

The Arctic is undergoing the most rapid changes in the climate system worldwide



An Integrated Pan-Arctic Observing System is required to address environmental and climate change challenges

INTAROS will develop an efficient integrated Arctic Observation System by extending, improving and unifying existing and evolving systems in the different regions of the Arctic.

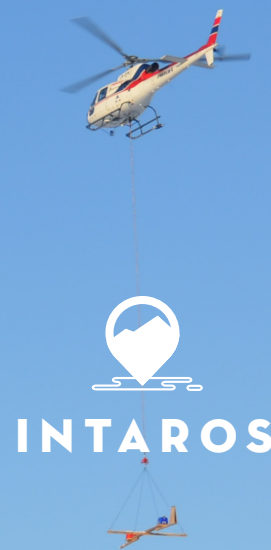
INTAROS will support the implementation of the EU's Arctic Policy. The first ever Arctic science ministerial was held in 2016 and concluded in a *Joint statement on increased international collaboration on Arctic science*, signed by 25 nations and the European Union.



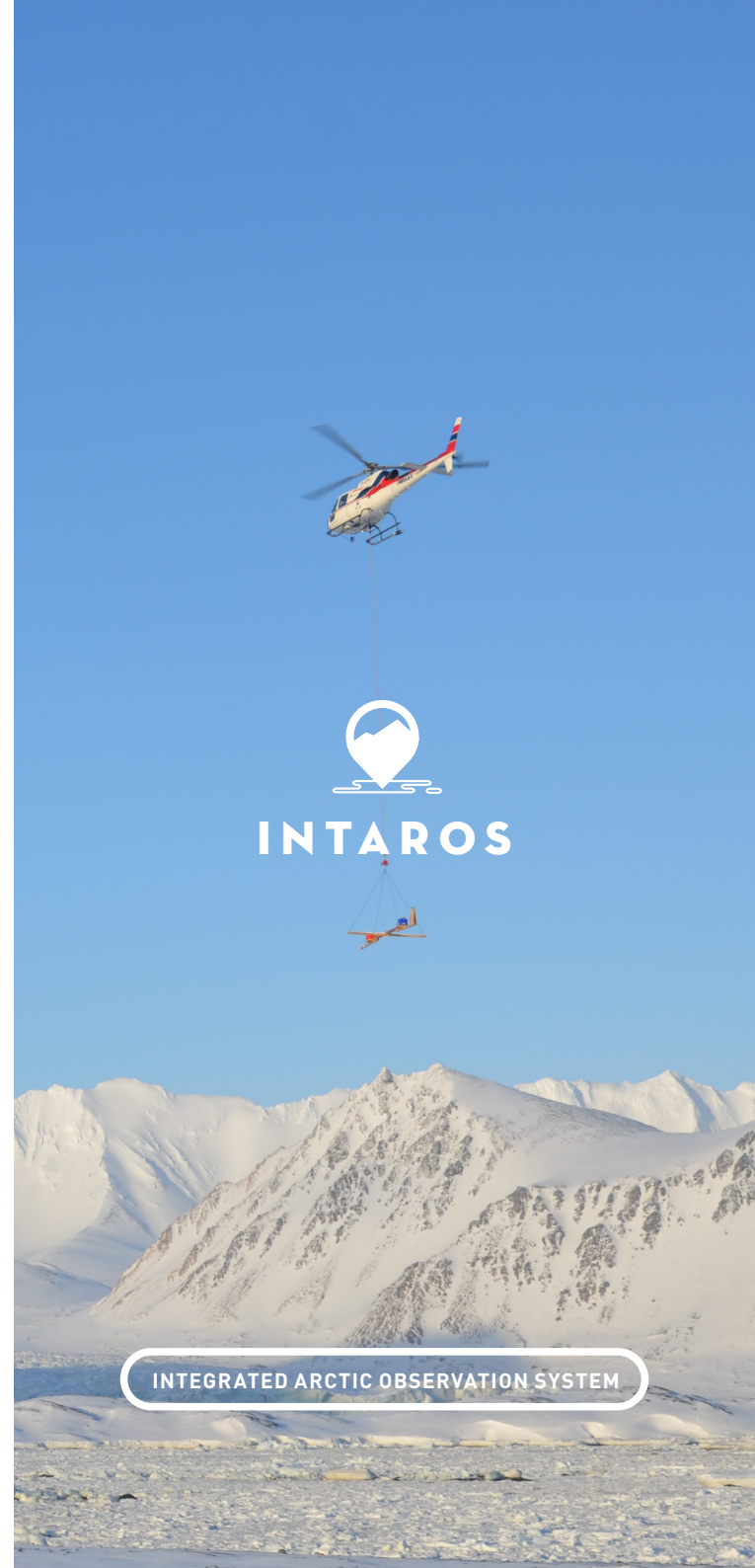
Find out more
www.intaros.eu

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INTEGRATED ARCTIC OBSERVATION SYSTEM





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The environment in the Arctic region is now changing significantly due to increased air and water temperature, thinning and decrease in the area of sea ice, melting of the Greenland Ice Sheet, thawing permafrost and changes in atmospheric and ocean circulation. Such changes have global and regional implications including extreme weather, sea level change, coastal erosion, natural hazards and changes in the ecosystem. Moreover, these changes impact severely on people's living conditions in the Arctic. Exploitation of living and non-living resources, marine transportation and other human activities are expected to increase with additional impact on the vulnerable environment and communities. In order to ensure sustainable development in the Arctic it is necessary to collect more data to advance the knowledge on its climate and environment.



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Co-ordination and collaboration

INTAROS brings together expertise from 49 organizations in 20 different countries in Europe, North America and Asia. A Pan-Arctic forum will be set up to support formulation of agreements and collaboration across EU Member States, non-EU countries and transnational organizations.

Build on existing systems

Use existing observing systems and databases of atmosphere, ocean, cryosphere, geosphere and terrestrial data as the backbone of the INTAROS Integrated Arctic Observation System (IAOS) portal.



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Improvement of observations

INTAROS will install new instrumentation to measure physical, chemical, biological and ecological parameters for the atmosphere, ocean, cryosphere, and terrestrial environment. These measurements will fill information gaps complementing remotely sensed data and improving model predictions.

Make information widely available

INTAROS will combine existing data in distributed repositories with the new observations and provide tools for data discovery, aggregation, analysis and visualization. A cloud-based information platform will facilitate easy access for users and stakeholders for a better understanding of the environmental and climate changes in the Arctic.

Cross-fertilize local and scientific knowledge

INTAROS will demonstrate 'real world' applications by combining information from both local community based and scientific observation systems to support decision-makers and stakeholders in implementation of sustainable management in the Arctic.

Develop professional skills

A range of research schools, training programmes, scientist exchange visits, and publications will enhance knowledge, expertise and skills of stakeholders working within management, industry, science and education on Arctic issues.



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DEMONSTRATE PRACTICAL BENEFITS

- 1 Enhance climate observations and studies
- 2 Improve ecosystem understanding and management
- 3 Generate ice-ocean statistics for risk management
- 4 Address natural hazards in the Arctic
- 5 Improve understanding of greenhouse gas cycle
- 6 Bring together community based and science-driven observations
- 7 Support marine and maritime industries
- 8 Inform fisheries and environmental management agencies.



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INTAROS will work with other programmes and initiatives to develop a long-term integrated sustainable Arctic Observation System for future generations.