



**ARCTIC
SDI** Arctic Spatial
Data Infrastructure

Arctic Spatial Data Infrastructure

Enabling Access to Arctic Location Based Information

Arvo Kokkonen

Jani Kylmäaho, Heli Ursin

National Land Survey, Finland

GSDI15



**ARCTIC
SDI**

Arctic Spatial
Data Infrastructure

**Improve access to reliable data for
Monitoring,
Management,
Emergency preparedness and
Decision making
in the Arctic**

Participating Countries

Canada
Norway
Finland
Russia



Denmark
Sweden
USA
Iceland

USGS, Chair 2015-2017

NLS FI, Chair 2017-2019

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

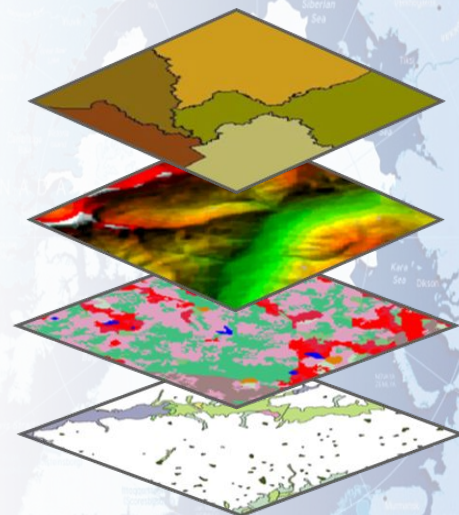
There is a signed MoU towards cooperative development of an Arctic SDI.

- 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.)





**ARCTIC
SDI** Arctic Spatial
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Improved access to
geospatial data can
help us better
predict, understand
and react to changes
in the Arctic.

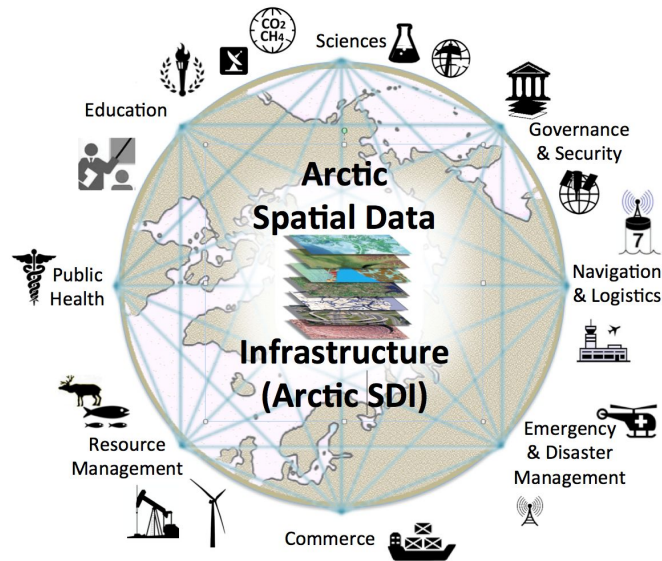
Visit arctic-sdi.org



arctic-sdi.org
City of
Ottawa

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



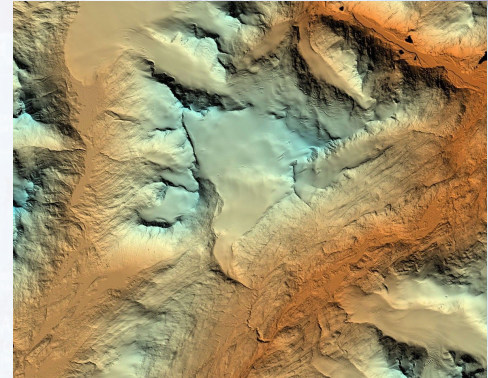
Capacity Building

SDI Manual for the Arctic with
guidelines & practices for

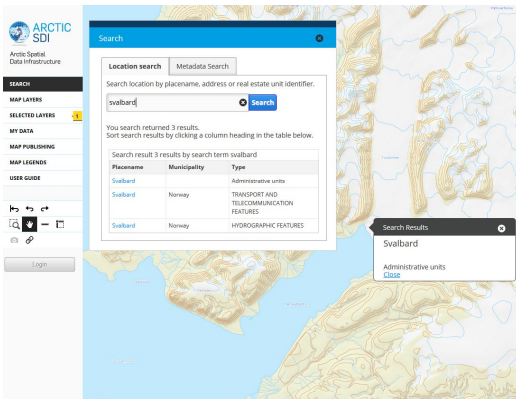
- Data management and sharing
- SDI development
- Standardization guidelines
- Efficient monitoring and decision making
- Key Performance Indicators
- Evaluation once in two years



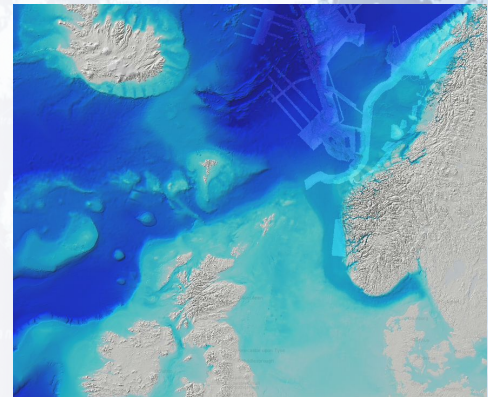
- Pan-Arctic Digital Elevation Map
- Marine Data
- Gazetteer Database and Search
- Arctic Reference Basemap



Pan-Arctic DEM



Gazetteer search



Shaded relief for depths

Authoritative Reference Basemap

Provided Directly
from the
**8 Arctic National
Mapping Agencies**



The screenshot shows the Arctic SDI web application interface. At the top is the Arctic SDI logo and name. Below it is a navigation menu with links: SEARCH, MAP LAYERS, SELECTED LAYERS (highlighted with a yellow tab and the number 1), MY DATA, MAP PUBLISHING, MAP LEGENDS, and USER GUIDE. A search bar is located below the menu. At the bottom of the interface are icons for navigation (back, forward, home), a hand icon for panning, a magnifying glass for zooming, and a link icon. A login button is also present.



- Common Cartographic Specification
- A Trusted Source of Detailed Information



ARCTIC
SDI

Arctic Spatial
Data Infrastructure

Arctic SDI Geoportal

arctic-sdi.org



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SEARCH

MAP LAYERS

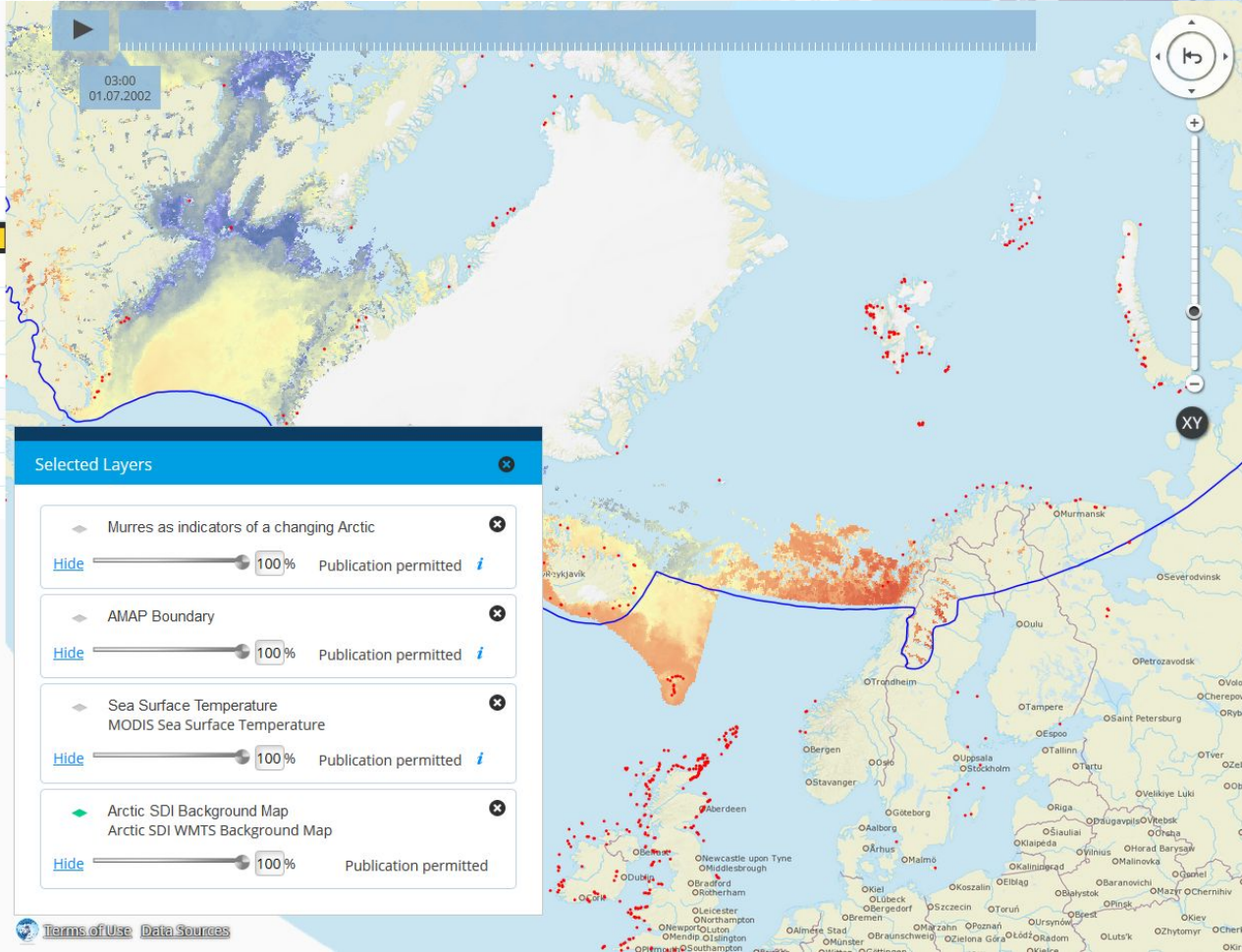
SELECTED LAYERS

MY DATA

MAP PUBLISHING

MAP LEGENDS

USER GUIDE



Selected Layers

Murres as indicators of a changing Arctic

Hide

100%

Publication permitted

AMAP Boundary

Hide

100%

Publication permitted

Sea Surface Temperature
MODIS Sea Surface Temperature

Hide

100%

Publication permitted

Arctic SDI Background Map
Arctic SDI WMTS Background Map

Hide

100%

Publication permitted

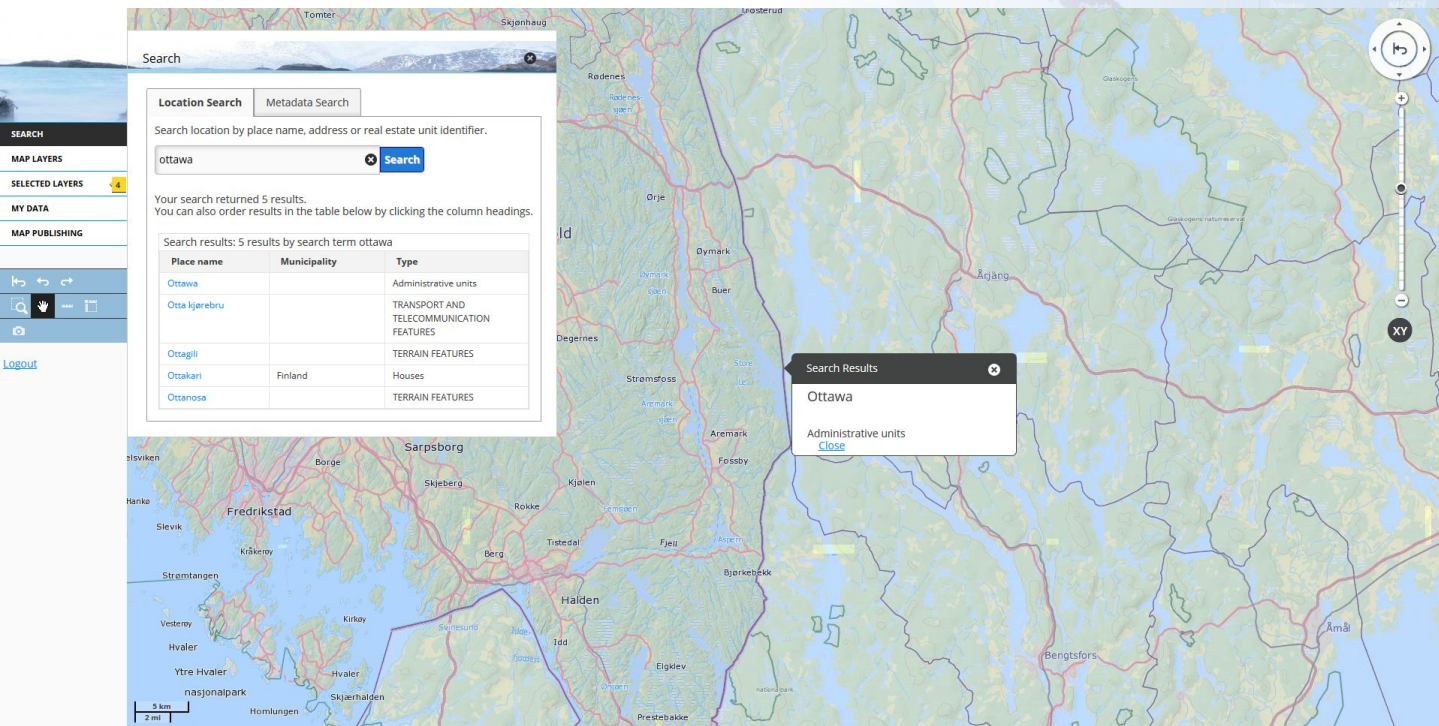


Terms of Use Data Sources

Oskari - Geoportals and Embedded maps

- For setting up Geoportals or Web GIS systems
- For creating Embedded map clients onto other websites very efficiently
- For setting up advanced web-based tools, such as decisionmaking support services and data analysis tools
- Multilingual – English, Swedish & Finnish full coverage, 15 other languages with partial coverage
- Open Source (MIT) - see oskari.org and Oskari [GitHub](https://github.com) for more info

Location Search



The screenshot displays the Arctic SDI web application interface. On the left is a sidebar with navigation links: SEARCH, MAP LAYERS, SELECTED LAYERS (4), MY DATA, and MAP PUBLISHING. Below these are icons for home, search, and map, along with a 'Logout' link. The main area features a map of Norway with a search overlay. The search overlay has two tabs: 'Location Search' (selected) and 'Metadata Search'. Below the tabs is a search bar containing 'ottawa' and a 'Search' button. A message states: 'Your search returned 5 results. You can also order results in the table below by clicking the column headings.' Below this is a table with 5 results for the search term 'ottawa'.

Place name	Municipality	Type
Ottawa		Administrative units
Ottakjerebru		TRANSPORT AND TELECOMMUNICATION FEATURES
Ottagili		TERRAIN FEATURES
Ottakari	Finland	Houses
Ottanosa		TERRAIN FEATURES

A 'Search Results' popup is visible over the map, showing 'Ottawa' and 'Administrative units' with a 'Close' link. The map shows various locations in Norway, including Fredrikstad, Sarpsborg, and Halden. A scale bar indicates 5 km and 2 miles.

Metadata Search

Search

Location Search Metadata Search

Search Results [Edit search options](#)

Name

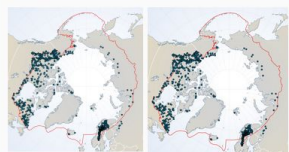
- Boundary for Conservation of Arctic Flora and Fauna (CAFF) working group of the Arctic Council, CAFF
- Protected Areas, CAFF
- Sites of existing river biotic and abiotic data in the CAFF designated zone., CAFF
- Lichen Arctic regions, CAFF
- Boundaries of the geographic area covered by the Arctic Biodiversity Assessment, CAFF
- The distribution and observed trends of wild Rangifer populations throughout the circumpolar Arctic, CAFF
- Large Marine Ecosystems (LMEs) of the Arctic - 2012, CAFF
- Diversity of Arctic marine phytoplankton: based on surveys in the Russian Arctic
- Species numbers of species-rich moss genera and families
- Cumulative numbers of marine fish.
- Number of marine mammal species
- Murres as indicators of a changing Arctic
- Vegetation Indices
- Number of terrestrial mammal species

100 km
50 mi

Metadata

Sites of existing river biotic and abiotic data in the CAFF designated zone. [ISO 19139 XML file](#)

Basic information ISO 19115 metadata Inspire metadata Data quality



SITES OF EXISTING RIVER BIOTIC AND ABIOTIC DATA IN THE CAFF DESIGNATED ZONE.

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.is/monitoring-series/view_document/277-arctic-freshwater-biodiversity-monitoring-plan-brochure

METADATA DATE

2015-03-03T11:32Z



Time Series (WMS-T)



Arctic Spatial
Data Infrastructure

SEARCH

MAP LAYERS

SELECTED LAYERS **2**

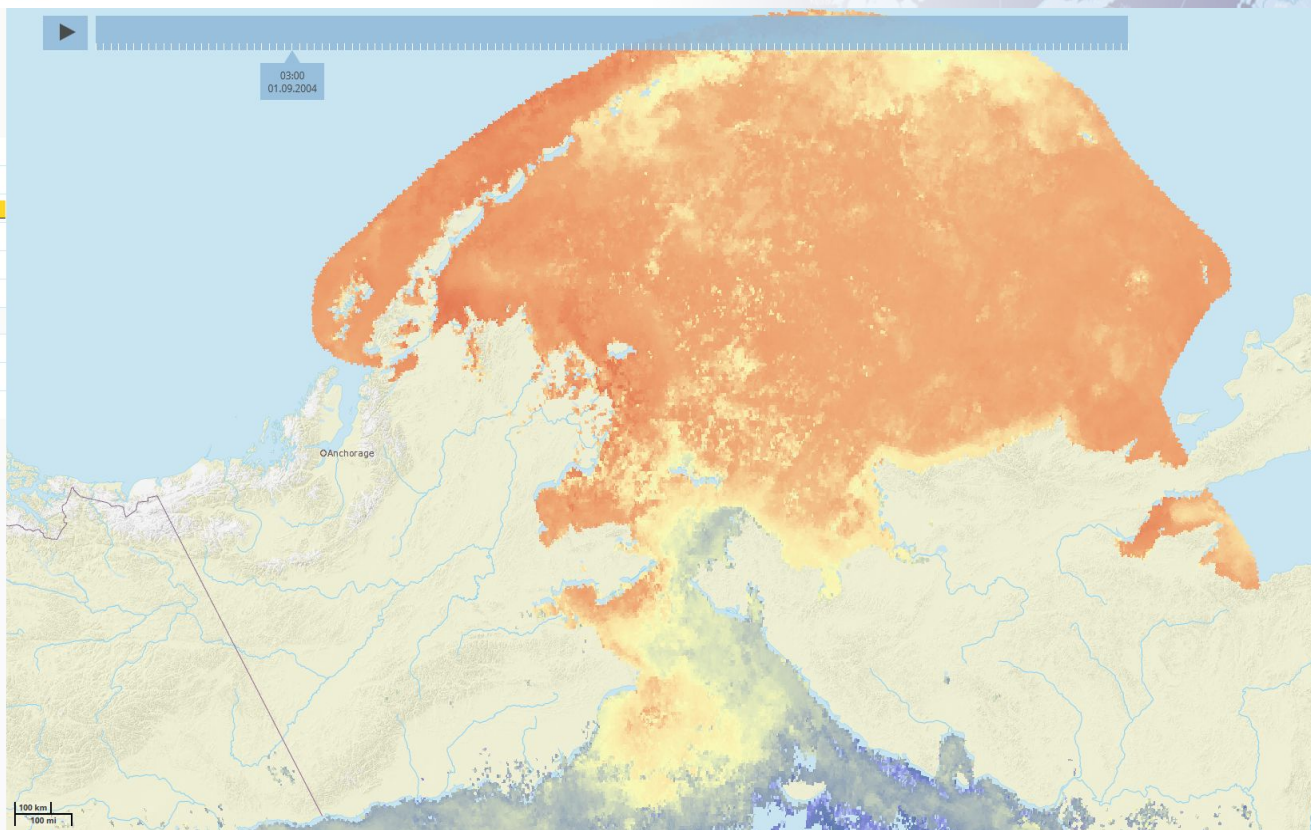
MY DATA

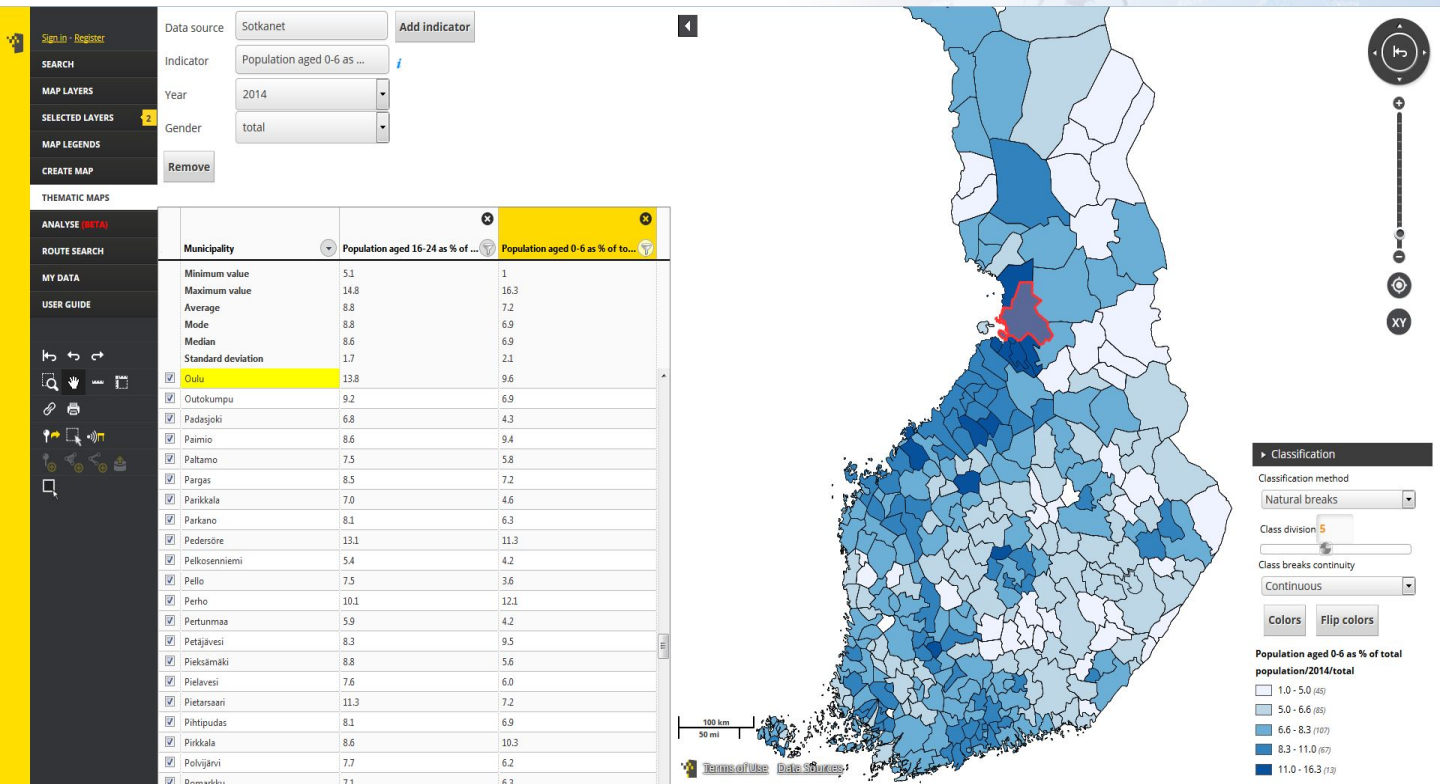
MAP PUBLISHING

MAP LEGENDS

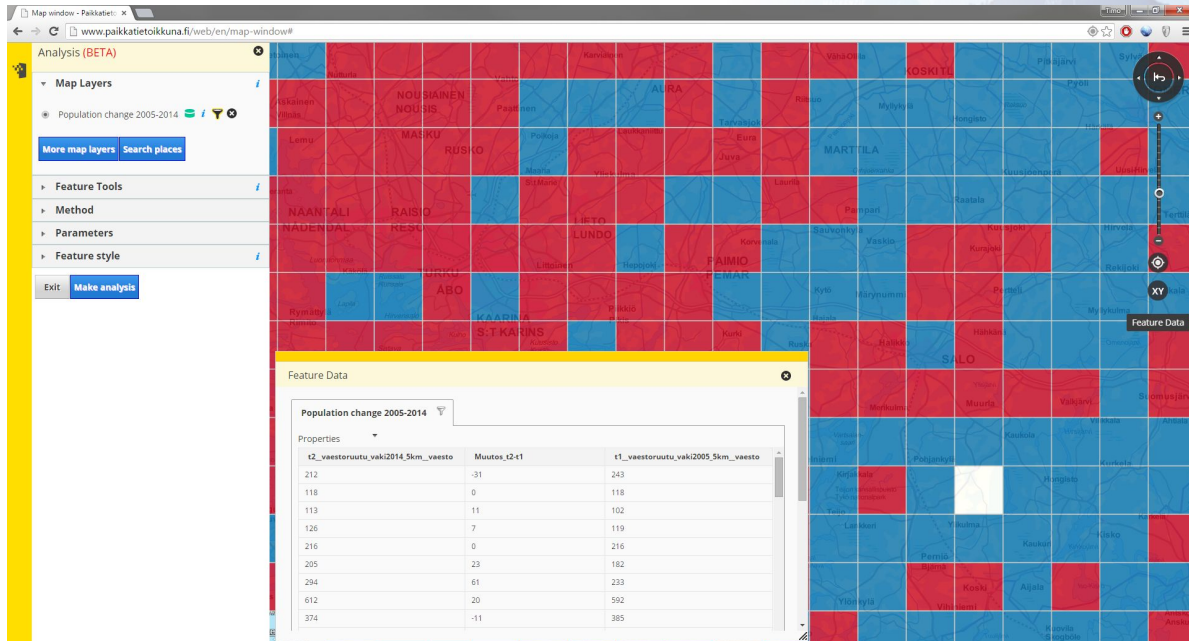


Login





Spatial Analysis: Change calculation



Arctic SDI Video on YouTube



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.

The Arctic SDI Geoportal and the initial Arctic SDI Reference Map – the basic building blocks in the Arctic Spatial Data Infrastructure are available

- The Arctic SDI Geoportal providing a web map viewer for use by any interested user to access the Reference Web Map Service provides the



Arctic SDI Geoportal in the



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arctic-sdi.org
geoportal.arctic-sdi.org
oskari.org