



Data Policy

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Revision history

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Table of Contents

1 Preamble	3
1.1 Political Framework	3
1.2 Legal Framework.....	4
1.3 Intellectual Property Rights.....	4
2 Aims.....	4
3 Principles	4
4 Scope	5
5 Definitions and concepts.....	5
6 Policy	5
6.1 Open data principles.....	5
6.2 Discovery.....	6
6.3 Access	6
6.4 Usability.....	6
6.5 Preservation	6
6.6 Curation.....	7
6.7 Attribution	7
6.8 Compliance	7
6.9 Warranty and liability	7
7 Implementation	8
7.1 Data Management Plan.....	8
7.2 Implementation Guidelines	8
7.3 Monitoring of implementation	8
8 Approval and Review.....	8

1 Preamble

The Svalbard Integrated Arctic Earth Observing System (SIOS) is establishing a regional observational system for long term measurements in and around Svalbard, addressing Earth System Science (ESS) questions related to Global Change. The upgraded observing system and research facilities offered by SIOS build on the extensive observation capacity and diverse world class research infrastructure provided by many nations already established in Svalbard. This includes a substantial capability for utilising remote sensing resources to complement ground-based observations. From this solid foundation, SIOS envisions a significant contribution to the systematic development of new methods and design for the implementation of observational networks in Arctic environments.

SIOS is aiming at more efficient use and better integration of the observing system based on a distributed data management system, an open access program that includes logistics support, as well as training and education activities.

For the data distributed via the SIOS Data Management System (SDMS), SIOS shall have a The SIOS Data Policy is approved by the General Assembly and is an annex to The SIOS *statutes*. This policy shall be based on the principle of open access for any interested party to data, observations and scientific reports, free of charge. However, there will be some

restrictions to the principle due to the need of confidentiality in certain cases i.e. when necessary for reasons of privacy, protection of endangered subjects, or intellectual property rights. Limitations to open access will be in accordance with general principles followed by the international scientific community.

1.1 Political Framework

SIOS was born and developed through the SIOS Preparatory Phase period as an [ESFRI](#) infrastructure of pan-European and Global interest corresponding to the long term needs of the European research communities. The global perspectives were enhanced when in 2013 the G8 signed the [G8 Open Data Charter](#). The European Union, being one of the G8 members, has followed up with among others further developing its [Open Science System](#)¹.

In addressing the global challenges, European and global leaders acknowledge the role of the Arctic and the importance of developing more knowledge about the region as a strategy for better understanding of our planet. G8, the EU, nations and international organizations are actively developing policies to support monitoring capacity, research and innovation in the Arctic. In April 2016, the European Union adopted [A new integrated EU policy for the Arctic](#)

These policies are translated into global monitoring initiatives with a specified scientific field or focus on a specific type of resource. In light of the described political landscape and within its mandate, SIOS aims to support such global initiatives as the Global Biodiversity Information Facility ([GBIF](#)), the Committee on Earth Observation Satellites ([CEOS](#)), the ICSU World Data System ([WDS](#)), the WMO Information System ([WIS](#)), and the Sustaining Arctic Observing Networks, ([SAON](#)). The Global Earth Observation System of Systems ([GEOSS](#)) aims to prepare a global, multidisciplinary, distributed system for earth information to support decision makers by providing networked environmental information. SIOS as a multidisciplinary Arctic observatory system can make substantial contributions to GEOSS e.g. within the framework of [INSPIRE](#) and the [Copernicus program](#), the European contributions to GEOSS.

The Norwegian Government, through the Svalbard White Paper (2015-2016)², stated its commitment to promoting research in Svalbard. There is an acknowledgement that understanding the environmental changes happening on Svalbard and their consequences requires expertise from a range of scientific disciplines. The challenges are too large to be addressed by a single nation or by narrow fields of research. There is therefore political will in Norway for greater inter-disciplinary, international cooperation as well as sharing of data and infrastructure in Svalbard. There is also a commitment to developing and funding SIOS to aid in this cooperation.

As an ESFRI infrastructure, SIOS contributes to strengthening the capacity of European science to respond to the societal challenges as described in the [ESFRI Roadmap 2016](#)

1.2 Legal Framework

The SIOS data policy is based on the Global Earth Observations System of Systems (GEOSS) Data Sharing Principles and in compliance with the EU INSPIRE Directive

¹ <http://data.consilium.europa.eu/doc/document/ST-9526-2016-INIT/en/pdf>

² <https://www.regjeringen.no/en/dokumenter/meld.-st.-32-20152016/id2499962/>

2007/2/EC and The EU Public Sector Information – PSI Directive 2003/98/EC, the Aarhus Convention on environmental data, EU Directive 2003/4EC, the ICSU Declaration on Science and the Use of Scientific Knowledge, the International Arctic Social Science Association's Guiding Principles on the Conduct of Research, and the OECD Principles and Guidelines for Access to Research Data from Public Funding, April 2007.

1.3 Intellectual Property Rights

SIOS intellectual property rights are described in the *SIOS Statutes*.

2 Aims

SIOS aims to develop a regional observational system for long term acquisition and proliferation of fundamental knowledge on global change within an Earth System Science (ESS) perspective in and around Svalbard. SIOS aims to share scientific data and observations with other SIOS members under the SIOS Data Management System (SDMS) according to this data policy.

3 Principles

The SIOS data sharing principles are as follows:

- I. There will be full and open exchange of data, metadata and products shared within SIOS, recognizing relevant international instruments and national policies and legislation;
- II. All shared data, metadata and products will be made available through the SIOS Data Management System (SDMS), with minimum time delay and at minimum cost;
- III. All shared data, metadata and products should be distributed free of charge or no more than the cost of reproduction;
- IV. Data access may be restricted when data release could compromise the confidentiality of human subjects or cause harm to endangered species or other vulnerable subjects;.

4 Scope

This data policy applies to SIOS members and third parties contributing to SIOS or using data supplied through SIOS.

Normally³, any natural or legal person or any association of legal or natural persons, including research users, shall have a right of access to the SIOS data, subject to the principles, conditions and exceptions defined in this data policy.

³ Exceptions must be justified.

5 Definitions and concepts

Data set: A SIOS data set is a discrete collection of scientific data, museum objects or samples 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.

Contributing data centre: The SDMS is designed as a distributed system making extensive use of existing data centres and their infrastructures.

SDMS Working Group: The SDMS Working Group has representatives from contributing data centres.

Metadata: A description of the data that allows their inventory, discovery, evaluation or use.

Timely manner: SIOS data delivered in a timely manner means delivery of data without undue delay. Any delay, due or un-due, shall not be longer than one year. Discovery metadata shall be delivered immediately.

Life cycle management: The procedures and activities necessary to document, encode, publish and share, preserve and eventually delete a dataset when/if obsolete.

6 Policy

6.1 Open data principles

SIOS promotes free and open access to data to any person or any organisation who requests them

Requested data shall be made available in a timely manner, without undue delay, preferably online and free of charge. SIOS does not demand that the request refers or cites legal grounds.

The only restrictions on access which SIOS will apply to data are those supported by the exceptions on disclosure in the INSPIRE directive and the Directive 2003/4/EC, in particular where release of data would affect:

- I. Confidentiality of the proceedings of public authorities
- II. International relations, public security or national defence
- III. The course of justice
- IV. The confidentiality of commercial or industrial information
- V. Intellectual property rights
- VI. Confidentiality of personal data
- VII. The interests or protection of any person who supplied the information requested on a voluntary basis
- VIII. The protection of the environment

IX. Materials in the course of completion

6.2 Discovery

SIOS provides public discovery services making it possible to search for SIOS data sets on the basis of the corresponding metadata. This service can connect to available additional services e.g. for downloading, viewing and data transformation.

An INSPIRE compliant set of metadata will be offered for any SIOS data set including the required data citation information.

6.3 Access

Contributing data centres shall provide and grant access for SIOS to appropriate web services⁴ exposing data and metadata.

When serving third party data to the SIOS community through the SIOS data management system, SIOS will manage these data according to the constraints imposed on those datasets by their owners.

6.4 Usability

Each data set catalogued in the SDMS discovery service shall be described by an appropriate set of metadata in compliance with the INSPIRE directive

Contributing data centres shall ensure that SIOS has the rights to publish their metadata and data in accordance with the SIOS IPR policy.

6.5 Preservation

Contributing data centres shall ensure long term preservation and accessibility of data sets made available for SIOS.

The dataset stewardship of data remains with the contributing data centre, unless explicitly transferred to SIOS.

6.6 Curation

All data generated using the SIOS infrastructure shall be curated by a SIOS contributing data centre. Contributing data centres shall ensure proper life cycle management of datasets made available for SIOS.

SIOS requires institutions or individuals using data or metadata made available by SIOS to follow the rules outlined in the SIOS IPR policy.

Contributing data centres shall assign appropriate persistent, resolvable identifiers to enable documents to cite the data on which they are based.

⁴ Appropriate web services is defined by the SIOS Interoperability Guidelines and SIOS Operations Manual (see 7).

6.7 Attribution

Users of data supplied through SIOS shall acknowledge in any publication or any other derived work, the contribution made by those who have created and worked up the data. If the data licence does not specify how best to do this, data should be formally cited using the citation text provided on the dataset's landing page or in its metadata.

Those who retrieve data through SIOS shall acknowledge SIOS as follows: Contains data retrieved through SIOS (year).

6.8 Compliance

Institutions or individuals providing data or metadata to the SDMS shall comply with the SIOS data policy as well as the SIOS IPR policy.

6.9 Warranty and liability

Where data are made available by SIOS, except if agreed otherwise, SIOS shall, to all possible extent and where permitted under applicable law, ensure that the following rules are made applicable, subject to further instructions given by the SIOS Data Management System:

- I. SIOS data are provided "as is" without warranty of any kind, either express or implied, including, but not limited to, any implied warranty against infringement of third parties' property rights, or merchantability, integration, satisfactory quality and fitness for a particular purpose.
- II. SIOS has no obligation to provide technical support or remedies for the data other than agreed by the SIOS members and described in the SIOS Data Management System documents. SIOS does not represent or warrant that the data will be error free or uninterrupted, or that all non-conformities can or will be corrected, or that any data are accurate or complete, or that they are of a satisfactory technical or scientific quality.
- III. SIOS shall not be held liable for any direct or indirect, incidental, consequential or other damages, including but not limited to the loss of data, loss of profits, or any other financial loss arising from the use of the SIOS data, or inability to use them, even if SIOS is notified of the possibility of such damages.

7 Implementation

The implementation of this data policy is described in the SIOS Data Management System document(s).

7.1 Data Management Plan

The SDMS Implementation Plan shall describe the implementation of the SIOS Data Policy.

7.2 Implementation Guidelines

Implementation guidelines and manuals shall be provided by the SDMS Working Group. This includes SDMS Interoperability Guidelines and SDMS Operations Manual. The implementation process is described in the SDMS Implementation Plan.

7.3 Monitoring of implementation

The SIOS Board of Directors will monitor the implementation of this data policy through annual reports from the SDMS Working Group.

8 Approval and Review

This Data Policy was approved by the SIOS General Assembly 26 January 2018. This data policy shall be reviewed biennially by the SIOS General Assembly.