Arctic Spatial Data Infrastructure
Enabling Access to
Arctic Location-Based Information

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arctic-sdi.org
Why Arctic SDI?

Data is often difficult and costly to find, access and combine
  • due to lack of standardized distribution of data and insufficient compliance to international standards

The Arctic SDI was established to **address the need for readily available spatial data** in the northern areas of the globe
  • works with stakeholder organizations to make their key data accessible and interoperable
facilitate access to geospatial information in support of social, economic, environmental monitoring, decision-making and other needs in the Arctic.

promote cooperation and development of a Spatial Data Infrastructure that enables discovery, visualization, access, integration and sharing of Arctic geospatial data.
Arctic SDI is based on voluntary commitments by the National Mapping Agencies from 8 countries that border the Arctic Circle: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, USA.

There is a signed Memorandum of Understanding towards cooperative development of an Arctic SDI.
Arctic SDI Services

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
  – Searchable Circumpolar Gazetteer

• Thematic data and partnerships — Distributed Sources (elevation data, marine data, ice cover, flora & fauna, etc.)

geoportal.arctic-sdi.org
Cooperation with the Arctic Regional Hydrographic Commission’s Arctic Marine SDI Working Group to facilitate access to Arctic marine data and Integrate sea and land data

Partnering on a Pan-Arctic Digital Elevation Model (DEM)
An initiative of the Arctic Council US Chairmanship to produce a 2m resolution DEM of the entire Arctic
Arctic SDI harmonized basemap

- produced using the existing data from the Arctic Mapping Agencies
- provides a unified topographic view over the entire Arctic
- with details such as elevation, rivers and lakes and other geographic features
Arctic SDI Geoportal

Built for browsing, visualizing, analyzing and sharing spatial information

Geoportal users can combine data and map layers to visualize the phenomena of their choice

Can be used free of charge by anyone
The Geoportal features for example a **Time Series tool**, which can be used to visualize various phenomena:

- for example sea surface temperature change over time in the Arctic
Dynamic interactive maps, known as embedded maps, can be created for delivery via any website
• without any coding, with just a few quick steps
• if any data source gets updated, the latest data is readily shown on in the embedded map without user intervention
Location Search

Circumpolar place name search enables discovery of locations throughout the Arctic.
Future development: Spatial and Statistical Data combined over Arctic

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Population aged 0-6 as % of total population 2014</th>
<th>Population aged 16-24 as % of total population 2014</th>
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<tbody>
<tr>
<td>Minimum value</td>
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<td>Maximum value</td>
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<td>Average</td>
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<td>Outokumpu</td>
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<tr>
<td>Peipion</td>
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<td>Piitanto</td>
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<tr>
<td>Pirkkola</td>
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</tbody>
</table>

Classification:
- Natural breaks
- Class division: 5
- Class breaks continuity: Continuous

Population aged 0-6 as % of total population 2014:
- 1.0 - 5.0 (5)
- 5.0 - 6.6 (56)
- 6.6 - 8.3 (39)
- 8.3 - 11.0 (17)
Improved access to geospatial data can help us better predict, understand and react to changes in the Arctic.

**Arctic SDI Geoportal**

Allows discovery, visualization, access, integration and sharing of Arctic data.

Aim is to offer the possibility to all interested to use the data and include own data.

arctic-sdi.org
Arctic SDI Video on YouTube

Introduction to the Arctic Spatial Data Infrastructure

Arctic SDI Fact Sheet

Introducing 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.