Fourteen institutes, one goal – How to establish the Svalbard Integrated Arctic Earth Observing System

An international research infrastructure for Arctic Earth System Science

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Where is Svalbard?
Why establish a Svalbard observing system?

• Threat from pollution
Why establish a Svalbard observing system?

• Threat from environmental change

Habitat monitoring of Svalbard reindeer and rock ptarmigan Photo: Nicolas Lecomte / NPI
Why establish a Svalbard observing system?

- Threat from climate change

Photo: Library image/ESA
What is SIOS?

• An international consortium of institutions with relevant research infrastructure (RI) in and around Svalbard

• It coordinates, develops and optimises this distributed RI – still owned by the member institutions

• Brings the observations together into a coherent, integrated and sustained observational programme

• Within SIOS, researchers can cooperate to access instruments, acquire data and address questions that would not be practical or cost effective for a single institution or nation alone
SIOS – An intern’l RI

- SIOS is on the ESFRI roadmap* since 2008
  - * identifies new RI of pan-European and global interest corresponding to the long term needs of the European research communities

- Preparatory Phase (2010 - 2014)
  - Financed by the EU (FP7)
  - Coordinated by the Research Council of Norway (RCN)
  - Development of the concepts of SIOS
The path towards an operational SIOS

• **Interim Phase** (2015 - 2018)
  • Financed by RCN and in-kind contributions from members
  • Hosted by UNIS, 14 partners
  • Establishment of SIOS-KC and its services
  • Prepare legal prerequisites for the operational phase

• **Operational phase** (2018 - )

**Current partners**

- Alfred Wegener Institute (AWI, Germany)
- Consiglio Nazionale delle Ricerche (CNR, Italy)
- Finnish Meteorological Institute (FMI, Finland)
- Univ. of Helsinki (UH-Phys. Finland)
- Polar Research Institute of China (PRIC, China)
- British Antarctic Survey (BAS, UK)
- National Institute of Polar Research (NIPR, Japan)
- Institute Polaire Français (IPEV, France)
- University of Stockholm (SU, Sweden)
- Institute of Geophysics, Polish Academy of Sciences (IGF-PAS, Poland)
- University Centre in Svalbard (UNIS, Norway)
- Norwegian Polar Institute (NPI, Norway)
- Norwegian Meteorological Institute (MET, Norway)
- Nansen Environmental & Remote Sensing Centre (NERSC, Norway)
The SIOS Knowledge Centre (SIOS-KC)

• The central hub of SIOS for coordinated services
  • Integration and optimization of the observation system
  • Access to the research infrastructure
  • Data management
  • Utilisation of remote sensing resources
  • Coordination of logistical services
  • Training and education programmes
• Fosters an intellectual environment where sampling strategies and observational practices are developed
• Stimulates the development of new observational techniques for environmental monitoring
The SIOS Remote Sensing Service

- **Map opportunities** and needs for Satellite data
- **Ensure streamlined** access to EC Copernicus programme satellite data for Svalbard
- **Encourage user uptake** of satellite data through training activities
- **Manage tailored-processing** of satellite data by consortium partners
- **Establish links** to satellite owners and promote Svalbard as a Cal/Val site
The SIOS data repository

• Creating, housing, archiving, preserving data.
• Harvesting metadata.

A shift towards coordinated monitoring
Thank you very much!

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