Integrated Arctic Observation System
Development under Horizon 2020
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Overall objective
INTAROS will build an efficient integrated Arctic Observing System (iAOS) by extending, improving and unifying existing systems in different regions of the Arctic

Applications of iAOS towards stakeholders

- Assess the impact of improved observational sea-ice data on climate prediction by data driven experiments
- Advance ecological and environmental understanding by merging and synthesizing iAOS data through ecosystem modelling
- Provide better ice-ocean state estimates to establish background knowledge and constraints in risk assessment for Arctic operations
- Demonstrate the capabilities to integrate data from various datasets in modelling using data assimilation
- Identify key processes across disciplines that govern Arctic greenhouse gas cycles and links to climate change
- Demonstrate use of iAOS for mapping of natural hazards
- Assess the economic value and societal benefit of iAOS
- Cross-fertilize community-based and scientific observing to migrate into more regionally to globally through a suite of selected applications

Deployment areas for INTAROS observing systems

Multidisciplinary observing systems covering atmosphere, ocean, sea ice, marine ecosystems, glaciology, snow, hydrology and other land surface processes, natural hazards and community-based systems

Data management and integration

- Increased the temporal and geographic coverage of observational data to improve the assessment and prediction of Arctic changes
- Add capacity to existing in situ observing systems by including new sensors
- Exploit and enhance established research infrastructures across the Pan-Arctic region
- Improve inter-operability of distributed databases
- Enhance data provision for the Copernicus services
- Strengthen the Sustaining Arctic Observing Networks (SAON) process
- Contribute to GEO Cold Region Initiative, Transatlantic Ocean Research Alliance (TORA), Year of Polar Prediction (YPOL), International Arctic Systems for Observing the Atmosphere (IASSOA) and Global Cryosphere Watch
- Improved information for decision-makers
- Support Arctic Council and its working groups
- Support EU’s Arctic strategy

Consortium members
Norway: NERSC, UBB, IMR, UNIS, NIVA, NORUT, DNV-GL
Greenland/Denmark: GEUS, DTU, CNR, NORDECO, GEUS, DTU
Finland: FMI, University of Helsinki
Sweden: SMHI, Stockholm University
Germany: AWI, University of Hamburg, University of Bremen, MPG, GFZ
UK: University of Sheffield
Poland: IOPAN, IPKAN, Unio Slaski
Russia: RINH-WGC, NERSC
France: CNRS, Ifremer, ARMINES
Spain: Poly, Unio Madrild, Bartcelona CS
Portugal: EuroGOOS
Belgium: EuroGOOS AISBL
Ireland: Maynooth University
Italy: Terradue, JRC
Canada: U Laval, ONC
USA: UAF, SIO, WHOI, JPL
China: RAD, INEFC, PRC
Japan: NIPR
South Korea: KOPRI

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Posters
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Impact

- Increase the temporal and geographic coverage of observational data to improve the assessment and prediction of Arctic changes

Research

- Increase the temporal and geographic coverage of observational data to improve the assessment and prediction of Arctic changes