Call to Action for Policy Makers

ICARP IV: A Roadmap for the Future of Arctic Research

October 2026

ICARP IV
INTERNATIONAL CONFERENCE ON ARCTIC RESEARCH PLANNING

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Arctic change is global change

The Arctic is warming three to four times faster than the global average, driven fundamentally by human-caused warming of the planet. Its transformation is reshaping global climate, sea level, weather extremes, biodiversity, food systems, economies, and geopolitical stability. Sustained investment in Arctic knowledge is an investment in global resilience.

Trine Lise Sviggum Helgerud

What is ICARP IV?

The Fourth International Conference on Arctic Research Planning (ICARP IV) provides a roadmap for Arctic research and action through 2035. Led by the International Arctic Science Committee (IASC) and developed through contributions from thousands of participants across dozens of countries, Indigenous Peoples, research organizations, governments, and other stakeholders, it identifies the knowledge, partnerships, and investments needed to understand and respond to rapidly changing Arctic conditions and to prepare for the Fifth International Polar Year (2032–2033).

The ICARP IV process identified:

- Important knowledge gaps across Arctic research.
- Key research priorities to address the most critical knowledge gaps, to inform investment, and to strengthen connections between research and practice.
- Recommended implementation actions for each of the identified research priorities.

ICARP IV Online Resources

The ICARP IV Final Outcomes Report and the final reports of the seven Research Priority Teams are available here:

Ilya Abramov

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Key Priorities

The priorities identified by the ICARP IV process are intended to guide Arctic research—and tomorrow's leaders in Arctic science, education, cooperation, and policy—through what promises to be a decade of rapid changes in the Arctic environment, global geopolitics, and funding mechanisms.

Aleksandra Machowska

1. Invest in Arctic observation, research, innovation, and education

Understanding Arctic change requires decades of continuous observations, stable research infrastructure, and international coordination. Governments should prioritize sustained support for observing networks, operational research stations, monitoring systems, data infrastructure, and the next generation of Arctic researchers and educators.

Early-career researchers are key to the future of long-term research in the Arctic, and should be supported through training and funding opportunities. Educators and educational resources should also be supported to build global awareness of the Arctic's importance.

These investments provide the foundation for improved weather forecasting, climate projections, disaster preparedness, infrastructure planning, ecosystem management, and climate adaptation, and ensure the long-term continuity of research in the Arctic.

2. Strengthen climate resilience and adaptation through science

Climate models project continued warming, permafrost thaw, and sea ice loss in the coming decades. Research must directly support planning to adapt to these changes at local, national, and international scales.

Improved models and integrated observing systems are needed to provide regional climate projections, seasonal forecasts, risk assessments, ecosystem forecasts, and policy-relevant information on impacts such as coastal erosion, permafrost degradation, increasing wildfire, and other emerging hazards affecting Arctic communities.

3. Support Indigenous leadership and equitable knowledge systems

Future Arctic research should be built on equitable partnerships with Arctic Indigenous Peoples. Governments should support Indigenous-led research, strengthen co-production of knowledge across scientific and Indigenous Knowledge systems, uphold Indigenous data sovereignty, and invest directly in Indigenous and Arctic community research capacity.

These approaches produce more relevant, ethical, and actionable knowledge while strengthening community resilience.

4. Maintain international scientific cooperation during geopolitical uncertainty

No nation alone can adequately observe or understand Arctic changes. Sustained international scientific cooperation remains essential for maintaining observing networks, sharing data, improving climate prediction, responding to shared risks, and supporting peaceful collaboration in the Arctic.

Governments and research institutions should strengthen the mechanisms that enable cooperation and improve the resilience, efficiency, and effectiveness of Arctic research in the face of geopolitical tensions.

Preparing for the Fifth International Polar Year (2032–2033)

The coming decade presents a critical opportunity to prepare for the Fifth International Polar Year (IPY-5) and strengthen the global Arctic research enterprise. IPY-5 will build on the coordinated research, evidence, and knowledge established by the four groundbreaking IPYs since 1881 and millennia of Indigenous Peoples' Knowledge. By bringing the world together to understand Earth's rapidly changing polar regions, IPY-5 will equip humanity with the knowledge, partnerships, resilience, and capacities needed to thrive in an increasingly uncertain future.

Planning for IPY-5 will advance coordinated observations, accelerate scientific innovation, strengthen international cooperation, and promote evidence-based decision-making. ICARP IV provides a roadmap for these efforts.

The Fifth International Polar Year

IPY-5 in 2032–33 aims to address urgent global challenges by advancing polar research, focusing on the impacts of climate change in the Arctic and Antarctic.
See the IPY-5 website here:

Simon Peter

Call for action

The pressing need to understand and respond to Arctic change requires a renewed commitment from researchers, educators, institutions, and funders to move from planning to implementation. Achieving the vision articulated through ICARP IV will require sustained international cooperation and long-term investment in Arctic research infrastructure, monitoring, and knowledge systems.

In a time of geopolitical uncertainty, the Arctic research community must reaffirm its shared commitment to collaboration across borders, disciplines, and cultures. Maintaining scientific cooperation is essential for advancing knowledge and for supporting informed decision-making in the face of rapidly evolving environmental and societal challenges.

ICARP IV serves as a call for the global research community, institutions, and funders to work together in shaping a resilient, collaborative, and impactful future for Arctic research— one that serves the Arctic and contributes to the wellbeing of the entire planet.

More information:

https://icarp.iasc.info

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