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# U.S.-Sino Relations in the Arctic

## A Roadmap for Future Cooperation

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# Introduction

Heather A. Conley

What do China and the United States have in common in the Arctic? At first glance, commonalities may seem few and far between. The United States is an Arctic coastal state with rights and obligations under the Law of the Sea Treaty. China, on the other hand, is not an Arctic littoral nation, although it is interested in the international waters of the Central Arctic. The United States is a member of the Arctic Council, an intergovernmental forum created in 1996 that seeks to enhance environmental protection and to pursue sustainable development in the Arctic; China has been a permanent observer to the Arctic Council since 2013. Both countries actively participate in the International Maritime Organization (IMO), which has been actively engaged in the development of a mandatory Polar Code. Both China and the United States are physically impacted by climate change and are investing in greater scientific research and understanding of a rapidly transforming Arctic. Both countries have or soon will have two icebreakers. Yet the two countries' priorities may not always align: China is actively pursuing and has already made investments in new economic opportunities in the Arctic with particular interest in natural and mineral resource extraction and Arctic shipping routes, whereas the United States has largely pursued greater environmental protection. However, both countries seek to address emerging challenges and cultivate new opportunities that a new ocean at the top of the world offers.

China is a relative newcomer to the Arctic although it was a signatory to the 1920 Svalbard Treaty in 1925. China's initial physical presence in the Arctic was established in 2004 with the Arctic Yellow River Station, a scientific research station based on Svalbard. It has led seven scientific missions to the Arctic. Since becoming an observer, China has also increased its engagement in a variety of Arctic Council working groups. As new economic opportunities emerge in the Arctic, China will continue to cultivate strong economic relationships with Arctic nations.

It is for these reasons that the United States and China should create a more purposeful dialogue on a range of Arctic issues—from scientific engagement, environmental protection, and sustainable development to governance and international norms. In this context, and with generous support from the China-U.S. Exchange Foundation (CUSEF), the CSIS Europe Program along with Tongji University in China co-hosted a forum on the Arctic from May 16–18, 2016, in Washington, D.C. This exchange was the second time the group convened following its inaugural meeting in May 2015 in Shanghai, China.

Over the course of three days, American and Chinese experts engaged in a Track 1.5 dialogue to promote better understanding of U.S. and Chinese interests, activities, and strategies for the Arctic region. In a candid and frank exchange, the participants identified areas of cooperation, clarified common interests and challenges between both sides, and discussed future dialogue mechanisms. Substantive presentations were accompanied by two informal networking dinners and a day of field study trips to the U.S. National Academy of Science and the Smithsonian Institute's Museum of Natural History.

The pieces that comprise this report, *U.S.-Sino Relations in the Arctic: A Roadmap for Future Cooperation*, are the result of fruitful exchanges between the participants and address a range of issues: the future of Arctic governance, geopolitical factors shaping the Arctic's future, international maritime issues in the Central Arctic Ocean, future trends in Arctic sustainable development, and new bilateral scientific research initiatives in the Arctic. Our aim was to shed light on policy synergies as well as areas of divergence with the ultimate goal of developing strong patterns and instinctive habits of bilateral cooperation in the Arctic.



# 01

## Potential Opportunities for U.S.-China Cooperation in the Arctic

David J. Hayes

The United States is an Arctic nation. Its largest state, Alaska, occupies a strategic location alongside the Bering Strait—a key maritime gateway to the Arctic. It features abundant natural resources, including one of the most prolific salmon fisheries in the world (in the Bering Sea, just south of the Arctic Circle), world-class oil and gas deposits on Alaska’s North Slope, and important mineral deposits. The American Arctic also is home to indigenous peoples, including Inuits and Athabaskans, who share deep cultural connections across the entire span of the Arctic, including subsistence lifestyles that rely on the Arctic’s spectacular marine, avian, and terrestrial wildlife resources.

China is not an Arctic nation, but it has a deep interest in the Arctic because of the potential economic opportunities that it presents to China through emerging shipping routes and, potentially, access to some of the Arctic’s natural resources.

In recent years, the United States and other Arctic nations have been reluctant to fully embrace non-Arctic nations as partners, for fear that non-Arctic countries may not fully share U.S. and other Arctic nations’ interests. Some wariness is understandable given the rapid change occurring in the Arctic. Climate change, for example, is disproportionately impacting the Arctic, disrupting long-term wildlife health and migration patterns, including subsistence practices, while also opening up sea lanes and other economic nearer-term development opportunities.

Given this context, the first step in identifying potential opportunities for U.S.-China cooperation in the Arctic is to identify U.S. priorities for the region, and then to determine whether, and to what extent, Chinese interests might line up with the United States’ Arctic interests.

Broadly stated, top priorities for the United States in the Arctic lie in the arenas of science, infrastructure, energy development, and indigenous peoples. On the science front, climate change is having dramatic impacts on the Arctic. Warming temperatures and the related loss of sea ice are decimating polar bear, walrus, and other mammal populations that are dependent on sea ice for their livelihoods. The loss of sea ice also is exacerbating coastal erosion and may be affecting the marine system’s food chain as well.

Infrastructure also is an acute U.S. interest in the Arctic. With new commercial sea lanes opening due to warming trends, maritime traffic in the Arctic is increasing rapidly. Yet there is virtually no infrastructure to support maritime activities. The U.S. Arctic has no deep-water ports and, as a result, it has little or no docking or fueling facilities, limited search and rescue capabilities, and the

like. The lack of infrastructure poses serious safety issues for maritime traffic, as well as the loss of economic opportunities for Arctic towns and villages that might profit from increased trade and transportation capabilities.

Third, sustainable access to energy resources is needed in the Arctic. Offshore drilling poses unique risks that need to be addressed before large-scale development should occur. And despite abundant renewable energy resources, most Arctic villages remain wholly reliant on expensive, dirty, and unhealthy diesel fuel for their energy needs.

Finally, indigenous peoples' subsistence lifestyles are threatened by ongoing changes in the Arctic. More attention is needed on maintaining the integrity and vitality of existing ecosystems upon which the Arctic's indigenous peoples are so dependent.

China has the potential to be a strong partner of the United States if it can match up its own interests in the Arctic with the United States' interests and, together, address questions that are important to both nations.

At first blush, it appears that the two nations' interests could align well.

For example, on the science front, there is a strong need to develop additional science that can inform U.S. policymakers regarding the risks and opportunities associated with the Arctic's changing climate. Coastal erosion, impacts on marine food chains, and impacts on both marine and terrestrial wildlife patterns and survivability all raise science questions that go to the heart of defining economic opportunities and risks for the United States, including impacts on indigenous peoples' subsistence lifestyles.

These science questions also appear to be highly relevant to China's potential interests in evaluating economic opportunities and risks in the Arctic. Robust scientific collaboration could satisfy both nations' interests, while deepening mutual understanding and trust.

Collaboration on infrastructure also could be a promising area of mutual interest. One of China's strongest interests in the Arctic is associated with new sea lanes opening up in the Arctic. Yet without adequate port facilities, search and rescue, and other infrastructure capabilities, those interests may never be realized. So here, too, coordinated U.S. and China infrastructure investments could benefit both nations.

Energy could also be a fruitful area for cooperation. Here, the best opportunity may be on the renewable side, where lower-cost, plug-and-play, modular, and integrated renewable energy systems are desperately needed for remote villages that are off the grid. Finding solutions that allow for the mass production of smaller-scale renewable energy and microgrid system components could benefit off-the-grid or grid-edge communities in far-flung communities in China's provinces, as well as in the United States and other nations' isolated Arctic villages.

Finally, the United States presumably would welcome China's help in addressing the needs of indigenous peoples in all nations in the Arctic. Demonstrating sensitivity to the challenges that Alaska natives and other indigenous people face in terms of maintaining traditional lifestyles—including the support of native languages, customs, and traditional knowledge—could help validate

China's altruistic commitment to the region, and provide opportunities for positive relations between the United States and China to grow in the shadow of the Arctic.

The bottom line is that there are rich opportunities for U.S.-China cooperation in the rapidly changing Arctic. Dialogues among Chinese and U.S. experts and opinion leaders—such as that conducted this year by the Center for Strategic and International Studies and Tongji University—can help identify and catalyze these opportunities.

# 02

## The Future of Arctic Governance

William M. Eichbaum

### Introduction

Today we are all aware of two new and critical facts about the Arctic. First, it is rapidly changing as a result of global warming. Temperatures are rising, ice is disappearing, species are at risk, and centuries-old patterns of human livelihood are increasingly threatened.

Second, the new accessibility of the Arctic and the global thirst for natural resources is resulting in increasingly intense human exploitation and utilization.

These two new Arctic realities make paramount the need for society to ensure effective governance and wise stewardship of the region for its sustainable development.

In fact, as Jane Lubchenco, former administrator of the National Oceanic and Atmospheric Administration (NOAA), has said, for the first time in human history we have the opportunity to put in place effective governance mechanisms before there is massive development of a region of the earth. This opportunity is the key third reality that we should remember about the Arctic. However, it is a potentiality that will be met only through purpose-driven decisions about governing the region.

The Arctic Council was created as an informal cooperative body by the eight Arctic countries through the signing of The Ottawa Declaration in 1996, with a focus on environmental protection and sustainable development. In 2017 as we look to the future, the Council, together with other formal and informal arrangements, can and should evolve into the primary focal point for Arctic countries to achieve the third reality that Ms. Lubchenco has highlighted.

For this to happen, however, the Arctic Council must continue to evolve as a political body, able to ensure that the policy decisions made by the ministers are implemented as appropriate by national governments or other responsible international or regional bodies such as the International Maritime Organization (IMO). This is the aspiration that the ministers identified in 2013 through the Kiruna Declaration, Vision for the Arctic, which stated that “we will continue our work to strengthen the Arctic Council to . . . pursue opportunities to expand the Arctic Council’s roles from policy-shaping into policy-making.”

The need to strengthen the Council’s focus on implementation was further stressed in 2015 by a report of the audit agencies of five Arctic countries, namely Denmark, Norway, Russia, Sweden, and the United States. That report concluded: “The Council faces key challenges related to . . . implementation of voluntary recommendations adopted by member states.”

## Options to Strengthen Governance

There are pathways for achieving this objective and, at least in regards to the marine environment, several are now the subject of active analysis by the Arctic Council Task Force on Arctic Marine Cooperation created at the 2015 Ministerial meeting in Iqaluit, Canada.

A recent paper prepared by the World Wildlife Fund (WWF) for the task force identified four major options as follows:

1. *Create strong science, policy, and implementation interactions through a new Arctic Council structure:* integrate working groups (WGs), task forces (TFs), and senior Arctic officials (SAOs) through three subsidiary bodies within the Arctic Council with separate but complementary responsibilities:
  - i. Science (or knowledge) coordination group: would house the existing WGs and expert group; produce scientific assessments and reports on topics specified by ministers, provide corresponding scientific and technical recommendations, and identify new and emerging issues.
  - ii. Policy coordination group: would recommend further action based on the scientific assessments, reports, and recommendations. It would be responsible for bringing the resulting policy recommendations to ministers. It would be run by SAOs and would oversee task forces.
  - iii. Implementation coordination group: would consider the recommendations provided by the policy group and develop general implementation plans with clear timelines and measures to guide Arctic states in developing national implementation plans. It would also identify where other relevant international frameworks could implement policies.
2. *Create an Arctic Council Marine Commission.* The mandate of the commission would be based on the four strategic objectives of the Arctic Marine Strategic Plan 2015–2025 (AMSP). Its work would focus on ensuring full implementation of the entire plan. The commission would be composed of permanent participants as well as high-level representatives from each Arctic state with expertise in marine issues and the authority to implement marine-related policies and strategies in their respective states. The commission would coordinate the work of all WGs and facilitate connectivity between the science and policy processes.
3. *Establish an Arctic Marine Cooperation Framework Agreement.* A framework agreement would facilitate cooperative actions by the eight Arctic states, acting through the Arctic Council ministers, to achieve the agreed goals of the Arctic Marine Strategic Plan. A framework agreement would function through a system of agreed action on key Arctic marine issues as identified by Arctic ministers, with implementation timeframes and procedures to measure their success. The Arctic Council Secretariat (ACS) would work with the ministers to facilitate actions stemming from the framework agreement.

4. *Build an Arctic Council Marine Implementation System.* This includes three steps to enhance the coordination and integration of all elements of the marine agenda with the Arctic Council:

- i. Scheduled Arctic Council Marine Coordination Sessions: convening experts from all working groups on marine issues with an agenda focus on specific cross-cutting issues addressing elements of the AMSP.
- ii. Regular meeting of ministers responsible for marine implementation. There would be a concrete agenda as per coordination session. Advice would be strictly related to the implementation of the AMSP. Different ministers could attend different meetings depending on agenda items.
- iii. Strengthen the ACS by providing it with a mandate to facilitate/coordinate/administer a "marine agenda" among the WGs while serving as the secretariat responsible for organizing coordination sessions and ministerial meetings, including the preparation of meeting documents.

These options are not necessarily mutually exclusive and elements of one might fit well with elements of another option. The WWF has provided a brief paper to the member of the Task Force on Arctic Marine Cooperation that discusses some implications of these options.

## Role of Observers

Under any scenario, observers, especially non-Arctic states, can play an important and positive role in achieving enhanced implementation of Arctic ministerial decisions in at least three ways.

First, they can contribute financially and intellectually to supporting the deliberative process of the subsidiary bodies of the Council that do the analytical work supporting ministerial decisions. It is important that ongoing science be supported. Second, they can themselves take steps to help achieve the objectives of ministerial decisions, as has been contemplated by the recent agreement on black carbon. Observer states can provide support for implementing the decisions of Arctic ministers in other forums such as the IMO. Finally, the WWF encourages all states interested in the Arctic to develop national strategies for guiding their actions. These national strategic plans will be vital to ensuring that successful implementation is taken at the national level as is necessary to meet Arctic ministerial recommendations. Such national plans should be public documents.

In addition, non-Arctic states, especially observers, can also contribute to ensuring wise stewardship of the Arctic through processes not directly related to the deliberations of the Arctic Council. This includes seeing that the decisions made at COP21 in December 2015 are achieved, thereby contributing to the stabilization of the Arctic environment and protection of its people and biodiversity. Here, U.S. and China cooperation was key to success. In addition, joining the effort underway by Arctic states to prevent fishing in the Arctic high sea until there is adequate science known about those fisheries and an organization in place to provide management. Again, U.S.-China cooperation will be key to success. Third, cooperation to protect migratory species, especially birds, is important if Arctic fauna are to be protected. Finally, an area of emerging

interest is the development of principles or standards for guiding financial investments in new activities in the Arctic.

## Caveats

The opportunities for observers to strengthen the work of the Council can be achieved only if they are able to meaningfully participate in the deliberations of the Council and its subsidiary bodies. This must be predicated on timely access to working documents and the opportunity to participate in meeting deliberations.

Expanding the number and enhancing the engagement of state and nonstate observers to the Arctic Council can pose logistical and organization challenges, especially given the small venues in which many meetings of the Council and its subsidiary bodies are held.

Every effort must be made to ensure that these do not constrain the ability of *all* observers to participate in and contribute to the working of the Council. Through active engagement, observers can become a forceful voice supporting the effective functioning of the Council.

To this end, it is especially important that increasing numbers of observers not limit the important role of the permanent participants (PPs) nor constrain the decisionmaking role of the Arctic member states. To this end, the WWF has proposed the creation of a fund to enhance capacity of PPs to engage with the work of the Council—to be funded by states, observers, and others.

## Conclusion

Over time, the WWF expects that an Arctic Council System for managing human activity in the Arctic will evolve that is characterized by strong cooperation between all interested players, including states of the Arctic Council, observers, and others. U.S. and China cooperation will be vital to achieve this goal and bring about the reality that Administrator Lubchenco spoke of when she essentially argued that the Arctic is a place where we could aspire to and achieve truly sustainable development as contemplated in The Bruntland Report.

# 03

## New Sources of Power and Leadership in the Arctic

Heather A. Conley

A transforming Arctic Ocean has led to greater access to the region due to the opening of new shipping routes, natural and mineral resource extraction, infrastructure development, fisheries, tourism, and scientific research. As a result, there is a greater sense of urgency among states to explore Arctic riches, conserve fragile ecosystems, protect northerners and their interests, as well as to enhance safety and security. This transformation has also led to the need for Arctic nations to protect these accessible borders and to project sovereignty.

Understanding the key factors that will shape the Arctic's future requires a revisiting of the traditional concepts of power and leadership and identify new sources of power and leadership in a dynamic and evolving region.

### Traditional Sources of Arctic Power and Leadership

Traditional sources of Arctic power and leadership—military strength and the assertion of territorial claims—will continue to play a part in the Arctic's development although there has been some diminishment of these traditional roles. Russia has been the most prominent advocate for these two traditional sources of power in the Arctic, viewing it as a way to promote economic growth and project power as domestic economic conditions stagnate. Russia has developed new airfields, an enhanced nuclear posture, and increased presence of military forces in the Arctic. While Russia is protecting its borders and developing its infrastructure capabilities, these measures go beyond the threshold of what is required of search and rescue and oil spill response preparedness. Russia has also submitted scientific data to extend its outer continental shelf in the Arctic Ocean (Lomonosov and Mendeleev Ridges), which is currently being reviewed by the UN Commission on the Law of the Continental Shelf (CLCS). Denmark has submitted overlapping claims. Fortunately, the Law of the Sea Treaty and productive bilateral negotiations—such as the 2010 delimitation treaty in the Barents Sea between Russia and Norway—have been effectively used to resolve maritime claims in the Arctic.<sup>1</sup>

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<sup>1</sup> Durham University, "Maritime jurisdiction and boundaries in the Arctic region," August 4, 2015, <https://www.dur.ac.uk/resources/ibru/resources/Arcticmap04-08-15.pdf>.



## New Sources of Power and Leadership

Importantly, there are several new sources of power and leadership in the Arctic that are emerging. One of the most important sources of Arctic power will be the advancement of scientific capacities to develop the knowledge to better understand and predict the rapid and profound changes in the region. Capabilities include interpreting and enhancing predictive environmental models in addition to the use of satellite communications, unmanned aerial vehicles (UAVs), and information and communications technology in conjunction with the traditional knowledge of indigenous populations. Issues that require greater understanding include ocean acidification, which threatens marine ecosystems and the coastal economies that depend on them; rising sea levels, due to the melting of the Greenland Ice Sheet, which will impact approximately 123 million coastal dwellers in the United States along with many more coastal and island residents around the world; and sea ice networks, particularly the ability to predict and forecast the extent, thickness, and volume of future ice, which has important ramifications for economic activity, readiness, and national security. Sound science supported by traditional knowledge will improve our understanding of complex and integrated Arctic ecosystems and how they are changing. The White House also hosted a Science Ministerial in September 2016 to discuss science initiatives and create a context for increased international scientific collaboration on the Arctic over the longer term.<sup>2</sup> International cooperation in this arena has been strong to date, yet like many of these new sources of power and leadership, unity can easily succumb to national objectives. Few countries have all of these capabilities at their disposal. Ensuring that we have the most accurate and predictive scientific data will require international collaboration.

Another source of power is the ability to mitigate the impact of climate change, which poses an increasing threat to national security and the global economy. Such efforts are already underway and reinforced through international efforts to reduce global warming agreed at the COP21 Climate Summit in December 2015, which concluded with a landmark agreement that put in place a framework to limit global warming to no more than 2 degrees Celsius. Additionally, raising awareness of the effects and threats of climate change in the Arctic is a cornerstone of the U.S. chairmanship of the Arctic Council. In August 2015, the United States hosted the GLACIER (Global Leadership in the Arctic: Cooperation, Innovation, Engagement and Resilience) conference in Anchorage, Alaska, bringing foreign ministers of Arctic nations and key non-Arctic states together with scientists, policymakers, and stakeholders from Alaska and the Arctic, including indigenous populations.<sup>3</sup>

Supporting and enhancing governance as well as international legal and normative authority are also new sources of power. The most important international legal framework is the United Nations Convention on the Law of the Sea (UNCLOS), which establishes a legal regime covering all aspects of the seas and oceans as well as a management scheme for seabed resources. While the United States has yet to ratify the convention, its enforcement is key for administering Arctic governance and establishing an international standard for development. Other initiatives include the International Maritime Organization's Polar Code, which outlines specific requirements to

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<sup>2</sup> John P. Holdren, "White House Arctic Science Ministerial: September 28, 2016," White House, September 28, 2016. <https://www.whitehouse.gov/blog/2016/05/13/white-house-arctic-science-ministerial-september-28-2016>.

<sup>3</sup> "Conference on Global Leadership in the Arctic: August 30–31, 2015," U.S. Department of State. <http://www.state.gov/e/oes/glacier/index.htm>.

enhance maritime safety, training, and environmental protection in the Polar regions.<sup>4</sup> The Arctic Council is yet another source of normative power as it establishes governance, international cooperation, and norms for Arctic sustainable development and environmental protection.

Sustainable economic growth in the Arctic is another form of power represented by the creation of sustainable infrastructure including greater maritime domain awareness, deep water ports, icebreakers, and enhanced communication to respond to search and rescue operations and oil spill response. Equally important, Arctic leadership will also be defined by allocating the proper resources to address future environmental challenges such as thawing permafrost and coastal erosion, which greatly impact local infrastructure, particularly homes, highways, and pipelines.

It is these new sources of power and leadership in the Arctic—international scientific collaboration, the mitigation of climate impacts, international legal and normative authority, and sustainable economic development—that will have the most significant impact on a transforming Arctic rather than military strength or territorial claims. Therefore, there should be greater impetus and new mechanisms created for the United States to work bilaterally and multilaterally with China to enhance international scientific research and understanding in the Arctic, increase the sharing of data, and strengthen participation in Arctic observing networks. There is already growing momentum in this area through the Arctic Council’s Task Force for Enhancing Scientific Cooperation in the Arctic (SCTF), which agreed to an international “Agreement on Enhancing Arctic Scientific Cooperation” to be signed at the Arctic Council Ministerial in the spring of 2017.

There should also be more purposeful U.S.-China bilateral dialogue on the best regulatory and environmental standards when pursuing Arctic infrastructure development projects along the lines of the World Economic Forum’s Arctic Investment Protocol. This protocol promotes global economic investment opportunities, promoting sustainable equitable growth as well as resilient societies in an inclusive and environmentally sound manner.<sup>5</sup> Enhanced bilateral discussion related to the findings of the Arctic Offshore Regulators Forum could also be explored.<sup>6</sup> This will promote best practices to promote safety as new economic opportunities are explored and human activity in the region increases. Finally, consideration should be given for bilateral exploration of ways to enhance implementation of the IMO’s Polar Code, particularly in the Bering Sea. This will ensure environmentally conscious practices that preserve the ecosystems that sustain much of the Arctic’s life including those of indigenous populations. These new sources of power, fueled by knowledge and international collaboration, will provide current and future Arctic actors with the ability to navigate the dramatic emergence of a new ocean and region.

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<sup>4</sup> Jodie Knox, “IMO Polar Code background and update from Arctic symposium,” *Coast Guard Maritime Commons*, July 28, 2015. <http://mariners.coastguard.dodlive.mil/2015/07/28/7282015-imo-polar-code-background-and-update-from-arctic-symposium/>.

<sup>5</sup> World Economic Forum, “Arctic Investment Protocol: Guidelines for Responsible Investment in the Arctic,” Global Agenda Council on the Arctic, December 2015, [http://www3.weforum.org/docs/WEF\\_Arctic\\_Investment\\_Protocol.pdf](http://www3.weforum.org/docs/WEF_Arctic_Investment_Protocol.pdf).

<sup>6</sup> Arctic Council, “Arctic Offshore Regulators Forum (AORF) Terms of Reference,” 2016, <https://oaarchive.arctic-council.org/handle/11374/1729>.

# 04

## Arctic Governance and Chinese Participation

Shijie Xu

### Introduction

What is governance? The commission on global governance describes it as a variety of individuals and groups (public and private) that manage their common affairs in an ongoing process through which conflicting or diverse interests may be accommodated by cooperative action. Chinese Professor Cai Tuo from China University of Political Science and Law argued that global governance is a new way of human management of public affairs, including methods or activities of equal dialogue, consultation, and cooperation based on human interests in order to meet global challenges.<sup>7</sup>

In short, it is a process reconciling the interests of different sides to establish behaviors that are mutually beneficial.

There are several important points to consider when discussing the concept of governance in the Arctic region. First, where is the Arctic and what countries are most active in the region? Geographically, the Arctic Circle is 66 degrees North latitude. The Arctic also includes large bodies of water including the Arctic Ocean, portions of the Bering Sea, and the Norwegian Sea. The five countries that border the Arctic Ocean are the United States, Canada, Denmark (through Greenland), Norway, and Russia. There are also eight countries with territory above the Arctic Circle. These include Norway, Sweden, Finland, Russia, the United States, Canada, Denmark (through Greenland), and Iceland (through the island of Grimsey).

In that area, from the land to sea, the Arctic has different legal statuses, territory, exclusive economic zones, continental shelves, outer continental shelves, and seabed areas. Different areas have different legal statuses, sovereignty rights, and jurisdiction as well as usage rights. In that case it seems the Arctic area is divided into different parts, in which most are under sovereign control of Arctic countries. So how does this impact Arctic global governance?

Two developments are driving the Arctic governance conversation. One is global climate change and the other is global economic integration. The melting of Arctic sea ice will not only continue to impact the Arctic coastal countries, but it also impacts global atmospheric circulation, particularly in the middle part of the Northern Hemisphere. The rising temperature in the Arctic will impact fish

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<sup>7</sup> Cai Tuo, "Global Governance: A Chinese Perspective and Practice," *Social Sciences in China* 1 (2004).

stocks, forcing them to move further north. This development will have a significant impact on the livelihoods of indigenous populations, altering their traditional fishing grounds.

From an economic perspective, the Arctic is rich in mineral resources and oil and gas, the vast majority of which is exported beyond local economies to the global commodities market. These resources should be developed in a sustainable manner to promote best practices to ensure the preservation of local ecosystems and populations. Finally, melting sea ice will greatly impact Arctic shipping, opening new traversable sea lanes and creating access to new markets. Without proper regulation and a global governance scheme, these issues may promote unregulated competition and practices and damage the fragile region.

Governance in the Arctic is taking place on international, regional, and national levels. There are common interests that bring together parties on all three levels, through different ways, such as bilateral regional or international agreements. This ongoing process constantly needs interaction and cooperation among parties interested in the Arctic. In its essence, Arctic governance is not only related to the cooperation between regional countries, but is inherently related to countries worldwide. However, since countries do have some differing interests, and taking into account their individual systems of governance that are not similar to each other, Arctic governance should be comprehensive rather than unitary.

Second, what is the legal basis for governance in the Arctic? The United Nations Convention on the Law of the Sea (UNCLOS) provides a comprehensive legal framework on an international level. Despite the fact that there are bilateral and multilateral regional treaties concerning the Arctic, UNCLOS is arguably the most important legal tool.

UNCLOS provides each of the eight Arctic countries sovereign rights and jurisdiction in their respective parts of the Arctic. Since each country in this region has its particular concerns on security issues, environmental protection, sustainable economic development, and human development, it is important that these concerns are respected while other countries at the same time have the right to use the region for purposes such as scientific studies, navigation, and fishing according to UNCLOS. To reconcile these interests, Arctic governance must be inclusive rather than exclusive, focused on cooperation rather than confrontation, and be effective and harmonious, in order to seek a favorable future jointly and peacefully.

It is fortunate that there are different forums and organizations that address these challenges. The UN Commission on the Limits of the Continental Shelf (CLCS) manages disputes concerning the sovereign rights of the outer continental shelf. The International Maritime Organization (IMO) deals with the navigational issues on the world seas, which includes the Arctic sea. The Arctic Council deals with many regional issues. Among other achievements, cooperation within the Arctic Council has led to a regional agreement on search and rescue (SAR) in the Arctic as well as an agreement on the cooperation on marine oil pollution, preparedness, and response. The Arctic Economic Council (AEC) is a newly established body that focuses on regional economic development in the Arctic. The International Arctic Science Committee (IASC) has provided a guide and forum on Arctic scientific research and the exchange of scientific information. There are also organizations of indigenous people that have made efforts to ensure sustainable development in the region. There are also nongovernmental organizations focused on issues such as the protection of the

polar bears. These trends suggest that there may be an increase in organizations that will take part in the Arctic governance.

The Arctic is increasingly playing a bigger role in the world. Nobody is able to predict the future changes in this region. However, it is clear that knowledge about the changes in the region is a fundamental part in establishing principles of governance in the Arctic. This knowledge cannot merely be anchored in theory, but has to be based on practical interaction. All action in the region should be based on a better understanding of the facts. How will Arctic sea ice decrease? How will people predict its impact on the region and global climate? What will help reduce and prevent environmental disasters? How will the environment of the Arctic Sea change as a consequence of global climate change? Does this change impact Arctic fish populations? Knowledge can help us understand the emerging changes that impact both the natural habitat and the people of the Arctic. Understanding each other is the basis for mutual respect, which subsequently can lead to cooperation in the pursuit of sustainable development in the Arctic.

Third, what role does China play in Arctic governance? China is near the Arctic. The circulation of the Arctic atmosphere has great influence on the domestic weather of China, especially the northern part of the country. This has an impact on agricultural produce, which is an important industry in China's northeast region. The melting glaciers in the Arctic could drown the coastal area of China, or increase the storm tide near the shore. The Arctic shipping passages, the Northern Sea Route and the Northwest Passage, are the shortest sea routes that link China to Europe and North America. This provides more trade and investment opportunities for China as well as the Arctic countries. Consequently, the Arctic is an emerging area that is important to China, from both a global climate change and economic development point of view. Being the largest developing country, China's involvement in the Arctic could benefit Arctic regional sustainable development.

China has already completed six Arctic marine scientific surveys with multiple disciplines and has also established the Yellow River station in Svalbard. In 2012, the Xuelong scientific vessel crossed the Arctic Northeast Passage, which was a good guide for Chinese shipping companies interested in exploring this sea route. Afterwards, Yongsheng from COSCO (China Open Shipping Company) Group made a successful business voyage in 2013 and 2015. Chinese oil companies have invested in the Yamal project. More and more Chinese tourists visit the Arctic area, which not only increases public knowledge, but also promotes the sustainable development of Arctic areas. The cooperation of scientific research between China and the Arctic countries is fruitful and helps everyone better understand the Arctic.

Although China does not have an official Arctic policy, the basis for this policy is clear. This includes respect for the rights of nations around the Arctic, assuming its responsibility to make contributions to the peaceful and sustainable development in the region as well as finding an opportunity to cooperate with nations in the Arctic. "Peace, Respect, Responsibility, Cooperation, and Development" are the principles for China's role in Arctic governance. I am sure that China will keep these principles in the future and look for more cooperative opportunities with the Arctic countries with the aim of providing more public goods for the Arctic area.

# 05

## New Trends of Geopolitical Dynamics in the Arctic and China's Relations with the Major Arctic Players

Beixi Deng

### Introduction

This essay discusses the correlation between geopolitics and governance in the Arctic region, examines how the spillover effects of global dynamics shape the current Arctic geopolitical structure, and focuses on China's relations with the two major regional actors, Russia and the United States respectively, in its Arctic engagement.

### Reflections on the New Trends of Geopolitical Dynamics in the Arctic

Given the growing importance of the Arctic in the global political arena, an analysis of Arctic geopolitics should involve not only regional interstate relations, but also interactions between the region and its adjoining territories, as well as the impacts of global geopolitics. A notable peculiarity of Arctic geopolitics is that the side effects of relations between great powers (Russia and the United States) beyond the Arctic remain strong enough so that the Arctic geopolitical landscape is heavily dependent on the competitive nature of U.S.-Russian relations. The Ukraine crisis serves as an example and displays how the Arctic is subject to extra-regional influences. As the crisis further escalated, U.S.-Russian tensions began to exert certain spillover effects on the Arctic, which jeopardize cooperation in low-politics domains, such as the economy, resources development, and search and rescue.

Impacted by U.S.-Russian tensions, concerns over the security and stability in the Arctic have risen. The Arctic states have begun to revise their Arctic security and defense programs in an attempt to modernize and enhance their Arctic-related capacities. Game-changing views were foremost proposed by the Nordic states geographically located between Russia and the United States. These states are not homogenous in terms of size and power compared with the key players of the region. For instance, Norway urged NATO to safeguard the Arctic and to maintain a military presence in the High North with a view to ensure practical deterrence against Russia. Sweden and Finland are not sure if they should keep neutrality as nonaligned states. They, too, might resort to NATO membership for a collective security guarantee. In addition, Russia enhanced its military capacities by establishing a United Strategic Command of its Northern Fleets, resuming its military

bases along the Northern Sea Route as well as conducting air patrols over the borders of its Arctic neighbors with increased frequency. This reflects how a relatively stable political situation favorable to regional cooperation could be impaired by extra-regional geopolitical changes.

U.S.-Russian relations in the global arena imply either cooperation or conflict in the Arctic. However, the institutionalized cooperative mechanisms in the Arctic created after the Cold War began to function as a “buffer” between the Arctic and the region beyond, mitigating the influences of external factors. Such mechanisms include the Arctic Council, the only multilateral regime of regional governance that embraces all Arctic states, as well as sub-regional groupings, such as the Barents Euro-Arctic Council, Nordic Council, and Northern Dimension. In addition, there are several bilateral or multilateral treaties and agreements that regulate functional operations in the Arctic in domains of search and rescue, fisheries management, and prevention of marine oil pollution. These mechanisms are capable, above all, of smoothing out the negative impacts of U.S.-Russian tension in the Arctic, and serve as a reminder to both powers that they should participate in settling pressing issues as regional players. They also facilitate the shaping of security discourse and the consensus that peace and stability in the Arctic bring about mutual benefits.

It is worth noting that there exist structural interstate conflict and an inherent rivalry between Russia and the United States, which restrain comprehensive cooperation between the two powers in the Arctic. Despite this rivalry, both parties are well aware that a stable Arctic free of military conflicts would create favorable conditions, not only for Russia’s Arctic development strategy, which is vital to its economic revival, but also for the United States, which is shifting its focus onto the Asian-Pacific region without investing excessively in the Arctic. Consequently, it would be practical for the two states to avoid direct confrontation and exercise moderate restraint.

As mentioned above, the structure of geopolitical development in the Arctic could be generalized as the interactions between two factors: U.S.-Russian relations in the Arctic as the key geopolitical factor, and Arctic governance mechanisms. The latter’s role keeps increasing.

To further illustrate this structure, from historical perspectives, the easing U.S.-Soviet tension by the end of the Cold War played, on one hand, a decisive role in establishing regional governance mechanisms in the Arctic. However, mistrust in relations between the two powers could not be resolved through institutional arrangements; meanwhile, bilateral disputes in the region remain a problem, such as arguments over the sovereign and maritime delimitation, disputes over the jurisdiction of outer continental shelves, and disagreements over the legal status of the Arctic sea routes between the claimers—Russia and Canada, and other potential users. Therefore, in the foreseeable future, the multilateral regimes of regional governance could not fully replace bilateral relations, and U.S.-Russian relations in the Arctic remain a major factor in the geopolitics of the region. On the other hand, the institutionalization of Arctic governance, the adoption of legally binding agreements, and the constantly intensified Arctic sub-regional arrangements, especially those engaging Russia, as well as trans-boundary indigenous cooperation, imply stronger interstate dependency. This is why a sudden worsening of relations between Arctic neighbors would have a heavy toll on all parties concerned, who manage to maintain the current status quo of relative stability.

## Formation of China-Russia Arctic Partnership

As Western sanctions inflicted damages to Russia's economy, a natural question arose: should Russia—in need of financial support and potential markets for its Arctic resources development—turn to China as a long-term Arctic partner? Russia views the Arctic as crucial, for both its economic development and national security, and seeks partners with market potentials, sophisticated technology, and considerable capital. But it turns out that not only other Arctic states but also some extra-regional stakeholders interested in the Arctic development (e.g., Germany, France, United Kingdom, Japan) have introduced sanctions and suspended ongoing projects. In view of these circumstances, it is increasingly important for Russia to find a strong political ally free from U.S. influences. Consequently, China emerges as the most suitable partner for Russia's development activities in the Arctic, especially since all the necessary prerequisites are in place for cooperation. Arctic-related cooperative projects are currently underway. These include the agreement between Rosneft and the China National Petroleum Corporation (CNPC) concluded in 2013 on a joint gas project to build pipelines from the Sakha Republic and Irkutsk Region to China's northeastern provinces; the Yamal-LNG project with the CNPC and Silk Road Foundation holding a 29.9 percent stake jointly; and trial shipments along the Northern Sea Route conducted by the China Ocean Shipping Company in 2013, 2015, and 2016.

In addition to China-Russia cooperation in the Arctic serving the interests of both parties, the U.S. factor also contributes to enhanced cooperation. The cumulative effects of the U.S.-Russian political rivalry as a consequence of the Ukrainian crisis and the U.S. diplomatic "rebalance" targeted at China further strengthen the China-Russia comprehensive strategic partnership. This partnership has since expanded to the Arctic. It does not envision a military buildup in the region; rather, it guarantees mutual benefits by neutralizing the U.S. influence and reanimating Arctic economic activities that slumped in the wake of the Ukrainian crisis.

## China-U.S. Arctic Relations in Stagnation

As China furthers its bilateral Arctic cooperation with Russia and certain Nordic states, its relations with the United States are stagnating. For example, in September 2015, five Chinese warships conducted a drill off the Tanaga Islands in the Aleutian archipelago in a move in line with international law. Most likely, this drill was a reaction to U.S. provocations that stirred stability in the South China Sea, rather than a reflection of China's military ambitions in the Arctic as Western analysts tried to assert. China's act displays its capacities to approach the U.S. offshore islands near the Arctic waters just as the United States does in the South China Sea, which indicates that for China, the Arctic could serve as an instrument for checks and balances, or could be traded for realizing a larger political agenda.

In addition to this, the advocacy of freedom of navigation along the Arctic sea routes was once regarded as a common ground for policy coordination for both parties. However, divergence on the concept of freedom of navigation has widened as the tensions in the South China Sea escalate. China prefers to restrict freedom of navigation to commercial vessels, while the United States would like to include naval warships.



There is tendency for U.S.-China Arctic relations to gradually shift from limited cooperation to a zero-sum game, which, to the surprise of no one, reflects the overall U.S.-China relationship. However, it is assumed that developing functional cooperation with the United States, especially in the domains of scientific research and low-politics issues such as search and rescue and prevention of marine oil pollution, would constitute the fundamental approach for China to build mutual trust and synergies with the United States in the Arctic.

# 06

## Self-organization: The Governance of CAO Fisheries in the Global Commons

Min Pan

Global commons are areas and resources beyond the jurisdiction of sovereign states, open for use by all countries, companies, and individuals around the world. By definition, the high seas and seabed and subsoil beyond the limits of national jurisdiction are global commons. The Central Arctic Ocean (CAO) is part of the global commons. However, it is not always identified as such, unlike the Antarctic. For example, the United Nations defines the global commons as “natural assets outside national jurisdiction such as the oceans, outer space and the Antarctic.”

Fish in the CAO are part of the common pool resources. Common pool resources are not subject to exclusive rights and cannot be owned by any single entity. That is to say, common pool resources have nonexclusive and competitive characteristics; hence these resources are not restricted to an individual or group. However, these resources are limited, and competition and excessive use will lead to depletion or even destruction of the resource. This is also referred to as the “tragedy of the commons,” a term coined by Garrett Hardin in his paper published in *Science* in 1968.<sup>8</sup> It proposed that the natural environment, as a common, was in danger of destruction due to the innately self-interested behavior of humanity. The tragedy of the commons has been a recurring phenomenon in history and some analysts suggest that people are not able to avoid this tragedy and the resources in the Arctic may eventually succumb to it.

With climate change, the CAO is emerging as a new global commons. Every international actor including states, private companies, and individuals can seek out resources including fish stocks. The race to harness these resources along with the disorganized nature of international society prevents a unified public authority from evaluating global public goods and their allocation. In addition, the lack of an integrative, Arctic-specific, legally binding treaty heightens the risk of over-exploitation of renewable resources such as fish stocks.

How can this scenario be avoided? One explanation for the tragedy of the commons is that property rights in the commons are unclear and any individual can use the resource freely and without restraint. According to the “rational choice” theory, the individual will seek to maximize individual benefit. Based on this belief, establishing rights and duties for using resources will prevent individual exploitation and ultimately the depletion of resources. In other words, privatization of commons and clear property rights are effective ways to avoid the tragedy of the commons.

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<sup>8</sup> Garrett Hardin, “The Tragedy of the Commons,” *Science* 162, issue 3859 (December 1968): 1243–48.

Tragedy of the commons also occurs due to the lack of effective management of resources. Some scholars advise that the commons should be under the control of the government. The government must enforce the laws strictly and take tough measures to avoid the tragedy. This means that the solution to the tragedy of commons relies on the strict enforcement of the law rather than on personal morality. Unfortunately, this approach is not appropriate for the CAO.

There is currently no integrative, Arctic-specific treaty, and the eight Arctic Council states lack the interest and enthusiasm to create a new system. Even if a new system or treaty were to be created, there is no political entity to strictly enforce it. Presently, the UN Convention on the Law of the Sea (UNCLOS) governs the resolution of disputes. The CAO fisheries management may well be a process of self-organization. All actors—state and nonstate—should engage with one another to establish codes of conduct and clear rules of engagement in the CAO. This process must be open to all participants and encourage information sharing about CAO fisheries. As the number of actors, both state and nonstate, increases in the Arctic, these open discussions will be important for the future management of the CAO and its fisheries.

There are four stages in the process of the self-organizing to govern CAO fisheries. The first stage is competition. Different interests and ideals usually motivate competition between different actors. The different states have varying proposals and opinions regarding the management of CAO fisheries. The issue with the CAO fisheries began in 2007, as the U.S. Senate passed a resolution directing the U.S. government to pursue an international agreement for the CAO. Following this decision, officials from the “Arctic Five”—Canada, Denmark, Norway, Russia, and the United States—met to discuss a way forward. They eventually signed the Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean in July 2015, which constituted consensus among the Arctic countries.

The second stage concerns synergetic effects, which are caused by enhanced cooperation and recognition of the formation of the international system. Through cooperation, the governance of CAO fisheries will be transformed from a disorderly to orderly process. At this point, the five Arctic coastal states will cooperate on CAO fisheries issues, with more states, including non-Arctic states, reaching a consensus on fisheries governance. They will work together more broadly to develop measures consistent with the July 2015 declaration, including commitments by all interested stakeholders to effectively manage CAO fisheries.

The third stage is the establishment of governing principles and mechanisms to enforce and support the new CAO governance system. Environmental protection and resource development will be the main principles behind CAO fisheries management and will include state and nonstate actors. The CAO fisheries will be managed and developed under the principle of peace, and the countries and actors should follow the principle of international cooperation. This will ensure that governance of the CAO fisheries will take place in a virtuous cycle while avoiding security dilemmas.

The last stage is expanding and evolving influence on the existing order. The order that has been established will guide the activities of new Arctic actors that seek to play a role in the Arctic’s development. Their actions will be bound by the treaty, which affirms their commitment to the larger governance structure. In sum, CAO fisheries management will be a process of self-organization based on the above four stages.

As a stakeholder in Arctic fisheries, China needs to strengthen international cooperation with Arctic countries, individually and collectively. Future bilateral cooperation between the United States and China should focus on the management of CAO and include scientific research, resource development, and infrastructure.

# 07

## Future Trends of Arctic Sustainable Development and Opportunities for U.S.-China Cooperation

Kai Sun

The Arctic is undergoing transformative changes. This poses not only challenges, but also opportunities for the region. The changes and challenges in the Arctic are truly global in nature and scale, and the consequences of these in the future will expand beyond the Arctic. The group of countries within the Arctic Circle cannot solve the global challenges by themselves. The problem demands a global response.

The Arctic is no longer a quiet, distant place beyond the reach of international attention. Profound changes are taking place in the Arctic that have attracted the attention of regional and international actors. Potential business, transportation, and strategic opportunities are opening up as the ice continues to melt in the Arctic. The region has been rediscovered not only by Arctic states, but also by countries from outside the region that have found new interests in the region. Thus, the Arctic is destined to have increased human activities such as increased shipping in the Arctic passages, enhanced resource development, and infrastructure development. There are also emerging issues like fishing in the Arctic region and increased tourism.

The concern about increased human activities in the Arctic is the impact it may have on a fragile environment and the numerous ecosystems that thrive in the Arctic. As a result, there are efforts to limit how much these natural habitats are disturbed. There are several things that need to be balanced with increased human activities in the Arctic. First, we need to balance the needs of both the present generation and future generations. Simply put, this is the definition of sustainable development. Second, we need to balance the interests of Arctic states with those of non-Arctic states. It is obvious that those two groups see the Arctic differently; however, they share common interests and face similar challenges that will bring them together and require cooperation. Third, we need to balance economic development and environmental protection in the Arctic. The increased interest in the Arctic is driven by economic interests, which include the opening of the Arctic sea routes, arctic oil and gas development, fishing, and tourism. For the activities in the Arctic to be sustainable, they should be properly managed and held to a high standard of good governance.

There are some possible areas for U.S.-China cooperation on Arctic issues. Scientific research in the Arctic is the first and obvious area for the two countries to cooperate. In fact, the two countries have already conducted many joint research programs in this area. U.S. leadership in the region is

evident in its position in the Arctic Council, particularly as it took over the chairmanship of the organization in May 2015. As the Chair of the Arctic Council (2015–2017), the United States has emphasized the role of science and science cooperation. The Arctic scientific cooperation agreement—agreed to in July 2016, where representatives of all eight Arctic nations signaled their intention to sign the agreement during the Arctic ministerial meeting in spring 2017—will provide more momentum to promote scientific cooperation among the Arctic countries and other stakeholders. China and many other countries are conducting research on Arctic issues and have a lot to offer as long as there are appropriate channels to contribute.

Second, the United States and China, along with other countries, can better cooperate on formulating rules for governance on emerging Arctic issues. The emerging challenges in the Arctic demand new tools of governance. However, demands for a global response do not mean that cooperation can be achieved easily. Leadership is needed in fostering strong, effective, and workable agreements. The United States and China are leaders in many areas, and the rest of the world is looking at how these two countries can better cooperate, which would provide an example for the rest of the world to follow. We are glad to see that polar affairs have been an important issue in the U.S.-China Strategic and Economic Dialogue in past years. We need to keep the momentum going in order to build a consensus on these issues, which will possibly have a spillover effect on other issue areas.

The third area of cooperation that is key to sustainable development is public education. There are two types of education: The first type is education that relates to issues regarding science and technology in the Arctic, an area where cooperation is already present between experts and scientists. The second type is educating the general public. This area needs greater attention and will help build awareness of the many challenges facing the Arctic. For example, the general public in China does not have much knowledge about the Arctic because this is a new issue. As a result, China is trying to increase public education through projects describing the connections between China and the Arctic. In April 2016, China's Central Television aired a documentary on the Arctic for eight consecutive nights.

In this new era of multidimensional diplomacy, better cooperation and understanding of Arctic issues can be built not only from meetings between top leaders and international summits. Actions are being taken at the working level, which includes nongovernmental organizations, think tanks, and multinational corporations. Those actors have done a lot in this field.

Nongovernmental organization, such as the Pew Charitable Trusts, World Wildlife Fund (WWF), and Greenpeace, are doing an excellent job in their research, policy shaping, and awareness building related to Arctic issues. There are also exchanges between think tanks and academic institutions in the United States and China whose research focuses on Arctic issues. And among the multinational corporations are the American Bureau of Shipping and China Ocean Shipping Company cooperating on trans-Arctic voyages through the Northern Sea Route. This kind of cooperation on issues of sustainable development in the Arctic should be strengthened. The Arctic is a global challenge that requires a global response. The only way to maintain a peaceful, stable, and secure Arctic is by meaningful, robust, and committed cooperation among the United States, China, and other stakeholders.

# 08

## Sino-U.S. Scientific Cooperation in the Arctic: Challenges, Opportunities, and New Approaches

Pei Zhang

The Arctic is changing due to globalization, climate change, ice melt, technological development, and increasing commercial activities. Thanks to scientific research by both Arctic and non-Arctic states, we are gaining a better understanding of the region. The Arctic is environmentally fragile and the region is warming. As a result, the Arctic needs more international scientific cooperation to deal with these challenges and to promote sustainable development. The United States, as an Arctic country, has so far played a leading role in generating knowledge on the Arctic. China, as a non-Arctic country, has made some incremental contributions in this regard. It has conducted scientific research in the Arctic during the past decades. China and the United States have maintained a good tradition of cooperation in the field of science. In the context of a new era of building a major power relationship between China and the United States, there exist both challenges and opportunities in Arctic scientific research cooperation. Both countries should explore the new approaches for deepening their Arctic scientific research cooperation to meet the urgent challenges in the Arctic.

### China's Involvement in Arctic Scientific Research

Contrary to common belief, China is not a "newcomer" in scientific research in the Arctic. China's first involvement in the Arctic can be traced back to 1925, when China became a signatory country of the Spitsbergen Treaty. According to the treaty, China enjoys equally the rights of fishing and hunting in the territories specified in Article 1 and in territorial waters, in addition to the right to exercise all maritime, industrial, mining, and commercial enterprises both on land and in territorial waters.

China has undergone distinct phases in its Arctic scientific research. From 1950 to the 1990s, China conducted individual scientific research in the Arctic. The late 1990s marked a new era for China's scientific research in the Arctic. Under the auspice of the Chinese Arctic and Antarctic Administration (CAA), China has successfully organized six Arctic scientific expeditions by *Xuelong* in 1997, 2003, 2008, 2010, 2012, and 2014. China established its first Arctic station, the Yellow River station, in 2004 in Ny-Alesund, Norway. The station enables China to perform and widen its scientific research and cooperation in the Arctic region. The year 2015 was the twelfth in succession that the CAA has organized the Chinese national arctic research in the Yellow River station.

China's Arctic scientific research is based on international cooperation. It is embodied in several categories: Chinese individual scientists participated in other countries' Arctic scientific research; China invited scientists from other countries to join the Xuelong expeditions; China was one of the sponsor countries of the fourth International Polar Year (IPY), 2007–2008; China became a member of the International Arctic Science Committee (IASC) and the International Arctic Social Science Association (IASSA); and China has maintained good bilateral and multilateral scientific research relationships with Arctic countries, as well as with intergovernmental and nongovernmental organizations.

## Tradition of Sino-U.S. Scientific Cooperation

China and the United States have a good tradition for scientific research cooperation. Science and technology have been primary vehicles for growing the bilateral relationship between China and the United States since the opening of relations between the two countries in the late 1970s.

In 1979, China and the United States signed the first Agreement on Cooperation in Science and Technology (S&T), one of the first agreements China signed with foreign governments at that time, launching an era of robust government-to-government science and technology collaboration that continues to this day. The exchanges fostered under the agreement have advanced cooperative research in an array of fields, including fisheries, earth and atmospheric sciences, basic research in physics and chemistry, a variety of energy-related areas, agriculture, civil industrial technology, geology, health, and disaster research.

Sino-U.S. scientific cooperation is present not only at the government-to-government levels, but also in local government S&T cooperation, enterprise research and development cooperation, and personnel training and exchange programs. Sino-U.S. scientific cooperation has been an indispensable part of building a new type of major-power relationship between the two countries.

## Challenges

The Sino-U.S. relationship is the most important and complicated bilateral relationship, due to the differences between the sociopolitical systems and development experiences of these two large economies. As one part of this relationship, Sino-U.S. scientific cooperation would inevitably be influenced and constrained by evolving bilateral relations. There remain significant tensions in their overall bilateral scientific and technological exchange and cooperation, which are also reflected in the Sino-U.S. scientific research cooperation in the Arctic. These challenges from the U.S. perspective include suspicion about China's real intentions and policies toward the Arctic, national security fears, and concern over intellectual property protection. These concerns may get worse in the new era of power transition and the new strategic distrust between these two countries. A new U.S. president may cause new uncertainties in Sino-U.S. scientific research cooperation and in overall relations in the Arctic.

## Opportunities

There will also be new opportunities for these two countries to improve scientific research cooperation. First, China has put forward new foreign strategic thinking to deal with the United



States—for example, cooperation in the Arctic and promotion of good global governance. In the past three decades, China maintained a tradition of good cooperation with the United States in scientific research, which laid a foundation for scientific cooperation in the Arctic. Furthermore, China’s scientific research abilities and contributions have become increasingly important to the world and the Arctic region. The Arctic is becoming an emerging issue in global development and an important area for new cooperation between China and the United States in the scientific research field.

## New Approaches

The Arctic is facing new challenges in a rapidly changing environment. Acquiring knowledge from the Arctic becomes more and more critical for dealing with these challenges and maintaining sustainable development in the region. Both countries should do more to deepen Arctic scientific research cooperation to meet the urgent challenges in the Arctic.

First is to create a favorable environment to strengthen international scientific research in the Arctic. U.S.-China cooperation in S&T has played an important role in the U.S.-China bilateral relationship during the past several decades. Cooperation and collaboration in S&T remains one of the cornerstones of overall cooperation between the two countries.

Second is to promote bilateral scientific research cooperation in the Arctic both within the framework of the Arctic Council and on the global level. The United States and China remain highly complementary in terms of their respective S&T capabilities. The existing complementary mix of skills and available resources holds great potential for expanding the breadth and depth of U.S.-China cooperation in S&T.

Third, the United States and China should enhance communication regarding Arctic scientific research cooperation through the Sino-U.S. Strategic and Economic Dialogue (S&ED), and through governmental and nongovernmental dialogue. At the same time, they should initiate a joint research program aimed at Arctic scientific research. This program should include institutions, think tanks, and academic exchanges.

# 09

## Cooperation among Arctic Indigenous People and Asian Observers: Challenges and Possibilities

Su Ping<sup>9</sup>

The Arctic has great natural resource potential, particularly oil, gas, and mineral resources, as well as the potential for new shipping routes. However, there are key challenges that pose major obstacles to the development of the Arctic, the largest being the harsh climate. The poor infrastructure in the Arctic is also a challenge that requires major financial investments, including the establishment and maintenance of roads, airports, pipelines, and icebreakers. The fragile ecosystem in the polar region calls for higher standards on Arctic operations, which also adds to the cost of Arctic exploitation. In addition, the continued decline in oil prices has impacted oil and gas exploration in the area, which has resulted in a decrease of the anticipated profits from oil produced from the Arctic.

Due to all these challenges, the Arctic is a region in great need of cooperation, not competition. This will require efforts from both Arctic and non-Arctic states. The Asian observer states constitute the main market of the Arctic development. As the Arctic indigenous people (AIP) have a local experience in the lands they own, the mutual understanding of AIP and Asian observers is important for the development in the Arctic.

### Existing Cooperation between AIP and Asian Observers

There is existing cooperation between AIP and Asian observers. The Arctic Council is the most important regional organization, which consists of permanent participants (PPs), indigenous people's secretariat (IPS), and observer states. The IPS has organized projects that bring together AIP and Asian observers, such as the project "Cold Story Map," an online exhibition supported by an Asian observer. The project provides a platform for indigenous people to show their daily life in pictures. The exhibition helps AIP to transmit to others around the world the challenges and transformations that they face.

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Second, the Northern Forum also has links between AIP and Asian observers. Established in 1974 in Japan, the Northern Forum is the most important local government forum in the high north. Being a regional forum, it covers many projects that relate to AIP, such as green energy and sustainable development. In addition, many representatives of the Northern Forum are AIP, such as the current director, Mikhail Pogodaev.

Third, the International Arctic Science Committee (IASC) has a long history of connecting both Asian states and AIP. Arctic Science Summit Week (ASSW) attracts scientists from both non-Arctic and Arctic states. The core object of the third International Conference on Arctic Research Planning (ICARP III) is to promote constructive relations between Arctic states and non-Arctic states on scientific research and application. At the same time, AIP involvement is important to ICARP III.

Fourth, there is cooperation through other multilateral organizations. One example is the Arctic University, a summer school accommodating students from the Arctic states and South Korea, organized by the South Korea Maritime Research Institute through the Arctic University network. In this summer school, most students from the Arctic states are indigenous. Another example is the China-Nordic Arctic Research Center (CNARC), an academic cooperation framework between China and Nordic states that also combines networking between AIP and Chinese research institutions.

Fifth, there is also worldwide cooperation among indigenous people such as the fifth Reindeer Herders' Conference. The conference was hosted and organized by Inner Mongolia of China in 2013, and the representatives were from both Arctic states and Asian observers.

Last, there is also bilateral cooperation between the permanent participants and Asian observers. One of these is a cooperation project developed between South Korea and one permanent participant, the Aleut Association, located in the Bering Strait. Bilateral cooperation between the AIP and Asian observers is a sensitive issue for Arctic states, especially cooperation with permanent participants, who hold a strategic position.

## Challenges and Possibilities

In spite of the recognized cooperation, there are challenges as well as possibilities. The IPS stands in a key position inside the Arctic Council to promote cooperation between permanent participants and Asian observers. At the moment, there is a lack of staff and funding, which hinders the IPS from effectively helping permanent participants. In this case, some AIP prefer to develop cooperation with Asian observers directly, not through IPS.

As the most important local government institution, the Northern Forum has been involved with several Asian observer provinces, such as Hokkaido of Japan, Heilongjiang of China, and a province of South Korea. However, the current connection with Asian observer provinces is weak due to the challenges within the Northern Forum.

As the most important science cooperation institution, the IASC has no research projects of its own. In addition to this, funding and data sharing inside IASC are limited due to the government regulations. The data could contribute both to the sustainable development of the AIP as well as to

climate change. The CNARC, Arctic University, and IASC all have potential to promote more cooperation among AIP and Asian observers.

Indigenous people from Arctic and non-Arctic states do not have the ability to convene frequently. The key to further cooperation among indigenous people of the Arctic and Asian observers is finding the capacity to convene, including travel costs for the international conference.

## Conclusion

With the increasing exposure of challenges in the Arctic, mutual understanding and communication between the AIP and Asian observers is important for the development of the Arctic. The existing cooperation occurs within regional organizations, such as the Arctic Council, Northern Forum, IASC, the Arctic University, and CNARC. This has advantages and disadvantages. The projects with IPS under the framework of the Arctic Council have greater support, but the IPS needs to develop the ability to enhance its support for permanent participants. The project within the Northern Forum depends on the future development of the Northern Forum itself and whether the forum has the ability to attract involvement from local governments among Asian observers. Cooperation within the IASC could promote more data sharing. Additionally, cooperation within research and education organization, such as the CNARC and the Arctic University, has a lot of potential to develop more exchanges and research cooperation. The involvement of indigenous people among Arctic states and non-Arctic states depends on the will and the resources to fund their involvement. The bilateral cooperation between the AIP and Asian observers is a sensitive issue and any further steps will be difficult if the Arctic states are not comfortable with this kind of cooperation.

# 10

## The Arctic: A New Topic of Dialogue between China and the United States

Peiqing Guo

### Common Interests between China and the United States

#### Arctic Environment and Science

The melting of Arctic sea ice brings about global change since it affects the weather of Northeast Asia and North America, as well as agriculture and food security. Arctic oscillation happens frequently. The international community must study and learn the root causes of the changes occurring in the Arctic. However, the vast size of the Central Arctic Ocean (CAO) and the harsh and complicated ocean environment are the main challenges to scientific investigation and research in the region. However, neither a single country nor a group of states could solve the pending issues in the area, much less research the entirety of international waters of the CAO, which measure 2.8 million square kilometers. The Arctic is gaining in international attention. Inevitably, this means that China and the United States will have to cooperate in conducting research in the area. According to the Arctic research plan from 2013 to 2017, the United States is increasing its input and investment on Arctic research. China will also increase its efforts to better understand this area.

#### Freedom of Navigation

The United States is the strongest sea power, and China has become the largest country for world trade and shipping. Navigational freedom is essential to China, which depends on the international sea routes in supplying the world market. To keep this new corridor open, connecting China with the European Union and North America, the United States and China have to find common ground regarding freedom of navigation.

#### Fisheries Management in the Central Arctic Ocean

The CAO consists of the international waters beyond the national jurisdiction of the Arctic coastal states, which do not have exclusive access to fisheries. China, a large stakeholder, has a significant voice on the Regional Fishery Management Agreement. China and the United States have good exchanges and communication on this issue. It was highly appreciated that the United States implemented a Fishery Management Plan in the exclusive economic zone (EEZ) of Alaska in 2009, which excluded commercial fishing from these federal waters.

## Will Conflict Emerge over Interests?

Although the United States and China have strategic differences in Southeast Asia, Central Asia, Africa, and the Middle East, it is hard to find disputes in the Arctic. If anything, the most possible reason for tensions is misunderstanding or misconception. As opposed to other areas in the world where the United States and China have strong disagreements, the Arctic has been left out of this, since both countries share common interests in the area.

An important question is whether extensive cooperation between the United States and China is possible? At the moment, the lack of motivation by both countries indicates that this is not a possibility for the near future. In order for cooperation to be possible, it is important that both countries look past their own individual interests in the Arctic. Although there is no bilateral cooperation between the United States and China, both countries have deepened their cooperation with the Nordic states. China has taken a pragmatic approach in cooperating with Finland and Iceland. The United States has increased its military and diplomatic ties with two NATO members, Norway and Iceland, since tensions have increased between Russia and NATO in 2014. Furthermore, the United States is "returning" to the North Atlantic by refurbishing the Keflavik, Iceland, military base that was closed in 2006. The United States has also strengthened relations with the five Nordic countries during the U.S.-Nordic Leaders' Summit in May 2016.

Is China or the United States getting an upper hand in the region? Are the Nordic states becoming another potential area of competition? We should prevent the emergence of a new zero-sum game in the Arctic.

## The Way Forward: Improved Scientific Cooperation

In a vast range of situations, mutual cooperation can have more benefits to the parties involved. It has generally been recognized that the Arctic should be a region of peace and cooperation, not a region that will deteriorate into conflict among the parties involved. Arctic science cooperation may be a breakthrough in improving relations. Science cooperation is regarded as a field of low sensitivity and low politics. China and the United States could start with joint research on climate change, a field that the two sides have recognized. Mutual trust that comes from the cooperation can then spill over into other science research fields. Cooperation in the Arctic can offer a new model of cooperation and mutual benefit. In fact, the foundation for this type of cooperation already exists. China respects the leading position of the United States in Arctic fields such as fishery management in the CAO, and the United States acknowledges China as a legitimate actor in the Arctic. Continued recognition of the other's interests and capabilities makes a new relationship between the two powers possible in the future.

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