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THE NEW ARCTIC: NAVIGATING THE REALITIES, POSSIBILITIES, AND PROBLEMS

Working Group Report

Cover photo taken 100 miles north of Barrow, Alaska, on September 1, 2014.
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Institute for the Study of Diplomacy

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Institute for the Study of Diplomacy
Working Group Report, 2018

With generous support from the Carnegie Corporation of New York's "Bridging the Gap" initiative, in October 2016 the Institute for the Study of Diplomacy launched a two-year working group series entitled "The New Global Commons: Emerging Global Diplomatic Challenges." Bringing together senior practitioners, policymakers, and leading academics, the series harnesses the experience and collective knowledge of this broad range of experts to discuss and find workable policy solutions and guiding principles to some of the world's most pressing issues through the end of the decade and beyond. Over the course of two meetings in late 2017, the series' third working group looked at the challenges of an increasingly ice-free Arctic.

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Dear Colleagues,

“Out of sight; out of mind.” The Arctic is remote, forbidding, and the stuff of legends. Few ever visit. Few believe what happens there is of any consequence to their daily lives. What became clear to all members of this working group, the third in our series on The New Global Commons, is how very wrong these assumptions are. Irrefutable changes brought about by rapid warming—more rapid than anticipated and more rapid than elsewhere on the planet—probably cannot be reversed and may not be able to be slowed. The impact of this new, warmer Arctic can already be seen, and already has consequences for our daily lives. As one NOAA scientist put it, the water that poured into Houston in 2017 began life as an Arctic glacier.

If the changes cannot be reversed, they still can and must be managed. To do so effectively will require far more substantial investment in scientific research, investment in critical infrastructure, and collaboration amongst littoral states, other key governmental players, the scientific community, the private sector and, it must be stressed, the indigenous peoples who inhabit and depend on this shifting ecosystem. The current non-militarization must be affirmed.

Fundamentally, the Arctic has become the new Global Common. We cannot afford to allow it to become the next global flashpoint.

The policy and the science infrastructure exist, but may in their current forms be inadequate for the new challenges. Repurposing rather than reinvention is needed, with lines of communication within and among all parties strengthened as a national priority. The Arctic Council provides a framework for political cooperation. The 2016 Arctic Scientific Ministerial provides a baseline, as do a number of Track II initiatives.

The New Arctic holds promise for global commerce and energy. Routine shipping routes, perhaps possible by 2030, would be comparable in import to the Suez and the Panama canals. Any increased use of the region for resource exploitation, transshipment, or cruise ships must take into account the realities of fickle and dangerous weather and the current lack of basic infrastructure, including search and rescue. Gas and oil resources can only be estimated, as are other mineral wealth, but require a protocol based on the Law of the Sea convention, and arrangements comparable to Antarctica and the Deep Sea Mining Convention. Current political realities make this difficult, but precedents exist.

While seemingly inhospitable, the region is home to four million indigenous people whose livelihoods are threatened by both the climate-driven changes and the intrusion of commercial activity. Cuddly polar bears, long the totem of threats to the Arctic, have become starving nomads... symbols still of the impact of shifting weather patterns to food security for animals, sea life, and those who depend on them.

Overlaying these measurable dynamics is the potential for increased competition among major regional players—the Nordic states, Canada, Russia and, while not a littoral state, China and its vast commercial interests. Russian resurgence along its coastline, while not up to Cold War levels, is worrisome. China's shipping and energy interests—and the Polar Silk Road—reflects that country's arrival as a major commercial and investment player in the region.

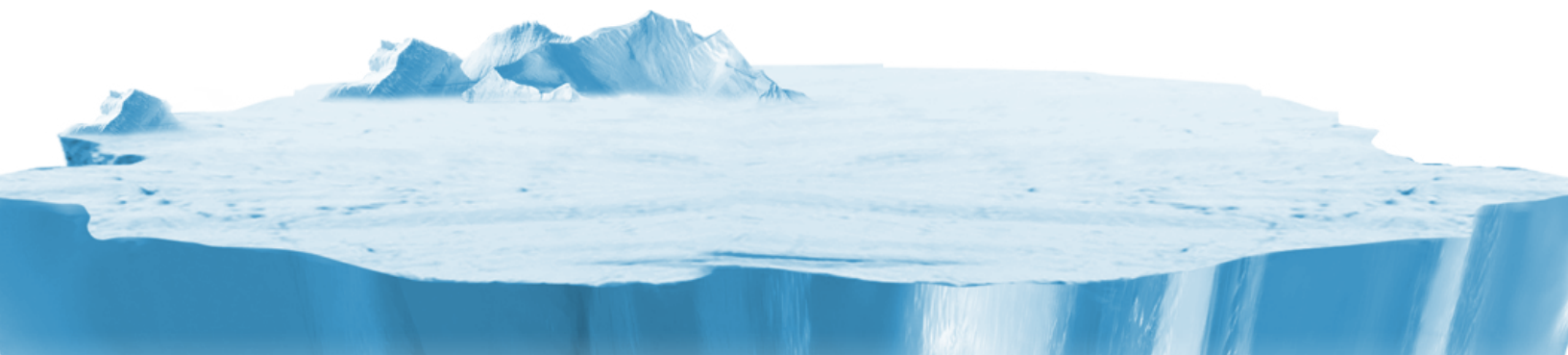
US re-engagement is late, inadequate to our interests, and erratic. The current administration has not made either the policy or the financial investment needed to shape the multilayered conversations needed to best serve our interests. It is open to discussion whether our strained relations with our natural partner—Canada—will spill over to Arctic cooperation. Currently, our policies and priorities are, well, at polar opposites.

The working group examined these questions and offers for consideration a series of recommendations and guidelines grounded in fact, not fantasy or wishful thinking, built on existing albeit possibly insufficient political structures, and mindful that if we do not get this right, the damage will be global.

I hope you will find this report as sobering as we in the working group found our discussions, and that the results provide a measure of optimism that, with good science and wise policy leadership, we can adapt to and survive the forces we have already unleashed.

A handwritten signature in black ink that reads "Barbara Bodine". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Barbara K. Bodine
Director, Institute for the Study of Diplomacy



THE NEW ARCTIC:

Navigating the Realities, Possibilities, and Problems

INSTITUTE FOR THE STUDY OF DIPLOMACY

The rapidly changing Arctic will have profound environmental, social, cultural, economic, and geopolitical effects that extend well beyond the region. Warmer temperatures and melting ice create rising seas and increasingly strong and unpredictable storms around the globe, and pose new ecological risks to local livelihoods. Less ice for longer periods each year brings the promise of new transportation routes and access to natural resources, but the opportunities do not come without challenges. This will mean more traffic in a region lacking infrastructure, environmental safety measures, and widespread search and rescue capabilities. And there may be new security challenges from Arctic as well as non-Arctic states.

To explore all of these Arctic issues and discuss the geopolitical repercussions of the changes to the region, in late 2017 the Institute for the Study of Diplomacy convened a working group on “The New Arctic: Navigating the Realities, Possibilities, and Problems.” Experts on the Arctic, climate change, and security policy joined senior policymakers, practitioners, and academics to explore the nexus between the New Arctic and geopolitics, focusing on what individual nations, regional bodies, and the international community need to do now to prepare for a new normal in the Far North.

The ISD working group produced a set of **Guiding Principles and Policy Recommendations** for policymakers, non-governmental organizations, academic institutions, and regional and international bodies to incorporate into their near-term planning. **The overarching goal, ISD believes, is to preserve the Arctic’s de-politicized and demilitarized status while balancing economic benefits and environmental integrity, in concert with the needs and views of the local communities.**

SUMMARY BRIEF

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INSTITUTE FOR THE STUDY OF DIPLOMACY

Founded in 1978, the Institute for the Study of Diplomacy, an integral part of the Walsh School of Foreign Service, brings together diplomats, other practitioners, scholars and students from across and beyond Georgetown University to explore global challenges and evolving demands of diplomatic statecraft, to better understand the nexus of theory and practice, and to enhance and expand an appreciation of the role of diplomacy as a critical tool in national policy.

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These priorities cover a broad range of efforts:

- ❑ **Step up shared research and knowledge to encourage effective Arctic policymaking.** Understanding what's happening in the region—and being able to assess what the future will hold—is key to solid policymaking and crafting effective Arctic strategies.
- ❑ **Encourage and support creation and collaboration amongst regional scientific actors.** Pooled knowledge and coordinated efforts offer exponentially greater benefits for all Arctic nations, but also will help us understand the global nature of these changes.
- ❑ **Build on the Arctic Scientific Ministerial.** This type of collaboration enhances the relationship between science and policy, and regular meetings of this group will help underpin the implementation of realistic and strategic Arctic policies.
- ❑ **Commit diplomatic and intelligence capacity to better understand the interests, priorities, and actions of relevant Arctic stakeholders.** There are reasons to address and discuss Russia's endgame—is it strategic or resource-driven, or some degree of both? Likewise, the United States and Arctic partners need to forge a closer relationship with China, which sees for itself a major role in the region. Across all these facets of the New Arctic, there also needs to be a concerted effort to research relevant past issues and events to shed light on policies for the future.
- ❑ **Build partnerships with allies and adversaries alike, both formally and through Track II dialogues, as a critical path to future Arctic success.** To realize the unique talents and resources of each individual nation and/or group, it is important to work with partners in the Arctic, not against them. Likewise, all Arctic nations should support ongoing Track II initiatives and encourage new efforts to bring together interested parties from all key stakeholders to work on these issues.
- ❑ **Hold in-depth discussions on the next steps for the Arctic Council.** Whatever decisions are made regarding the Council's future goals and priorities, there is a need to explore the current structure and new demands on the Council—and what form and role it may take on in the years ahead.
- ❑ **Create more of a “North American Arctic.”** Across countless Arctic issues, in many ways the United States and Canada often read from the same script. With this in mind, it makes sense for US and Canadian policymakers to collaborate closely.
- ❑ **Communicate better, and more proactively, about Arctic issues.** Few people are fully aware of all that is happening in the Far North, and fewer still understand the multiple ways these changes will affect their lives. Scientists, policymakers, and interested parties alike share the important task of educating the public on all things Arctic.



Arctic sea ice, 1984 and 2012
Credit: NASA Earth Observatory



Credit: U.S. Navy photo by Chief Yeoman Alphonso Braggs
<https://pxhere.com/en/photo/1254979>

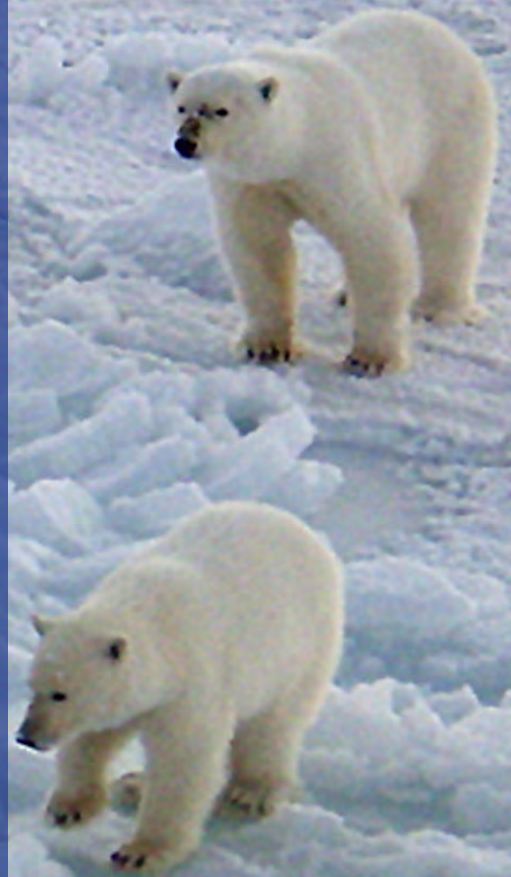
Introduction

The Arctic is drastically changing and there is no turning back. The nearly 8 million square miles north of the Arctic Circle are home to more than reindeer, polar bears, and whales. For centuries, intrepid explorers sailed north in search of routes to link the Atlantic and the Pacific, a feat so futile that many at the time dismissed the “Northwest Passage” as the stuff of fiction. Over a hundred years ago, countries began to stake competing claims to the North Pole. The world and the Arctic littoral states, in particular, now stand on the cusp of a new era—a “New Arctic” that is navigable, exploitable, and yet also increasingly fragile.¹

Once impenetrable and remote, and largely ignored except by scientists and adventure-seekers, the Arctic region is buffeted by fast-moving changes that have profound environmental, economic, and geopolitical consequences—as well as heightened strategic implications. This rapid transformation intrigues nations and entrepreneurs who see vast untapped natural resources and the advantages of shorter trade routes, yet creates new worries for strategists and policymakers concerned about the risks of accelerated environmental degradation and the opening of a new and unparalleled zone of potential military confrontation.

The Institute for the Study of Diplomacy’s third “New Global Commons: Emerging Global Diplomatic Challenges” working group examined both the opportunities and challenges created by the opening of the Arctic region—and the diplomacy and research required to keep the region stable and secure.

¹ Michael Sfraga, “The Arctic, from Romance to Reality,” *Summer 2017: Into the Arctic, The Wilson Quarterly*. <https://wilsonquarterly.com/quarterly/into-the-arctic/the-arctic-from-romance-to-reality/>.



This group addressed some stark realities. The Arctic is warming at twice the speed of the rest of the world, providing access to untapped natural resources along with new navigation routes across a 1.1 million square mile expanse of ocean that is increasingly open for longer periods, as more ice melts each year. Many, if not most, Arctic scientists concur that we have underestimated the pace of Arctic warming and are just beginning to understand the full global impact of climate-related changes that are not only dramatic but probably irreversible.

The rapidly melting sea ice creates an Arctic amplification process where once-reflective surfaces now absorb heat, boosting the temperatures further and leading the region on a one-way trip to an unpredictable environment and ecosystem.² The resultant thawed permafrost releases exponentially higher levels of both methane and CO₂ into the atmosphere, which accelerates the cyclical engine of even higher temperatures and increased thaws. This is a vicious cycle that most probably is unstoppable at this stage.

There is an unprecedented geopolitical jockeying of Arctic and non-Arctic contiguous nations—to date undertaken collaboratively, and within international norms. This is the type of global shift not seen since the “opening” of the Americas and Africa by European nations 500 years ago. Concerned states—joined by alliances of indigenous peoples—have begun to develop and adopt structures and mechanisms to manage the many changes ahead for the Arctic region. However, shifting interests and new opportunities could mean that those structures and mechanisms may not be sufficient in the future. While science cannot predict exactly what the New Arctic will look like a decade

2 “The fast-melting Arctic is already messing with the ocean’s circulation, scientists say,” *The Washington Post*, March 14, 2018, https://www.washingtonpost.com/news/energy-environment/wp/2018/03/14/the-melting-arctic-is-already-messing-with-a-crucial-part-of-the-oceans-circulation-scientists-say/?utm_term=.8b591ae3d1c6.

or several decades from now, the broad outlines of these changes suggest the need for more focused and collaborative action by policymakers, in concert with local inhabitants, scientists, and the private sector.

A case in point: Erratic weather patterns and inadequate forecasting infrastructure will be a threat to navigation as container vessels, oil tankers, and cruise ships ply waters once blocked by year-round ice; and energy and mining companies consider broader exploration and exploitation of Arctic resources. For now, the region lacks the scale of search and rescue (SAR) capabilities needed to meet the anticipated rise in maritime activities.

There are near-term human impacts to address as well. Rising sea levels have washed away a number of coastal Arctic villages—and more are under threat. As the buffer of sea ice shrinks, these communities become far more vulnerable to damage and erosion from winter storms. Changing ecosystems also bring new threats to land and marine species that provide the traditional livelihoods for many indigenous communities (see p. 4).

This is not a regional issue. What happens in the Arctic does not stay in the Arctic—to borrow from one popular saying. Water that flooded neighborhoods and countless homes in Houston in the fall of 2017 began as melting glaciers in the Arctic, for instance. Rising temperatures in the north alter traditional jet stream patterns—causing longer, more severe droughts in the western United States and Canada; widespread changes to seasonal temperatures and agricultural production; polar vortexes and plunging winter temperatures on the East Coast; and tropical hurricanes arriving with greater force and frequency, both in the Americas and in Europe.

Who Lives in the Arctic?

The Arctic region—the area north of the Arctic Circle at 66° 34' N latitude—is home to approximately 4 million people, 10 percent of whom are indigenous to the region. The region includes parts of eight nations—Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden, and the United States. The Arctic population lives in large modern cities and small traditional villages, and there are a dwindling number of nomadic tribes.¹

The largest concentrations of indigenous peoples live in Greenland and in Canada's Northern Quebec region. Indigenous tribes and groups in the Arctic include:

- the Aleut, Inuit (Iñupiat), and Yup'ik in Alaska
- the Inuit (Inuvialuit) in Canada
- the Inuit (Kalaallit) in Greenland, a self-governing Danish territory
- the Saami in polar regions of Finland, Sweden, Norway, and northwest Russia
- the Chukchi, Evenk, Khanty, and Nenets in Russia²

The Arctic is also home to non-native populations who come to work in government, industry, military, research, tourism, and resource extraction—including oil, gas, and fishing. Iceland and the Faroe Islands (a self-governing Danish territory) have no indigenous populations.³

In 2018, the Arctic Council, the primary intergovernmental forum for the eight Arctic nations, included six indigenous peoples' organizations as Permanent Participants, with consultation rights on the Council's negotiations and decisions:

- Aleut International Association
- Arctic Athabaskan Council
- Gwich'in Council International
- Inuit Circumpolar Council
- Russian Association of Indigenous People of the North
- Saami Council⁴

1 Oleg Anisimov, David Vaughan, Terry Callaghan, Christopher Furgal, Harvey Marchant, Terry Prowse, Hjalmar Vilhjalmsón, John Walsh, "15: Polar Regions (Arctic and Antarctic)" in *Climate Change 2007: Impacts, Adaptation and Vulnerability*, IPCC, <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter15.pdf>

2 Arctic Centre, "Arctic Indigenous Peoples," University of Lapland, <http://www.arcticcentre.org/EN/communications/arcticregion/Arctic-Indigenous-Peoples>.

3 Timothy Heleniak, "Arctic Populations and Migration" in *Arctic Human Development Report: Regional Processes and Global Linkages*, Nordic Council of Ministers, February 17, 2015, <http://norden.diva-portal.org/smash/get/diva2:788965/FULLTEXT03.pdf>.

4 Arctic Council, "Permanent Participants," <https://www.arctic-council.org/index.php/en/about-us/permanent-participants>.



The Arctic states have taken further steps to consult more with local communities—in particular, to tap into the expertise of indigenous groups on local ecosystems, the regional environment, and time-tested resource management techniques.⁵ The Arctic Council’s 2017 Agreement on Enhancing International Arctic Scientific Cooperation encourages states to utilize and protect this vast local knowledge.

Melting glaciers leave those living in the Arctic increasingly vulnerable to rising sea levels. The warming Arctic also leads to loss of sea ice—formed from seawater, rather than fresh water—which means added difficulties for Arctic inhabitants that rely on traditional livelihoods and food sources. As global interest in the Arctic brings new political, economic, and cultural changes within the Arctic Circle, there will be further changes and challenges to these populations’ way of life.

⁵ Arctic Centre, “Traditional Knowledge,” University of Lapland, <http://www.arcticcentre.org/EN/communications/arcticregion/Arctic-Indigenous-Peoples/Traditional-knowledge>.



The New Arctic also means new security issues. Will the eight nations that ring the Arctic vie for control over and access to sea lanes and resources? There may be new strategic challenges as other countries without direct claim to the Arctic (most notably, China) seek to establish a northern presence in anticipation of these new sea routes. There are rising concerns about the Russian military build-up or the number of new Chinese icebreakers. And there are potential threats to global food security. As an example, the Arctic region currently provides roughly 35 percent of US fish stocks, which puts American food security at risk as the ecosystem changes, but also is a growing concern to local economies that depend on fishing.

These are just some of the Arctic-related questions and issues. This report centers on three overarching points:

- **Surprise is the new normal in the Arctic.** The region’s environmental conditions and ecosystems remain highly volatile. Scientific research and scientific collaboration among affected states have increased, but the ongoing, drastic climatic changes render any high degree of predictability impossible. This has repercussions for environmental mitigation or adaptation measures, and for overall policymaking in the region—and inattention to these questions is not a viable option. As a first step, there is a significant need for increased scientific collaboration on data related to environmental changes in the Arctic region.

- **The Arctic is a multi-level issue set.** There are local concerns about coastal erosion, loss of traditional livelihoods, and the dual-edged prospect of increased tourism. Governments within the Arctic zone face the broader challenge of installing the infrastructure and governance frameworks to manage future economic opportunities and new shipping routes—along with increasing militarization by some parties. And there are global issues, including improved resilience and prediction capabilities for rising sea levels and new and more volatile weather patterns.
- **This is a New Global Commons.** Even countries with no direct Arctic claims have begun to show far greater interest in the region. For some, this interest reflects concerns about the anticipated climate change-induced effects elsewhere in the world. Other countries see long-term opportunities in resource extraction, or the promise of more direct polar shipping routes. China's regional ambitions and the attention of other non-Arctic nations such as Singapore are a case in point.

These overview points speak to the importance of the Arctic region and its future form—from the environmental, governance, infrastructural, and security standpoints. The task now is to keep these issues within the multilateral realm wherever possible, and maintain the current zone of peace and cooperation. There is work to be done on all of these questions, with input from the full range of relevant players: national governments, the scientific community, nongovernmental organizations (NGOs), academia, and think tanks. Ultimately, regardless of current US politics and priorities, the United States has an important role in working with these players to chart policies that serve both the United States and the region.

Scope and Purpose

A goal of this report—and of the working group meetings that helped produce it—is to map out the emerging nature of the New Arctic, from a human, environmental, military, economic, geopolitical, and global perspective. The Arctic presents great possibilities, along with the potential for negative trade-offs. Shrinking ice opens new areas for hydrocarbon extraction, for instance, but this also brings an increased risk of environmental hazards and accidents that can turn deadly because of inadequate search and rescue capabilities. The new and faster sea routes that explorers and traders dreamed about for centuries are coming to fruition, but will also mean an increased Russian military presence and a more engaged China, creating new areas of potential disagreement and conflict.

For now, cooperation and diplomacy continue to be the watchwords—following the goals and guidelines set out by the Arctic Council in 1996. In order to understand where Arctic diplomacy needs to go, this report will first discuss where we have been and how we got here.

The report's second focus will be the strategies and policies—unilateral, bilateral, and multilateral—that individual countries and the global community can put in place to achieve overall security, economic, and humanitarian goals for the region. This report will outline a number of strategies and provide a set of guiding policy principles for both current and future policymakers and non-governmental institutions, within and outside of the United States. This section also includes recommendations on pertinent areas of policy-oriented research to better understand the changing nature of the Arctic, and which policies will best protect its future. The ultimate goal is to steer US and other nations' Arctic policies effectively through these melting waters.

The New Arctic's Environment

There are pressing reasons to take note of rapid environmental changes in the Arctic. First, ice melts open new navigation routes for longer periods each year, but also put new pressures on the regional ecosystem—and impact how coastal communities and indigenous populations sustain their way of life. The melting ice also affects the Arctic ecosystem, from plankton to whales, in ways that are not yet clear. Second, the changes to ice melt patterns and water temperatures affect sea levels worldwide—and appear to bring new and uncertain global storm patterns. We need to understand how these changes affect broader weather and climate change shifts.

Arctic research offers real-time understanding of the effects of climate change on the region but also can provide important clues to the global implications of these changes. As Arctic scholar Ross Virginia notes, “The rapid and palpable changes in the Arctic climate and environment are a harbinger of what the rest of the world will soon face.” As he aptly states, “we are all ‘Arctic citizens.’”³

The Arctic Council’s Arctic Monitoring and Assessment Programme (AMAP) 2017 report, “The Snow, Water, Ice and

3 Ross Virginia, “The Arctic Environment in the Age of Man,” *Summer 2017: Into the Arctic*; *Wilson Quarterly*. <https://wilsonquarterly.com/quarterly/into-the-arctic/the-arctic-environment-in-the-age-of-man/>

Virginia notes that: “Never before has Arctic research been so important to understanding the earth’s environment and climate. Human domination of the planet’s ecosystems and the rapid increase in atmospheric greenhouse gases have caused scientists to propose that we now live in a new geological epoch, the Anthropocene (from the Greek *Anthropos*, or human being). A relatively stable climate, which allowed agriculture to develop and human populations to flourish, characterized the previous epoch, the Holocene, which lasted for about 12,000 years. Since about 1950, man has permanently marked the geological record with human materials and legacies, such as radioactivity, plastics, and concrete. This footprint, which will be visible for millennia, is a sign of our new relationship with the planet.”

Permafrost in the Arctic” (SWIPA), details some of these rapid changes in the region’s environment.⁴ The assessment notes the very real danger of the melting permafrost, which will release large amounts of greenhouse gases into the atmosphere:

Since 2011, downward trends have continued in sea ice thickness and extent, land ice volume, and spring snow cover extent and duration, while near-surface permafrost has continued to warm. With each additional year of data, it becomes increasingly clear that the Arctic as we know it is being replaced by a warmer, wetter, and more variable environment. This transformation has profound implications for people, resources, and ecosystems worldwide.⁵

The SWIPA report highlights three critical points:

- The Arctic Ocean could be largely free of sea ice during the summer months as early as the late 2030s, less than two decades from now.
- The recent recognition of additional melt processes affecting Arctic and Antarctic glaciers, ice caps, and ice sheets suggests that scientists have **underestimated** the low-end projections of global sea-level rise made by the 2014 Intergovernmental Panel on Climate Change (IPCC).
- Changes in the Arctic affect weather in mid-latitudes around the globe, even Southeast Asian monsoons.⁶

⁴ The “Snow, Water, Ice and Permafrost in the Arctic (SWIPA) Assessment Summary for Policymakers” (hereafter referred to as the SWIPA assessment) is a periodic update to the Arctic Climate Impact Assessment, published in 2005 by the Arctic Monitoring and Assessment Programme (AMAP), the Conservation of Arctic Flora and Fauna (CAFF), and the International Arctic Science Committee (IASC). SWIPA focuses on changes to the Arctic cryosphere (the portion of Arctic land and water that is seasonally or perennially frozen), and the implications of those changes. The first SWIPA assessment was conducted from 2008 – 2010, and published in 2011. The 2017 report “presents key findings and implications of the second SWIPA assessment, conducted from 2010 to 2016 and published in 2017. More than 90 scientists contributed to the assessment, which was peer-reviewed by 28 experts in a rigorous quality control process.” See the full 2017 SWIPA assessment, <https://www.amap.no/documents/doc/Snow-Water-Ice-and-Permafrost.-Summary-for-Policy-makers/1532>.

⁵ SWIPA Assessment, p. 3.

⁶ Ibid.



Arctic Ice

Sea ice, on average 6 to 9 feet thick in the Arctic, forms as ocean water freezes, thaws partially, and refreezes each year. But there's more to melting ice than meets the eye. Warmer temperatures mean this sea ice does not refreeze completely, leaving more open water each year. The Arctic thus has a diminished ability to reflect sunlight—and that means higher temperatures and more melting.¹

Sea ice also protects coastal areas from erosion, by lessening the impact of winter storms. Scientists continue to investigate how sea ice influences the “global conveyor belt” of water circulating throughout the world's oceans. This circulation of warmer/cooler water, in turn, affects both weather and animal migration patterns.²

Melting sea ice in the Arctic has led to broader expanses of **first-year ice**—which typically forms in the winter and then melts during the warmer summer months.³ This thinner ice makes navigation easier, but is less effective at reflecting sunlight, which means the Arctic is losing its ability to help keep the planet cool.

The warmer Arctic temperatures mean other forms of ice are melting as well—ice sheets, ice shelves, and icebergs. Because these contain fresh water, when this ice melts, sea levels rise. An **ice sheet** is a piece of a glacier, the frozen mass of freshwater ice covering land areas; an **ice shelf** is a thick floating piece of ice that forms when ice sheets flow into the ocean. When a large chunk breaks off, it creates an **iceberg**.

1 National Snow and Ice Data Center, <https://nsidc.org/cryosphere/seaice/index.html>.

2 National Snow and Ice Data Center, https://nsidc.org/cryosphere/seaice/environment/global_climate.html.

3 Frontier Scientists, <http://frontierscientists.com/videos/first-year-versus-multi-year-sea-ice-trend-local-perspective/>.

Environmental and weather changes in the Arctic region continue at a shockingly fast pace. Air temperatures are rising twice as fast as temperatures elsewhere on the planet, and water temperatures are also on the rise. The region now sees shorter periods of crushingly cold weather and, in some areas, longer stretches of warmer weather. In mid-February 2018, temperatures at the world's northernmost weather station were above freezing—some 45°F above normal.⁷ “Sea ice thickness in the central Arctic Ocean declined by 65% over the period 1975-2012,” the SWIPA assessment found. This led to the formation of “first year” ice throughout much of the region. While older ice would last from year to year, first year ice forms only during the coldest months, then melts in the summer, leaving smaller chunks of floating ice. This creates more open waters in the summer, but an increased risk of ice-related hazards as the first year ice begins to drift.⁸ (See p. 10.)

The temperature and sea level rises, along with ice melt, change regional ecosystems. The SWIPA assessment also points out that:

The decline in sea ice thickness and extent, along with changes in the timing of ice melt, are affecting marine ecosystems and biodiversity; changing the ranges of Arctic species, increasing the occurrence of algal blooms, leading to changes in diet among marine mammals; and altering predator-prey relationships, habitat uses, and migration patterns. Terrestrial ecosystems are feeling the effects of changes in precipitation, snow cover, and the frequency or severity of wildfires. The occurrence of rain-on-snow and winter thaw/

⁷ “Arctic temperatures soar 45 degrees above normal, flooded by extremely mild air on all sides,” *The Washington Post*, February 22, 2018, https://www.washingtonpost.com/news/capital-weather-gang/wp/2018/02/21/arctic-temperatures-soar-45-degrees-above-normal-flooded-by-extremely-mild-air-on-all-sides/?utm_term=.d417611e1ca3.

⁸ SWIPA Assessment, pp. 3-4. Also see, for example, a NASA Goddard animation on the melting Arctic: <https://www.youtube.com/watch?v=ferqrZi4WF4>.

refreezing events affects grazing animals such as caribou, reindeer, and muskox by creating an ice barrier over lichens and mosses.⁹

Global temperatures will continue to increase and in fact, recent data show that 2016 and 2017 were the hottest years on record.¹⁰ Models predict that “autumn and winter temperatures in the Arctic will increase to 4-5 degrees Celsius above late 20th century values before mid-century,” which suggests an ice-free Arctic Ocean may happen sooner than expected.¹¹

The Governing Environment

The Arctic Council, created in 1996, remains the main institutional organizational body for the Arctic region. The Council has eight permanent members: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States. Six indigenous peoples’ organizations are also permanent participants. Non-Arctic states can become observers, “along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations that the Council determines can contribute to its work.”¹² (See Appendices 1 and 2.)

The overarching legal framework that governs activities in the region is the 1982 United Nations Convention on the Law of the

⁹ SWIPA Assessment, p. 5.

¹⁰ “It’s Official: 2017 was the Second Hottest Year on Record,” E360 Digest, January 4, 2018, <https://e360.yale.edu/digest/its-official-2017-was-the-second-hottest-year-on-record>.

¹¹ For further analysis regarding the changing environment and its implications, see the full SWIPA report, <http://www.amap.no/documents/doc/Snow-Water-Ice-and-Permafrost.-Summary-for-Policy-makers/1532>.

¹² “The Arctic Council: A background,” pp. 2-3, <https://www.arctic-council.org/index.php/en/about-us>. For details on observer status see: <https://www.arctic-council.org/index.php/en/about-us/arctic-council/observers>.

Arctic Council Members and Observer Nations



Credit: Wikimedia Commons
Arctic_Council_Members.png

Sea (UNCLOS). The United States is not a signatory, yet generally accepts the UNCLOS framework.¹³ “By virtue of UNCLOS, each coastal Arctic state is granted control over all living and nonliving natural resources within its exclusive economic zone, such as fish stocks and hydrocarbons,” a 2014 Council on Foreign Relations (CFR) report explains.¹⁴ (See Appendix 3.)

There was widespread agreement within the working group that the United States should ratify this UN convention. With UNCLOS as the overarching guide for global maritime rights, the United States and other countries follow UNCLOS protocols. While it certainly makes sense to recommend that the United States ratify the UNCLOS agreement, the Senate seems unlikely to take action in the near future, for a host of political reasons. This remains a longer-term goal.

The Arctic Council defines itself as “the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic.”¹⁵

¹³ Even though US administrations from both parties have sought to make the United States a signatory to UNCLOS, Congress has blocked these attempts, citing fears over US sovereignty.

¹⁴ “The Emerging Arctic: Risks and Economic Opportunities,” Council on Foreign Relations, p. 5, https://www.cfr.org/interactives/emerging-arctic?cid=otr_marketing_use-arctic_Infoguide%2523!#/emerging-arctic?cid=otr_marketing_use-arctic_Infoguide%2523.

¹⁵ Ibid., p. 2.

In this goal, the Arctic Council has been highly effective. The Council's decisions are consensus based but there are no enforcement mechanisms. It also strictly refrains from dealing with military security issues. The Council has successfully identified "emerging issues, conducted groundbreaking climate and marine assessments, and established a strong internationally cooperative and consensus-based framework."¹⁶

The Council has been able to negotiate and sign a number of important and legally binding agreements in recent years, and has created a number of new bodies:

- A permanent secretariat created in 2013
- Search and Rescue (SAR Agreement) in 2011 and the Arctic Coast Guard Forum (ACGF) in 2015—though not formally connected to the Arctic Council, the ACGF supports the Council's work¹⁷
- Cooperation on Marine Oil Pollution, Preparedness and Response in the Arctic (OPPRA) in 2013
- The Arctic Economic Council (AEC) established in 2014—though not formally connected to the Arctic Council, the AEC supports the Council's work.

The Arctic Council now stands at a crucial crossroads. As structured, will the Council, headed by the eight Arctic nations, be positioned to govern the region? This question takes on new urgency as non-Arctic states and groups with observer status continue to proliferate.

¹⁶ "The Emerging Arctic," p. 2.

¹⁷ Heather A. Conley and Matthew Melino, "An Arctic Redesign: Recommendations to Rejuvenate the Arctic Council," Center for Strategic and International Studies, February 2016, pp. 1-2, <https://www.csis.org/analysis/arctic-redesign>.

US Allies and Priorities

Like the region itself, US policy toward the Arctic has undergone recent shifts, and at a similar accelerated rate. In the past decade, there has been an increase in US policymakers' attention to the region. The US National Security Strategy of May 2010, for instance, states that "The United States is an Arctic Nation with broad and fundamental interests in the Arctic Region, where we seek to meet our national security needs, protect the environment, responsibly manage resources, account for indigenous communities, support scientific research, and strengthen international cooperation on a wide range of issues."¹⁸

The Obama administration issued a National Strategy for the Arctic Region in May 2013 that highlighted three specific priorities:

- 1) Advance US security interests¹⁹
- 2) Pursue responsible Arctic region stewardship²⁰
- 3) Strengthen international cooperation²¹

¹⁸ "National Security Strategy for the Arctic Region," May 2013, p. 2, https://obamawhitehouse.archives.gov/sites/default/files/docs/nat_arctic_strategy.pdf.

¹⁹ According to the US Arctic strategy, this means that the United States "will enable our vessels and aircraft to operate, consistent with international law, through, under, and over the airspace and waters of the Arctic, support lawful commerce, achieve a greater awareness of activity in the region, and intelligently evolve our Arctic infrastructure and capabilities, including ice-capable platforms as needed. US security in the Arctic encompasses a broad spectrum of activities, ranging from those supporting safe commercial and scientific operations to national defense."

²⁰ The Arctic strategy states that the United States "will continue to protect the Arctic environment and conserve its resources; establish and institutionalize an integrated Arctic management framework; chart the Arctic region; and employ scientific research and traditional knowledge to increase understanding of the Arctic."

²¹ The DOD Strategy notes that, in line with effort three, that "working through bilateral relationships and multilateral bodies, including the Arctic Council, we will pursue arrangements that advance collective interests, promote shared Arctic state prosperity, protect the Arctic

President Obama also created the Arctic Executive Steering Committee in 2015, which established a real coordinating function within the interagency process. This committee provided further clarity on US priorities in the Arctic. This committee produced measurable results and can be extremely useful for current and future policymakers.

In recent years, collaboration on Arctic science and adaptation to climate change formed the backbone of a number of US diplomatic efforts in the region.²² The Obama administration held the first White House Arctic Science Ministerial in September 2016, when “[s]cience ministers from 24 nations convened to discuss the state of Arctic research and develop a more coordinated approach to scientific efforts throughout the North.”²³ US and Canadian cooperation—including President Obama and Canadian Prime Minister Justin Trudeau’s March 2016 “US-Canada Joint Statement on Climate, Energy, and Arctic Leadership”—has guided a vital regional relationship. President Obama and Prime Minister Trudeau gave a December 2016 Joint Arctic Leaders’ Statement, in which the United States and Canada committed to ban all offshore oil and gas activity in the Canadian Arctic for a five-year period, with a permanent ban in the US Arctic.²⁴ However, in January 2018, the Trump administration opted to allow offshore drilling in 90 percent of the US outer continental shelf, including much of the Alaskan

environment, and enhance regional security, and we will work toward U.S. accession to the United Nations Convention on the Law of the Sea.”

22 Thad W. Allen and Christine Todd Whitman, chairs, and Esther Brimmer, project director, “Arctic Imperatives: Reinforcing U.S. Strategy on America’s Fourth Coast,” Independent Task Force Report No. 75, Council on Foreign Relations, 2017, p. 12, <https://www.cfr.org/report/arctic-imperatives>.

23 Sfraga, p. 3.

24 “Trudeau announces review of Arctic Strategy, joint drilling ban with U.S.,” *CBC News*, December 20, 2016, <http://www.cbc.ca/news/politics/trudeau-obama-arctic-1.3905933>.

coastline.²⁵ This policy shift could open much of the US Arctic coastline to oil and gas exploration.

Science diplomacy remains as important as ever. Scientific collaboration serves many purposes, from gathering much-needed data on the region, to creating solid working relationships between different countries regardless of the larger geopolitical context. This type of engagement alone cannot solve the problems we face in the region, nor reap the rewards, but science diplomacy needs to continue—and expand. The world will need more, not less, scientific data on the Arctic in the years to come. Likewise, as the potential for misunderstandings and disagreements increases, solid relationships based on ongoing scientific collaboration can go a long way toward the negotiation of peaceful outcomes.

The foundation of Canada's Arctic foreign policy has been and continues to be the promotion and inclusion of the country's First Nations/indigenous peoples in Arctic policymaking. The government pivoted away from traditional ideas of security and national sovereignty, cutting more than \$8 billion from Canada's Department of National Defense budget for Arctic activities over the next 20 years.²⁶ Prime Minister Trudeau has emphasized diplomacy and cooperation on a wide range of issues, including climate change mitigation and Arctic wildlife protection.²⁷ The Canadian government announced in October 2016 that cooperation with Russia—the two countries control much of the Arctic's land mass—will be a cornerstone of Canada's

25 "Trump expands offshore drilling, reversing Obama ban," CBS News, January 4, 2018, <https://www.cbsnews.com/news/trump-moves-to-vastly-expand-offshore-drilling-ap/>.

26 Levon Sevunts, "Canada's new budget thin on Arctic policy substance: expert," Radio Canada International, March 24, 2017, <http://www.rcinet.ca/eye-on-the-arctic/2017/03/24/liberal-budget-thin-on-arctic-policy-substance-expert/>.

27 Greg Sharp, "Trudeau and Canada's Arctic Priorities: More of the same," The Arctic Institute, December 6, 2016, <https://www.thearcticinstitute.org/trudeau-canadas-arctic-priorities/>.

China's Arctic Ambitions

Declaring itself a “Near-Arctic State,” China released its first official Arctic policy in January 2018, stating its intention “to understand, protect, develop, and participate in the governance of the Arctic”—and build a “Polar Silk Road.”¹ The white paper is not so much a new strategy, but highlights Beijing’s ongoing interests in the Arctic and ties the region firmly into China’s global Belt/Road initiative.²

China believes the Arctic’s new shipping routes and untapped energy resources will be important for the country’s long-term economic and geopolitical interests.³ Although it has no Arctic lands or offshore claim to the Arctic Ocean, China lobbied for five years to join the Arctic Council and achieved permanent observer status in 2013.⁴

In recent decades, China has been actively engaged in Arctic research.⁵ A member of the International Arctic Science Committee, a non-governmental organization that facilitates cooperation on Arctic research, China has carried out eight scientific expeditions since 1996, and operates the Arctic Yellow River Station on Norway’s Svalbard Island and an ice-breaking research vessel.^{6,7} Among non-Arctic states, the Chinese government spends the most on scientific activities in the region. In recent years, China has invested in Greenland’s rare earth mines, along with the construction of a second icebreaker.^{8,9}

China’s growing demand for energy means Chinese companies are in search of new oil and gas sources. With a view to line up new reserves in the Arctic, Chinese energy companies have signed exploration deals with Norwegian, Icelandic, and Russian firms.¹⁰

1 China’s Arctic Policy, Articles I, II and III, http://english.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

2 Anne-Marie Brady, Wilson Center phone conference, February 6, 2018.

3 Anne-Marie Brady, “China in the Arctic: Merging Business with Politics,” Center for Strategic and International Studies (CSIS), May 9, 2017, <https://reconnectingasia.csis.org/analysis/entries/china-arctic/>.

4 Jane Nakano, “China Launches the Polar Silk Road,” CSIS, February 2, 2018, <https://www.csis.org/analysis/china-launches-polar-silk-road>.

5 Brady, 2017.

6 Brady, 2018.

7 International Arctic Science Committee, “About IASC,” <https://iasc.info/iasc/about-iasc>.

8 “Throwing off the Danish Yoke; Greenland,” *The Economist*, May 5, 2018, <https://www.economist.com/europe/2018/05/03/chinese-investment-may-help-greenland-become-independent-from-denmark>.

9 Atle Staalesen, “China Starts Construction of New Icebreaker,” *The Barents Observer*, December 21, 2016, <https://thebarentsobserver.com/en/arctic/2016/12/china-starts-construction-new-icebreaker>.

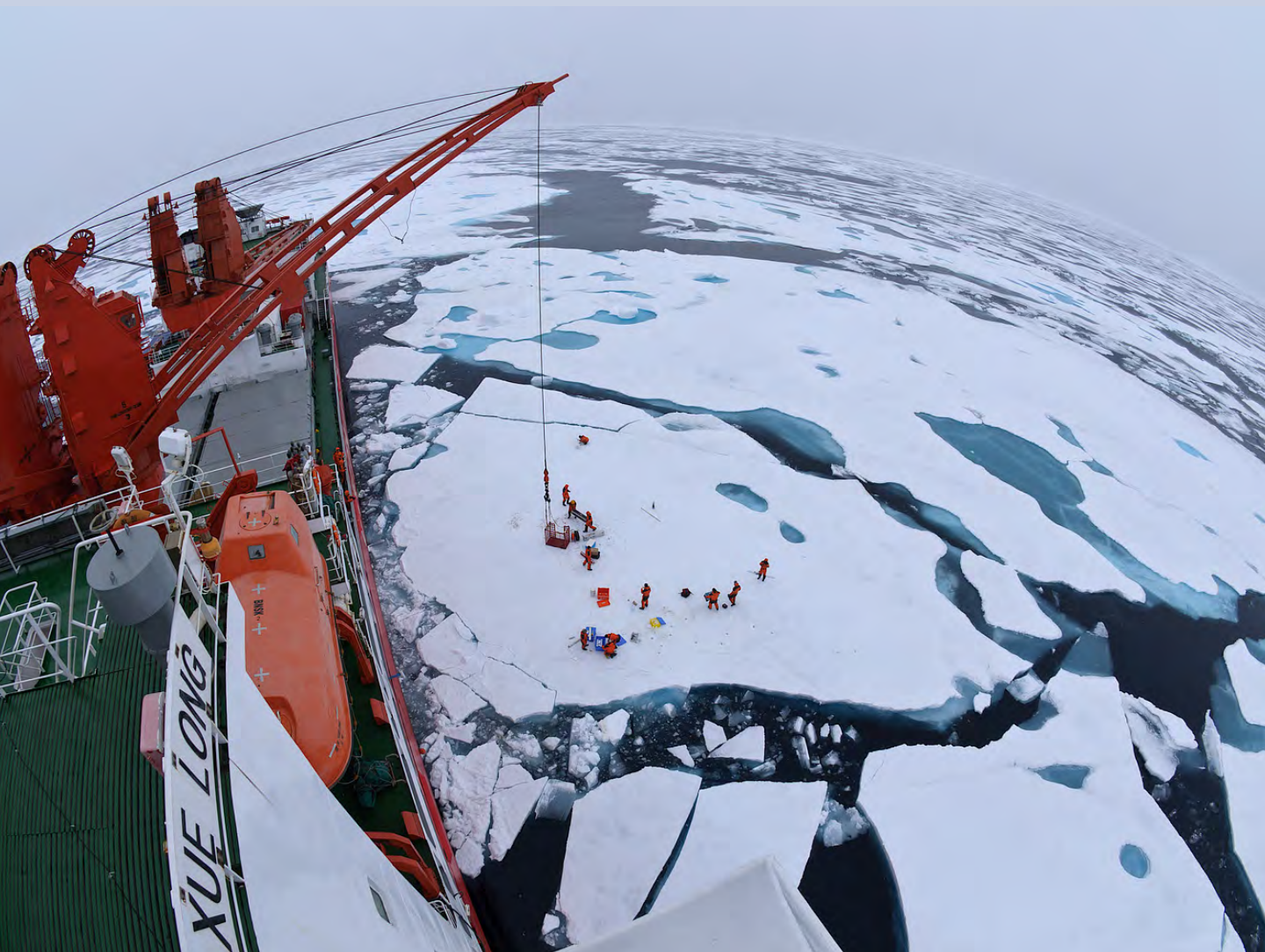
10 Christopher Weidacher Hsiung, “China and Arctic Energy: Drivers and Limitations,” *The Polar Journal* 6, No. 2 (2016): 243–258, <https://www.tandfonline.com/doi/full/10.1080/2154896X.2016.1241486>.

China Ocean Shipping Company (COSCO), the state shipping company, is working to develop Arctic shipping routes, which Beijing views as critical to China's continued export dominance.¹¹ In 2013, COSCO sent cargo to the Netherlands via the Northern Sea Route for the first time; this route decreases by one-third the shipping time between China and northern Europe.¹² The government has encouraged Chinese companies to build infrastructure along anticipated polar trade routes and establish commercial activities in the Arctic.¹³

11 Ed Struzik, "Shipping Plans Grow as Arctic Ice Fades," *Yale Environment 360*, November 17, 2016, https://e360.yale.edu/features/cargo_shipping_in_the_arctic_declining_sea_ice.

12 Jingchao Peng, "Rising Interest in the Arctic: A Chinese Perspective," *Arctic Human Development Report*, Nordic Council of Ministers, 2015, p. 34, <http://norden.diva-portal.org/smash/get/diva2:788965/FULLTEXT03.pdf>.

13 Brady, 2017.



China's Xue Long ice-breaker was converted from an Arctic cargo ship to a polar research and re-supply vessel.

Credit: Timo Palo, Wikimedia Commons

https://commons.wikimedia.org/wiki/File:Teadlased_j%C3%A4%C3%A4l.jpg

Arctic policy.²⁸ Trudeau has directed Coast Guard icebreakers to spend more time in the Arctic during the summer season, and has increased funding for Arctic operations and SAR capacity. Canada will also strengthen oil spill response capabilities in the country's northern communities.²⁹

In May 2016, the Obama administration and the five Nordic countries issued a statement on the Arctic, with a pledge “to deepen our cooperation on key international issues related to security and defense; migration and refugees; climate, energy and the Arctic; and economic growth and global development.”³⁰ The Nordic Council of Ministers—representing Sweden, Finland, Norway, Denmark, and Iceland—is the official body for Nordic intergovernmental cooperation. In October 2014, the five Nordic countries established the Arctic Cooperation Programme 2015–2017 (since extended for 2018–2021), an initiative to promote common interests and policies on the Arctic. The Council's overall objective is sustainable development, along these four priorities: provide for the wellbeing of the people of the Arctic; promote sustainable economic development; protect the environment, nature, and climate; and enhance the education and skills of indigenous communities.³¹ Other areas of cooperation include health, energy supply, research, culture, technology, and business advancement.³²

28 Heather Exner-Pirot and Joel Plouffe, “In search of a concrete Arctic policy,” Open Canada, October 6, 2016, <https://www.opencanada.org/features/search-concrete-arctic-policy/>.

29 Levon Sevunts, “Looking back at one year of Liberal Arctic policy,” Radio Canada International, December 3, 2016, <http://www.rcinet.ca/en/2016/12/03/looking-back-at-one-year-of-liberal-arctic-policy/>.

30 U.S.-Nordic Leaders' Summit Joint Statement, Office of the Press Secretary, the White House, May 13, 2016, <https://obamawhitehouse.archives.gov/the-press-office/2016/05/13/us-nordic-leaders-summit-joint-statement>.

31 “The Nordic Council of Ministers' Arctic Co-operation Programme 2015–2017,” <http://www.norden.org/en/nordic-council-of-ministers/ministers-for-co-operation-mr-sam/the-arctic/the-nordic-council-of-ministers-arctic-co-operation-programme-2015-2017>.

32 “Co-operation in the Arctic,” <https://www.norden.org/en/nordic-council-of-ministers/ministers-for-co-operation-mr-sam/the-arctic>.

While the Arctic, along with the research and science diplomacy in the region, became a larger policy issue under the Obama administration, the Trump administration has shifted this policy. The administration's December 2017 National Security Strategy (NSS), for instance, did not include climate change as a threat to the United States.³³ The NSS mentions the Arctic region just once, in relation to how international institutions uphold how nations interact in certain areas.³⁴ The Trump administration's decision to avoid any discussion of the dangers of climate change—or the growing importance of the Arctic—whether through oversight or by design, is troubling. This stance, along with the reversal of the Arctic drilling ban, could put the United States at odds with other Arctic nations.

As the Arctic region becomes more important economically, environmentally, and strategically for a multitude of players, these US policies create a losing scenario for the United States.

There may be a new route to emphasize the importance of the Arctic, though. The 2017 NSS, along with the Department of Defense's 2018 National Defense Strategy, identify “inter-state strategic competition,” namely from Russia and China, as “the primary concern in U.S. national security”—and this offers one approach to heighten awareness of Arctic issues.³⁵ As the ISD working group discussed at length, both Russia and China continue to increase their Arctic presence for a variety of reasons and on multiple fronts, with Russia undertaking its largest regional military build-up since the Cold War.

33 National Security Strategy of the United States of America, December 2017, <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

34 Ibid., p. 40.

35 Summary of the 2018 National Defense Strategy of The United States of America, p. 1, <https://www.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

As the United States begins to design strategies and policies to confront renewed strategic competition around the world, the Arctic region and what policies to put in place there are topics likely to come up for further discussion. Those working on the broad spectrum of Arctic issues, though, must be careful not to focus solely on military competition and zero-sum game politics—this could set the entire region on a dangerous course.



US Research Vessel Sikuliaq, owned by the National Science Foundation and operated by the University of Alaska, in the Bering Sea (March 2015).
Credit: Dr. Carin Ashjian, Woods Hole Oceanographic Institution.

Implications: Opportunities and Challenges Abound

The foreign policy and diplomacy dimensions of the Arctic are fast becoming as complex as the environmental and climatic shifts in the region.³⁶ New navigational, economic, and partnership opportunities, however, also highlight the need to consider how best to accommodate the demands of Arctic and non-Arctic nations alike. The Council on Foreign Relations 2017 report on “Arctic Imperatives” notes that “an increased presence and pace of activities by Russia and growing interest from China raise concerns for the United States and other Arctic nations about Russian and Chinese intentions.”³⁷ China, for its part, released an Arctic policy white paper in January 2018.³⁸ (See p.18.) Beijing’s statement included plans to create a “Polar Silk Road,” and to “tap resources and take part in governance.” Some policy pundits cast this as a zero-sum geopolitical game going on in the Arctic. This is not the case, nor need it be. What is clear is that there is broad and growing interest in the region, evinced by the fact that the Arctic Council has 12 other Arctic observer states in addition to China that have no Arctic territorial claims.

Three different topics will be of particular importance in the coming years. **These are by no means mutually exclusive.**

Resource Extraction: The Arctic is a dreamscape of new energy and mineral potential. The Eurasia Group estimates that “\$100 billion could be invested in Arctic resource exploration and extraction over the next decade,” mostly in research and

36 SWIPA Assessment, p. 5.

37 “Arctic Imperatives,” p. 3.

38 “China reveals ‘Polar Silk Road’ ambition in Arctic Policy white paper,” *South China Morning Post*, January 26, 2018, <http://www.scmp.com/news/china/diplomacy-defence/article/2130785/china-reveals-polar-silk-road-ambition-arctic-policy>.

development.³⁹ According to the Eurasia Group, “the U.S. Geological Survey estimates the Arctic could contain 1,670 trillion cubic feet (tcf) of natural gas and 90 billion barrels of oil, or 30 percent of the world’s undiscovered gas and 13 percent of oil.” As one Arctic specialist notes, “it’s not just about hydrocarbons. The Arctic holds vast potential in renewables, including wind, hydro, geothermal, and solar,” along with rare earth minerals critical to the tech industry.⁴⁰

This transformation will not happen overnight. The Eurasia Group notes that “accessing these resources and bringing them to market could require another 20 years or more.”⁴¹ A major limiting factor—beyond climatic factors—is profitability. Global energy prices, along with the shale gas boom in the United States and Canada, work against the current economics of massive investment in Arctic oil exploration. The cost challenges include the scant regional infrastructure, which the Eurasia Group calls the “most critical limiting factor,” coupled with rising fuel prices.⁴²

39 “Opportunities and Challenges For Arctic Oil and Gas Development,” Eurasia Group Report for The Wilson Center, p. 3, https://www.wilsoncenter.org/sites/default/files/Arctic%20Report_F2.pdf.

40 Tero Vauraste, “An Investment Model for the Arctic,” *Summer 2017: Into the Arctic, The Wilson Quarterly*, p. 2, <https://wilsonquarterly.com/quarterly/into-the-arctic/an-investment-model-for-the-arctic/>.

41 “Opportunities and Challenges for Arctic Oil and Gas Development,” pp. 3-4. Resource extraction in the Arctic has been taking place, though. As Tero Vauraste points out, industrial activity truly began in mid-century, “facilitated by better technology and increasing knowledge of the region’s resources. In Canada and Russia, the extraction of petroleum hydrocarbons in the Arctic reached significant levels in the 1950s. In the US Arctic, construction of the Trans-Alaskan Pipeline began in 1975. The 1970s also saw active offshore drilling. Mining came to the Arctic during these years as well.” He also highlights that the first barrel of crude oil from Prudhoe Bay in northern Alaska, prior to completion of the Trans-Alaska pipeline, was transported 800 miles to the south by a dogsled, pointing out the scant possibilities without infrastructure investment (Vauraste, p. 1). For more on the history of oil and gas extraction and exploration in the Arctic, see: “Opportunities and Challenges for Arctic Oil and Gas Development,” https://www.wilsoncenter.org/sites/default/files/Arctic%20Report_F2.pdf

42 Ibid., p. 6.

Exploration and extraction also raise environmental and safety red flags—including the need for comprehensive plans to address potential oil spills from rigs, tankers, and supply ships; and to develop enhanced SAR capabilities for drilling platforms and port facilities. To some Arctic researchers, there are concerns about the Trump administration's move to allow oil and gas exploration within US Arctic territory. The potential sale of drilling rights within the Arctic National Wildlife Refuge, in particular, endangers the “way of life for indigenous tribes who rely on caribou and other wildlife sustenance,” because it poses a threat to a major caribou calving ground.⁴³

New Sea Lanes: New polar routes mean shortened transit times and significant commercial advantages for trade-focused nations like China, akin to the benefits to Europe and the United States following the opening of the Panama Canal over 100 years ago. By one estimate, ships taking the polar route from Shanghai to Hamburg, instead of the traditional route across the Indian Ocean, would be able to shave 2,800 nautical miles off the journey.⁴⁴ Again, as with resource extraction, the feasibility, profitability, and timing of increased shipping traffic depend on both the pace of ice melt and the development of maritime infrastructure—including icebreakers, deep-water ports, and search and rescue capabilities.

Russia, along with China, is particularly attracted by—but also concerned about—an increasingly navigable Arctic. What the Russians call the Northern Sea Route (NSR) is “a key waterway for Russian domestic shipping and international commerce.”⁴⁵

43 “Arctic National Wildlife Refuge: How Drilling for Oil Could Impact Wildlife,” State of the Planet, Earth Institute, Columbia University, <http://blogs.ei.columbia.edu/2017/12/06/arctic-national-wildlife-refuge-drilling-oil-impact-wildlife/>.

44 “Opportunities and Challenges for Arctic Oil and Gas Development,” p. 33.

45 Sfraga, p. 4. As the Council on Foreign Relations report notes, “few countries have been as keen to invest in the Arctic as Russia, whose economy and federal budget rely heavily on hydrocarbons. Of the nearly sixty large oil and natural-gas fields discovered in the Arctic, there are forty-three in Russia.” The Arctic Zone of the Russian Federation (AZRF) encompasses over half of the entire Arctic's area and is a central part of Russian long-term planning

The NSR stretches across 3,000 miles and seven time zones, and links the vast resources across the Russian Arctic. Moscow believes its continued infrastructure build-up in the region will allow faster and more economical extraction and shipment of resources, and could potentially lead to a “northern Suez Canal” shipping route.⁴⁶ A Council on Foreign Relations report points out some of the inherent challenges of the Northern Sea Route:

[E]ven during the summer, unpredictable weather and ice floes make navigation difficult. Ships often require an icebreaker escort, which can cost some \$400,000, and additional insurance that offsets some of the route’s potential savings. Moreover, Moscow’s control of the NSR and the attendant icebreaking fleet is troubling for some shipping executives, who fear the Kremlin could abruptly hike fees.⁴⁷

Russia will need business and technical partners to develop the NSR infrastructure, and is looking to cooperate with US and European companies. Chinese participation will also play a role in Russia’s Arctic development plans—including “agreements with the Chinese National Petroleum Corporation and the China Development Bank to fund the Yamal LNG project,” according to the Arctic Institute.⁴⁸

Beyond the global security-related challenges inherent in increased Arctic traffic, the anticipated rise in commercial

on economic growth. Prior to sanctions being imposed on Russia after its annexation of Crimea, “products from the Arctic Circle accounted for 20 percent of its GDP and 22 percent of its exports.” Likewise, “ninety-five percent of Russia’s natural gas and 75 percent of its oil is produced in this region.” Moscow plans to invest heavily in resources, ports, and infrastructure to support its Arctic economy. See “Arctic Imperatives,” p. 17.

46 Lawson W. Brigham, “The Arctic Waterway to Russia’s Economic Future,” *Summer 2017: Into the Arctic, Wilson Quarterly*, p. 1. <https://wilsonquarterly.com/quarterly/into-the-arctic/the-arctic-waterway-to-russias-economic-future/>. According to CFR, “only five cargo vessels transited the route in 2009, but this number jumped to seventy-one in 2013,” “The Emerging Arctic,” p. 10.

47 “The Emerging Arctic,” p. 11.

48 Pavel Devyatkin, “Russia’s Arctic Strategy: Energy Extraction (Part III),” The Arctic Institute, February 20, 2018.

shipping in the region raises other concerns, particularly for the United States. There are potential environmental threats from the discharge of ship-produced waste and sewage, for instance. Other researchers note that there could be unforeseen impacts on Arctic marine life from the noise of passing ships—or new threats from invasive species that hitch a ride on ship hulls. In an increasingly open Arctic, all routes would likely pass through the Bering Strait, an environmentally sensitive marine area, and cross waters where a number of whale species live or migrate to each year.

Any incident in this region—a ship run aground, a fuel spill, or even discharges of maritime waste—could affect the coasts of Alaska and Siberia. As the CFR’s Arctic Imperatives report notes, “Increased transit traffic only increases the risk of mishap. Search and rescue capabilities are limited in the region, and it would take days or even weeks to reach a vessel in distress.”⁴⁹ A vast increase in the number of icebreakers is a prerequisite for securing the safety and navigability of increased shipping, and keep shipping costs down.⁵⁰

As the working group found, the United States and other nations are largely ill-prepared to operate in the region. Beyond the difficulties inherent in the Arctic’s unpredictable weather and harsh climate, the United States and other Arctic nations will need to make fundamental investments in deep-water ports and response capabilities across the board. As then-Secretary of State Rex Tillerson noted in November 2017, “the United States is behind... We’re behind all the other Arctic nations... We’re late to the game.”⁵¹ For instance, the US Coast Guard helps

49 “Arctic Imperatives,” p. 35.

50 “The Emerging Arctic,” p. 11.

51 Address by US Secretary of State Rex Tillerson: “The U.S. and Europe: Strengthening Western Alliances,” Washington, D.C., November 28, 2017, <https://www.wilsoncenter.org/event/address-us-secretary-state-rex-tillerson-the-us-and-europe-strengthening-western-alliances>.

coordinate Arctic SAR—but has just two icebreakers. The US Navy’s fleet, for its part, consists of ships that were not designed for ice-filled Arctic waters—leaving the US Coast Guard to lead on US maritime issues in the Arctic while the Navy focuses on priorities and areas elsewhere.

National Security and Geopolitics: The New Arctic—and the resource, shipping, and tourism potential it portends—has spurred interest in the region from longtime and new players alike. While Arctic and non-Arctic nations have taken greater note of the region’s shipping and resource potential in recent years, there has been significant cooperation on all sides through the Arctic Council’s consensus-based approach—regardless of the geopolitical tensions elsewhere in the world. Despite longstanding boundary disputes (including one between the United States and Canada), and conflicting claims by Russia, Canada, and Denmark pending before the UN Commission on the Limits of the Continental Shelf, the Arctic region has seen a remarkable degree of cooperation, even during the Cold War years.

Following the end of the Cold War, when the Arctic region played a larger strategic military role as a deterrent site for nuclear forces and early warning systems, the United States withdrew much of its forces and capabilities in the region, while Russia let “most of its Arctic military infrastructure fall into disarray.”⁵² Over the past few years, though, there has been much talk and consternation among Western national security analysts regarding Russia’s renewed interest in the region and increasing military expansion. Even with recent upgrades and expansion, Russian forces currently in the Arctic or planned for the region remain far below Cold War-era Soviet levels.

52 Stephanie Pezard, Abbie Tingstad, Kristin Van Abel, and Scott Stephenson, “Maintaining Arctic Cooperation with Russia: Planning for Regional Change in the Far North,” Rand Corporation, 2017, p. 1.

For Russia, which holds the largest claim to Arctic land areas, there are strong economic forces at work. Russia's Arctic territory—an estimated 30 percent of the country's land—is more heavily urbanized than other parts of the Arctic, and contributes a significant portion of the country's GDP. Strategic considerations also lie behind Moscow's Arctic investment plans.

Analysts from the Rand Corporation point to three main reasons for Russia's current moves: Moscow's need to maintain strong nuclear deterrence (submarines patrolling the Arctic Ocean hold two-thirds of Russia's sea-based nuclear weapons); a need for secure territorial boundaries (which becomes a more critical concern, as the polar ice cap melts and there is increased activity in the region); and fears of encirclement—Moscow believes it is losing a natural protective barrier, despite also gaining a waterway for the Northern Fleet to access the Atlantic.⁵³ Increased regional military capabilities also aid Russia's Arctic economic engine.

These motivations have combined to produce a number of new developments. “In recent years, Russia unveiled a new Arctic command, four new Arctic brigade combat teams, 14 new operational airfields, 16 deep-water ports, and 40 icebreakers with an additional 11 in development,” according to one article in *Foreign Policy*.⁵⁴ Meanwhile, in May 2017, Admiral Paul Zukunft

⁵³ Pezard, et al., pp. 10-11.

⁵⁴ Robbie Gramer, “Here's What Russia's Military Build-Up in the Arctic Looks Like,” *Foreign Policy*, January 25, 2017, <http://foreignpolicy.com/2017/01/25/heres-what-russias-military-build-up-in-the-arctic-looks-like-trump-oil-military-high-north-infographic-map/>. More specifically, the Rand report notes that Russia plans to “increase presence by rebuilding a number of Cold War-era bases along with constructing new ones, including on the New Siberian Islands, Wrangel Island, and Cape Schmidt, all along the Northern Sea Route. An Arctic Brigade was created out of the 200th Motor Rifle Brigade in Pechenga and based in Alakurtti, close to the Finnish border; a second one is in the plans. Both brigades should receive navy and air components by 2020. Russia is also investing in new polar-ready equipment, including three new nuclear-powered and four diesel-powered icebreakers, much needed in a fleet that is aging fast under the harsh conditions of the Arctic. Russia is also increasing both its domain awareness

of the US Coast Guard compared Russia's military situation in the Arctic to the US position as "checkmate," highlighting Moscow's 40:2 advantage in icebreakers, and the Kremlin's new construction of icebreakers armed with cruise missiles.⁵⁵ While defense analysts question the endgame behind Russia's recent regional military build-up, and many speak of the longer-term risk of an Arctic Circle "Cold War," no one expects conflict in the near term.⁵⁶

China has a plan for the Arctic, as detailed in a January 2018 white paper on Beijing's interests in Arctic resources and shipping potential. Given China's trade-based economy, there is clear Chinese interest in new and shorter shipping options, but Beijing has also invested in mining in Greenland, and seeks to negotiate a free trade agreement with Iceland, build more icebreakers, and extend its fishing fleets, according to a CFR study.⁵⁷

and lines of defense. In 2008, surface naval patrols to the Arctic Ocean resumed after an interruption of almost two decades. Russia is building ten air-defense radar stations and announced it would install S-400 air defense missiles on the Novaya Zemlya archipelago and in the port of Tiksi, and plans to deploy MiG-31 interceptors. At the organizational level, Russia reorganized its military command structure by creating in December 2014 a Northern Joint Strategic Command based in Murmansk to coordinate all military assets in the Arctic region, including the Northern Fleet, which had previously been divided among three different commands." See Pezard, et al., pp. 11-12.

55 Robbie Gramer, "U.S. Coast Guard Chief Warns of Russian 'Checkmate' in Arctic," *Foreign Policy*, May 3, 2017, <http://foreignpolicy.com/2017/05/03/u-s-coast-guard-chief-warns-of-russian-checkmate-in-arctic-military-high-north/>.

56 "A Cold War in the Arctic Circle," Paula J. Dobriansky, *The Wall Street Journal*, January 2, 2018, <https://www.wsj.com/articles/a-cold-war-in-the-arctic-circle-1514823379>. A 2017 Rand study on maintaining cooperation with Russia in the Arctic named four potential regional transformations that could increase tensions, potentially leading to conflict. These are: "1. Climate and geographical changes that radically modify maritime access; 2. Global interest in Arctic exploitation that drives competition for resources; 3. Legal decisions, specifically the upcoming recommendations by the United Nations (UN) Commission on the Limits of the Continental Shelf (CLCS) regarding the claims that Russia, Denmark, and Canada have submitted or will submit; 4. NATO presence in the Arctic region that Russia might perceive as a military threat warranting a response in kind." See Pezard, et al., pp. x-xi.

57 "Arctic Imperatives," pp. 18-19.

Guiding Principles and Policy Recommendations—Think Global; Act Local

The working group members were in full agreement that the changes in the Arctic are significant, with far-reaching implications for the United States' interests, and those of the rest of the world—environmentally, economically, and strategically. If the Arctic was once a region remote and inhospitable to all but the most intrepid, it is no longer. The effects of climate change cannot be reversed, but there remains time to manage the effects of these changes. Steps need to be taken now to ensure that the exploitation of this new global commons does not create a new global flashpoint. The working group members also recognized that just as the impact of the changes will reverberate well beyond the littoral states, meeting these challenges will require a collective effort that may go well beyond regional approaches.

The overarching goal is to preserve the Arctic's de-politicized and de-militarized status while balancing economic benefits and environmental integrity, in concert with the needs and views of the local communities.

As a first step, the US government needs to reiterate the critical importance of the Arctic region to US strategic and economic interests, to include investment in structures and staff to support scientific study and diplomatic outreach commensurate with the level of importance. A failure within the US government to do so effectively cedes the leadership space to other players, not all of whom share our interests and priorities.

A basic architecture exists. The Arctic Council has been successful to date. Whether the Council can adapt to new demands as it shifts from a regional organization to a global one and to the new realities remains to be seen. The United States needs to be part of the conversation.

The Arctic exemplifies the need to coordinate more closely with the scientific community and utilize these experts in full partnership with the policy community, not solely as a source of data and analysis of the changes underway and their impact, but as actors engaged with counterparts to expand knowledge and understanding through both Track I and Track II efforts to manage the strategic, economic, environmental, and human consequences of the New Arctic.⁵⁸

The opportunities are real, but the region is and will remain an environmentally fragile, difficult, and dangerous place within which to operate.

In all aspects, whether dealing with resource exploitation, infrastructure creation, shipping, etc., there is an obvious point to be underscored—however desolate the Arctic may appear to many, the actions and inaction by states will have profound effects upon the four million inhabitants of indigenous communities. Their needs must be part of every calculation; their voices must be part of each conversation. This interaction is happening, but

it must be expanded and institutionalized, and not become an afterthought.

Scientists, policymakers, local communities, and the private sector share the task of working with the broader public—at home and abroad—about the realities of the Arctic, what is possible, and what are the limitations. The Arctic is neither Santa's North Pole

⁵⁸ Track I diplomacy typically involves formal meetings among high-level officials to address specific bilateral or multilateral issues. Track II efforts can include broader participation from academics, NGOs, and other groups, and aim to problem-solve and build relationships among nations through more informal meetings. See, for instance, the United States Institute of Peace "Tracks of Diplomacy," <https://www.usip.org/glossary/tracks-diplomacy>.

nor is it the fabled Northwest Passage. The opportunities are real, but the region is and will remain an environmentally fragile, difficult, and dangerous place within which to operate. This holds true for all activities, whether they involve offshore oil rigs or high-end cruise ships.

Finally, the New Arctic provides the opportunity for multi-stakeholder cooperation on the fundamental infrastructure improvements necessary to support the expected expansion of economic activity, and mitigate environmental degradation. This can and should be undertaken not as a zero-sum effort by individual or blocs of states but in a coordinated manner that serves littoral, regional, and international interests. Despite real tensions and conflicts among many of the state and non-state actors in the Arctic, there are examples of “global commons” cooperation to learn from and adapt here.

SCIENCE – UNDERSTAND THE REALITIES; SUPPORT COOPERATION AND DIALOGUE

1. **Step up shared research and knowledge to encourage effective Arctic policymaking.** Scientists from around the world are fervently studying what the changing Arctic will mean, but the quantities of information that we do not know are vast. From changing global and regional weather patterns, to the levels of environmental degradation, and to the extent of sea ice melt, to name just a few examples, there is still much to learn. Supporting Arctic research from governments, NGOs, international groups, think tanks, and universities must be a high priority. Without the knowledge upon which to base assumptions, policymakers will be unable—and may at times be unwilling—to create effective strategies for the future as well as policies for today.

2. **Encourage and support collaboration amongst regional scientific actors.** While more individual, institutional, and governmental research is needed, we must also keep in mind the exponentially greater benefits of pooled knowledge. Partnerships and joint research endeavors do exist, but combining these efforts where possible will enable vastly increased levels of overall knowledge on the Arctic. One step that brings individual, bilateral, and regional benefits would be to build out weather stations and other infrastructure to support scientific research efforts. The Arctic needs both more research and more infrastructure; projects can be undertaken with an eye to both goals.
3. **Build on the Arctic Scientific Ministerial.** The 2016 Arctic Scientific Ministerial made great strides in terms of marrying notions of scientific discovery, diplomacy, and an ethos of regionalism and internationalism. The European Commission, Finland, and Germany will host the second ministerial in Berlin in the fall of 2018, which should be an important next step to encourage further scientific and diplomatic symbiosis. This type of work must continue and expand if realistic and strategic Arctic policies are to be implemented. Meetings such as these enhance the relationship between science and policy, but can also encourage the two sides to actively talk with each other, rather than talk past each other. The Arctic imperatives give scientists new reasons to focus their work in a policy-relevant way and become part of the larger conversation on the political issues at play. Meanwhile, policymakers, for their part, can work more closely with the scientific community to ensure that they better understand the scientific changes, and how this work relates directly to policy.

4. **Communicate better about Arctic issues.** Few people, when thinking of the Far North, conjure up images of shrinking sea ice or environmental degradation. And few citizens (and policymakers, in some cases) understand that what is occurring in the north from a climate standpoint will have direct consequences across the globe in the form of rising waters and/or worsening and more frequent storms, from Miami to Houston—and to faraway islands in the Pacific. Even fewer still are probably aware of the positive economic potential that could come from resource extraction and shorter shipping routes that the Arctic may provide—or the consequences of inaction. Scientists, policymakers, and interested parties alike share the important task of educating the public, and the need to be more proactive in this regard. A more aware public, in turn, helps create an atmosphere that supports greater policymaker attention for Arctic issues, and perhaps greater funding.

DIPLOMACY – UNDERSTAND INTERESTS AND ACTIONS; MAINTAIN “GLOBAL COMMONS” STATUS

1. **Commit diplomatic and intelligence capacity to better understand the interests, priorities, and actions of relevant Arctic stakeholders.**
 - *Create better mechanisms to address and discuss Russia’s endgame.* While Moscow’s Arctic build-up seems undeniable, it remains more cryptic whether these moves are driven by strategic or resource-related directives, or some degree of both. As formulated, the Arctic Council does not deal in military matters, hampering a better understanding of Russia’s intentions. In a more competitive geopolitical world, Russia’s growing capability is causing consternation and concern amongst Arctic nations. Whether through a bilateral US-Russian

effort, or a regional body, the institutionalization of a mechanism to discuss these issues would benefit all involved and provide greater clarity, and may prove invaluable in tamping down possible crises in the future.

- *Forge a closer Arctic relationship with China.* It is becoming apparent that China is taking steps to position itself as a major future Arctic player. How will shorter Arctic routes and infrastructure development play into the country's ambitious Belt/Road connections around the globe, and possibly shift the balance of influence in

Working with partners in the Arctic, not against them, is the best way forward for a host of reasons.

the Arctic? The United States and other Arctic nations must work with China (and China must work with them) to create an open and inclusive atmosphere that is able to forestall any potential future flashpoints over natural resource or transportation access rights.

- *Use the past to inform the future.* The earth has gone through ice ages and warming periods over millennia, but many of the climate issues in the Arctic are new to human history. But we do have a long history of diplomacy, regional governance

efforts, resource extraction, environmental protection, and other issues that require coordination and collaboration. There is much to learn from studying the handling of past situations that may bear some similarity to what is unfolding in the Arctic today. More comparisons and lessons-learned exercises might then yield the guidance to address problems that may appear insurmountable. Understanding US-Soviet collaboration in the Arctic (and other areas) during the Cold War, how regional organizations function in areas of growing strategic and

resource importance, and how governments, institutions, and/or organizations in the past have been able to curb politicization of certain issues, for example, would greatly benefit policymakers working on the Arctic today.⁵⁹

2. **Build partnerships with allies and adversaries alike, both formally and through Track II dialogues.** Working with partners in the Arctic, not against them—and refraining from taking a unilateral position—is the best way forward for a host of reasons. Each individual nation and/or group brings unique talents and understanding to the table. Moreover, amid growing concerns over Russia’s military build-up in the region, continued engagement offers the best avenue for handling these concerns in a transparent and peaceful fashion. Likewise, all parties should support ongoing Track II initiatives and encourage more endeavors that bring together key stakeholders to work on these issues. “Science diplomacy” is leading the way on Track II initiatives, but these efforts should be expanded. In fact, the first formal Russia-NATO security talks spawned interesting and ongoing Track II work on “science diplomacy.” Likewise, more can be done to create dialogues between parties interested in security and resource extraction. The European Union’s “Horizon 2020” program, which seeks to “ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation,” could be a useful model for similar Arctic undertakings.⁶⁰

⁵⁹ One such study, for instance, could perhaps serve as an example for future projects. Heather A. Conley, ed., “History Lessons for the Arctic,” Brzezinski Institute on Geostrategy, Center for Strategic and International Studies, December 2016.

⁶⁰ European Commission, “Horizon 2020, <https://ec.europa.eu/programmes/horizon2020/what-horizon-2020>.

3. **Hold in-depth discussions on the next steps for the Arctic Council.** Whether the Council remains the main Arctic governmental body, or whether it undergoes significant reforms, with new and different organizations stepping in to handle certain issues, such as security-related questions, for example, remains to be seen. But there is a need to explore with all involved the current structure and future demands on the Arctic Council and the form and role of the Council in the years ahead. Such a conversation will enable most, if not all, participants to feel more secure in Arctic governance moving forward.
4. **Create more of a “North American Arctic.”** Canada is, and will continue to be, an extremely close US ally and trading partner. From resource extraction, environmental protection, indigenous issues, search and rescue, the opening of new sea lanes, to issues of defense, the United States and Canada are, in many ways, often reading from the same script. With these points in mind, it makes sense for US and Canadian policymakers to collaborate on an ever-closer partnership on all things Arctic. On a host of issues, this is already happening, but a more systematic and institutionalized Arctic partnership would be beneficial to both countries, and to the region as a whole.

APPENDIX 1

INTERNATIONAL REGULATORY BODIES *

INTERNATIONAL COOPERATIVE ORGANIZATIONS

Arctic Council (www.arctic-council.org)

The Arctic Council, established in 1996, is the primary intergovernmental forum that promotes cooperation and coordination on issues of sustainable development and environmental protection in the Arctic. In 2018, the Council had 8 Arctic member states, 6 indigenous permanent participant organizations, and 6 working groups, along with 13 observer states:

Member States	Indigenous Permanent Participant Organizations	Working Groups
<ul style="list-style-type: none"> • Canada • Kingdom of Denmark • Finland • Iceland • Norway • Russian Federation • Sweden • United States 	<ul style="list-style-type: none"> • Aleut International Association • Arctic Athabaskan Council • Gwich'in Council International • Inuit Circumpolar Council • Russian Association of Indigenous Peoples of the North • Saami Council 	<ul style="list-style-type: none"> • Arctic Contaminants Action Program • Arctic Monitoring and Assessment Programme • Conservation of Arctic Flora and Fauna • Emergency Prevention Preparedness and Response • Protection of the Arctic Marine Environment • Sustainable Development
Observer States		
<ul style="list-style-type: none"> • France • Germany • Italian Republic • Japan • The Netherlands • People's Republic of China 	<ul style="list-style-type: none"> • Poland • Republic of India • Republic of Korea • Republic of Singapore • Spain • Switzerland • United Kingdom 	

The eight member states, in consultation with the permanent participants, negotiate legally binding agreements, as well as produce assessments, guidelines, and recommendations for member state governments. Non-Arctic states, as well as various international organizations, can request observer status and engage with the working groups.

** This appendix is not intended to be comprehensive; it is intended to provide examples of organizations involved in Arctic policymaking.*

The Arctic Council's working groups were created to focus on a number of goals:

- Monitor the Arctic environment, ecosystems, and human populations and provide environmental advice to governments
- Encourage national actions to reduce emissions
- Help protect the Arctic's biodiversity, living resources, and marine environment
- Advance sustainable development in the Arctic¹

Council Task Forces or Expert Groups also produce specific assessments and recommendations. In 2018, the Council had three such groups: the Task Force on Arctic Marine Cooperation; Task Force on Improved Connectivity in the Arctic,² and the Expert Group on Black Carbon and Methane.³

Arctic Economic Council (AEC) (<https://arcticeconomiccouncil.com/>)

The AEC held its inaugural meeting in 2014, as an independent organization that evolved from an Arctic Council Task Force on the creation of a circumpolar business forum. The AEC focuses on business-to-business activities, best practices, and responsible economic development—and providing a circumpolar business perspective to the work of the Arctic Council. The AEC's 42-member board includes representatives from the eight Arctic states and the Arctic Council's six permanent participants.⁴

Conference of Parliamentarians of the Arctic Region (www.arcticparl.org)

The Conference of Parliamentarians of the Arctic Region is a biennial conference for legislators from the eight Arctic states as well as the European Parliament. The group has been meeting since 1993 to share best practices in areas where participating states have made progress on Arctic-related issues. Arctic indigenous groups are permanent participants, and other governments, inter-parliamentary organizations, and relevant international organizations can participate as observers. The group's Standing Committee of Parliamentarians of the Arctic Region meets 3 to 4 times a year to discuss current issues, with a particular interest in climate change, education and research, human development, and shipping. The Committee supported the establishment of the Arctic Council and participates in Arctic Council meetings as an observer.⁵

1 The Arctic Council: A Background, <https://www.arctic-council.org/index.php/en/about-us>.

2 Task Forces of the Arctic Council, <http://www.arctic-council.org/index.php/en/about-us/subsidiary-bodies/task-forces>.

3 Expert Group on Black Carbon and Methane, <https://www.arctic-council.org/index.php/en/expert-groups/339-egbcm>.

4 Arctic Economic Council, <http://www.arctic-council.org/index.php/en/our-work2/8-news-and-events/195-aec-2>.

5 About the Conference of Parliamentarians of the Arctic Region, <http://www.arcticparl.org/about.aspx>.

International Maritime Organization (www.imo.org)

The International Maritime Organization (IMO), established in 1948 and operational as of 1958,⁶ is a United Nations special agency that oversees the safety and security of shipping and the prevention of marine pollution caused by ships.⁷ In 2015, the organization adopted the International Code for Ships Operating in Polar Waters (Polar Code), which came into effect on January 1, 2017.⁸ The legally binding code replaced voluntary guidelines for ships operating in the Arctic and Antarctic, and supplements existing IMO ship safety and environmental protection conventions, namely the Safety of Life at Sea Convention (SOLAS), the International Convention for the Prevention of Pollution from Ships (MARPOL), and the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW).⁹ In 2018, IMO member nations proposed a ban on the use of heavy fuel oil in the Arctic, citing concerns about potential oil spills and soot emissions as sea traffic increases in the Arctic.¹⁰

Northern Forum (<https://www.northernforum.org/en/>)

The Northern Forum, established in 1992 with 11 regional members from 9 northern countries, in 2018 had a membership of 14 regional/subnational governments from Finland, Iceland, Korea, Russia, and the United States. The Forum represents shared subnational interests and supports the implementation of inter-governmental projects related to the environment, sustainable development, and society and culture.¹¹

REGIONAL COOPERATIVE ORGANIZATIONS

Arctic Caucus of the Pacific Northwest Economic Region (PNWER)

(www.pnwer.org/arctic-caucus.html)

This partnership among Alaska, the Yukon, and the Northwest Territories provides a forum for public and private sector discussion of topics of mutual concern, and provides Arctic-related input to PNWER working groups as well as the broader region. PNWER's objectives are to increase the priority of Arctic issues, identify areas of opportunity for economic development in the Arctic, and boost collaboration among members as well as with the rest of North America to achieve mutual goals.¹²

6 Brief History of IMO, <http://www.imo.org/en/About/HistoryOfIMO/Pages/Default.aspx>.

7 Introduction to IMO, <http://www.imo.org/en/About/Pages/Default.aspx>.

8 Shipping in Polar Waters, <http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx>.

9 Stephanie Altman, "International Maritime Organization Adopts Polar Code," *Trends* 47, no. 3 (2016), https://www.americanbar.org/publications/trends/2015-2016/january-february-2016/international_maritime_organization_adopts_polar_code.html.

10 IMO Moves Towards Ban on HFO in Arctic, *The Maritime Executive*, April 13, 2018, <https://www.maritime-executive.com/article/imo-moves-towards-ban-on-hfo-in-the-arctic#gs.QV41BQ8>.

11 Northern Forum, <https://www.northernforum.org/en/the-northern-forum/northern-forum>.

12 The PNWER Arctic Caucus, <http://www.pnwer.org/arctic-caucus.html>.

Barents Euro-Arctic Council (BEAC) (www.barentscooperation.org)

This council, launched in 1993 to cooperate on sustainable development initiatives, includes Denmark, Finland, Iceland, Norway, Russia, Sweden, and the European Union. BEAC also collaborates with the interregional Barents Regional Council (BRC), which includes additional countries. The two councils host environment, economic cooperation, and transport-related working groups, as well as joint working groups on culture, education and research, energy, health and social issues, tourism, and youth.¹³ Three indigenous groups are included in the Working Group of Indigenous Peoples, which has an advisory role in both BEAC and BRC.¹⁴

Nordic Council and Nordic Council of Ministers (www.norden.org)

The Nordic Council, formed in 1952, is the official body for formal inter-parliamentary cooperation among the countries of Denmark, Finland, Iceland, Norway, and Sweden, and the autonomous territories of Greenland, the Åland Islands, and the Faroe Islands.¹⁵ The Council works closely with the Nordic Council of Ministers, the official body for inter-governmental cooperation. The Nordic Council of Ministers includes an Arctic Expert Committee established in 2002 in conjunction with the adoption of the Arctic Cooperation Program,¹⁶ known as “Nordic Partnerships for the Arctic.” For 2018-2021, this program aims to meet 17 UN Sustainable Development Goals through a variety of economic, education, environmental, health, and social projects.¹⁷

13 Barents Working Groups and Activities, <http://www.barentscooperation.org/en/Working-Groups>.

14 Cooperation in the Barents Euro-Arctic Region, <http://www.barentscooperation.org/en/About>.

15 Nordic Council, <http://www.norden.org/en/nordic-council>.

16 Nordic Council of Ministers, Arctic Portal, March 9, 2012, <https://arcticportal.org/yar-features/621-nordic-council-of-ministers>.

17 Nordic Council of Ministers Arctic Cooperation Program 2018-2021, <http://www.norden.org/is/norraena-radherranefndin/samstarfsradherrarnir-mr-sam/heimskautssvaedid/samstarfsaaetlun-norraenu-radherranefndarinnar-um-nordurskautid-2018-2021>.

APPENDIX 2

INDIGENOUS GROUPS **

Aleut International Association (AIA)

AIA is an Alaska Native non-profit corporation governed by both Alaskan and Russian Aleuts. The organization collaborates with the United Nations, governments, scientists, and other organizations to address Aleut environmental and cultural concerns. AIA became a permanent participant in the Arctic Council in 1998 and also holds Special Consultative Status on the UN's Economic and Social Council.¹⁸

Arctic Athabaskan Council (AAC)

The AAC is an international treaty organization that defends and advocates for the American and Canadian Athabaskan peoples. The organization represents approximately 45,000 people across the Arctic and sub-Arctic and is a permanent participant in the Arctic Council.¹⁹

Gwich'in Council International (GCI)

GCI represents 9,000 Gwich'in in Alaska as well as the Yukon and Northwest Territories of Canada. The organization conducts environmental projects through a Sustainable Development Working Group and a Conservation of Arctic Flora and Fauna Working Group, and is a permanent participant in the Arctic Council. Within the Arctic Council, GCI focuses on renewable energy issues.²⁰

Inuit Circumpolar Council (ICC)

The ICC, founded in 1977, works to strengthen Inuit cohesion, promote Inuit rights and interests, develop policies that protect the Arctic environment, and seek participation in Arctic development. ICC serves as a permanent participant in the Arctic Council, engages regularly with the United Nations, and holds a General Assembly every four years.²¹ The Council, which represents an estimated 160,000 Inuit, has branches in Alaska, Canada, Chukotka (Russia), and Greenland.²²

18 About Aleut International Association, Inc. <https://www.aleut-international.org/about/>.

19 About Us, <http://www.arcticathabaskancouncil.com/aac/?q=about>.

20 About Us, <https://gwichincouncil.com/about>.

21 Inuit Circumpolar Council (ICC), Arctic Council, <http://www.arctic-council.org/index.php/en/about-us/permanent-participants/icc>.

22 Strengthening ICC's Regional Offices, <http://www.inuitcircumpolar.com/strengthening-iccs-regional-offices.html>.

*** This appendix is not intended to be comprehensive; it is intended to provide examples of groups representing Arctic indigenous people and communities.*

Russian Association of Indigenous Peoples of the North (RAIPON)

RAIPON, created in 1990, unites 41 indigenous groups in Siberia as well as the North and Far East of Russia.²³ The organization collaborates with Russia's Government and Parliament on creating legislation related to indigenous peoples' living conditions and economic opportunities. RAIPON also participates in the implementation of Russia's Federal State Programme on Economic and Cultural Development of Indigenous Peoples.²⁴

Saami Council

The Saami Council, founded in 1956, is a non-governmental, voluntary organization in Finland, Norway, Sweden, and Russia. The Council works to unite members in different countries, as well as to promote Saami interests related to culture, language, livelihoods, and rights in these four countries and in international processes.²⁵

Sami Parliaments in Scandinavia

The Sami Parliaments in Finland, Norway, and Sweden are each a combination of a popularly elected parliament and, to a lesser extent, a state administrative agency. The Parliaments' main responsibility is to promote increased self-determination as well as Sami culture, language, and industries such as reindeer herding.²⁶

23 Russian Association of Indigenous Peoples of the North, Siberia and Far East (RAIPON), The Arctic Governance Project, <http://www.arcticgovernance.org/russian-association-of-indigenous-peoples-of-the-north-siberia-and-far-east-raipon.4640523-142902.html>.

24 RAIPON, UArctic, <https://www.uarctic.org/member-profiles/russia/8638/raipon>.

25 About the Saami Council, <http://www.saamicouncil.net/en/about-saami-council/>.

26 The Sami Parliament: Background and Organization, <https://www.sametinget.se/english>.

APPENDIX 3

ARCTIC AGREEMENTS ***

ARCTIC COUNCIL AGREEMENTS

Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (2011)

The purpose of this agreement is to coordinate search and rescue (SAR) operations in the Arctic region. The agreement:

- Establishes each state's area of SAR responsibility
- Reviews guidelines for conducting independent and joint SAR operations
- Outlines procedures and response protocols for requesting permission to enter another state's Arctic territory
- Ensures that states exchange information on SAR and medical facilitates, refueling and resupplying options, and SAR personnel training opportunities to improve effectiveness of SAR operations²⁷

Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013)

The purpose of this agreement is to protect the Arctic's marine environment from oil pollution. The agreement:

- Requires that each state maintain a national system for responding to oil pollution accidents and notify all member states of any oil pollution incidents
- Outlines member-provided assistance in the event of an incident, as well as cost responsibilities for this assistance
- Encourages states to carry out joint training exercises to improve preparedness, and to conduct a joint review in the event of an oil pollution incident and joint response²⁸

Agreement on Enhancing International Arctic Scientific Cooperation (2017)

The purpose of this agreement is to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic. The agreement:

- Outlines allocation of intellectual property rights
- Ensures Arctic states have increased access to research facilities, Arctic areas, and data
- Encourages states to promote career development opportunities for young scientists, and to utilize local knowledge²⁹

²⁷ Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, May 12, 2011, <http://hdl.handle.net/11374/531>.

²⁸ Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, May 15, 2013, <https://oaarchive.arctic-council.org/handle/11374/529>.

²⁹ Agreement on Enhancing International Arctic Scientific Cooperation, May 11, 2017, <http://hdl.handle.net/11374/1916>.

*** This appendix includes examples of Arctic-related agreements, but is not intended to be a comprehensive list of all agreements or regulations that relate to the Arctic region.

OTHER ARCTIC-RELEVANT AGREEMENTS

Svalbard Treaty (1920)

The Svalbard Treaty establishes Norway's sovereignty over Svalbard, a previously stateless and unregulated archipelago in the Arctic Ocean. However, the treaty gives citizens and companies from signatory states equal rights to access mining, maritime, or industrial activities, subject to Norwegian law. The treaty demilitarizes Svalbard, and establishes that taxes collected by Norway may only be used to benefit Svalbard.³⁰

International Convention for the Prevention of Pollution from Ships (MARPOL) (1973) – IMO Convention

MARPOL is the primary international convention responsible for the prevention of marine environment pollution by ships. It includes regulations aimed at stopping both accidental and operational pollution and includes six technical annexes to prevent pollution by oil, noxious liquid substances in bulk, harmful substances in packaged form, sewage, garbage, and air.³¹

Safety of Life at Sea Convention (SOLAS) (1974) – IMO Convention

SOLAS outlines important maritime safety issues, including minimum standards for the construction, equipment, and operation of merchant ships.³² Five nations adopted the first version in 1914 in response to the sinking of RMS *Titanic*. There were two additional versions before the IMO entered into force in 1958.³³

International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) (1978) – IMO Convention

The STCW Convention established minimum standards on training, certification, and watchkeeping for seafarers, especially those involved in international shipping. A series of amendments in 1995 additionally require countries to provide to IMO information about measures taken to ensure compliance with the Convention standards.³⁴

United Nations Convention on the Law of the Sea (UNCLOS) (1982)

UNCLOS, first signed in 1982, governs all ocean-related issues, including delimitation, economic and commercial activities, environmental regulation, scientific research, technology, and territorial dispute settlement.³⁵ Although the treaty came into force in 1994, industrialized states refused to sign, opposing a provision that required the transfer of seabed mining technology to less-developed member states. States renegotiated Part XI of the treaty to remove this section. The

30 Svalbard Treaty, www.sysselmannen.no/en/Toppmeny/About-Svalbard/Laws-and-regulations/Svalbard-Treaty/.

31 International Convention for the Prevention of Pollution from Ships (MARPOL), [http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx).

32 Brief History of IMO, <http://www.imo.org/en/About/HistoryOfIMO/Pages/Default.aspx>.

33 History of SOLAS, <http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofSOLAS/Pages/default.aspx>.

34 International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW), [http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-on-standards-of-training-certification-and-watchkeeping-for-seafarers-\(stcw\).aspx](http://www.imo.org/en/About/conventions/listofconventions/pages/international-convention-on-standards-of-training-certification-and-watchkeeping-for-seafarers-(stcw).aspx).

35 United Nations Convention on the Law of the Sea of 10 December 1982: Overview and Full Text, last updated March 28, 2018, http://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm.

United States also received a permanent seat with budgetary veto power, on the International Seabed Authority. Renegotiation ended in 1998 but the US has not ratified UNCLOS.³⁶

The Arctic Cooperation Agreement of 1988

The agreement between the United States and Canada facilitates and regulates bilateral cooperation in the Northwest Passage for research purposes. It does not resolve the disagreement between the two countries concerning the international legal status of the passage.³⁷

The Convention for the Protection of the Maritime Environment of the North-East Atlantic (OSPAR Convention) (1992)

The OSPAR Convention regulates international environmental cooperation in the North Atlantic. It combines the 1972 Oslo Convention on dumping waste at sea and the 1974 Paris Convention on land-based sources of marine pollution. The OSPAR Commission is made up of representatives from the 15 signatory states and the European Union.³⁸

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (2007)

Although not legally binding, the Declaration is a comprehensive affirmation of the rights of indigenous peoples, including self-determination. UNDRIP outlaws discrimination against indigenous peoples and outlines minimum standards for dignity and well-being. The Declaration also addresses cultural preservation and political participation.³⁹

The Barents Sea Border Treaty (2010)

The treaty between Russia and Norway demarcates a maritime border in dispute since 1970 and ruled by a moratorium since 1980. The treaty allows for resumed geological surveys and hydrocarbon drilling in the disputed area.⁴⁰

Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (2017)

Delegations from Canada, China, Denmark, Greenland, Iceland, Japan, Norway, Russia, South Korea, the United States and the European Union negotiated a draft agreement to prevent commercial fishing in the high seas of the Arctic Ocean, where no commercial fishing currently takes place. This precautionary agreement establishes a joint research program to determine whether fish in the region could be harvested sustainably in the future. In 2018, the agreement was under legal/technical review.⁴¹

36 Christopher Mirasola, Why the US Should Ratify UNCLOS: A View from the South and East China Seas, *Harvard Law School National Security Journal*, March 15, 2015, <http://harvardnsj.org/2015/03/why-the-us-should-ratify-unclos-a-view-from-the-south-and-east-china-seas/>.

37 Agreement Between the Government of Canada and the Government of the United States of America on Arctic Cooperation, Canada-United States, 1988, CTS No. 1988/29, <http://www.treaty-accord.gc.ca/text-texte.aspx?id=101701>.

38 Convention Text, OSPAR Commission, <https://www.ospar.org/convention/text>.

39 United Nations Declaration on the Rights of Indigenous Peoples, <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>.

40 "Delimitation Agreement: A New Era in the Barents Sea and the Arctic?" Arctic Forum Foundation, 2011, <http://eu-arctic-forum.org/allgemein/delimitation-agreement-a-new-era-in-the-barents-sea-and-the-arctic/>.

41 Meeting on High Seas Fisheries in the Central Arctic Ocean, 28-30 November 2017: Chairman's Statement, US Department of State, https://www.state.gov/e/oes/ocns/opa/rls/276136.htm#_ftn1.

New Global Commons Working Group

THE NEW ARCTIC: NAVIGATING THE REALITIES, POSSIBILITIES, AND PROBLEMS

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All discussions took place under Chatham House rule. Government personnel attended in their personal capacity, and not as official representatives of their respective governments.

The Arctic region has become a New Global Common. Increasingly navigable seaways and new access to natural resources create both opportunities for greater collaboration between Arctic and non-Arctic nations, as well as potential flashpoints, environmental disasters, and threats to indigenous communities. The challenge is to mitigate all of these potential threats, and develop the policies, partnerships, and infrastructure to help guide Arctic diplomacy in the decades to come.

*Back cover photo taken in the same location, 100 miles north of Barrow, Alaska, on September 1, 2017.
Credit: Dr. Jeremy T. Mathis, NOAA Arctic Research Program.*

