Arctic SDI

ARCTIC SPATIAL DATA INFRASTRUCTURE STRATEGIC PLAN

2015-2020

Roadmap

Arctic SDI Working Group on Strategy

June 2015

Table of Contents

Roadmap Overview

This *Arctic SDI Strategic Plan 2015-2020 Roadmap* addresses the need to have a high-level abstract of the Arctic SDI 2015-2020 strategy, describe the complex and interrelated workflows between strategic objectives, and clearly and concisely articulate the cross-cutting actions of the strategic objectives outlined in the *Arctic SDI Strategic Plan 2015-2020* and *Arctic SDI Strategic Plan 2015-2020 Implementation Plan*, including noting the lead, coordinating and supporting Working Groups and participant National Mapping Agencies for the actions under each objective.
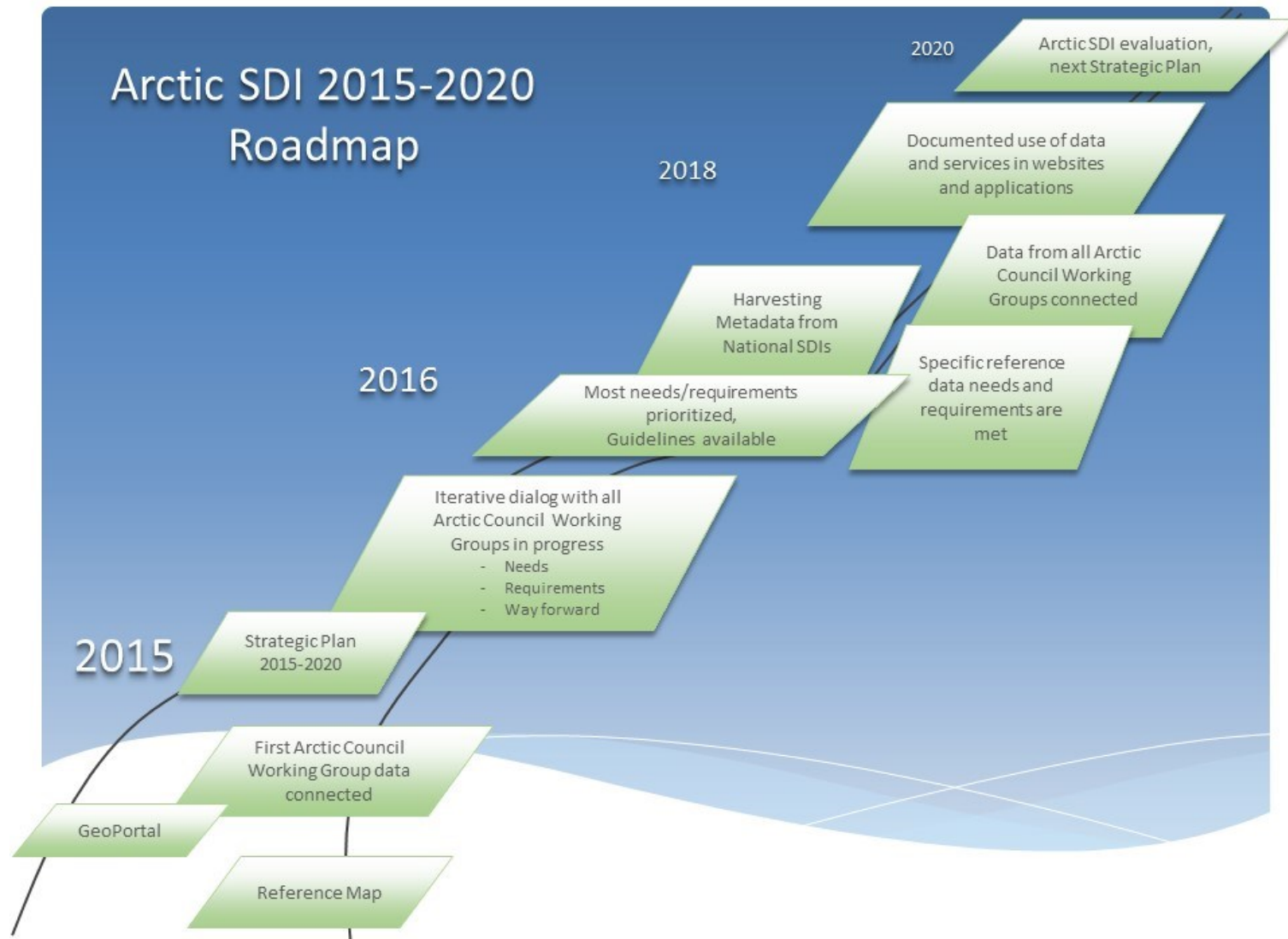
Arctic SDI Strategy Abstract

The six objectives listed in the table below are introduced in the *Arctic SDI Strategic Plan 2015-2020* and detailed in the *Arctic SDI Strategic Plan 2015-2020 Implementation Plan*. These objectives highlight the most important work the Arctic SDI will undertake in the coming years from 2015 to 2020. These objectives will be implemented within Arctic SDI Working Groups, and the specific tasks for implementing these objectives will be specified in the *Arctic SDI Working Group Activity Plans*, to be written yearly by each of the Working Groups and coordinated across the Working Groups by Working Group Leads in accordance with the Arctic SDI 2015-2020 strategy.

Objective	Objective Description	Primary Arctic SDI Working Group
Objective 1	Address Needs of Arctic Council and Other Users	Strategy Working Group
Objective 2	Provide Reference Datasets	Technical Working Group
Objective 3	Facilitate Access to Thematic Datasets	Technical Working Group
Objective 4	Data and Technical Interoperability	Technical Working Group
Objective 5	Spatial Operational Policies	Operational Policies Working Group
Objective 6	Communications	Communication Working Group

Below is an abstracted diagram of the major work to be undertaken by the Arctic SDI from 2015-2020 (*Figure 1*). It gives a generalized view of the primary initiatives, from those taking place in 2015 including the creation of the Arctic SDI strategy and strategic plan documents, to outreach with Arctic Council groups and integration of their data over the following years, out to the evaluation of the Arctic SDI through key performance indicators and the creation of a subsequent strategic plan in 2020.

Figure 1. Arctic SDI 2015-2020 strategy diagram

Complex Workflows Diagram

Many actions of the Arctic SDI Working Groups are self-contained within the Working Groups. However, a series of objective actions are interrelated and cross-cut several Working Groups. The relationships between them have been diagrammed below.

The workflow below describes how information regarding user and stakeholder needs and requirements will flow between the objectives and through the Working Groups. The first series of boxes related to Objective 1 describe a set of questions being developed to guide conversations with user groups and stakeholders regarding their needs and requirements, coordination by several Working Groups on outreaching separately to Arctic Council Working Groups and additional users and stakeholders, and the documentation and prioritization of the information gathered. These needs and requirements will then be communicated to the appropriate Working Groups to implement actions in Objectives 2, 3, 4, 5 and 6. There are several feedback loops in the process to ensure quality improvement and internal communication. More details on these objectives can be found in the Objective Actions Tables section below and the *Arctic SDI Strategic Plan 2015-2020 Implementation Plan*.
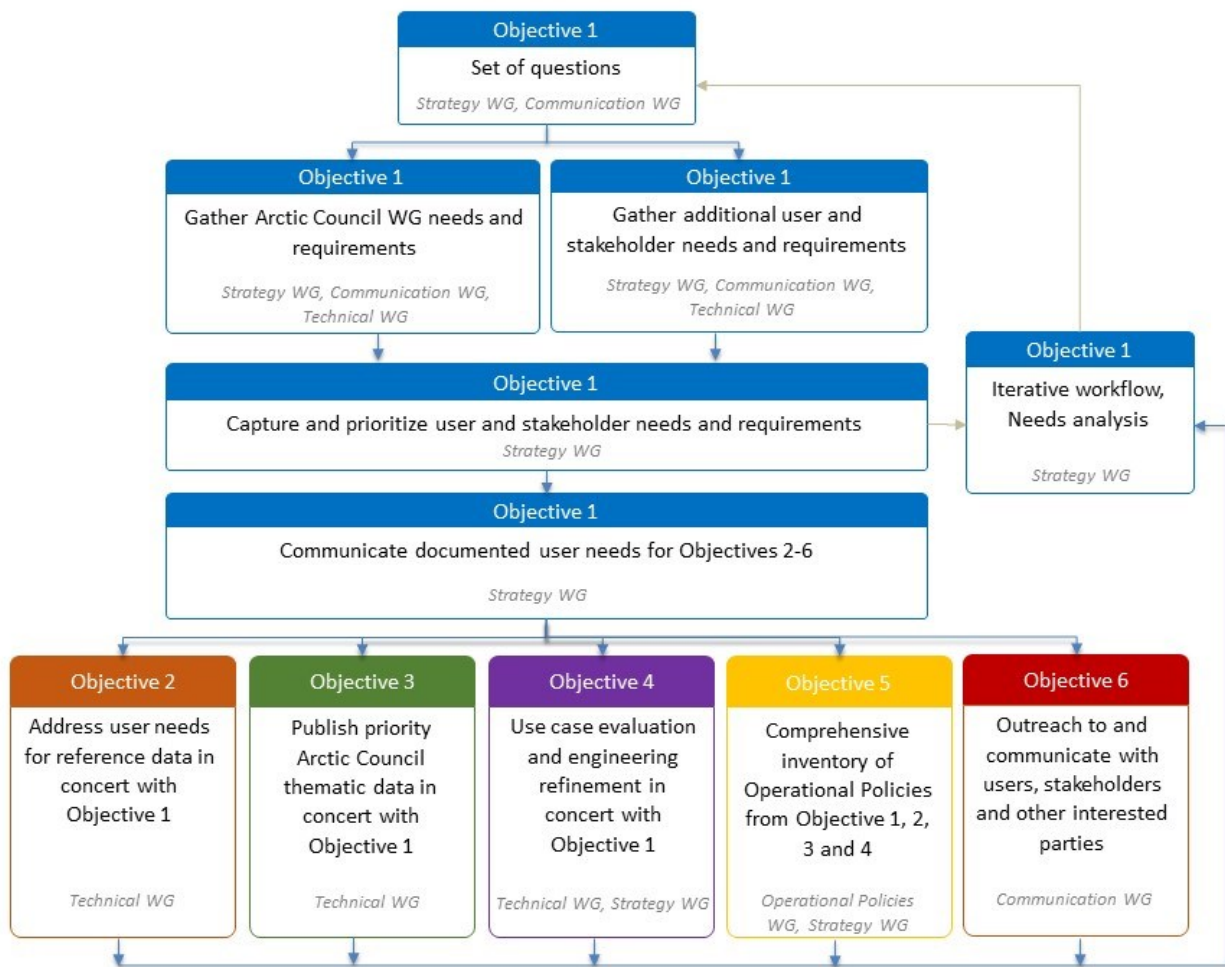

Figure 2. User and Stakeholder Needs and Requirements Workflow

Objective Actions Tables

To facilitate a high-level view of the actions undertaken in the six strategic objectives, six tables containing detailed information about the objectives are provided below. Each table contains details regarding the nature of the actions for the objective, a general schedule, a list of lead and supporting Arctic SDI Working Groups, and which countries are participating on specific actions including in what capacity they are planning to participate. The table is meant to be a quick way to view information about each objective, its actions and the level of engagement of each participant National Mapping Agency.

Descriptions for the table headings are as follows:

Actions: A listing of the actions under a given objective.

Years: The shading in the boxes under the years represent the approximate timeline of when the actions will be scheduled.

Lead Working Group: The *Lead Working Group* is the primary Arctic SDI Working Group coordinating the action.

Supporting Working Group: The *Supporting Working Group* includes any Arctic SDI Working Groups assisting with the implementation of the action.

Primary Country: The *Primary Country* column indicates the National Mapping Agency country which has taken a lead or coordination role for the action (type of role described in Country Columns below). It may be a different country than the Working Group Lead.

Participating/Supporting Countries: The *Participating/Supporting Countries* column indicates National Mapping Agency countries which are assisting on the specific action either because of their participation on a Working Group or because they specifically volunteered to assist with an action.

Country Columns: Below is a description of the symbols used in the columns listing the three letter county codes

L	National Mapping Agency listed as **Primary Country is leading** the specific action
C	National Mapping Agency listed as **Primary Country is coordinating** the action as a part of Working Group Lead responsibilities rather than leading the specific action
	Participating/Supporting Country is assisting with the action

Objective 1. User and Stakeholder Needs and Requirements

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
1.1	Develop a set of questions to be used to document user and stakeholder needs and requirements							Strategy / Communication	USA / NOR	All					C			C
1.2	Gather needs and requirements from Arctic Council Working Groups							Strategy / Communication - Technical	USA / NOR	All					C			C
1.3	Gather needs and requirements from additional users and stakeholders							Strategy / Communication - Technical	USA / NOR	All					C			C
1.4	Capture user and stakeholder needs and requirements, including into a user needs matrix							Strategy / Communication	USA / NOR	All					C			C
1.5	Analyze and prioritize user requirements for Objectives 2, 3, 4, 5 and 6 implementation using an iterative workflow							Strategy / Communication	USA / NOR	All					C			C
1.6	Communicate documented user needs to other Arctic SDI Working Groups for Objectives 2, 3, 4, 5 and 6							Strategy / Communication	USA / NOR	All					C			C

Objective 2. Reference Data

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
2.1	Address user needs for reference data							Technical	SWE	All							C	
2.2	Update, maintain and improve the Arctic SDI reference dataset tiled Web Map Service (WMTS)							Cloud and Cascading Service - Technical, Geoportal	NOR	All					L			
2.3	Harvest or provide access to reference dataset metadata in catalogue							Technical	SWE	CAN							L	
2.4	Review and, as needed, refine the Arctic SDI list of reference datasets							Strategy	USA	All								C
2.5	Work with reference data providers to determine efficient means to interact with their reference datasets and metadata							Technical	SWE	All							C	
2.6	Develop enhanced access to reference data (e.g. place names)							Technical	SWE	All							C	

Objective 3. Thematic Data

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
3.1	Conduct a survey of datasets available from the Arctic area through Web services	▣						Technical	CAN	ICE, SWE	L			▢			▢	
3.2	Perform integration pilots using various software to demonstrate the breadth of thematic data available through services	▣						Technical	CAN / ICE	SWE	L			L			▢	
3.3	Provide advisory role to with Arctic Council WGs (e.g. CAFF) and additional stakeholders to publish data via open data standards	▣	▣					Technical - Communication	SWE	All	▢	▢	▢	▢	▢	▢	C	▢
3.4	Create and maintain links in the metadata catalogue to thematic datasets	▣	▣	▣	▣	▣	▣	Technical	SWE								L	
3.5	Make thematic data layers accessible in the Geoportal Web Map Viewer	▣	▣	▣	▣	▣	▣	Geoportal - Technical	FIN	SWE			L				▢	
3.6	Assess the feasibility to include additional stakeholder thematic datasets (e.g. Int. Hydrographic Org (IHO) data)		▣	▣				Strategy / Technical	USA / SWE	All	▢	▢	▢	▢	▢	▢	C	C

Objective 4. Data and Technical Interoperability

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
4.1	Use case evaluation and engineering refinement							Technical - Strategy	SWE	All							C	
4.2	Explore and employ new geoportal and showcase technologies and standards as needed							Technical - Geoportal, Cloud & Cascading Service	SWE	FIN, NOR							C	
4.3	Support stakeholder application development, specifically Arctic Council Working Groups							Technical	SWE	All							C	
4.4	Identify and address technology gaps							Technical	SWE	All							C	
4.5	Undertake an Open Geospatial Consortium pilot and video							Technical	CAN / USA		L							L
4.6	Address user needs regarding standardized cartographic representations (e.g. SLD and Context Document Library)							Technical	ICE	CAN, FIN				L				

Objective 5. Spatial Operational Policies

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
5.1	Develop a comprehensive inventory of potential Operational Policies based on the analysis and decisions deriving from Objective 1, 2, 3 and 4							Operational Policies - Strategy	DEN	CAN, USA		C						
5.2	Evaluate and analyze the Arctic Council Working Group CAFF/Arctic SDI experience to identify needs for guidelines for Arctic Council Working Groups							Operational Policies	DEN	CAN, ICE, USA		L						
5.3	Develop Operational Policies based on Arctic SDI Board direction							Operational Policies	DEN	CAN, USA		C						
5.4	Create an Arctic SDI manual containing Spatial Operational Policies including technical guidelines							Operational Policies - Technical, Communication	DEN	All		C						

Objective 6. Communication

* The asterisk (*) in Action 6.8 denotes that the leadership role in the Secretariat will change from the United States to Finland and then to Iceland over time period covered by the Arctic SDI Strategic Plan 2015-2020.

	Actions	2015	2016	2017	2018	2019	2020	Lead Working Group - Supporting Working Group	Primary Country	Participating / Supporting Countries	CAN	DEN	FIN	ICE	NOR	RUS	SWE	USA
6.1	Create an external general presentation to be used in multiple settings							Communication	NOR	CAN, DEN, ICE, SWE, USA					L			
6.2	Create external technical presentation to be used in multiple settings							Communication	NOR	CAN, DEN, ICE, SWE, USA					L			
6.3	Create an Arctic SDI fact sheet handout							Communication	NOR	CAN, DEN, ICE, SWE, USA					L			
6.4	Advise and educate data providers on requirements and standards for data acquisition and delivery							Technical	SWE	All							C	
6.5	Coordinate outreach and act as point of contact for stakeholders, users and the public in general							Communication	NOR	CAN, DEN, ICE, SWE, USA					C			
6.6	Coordinate development of information and key messages							Communication	NOR	CAN, DEN, ICE, SWE, USA					C			
6.7	Coordinate information across NCPs, WG Leads and Arctic SDI Working Groups							Communication	NOR	CAN, DEN, ICE, SWE, USA					C			
6.8	Maintain the Calendar of Events							Secretariat - Communication, Strategy	USA / FIN / ICE	All			L*	L*				L*
6.9	Identify and coordinate representation in international forums							Communication	NOR	CAN, DEN, ICE, SWE, USA					C			
6.10	Operate, update, edit and maintain the Arctic SDI official Website							Communication	NOR	CAN, DEN, ICE, SWE, USA					C			

Reference: Arctic SDI Organizational Structure Diagram

The Arctic SDI Organizational Structure Diagram below is taken from the *Arctic SDI Framework Document*.