

One Earth Primer

“The State and Challenges of Arctic Governance in an Era of Transformation”

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Summary

The Arctic plays a central role in the Earth’s climate and an increasingly important role in the international relations and politics. As the region undergoes profound transformation due to combined impacts of anthropogenic climate change and global economic forces, new questions of governance come to the forefront of debates about the future of the region. This primer provides an essential overview of these changes as well as of the region’s governance system, which comprises many discrete and interacting elements. Contrary to popular claims, there is no lack of governance in the Arctic, but there are also challenges ahead of it. These challenges, however, are not unique to the circumpolar North and they represent some of the most pressing issues in governing human-environment relations in the Anthropocene. Therefore, lessons from the Arctic will have global relevance, and global experience can help to address the needs of Arctic governance.

Introduction

The Arctic is the fastest changing region in the world due to the impacts of anthropogenic climate change and globalization. In May 2021, the Arctic Monitoring and Assessment Program (AMAP), one of the working groups of the Arctic Council, an intergovernmental body for collaboration on Arctic matters, reported that, over the last 50 years, the Arctic has warmed three times as fast as the rest of the planet, not two times as previously reported. Between 1979 and 2019, the extent of Arctic sea-ice in September – when the ice-covered area reaches its annual minimum – has decreased by 44% (Figure 1). Current estimates suggest the Arctic Ocean could be largely ice free in summer before 2050 and even as early as the late 2030s.

This unprecedented transformation of the Arctic has profound consequences for Arctic biodiversity, Indigenous peoples, and local communities. Changes in the Arctic also affect the rest of the world through the Arctic’s role in the global climate system, its contribution to global sea-level rise, and its impacts on mid-latitude weather patterns.

One major consequence of these biophysical changes, coupled with forces of globalization, is a rising interest in the Arctic on the part of non-Arctic actors eager to explore economic opportunities that involve the opening of new shipping routes, oil and gas development, access to minerals, fisheries, and cruise tourism. This is tightening the economic and geopolitical linkages between the Arctic and the global system.

As the Arctic is changing so profoundly and rapidly and the range of stakeholders wanting a voice in Arctic issues is expanding, new questions of governance come into focus. Governance is a matter of steering society towards desirable outcomes, and away from undesirable ones. It arises as a public concern whenever the members of a social group find they are interdependent.

Contrary to popular claims about a governance vacuum in the region, there is no lack of governance in the Arctic. The Arctic governance landscape encompasses many discrete elements, with the eight Arctic states and their territories at its core. It also consists of subnational and national arrangements, subregional (e.g., the Barents Euro-Arctic Council) and regional regimes (e.g., the AC), and global arrangements applicable to the Arctic (e.g., the UN Convention on the Law of the Sea, UNCLOS). The region's governance system is better understood as an institutional complex rather than a single integrated system.

There are two primary challenges emerging for Arctic governance today: (i) to coordinate the growing array of arrangements in an effective way, and (ii) to ensure progressive development of existing and emerging governance mechanisms to meet changing needs in a region experiencing profound transformation.

Responding to these challenges in the Arctic can inform our thinking about innovative and effective ways to deal with global challenges of governing human-environment relations in the Anthropocene.

Changing Arctic

Unlike Antarctica, the Arctic is not subject to an internationally agreed legal definition. The most common geographic definition of the region comprises the area above the Arctic Circle (66°33'N), encompassing land territories of Canada, Kingdom of Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation, and the United States. Other definitions set the Arctic's boundaries elsewhere, depending on what is being studied (Figure 2). On land, the tree line is the effective southern boundary of the Arctic. At sea, the boundary is approximately the maximum extent of sea ice. Sociological definitions look at shared human factors. The Arctic encompasses an area of ~40 million square kilometers or about 8% of the surface of the Earth, with a human population of approximately 4 million, 10% of whom are Indigenous. About 70% of these people live in the Russian Federation, and Indigenous people are a minority in all Arctic areas except Greenland and Nunavut. The Arctic is a highly diverse region with important differences in natural conditions and political organization. Economic activities include market economies and subsistence, and standards of living vary substantially.

The environment is of paramount importance to the Arctic's inhabitants, and the region is home to ecosystems and livelihoods that are particularly vulnerable to impacts from industrial activities, pollution, and climate change. The Arctic is moving into a new warmer, wetter, and greener state. The pace of that change is accelerating as well: 0.75°C of Arctic warming has occurred in the last decade, far exceeding the global average. The largest increase in air temperature has occurred over the Arctic Ocean, where temperatures increase average 4.6°C and peak at 10.6°C over the northeastern part of the Barents Sea.

Changing sea ice, precipitation patterns, rising temperatures, and thawing permafrost affect food security and well-being of Arctic communities, as well as infrastructure in the region. The availability of traditional foods such as whales, walrus, and seals is adversely impacted by

changes in the ocean and thinning and receding of sea-ice, which no longer provides a reliable medium for dogsleds and snowmobiles used for hunting and transportation. The extreme snowfall and rain-on-snow events occurring with increasing frequency cause major losses to reindeer herds in Russia and Fennoscandia. Thawing permafrost not only releases greenhouse gases like carbon dioxide and methane and contaminants such as mercury but also puts at risk critical infrastructure, including roads, buildings, and oil and gas pipelines. As the effects of climate change in the Arctic become more pronounced, the region experiences more frequent and intense extreme events, such as heatwaves in Siberia, where temperatures in summer 2020 reached 38°C, and wildfires ravaging large swaths of Arctic Russia, Alaska, and northern Sweden. The Arctic acts also as a sink for pollutants originating outside the region, including persistent organic pollutants (POPs) (Figure 3) and, more recently, marine litter and plastics now found on Arctic beaches, in Arctic waters, and in Arctic birds and mammals, accumulating and negatively affecting the environment, food systems, and communities that rely on them. Another example of Arctic-global connections is Arctic birds' migration that links breeding areas in the region to all other parts of the globe, making it essential to connect them in the effort to effectively support conservation of Arctic biodiversity.

At the same time, the changing Arctic presents increased economic opportunities that trigger interest on the part of private companies and non-Arctic states attracted by prospects of commercial shipping through Arctic waters, access to the region's oil and energy resources, and the potential for fisheries and for ship-based tourism. While there are currently no commercially viable fisheries in the central Arctic Ocean, this could change in the future as migrating fish stocks from warmer mid-latitude or surrounding oceans might move northward. As of now, the Arctic Ocean's adjacent seas have among the largest and most valuable fisheries in the world, including Alaska pollock and Barents cod. These resources are, however, already fully utilized. The shorter distances offered by Arctic sea routes make them potentially attractive alternatives to southern routes and the increased use of the northern passages could be related to prospective exploitation of oil and gas reserves in the region, which the United States Geological Survey (USGS) estimated in 2008 to contain approximately 30% of the world's undiscovered gas and 13% of undiscovered oil. While the prospects for future development of these reserves might be affected by market developments and global climate politics, including commitments countries undertook both in the Paris Agreement (2015) and in the Glasgow Climate Pact (2021), Russia and Norway continue their search for Arctic hydrocarbons, with Russia planning further exploration and intensified production in the coming years. There is also increased interest in significant reserves of mineral resources located north of the Arctic Circle, the demand for which is expected to grow in economies transitioning away from fossil fuels. Norway, for instance, announced plans for granting exploration licenses for deep sea mining as early as 2023.

Whether and at what scale such developments occur is to a large extent determined by national and global economic forces that result in increasing globalization of the circumpolar North, which until recently has been on the margins of global political interests. While the Arctic today is increasingly affected by outside environmental, economic, and geopolitical forces, the impact of climate change in the Arctic is felt increasingly outside the region, further tightening the connections between the region and the wider world.

Arctic Governance

The Arctic has a long history of innovative responses to needs for governance. While the Cold War turned the Arctic into a theatre of military operations between the Soviet Union and the

United States and its allies, cooperative developments have taken place in the region on a smaller scale since the 1950s. In 1956, the Nordic Sami Council was established to promote the rights of Sami people in Finland, Norway, and Sweden, setting a precedent for formalized Indigenous cross-border collaboration in the North. In 1973, five Arctic Ocean coastal states (Canada, Denmark, Norway, the Soviet Union, and the United States) signed an Agreement on the Conservation of Polar Bears, the first multilateral cooperative arrangement among Arctic states during the Cold War. As an expression of Inuit activism and unity, the Inuit Circumpolar Conference (later Council) was founded in 1977 to represent the Inuit of Canada, Alaska, Greenland, and Chukotka, laying the groundwork for what would become one of the most innovative features of circumpolar collaboration, the high-level engagement of Indigenous representatives in the Arctic Council (AC).

The scope of international Arctic cooperation increased exponentially following the end of the Cold War, sparked by Mikhail Gorbachev's *Arctic zone of peace* speech delivered in Murmansk in October 1987. The speech encouraged other Arctic countries to vigorously pursue collaborative initiatives in the North and led to the establishment of the Arctic Environmental Protection Strategy (AEPS), the International Arctic Science Committee (IASC), and the Barents Euro-Arctic Council (BEAC), among others. The AEPS, founded in 1991, was particularly significant as its work highlighting environmental protection in the Arctic laid the foundation for the establishment in 1996 of the AC, now the central element in the landscape of Arctic governance and the foremost Arctic-specific international institution. The Council was founded not by means of a legally binding treaty but by the *Ottawa Declaration on the Establishment of the Arctic Council*. As in the AEPS, membership in the Arctic Council is reserved exclusively for eight Arctic states: Canada, the Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States (Figure 4). In addition, the Ottawa Declaration provides for the category of Permanent Participants (PPs), an innovative and largely unprecedented arrangement, under which organizations that represent either one Indigenous people living in several Arctic states or many Indigenous peoples living in one Arctic state must be fully consulted by Arctic states before they take their decisions by consensus. The category of observers is reserved for non-Arctic states, intergovernmental and interparliamentary organizations, and non-governmental organizations that the Council determines can contribute to its work. Today, observers number 38 states and institutions, including countries like China, Japan, and South Korea; intergovernmental organizations like the International Maritime Organization (IMO) and World Meteorological Organization (WMO); and non-governmental organizations.

The AC subsumed four working groups created under the AEPS and tasked with developing environmental monitoring and deepening scientific understanding of the Arctic environment: the Arctic Monitoring and Assessment Programme (AMAP); Conservation of Arctic Flora and Fauna (CAFF); Emergency, Preparedness, Prevention and Response (EPPR); and Protection of Arctic Marine Environment (PAME). It subsequently established two more working groups, Arctic Contaminants Action Program (ACAP) and the Sustainable Development Working Group (SDWG), to reflect the Council's shift in focus from environmental protection alone toward a broader concept of sustainable development.

Over its 25 years in operation, the AC has served as a primary generator of knowledge on the state of and changes in the Arctic region, provided important scientific contributions to international negotiations relevant to the Arctic (e.g., to the Stockholm Convention on Persistent Organic Pollutants), raised awareness of Indigenous issues in international Arctic

politics, contributed to development and maintenance of peaceful relations in the Arctic, and paved the way for recognition of the Arctic as a distinct region in the international political consciousness. Starting in 2009, the AC has served also as a catalyst and become an arena for negotiation of a series of the Arctic-specific legally binding agreements concluded among Arctic states: the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (SAR Agreement) in 2011; the Agreement on Cooperation on Marine Oil Pollution, Preparedness, and Response in the Arctic (MOSPA Agreement) in 2013; and the Agreement on Enhancing International Arctic Scientific Cooperation in 2017. Although these agreements are not Arctic Council agreements, given that the AC has no legal authority, they represent an important step in the Council's expanding portfolio of policy-making efforts.

Since its establishment, the AC has grown significantly, and it is today generally considered a primary forum for discussing matters pertaining to the Arctic. It attracts significant attention both from the highest political levels, including foreign ministers of Arctic states, and from worldwide media. Yet the AC is not an exclusive arena for addressing governance needs arising in the Arctic, much less for the management of Arctic regimes. As a body not based on a treaty and not an international organization, the AC lacks the formal authority to make binding agreements and the capacity to implement them. This authority and capacity rest with Arctic states with respect to most of Arctic territory, both terrestrial and marine.

Many issues affecting the Arctic are pursued through other venues. An example is the recent Agreement to prevent Unregulated High Seas Fisheries in the Central Arctic Ocean concluded among five Arctic Ocean littoral states and China, Iceland, Japan, South Korea, and the European Union, all major stakeholders in global fisheries with capacities and interest to contribute to sustainable fisheries in the high seas in the central Arctic Ocean, were those ever to emerge. Many other matters of direct relevance to Arctic environment and communities are governed through provisions of international agreements regulating specific issue areas. The Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury deal with pollutants that reach the Arctic through atmospheric, oceanic, and terrestrial pathways and adversely affect the health of Arctic inhabitants and the Arctic food web. The UN Framework Convention on Climate Change (UNFCCC) is the primary global mechanism for dealing with causes and effects of anthropogenic climate change, the principal driver of Arctic transformation and by far the most serious threat to Arctic biodiversity subject to protections granted by the Convention on Biological Diversity (CBD). Shipping in Arctic waters is regulated by the IMO and provisions of its *Polar Code*, which was adopted in 2014 and entered into force in 2017. The general law of the sea, both through the UNCLOS and customary international law, applies to the Arctic Ocean as it does to other maritime areas in the world. If efforts to develop a legally binding instrument to deal with biodiversity beyond national jurisdiction (BBNJ) are successful, the provisions of this instrument will apply to the high seas of the Arctic Ocean.

Far from being a governance vacuum, then, the Arctic is a highly institutionalized space encompassing a multitude of local, national, regional, and international institutions and governance mechanisms. Taken together, these arrangements constitute a complex and dynamic system of Arctic governance. Finding ways to ensure this wide array of individual arrangements operates synergistically rather than in a conflicting fashion is one of the challenges ahead of Arctic governance.

Moving Forward

Conditions prevailing in the Arctic today differ greatly from conditions that prevailed in the 1990s, when some of the main institutions for circumpolar collaboration were founded. This change is in large measure a consequence of tighter links between the Arctic and the global system, including the impacts of climate change, but also featuring the expanding range of actors wanting to have a voice in Arctic issues. It presents several challenges to Arctic governance.

The drivers of many changes in the Arctic, including climate change, pollution, and demand for the region's resources, originate in the lower latitudes and come from non-Arctic actors, making it essential to engage them in a governance equation aimed at addressing challenges ahead of the circumpolar North.

While the individual elements of the Arctic governance system are often treated as self-contained arrangements, they intersect with one another in many ways. The challenge today is to figure out how to improve the coordination of this growing complex of mechanisms to address needs for governance in a coherent and effective fashion. A good example is the need for scientific input to inform decision-making. Given the accelerating pace and expanding scope of changes in the region, as well as costs of conducting scientific research in the North that greatly exceed costs of research in the southern latitudes, there is a need for enhanced scientific coordination in the Arctic. The same is true of improving the availability of data and data sharing between various bodies and entities, all matters that could benefit from a dedicated effort to create synergies between and among different elements of the Arctic governance system.

What is essential is to ensure that, given the scope and pace of Arctic change, we do not rest on our laurels regarding the adequacy of the Arctic governance system as it stands today. Even if the world commits and effectively delivers on its commitments to halt the increase of global temperatures in the world to 1.5°C, temperature increases in the Arctic will far exceed that threshold and may reach a range of 4°C-5°C, even up to 7°C. Such change is unprecedented and requires retaining high levels of adaptability not only on the part of people in the Arctic experiencing these changes but also on the part of the governance mechanisms that are put in place to address this transformation. There is a need for progressive development as well as shortening the time between the detection and observation of change and the resultant, knowledge-based responses across the entire system of Arctic governance.

Conclusion

The Arctic is a vast and highly diverse region that today undergoes major transformation due to interacting forces of globalization and anthropogenic climate change. The result of these changes is a rising interest in the region on the part of non-Arctic actors who are affected by the impacts of Arctic climate change and interested in exploring economic opportunities arising in the circumpolar North. This is tightening both the economic and geopolitical linkages between the Arctic and the global system.

As the Arctic is changing rapidly and a growing range of actors want to have a voice in Arctic issues, questions of governance become central to discussions about the future of the Arctic. Contrary to popular claims, there is no lack of governance mechanisms in the region and the Arctic is a highly institutionalized space. The Arctic governance landscape encompasses many

discrete elements and, rather than as a single integrated system, it is better understood as an institutional complex. Moving forward, there are two important challenges ahead of Arctic governance. The first is to find ways to enhance coordination of a growing array of arrangements in an effective way. The second is to ensure progressive development and adequacy of existing and emerging governance mechanisms to meet changing needs in the Arctic undergoing profound transformation.

The answers to addressing these issues remain largely open, and the challenges of governance in the Anthropocene are by no means unique to the Arctic. To the contrary, they characterize global governance at large and represent some of the most pressing issues in governing human-environment relations in our times. Experience regarding the determinants of effective governance acquired in the Arctic will have global relevance. Conversely, global experience can help to address needs for governance in the Arctic.

Recommended reading

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Figures

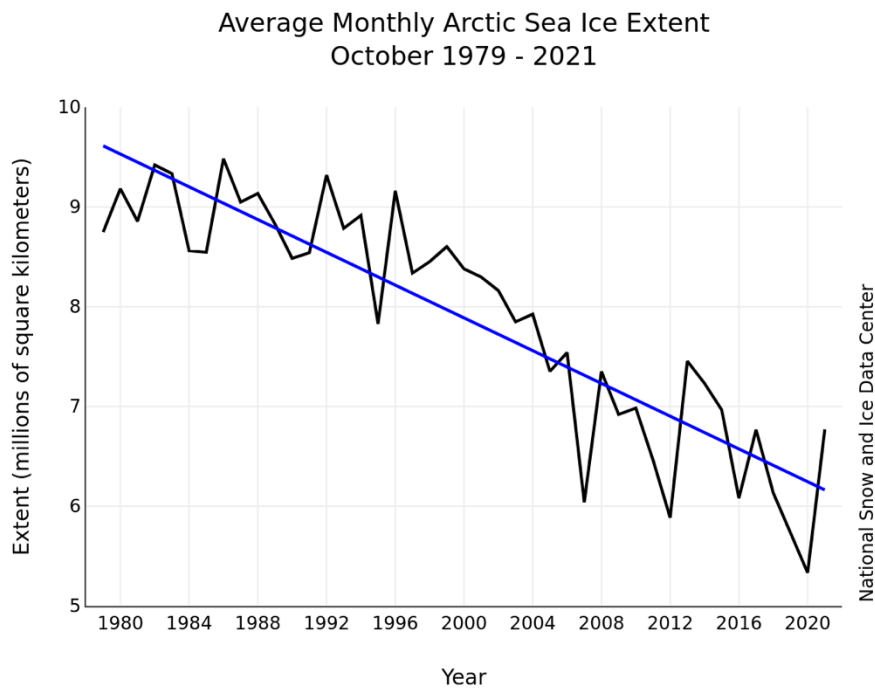


Fig. 1 Arctic sea ice extent 1979-2021

Monthly October ice extent for 1979 to 2021 shows a decline of 9.8% per decade. Credit: National Snow and Ice Data Center, <http://nsidc.org/arcticseaicenews/>.

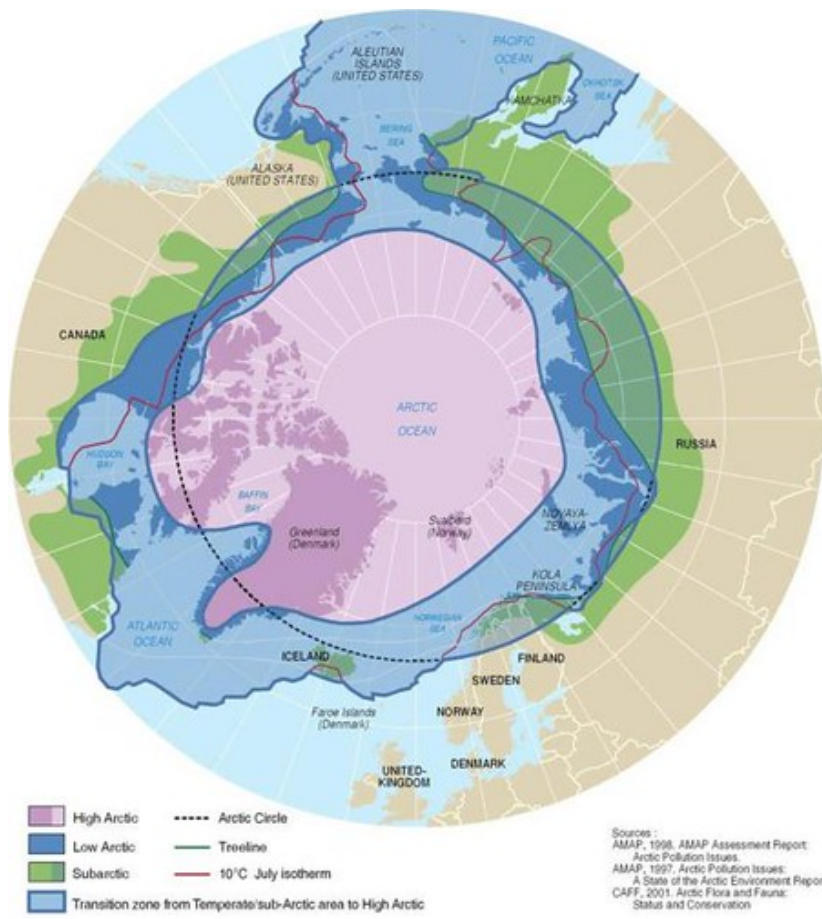


Fig.2 Different geographic definitions of the Arctic

Depending on what is being studied, different geographical definitions of the Arctic apply. Credit: Philippe Rekacewicz, UNEP/GRID-Arendal, <https://www.grida.no/resources/7010>.

Fig.3 Persistent organic pollutants in the Arctic

Most POPs are transported to the Arctic from southern latitudes by wind, rivers, and ocean currents, and the Arctic acts as a sink for these contaminants. Credit: Philippe Rekacewicz and Nieves Lopez Izquierdo, UNEP/GRID-Arendal, <https://www.grida.no/resources/13349>



Fig. 4 Composition of the Arctic Council

The Arctic Council (AC) is comprised of eight members: Canada, the Kingdom of Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States; six Permanent Participants (PPs): Aleut International Association (AIA), Arctic Athabaskan Council (AAC), Gwich'in Council International (GCI), Inuit Circumpolar Council (ICC), Russian Association of Indigenous Peoples of the North (RAIPON), and Saami Council; and six working groups: Arctic Contaminants Action Program (ACAP), Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency, Preparedness, Prevention and Response (EPPR), Protection of Arctic Marine Environment (PAME), and Sustainable Development Working Group (SDWG). Today, there are 38 AC Observers. Credit: Arctic Council Secretariat.