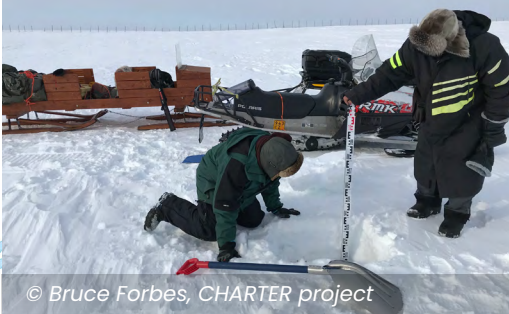


EU CONTRIBUTION TO ARCTIC SCIENCE AND INNOVATION

Funded by the European Union

The EU is a major funder and enabler of Arctic science and innovation



© Bruce Forbes, CHARTER project

Horizon Europe (2021-2027), the latest 7-year framework programme for research and innovation, has so far contributed about **€163 million** to Arctic research plus **€17 million** to polar research



100+

Arctic-focused **Marie Skłodowska-Curie Actions** projects were funded under **Horizon 2020** and **Horizon Europe** (excellence programme dedicated to researchers' career, skills development and mobility)

4 500+

scientific publications on Arctic topics reported receiving EU research programme support from 2016 to 2023



"Because we focus on the interactions between Arctic livelihoods, biodiversity and climate, the best experts are the local and Indigenous people."

– Bruce Forbes, Horizon 2020 project CHARTER (Cordis Results Pack)

EU-funded Arctic research supports Arctic, European and global policy-making

Arctic data informs European work on Arctic-relevant **global agreements** and supports the implementation of the **EU Arctic policy**.

Arctic science contributes to the **European Green Deal**, its biodiversity and climate objectives and zero-pollution vision. Projects support local and national adaptation and green transition planning.

EU Polar Cluster and the **European Polar Coordination Office (EPCO)**, continuing the legacy of **EU-PolarNet**, serve as gateways to access policy-relevant research findings.

The European Commission's **Joint Research Centre (JRC)** experts contribute through science to enhancing and implementing the EU's Arctic-relevant policies.

EU polar research contributed to the **Sixth Assessment Report** by the Intergovernmental Panel on Climate Change (IPCC).

Copernicus Europe's eyes on Earth



Copernicus and the rest of the EU Space Programme facilitate Arctic monitoring, navigation and connectivity



Research is a vital part of the EU's engagement in and contribution to international cooperation in the Arctic

Data from EU-funded research projects and EU services contribute to the work of the **Arctic Council**, and the JRC contributes to the Council's assessment activities.

The EU supports international coordination via the **Arctic Science Ministerial meetings** and Arctic Science Funders Forum.

The EU works closely with the US, Canada and other partners via the **All-Atlantic Ocean Research and Innovation Alliance (AAORIA)**, in its renewed Pole to Pole dimension.

The EU is fully committed to supporting scientific work under the **Central Arctic Ocean Fisheries Agreement (CAOFA)**.

In Greenland, the Arctic Hub is a point of contact for local and international researchers and their interactions with local communities. The initiative is supported by the Green Growth Programme under the Greenland-EU partnership.

EU-funded Arctic science works by collaborating with Arctic stakeholders and Indigenous Peoples

Indigenous and local knowledge-holders: e.g. in work on permafrost, pollutants, and social and cultural dimensions of changes.

Private sector: industries such as shipping and tourism participate in research activities and benefit from Arctic knowledge.

Arctic decision-makers: including at local, regional and national levels. Projects conduct community consultations and co-produce research questions and solutions.



The EU brings Europe's Arctic researchers and universities together

Planning European Arctic research EU-PolarNet (2015-2024, €5.5 million) developed strategies to enhance European research and its impact, bringing together research infrastructures, and publishing the Integrated European Polar Research Programme.

Helping EU projects work together This includes, in particular, the EU Polar Cluster network of EU-funded Polar research projects (coordinated via EU-PolarNet and EPCO).

Erasmus+ supports Arctic cooperation E.g. the project ARCADE has been bringing together universities from Iceland, Greenland and Norway since 2022, focusing on social and environmental leadership.

Long-term institutional coordination By the European Polar Coordination Office (EPCO) in Umeå, Sweden, from 2025.



AS CLIMATE CHANGE AND OTHER DEVELOPMENTS IMPACT ARCTIC PEOPLE AND ECOSYSTEMS, THE EU IS A KEY FACILITATOR IN GENERATING KNOWLEDGE ABOUT ARCTIC AND GLOBAL TRANSFORMATIONS.

The EU promotes science and innovation in and for the Arctic, promoting cooperation, multilateralism, openness and reciprocity.



The EU in the Arctic

Reach out to us at

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#EUArctic

Erasmus+



The **Erasmus+** programme supports the mobility of higher education students and staff, with **26 800** taking part in exchanges into Arctic Europe in 2019-2022



In the same period **11 000** European Arctic inhabitants benefited from Erasmus+ opportunities

Learn more about EU Arctic research initiatives



Explore EU Polar Cluster



@EU_FPI



@EU_MARE



@eu_eeas

#HorizonEU

#EUScienceInnov

#MissionOcean

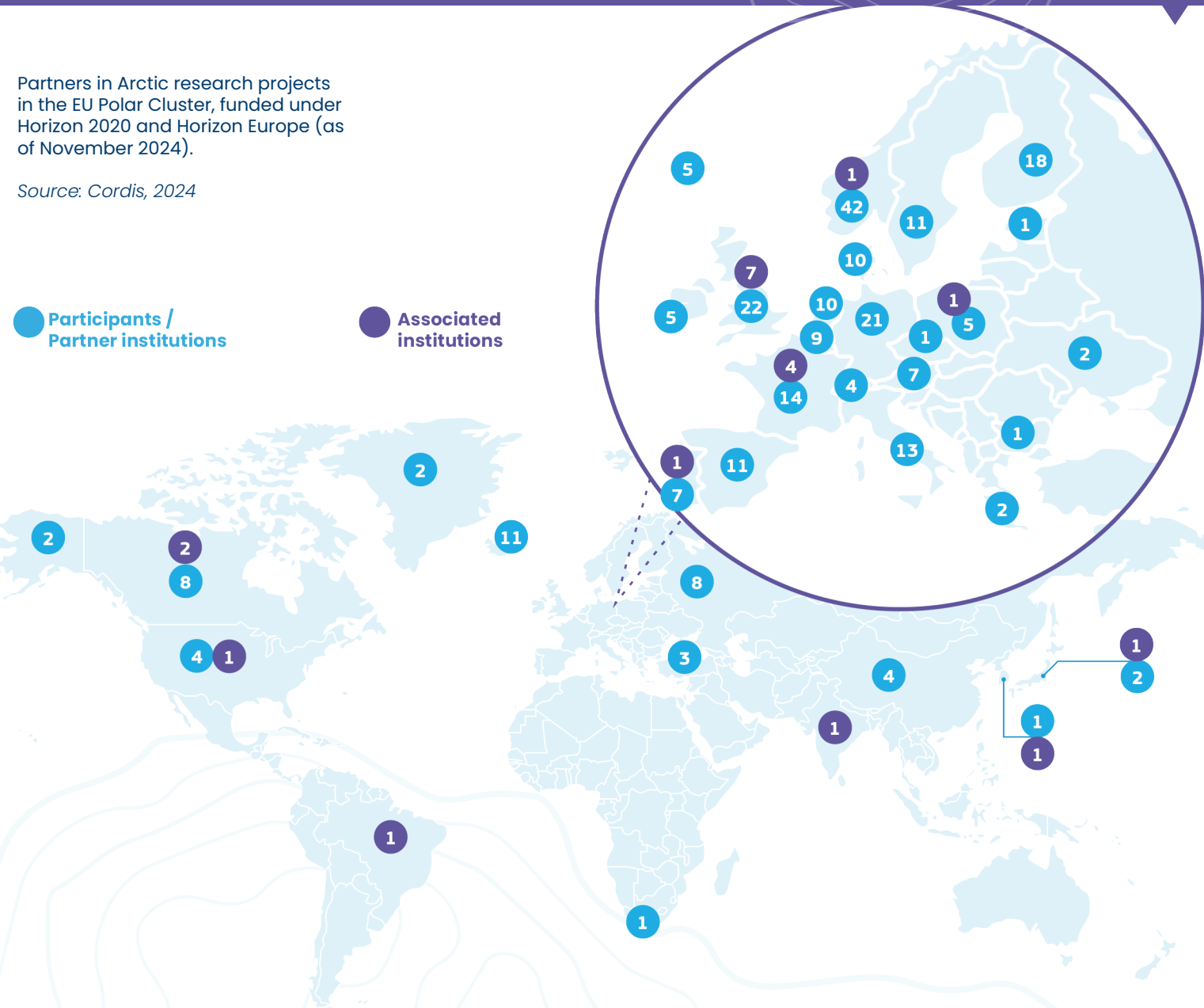
#AllAtlanticOcean

Participants and associated partners in the EU Polar Cluster

Partners in Arctic research projects in the EU Polar Cluster, funded under Horizon 2020 and Horizon Europe (as of November 2024).

Source: Cordis, 2024

Participants / Partner institutions (light blue circle)
Associated institutions (dark blue circle)



Improving understanding of Arctic climate change, cryosphere and oceans

EU-funded research investigates climate change dynamics and impacts, including thawing permafrost, and diminishing sea ice cover and snow cover. Climate and weather modelling is being improved and adaptation options elaborated.

The European Institute for Innovation and Technology (EIT) is an EU agency for innovation-driven research. EIT's Climate Knowledge and Innovation Community supports cities, regions, countries and industries to meet climate ambitions by generating and implementing climate solutions, mobilising finance and testing business models.

Mitigating local and long-range pollution and its impacts

EU-funded science improves our understanding of the distribution, origins and effects of pollutants – plastics, persistent organic pollutants, heavy metals, etc. – and identifies mitigation options.

"Climate change and pollution, including plastics, ship emissions and wastewater, pose significant threats to human health and the ecosystems of the Arctic region."
 - ICEBERG Horizon Europe project



"Climate change and permafrost thaw are exposing Arctic coasts to rapid change, change that threatens the rich biodiversity, puts pressure on communities and contributes to the vulnerability of the global climate system."
 - NUNATARYUK Horizon 2020 project on permafrost

Explore **Arctic Permafrost Atlas** (NUNATARYUK)

Explore **JUSTNORTH** documentary



"As the Arctic continues to change, the demand for improved access to observational data streams and services that are more reliable and more diverse, will continue."
 - Arctic PASSION, Horizon 2020 observation and monitoring action



Tracking social, cultural and economic developments and enabling sustainable development and safe human activities

EU projects investigate socio-economic drivers and changes, and pathways to sustainable development and social conflict prevention. These include networks and solutions facilitating safe human activities.

EIT Raw Materials boosts technological development and application in mining and recycling sectors by connecting Europe's research and innovation communities, as well as helping to access funding and train talent.

Ensuring sustained Arctic observation and infrastructures

The EU provides a wide implementation of a pan-Arctic data system and monitoring frameworks. The EU Space Programme, especially the Earth Observation component Copernicus, provides a wide range of free and open Arctic data, products and tools.

ARCTIC HUB
The Copernicus Arctic Hub brings together Arctic-relevant data and information from across the Copernicus services. This includes data on climate, emissions, ocean parameters, terrestrial waters, land cover, cryosphere and wildfires.



"Pressures, tensions and sometimes conflicts occur in locations where industries, livelihoods and interests converge or overlap."
 -Pasi Rautio, Arctic Hubs Horizon 2020 project, Cordis Results Pack



Among the Copernicus services providing data for Arctic science and monitoring are:
Copernicus Marine Service, CMEMS information on sea ice and the physical and biogeochemical state of the ocean.
Copernicus Land Monitoring Service, CLMS geospatial information on land cover and its changes;
Global Wildfire Information Service, GWIS providing comprehensive view and evaluation of fire risks, regimes and effect, with a dedicated AMAP area for the Arctic.

Capturing changes to Arctic terrestrial and marine ecosystems and biodiversity

EU-funded projects, working closely with Arctic communities, explore past and present changes and interactions, work on future projections, and develop ideas on mitigation, prevention and restoration.

E.g. Atlantic and Arctic Sea basin lighthouse, part of the EU Mission Restore Our Ocean and Waters, addresses threats to marine biodiversity caused by climate change and human activities.

Explore **Arctic biodiversity, climate and food security policy briefing** (ECOTIP, FACE-IT, CHARTER projects)



Europe's Galileo global navigation satellite system contributes to the operation of Arctic research vessels.

The European Commission and the European Space Agency cooperate, among others, on a **Polar Regions and Global Impacts Flagship initiative**, to jointly advance Earth System Science and respond to global challenges.

Polar Research Infrastructure Network (POLARIN, 2024-2029, €14.6 million) helps share the use of research infrastructures.

Project ARICE (2018-2022, €6 million) facilitated the use of European marine research vessels.