

Svalbard Integrated Arctic earth Observing System SIOS

- building a regional observing system for long-term measurements in and around Svalbard



The Svalbard Integrated Arctic Earth Observing System (SIOS)

- A consortium of institutions with research infrastructure in & around Svalbard

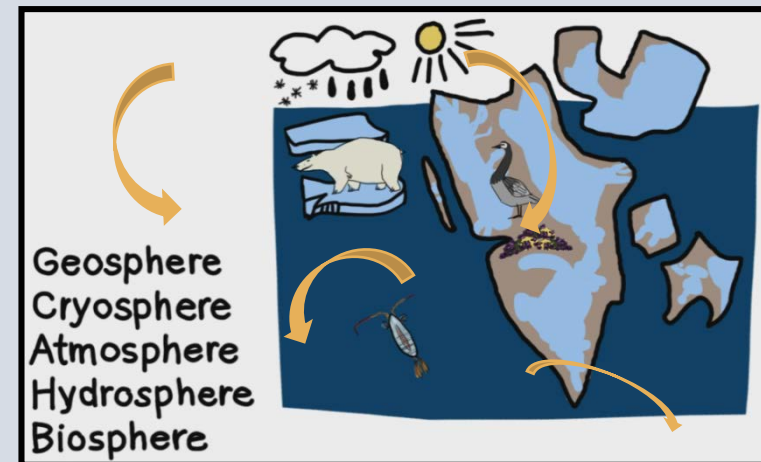
Currently:

25 members (from which 2 are observers) from 10 different countries (Norway, Sweden, Finland, Germany, France, Neatherlands, Poland, Italy, Japan, UK)

- An observing system for Earth System Science (ESS)

An independent international organisation

Focus on processes and interactions
Long term observations

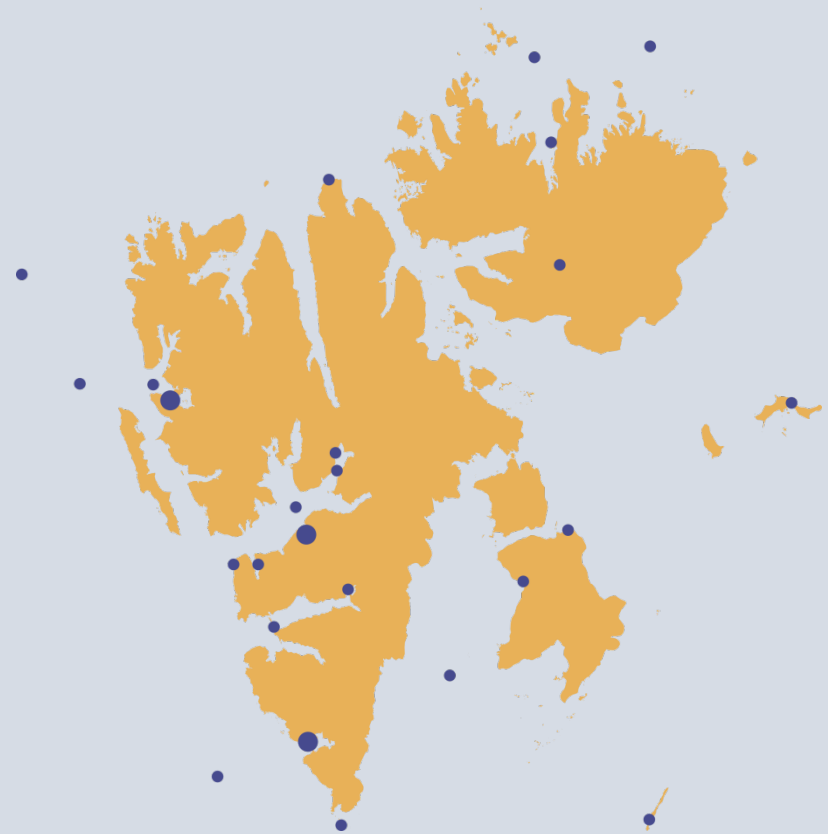


European international research infrastructure landscape



SIOS works towards ...

- A network of **systematic long term observations**
- Reliable access to **long-term** monitoring data in and around Svalbard
- **Integration** of new & existing infrastructure and data
- **Improving research conditions** for scientists working in ESS

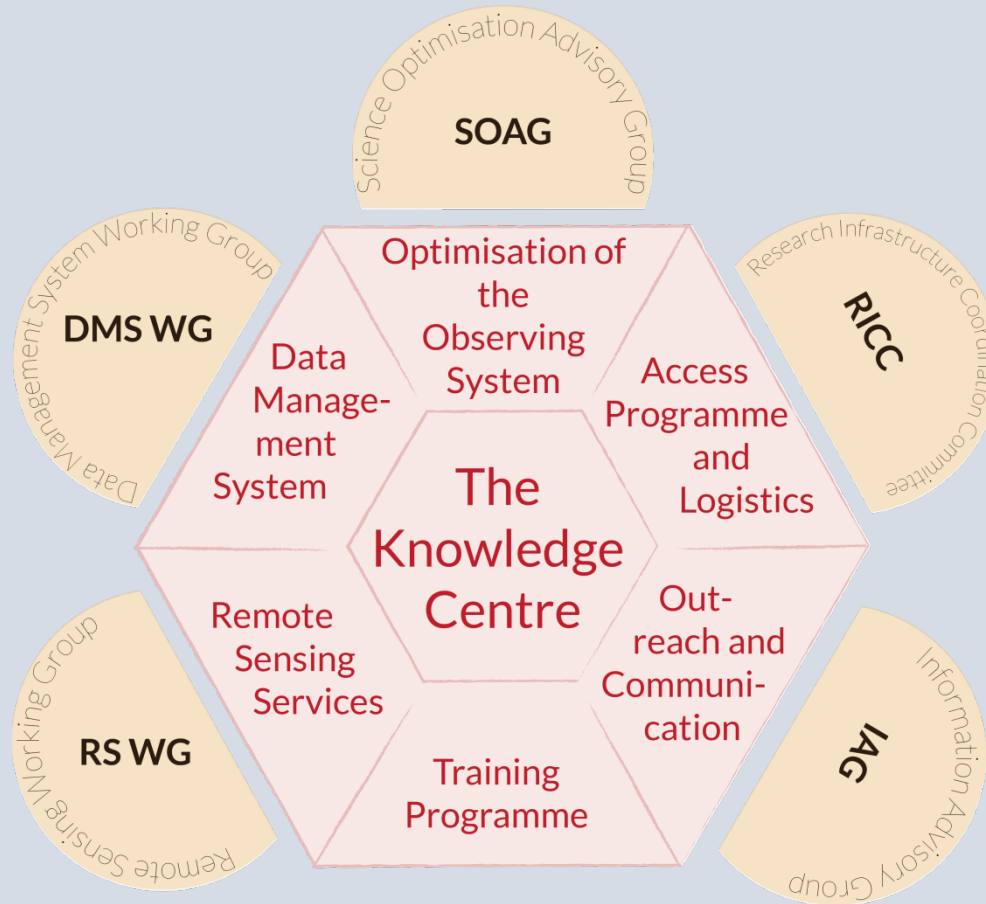


The SIOS Knowledge Centre (SIOS-KC) (head office)

- The hub of SIOS
- Maintains and coordinates all services
- Located in Longyearbyen
- Staff of six
- Reports to the SIOS consortium
- Funded through 2021 by the Research Council of Norway



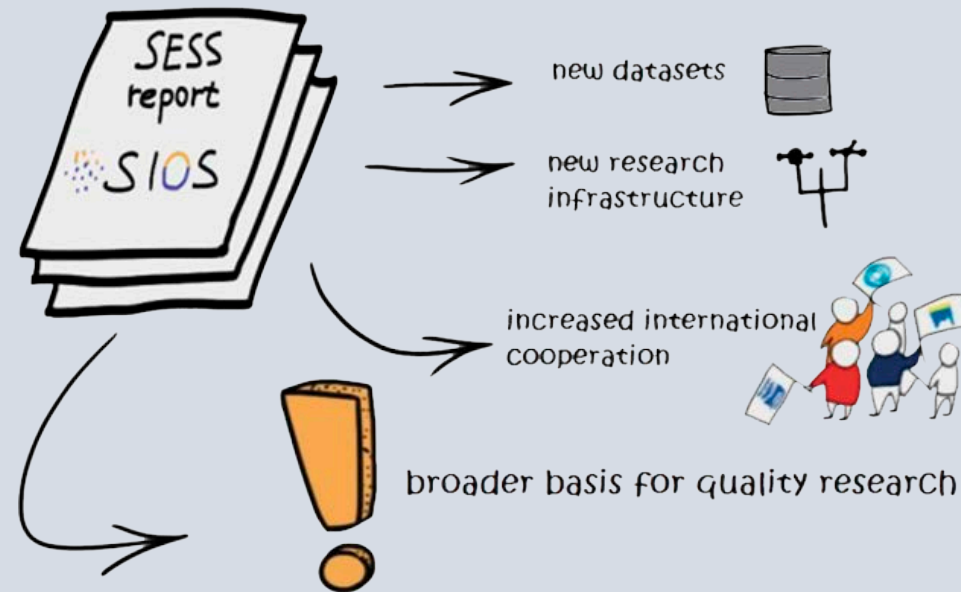
Active member involvement



Influencing the development of the Observing System

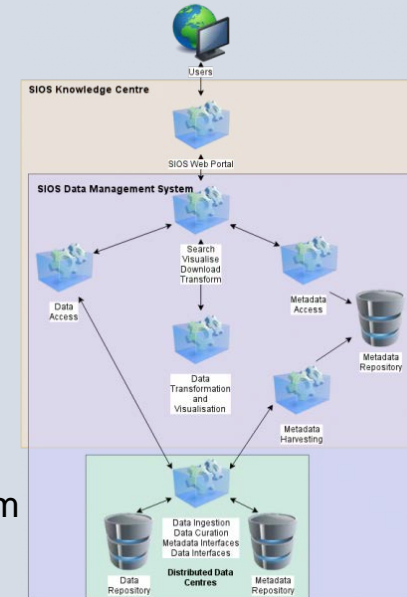
Annual State of Environmental Science in Svalbard (SESS) report

- Focus on integrating datasets and connecting measured parameters
- Research needs
- Future priorities for investment and direction
- 1st SESS to be released on Polar Night week in January 2019
- SIOS Infrastructure Optimisation Report will be also upgraded during this year



SIOS Data Management System - Activities

- Refinement of Terms of Reference
- Development of the SIOS Data Policy
- Development of guidance material
 - Interoperability guidelines
 - Describing standards used for integration of data centres with the central system
 - Operations manual
 - Describing how data centres should behave to maintain a working system
- Development of federated search and access to data
 - Aligned with international (WMO,) and Arctic (SAON/IASC) data management activities
- Preparation of higher order services
 - Visualisation, transformation etc
 - Require adaptation at data centres contributing




Access and logistics service

- Ongoing activity:
 - Pilot access projects (5 projects financed by SIOS in 2018)
 - New call for access in July
 - Coordinating new infrastructure (SIOS InfraNor)
 - Making infrastructure visible - SIOS observation facility database (in development)

Home / SIOS Observation Facility Database

SIOS Observation Facility Database



Station Status: - Any -
Station/platform type: - Any -
SIOS core data: - Any -

Institution: - Any - Apply

SIOS Observation Facility	Observed Variable Measurand	Temporal Extent	Station/platform name	Station/platform type
Edgeøya	Air temperature, Atmospheric Pressure, Air humidity, Wind speed, Wind direction	Start Date: 01/01/1992 End Date: -	Edgeøya	land station
Hopen	Atmospheric Pressure, Air temperature, Air humidity, Wind speed, Wind direction, Accumulated precipitation, Snow depth	Start Date: 01/01/1944 End Date: -	Hopen	land station



Information Advisory Group

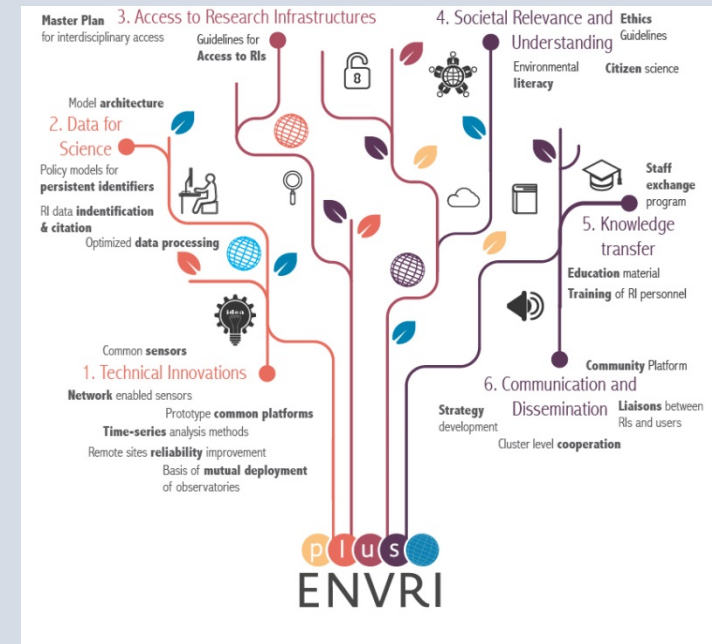
Directives:

- Develop and implement SIOS communication strategy
- Contribute to information dissemination
- Monitor network possibilities
- Develop and maintain outreach programme
- SESS report



ENVRI+ project

- is a Horizon 2020 project gathering research infrastructures from all domains of earth science (atmospheric, marine, biosphere, solid earth)
- Goal is to strengthen the interoperability between RIs and domains and support collaborations on all levels; and aims to make RI products and solution less costly (cost/benefit ratio)
- Work is divided into six themes/19 WP/90 deliverables)
- 27 RIs are members, from 19 countries
- Coordination: University of Helsinki /Werner Kutsch project coordinator
- Project duration: May 2015- April 2019



ENVironmental Research Infrastructures building Fair services Accessible for society, Innovation and Research ENVRI-FAIR, submitted, decision on 22nd August 2018

ENVRI-FAIR will

1. develop further the common standards and policies for data life cycle, cataloguing, curation, provenance and service provision within the cluster of ENVRI with particular consideration of FAIR principles and interoperability within the context of EOSC;
2. develop and implement in each RI the necessary tools for reaching Objective1, thereby adopting an open approach to sharing data and software;
3. improve skills of personnel in the RIs to develop and maintain the FAIR infrastructures resulting from Objectives1 and 2 through extensive training programs;
4. increase the potential for innovation of each RI by establishing a specific ENVRI-FAIR service catalogue section in the EOSC service catalogue, stimulating common pre-commercial procurement processes and dissemination of outcomes for enhancing uptake of RI services by private partners;
5. establish cohesion with global RI landscape, incl. RI clusters and regional/international initiatives in the environmental sector on research and operational data; maintain ENVRI community knowledge with particular consideration of developing integrated activities;
6. expose thematic data services and tools from the RI catalogues to the EOSC catalogue of services, COPERNICUS, GEO and other end-users.

InfraNor

Funded by RCN ~94 MNOK

Related funding from NSC ~13 MNOK

Coordinated by SIOS-KC

The project *SIOS-InfraNor* aims to expand and improve the Norwegian node of SIOS and COAT

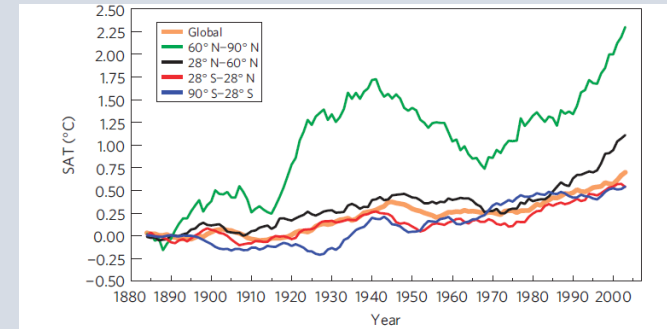
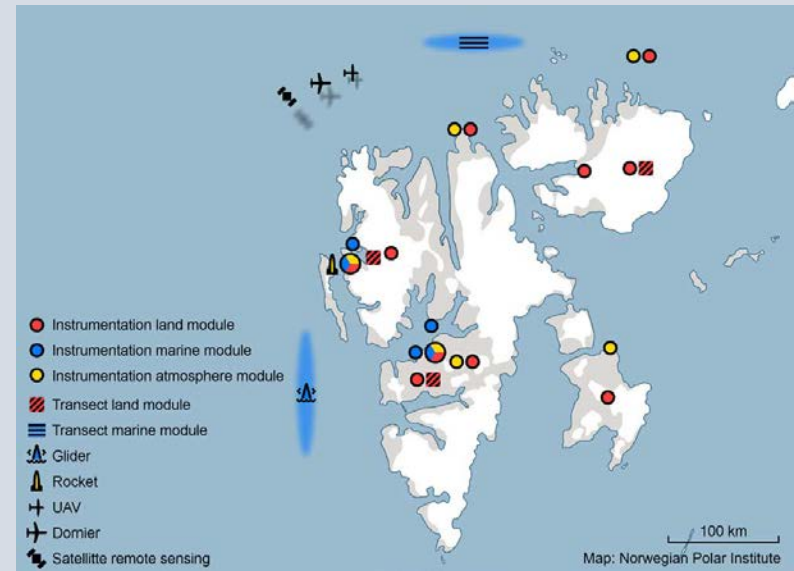


Figure 2 | Area-weighted mean observed surface temperatures^{39,40} over the indicated latitude bands. The values are nine-year running means relative to the 1880-1890 mean. Correlations (R^2) with the global mean over 1931-2007 by region are: 0.94 tropics, 0.61 SHext, 0.86 NHml and 0.53 Arctic.





Polar Night Week

Longyearbyen, 14 -17 January 2019





KC funded by Norwegian Research Council

