Arctic Spatial Data Infrastructure
Enabling Access to
Arctic Location Based Information

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Arctic SDI is based on voluntary commitments by the National Mapping Agencies from 8 countries that border the Arctic Circle.

There is a signed MoU towards cooperative development of an Arctic SDI.
Participating Countries

Canada
Norway
Finland
Russia

Denmark
Sweden
USA
Iceland

USGS, Chair 2015-2017
NLS FI, Chair 2017-2019
• Earth Sciences Sector of the Department of Natural Resources Canada
• Danish Agency for Data Supply and Efficiency
• National Land Survey of Finland
• National Land Survey of Iceland
• Norwegian Mapping Authority
• Federal Service for State Registration, Cadastre and Mapping of the Russian Federation
• Swedish Mapping, Cadastral and Land Registration Authority
• U.S. Geological Survey
Main Content of the Arctic SDI

The Arctic SDI is an infrastructure that provides a web portal with easy access to:

- A geoportal for geospatial data viewing and discovery
- A searchable metadata catalogue
- Authoritative reference data as a Web Map Service (WMS) 1:250.000
- Thematic data (birds, icecover, ship routes, land cover change, flora etc.)
A Collaborative Model in the Arctic SDI

- Working with stakeholder organizations to make their key data available, with a focus on the Arctic Council
- Understanding the needs and requirements of stakeholders
- Information Management best practices (lifecycle of geospatial data)
- Open standards and interoperability
- Helping data contributors and users understand how to participate
Capacity Building

**SDI Manual** for the Arctic with guidelines & practices for

- Data management and sharing
- SDI development
- Standardization guidelines
- Efficient monitoring and decision making
- Key Performance Indicators
- Evaluation once in two years
Data Resources

- Pan-Arctic Digital Elevation Map
- Gazetteer Database and Search
- Arctic Reference Basemap
- Marine Data

Pan-Arctic DEM

Gazetteer search

Shaded relief for depths
Authoritative Reference Basemap

Provided Directly from the 8 Arctic National Mapping Agencies

- Common Cartographic Specification
- A Trusted Source of Detailed Information
Arctic SDI Geoportal
Oskari – Geoportal for ASDI

• Open Source Framework for Geoportals
• Easy-to-use tools for using Distributed SDI’s like Arctic SDI, INSPIRE and European Location Framework (ELF)
• Access to OGC standard API’s
• Embedded Maps Tool and Integration API - like Google maps with rich SDI content
• Time Series Data Visualization
• Thematic Mapping with Statistical Information
Example of an Embedded Map

From Arctic Spatial Data Pilot
Gazetteer Search

- Search for locations by place name, address, or real estate unit identifier.
- Ottawa search results:
  - Ottawa: Administrative units
  - Ontario: Transport and telecommunication features
  - City of Toronto: Urban features
  - Ottawa River: River features
  - Gatineau: Urban features

- Map showing geographical features.
Metadata Search

- Sites of existing river biotic and abiotic data in the CAFF designated zone.

**Basic Information**
- ISO 19115 metadata
- Inspire metadata
- Data quality

**ABSTRACT TEXT (DATA)**
River dataset showing location of study sites in rivers for the Arctic Freshwater Biodiversity Monitoring Plan.
Published in the Arctic Freshwater Monitoring Plan Brochure released in 2013.
http://www.caff.org/monitoring/council/2013/Arctic-Freshwater-Biodiversity-Monitoring-Plan-Brochure

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Time Series (WMS-T)
Future development: Spatial and Statistical Data combined over Arctic
Arctic SDI Video on YouTube

Introduction to the Arctic Spatial Data Infrastructure

Arctic SDI Fact Sheet

GEOSPATIAL DATA – A TOOL FOR BETTER INFORMED DECISIONS AND MORE EFFICIENT ADMINISTRATION IN THE ARCTIC

Improved access to geospatial data can help us better to predict, understand and react to changes in the Arctic. Responses to the impact of climate change and human activities in the Arctic requires accessible and reliable data to facilitate monitoring, management, emergency preparedness and decision making.

Important data sets are produced and distributed by many stakeholders – public and private sector – and most of it can be geographically referenced. A spatial data infrastructure provides tools for data distributors to ensure that their geospatial data is easier for users to access, validate and combine with other data.

The Arctic SDI provides such an infrastructure and its development is facilitated by the National Mapping Agencies of the eight Arctic countries.