International Polar Year
2032–2033

What happens at the poles affects everyone.

Rapid change in the Arctic and Antarctic – just 10% of the planet – will profoundly shape the future of the other 90%, influencing climate, sea levels, food systems, water security, biodiversity, economies, and human well-being worldwide.

By bringing the world together to understand these rapidly changing regions, the Fifth International Polar Year (IPY-5) will equip humanity with the knowledge, partnerships, resilience and capacities needed to thrive in an increasingly uncertain future.

IPY-5 will achieve this vision through the following imperatives:

- **Global science for global challenges.** No single nation, institution, or discipline can understand or address polar change alone. IPY-5 will unite countries, disciplines, sectors, and knowledge systems in an unprecedented international scientific effort, while supporting equitable participation and partnerships.
- **A transformational leap in knowledge.** By combining advances in artificial intelligence, satellite technology, autonomous observing systems, modelling, and digital infrastructure, the IPY-5 has the potential to revolutionize our understanding of Earth-system change.
- **Knowledge without borders.** By sharing observations, expertise, and infrastructure across nations, IPY-5 will generate trusted knowledge that supports better decisions and resilience worldwide.
- **Diverse knowledge systems.** IPY-5 will bring together scientific, Indigenous, and traditional knowledge systems, creating more equitable and effective approaches to understanding environmental and societal change while adapting and building resilience for the future.
- **More resilient societies.** Through lasting observing systems, partnerships, scientific capacity, and trusted information, IPY-5 will strengthen humanity's ability to anticipate, understand, and respond to rapid Earth-system change, benefiting future generations.

Global science for global challenges

The polar regions are experiencing some of the most rapid and far-reaching environmental changes on Earth. They regulate the Earth's climate, oceans, water cycle and ecosystems, while influencing the prosperity, security, and well-being of societies around the globe. Changes underway in the Arctic and Antarctic are already influencing sea-level rise, water security, food systems, biodiversity, infrastructure, economic development, and human well-being worldwide. The polar regions are also places of profound cultural significance for many Indigenous Peoples, whose knowledge systems and enduring relationships with these regions are integral to understanding their past, present, and future. The pace of change is accelerating. At the same time, major uncertainties remain regarding future impacts, risks, and opportunities. Addressing these uncertainties is a critical scientific and societal challenge.

As change accelerates, the polar regions are becoming more critical to understanding and managing global risk. The Fifth International Polar Year (IPY-5) will mobilize the world's scientific, technological, and knowledge capabilities to generate the evidence and partnerships needed for a resilient and sustainable future. At a time of growing complexity and uncertainty, IPY-5 will also help strengthen trust in science and international cooperation by providing transparent, credible, actionable, and internationally coordinated knowledge for decision-making.

Photo: Evgenii Salganik

Photo: Wenkai Guo

A transformational leap in knowledge

The coming decades will be shaped by decisions on infrastructure, water resources, coastal adaptation, energy systems, ecosystem management, disaster risk reduction, biodiversity conservation, and economic development. These decisions depend upon advances in understanding across areas including:

- Future sea-level rise and ice-sheet change
- Climate tipping points and Earth-system feedbacks
- Carbon cycle dynamics and greenhouse gas emissions
- Ocean circulation, weather, and climate extremes
- Ecosystem resilience, biodiversity, and food security
- The impacts of environmental change on communities, livelihoods and economies
- Changes in human systems and their environmental feedbacks.

These challenges will be addressed through equitable research partnerships that bring together diverse knowledge systems and support informed governance, security, and preparedness. Addressing them will require ambitious, internationally coordinated projects that operate across traditional boundaries and connect research, innovation, and societal needs. IPY-5 will help transform our ability to observe, understand, and anticipate change across the Earth system, providing the scientific intelligence needed to inform policy, planning, and action at local, national, and global scales. Advances in observing systems, artificial intelligence, modelling, and digital technologies create an unparalleled opportunity to answer questions that were previously beyond our reach.


Photo: Gary Wilson

Knowledge without borders

No nation, institution or discipline can answer these questions alone. The processes shaping our future transcend national boundaries. Ice-sheet change in the polar regions directly affects every nation, especially at the coast. Changes in the polar regions influence weather, climate, ecosystems, and economies across the globe. Understanding these interconnected systems requires observations, expertise, infrastructure, and long-term commitment that exceed the capabilities of any single country.

International scientific collaboration enables nations to share infrastructure, observations, expertise, and investment, delivering scientific advances and efficiencies that would otherwise be unattainable. By working together across borders, IPY-5 will generate trusted evidence and innovative solutions that support adaptation, disaster risk reduction, sustainable development, and environmental stewardship. It will help ensure that investments are aligned, complementary and capable of delivering transformational outcomes.

Diverse knowledge systems

The impacts of environmental change are not experienced equally. Many Indigenous Peoples and communities in the polar regions are already facing profound environmental, social, and economic change despite contributing least to its causes. Their knowledge systems, observations, and lived experience provide essential insights into environmental change, adaptation, and societal well-being.

IPY-5 will bring together natural sciences, engineering, social sciences, health sciences, humanities, Indigenous and traditional knowledge systems, industry, governments, and policy communities in a coordinated global effort. By combining expertise across disciplines, sectors and knowledge systems, IPY-5 will create new models of equitable knowledge co-production and deliver understanding that would not be possible through any single approach.

IPY-5 will help to build the next generation of scientists, innovators, and knowledge holders. It will also strengthen public understanding of why the polar regions matter to every nation and every generation.

More resilient societies

The success of IPY-5 will not be measured by a single discovery or publication, but by its lasting contribution to society's ability to anticipate, prepare for, and respond to environmental change. Its impact will be reflected in the observing systems, partnerships, scientific capabilities, and decision-support tools that continue to deliver value long after the field campaigns have ended. These enduring investments will strengthen resilience by providing trusted information to support adaptation, risk reduction and sustainable development.

This legacy will be realized through sustained investment in observing systems, innovation, scientific capacity, and international cooperation, resulting in trusted information and the long-term application of knowledge in policy, planning and practice.

Most importantly, IPY-5 will leave a lasting legacy of knowledge, partnerships, and scientific capacity that enables societies to navigate a rapidly changing world with greater confidence and shared purpose.

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