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# Arctic Climate Science:

A Way Forward for  
Cooperation through the  
Arctic Council and Beyond

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## About the Arctic Initiative

Launched in 2017, the Belfer Center’s Arctic Initiative addresses the challenges and opportunities being created by rapid climate change in the far North. By integrating insights from cutting-edge scientific research, Indigenous knowledge, and policy analysis, we seek to 1) improve understanding of the regional and global impacts of Arctic climate change; 2) work with local, regional, national, and international stakeholders to develop responsive policies and actions; and 3) train the next generation of interdisciplinary Arctic experts and leaders.

## About this Publication

This brief is inspired and informed by a two-day workshop in Cambridge, Massachusetts entitled “The Future of Arctic Council Innovation: Charting A Course for Working-Level Cooperation” hosted by the Belfer Center’s Arctic Initiative at the Harvard Kennedy School in collaboration with the Fridtjof Nansen Institute, the Center for Ocean Governance at the Norwegian Institute of International Affairs, and the Polar Institute at the Wilson Center. Participants included diverse representatives from civil society, academia, Indigenous Peoples’ organizations, and governments with deep knowledge of and experience with both the Arctic Council and other regional governance mechanisms.



A woman stands next to an antenna at an NYU base camp at the Helheim glacier in Greenland on Friday, Aug. 16, 2019. An increasingly large number of studies link Arctic changes to alterations of the jet stream and other weather systems, contributing to more extreme weather events, such as floods, drought, or more severe wildfires. (AP Photo/Felipe Dana, File).

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# Introduction

The Arctic is warming three to four times faster than the rest of the globe. Various feedback mechanisms are accelerating climate change in the High North, yet uncertainties about these processes hinder our ability to anticipate the most likely trajectories for global warming. What are the impacts of increased Arctic wildfires? As snow and ice in the Arctic disappear, how much solar heat will be absorbed versus reflected back into the atmosphere? What effects will that have on Arctic ecosystems? How well do we understand the relationship between melting ice sheets and global sea level rise? Could Arctic permafrost thaw one day release as much greenhouse gas as China or the United States emit now?<sup>1</sup> If so, what does that mean for global carbon budgets?

These questions point to complex, dynamic, non-linear processes that must be understood to mitigate their direct role in accelerating climate change. Arctic climate research is critical for informing the adaptation and mitigation efforts of local communities and those at the national, regional, and global levels.

Climate science to examine these changing dynamics takes place via various institutions and fora. Since 1996, the Arctic Council has served as the primary forum for Arctic states (Canada, Kingdom of Denmark, Finland, Iceland, Norway, Russia, Sweden, United States), Arctic Indigenous Peoples, non-Arctic states, intergovernmental organizations, non-governmental organizations, and experts to understand Arctic climate change and its impacts on the Arctic cryosphere. This cooperation has generated essential knowledge to inform regional and global policymaking.

But Arctic climate research is in jeopardy following Russia's full-scale invasion of Ukraine in 2022. Much of the information sharing between Russian and Western scientists has ground to a halt. A recently-published study suggests that the lack of cooperation between the West and Russia biases data to such an extent that scientists may be unable to accurately describe future Arctic change.<sup>2</sup> Essential data is still being shared under the auspices of international agreements, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Long-Range Transboundary Air Pollution, and remote sensing technology can detect some environmental shifts. However, these data sources lack

the specificity required to gain the depth of understanding needed to comprehend complex climate processes and have limited value for measuring phenomena, such as permafrost thaw and wildfires, taking place in the Russian Arctic. Russia makes up more than half of the Arctic coastline, and 65% of its landmass rests on permafrost. Russia cannot be ignored when determining how climate change will impact the Arctic, and how those impacts will reverberate across the globe.<sup>3</sup>

The freeze in climate science cooperation through the Arctic Council came on the heels of two years of reduced activity due to the COVID-19 pandemic. As a result, the Council has fostered minimal working-level cooperation in recent years. In August 2023, Arctic states agreed to a resumption of cooperation through the Council via “written procedures,” an onerous process that has moved slowly and has not enabled the dialogue necessary to advance more complex scientific and policy issues. For example, there has been little room for the strategic discussions needed to align the efforts of the Arctic Council and international bodies like the Intergovernmental Panel on Climate Change (IPCC) to understand the Arctic’s influence on global warming.

In February 2024, the Arctic Council announced that it had reached consensus on new operating guidelines that allow its Working Groups to convene virtual meetings. These guidelines could provide a means to enable dialogue, reach timely consensus on more complex issues, and advance projects after a period of relative inactivity. The Council will gradually resume Working Group meetings over the next three to four months and will be able to invite Observer states and organizations back into working-level discussions and activities.

# Advancing Climate Science Through the Arctic Council

These developments offer renewed avenues for climate science cooperation through the Arctic Council. However, the work needed to operationalize these guidelines should not be underestimated. Activity is unlikely to resume at a pre-invasion or pre-COVID pace. Officials, experts, and staff will need to dedicate substantial time and energy to ensure these new guidelines are effectively used to reinvigorate regional climate science cooperation, including at the interface with global organizations and processes. With this in mind, we offer several recommendations to inform these efforts:

- 1. Take a proactive approach to virtual communications.** As the Council resumes its virtual work, it will need to rebuild trust among players that have not worked together for two years or longer. Reestablishing trust in a virtual environment requires different competencies than in-person trust-building. The Council can leverage what the world learned during the COVID-19 pandemic to foster productive relationships and rebuild dialogue on climate science.

Any such effort will require balancing the urgency of the work with the sensitivities of the current geopolitical reality. A phased resumption of communication and outreach will be important, where the Council first ensures that Working Groups have the resources and capacity to actively engage in existing events and activities (e.g. Arctic Circle, Arctic Frontiers, IPCC, UNFCCC). With time and as appropriate, Working Groups could consider hosting virtual events, such as town halls or roundtables to allow Working Group experts and knowledge-holders from within and outside the Arctic Council to re-engage after a prolonged period of limited communication and collaboration.

- 2. Develop strategic priorities based on the political environment and research needs.** Although virtual meetings are resuming, the rift between Western Arctic states and Russia remains. Prioritization will be crucial; however, determining which climate science projects are politically feasible and imperative to undertake in this operating environment requires the ability

to weigh two potentially competing dimensions. The Arctic Council Working Groups should actively build this capacity and share their experiences and practices. Establishing the capacity and processes to prioritize work and shore up cooperation during periods of instability and uncertainty will help to make the Council more resilient in the long term.

- 3. Learn from non-Arctic states' continued work with Russia.** Not all states engaged in Arctic matters have broken ties with Russia. Some countries, among them some Asian states with observer status in the Arctic Council, have, to varying degrees, maintained their connections and collaboration with Russia through business projects and scientific research. While most of this research concerns Arctic maritime issues, it is worth learning from these experiences and exploring possibilities to work with these countries to support enhanced Arctic climate science in the current context.

# Supporting Broader Arctic Climate Science Activities

It is far more important that climate science projects proceed than that they proceed exactly as they did before the Arctic Council paused much of its work. Opportunities for the Arctic Council to advance broader climate science cooperation include:

- 1. Reorient how the Arctic Council's convening power is used.** In the past, the Arctic Council has been described as the leading Arctic institution translating scientific research into policy-relevant recommendations. This period of geopolitical tension exposes the dangers of presenting the Council as a single point of entry to policymakers. In the current context, the Council would benefit from emphasizing its capacity and experience in convening experts, knowledge-holders, and officials to inform climate policies through a variety of relevant national, regional, and international fora. In this way, the Arctic Council could emphasize its role as an enabler of informed climate policy for many audiences rather than a gatekeeper.
- 2. Deepen support for other institutions working on Arctic climate science.** Many other institutions contribute to Arctic science cooperation (e.g. International Arctic Science Committee, University of the Arctic, Association of Polar Early Career Researchers). These organizations can provide useful and complementary pathways of continued collaboration when state-led formal diplomatic channels are impacted. The Arctic Council Working Groups play an important role as aggregators and clearinghouses for Arctic climate science. In the current context, Arctic Council Working Groups should dedicate particular attention to reinforcing relationships with these other bodies and prioritize strengthening their own role in sharing and amplifying data, science, and findings. Furthermore, UN bodies that still engage Russian counterparts—like the International Maritime Organization and the IPCC— may be able to facilitate the inflow of data into Arctic climate science and could also play an enhanced role in Arctic climate science if they devoted more resources to studying the region.
- 3. Standardize data and research methods and make data accessible.** The 2017 Agreement on Enhancing International Scientific Cooperation in the Arctic

provides an important framework for climate science activities. In the current context, focusing attention on operationalizing specific elements of this agreement could be effective. In particular, data sharing between scientists, NGO networks, and private philanthropies is critical. This requires constant effort to standardize data and research methods across borders. Scientific organizations could also encourage more “parallel play,” whereby groups concurrently publish data and information so that knowledge can advance without direct collaboration with Russia. Useful examples of how this can be done include the [Bering Sea Transboundary Incident Response Tool](#), a publicly accessible website that provides U.S. and Russian emergency response personnel with information about sensitive natural areas and places of high biodiversity, and [Movebank](#), a free, online database for animal tracking data. The Arctic Council Working Groups could play a leadership role in encouraging these types of tools and activities.

In sum, given the urgency of Arctic climate change and the importance of scientific cooperation to understand the mechanisms and impacts of this change both regionally and globally, it is vital to reflect on how Arctic climate science can be enhanced and made more resilient to shocks (geopolitical or other) moving forward. Even if there are no easy answers to those questions, we must foster multiple pathways to enhance climate science collaboration – in preparation for the next International Polar Year (IPY 2032-2033); to inform enhanced national, regional, and global action on climate; and to support Arctic communities.

## Endnotes

- 1 International Cryosphere Climate Initiative. “State of the Cryosphere 2023: Two Degrees Is Too High.” International Cryosphere Climate Initiative, November 2023. <https://iccinet.org/statecryo23/>.
- 2 López-Blanco, Efrén, Elmer Topp-Jørgensen, Torben R. Christensen, Morten Rasch, Henrik Skov, Marie F. Arndal, M. Sydonia Bret-Harte, Terry V. Callaghan, and Niels M. Schmidt. “Towards an Increasingly Biased View on Arctic Change.” *Nature Climate Change*, January 22, 2024, 1-4. <https://doi.org/10.1038/s41558-023-01903-1>.
- 3 Kornhuber, Kai, et. al. “The Disruption of Arctic Exceptionalism.” German Council on Foreign Relations, February 2023. <https://dgap.org/en/research/publications/disruption-arctic-exceptionalism>.



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