The Arctic Spatial Data Infrastructure

**Governance Document**

Draft version 0.1/ January 2015

www. arctic-sdi.org



 

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# Introduction

The *Arctic Spatial Data Infrastructure* – Arctic SDI - is cooperation between the 8 National Mapping Agencies of Canada, Finland, Iceland, Norway, Russia, Sweden, USA and Denmark (including the administrations of the Faroe Islands Home Rule and the Greenland Self-Government).

The purpose of the Arctic SDI is to ensure that stakeholders working in the Arctic can meet their goals and objectives by using reliable and interoperable geospatial reference data. The access to this data infrastructure and its digital maps and tools is facilitated by the National Mapping Agencies in the Arctic.

The main purpose of this document – ***the Arctic SDI Governance Document*** - is to describe the agreed *Technology.*governance policies of the cooperation between the 8 participating National Mapping Agencies.

# National, regional and global context of the Arctic SDI

The Arctic SDI partnership between the national mapping agencies aims at building the services on the existing and future geospatial infrastructure in each of the 8 institutions.

When working together in the Arctic SDI context it will be necessary for the eight mapping agencies to coordinate the effort to harmonize and standardize through common data services and/or models to ensure efficiency and avoid duplication. Doing so each of the national mapping agencies also depends on the cooperation of neighboring countries and regional level governments.

The *Infrastructure for Spatial Information in the European Community* (INSPIRE-directive), the Pan European project *European Location Framework* (ELF), the United States’ National Spatial Data Infrastructure (NSDI) and the Canadian Geospatial Data Infrastructure (CGDI) contribute data, standards, web services, operational policies and governance models to Arctic SDI.

At the global level the *United Nations Committee of Experts on Global Geospatial Information Management* (UN-GGIM) provide a forum for coordination and dialogue to promote common principles, policies, methods, mechanisms and standards for the interoperability and inter-changeability of geospatial data and services.



The Arctic SDI Reference Model serves as a management tool to facilitate the development of a common understanding of the scope and strategic linkages for the Arctic SDI and to provide high level scoping for subsequent development of potential Arctic SDI activities.

 

In November 2009 the Senior Arctic Officials of the Arctic Council gave the formal support to the Arctic SDI Initiative.

# Arctic SDI - Memorandum of Understanding

The foundation for the Arctic SDI is the “Memorandum of Understanding” (MOU) in which the spirit of the cooperation is detailed. The MOU expresses the intention of the signatories to collaborate and describes the objectives, the areas of interest and the forms under which the cooperation will be performed. Through the MOU, the signing participants will designate appropriate representatives to identify cooperative activities and details of implementations. The MOU is a **legally non-binding** instrument covering a period of five years from the date of signature. It may be amended or extended by written agreement. The MOU is attached in Appendix 3.

1. **Implementing Arrangements**

For collaborative activities which require specific commitment between participants or participants and third parties, the participants of the MOU may enter into an Implementing Arrangement (IA) that can act as a legally binding or non-legally binding instrument. An IA provides the necessary framework for legally binding issues such as intellectual property, liability and copyright as well as long term commitment of resources and funding. It is recommended that legally binding IA’s be selected for any arrangement which involve financial transfers between participants and/or third parties. If the contributions are going to be only “in-kind” and do not involve transfer of funds, then a legally non-binding IA is the recommended option. Depending on the areas of cooperation, it may also not be necessary for all the participants to contribute to an IA, however all participants should provide “tacit approval” (e.g. via email) for the IAs. All IAs will be added to the Appendix in chronological order.

1. **Arctic SDI Organization and Governance Policies**

The governance and organisation of the Arctic SDI consist of the Board, the national contact points, lead countries and support countries.

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*Figure 6.* The Governance and Organisation of the Arctic SDI consist of the Board, the National Contact Points and Activities with responsible Lead Countries and Support Countries.

* 1. **The Arctic SDI Board**

The decision-making body of the Arctic SDI cooperation is the **Arctic SDI Board**.

The Board formulates the vision, goals and strategy for the development of the Arctic SDI, organizes the affiliation with the Arctic Council and prepares the necessary Implementing Arrangements. The Board also identifies the tasks of the cooperation, organizes the work and provides the necessary resources, governance and competences to support the implementation of decisions.

The Board consist of one Director General / deputy Director General from each of the MOU signatories which countries are members of the Arctic Council.

The **Chair of the Arctic SDI Board** rotates every second year following the cycle of the Arctic Council chairmanship. The Chair is the board-member representing the National Mapping Agency from the same country that holds the Chair of the Arctic Council. The cycle of the Arctic SDI Board chairmanship begins 1 February of the year where the chair of the Arctic Council changes in May.

|  |  |  |  |
| --- | --- | --- | --- |
| 1 Feb – 31 Jan | **Chair** | Previous Chair | Future Chair |
| 2015 2017 | **USA** | Canada | Finland |
| 2017 2019 | **Finland** | USA | Iceland |
| 2019 2021 | **Iceland** | Finland | Russia |
| 2021 2023 | **Russia** | Iceland | Norway |
| 2023 2025 | **Norway** | Russia | Denmark |
| 2025 2027 | **Denmark** | Norway | Sweden |
| 2027 2029 | **Sweden** | Denmark | Canada |

The Board shall meet no less than once a year. The board otherwise decides the frequency of meetings as appropriate.

The chair shall notify the board members of the date, venue and provisional agenda at least 4 month before the meeting is due to commence and at the same time set the deadline for submission of proposals or documents for discussion from the Board Members. The Board can decide on general procedures for the preparations and the conduct of board meetings as well as specific procedures for one specific board meeting. Being an equal cooperation between national agencies all decisions are made in consensus.

An Implementing Arrangement can mandate the Board to make decisions following special rules of procedures.

The board can invite observers to attend the board meetings and to make presentations as well as answer questions under specific agenda items.

* 1. **The Executive Board**

The Board Executives consist of the Chair, the previous Chair and the future Chair of the Board.

The Executive Board assists the Chair of the Board as a consultation body on decisions that need to be taken between Board Meetings.

The Board Executives can

* be mandated by the Board to make decisions and launch actions concerning specific items in between the board meetings,
* implement a written decision procedure or to convene an extraordinary Board Meeting including the necessary preparatory meetings.
	1. **National Contact Points**

To prepare board-meetings and thus promote efficient corporation each Board Member appoints representative(s) from their institution to serve as the **Arctic SDI National Contact Point**.

The national contact points also act as a point of liaison between their Board Member, the Arctic SDI fora and working groups and the National Mapping Institutions involved in the corporation. The national contact points communicate Board decisions as appropriate, and influence successfully delivery.

The National Contact Points act on behalf of the board members and prepare the board meetings by proposing items to the agenda and by clarifying issues and differences in opinions in relation to meeting documents and draft decisions presented either by a Lead Country or a National Contact Point.

The National Contact Points meet prior to the board meetings no later than 2 weeks before the final deadline for submitting documents and proposals to the Board. The meeting are chaired by the National Contact Point representing the Chair of the Board.

Lead country representatives not also serving as National Contact Points attends the meeting of the National Contact Points to facilitate the preparation of a Board Meeting.

* 1. **Lead countries and support countries**

The present status of the Arctic SDI cooperation is a voluntary cooperation between national mapping agencies. As such the resources necessary for the activities of the Arctic SDI are composed by voluntary contributions from the participating institutions with the recognition of different level of engagement.

The activities will be performed by **lead countries** joined by **support countries** unless otherwise agreed in implementing arrangements. This includes both administrative and technical activities and operations as well as development and strategic activities. The activities will be organized in working groups or otherwise.

**A Lead Country** has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the support countries and managed through meetings, web meetings and mail.

The lead countries refer to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the national contact points in the process of preparing the Board Meeting.

The necessary cross cutting coordination of activities and working group processes are performed by the lead countries through mail, web meetings and joint working group meetings thus facilitating the overall progress of the activities and contribution to the preparation of board meetings.

# Working Groups, their organization and activities

1. **Secretariat for the Chair of the Board and Chair of the National Contact Point**
* logistics and practicalities in relation to Board Meeting
* preparation of the provisional agenda, the annotated agenda and documents for Board Meetings in cooperation with the national contact points and the lead countries
* convene and chair national contact points meetings
* record minutes of Board meetings and follow up
* general assistance to the Chair of the Board
1. **Arctic SDI Geo Portal for WMS Map Service and thematic data**
* Develop, build and operate the Arctic SDI interface to Arctic Web Map Service, thematic data, Metadata Catalogue and future Arctic SDI services.
* Deadline 1. December 2014
1. **Establish and operate Arctic SDI Web Map Service**
* Build and operate the Arctic SDI Web Map Service
* Deadline 1. December 2014
1. **Technical Working Group – extracts from agreed Terms of Reference**
* Infrastructure and technology
* Design, architecture and standards
* Data models and metadata
* Technical proposals for establishing Arctic SDI WMS, the Web portal as the primary Arctic SDI interface and for other coming services
1. **CAFF Thematic Data**
* Implement access through the Geo Portal to CAFF thematic remote sensing data on land cover change
* Deadline 1. December 2014
1. **Development of Arctic SDI Strategy 2015 - 2020**

Prepare for the Board a draft strategy 2015 – 2020 including considerations concerning

* User needs
* Thematic datasets for Arctic SDI and role of other data providers
* Data sharing Principles
* Arctic Council and other stakeholders
* Resources and financing
* Arctic SDI and the role on the international Geodata scene
* Prioritized proposal for activities with reference to the Arctic SDI Reference Model
* Common understanding of Arctic SDI and revision of Arctic SDI Vision

First draft of strategy is to be presented to the Board in 2014.

1. **Development of legal/administrative operational Policies**
* Implementing Arrangements
* Licensing
* Property Rights
* Contracts
* Policies and legal framework
1. **Communication, documentation, Website, Arctic SDI Point of Contact etc.**
* Point of contact for stakeholders, users and the public in general
* Arctic SDI official Website – operation, updating and editing
* Information and key, strategic messages (presentations, pamphlets, posters)
* Coordinate information within the groups of lead and support countries
* Documentation – documents, protocoles etc. from the Board meetings, national contact point activities etc.
* Representation in international forums when agreed with the Chair of the Board

**Arctic SDI Working Groups – in general**

**Introduction**

The Arctic SDI Board has decided to establish the following working groups:

* Governance (Board, Execute Board, National Contact Points and the Lead Countries)
* Secretariat for the Chair of the Board
* Communication
* Technical Activity Working Group
* Cloud and Cascading Web Map Service
* Arctic Geoportal
* Arctic SDI Strategy 2015 – 2022
* Operational Policies

**Objective**

The objective of each Activity Working Group is described in a “Terms of Reference”, which includes consideration concerning organization, governance, operations and activity planning.

All Terms of References are attached as appendixes to the *Arctic SDI Framework Document*.

**Organization**

When establishing a working group the Board nominates a *lead country* and *support* countries.

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the Support Countries. The Lead Country is also responsible for the planning of meetings, web meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work in the working groups is described in dynamic activity plans that will be available via the Arctic SDI Web Site.

**Transparency and interaction**

The work will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The lead country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning of processes with the lead countries of the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based on voluntary cooperation between the national mapping agencies

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**Arctic SDI Governance**

**Terms of Reference for the Board, Execute Board, National Contact Points and the Lead Countries**

**Introduction**

The Arctic SDI Governance consist of

* the Board,
* the Executive Board,
* the National Contact Points,
* the Lead Countries

**Objective**

The objective of the Arctic SDI Governance is to build and operate Arctic SDI based on the principles of accountability, effectiveness and flexibility.

**The Arctic SDI Board**

The decision-making body of the Arctic SDI cooperation is the Arctic SDI Board.

The Board formulates the vision, goals and strategy for the development of the Arctic SDI, organizes the affiliation with the Arctic Council and prepares the necessary Implementing Arrangements. The Board also identifies the tasks of the cooperation, organizes the work and provides the necessary resources, governance and competences to support the implementation of decisions.

The Board consist of one Director General / deputy Director General from each of the MOU signatories which countries are members of the Arctic Council.

The Chair of the Arctic SDI Board rotates every second year following the cycle of the Arctic Council chairmanship. The Chair is the board-member representing the National Mapping Agency from the same country that holds the Chair of the Arctic Council. The cycle of the Chair of the Arctic SDI Board begins 1 February of the year where the chair of the Arctic Council changes in May.

|  |  |  |  |
| --- | --- | --- | --- |
| 1 Feb – 31 Jan | **Chair** | Previous Chair | Future Chair |
| 2014 2015 | **Canada** | Iceland | USA |
| 2015 2017 | **USA** | Canada | Finland |
| 2017 2019 | **Finland** | USA | Iceland |
| 2019 2021 | **Iceland** | Finland | Russia |
| 2021 2023 | **Russia** | Iceland | Norway |
| 2023 2025 | **Norway** | Russia | Denmark |
| 2025 2027 | **Denmark** | Norway | Sweden |
| 2027 2029 | **Sweden** | Denmark | Canada |

The Board shall meet no less than once a year. The board otherwise decides the frequency of meetings as appropriate.

The chair shall notify the board members of the date, venue and provisional agenda at least 4 month before the meeting is due to commence and at the same time set the deadline for submission of proposals or documents for discussion from the Board Members. The Board can decide on general procedures for the preparations and the conduct of board meetings as well as specific procedures for one specific board meeting. Being an equal cooperation between national agencies all decisions are made in consensus.

An Implementing Arrangement can mandate the Board to make decisions following special rules of procedures.

The board can invite observers to attend the board meetings and to make presentations as well as answer questions under specific agenda items.

**The Executive Board**

The Board Executives consist of the previous Chair, the current Chair and the future Chair of the Board.

The Executive Board assists the Chair of the Board as a consultation body on decisions that need to be taken between Board Meetings. The Board Executives can:

* be mandated by the Board to make decisions and launch actions concerning specific items between the board meetings,
* convene an extraordinary Board Meeting including the necessary preparatory meetings
* ask the board to take decisions through written procedure

**Arctic SDI National Contact Point**

To prepare board-meetings and thus promote efficient corporation each Board Member appoints representative(s) from their institution to serve as the Arctic SDI National Contact Point.

The national contact points also act as a point of liaison between their Board Member, the Arctic SDI fora and working groups and the National Mapping Institutions involved in the corporation. The national contact points communicate Board decisions as appropriate, and influence successfully delivery.

Thus the NCP’s prepare the board meetings by proposing items to the agenda and by clarifying issues and differences in opinions in relation to meeting documents and draft decisions presented either by a Lead Country or a NCP.

The NPC’s meet prior to the board meetings no later than 2 weeks before the final deadline for submitting documents and proposals to the Board. The meeting are chaired by the NCP representing the Chair of the Board.

Lead Country representatives that are not also serving as NCP’s attends the meeting of the NCP’s to facilitate the preparation of a Board Meeting.

The NCP are responsible for briefing the Board Member they represent on matters of relevance and serves as the point of contact of the participating institutions for questions raised by Board Members or by the Lead Countries of the Arctic SDI Working Groups. The NCP are responsible for briefing the Board Member they represent on basis of information on an updated Arctic SDI Web Site or briefing notes produced by the Lead Countries.

**Working groups, lead countries, support countries and coordination of activities and processes**

Activities will be organized in working groups or otherwise as decided by the Board.

When establishing a working group the Board nominates a *Lead Country* and *support* countries.

The activities will be performed by lead countries joined by support countries unless otherwise agreed in Implementing Arrangements. This includes both administrative and technical activities and operations as well as development and strategic activities.

A Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the support countries and managed through meetings, web meetings and mail.

The lead countries refer to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the national contact points in the process of preparing the Board Meeting.

The necessary cross cutting coordination of activities and working group processes are performed by the lead countries through mail, web meetings and joint working group meetings thus facilitating the overall progress of the activities and contribution to the preparation of board meetings.

**Transparency and interaction**

The work of the activity working groups will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning of processes with the lead countries of the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

**Arctic SDI**

**Secretariat for the Chair of the Arctic SDI Board**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish the Secretariat for the Chair of the Board.

**Objective**

The Secretariat for the Chair of the Board is responsible for

* logistics and practicalities in relation to Board Meeting
* preparation of the preliminary agenda, the annotated agenda and the documents for Board Meetings in cooperation with the National Contact Points and the Lead Countries
* convene and chair National Contact Points Meetings
* record minutes of Board Meetings and follow up
* general assistance to the Chair of the Board

**Organization and general obligations**

The institution holding the Chair of the Board is the *Lead Country* for the Secretariat for the Chair of the Board. *Support Countries* are Denmark, Norway and Sweden.

The Lead Country has the responsibility for the operation and progress of the activities assigned to the Secretariat. The tasks within the activities can be divided between the Lead Country and the Support Countries. The Lead Country is responsible for the planning of meetings, web meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**The preparation of Board Meetings**

The Secretariat is responsible for the preparation process of the Board Meetings, which are held no less than once a year.

No later than 4 month before the Board Meeting is due to commence the Secretariat on behalf of the Chair notifies the Board Members, the National Contact Points and the Lead Countries of

* the date, venue and provisional agenda of the Board Meeting
* the deadline for submission of proposals or documents to be included in the agenda for the Board Meeting
* the date, venue and provisional agenda of the National Contact Point Meeting

The Secretariat

* chairs the meeting of the National Contact Points and records the decisions taken at the meeting
* records the minutes of the Board Meeting focusing on decisions and how to follow up
* manage the consultation process of the minutes of the Board Meeting and activate the necessary follow up activities by informing the National Contact Points and the Lead Countries
* cooperate closely with the Lead Country for the Communication Working Group on issues concerning developing key messages and decisions concerning Arctic SDI representation at international conferences and meetings.

**Activity plan**

The work in the Secretariat is described in dynamic Activity Plan which will be available at the Arctic SDI Web Site.

**Transparency and interaction**

The work will be performed in an open and transparent manner and meetings as well as documentation will be open to representatives from all the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning of processes with the Lead Countries of the other Arctic SDI Working Groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

**Arctic SDI**

**Working** **Group on Communication**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish a Working Group on Communication*.*

**Objective**

The Working Group on Communication is responsible for:

* Point of contact for stakeholders, users and the public in general
* Arctic SDI official Website – operation, updating and editing
* Information and key messages (presentations, pamphlets, posters)
* Coordinate information within the groups of Lead and Support Countries
* Documentation – documents, protocoles etc. from the Board meetings, National Contact Point activities etc.
* Representation in international forums in agreement with the Chair of the Board

**Organization**

Norway has volunteered as *Lead Country* for the Activity Working Group on Communication.

*Support Countries* are Canada, Denmark and Sweden.

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities will be divided between the Lead Country and the Support Countries. The Lead Country is also responsible for the planning of meetings, web meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work within the Working Group on Communication is described in a dynamic activity plan which will be available via the Arctic SDI Web Site.

**Transparency and interaction**

The work will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning of processes with the lead countries of the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

**Arctic SDI**

**Technical Working** **Group**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to maintain the Technical Working Group with Terms of Reference adjusted to the organizational changes of the Arctic SDI Cooperation. The general background for the work of the Technical Working Group is the Arctic SDI Framework Document chapter 2 and the Appendix 1 on Data, Technology and Infrastructure.

**Objective**

The Arctic SDI Technical Working Group is responsible for:

* Infrastructure and technology
* Design, architecture and standards
* Data models and metadata
* Technical guidelines for establishing Arctic SDI WMS, the Geo-portal and for other coming services

**Organization**

The Board approved the recommendation for Sweden to be the *Lead Country* for the Technical Working Group. *Support Countries* are all participating countries.

The Lead Country has the responsibility for the implementation, operation and progress of the activities. The Lead Country is also responsible for the planning of meetings, video meetings and further communication. The tasks within the activities are undertaken by the Lead Country and the Support Countries.

The Lead Country reports to the Board. This includes the responsibility to submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing Board Meetings and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work within the Technical Working Group is described in a dynamic Activity Plan which will be available via the Arctic SDI Web Site.

**Transparency and interaction**

The work will be performed in an open and transparent manner. Meetings and documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning of processes with the lead countries of the other Arctic SDI working groups. In principle the Technical Working Group has the main responsibility for new technical development activities. Additional working groups may be created for specific functions as part of the Technical Working Group.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies. The participating countries appoint their member(s) of the Technical Activity Working Group

**Arctic SDI**

**Working Group on Cloud and Cascading WMS service**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish an Activity Working Group on Cloud/WMS*.*

**Objective**

The Activity Group on Cloud, WMS and Cascading Services is responsible for:

* Cloud platform
* Cascading WMS service

**Organization**

Norway has volunteered as *Lead Country* for the Activity Group on Cloud and Cascading WMS service.

*Supporting this activity are Finland and Sweden.*

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the Support Countries. The Lead Country is also responsible for the planning of meetings, video meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work within the Working Group on Cloud and Cascading WMS service is described in a dynamic Activity Plan which will be available at the Arctic SDI Web Site.

**Division of work**

Division of work between the Lead Country and Support countries was agreed in the working group meeting on 20th March 2014: Norway: Cloud platform, Cascading WMS service

**Transparency and interaction**

The work of the activity working group will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning processes with the lead countries of the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the national mapping agencies.

**Arctic SDI**

**Working Group on Geoportal**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish an Activity Group on Geoportal*.*

**Objective**

The Activity Group on Geoportal is responsible for:

* Oskari software for the Arctic SDI Geoportal
* Connecting compliant WMS services to the Geoportal
* Metadata catalogue

**Organization**

Finland has volunteered as *Lead Country* for the Activity Group on Geoportal.

*Supporting this activity are Norway and Sweden.*

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the Support Countries. The Lead Country is also responsible for the planning of meetings, video meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work within the Activity Working Group on Geoportal is described in a dynamic Activity Plan which will be available at the Arctic SDI Web Site.

**Division of work**

Division of work between the Lead Country and Support countries was agreed in the Activity Group meeting on 20th March 2014:

* Finland: Oskari software and Connecting WMS services to the Geoportal
* Sweden: Metadata catalogue

**Transparency and interaction**

The work of the activity working group will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The lead country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning processes with the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

**Arctic SDI**

**Working Group on Strategy**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish a Working Group on Strategy.

**Objective**

The Working Group on Strategy is responsible for:

* Furtherance of the Arctic SDI Strategy 2015-2020
* Develop action items to achieve goals and action items of the Strategy in concert with the Working Groups

**Organization**

United States has volunteered as *Lead Country* supported, if needed, by Finland. *All countries will be supporting this activity as desired.*

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the Support Countries. The United States will be responsible for the planning of meetings, video meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity Plan**

The work within the Working Group on Strategy is described in a dynamic Activity Plan which will be available at the Arctic SDI Web Site.

**Division of Work**

Division of work between the Lead Country and Support Countries will be agreed upon at each Working Group meeting.

**Transparency and Interaction**

The work of the Working Group will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning processes with the other Arctic SDI Working Groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

**Arctic SDI**

**Working Group on Operational Policies**

**Terms of Reference**

**Introduction**

The Arctic SDI Board has decided to establish a Working Group on Operational Policies.

**Objective**

According to the Arctic SDI Framework Document, Appendix 5, the Working Group on Operational Policies is responsible for:

* Implementing Arrangements
* Licensing
* Property Rights
* Contracts
* Policies and legal framework

**Organization**

Denmark has volunteered as *Lead Country* for the Activity Group on Operational Policies.

*Support Countries* are Canada and USA.

The Lead Country has the responsibility for the operation and progress of the activity. The tasks within the activities can be divided between the Lead Country and the Support Countries. The Lead Country (Denmark) is responsible for the planning of meetings, web-meetings, correspondence and communication.

The Lead Country refers to the Board. This includes the responsibility to report and submit documents and draft decisions to the Board, including compliance with deadlines and reflecting on the opinions expressed by the National Contact Points in the process of preparing the Board Meeting and respecting the schedule for the preparation of Board Meetings.

**Activity plan**

The work within the Activity Working Group on Operational Policies is described in a dynamic Activity Plan which will be available at the Arctic SDI Web Site.

**Transparency and interaction**

The work will be performed in an open and transparent manner and meetings as well as documentation will be open to all representatives from the signatories of the Memorandum of Understanding.

The Lead Country has the responsibility to coordinate and communicate any necessary cross cutting issues concerning operations and planning processes with the other Arctic SDI working groups.

**Resources**

The Arctic SDI activities are based upon voluntary cooperation between the National Mapping Agencies.

# *Appendix 1*: Arctic SDI – Memorandum of Understanding

*The document is originally established and elaborated in English language and then translated into French and Russian languages.*

The MOU in the three languages has been signed between February and May 2014 by the participating organizations. The *signed* documents are available on the Arctic SDI Web Site.

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**MEMORANDUM OF UNDERSTANDING**

between

The Earth Sciences Sector of the Department of Natural Resources Canada,
the Danish Geodata Agency, the National Land Survey of Finland, the Government of Greenland, the National Land Survey of Iceland, the Norwegian Mapping Authority, the Federal Service for State Registration, Cadastre and Mapping of the Russian Federation,
the Swedish Mapping, Cadastral and Land Registration Authority, the United States Geological Survey

 concerning

*CO-OPERATION IN THE DEVELOPMENT OF AN ARCTIC SPATIAL DATA INFRASTRUCTURE*

The Earth Sciences Sector of the Department of Natural Resources Canada,
the Danish Geodata Agency, the National Land Survey of Finland, the Government of Greenland, the National Land Survey of Iceland, the Norwegian Mapping Authority, the Federal Service for State Registration, Cadastre and Mapping of the Russian Federation,
the Swedish Mapping, Cadastral and Land Registration Authority, the United States Geological Survey

hereinafter referred to as the “Participants”

Considering that the Arctic Spatial Data Infrastructure (Arctic-SDI) is a complex of spatial information resources, organizational structures, technologies of creation, processing and exchange of spatial data, that provides broad access and efficient use of spatial data for the Arctic,

Considering that mutual benefits would result from the establishment of a cooperative framework providing national geospatial map data for the analysis and monitoring of the Arctic environment and resources,

Having determined that the primary objectives of their co-operation are the access and distribution of national geospatial datasets through an Arctic-SDI,

Stating their mutual desire to develop, maintain and administer the Arctic-SDI and provide national geospatial information and associated systems for the sharing of relevant reference data,

Wishing to contribute to the advancement of scientific co-operation and reinforcing and strengthening the links among them,

Have reached the following understanding:

1. The objective of this Memorandum of Understanding (MOU) is the access and distribution, of national geospatial datasets through an Arctic-SDI on the basis of equality and mutual benefit.

2. The Participants understand that data under this MOU may include the following:

(a) relevant national cartographic data;

(b) other types of data (such as land cover & hydrology);

(c) other areas of mutual interest within the framework of development of the Arctic-SDI as they may determine.

3. The Participants understand that their co-operation in the development, maintenance and administration of the Arctic-SDI may include the following forms:

(a) exchange of cartographic and other necessary information;

(b) education and training for work with the Arctic-SDI;

(c) liaison with industrial, academic, professional and other organizations that participate in the Arctic-SDI;

(d) organizational and support of technical seminars and meetings;

(e) encouragement of co-operation regarding consulting services, technology assessment and applications development; and

(f) other forms of co-operation as they may determine.

4. The Participants intend to designate appropriate representatives to identify co-operative activities and details of implementation of this MOU.

5. The Participants intend to conclude Implementing Arrangements for each of their activity of co-operation identified in paragraph 3 that will set forth the timing and scope of the specific forms of co-operation and any other matters on which their consent may be desirable.

6. (a) Each Participant intends to pay for the cost it incurs in the application of this MOU unless otherwise decided upon in writing under an Implementing Arrangement.

(b) The Participants intend to ensure that all costs or estimated costs are detailed in the Implementing Arrangements.

(c) The Participants understand that their activities are subject to the availability of their respective funds and resources.

7. (a) This MOU will enter into operation upon signature by all Participants and will remain in operation for five (5) years, unless extended or discontinued by the Participants.

(b) The Participants may amend this MOU or extend its application upon their mutual consent in writing.

(c) A Participant may cease its cooperation under this MOU by giving a three (3) months written notice to the other Participants.

(d) This MOU is not legally binding.

Signed in nine (9) originals at……………………in the English, French and Russian languages.

*For the Earth Sciences Sector of the Department of Natural Resources Canada*

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*For Geodatastyrelsen- The Danish Geodata Agency*

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*For Maanmittauslaitos - National Land Survey of Finland*

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*For the Government of Greenland*

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*For Landmælingar Íslands - National Land Survey of Iceland*

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*For Kartverket– Norwegian Mapping Authority*

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*For Rosreestr - The Federal Service for State Registration, Cadastre and Mapping
(the Russian Federation)*

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*For Lantmäteriet - the Swedish mapping, cadastral and land registration authority*

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*For U.S. Geological Survey – Office of the Director*

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