



data ownership, data policies and licences

# SIOS

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# SIOS

- Coordinate and develop existing and new distributed infrastructures in Svalbard
- Develop a joint state-of-the-art observing system in Earth System Science
- Coordinate services for the International Research community with respect to access, data and knowledge management, logistics and training through a common legal entity



# SIOS – the time line



# Partners Interim Phase

- **Partners**

- Alfred Wegener Institute (AWI, Germany)
- Consiglio Nazionale delle Recherche (CNR, Italy)
- Finish Meteorological Institute / Univ. of Helsinki (FIM/UH-Phys. Finland)
- Polar Research Institute of China (PRIC, China)
- British Antarctic Survey (BAS, UK)
- National Institute of Polar Research (NIPR, Japan)
- Institute Polaire Francais (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 and Remote Sensing Center (NERSC, Norway)

- **Near future Partners**

- Arctic, Antarctic Research Institute (AARI, Russia)
- Korea Polar Research Institute (KOPRI, Korea)
- The Czech Centre for Polar Ecology (CPE, The Czech Republic)





# Easy Access to Data

- SIOS has developed an open data policy following the principles laid out by Group on Earth Observations (GEO), and in compliance with EU regulations and the IASC data policy
  - Free and open access in principle, allowing moratorium but keeping it as short as possible
    - Details to be defined
- SIOS will provide access to both space-based and in-situ data covering a wide range of Earth System disciplines
- This system will make use of existing data handling systems in the thematic fields covered by SIOS and operated by SIOS partners
- SIOS will be linked to the Cold Region activity in GEO and WMO Global Cryosphere Watch



# Functionality

- **Data discovery** through human and machine interfaces, utilising index metadata harvested from contributing data centres with online access to data sets through internationally accepted access wherever possible
- **Data consumption** enabled through standardised documentation of datasets allowing users to access and understand data retrieved
- **Data submission** through well developed documentation, best practices, interfaces and tools
- **Data transformation services**, including sub-setting, reformatting, and re-projecting to ease scientific use of the data sets collected
- **Long term preservation** of data sets through mandated data archives

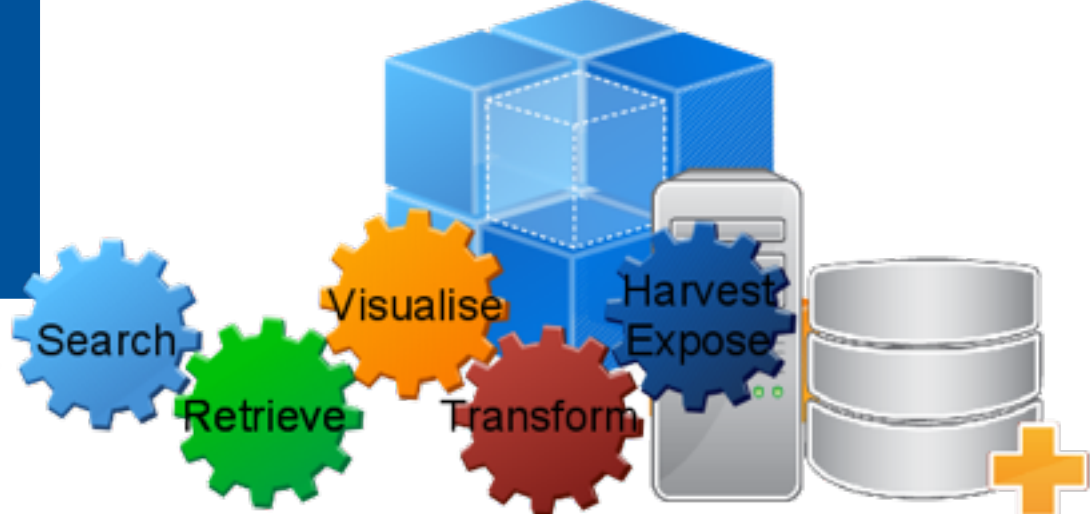


# Development requirements

- **Distributed data management** utilising existing infrastructure
- **Multi-disciplinary content** requiring
  - brokering of metadata (and data)
  - an open data space approach
- Utilisation of **internationally accepted interoperability interfaces**
  - for both metadata and data
- Use of **scalable technologies**
- **A modular approach**
  - for software and data centres
- Utilisation of/contribution to **free and open software**
- Cost efficient development and maintenance
- A functionality enabling component of the SIOS Knowledge Center



### Knowledge Centre



### SDMS catalogue and services

### SDMS contributing data centres



### External catalogues





# Preliminary data policy

## Svalbard Integrated Arctic Earth Observing System (SIOS)



### SIOS Preliminary Data Policy

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#### Deliverable D6.1

Due Date: **Month 9**

Actual Delivery Date: **Month 10**

Start date of project: **October 2010**      Duration: **36 months**

Organisation name of lead contractor for this deliverable: Participant # 4, AWI, Germany

Lead authors for this deliverable: Robert Huber, Michael Klages  
Contributing authors: Øystein Godøy, Stein Tronstad, Angelo Viola

Revision 1.2.2: 22. August, 2011  
Revision 1.3: 7. November, 2011

The document describes the background and provisions of a suggested Data Policy for SIOS. Some of the elements of the data policy are not finalised, and will be subject to further discussions at upcoming SIOS meetings.

## ***Preliminary SIOS Data Policy***

### **Definitions:**

**Data set:** A SIOS data set is discrete collection of scientific data which can be described by metadata, compliant to the SIOS data policy, and related to scientific efforts in and around Svalbard within the SIOS framework.

Such a data set can be a **collection of observations or measurements** but can also be a **physical object** which is relevant for SIOS, e.g. museum objects or samples.

Two levels of SIOS data sets can be distinguished: **genuine** SIOS data sets, which have been collected using the SIOS data infrastructure and **supporting** data sets which contain data and information from external sources but are relevant for SIOS including e.g. historical data.

**Contributing data center:** The SIOS SDMS is designed as a distributed system making extensive use of already available data centres and their infrastructures, hereinafter referred to as ‘contributing data center’.

# SIOS Intellectual Property Rights Policy

Using, re-using or publishing data or other IPR resources under shall **acknowledge the intellectual property rights and ownership.**

Recommends the application of **licensing models such as Creative Commons**, ideally the Polar Information Commons model.

Does not assert any proprietary rights whatsoever to **data or metadata provided by third parties**. Rights to publish and exchange metadata of the provided resources have to be transferred to SIOS.

The **owner of a SIOS data set holds the exclusive right** to authorise alteration, reproduction, distribution, communication, display or performance to the public

The **ownership** of any data made available via the SIOS Data Management System is fully and unambiguously **attributed**.

Each data set must be identified by a **unique identifier**.

**Citation is obligatory** for data to be re-used in scientific publications or other publicly available material.

Data for other than scientific or educational purposes (e.g. **economic exploitation**) is **not generally prohibited** but requires the explicit allowance.

In the case data sets are provided by a SIOS partner for which a third party holds IPR, the contributing data center responsible for the transmission of such data shall ensure that the **third parties' interests are fully acknowledged**.

SIOS will establish an **IPR conflict resolution board** or establish an ombudsman



## „Internal“ data policy (Data and metadata submission and sharing policy):

**Responsibility on data sets** that have been made available via the SIOS SDMS entirely remains at the contributing data center institution.

For data not under the custody of SIOS, data **quality has to be assured and maintained by the contributing data center**.

Institutions or individuals providing data or metadata to the SDMS have to **acknowledge the SIOS data and IPR policy**.

Contributing data centres ensure that any rights are granted to SIOS necessary for the publication of metadata or data following the specifications given in the SIOS IPR policy.

Contributing data centres should ensure **long term archiving and long term availability** of data sets made available for SIOS.

Each data set intended to be catalogued by the SIOS SDMS discovery service has to be described by an appropriate set of **metadata in compliance with the INSPIRE directive**.

**Metadata has to be provided in electronic format** and encoded in XML which has to follow an accepted standard depending on the scientific domain.

SIOS will **publish a list of accepted standards** at the SDMS website.

Contributing data centres shall provide and grant **access to appropriate services to SIOS** which should enable data and metadata submission in a timely manner.

SIOS aims to **support and contribute to globally operating international initiatives** such as GEOSS, WMO or GBIF.

# Thank you



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*Photo: Anja Fleig*

