at the University of Strathclyde.

References

↑1 Baskaran G (2025) Canadian Tariffs Will Undermine U.S. Minerals Security. Center for Strategic & International Studies, 29 January, https://www.csis.org/analysis/canadian-tariffs-will-undermine-us-minerals-security. Accessed on 13 May 2025.

↑2, ↑10 Sfraga M (2025) The Transarctic Alliance is Key to US National Security. High North News, 5 May, https://www.highnorthnews.com/en/transarctic-alliance-key-us-national-security. Accessed on 23 May 2025.

↑3, ↑5, ↑9 The State Council (2018) China's Arctic Policy. https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm. Accessed on 25 May 2025.

↑4 Eiterjord T (2025) Taking Stock of China's Polar Fleet. The Diplomat, 5 April, https://thediplomat.com/2025/04/hold-taking-stock-of-chinas-polar-fleet/. Accessed on 23 May 2025.

↑6 Sun K (2014) Beyond the Dragon and the Panda: Understanding China's Engagement in the Arctic. *Asia Policy* (18): 46–51. https://www.jstor.org/stable/24905275. Accessed on 22 May 2025

↑7 Andersson P (2021) The Arctic as a "Strategic" and "Important" Chinese Foreign Policy Interest: Exploring the Role of Labels and Hierarchies in China's Arctic Discourses. *Journal of Current Chinese Affairs* 0(0).https://doi.org/10.1177/18681026211018699. Accessed on 28 May 2025

↑8 Eiterjord T (2023) What the 14th Five-Year Plan Says About China's Arctic Interests. The Arctic Institute, 23 November, https://www.thearcticinstitute.org/14th-five-year-plan-chinas-arctic-interests/. Accessed on 27 May 2025.

↑11 Megerian C, Boak J, Ting F, Bodeen C & Leung K (2025) China Says it Will 'Fight to the End' After Trump Threatens to Impose Still More Tariffs. Ap News, 22 May, https://apnews.com/article/china-us-tariffs-trade-trump-b5010acb08114304d8c36267b47eda13. Accessed on 28 May 2025.

↑12 Matthews W (2025) China's Rare Earth Export Restrictions Threaten Washington's Military Primacy. Chatham House, 22 May, https://www.chathamhouse.org/2025/04/chinas-rare-earth-export-restrictions-threaten-washingtons-military-primacy. Accessed on 25 May 2025.

↑13 Rotnem T (2025) Polar Partners? Russia and China in the Arctic. China Currents, Vol. 24, No. 2, https://www.chinacenter.net/2025/china-currents/24-2/polar-partners-russia-and-china-in-the-arctic/. Accessed on 11 August 2025.

↑14 Staalesen A (2024) Chinese Rig Heads Towards Norwegian Arctic Drill Site. The Barents Observer, 8 November,https://www.thebarentsobserver.com/news/chinese-rig-heads-towards-norwegian-arctic-drill-site/420007. Accessed on 29 May 2025.

↑15 Dagaev A (2025) The Arctic Is Testing the Limits of the Sino-Russian Partnership. Carnegie Politika, Carnegie Endowment for International Peace, 18 February,

https://carnegieendowment.org/russia-eurasia/politika/2025/02/russia-china-arctic-views?lang=en. Accessed on 29 May 2025.

↑16 Youchang L & Shuhui Z (2018) Feature: Norway's Arctic Town Envisions Gateway on Polar Silk Road with Link to China. Xinhuanet, 9 March, http://www.xinhuanet.com/english/2018-03/10/c_137029993.htm. Accessed on 28 May 2025.

↑17 Bochove D (2024) China's Arctic Dreams Make a Tiny Port a Global Prize. Bloomberg, 6 September, https://www.bloomberg.com/features/2024-china-norway-russia-arctic-trade/. Accessed on 27 May 2025.

↑18 Gatopoulos A (2022) Which is Behind Russia's Interest in a Warming Arctic? Al Jazeera, May, https://www.aljazeera.com/features/2022/3/28/what-is-behind-russias-interest-in-a-warming-arctic. Accessed on 20 May 2025.

↑19 Al Jazeera (2024) US Wary of China-Russia Cooperation in Increasingly Strategic Arctic. Al Jazeera, 23 July, https://www.aljazeera.com/news/2024/7/23/us-wary-of-china-russia-cooperation-in-increasingly-strategic-arctic. Accessed on 27 May 2025.

↑20 Wishnick E (2025) The Xi-Putin Summit: A Display of China-Russia Resilience on Victory Day. The Diplomat, 17 May, https://thediplomat.com/2025/05/the-xi-putin-summit-a-display-of-china-russia-resilience-on-victory-day/. Accessed on 27 May 2025.

↑21 Aikman I (2025) Trump He Believes US Will 'Get Greenland.' BBC, 26 January, https://www.bbc.com/news/articles/crkezj07rzro. Accessed on 29 May 2025.

↑22 McLeary, P. & Kine, P., (2025) Pentagon to Redraw Command Map to More Closely Align Greenland with the US. Politico, 2 June. https://www.politico.com/news/2025/06/02/pentagon-greenland-northern-command-00381223. Accessed 8 September 2025.

↑23 Andersson P (2025) Greenland Eyes China Amid Denmark-US Tensions – But Chinese Investors Won't Rush In. The Diplomat, 24 April, https://thediplomat.com/2025/04/greenland-eyes-china-amid-denmark-us-tensions-but-chinese-investors-wont-rush-in/. Accessed on 28 May 2025.

↑24 Arctic Review (n.d.) Northern Sea Route. https://arctic.review/future/northern-sea-route/. Accessed on 27 May 2025.

↑25 Wishnick E (2021) Will Russia Put China's Arctic Ambitions on Ice? China's Resource Risks, 3 June, https://www.chinasresourcerisks.com/post/will-russia-put-china-s-arctic-ambitions-on-ice. Accessed on 27 May 2025.

Sino-Russian Sub-Regional Cooperation in the Far East and Arctic: From "Border Economic Belt" to "Strategic Cooperation Engine"

LI XIAONING

Teachers and students from Ocean University of China visited and conducted research in Petrozavodsk, Russia, and jointly discussed Arctic cooperation, in 2024. Photo: Li Shaoqing

In the past decade, the development of the Far East has resonated with the continuous enhancement of China-Russia relations. A series of initiatives of mutually beneficial cooperation carried out by China and Russia centered on the local cooperation between Northeast China and the Russian Far East constitutes one of the endogenous driving forces of China-Russia relations. As an important region on the northward route of the Belt and Road Initiative, the Far East is a crucial area for China and Russia to build the “Polar Silk Road.” The Sino-Russian cooperation forms a transportation corridor of the Eurasian continent and the main artery of energy transportation realizes “connectivity”, expands cooperation in the fields of economy, trade, and investment, and deepens cooperation in the energy field. It is also one of the priority directions to support the China-Russia strategic partnership and promote practical cooperation. The sub-regional cooperation between China and Russia in the Northeast and Far East regions has formed a “strategic stabilizer” for bilateral relations. This

means that through deeply intertwined and mutually beneficial substantive cooperation and institutional arrangements at the sub-regional level, a "shock-absorbing layer" and "ballast stone" have been constructed for the macro-level strategic relations, enabling them to maintain stability and development in a complex environment. Significantly reduce the possibility of derailment or significant fluctuations in the bilateral relations between China and Russia.

The "strategic stabilizer" role of the China-Russia sub-regional cooperation was clearly demonstrated in the specific implementation of the cooperation documents released in 2018. In November 2018, *the Plan for China-Russia Cooperation and Development in the Russian Far East (2018-2024)* (hereinafter referred to as *the Development Plan (2018-2024)*) was officially approved by both China and Russia. Compared with *the Outline of the Cooperation Plan between Northeast China of the People's Republic of China and the Far East and Eastern Siberia Regions of the Russian Federation (2009-2018)*, which expired in 2018, the classification of specific cooperation projects in *the Development Plan (2018-2024)* is more refined and clearer, and the implementation coordination mechanism is more complete. *The Development Plan (2018-2024)* expired in 2024. What is the effect of its implementation? What progress has been made in the cooperation between China and Russia in the Far East and Arctic? What are the development directions of China-Russia Arctic cooperation?

Complementary Sub-regional Cooperation between China and Russia

Cooperation between China and Russia in the Far East and Arctic is complementary. From Russia's perspective, the Arctic region contributes 10% of its GDP and 20% of its total exports,[1)] serving as an important strategic resource base and an economic growth engine for Russia. Russia emphasizes the economic potential of the Far East and Arctic as well as the regions' strategic significance for national security. In recent years, Russia has issued a number of national strategies and policies related to the development of these regions. Both the *Basic National Policy of the Russian Federation in the Arctic Region until 2020* and the *Basic National Policy of the Russian Federation in the Arctic Region until 2035* regard the Arctic as the main resource base for Russia's economic growth.[2)] From China's perspective, the Northeast region is an important gateway for China's opening up to the North. Its strategic position and role in strengthening regional cooperation in Northeast Asia and connecting the domestic and international dual circulation are becoming increasingly prominent. At the same time, it also shoulders the historical mission of regional revitalization. Therefore, China's strategy for revitalizing Northeast China and Russia's strategy for developing the Far East and the Arctic have common goals and complementary needs. The complementarity of opening up and cooperation between China and Russia is increasingly enhanced.

Year	Trade Volume (in hundreds of millions of US dollars)	Growth rate (%)
2021	1468.8	35.8%
2022	1905.7	29.3%

Year	Trade Volume (in hundreds of millions of US dollars)	Growth rate (%)
2023	2320	4.9%
2024	2448.195	1.9%

China-Russia Bilateral Trade Volume and Growth Rate from 2021 to 2024[3)]

The Development Plan (2018 – 2024) has established three key directions for China-Russia bilateral cooperation from 2018 to 2024, mainly including the following three points:

In the field of transportation and logistics, China and Russia jointly implement international transportation corridor projects. Through the ports in the Primorsky Krai, the transportation of goods from the northeastern provinces of China is carried out, and a series of cross – border river – crossing bridges are constructed. First, develop the No.1 and No.2 International Transportation Corridors in the Coastal Region. The "No.1 Coastal Corridor" connects Heilongjiang Province of China with the ports in the Primorsky Krai of Russia. The specific route is from Harbin – Mudanjiang – Suifenhe – Pogranichny – Ussuriysk – Vladivostok Port / Vostochny Port / Nakhodka Port. The "No.2 Coastal Corridor" connects Jilin Province of China with Zarubino Port in the Primorsky Krai of Russia. The specific route is from Changchun – Jilin – Hunchun – Zarubino Port. The development of the "No.1 Coastal Corridor" and the "No.2 Coastal Corridor" is of great significance for the Far East regions as well as the connection between the Belt and Road Initiative and the Eurasian Economic Union. Second, in terms of cross-border bridge construction, five federal subjects in the Russian Far East (Amur Oblast, Jewish Autonomous Oblast, Primorsky Krai, Khabarovsk Krai, and Transbaikal Krai) border Heilongjiang Province of China. China and Russia accelerate the full-scale operation of a series of cross-border infrastructure such as the Nizhneleninskoye – Tongjiang Railway Bridge, the Heihe – Blagoveshchensk Cross – Border Highway Bridge, and the Heihe – Blagoveshchensk Cross-Border Ropeway, and gradually increase the freight volume.

In the field of energy development, the natural gas and petrochemical clusters in the Russian Far East have the largest oil and gas reserves in the Asia-Pacific region. China-Russia energy development and transportation are supported by a well-developed railway transportation network and main pipeline infrastructure. *The Development Plan (2018-2024)* states that the transportation capacity of the Taishet-Skovorodino section of the existing "Eastern Siberia-Pacific" oil pipeline will be expanded to 80 million tons per year, and the transportation capacity of the Skovorodino-Kozmino port section will be expanded to 50 million tons per year. The transportation capacity of the "Power of Siberia" natural gas pipeline under construction reaches 38 billion cubic meters per year, and the designed transportation capacity of the "Sakhalin-Khabarovsk-Vladivostok" main pipeline is 28.04 billion cubic meters per year.

In the field of mechanism construction, *the Development Plan (2018-2024)* decides to establish a council composed of relevant Chinese and Russian entrepreneurs within the framework of the inter-governmental mechanism, namely the Inter-governmental

Cooperation Committee between Northeast China and the Russian Far East and the Baikal Region. The purpose is to promote the implementation of projects and put forward suggestions for improving the investment and business environment in the Russian Far East. The China Development Bank not only participated in the formulation of *the Development Plan (2018-2024)*, but also will make suggestions for its subsequent implementation. In addition, *the Development Plan (2018-2024)* lists the Russian "Eastern Economic Forum" and the "China-Russia Expo" as important platforms for China and Russia to jointly promote economic and trade cooperation in the Far East. At the same time, more attention will be paid to the "China Investors' Day" activities held by Russia in the Far East, aiming to provide Chinese enterprises with the opportunity to have direct dialogue with the Deputy Prime Minister of the Russian Federation in charge of the development of the Russian Far East, communicate in a timely manner about the problems arising in the investment process and seek solutions. *The Memorandum of Understanding between the Ministry of Commerce of China and the Ministry of Development of the Russian Far East on the mutual establishment of "representative offices of investment promotion agencies"* was also signed together with *the Development Plan (2018-2024)*.

Good Progress Has Been Made in Sub-regional Cooperation between China and Russia

During the six years of the implementation of *the Development Plan (2018-2024)*, sub-regional cooperation between China and Russia in the Far East and Arctic regions has been continuously promoted, which is specifically reflected in the following three aspects:

The cross-border transportation infrastructure has been gradually completed, and the cross-border logistics network has become more mature. In March 2023, the Ministry for the Development of the Russian Far East and Arctic and the Ministry of Commerce of China agreed to expand cooperation on industrial and infrastructure projects under the preferential policies of the Russian Far East. The two sides agreed to strengthen production cooperation, promote international industrial cooperation projects, use project financing mechanisms, and jointly build and operate infrastructure. The discussions also covered strengthening cross-border cooperation, including cooperation via the Nizhneleninskoye – Tongjiang Railway Bridge and the Heihe-Blagoveshchensk Bridge.[4)] As of April 2025, China and Russia have completed the construction and operation of cross-border transportation projects such as the Heihe – Blagoveshchensk Cross – Border Highway Bridge (opened to traffic in June 2022), the Nizhneleninskoye – Tongjiang Railway Bridge (opened to traffic in November 2022), and the Heihe-Blagoveshchensk Cross-Border Ropeway (main construction completed in October 2024). According to expert assessments, by 2030, the No.1 and No.2 Coastal International Transportation Corridors will transport 45 million tons of grain and containerized cargo annually, and the annual income of ports and land transportation companies will increase by 91 billion rubles.

Energy trade has become more frequent, and transportation infrastructure has become more complete. The "Power of Siberia" pipeline and the China-Russia Eastern Route Natural Gas Pipeline together form the China-Russia Eastern Route Natural Gas Pipeline Project. On December 21, 2022, the entire "Power of Siberia" pipeline was completed in November 2024,

the China-Russia Eastern Route Natural Gas Pipeline project was fully completed; on December 2 of the same year, the China-Russia Eastern Route Natural Gas Pipeline achieved full-line completion. Through the “Power of Siberia” natural gas pipeline, Russia’s gas transmission capacity to China has been increased to the maximum level of 38 billion cubic meters per year, reaching a new height. As of February 25, 2025, the cumulative gas transmission volume of the China-Russia Eastern Route Natural Gas Pipeline Project has exceeded 90 billion cubic meters. The China-Russia Eastern Route Natural Gas Pipeline has optimized China’s regional energy structure and has important environmental protection significance, which can achieve a reduction of 164 million tons of carbon dioxide emissions and 1.82 million tons of sulfur dioxide emissions per year.

The China-Russia cooperation mechanism has become more complete and has expanded to multiple fields such as commercial trade, shipping lane development, and infrastructure. This is vividly reflected in the development of the Arctic shipping lanes. In May 2024, China and Russia established the China-Russia Arctic Shipping Lanes Cooperation Sub-committee within the framework of the mechanism of the Regular Meeting of the Prime Ministers of China and Russia. The sub-committee conducts mutually beneficial cooperation in Arctic development and utilization, protects the Arctic ecosystem, promotes the development of the Arctic shipping lanes into important international transportation corridors, and encourages enterprises of the two countries to strengthen cooperation in increasing the transportation volume of the Arctic shipping lanes and building logistics infrastructure for the Arctic shipping lanes, as well as deepen cooperation in polar ship technology and construction. On the morning of November 25, 2024, the first meeting of the China-Russia Arctic Shipping Lanes Cooperation Sub-committee of the Regular Meeting of the Prime Ministers of China and Russia was held in St. Petersburg. The two sides reached a series of important consensuses on the institutional framework and cooperation goals of the Arctic Shipping Lanes Sub-committee, achieving fruitful results.[5)] The China-Russia joint statement released on May 9, 2025, states that it is necessary to improve the infrastructure construction of China-Russia border ports, enhance the efficiency of passenger and cargo transportation, port inspection and customs clearance capabilities, tap the transit transportation potential of the two countries, ensure the barrier-free operation of the China-Russia cross-border transportation corridor, and strengthen mutually beneficial cooperation on Arctic shipping routes. The two sides advocate maintaining peace and stability in the Arctic region and preventing the emergence of military-political tensions in the region.[6)]

Future Development Directions of Sub-regional Cooperation between China and Russia

The sub-regional cooperation between China and Russia in the Far East and Arctic regions has been continuously improved in terms of infrastructure, energy trade, and institutional arrangements, serving as a material anchor for strategic stability.

Deepening the cooperation in the industrial chain and supply chain of the sub-regions is a key aim for China and Russia. Under the new development pattern, China-Russia economic and trade cooperation should focus on optimizing the energy industrial structure, promoting the coordinated and high-quality development of the mid- and down-stream industries, as well as

practical cooperation in fields such as cross-border e-commerce, scientific and technological innovation, and agriculture. It is committed to giving play to the optimized combination of elements such as the automobile manufacturing industry, aviation manufacturing industry, shipbuilding industry, ferrous metallurgy industry, non-ferrous metallurgy industry, electronic industry, mining industry, agriculture, forestry, animal husbandry, sideline production, fishery, and logistics industry.

Ensuring the safety and stability of the structure of the maritime and railway freight supply chain in the Primorsky Krai is an important convergence point for the strategic alignment of the regional economies between Northeast China and the Russian Far East. For the high-quality coordinated development of the regional economies of China and Russia, it is necessary to comprehensively promote the connectivity of integrated transportation infrastructure. Among them, opening up the "land passage" and the "sea-land passage" serves as a new strategic engine for strengthening the safety of the industrial chain and supply chain structure between China and Russia. In this regard, it is necessary to attach importance to the leading role of the northern ports such as Dalian Port and Qingdao Port. As the main transit port for import and export trade in Northeast China, Dalian Port undertakes the transportation of over 98.5% of the foreign trade container goods in the three northeastern provinces,[7)] and it has natural advantages in utilizing the "Northeast Passage". As the largest seaport along the Yellow River Basin, Qingdao Port is located in the port clusters of the Bohai Rim, the Yangtze River Delta, and those of Japan and South Korea. Its sea-rail intermodal transportation has ranked first in China for eight consecutive years. It has a total of more than 220 shipping routes, covering more than 700 ports in over 180 countries and regions around the world, with an average daily cargo throughput of 1.3 million tons.

Digital economic cooperation is emerging as a new driving force for bilateral cooperation. In recent years, the digital economy has become an engine for the development of the world economy and is leading the future economic development. Judging from the trends of future cooperation, digital economic cooperation should become an important direction and area of China-Russia economic and trade cooperation. Since 2020, the two countries have officially launched the "China-Russia Digital Economy Demonstration Project", and in 2021, the China-Russia Digital Economy Research Center was established in Xiamen. The two countries are carrying out cooperation in such fields as cross-border e-commerce, software development, network information security, and mobile payment system software, and on this basis, promoting the transformation and upgrading of cooperation in traditional fields to areas such as 5G, artificial intelligence, compatibility and interoperability of satellite systems, and satellite Internet.

Conclusion

Through a comparative study of the implementation of *the China-Russia development plan (2018-2024)*, we can draw the conclusion that sub-regional cooperation has the function of a "strategic stabilizer", and its material existence can reduce the fluctuations in the relations between major powers. Over the past decade, the sub-regional cooperation between China and Russia in the Far East has been deeply integrated into the strategic layout of the two countries, and a comprehensive cooperation system has been established relying on complementary advantages. During the implementation of *the China-Russia Cooperation and*

Development Plan for the Russian Far East (2018-2024), both sides have achieved remarkable results in the fields of transportation and logistics, energy development, and institutional construction. The improvement of the cross-border transportation network, the connection of natural gas pipelines, and the establishment of a diversified cooperation mechanism not only promote the growth of bilateral trade but also consolidate the material foundation of China-Russia strategic coordination. However, the cooperation also faces challenges such as complex geopolitics, uncertainties in the reconstruction of the industrial chain, and high infrastructure costs in the Far East. The sub-regional cooperation between China and Russia in the Far East is of far-reaching significance for bilateral development, the integration of Northeast Asia, and the docking between the Belt and Road Initiative and the Eurasian Economic Union. It will become an important support for regional peace and prosperity and provide a practical example for a new paradigm of international relations.

Li Xiaoning is a PhD candidate of Ocean University of China.

References

↑1 Eugene Rumer, Richard Sokolsky, and Paul Stronski. (2021) Russia in the Arctic—A Critical Examination, Carnegie Endowment for International Peace. 29 March, 2021, https://carnegieendowment.org/research/2021/03/russia-in-the-arctica-critical-examination?lang=en. Accessed on 25 April, 2025

↑2 Klimenko, E. (2020) Russia's new Arctic policy document signals continuity rather than change. Stockholm International Peace Research Institute, 6 April, 2020. https://www.sipri.org/commentary/essay/2020/russias-new-arctic-policy-document-signals-continuity-rather-change. Accessed on 12 April 2025

↑3 Ministry of Commerce of the People's Republic of China, https://interview.mofcom.gov.cn/detail/202405/ff8080818f513ce1018f51c73b58007a.html. Accessed on 30 April, 2025

↑4 Russia and China are increasing economic cooperation in the Far East, Ministries of the Russian Federation for the Development of the Far East and the Arctic. 21 March, 2023, https://kolymaplus.ru/news/rossiya-i-knr-narashchivayut-ekonomicheskoe-sotrudnichestvo-na-dalnem-vostoke/. Accessed on 29 April 2025

↑5 Liu Wei attended the first meeting of the Committee for Regular Meetings between the Prime Ministers of China and Russia and the Sub-committee on Arctic Shipping Route Cooperation, Ministry of Transport of the People's Republic of China, 27 November, 2024. https://www.mot.gov.cn/jiaotongyaowen/202411/t20241127_4160163.html. Accessed on 28 April 2025

↑6 Joint statement by the People's Republic of China and the Russian Federation on Global Strategic Stabilitz, Ministry of Foreign Affairs of the People's Republic of China, 6 May, 2025. https://www.gov.cn/yaowen/liebiao/202505/content_7023051.htm. Accessed on 14 May 2025

↑ 7 The People's Government of Liaoning Province, https://www.ln.gov.cn/web/ywdt/jrln/wzxx2018/20240617084512169 80/index.shtml. Accessed on 16 May, 2025

China's Digital Footprint in the Arctic: The Strategic Role of Satellite and Subsea Cable Infrastructure

AYBALA LALE KAHRAMAN

Svalbard Satellite Station (SvalSat) near Longyearbyen, Svalbard, Norway. The facility has been linked to China's expanding presence in the Arctic through satellite data access and ground infrastructure cooperation. Photo: Bernt Rostad

At present, the Arctic is the focal point of competition not only for natural resources and new transportation routes, but also for digital infrastructures. The competition for influence by major powers, whether or not they are in the Arctic Circle, gives the region a new dimension even though global warming makes it more accessible. These days, the Arctic is at the forefront of issues like infrastructure dominance, digital sovereignty, and data security.

China's designation as a near-Arctic state is a clear indication of its interest in the region. At the core of its "Digital Silk Road" vision—envisioned as the digital pillar of the Belt and Road Initiative—are the satellite ground stations, fiber optic cables, and icebreaker ships it is building in the Arctic. Although China has been officially declared an "near-Arctic State," a

significant portion of its investments in the region are still in the project phase. However, China's digital infrastructure investments are extremely noteworthy in terms of scope and dual-use capabilities compared to other countries. Indeed, China's scientific and economic activities in the Arctic are believed to be supported by military and intelligence objectives. These activities, framed as scientific or economic endeavors as part of China's governance approach, may also provide intelligence, surveillance, and military support capabilities.[1] However, the United States has very limited private and strategic dual investments outside NASA. Instead of directly investing in infrastructure in the Arctic, the US has adopted a much more passive "monitor and response" strategy.

This article attempts to analyze the effects of China's technological presence on regional security balances and global power competition by looking at its digital footprints in the Arctic. The paper's main argument is that China's digital footprints have spawned a new strategic rivalry in the Arctic that intersects with China's quest for digital supremacy. In particular, China's cooperation with Russia must be highlighted. Since the collapse of cooperation with Western countries in the Arctic, China has been cooperating more and more with Russia to maintain its regional presence. The growing cooperation between China and Russia in the region cannot only be interpreted as a pragmatic change, but also as part of a broader strategy of divergence between the two powers that advocate a multipolar world order.

China's Arctic Strategy in the Digital Age

China claims that the right to exploit Arctic resources belongs to all nations. Chinese interests are being brought into the international arena with this 2009 claim. China's maritime rights and interests are, in fact, outlined in the 2015 White Paper.[2] China's interest in the region is driven by its current energy needs as well as resource security. In terms of transportation, China seeks new and shorter transit routes that will contribute to global trade and transportation. In sum, China's interests are rooted in its desire to designate the Arctic as a global common heritage for the benefit of humanity.[3] In 2013, China obtained observer status in the Arctic Council, positioning itself as a 'near-Arctic state(近北极国家, *jin beiji guojia*) and becoming part of Arctic policies.

China is placing a high priority on the digital component of its Arctic policies as it rapidly adjusts to the digital era. The 2018 Arctic Policy Paper outlines China's vision for Arctic digital infrastructure. Underlining the idea of advancing common interests through the Arctic, China aims to increase Arctic digital connectivity and build a global infrastructure network.[4] The goal of increasing digital connectivity brings with it digital infrastructure projects such as the deployment of submarine cables under the Arctic Connectivity Project and 5G. In this context, China is developing bilateral ties with Arctic countries and building its legitimacy by joining the Arctic Council.[5] However, some of these initiatives and projects have raised concerns for Arctic host countries in terms of data security and environmental impacts. For example, the China-Finland Action Plan published in 2024 does not include the Arctic region. However, in 2019, it was envisaged that Arctic cooperation would be deepened. Since 2019, several joint Arctic initiatives between China and Finland have been either halted or discontinued—including the shelving of the Arctic Connect project and the denial of satellite service access to China at the Arctic Space Center in Sodankylä.[6]

China's 'Polar Silk Road' project aims to create a digital network connecting Europe to Asia via the Northern Sea Route. In the 2017 Vision for Maritime Cooperation under the Belt and Road Initiative, the '21st Century Maritime Silk Road', the maritime pillar of the Belt and Road Initiative, was developed, aiming to establish a multidimensional and inclusive 'Blue Partnership' with the littoral states. As a multi-layered cooperation framework, the Maritime Silk Road aims to develop sea-based digital infrastructures and digitalize trade. In this document, China defines the Arctic Ocean as a new transportation and trade route to Europe and sees it as one of the branches of the Maritime Silk Road.[7)] Moreover, the accelerating need for China to establish a Belt and Road route through the Arctic is significant in that the Arctic route stretches the time to be established by nearly half.

Satellite Infrastructure and Strategic Observation

China is integrating its space and geospatial capabilities with its strategic objectives in the Arctic region. This approach consists of four main elements. The first is the scientific arm and civil-military fusion. Accordingly, the foundations for a stronger Arctic presence must be laid through science and technology. The use of comprehensive political, economic, scientific, strategic and military levers of power should be combined. The second is synthetic aperture radar (SAR) satellites. These satellites enable over-the-horizon targeting of surface assets, operating day and night and in all weather conditions. The third element is China's Gaofen Program of high-resolution electro-optical Earth observation satellites. The last element is the Beidou navigation system.[8)]

China's geographical influence by 2025 will be fueled by more than just the Belt and Road initiative and the projects it has created for it. These days, China uses space exploration, digital infrastructure, and satellites as strategic instruments. Beijing has made significant investments in navigation and mapping systems in recent years. The US GPS is actually in competition with China's BeiDou Navigation Satellite System (BDS), as was previously mentioned. The Digital Silk Road includes this growing influence.

China independently developed the BeiDou Navigation Satellite System throughout the 2000s. Aiming to be a pioneer in global satellite navigation systems, China has been using these systems for navigation, resource exploration and monitoring, especially in the Arctic along the 'Polar Silk Road' route. In order to explore its capabilities in global satellite systems, China has conducted some trials in the Arctic region. For instance; in 2019, it evaluated technologies such as very high frequency radio link and medium frequency Navtex systems.[9)] For these purposes, China has financed a satellite earth station in Kiruna, Sweden. It has also planned similar projects in Greenland, Iceland and Finland.[10)]

Infrastructure such as ground stations in the Arctic serves China's commercial and scientific purposes, but also supports military or intelligence objectives due to their strategic location.[11)] For example, the presence of Chinese companies in critical infrastructure, such as the TikTok data center in Norway, can be part of the logistics network to support military operations.[12)] As a result, China gains geographical advantages over challenges such as the Indo-Pacific by being present in the region with technology and infrastructure networks.

Subsea Cables and Data Corridors

Infrastructure is vital for access, connectivity, settlement and productivity. Remoteness of distance shapes Arctic infrastructure. Geography makes the maintenance and repair of infrastructures much more complicated. As an important element of digital sovereignty, submarine cables are crucial for communication and control of data flow. The Arctic region is an important part of the global internet infrastructure with its submarine cables and data corridors. In recent years, an autonomous approach to Arctic data corridors that emphasizes the sovereignty of individual states has come to the fore. China is one of these countries with a claim to cyber sovereignty. China's interest in the region is reflected in 10,500 kilometers of fiber optic cable.[13] Given the potential of the Arctic Ocean to reduce latency in data traffic between Asia and Europe, China's interest in the region is inevitable.

China is conducting hydrographic and topographic submarine surveys necessary for the planning and laying of submarine cables. In addition, officials from the Ministry of Industry and Information Technology (MIIT), responsible for industrial and information technology policies, have been meeting with their Finnish counterparts.[14] This shows that there is data diplomacy in telecommunications.

China and Russia cooperate in the Arctic region. One of the prominent projects in this cooperation is the China-Russia Arctic Sea Cable (CRSAC). The planned submarine fiber optic cables, starting from China's coastal cities and extending from Russia's northern coast to the Arctic, create an opportunity for the two countries to increase their digital infrastructure capacity and deepen their strategic cooperation.

Dual-Use Infrastructure and Western Concerns

In 2004, China established its first research center in the Arctic, the Yellow River Station on the Svalbard Archipelago. Mainly used for scientific purposes, the station collects geodetic observations and atmospheric data. This data is likely to be used in military applications such as surveillance and support in the field. Subsequently, China established the China-Iceland Arctic Science Observatory in Kárhóll, Iceland in 2016, the Chinese Arctic Remote Sensing Satellite Ground Station in Kiruna, Sweden in 2017, and the Greenland Satellite Ground Station in Kangerlussuaq, Greenland in 2017.[15]

China's moves are seen as dual-use infrastructure that can serve China's civilian and military interests. While this situation materializes China's presence in the Arctic, it increases the concerns of the countries in the region and Western countries. The question of whether China's Arctic policies are scientific research or strategic moves disguised as civilian ones occupies the minds. In response to such concerns, some Arctic states are taking measures. For example, in 2022, Canada restricted investments by Chinese companies in the telecommunications and mining sectors on national security grounds and took preventive measures to prevent Chinese companies from entering natural resource and digital infrastructure projects in the Arctic.[16] In 2018, a Chinese corporation secured infrastructure bids in Greenland, which NATO allies perceived as a security threat, prompting the implementation of countermeasures.[17]

In the report titled *"Military and Security Developments Involving The People's Republic of China 2024"* published by the US Department of Defense, concerns about China are expressed. According to the report, China is trying to advance its strategic and military interests in the Antarctic and Arctic regions under the guise of scientific research. In this context, it has become an observer member of the Arctic Council and aims to access natural resources and new routes with icebreaker ships and research stations. The fact that China is equipped to conduct military cooperation and intelligence activities in the Arctic, especially with Russia, raises US concerns. The US also believes that China intends to use the Antarctic Treaty, which will be renegotiated in 2048, to access resources.[18] The US Department of Defense's 2024 Arctic Strategy document underlined that China's activities in the Arctic are to the detriment of the US and its allies, and claimed that dual-use infrastructures complicate the regional security environment.[19]

Canada's 2024 Defense Policy Document directly addresses China's activities in the Arctic. China's presence in the Arctic and cooperation with Russia has been interpreted as a significant threat to Canada's northern security. It is also considered that China's activities increase geopolitical rivalry in the region and that the potential military use of China's presence requires comprehensive measures.[20]

Conclusion

From climate change to the environment, from economic development to resource utilization, from scientific research to digitalization, China plays a role in the Arctic region. Since 2013, China has had observer status in the Arctic Council, which supports its active participation in the Arctic. China is also a member of previously established organizations such as the Northern Forum and the Arctic Science Committee. In other words, China has been reinforcing its presence in the Arctic through regional organizations for a long time. China is involved in all platforms and agreements related to the region and conducts research activities with its scientific research stations. For all these reasons, China has positioned itself as one of the external states with economic interests in the Arctic.

China's engagement in the Arctic is guided by the same principles of win-win, mutual respect and cooperation that it promotes in all international affairs. However, China's quest to build cyber sovereignty in cyberspace calls into question the future of its digital silk road project in the Arctic. With its satellite infrastructure, submarine cables and strategic surveillance activities, China is digitizing its position in the Arctic great power competition. China's understanding of cyber sovereignty reveals the control and authority of states over digital infrastructures. In this case, China's digital footprints in the Arctic, such as satellite stations, polar research stations, optical sensors, and fiber optic cables, are a reflection of data diplomacy and cyber sovereignty over satellites and cables. The possibility of dual-use of these infrastructures reveals the Arctic's potential to be a critical geography for global data flow as well as data security and sovereignty. China-Russia cooperation, especially in the Arctic, has the potential to be a strategy of divergence from the West by two countries that stand out with their 'multipolar world' rhetoric. In order to prevent the Arctic from turning into an area of geopolitical competition, digital infrastructures should be adequately supervised by international institutions, binding regulation should be made and the normative gap should be eliminated.

Aybala Lale Kahraman is an Assistant Professor of International Relations at Bursa Technical University.

References

↑1, ↑11, ↑15 Falco G, Boschetti N & Nikas I (2024) *Undercover Infrastructure: Dual-Use Arctic Satellite Ground Stations*. CIGI Papers No. 291, March. Waterloo: Centre for International Governance Innovation. https://www.cigionline.org/static/documents/no.291.pdf. Accessed on 26 May 2025

↑2 State Council of China (2015) *China's Military Strategy*. The People's Republic of China. http://english.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm. Accessed on 20 May 2025

↑3 Reinke de Buitrago S (2020) China's Aspirations as a "Near Arctic State": Growing Stakeholder or Growing Risk? In: Weber J (ed) *Handbook on Geopolitics and Security in the Arctic: The High North Between Cooperation and Confrontation*. Cham: Springer, pp. 97–112.

↑4 State Council of China (2018) *China's Arctic Policy*. Beijing: The State Council Information Office of the PRC. https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm. Accessed on 20 May 2025

↑5 Parsons E (2021) *Chinese Arctic Discourse, 2018 to Present*. NAADSN Policy Primer. North American and Arctic Defence and Security Network. https://www.naadsn.ca/wp-content/uploads/2021/06/NAADSN-Policy-Primer_Erin-Parsons_June2021.pdf. Accessed on 20 May 2025

↑6 Puranen, M. and Kopra, S. (2024) Finland Retreats From the Polar Silk Road. High North News. https://www.highnorthnews.com/en/finland-retreats-polar-silk-road. Accessed on 2 August 2025

↑7 National Development and Reform Commission & State Oceanic Administration (2017) *Vision for Maritime Cooperation under the Belt and Road Initiative*. Beijing: Government of the PRC. https://english.www.gov.cn/archive/publications/2017/06/20/content_281475691873460.htm. Accessed on 20 May 2025

↑8 Puranen M & Kopra S (2023) China's Arctic Strategy: A Comprehensive Approach in Times of Great Power Rivalry. *Scandinavian Journal of Military Studies* 6(1): 239–253. https://sjms.nu/articles/10.31374/sjms.196. Accessed on 20 May 2025

↑9 Chan M (2019) China's BeiDou satellite navigation system breaks underwater barriers, naval shipbuilder says. *South China Morning Post*, 20 June. https://www.scmp.com/news/china/military/article/3015265/chinas-beidou-satellite-navigation-system-breaks-underwater. Accessed on 22 May 2025

↑10 Wood P, Stone A & Lee TA (2021) *China's Ground Segment: Building the Pillars of a Great Space Power.* Montgomery: China Aerospace Studies Institute, Air University.

↑12 Pezard S, Chindea IA, Aoki N, Lumpkin D & Shokh Y (2025) *China's Economic, Scientific, and Information Activities in the Arctic: Benign Activities or Hidden Agenda?* Santa Monica: RAND Corporation. https://www.rand.org/pubs/research_reports/RRA2823-1.html. Accessed on 24 December 2025

↑13 Shi T (2017) 10,000 Kilometers of Fiber-Optic Cable Show China's Interest in Warming Arctic. *Bloomberg Politics*, 14 December. https://www.bloomberg.com/news/articles/2017-12-13/undersea-cable-project-shows-china-s-interest-in-warming-arctic. Accessed on 27 May 2025

↑14 Holz H, Taffer A, Miller A & DeThomas B (2022) *Exploring the Relationship Between China's Arctic Investment and Its National Strategy.* Arlington, VA: CNA. https://www.cna.org/reports/2022/01/exploring-the-relationship-beween-chinas-arctic-investment-and-its-national-strategy.pdf. Accessed on 27 May 2025

↑16 U.S. Department of State (2022) Investment Climate Statements: Canada. https://www.state.gov/reports/2022-investment-climate-statements/canada. Accessed on 2 August 2025

↑17 Reuters (2018) Denmark, Greenland agree to look at airport funding, putting Chinese investors on ice. https://www.reuters.com/article/us-china-arctic-greenland/denmark-greenland-agree-to-look-at-airport-funding-putting-chinese-investors-on-ice-idUSKBN1J92Y2/. Accessed on 2 August 2025

↑18 U.S. Department of Defense (2024) *Military and Security Developments Involving the People's Republic of China 2024*. Washington, D.C.: Office of the Secretary of Defense.

↑19 U.S. Department of Defense (2024) *Arctic Strategy 2024*. Washington, D.C.: Office of the Secretary of Defense.

↑20 Department of National Defence (2024) *Our North, Strong and Free: A Renewed Vision for Canada's Defence*. Ottawa: Government of Canada.

Dig, Baby, Dig? China's Mineral Dominance and Ripple Effects into the Arctic

GØRILD HEGGELUND, ISELIN STENSDAL AND ERDEM LAMAZHAPOV

Silicon Carbide. China is a significant producer of silicon, which has recently been recommended for inclusion to the 2025 US critical minerals list. Photo: United States Geological Survey

As Trump began his second presidency last year, he renewed his interest in Greenland with statements such as, 'ownership and control over Greenland to be a necessity'.[1] 'We need Greenland for our national security,' President Trump stated in January 2025. 'You look outside – you have China ships all over the place'.[2] Such statements have been reiterated in January 2026, after the US capture of Venezuelan President Maduro in Venezuela: Tump has said 'we need Greenland from the standpoint of national security', and appointed Jeff Landry, the Republican governor of Louisiana as special envoy to Greenland in late December 2025.[3]

In addition to his own family members visiting the island, Vice President JD Vance also flew to Greenland in March 2025.[4] As Vance's visit was not welcomed by the Greenlandic government, he scaled back on the visit's agenda.[5] While distant from China, the President's interest in Greenland has a connection to the Asian country. Greenland is located centrally in the Arctic. It is home to plentiful minerals that its residents depend on for future economic

activities. China dominates the global extraction and processing of minerals, and Trump views China's dominance as a threat. Whereas Biden sought partnerships, Trump's America First logic undermines international cooperation and alienates allies. His approach to Greenland has become yet another dimension by which the US differs in opinion from the other six Western Arctic countries.

The securitization of critical mineral supply chains

Critical minerals are those that have significant economic importance for a country and are associated with supply risks. They can be crucial for a country's security and are often referred to as strategic minerals. Critical minerals are essential for a green transition, defense, electronics, and other industries. Examples of critical minerals include rare earth elements (REE), lithium, and graphite. China dominates the supply chains for many of these raw materials, from extraction to finished products, and has up to 90 percent of the global processing capacity, according to the International Energy Agency.[6)]

While the demand for critical minerals continues to rise, and the world is facing a shortage of these minerals to produce clean energy technologies needed in the green transition, an additional challenge is that extraction and processing are concentrated in a small group of countries. The securitization of critical mineral supply chains creates challenges for the green transition and the defense industry of Western countries.

China's path to dominance

China and the US are competing for control over critical minerals supply chains, and China currently has the upper hand. China's position within supply chains is hardly accidental; it is the result of political decisions and economic advantages.

Since the 1990s, China has pursued a targeted policy to achieve dominance in relation to REEs and other critical minerals, implementing a national policy to prioritize selected minerals and technologies. China's then-leader Deng Xiaoping is said to have remarked in 1992 during his trip to southern China to launch his economic reforms that, "the Middle East has oil; China has rare earth elements." Additionally, Western countries at that time were content to move their polluting mining and processing activities to another continent.

In the years that followed, China developed an industrial sector with incentives to encourage companies to supply strategic materials and products. There were national plans for mineral resources, as well as specific plans for provinces and sectors and specialized plans for specific minerals and raw materials. These plans set production targets and guidelines to ensure a steady supply of minerals.

China's position was solidified not only due to its industrial policy but also due to the country's natural wealth of some of these resources, cheap labour, economies of scale, lower capital expenditures, and lower environmental standards. This industry has caused significant environmental damage in China. Many Western countries have had other industrial priorities and have been reluctant to invest in mining due to pollution and environmental destruction. In

Europe, social acceptance of mining is low, and it has been cheaper to import materials from China.

Arctic countries' response

With rising global awareness of the strategic importance of critical minerals, Western countries are forming alliances to establish supply chains independent of Chinese influence. In response to China's dominance and geopolitical tensions, the US and the EU have implemented strategies to reduce dependency on Chinese minerals. One example of this alliance is the Minerals Security Partnership (MSP), established under President Biden, which encompasses a coalition of 14 countries collaborating to build new value chains through the coordinated financing and political backing of "strategic projects".[7] Ensuring a stable long-term supply has become a key goal for politicians in many Western countries, including Norway. The Nordic region has thus emerged as a potential key contributor in the development and supply of critical minerals, not least in relation to European demand.[8] Greenland, Finland, Norway, and Sweden share a diverse geology with various critical mineral deposit types and extensive active mining industries.

For Europe, this creates a dilemma between the green transition and security considerations. Critical minerals are central both to the renewable industry and the defense sector. Norway, for example, is dependent on Chinese magnesium, which is on the Norwegian list of critical raw materials. Magnesium is pivotal for the production of aluminum, which is crucial in the defense industry.

Given China's dominant position in the supply chain of critical minerals, European countries wish to reduce their dependency on China. There is a fear that China may halt sales, delay deliveries, or significantly increase prices, thereby affecting important industries.

Also Russia seeks to have its own supply chains of REEs independent from China, despite the two countries having decided to intensify the "mutual supply of basic materials, mineral resources and agricultural products" in the context of "the comprehensive partnership and strategic interaction".[9]

The Russian government is actively seeking to achieve "industrial and technological sovereignty" and to develop its mining and processing capabilities through a newly announced national project aimed at creating a comprehensive supply chain of REEs.[10]

Russian actors, such as the Ministry of Trade and Rosatom, view China as a competitor and have opted to diversify their supply, including by seeking alternative Asian suppliers of minerals such as dysprosium.[11]

The contentious geopolitical situation has also impacted China's opportunities to engage in the Nordic Arctic. For example, the Swedish Space Corporation had cooperated with Chinese customers since the 2000s but decided not to renew contracts with them in 2020, citing reasons such as a changing global environment.[12]

In Norway, the latest example is the large, state-owned shipping company China Ocean Shipping Company (COSCO) and the port authorities of Kirkenes, which had entered discussions about a possible collaboration that was "shut down" by the Minister of Justice due to national security concerns.[13)]

In its Arctic Strategy, the US Defense Department has stated that China is not an Arctic state, "yet it identifies China as the main challenge to U.S. interests in the region".[14)]

China's counterpolicies

Geopolitical uncertainty has also increasingly affected China, especially when it comes to the US's tariffs and European scepticism towards the country. It also exposes China's vulnerabilities in its supply chains. The country relies on imports from many countries in Africa and Asia, several of which are close allies of the US, such as the Philippines, from which China sources nickel. To ensure control over these supply chains, China has implemented various strategies to manage risks related to geopolitics, resources, and markets. China also depends on critical minerals such as REEs for its green transition. China is the largest global emitter of CO2 and aims to reach peak emissions before 2030 and achieve carbon neutrality by 2060. Critical minerals are also crucial in the context of clean energy, which has become a significant economic engine for China, accounting for 10 percent of the country's GDP in 2024.[15)]

Although China is the largest producer of REEs and has the largest global reserves, the country has become dependent on imports for parts of its supply. This dependency is due to domestic policies aimed at limiting mining and processing to conserve resources and reduce environmental pollution. For some important materials, including metals such as lithium and cobalt used in battery production, China relies on imports. Nearly all cobalt used in China comes from the Democratic Republic of the Congo, making China's supply vulnerable.

China has introduced several measures to secure its position. For instance, the country has implemented export controls on minerals that are vital for clean energy technology through measures such as the Export Control Law of 2020. Furthermore, China is increasing domestic production and stockpiles of strategic minerals to mitigate supply disruptions and price fluctuations. At the same time, China uses quotas to limit the production of certain critical minerals, such as specific reserves of rare earth elements, to prevent the over-extraction of resources. China is also diversifying its mineral imports and investing in countries where resources are concentrated. Additionally, China is increasing domestic exploration to secure new reserves.

From an environmental perspective, which has become more important in recent years, China emphasizes recycling resources, reducing waste, and developing new technologies. In terms of national security, the country has also strengthened the regulatory framework for mining, which includes less transparency around mining planning. Furthermore, the Chinese authorities have strengthened governance and oversight of the mineral sector, making it more difficult to obtain information about guidelines and national plans for mineral resources.

Trump 2.0: the battle intensifies

Trump is heavily focused on outcompeting China and on securing the US' access to necessary and critical minerals. Trump toyed with the idea of purchasing Greenland already in his first term. Trump has once again set his sights on Greenland in the battle for minerals. The Arctic has drawn substantial attention in recent years due to its critical mineral resources. Although the extraction of critical minerals in the Arctic can potentially contribute to a green shift, it can also have serious environmental consequences and impact the lives of Indigenous peoples and local communities.

Trump has attempted to secure access to critical minerals abroad, for example by establishing the Reconstruction Investment Fund between the US and Ukraine in April 2025, which is intended to give the US exclusive access to Ukraine's mineral potential in exchange for continued US military support. Domestically, Trump has launched aggressive measures to increase production both on land and at sea, including in the executive order "Unleashing America's Offshore Critical Minerals and Resources" from April 24, 2025.[16)] The high tariffs against China were justified by the need to protect American industry and secure the US's access to critical minerals.

Trump has also signed an Executive Order activating the Defense Production Act to increase the production of critical minerals, a crisis law from the Korean War that gives the government control over industrial production during emergencies.[17)] The battle for minerals also takes place on the seabed, with both the US and China eager to start mining under the ocean surface.[18)]

As a response to US sanctions related to the export of technology to Chinese companies, China introduced export controls on graphite to the US in December 2024, an important mineral in batteries for electric vehicles. Furthermore, China responded in April 2025 to US tariffs on Chinese goods by introducing new export restrictions on seven rare earth minerals and magnets. According to Bloomberg[19)] China and the US at their first bilateral meeting in Geneva in May agreed that China will pause the restrictions for 90 days, in exchange for the US reducing the tariff from 145 to 30 percent. In May 2025, Trump ordered American software suppliers used to design semiconductors to stop selling to China.[20)]

China views Trump's trade policies as "malicious attempts to block and suppress China" and has been unwilling to be the first to chicken out, pledging to "resolutely defend" its interests.[21)] Increasing retaliatory actions from both countries have created economic challenges and geopolitical tensions.

What this could mean for Arctic countries?

As the competition for critical minerals intensifies, the Arctic is once again at the centre of the strategic interests of the major powers USA and China. Critical mineral extraction in the Arctic could potentially provide materials essential for the green transition and renewable energy technologies. However, it also poses serious environmental risks and could impact the lives

of Indigenous peoples and local communities. The increased focus on the Arctic for mineral resources may accentuate geopolitical competition in the region.

Nordic countries are striving to balance the economic opportunities presented by mineral extraction with the need to protect their environments and communities–risking their own supply chains by collaborating with allies to ensure a stable and secure supply of critical minerals. This presents an insurmountable challenge. In the worst-case scenario, Nordic countries are poised to follow the Russian practice of Arctic extractionism with proforma rubberstamp environmental assessments and without free, prior, and informed consent for the indigenous population. In a recent example, local Indigenous residents of Tyanya, Sakha Republic, urgently appealed to Russian authorities to defend their traditional lands against the perpetuation of colonial practices in extensive gold mining projects, which steal reindeer-herding lands and poison rivers[22)]

Increased attention to mineral extraction must be understood in the geopolitical context of the trade war between China and the US, national security, and the desire for independence from China's dominance in the area. This illustrates the challenges Europe faces. Trump's approach is to secure the US's access. Security comes at a cost. The West cannot yet completely detach from China, and even if it were possible to become independent of goods from China, it would be more costly and less efficient. It would also mean a total transformation of the international economy. Is Europe willing to take on the environmental consequences that come with the extraction and processing of rare earth elements on its own soil? If European countries are not to buy Chinese renewable products, such as solar panels, we will have to buy raw materials and minerals from China in the foreseeable future. Are we ready to pay more for inferior products that we could buy from China because we want them to be "homemade"? Much is at stake in this critical battle for minerals.

Gørild M. Heggelund is a Research Professor, Iselin Stensdal is a Senior Researcher and Erdem Lamazhapov is a PhD Research Fellow, all at the Fridtjof Nansen Institute.

References

↑1 Edvardsen A (2025) Trump Jr. visited Greenland after dad's new proposals about buying the country, *High North News,* 8 January, https://www.highnorthnews.com/en/trump-jr-visited-greenland-after-dads-new-proposals-about-buying-country. Accessed on 26 May 2025

↑2 Trump D (2025) President-elect Trump announces $20 billion foreign investment to build data centers. *CNBC Television*. YouTube. 7 January, https://www.youtube.com/live/1foNDJQ0GG8?si=X3lhj-fR_gE0P4wc&t=3037. Accessed on 20 August 2025

↑3 Mackintosh T & Beake N (2026) 'We need Greenland': Trump repeats threat to annex Danish territory. BBC News, 5 January, https://www.bbc.com/news/articles/c4g0zg974v1o. Accessed on 6 Jan 2026

↑4 Keaten, J & Gera V (2025) Donald Trump Jr. arrives in Greenland with a message from his dad: 'We're going to treat you well', *AP*, 8 January, https://apnews.com/article/greenland-

us-trumps-son-visit-56bc01f1d3431c035b22ad6564579938. Accessed on 26 May 2025

↑5 Grieshaber, K (2025) Vance and wife to tour U.S. military base in Greenland after diplomatic spat over uninvited visit. *PBS NewsHour*, 28 March, https://www.pbs.org/newshour/world/vance-and-wife-to-tour-u-s-military-base-in-greenland-after-diplomatic-spat-over-uninvited-visit. Accessed on 2 June 2025

↑6 Cozzi, L, Petropoulos, A, Wanner, B et al. (2024, April). *Batteries and Secure Energy Transitions.* World Energy Outlook Special Report. International Energy Agency. https://iea.blob.core.windows.net/assets/cb39c1bf-d2b3-446d-8c35-aae6b1f3a4a0/BatteriesandSecureEnergyTransitions.pdf. Accessed on 1 January 2026

↑7 United States Department of State (2022) Minerals Security Partnership. https://www.state.gov/minerals-security-partnership/. Accessed on 1 January 2026

↑8 Eilu P, Bjerkgård T, et al. 2021. The Nordic supply potential of critical metals and minerals for a Green Energy Transition. *Nordic Innovation Report*. https://www.nordicinnovation.org/critical-metals-and-minerals. Accessed on 22 August 2025

↑9 Kremlin (2025, May 8) *Joint Statement of the Russian Federation and the People's Republic of China on Further Deepening Comprehensive Partnership and Strategic Interaction in the New Era in Commemoration of the 80th Anniversary of the Victory of the Soviet Union in the Great Patriotic War, the Victory of the Chinese People in the War of Resistance against Japanese Aggression and the Founding of the United Nations.* http://www.kremlin.ru/supplement/6309#sel=29:24:UjT,29:33:njk;70:19:Uha,70:23:Uja. Accessed on 22 August 2025

↑10 Kremlin (2025, February 21). *Plenary session of the Future Technologies Forum*. http://www.kremlin.ru/events/president/news/76304#sel=14:23:yjW,14:57:ngU;20:18:Uho,20:33:eia. Accessed on 22 August 2025

↑11 Roscongress (2025) Rare and rare earth metals are an integral part of high-tech production, 20 February, https://roscongress.org/sessions/fbt-2025-delovaya-programma-redkie-i-redkozemelnye-metally-neotemlemaya-chast-vysokotekhnologichnykh-proizvodstv/translation/# Accessed on 22 August 2025

↑12 Andersson, P (2024) *The recent backlash against China in the Nordic Arctic: Prospects for future Chinese engagement in the region*. Swedish National China Centre, Brief No. 5. https://www.ui.se/globalassets/ui.se-eng/publications/other-publications/the-recent-backlash-against-china-in-the-nordic-arctic-prospects-for-future-chinese-engagement-in-the-region.pdf. Accessed on 31 December 2025

↑13 Regjeringen.no (2024) Kirkenes Havn: Mehl klar på at kinesiske etableringer kan bli stanset [Kirkenes Havn: Mehl is aware that Chinese establishments may be stopped]. https://www.regjeringen.no/no/aktuelt/kirkenes-havn-mehl-klar-pa-at-kinesiske-etableringer-kan-bli-stanset/id3052357/. Accessed on 22 August 2025

↑14 Bekkevold, J I & Hilde P S (2024) The new U.S. Arctic strategy is focused on the wrong country. *Foreign Policy:* (1) 11 November) https://foreignpolicy.com/2024/11/11/us-arctic-strategy-china-russia-alaska-geopolitics/. Accessed on 11 November 2024

↑15 Myllyvirta L Qin Q & Qiu Cc (2025) 19 February Analysis: Clean energy contributed a record 10% of China's GDP in 2024. *CarbonBrief.* https://www.carbonbrief.org/analysis-clean-energy-contributed-a-record-10-of-chinas-gdp-in-2024/. Accessed on 21 August 2025

↑16 The White House (2025) Unleashing America's Offshore Critical Minerals and Resources. https://www.whitehouse.gov/presidential-actions/2025/04/unleashing-americas-offshore-critical-minerals-and-resources/. Accessed on 22 August 2025

↑17 Maher K & Liu J (2025) Trump invokes wartime powers to increase production of critical minerals. *CNN,* 21 March, https://edition.cnn.com/2025/03/21/business/trump-increase-production-critical-minerals-hnk-intl. Accessed on 21 August 2025

↑18 Hvinden I S (2025) Er havbunnen neste stopp for Trump? *DN, 8* April, https://www.dn.no/kronikk/mineraler/havbunnen/havbunnsmineraler/er-havbunnen-neste-stopp-for-trump/2-1-1801879. Accessed on 22 August 2025; The Economist (2024) *China is itching to mine the ocean floor,* 28 July, https://www.economist.com/china/2024/07/28/china-is-itching-to-mine-the-ocean-floor. Accessed on 22 August 2025

↑19 Bloomberg (2025 U.S. and China take a step back from sky-high tariffs and agree to pause for 90 days for more talks, 14 May, https://www.bnnbloomberg.ca/tariffs/2025/05/12/us-and-china-take-a-step-back-from-sky-high-tariffs-agree-to-pause-for-90-days/. Accessed on 22 August 2025

↑20 Sevastopulo D Wu ZJ & Acton M (2025) Donald Trump orders US chip software suppliers to stop selling to China. *Financial Times*, 28 May, https://www.ft.com/content/2c0db765-03ac-4820-8a02-806469848bee. Accessed 22 August 2025

↑21 FMPRC (2025) *Foreign Ministry Spokesperson Lin Jian's Regular Press Conference on May 30*, https://www.fmprc.gov.cn/eng/xw/fyrbt/202505/t20250530_11637703.html. Accessed on 22 August 2025

↑22 Residents of Tyanya village in the Olyomkinsk District (2024) *An Open Letter,* 17 May, https://aartyk.ru/wp-content/uploads/2024/05/%D0%9E%D1%82%D0%BA%D1%80%D1%8B%D1%82%D0%BE%D0%B5-%D0%BF%D0%B8%D1%81%D1%8C%D0%BC%D0%BE-%D0%A2%D1%8F%D0%BD%D1%8F.pdf. Accessed on 22 August 2025

Charting New Waters: China's Role in the Arctic Fisheries Agreement and Arctic Research

MARCO VOLPE

Marco Volpe at the 10th China-Nordic Arctic Research Centre (CNARC) Symposium in April 2025 at Tongji University, Shanghai, China. Photo: Marco Volpe

The Central Arctic Ocean Fisheries Agreement (CAOFA) was signed in 2018 and entered into force on June 25, 2021, after the ratification of all ten parties. It includes the five Arctic coastal States plus China, Japan, Korea, Iceland and the European Union. The Agreement will remain in effect for 16 years, with the possibility of renewing it in increments of five years. During this time, the parties have agreed not to authorise any commercial vessel flying the national flag to conduct any commercial fishing in the area of 2.8 million km^2. Most importantly, the Agreement is intended to ensure that adequate scientific knowledge informs the decision-making process to explore the viability and sustainability of commercial fishing in the Agreement area. To better understand the marine ecosystem, fish stocks, and ecological

linkages and the potential impact of the commercial fishery in the Central Arctic Ocean on indigenous people, the parties have agreed to establish a Scientific Coordinating Group (SCG), which is charged with the Joint Program of Scientific Research and Monitoring (JPSRM) to fill these information gaps.

Through the creation of Working Groups, the principal goal of the JPSRM is to provide meaningful advice to the Conference of the Parties (COPs) regarding the management, sustainable use, and conservation of marine living resources in the CAO. The work of the JPSRM is developed into two different phases: the mapping phase will be carried out in two or three years to understand the baseline condition, evaluate different approaches, research ethos and system of knowledge used during the monitoring phase; the monitoring phase will identify temporal variability or trends in species distributions or ecosystem productivity.

As a signatory member, China committed to actively engaging in generating and obtaining data that will support decision-making work. In the last two decades, the impressive advancements of China's Arctic technological and scientific research has positioned the country among the most productive actors in terms of Arctic science. From 2000 to 2024, there has been a five-fold increase in Arctic science-related publications, which prioritised the CAO and the Gakkel Ridge area.[1)] Establishing permanent research observing infrastructure and conducting research expeditions almost yearly, China can offer a precious contribution in this framework.

This article examines China's growing involvement in the creation and implementation of the CAOFA, situating it within China's broader Arctic research program and identifying the areas in which China can make distinctive contributions. In doing so, it reflects on the uniqueness of the Agreement as a collaborative platform at a time of intensifying great-power tensions.

China's Journey Through the CAOFA: Path and Significance

During the past two decades, China has systematically enhanced its scientific and technological presence in the Arctic, thereby laying the groundwork for its contributions to several domains within the CAOFA framework.

The first phase of the Agreement negotiation led to the Declaration Concerning the Prevention of the Unregulated High Seas Fishing on the CAO, better known as the Oslo Declaration. The Oslo Declaration signed in July 2015 takes the form of "soft law" by the Arctic 5 to regulate high seas fishing in the CAO and calls upon the implementation of appropriate interim measures to deter unregulated fishing in the future in the high seas portion of the CAO.[2)] The Icelandic disagreement on the A5 format (which includes only the five Arctic states) influenced the progress of the negotiation that culminated in the A5 + 5 format, enlarging the participation to China, Japan, Korea, Iceland and the European Union.[3)] Scientific meetings on CAO fish stocks began in Anchorage in 2011, with China joining the process for the first time at the third meeting in Seattle in 2015. The final statement from the third meeting openly stated that "other States may have an interest in this topic and looked forward to a broader process involving additional States beginning before the end of 2014".[4)] China and Asian engagement within the process has been developed through a parallel exercise defined as the "Asia Dialogues" which consisted in four different meetings: The Roundtable on Central Arctic

Ocean Fisheries issues held in Shanghai in 2015; one meeting in Incheon in Korea in 2016; a working session on "an international marine science coordinating organization in the Central Arctic Ocean" and a one-day workshop on the "implementation for the Agreement to prevent unregulated High Sea Fisheries in the central Arctic Ocean in Korea in 2018.[5)]

China's participation in the Agreement mirrors also its enhanced role within Arctic governance. The Agreement does not distinguish between Arctic and non-Arctic states, assigning equal rights and duties with respect to the ban and the necessity to conduct scientific research. Equal status granted in the Agreement represents a step up from the observer status of the Arctic Council.[6)] At the international level, being recognized as a reliable partner represents a major step for China, helping to ease the concerns of many Arctic stakeholders regarding its ambitions, particularly following its 2018 self-definition as a 'near-Arctic state' in its official Arctic policy. Domestically, it responds to what many Chinese academics have described as the limited influence China has had in the Arctic Council as an observer.[7)]

The opening up to a new governance model that includes and provides equal status to non-Arctic states might even create room for reconceptualising Arctic exceptionalism. Setting aside the limits of Arctic exceptionalism exposed by the Ukraine war, a renewed exceptionalism rooted in international scientific research cooperation could arise through strengthened collaboration among China, the US, and Russia under this governance framework.

CAOFA as the Space for a Science-Rooted Exceptionalism? China's Involvement and Potential

Since CAOFA entered into force in 2021, four COPs have been held. The April 2024 adoption of the Implementation Plan constituted a key advance in enabling the Agreement to take effect and deliver results. Appendix 12 of the report of the CAOFA third COP illustrates the organization: the COPs work as the decision body, the SCG supervise the work carried out by the different working groups: Mapping and monitoring working Group (MM-WG), Data Management working Group (DM-WG), Working Group on Exploratory Fishing (EF-EG) and Website Working Group.

Through Working groups, Chinese fishery scientists have provided relevant expertise, which has been refined by other scientists from other signatory nations. Dr Wu Lizong from the Polar Research Institute of China (PRIC) shares the chairmanship with Dr Robert Foy of the Data Management Working Group.[8)]

The Implementation Plan lists activities and provisions that highlight the impact that China can have on the implementation process.

Every state has its own national research plan that sets national research priorities and activities carried out over a certain period of time. The Implementation Plan calls for coordination of national programs: the SCG "will promote coordination between national

programs [...] and requests to provide plan and schedule at least six months prior to commencement of research activities".[9)]

China's national research program has been consistently developed over the last years. This year, China completed its 15th Arctic research exploration, which involved four different research vessels: Xuelong 2, Jidi, Shenhai 1 and Tansuo 3. The expedition advanced the understanding of rapid changes in the Arctic Ocean through marine environmental surveys and signed the first manned deep-sea dive in Arctic ice-covered waters with the Jiaolong submersible.[10)]

In the early years, Chinese Arctic scientific expeditions focused on the Bering, Chukchi and Beaufort Seas off Alaska, while most recently they have been targeting the Gakkel Ridge area.[11)] The Gakkel Ridge is a prominent submarine feature located to the east of the North Pole. It represents the boundary between the Eurasian and North American Plates, which features hydrothermal vents and seamounts much like its faster-spreading southern continuation, known as the Mid-Atlantic Ridge.

Within the framework of CAOFA, China participates regularly and typically sends stable, recurring delegations. At the 4th COPs meeting held in Tromsø in June 2025, China's delegation consisted of eight people. China presented the document on *Suggestions on Issues Pertaining to Vulnerable Marine Ecosystems (VMEs) Under the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean*, which encouraged the COPs to rely on practices of United Nations, FAO, RFMOs in respect to the scope of application, definition and identification of VMEs.[12)]

In the last SCG meeting held in Hafnarfjörður in Iceland in March 2025, the Chinese delegation was made up of ten members, including people from the PRIC, universities, research institutes and the Chinese Arctic and Antarctic Administration. China presented the document entitled *Proposals for Implementing the Joint Program of Scientific Research and Monitoring* which reported the findings from one of the Chinese Antarctic Research Expeditions (CHINARE) in the Chukchi Shelf/Plateau Areas. China recommended "the SCG to expedite the implementation of the JPSRM including [...] organizing and conducting joint scientific investigations to produce scientific data on the priority elements and parameters closely relevant to the aim and scientific questions of the JPSRM and [...] coordinate the investigation plan to facilitate the mapping and monitoring of the key elements in the priority areas".[13)] China also proposed to host the in-person SCG 4 meeting in 2026.

In the interim meeting of the CAOFA SCG held online in November 2024, China's delegation counted thirteen members. The SCG noted that China is planning a comprehensive survey in the CAO that could be utilised for the JPSRM.

Chinese icebreakers Xue Long and Xue Long 2 are included in the icebreakers that can be used to conduct joint scientific research in the CAO waters to supplement data collected by the dedicated mapping and monitoring programs. China started using its domestically built icebreaker Xue Long 2 from its 11th research expedition in 2020. The vessel is 122.5 meters long with an ice-breaking capacity of 2-3 knots average speed in 1.5 m of ice with 20 cm snow cover. The vessel is owned by the PRIC and represents a game-changer for China's capability

to navigate polar waters. China purchased the Xue Long from Ukraine in 1994. It was designed as an ice-strengthened cargo ship, not fully satisfying the demands of China's polar national program.[14)]

The novelty of the CAOFA rests on the inclusion of Indigenous and traditional knowledge alongside scientific input. The Agreement recognizes Indigenous knowledge as a distinct source of information operationalized by Articles 4(4) and 5(1)(b) of the Agreement which impose obligations to the COPs to review and take into account of Indigenous Knowledge.[15)] The inclusion of Indigenous knowledge in the research and monitoring program is a concept relatively new to Chinese researchers but well developed in North America.[16)] The SCG recognises the importance of coordinating with Inuit organisations and communities to coordinate action and facilitate communications between the SCG and the Inuit regions. At the 3rd SCG Meeting of the CAOFA, the representatives of the Inuit Circumpolar Council (ICC) presented Indigenous knowledge strengths conceptualised as holistic, a representation of collective knowledge passed over many generations, embedded with Inuit cultural values and not often recognised in scientific research. As one important step towards a deepened reciprocal understanding between the Indigenous knowledge system and China's scientific engagement, in April 2025, an event titled *Marine Living Resources Cooperation and Governance: A Roundtable Discussion on Further Cooperation in the Central Arctic Ocean* was held at Tongji University in Shanghai, gathering Chinese and visiting scholars, including Arctic Indigenous peoples. The discussion highlighted the necessity to keep cooperating in the Arctic amid geopolitical tensions and the JPSRM provide a remarkable example; the developing governance with the CAOFA and the BBNJ provides space for discussing adequacy of governance mechanisms of the CAO; the participation of the Inuit and other Indigenous People is key in the process of harmonising Indigenous knowledge and scientific knowledge.[17)]

The meeting included a presentation of Indigenous science, with a particular focus on Beluga monitoring in the Inuvialuit Settlement Region (ISR). This work is led by the Fisheries Joint Management Committee, which develops management programs for fish and marine mammal populations and their ecosystems by applying both sound scientific knowledge and Indigenous Knowledge of the ISR's freshwater and marine resources and their habitats.

Conclusion

In an era of renewed great power rivalry and weakening global governance, the CAOFA stands out as one of the few areas for constructive international cooperation despite widening geopolitical fractures. As the most recent Arctic-related legally binding instrument to include non-Arctic actors on an equal footing, the CAOFA introduces a model in which responsibilities and rights are shared on the basis of scientific contribution rather than geography.

For China, the Agreement has been both a platform and a potential catalyst. By participating as an equal party, China gains institutional recognition as a responsible and cooperative Arctic actor. More importantly, the Agreement's scientific mandate aligns with China's consistent investments in polar research infrastructure and expeditions, enabling China to convert scientific capacity into diplomatic legitimacy. In a period when Western-Russian scientific cooperation is severely strained and when US and European budgets face constraints,

China's sustained research program gives it both an incentive and a unique means to shape future governance outcomes in the CAO.

Equally innovative is the Agreement's operational recognition of Indigenous knowledge. The obligation to integrate Indigenous knowledge not as a symbolic gesture but as an epistemic input to research design and decision-making represents a conceptual turning point in Arctic governance. As community-based and indigenous knowledge integration is a comparatively new experience for many Chinese researchers, the process entails a degree of epistemic adjustment but also facilitates the development of mutual trust with Indigenous collaborators and Arctic publics. The CAOFA therefore serves as a rare example in contemporary geopolitics: a domain where scientific cooperation, Indigenous participation, and preventive governance intersect under conditions of equality between Arctic and non-Arctic states and stakeholders.

Marco Volpe is a Visiting Researcher at the Arctic Centre, University of Lapland.

References

↑1 Landriault M (2024) Chinese scientists are increasingly shaping the future of the Arctic amid China's rising presence. *The Conversation*, 5 June, https://theconversation.com/chinese-scientists-are-increasingly-shaping-the-future-of-the-arctic-amid-chinas-rising-presence-230509. Accessed on 22 October 2025

↑2 Liu D (2017) The 2015 Oslo Declaration on Arctic High Seas Fisheries: The Starting Point Towards Future Fisheries Management in the Central Arctic Ocean. *The Arctic Yearbook 2017*, https://arcticyearbook.com/images/yearbook/2017/Scholarly_Papers/21_The_2015_Oslo_Declaration_on_Arctic_High_Seas_Fisheries.pdf. Accessed on 1 January 2026

↑3 Vylegzhanin A.N., Young O.R., Berkman, P.A. (2020) The Central Arctic Ocean Fisheries Agreement as an element of the evolving Arctic Ocean Governance complex. *Marine Policy* 118, 10400

↑4 NOAA (2015) Final Report: Third Meeting of scientific experts on fish stocks in the Central Arctic Ocean. Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. Accessed on 5 June 2025

↑5 Harrison, P., Shin, H. C., Huntington, H. P., Balton, D., Benton, D., Min, P., Fujio, O., Guo, P., Grebmeier, J, M., Highleyman, S., Jakobsen, A., Meloche, M., Romanenko, O., & Zilanov, V, K. (2020). How Non-Government Actors Helped the Arctic Fisheries Agreement. *Polar Perspectives*, 2

↑6 Huntington H. and Pan, M (2024) China-U.S. cooperation in the Arctic Ocean: Prospects for a new Arctic exceptionalism? *Marine Policy* 168, 106294

↑7 Volpe M (2023) High Seas Triggering Arctic Security? An Analysis of Chinese Academic Discourse on the Central Arctic Ocean. *The Arctic Yearbook 2023*,

https://arcticyearbook.com/images/yearbook/2023/Scholarly_Papers/19_Volpe_AY2023.pdf. Accessed on 1 January 2026

↑8 Shan Y. & Lin H (2024) Central Arctic Ocean Fisheries Agreement: China's role and implications for sustainable Arctic governance. *Advances in Polar Science*. Vol. 35(4): 473-481

↑9 NOAA (2024) Implementation Plan of the CAOFA Joint Program of Scientific Research and Monitoring. Third Meeting of Scientific Experts on Fish Stocks in the Central Arctic Ocean. p.36. Accessed on 21 October 2025

↑10 Zhao L (2025) China concludes 15th Arctic Ocean scientific expedition. *China Daily*, 26 September, https://www.chinadaily.com.cn/a/202509/26/WS68d69107a3108622abca3345_1.html. Accessed on 22 October 2025

↑11 Laujenesse A (2023) PRC's 13th Arctic expedition creating concerns for Russia. *The Watch,* 7 October, https://thewatch-journal.com/2023/10/07/prcs-13th-arctic-expedition-creating-concerns-for-russia/. Accessed on 22 October 2025

↑12 NOAA (2025) Fourth Meeting of the Conference of Parties to the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, p. 14, https://vlab.noaa.gov/web/caofa. Accessed on 22 October 2025

↑13 NOAA (2025) Report of the Third Meeting of the CAOFA Scientific Coordinating Group, p.10, https://vlab.noaa.gov/web/caofa. Accessed on 22 October 2025

↑14 Brady A.M. (2017) China as a great Polar Power. Cambridge University Press

↑15 Molenaar E.J. (2024) The Central Arctic Ocean Fisheries Agreement and Arctic Indigenous peoples. *Marine Policy* Vol. 164, 106160

↑16 Pan M Huntington H (2025) What if? "Strategic Competition" vs. "Selective Cooperation" *The Arctic Institute,* 14 October, https://www.thearcticinstitute.org/what-strategic-competition-selective-cooperation/. Accessed on 21 October 2025

↑17 Pan M and Huntington H (2025) Prospects for Further International Cooperation in the Central Arctic Ocean: Report of a Roundtable Conference at Tongji University, Shanghai *Arctic InfoNorth*, Vol. 78 (1), p.105-107

Dispatch from Guangzhou: Stabilizing US-China Relations in the Arctic

PAVEL DEVYATKIN

The Xue Long 2 Chinese research vessel, surveilled by the U.S. Coast Guard, approximately 290 nautical miles north of Utqiagvik, Alaska, July 2025. Photo: U.S. Coast Guard

Recent conversations with Chinese experts at an academic conference in Guangzhou tell me that China views President Donald Trump's Arctic policy as a volatile mix of transactions and militarization.

In December 2025, I flew to the bustling southern metropolis of Guangzhou to speak at a conference about the future of US-China cooperation in the Arctic. Guangzhou sits deep in the subtropics, worlds away from the icy north, but the region is increasingly important in China's strategic plans.

Between dodging electric scooters and devouring the world's best dim sum, we discussed Arctic shipping, Alaska-China trade, maritime safety, and joint climate research. The conference brought together American and Chinese policy experts, polar scientists, lawyers, and shipping executives. If you only listened to the drumbeat of "great power competition," you'd expect headstrong confrontation. Instead, what I heard was something more complicated and hopeful.

Chinese experts are wary of a US Arctic policy that downplays climate science and threatens to annex Greenland, but they still argue for risk reduction, crisis management, and joint scientific research. The Arctic should be seen as a region for stabilizing US-China relations.

China's Arctic role

In Beijing's 2018 Arctic Policy White Paper, China defines itself as a "near Arctic state" committed to "understand, protect, develop and participate in the governance of the Arctic." China's engagement in the Arctic is growing because climate change in the Far North reverberates around the world, impacting Chinese agriculture, weather, and infrastructure. Moreover, the potential opening of shipping routes and access to natural resources carry global significance.

By positioning itself as an Arctic stakeholder, China seeks to ensure it has a voice in shaping the region's future. As a country outside the region, China's Arctic aims are only achievable through partnership.

China has been an observer state at the Arctic Council since 2013, giving Beijing a seat at the table to build relations with Arctic states and monitor discussions on regional issues. China participates across the UN system, from the Paris Agreement to the Convention on the Law of the Sea (UNCLOS) and in scientific bodies like the International Arctic Science Committee.

On paper, China is more embedded in parts of Arctic governance than the US, which has still not ratified UNCLOS. Chinese experts point to this web of institutions as proof that China doesn't just have an interest but also the right to help govern the Arctic.

How China sees Trump

At the conference, one Chinese Arctic scholar put it bluntly: "Trump 2.0's Arctic policy will have a profoundly negative impact on Arctic governance." To Chinese experts, President Biden saw great power competition as a clash of ideologies but at least maintained a commitment to climate science and multilateralism. In contrast, Trump's approach looks like pure deal-making and rivalry.

They view the current US approach as having abandoned the strategies of predecessors like Presidents Obama and Biden, which, despite tensions, emphasized climate science and multilateralism (therefore opening the door to cooperation with China).

Now, they see Trump ramping up military posturing in the Arctic and treating the region as a national security flashpoint. They're watching as the US builds up bases, sends F-35s to Alaska and B-1B Lancer bombers to Norway, and rushes to acquire more icebreakers. From Beijing's point of view, this looks less like stewardship and more like militarization.

Chinese experts said that challenges to Arctic governance include Trump's proposals to annex Greenland, which they saw as a colonial throwback, and the possibility of a US-Russian "partition" of the Arctic into spheres of influence.

During the Q&A, Chinese experts asked American colleagues: Do Americans support taking Greenland? What mechanisms exist for Americans to stop Trump from seizing Greenland?

During coffee breaks, talk turned to Trump's newly released National Security Strategy. Some welcomed the shift away from Biden's "democracy versus autocracy" mantra and the focus on the Western Hemisphere, hoping the US might ease up on military moves in the South China Sea or stop trying to engineer political change inside China. However, they also see the new strategy doubling down on deterrence around Taiwan, the First Island Chain, and key maritime chokepoints—including those that touch the Arctic.

Climate justice on thin ice

Chinese experts emphasized international climate justice. For them, the core conflict is between developed and developing countries' "rights and obligations." They argued that countries like China have the right to develop, while wealthier nations like the US, which have produced most of the world's emissions, are obligated to lead the way on cutting emissions.

They cited the United Nations Framework Convention on Climate Change (UNFCCC) principle of "common but differentiated responsibilities." Chinese scholars argued that the erosion of this norm has diminished trust globally and in the Arctic.

Speakers highlighted the human dimensions of Arctic change. There was a focus on how experts see China's role in supporting Indigenous communities and addressing community-level impacts of climate change.

Experts pointed to China's own history with traditional knowledge (such as traditional Chinese medicine) as proof that the country respects alternative epistemologies and ways of understanding the world. It was a somewhat idealized analogy, but the message was clear: Beijing wants to frame itself as sympathetic to Indigenous knowledge systems to support its image as a responsible Arctic stakeholder.

The Alaska standoff

The most animated discussions focused on a July 2025 incident, when a Chinese icebreaker entered the US Exclusive Economic Zone (EEZ) near Alaska to conduct research, prompting a US Coast Guard response. China sent four more icebreakers to the region in the following weeks.

In Washington, this was portrayed as a Chinese provocation. For China, it was seen as a lawful exercise of maritime rights. Chinese experts insisted the US had no grounds to object; under UNCLOS, China didn't need permission to do research in that area.

Some argued that if the US wants to have any real authority when it comes to China's actions near Alaska, or anywhere else in the Arctic, it needs to finally join UNCLOS. Until then, they said, American protests sound empty.

It's a familiar line for folks in the US who want to ratify UNCLOS: the best way to defend American interests in the Arctic is not unilateral action, but rather to bind everyone, including the US and China, to the same set of rules.

The Department of Homeland Security has been speeding up its acquisition of a new icebreaker fleet due to the "unprecedented number of Chinese military and research vessels operating in or near U.S. Arctic waters."

Hope for cooperation

Despite the tensions, pragmatism permeated our discussions. In the Arctic, the U.S. and China can cooperate in Arctic maritime safety, scientific research, and economic relations.

China is Alaska's largest trade partner. With Arctic maritime traffic expected to increase in the coming decades, it's just common sense to work together on maritime safety. As the ice melts, the risks multiply. No one wins if there's an accident or environmental disaster in the Bering Strait. Maritime safety cooperation may include information sharing, joint exercises, and mutual support during emergencies.

One Chinese executive offered a creative idea: why not rename the Northeast Passage the "Alaska Passage"? The logic was to remove the Eurocentrism of the label, as the waterway is only "northeast" if you're sitting in Europe. While the expert acknowledged that the main shipping route is still between China and Europe, the linguistic shift hints at centering the Pacific relationship.

The Chinese experts I met aren't naïve about what the US wants, and they don't expect Americans to be naïve about China either. They see cooperation with rivals as the only way to manage risks, prevent miscalculation, and keep the Arctic's fragile ecosystem from falling apart.

The view from China is that they are in the Arctic to stay. A foreign policy of competitive coexistence would acknowledge this reality, engaging Beijing where interests align (such as on maritime safety and trade) while managing differences through diplomacy rather than military posturing.

Conclusion

This commentary concludes The Arctic Institute's 2025 Series on China in the Arctic. This series reveals that understanding China's Arctic role requires examining Beijing's activities across multiple dimensions: geopolitical competition, regional cooperation, digital infrastructure, critical minerals, and evolving governance frameworks.

A central debate emerges throughout: whether Western alarm over China's Arctic presence reflects strategic reality or ideological bias, with several analyses suggesting that selective cooperation between China and Arctic states may serve as a stabilizing force in great power relations. The Sino-Russian partnership, while significant, proves more complex than often portrayed, marked by fundamental divergences and limited situational cooperation rather than unified strategic alignment. These multifaceted analyses underscore why China warrants continued scholarly attention in the Arctic. China is a pivotal actor whose intentions and impacts require rigorous and balanced examination from diverse analytical perspectives.

Pavel Devyatkin is a Senior Associate at The Arctic Institute.
