



ARCTIC
SDI Arctic Spatial
Data Infrastructure



Enabling Access to Arctic Location Based Information - the Arctic SDI

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National Land Survey of Finland

arctic-sdi.org

Arctic Biodiversity Conference

10th October 2018

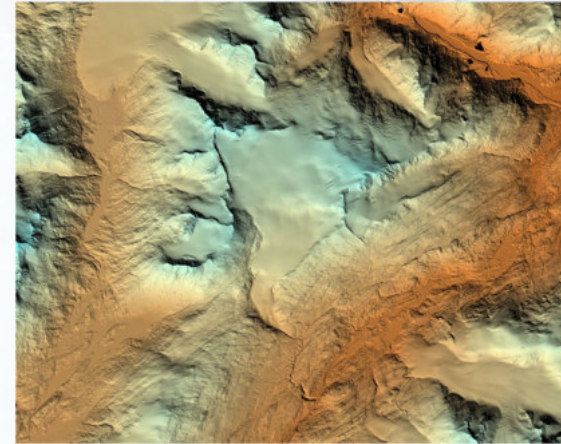


Arctic SDI Services and Geoportal Demonstration

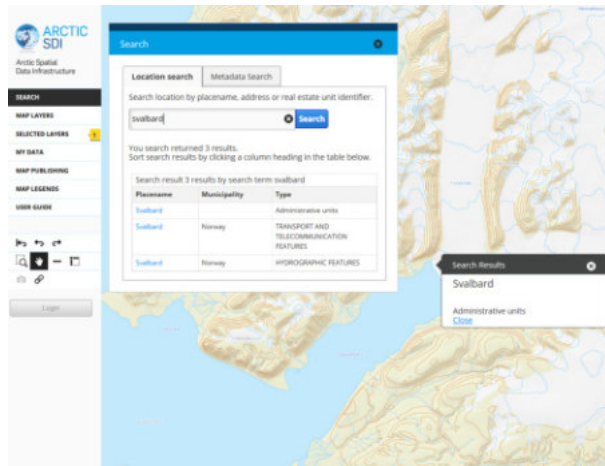


Data Resources

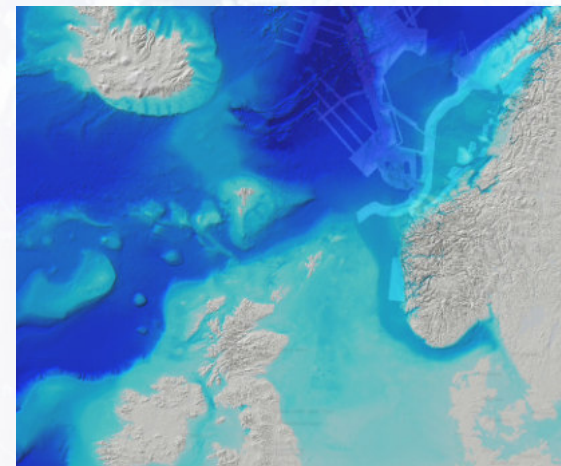
- Pan-Arctic Digital Elevation Map
- Marine Data
- Gazetteer Database and Search
- Arctic Reference Basemap



Pan-Arctic DEM



Gazetteer search

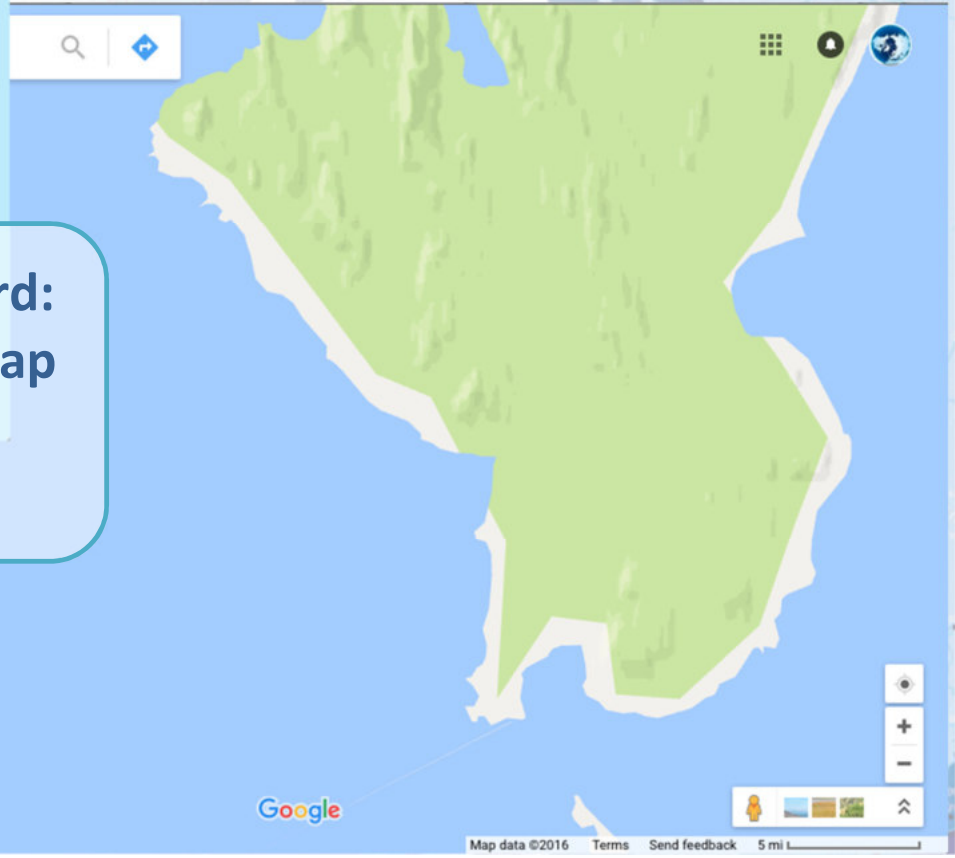


Shaded relief for depths



Arctic SDI provides an **Authoritative Reference Basemap** produced by the 8 Arctic National Mapping Agencies

**Southern Svalbard:
Arctic SDI Basemap
vs.
Google Maps**



**Arctic SDI provides
access to authoritative
data**

Arctic SDI Geoportal

Map Legends

Shipping Accidents and Incident Causes

Shipping accidents and incident causes

- COLLISION
- DAMAGE TO VESSEL
- FIRE/EXPLOSION
- GROUNDED
- MACHINERY DAMAGE/FAILURE
- MISCELLANEOUS
- SUNK/SUBMERGED

Arctic SDI Topographic Basemap

default

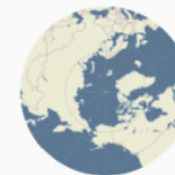
- | | | |
|---|--------------------------|----------------------------|
| ● Populated places | ● Railway stations | --- Soil surface regions |
| ■ National boundaries | ● Ports | --- Soil surface regions |
| ■ Sub-national boundaries | ● Seaplane bases | --- Soil surface regions |
| ■ Protected sites | ● Heliports | --- Soil surface regions |
| ■ Terrain contours | ● Airports | --- Soil surface regions |
| ■ Coastline Ordinary | ■ Aerodrome areas | --- Soil surface regions |
| ■ Coastline Steep and rocky | ■ Main roads | --- Soil surface regions |
| ■ Sea | ■ Main roads Tunnels | ■ Agricultural areas |
| ■ Waterbodies | ■ Regional roads | ■ Builtup areas |
| ■ Watercourse lines | ■ Regional roads Tunnels | ■ Builtup areas |
| ■ Watercourse areas | ■ Local roads | ■ Quarters/farms/buildings |
| ■ Wetlands | ■ Local roads Tunnels | ■ Grass vegetation |
| ■ Glacier contours | ■ Ferry crossings | ■ Shrub vegetation |
| ■ Glaciers and snowfields* | ■ Railway lines | ■ Tundra vegetation |
| ■ Glaciers and snowfields icy precipices/fossil ice | ■ Railway lines Tunnels | ■ Wood and forests |
| ■ Glaciers and snowfields icy precipices/fossil ice | ■ Runway lines | ■ Unclassified areas |
| *Symbol in map has no outline | ■ Non regular roads | |

500 km

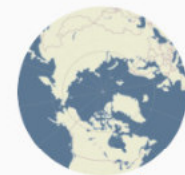
Select Projection



Bering Sea [i](#)



Alaska [i](#)



Canada [i](#)



Atlantic [i](#)

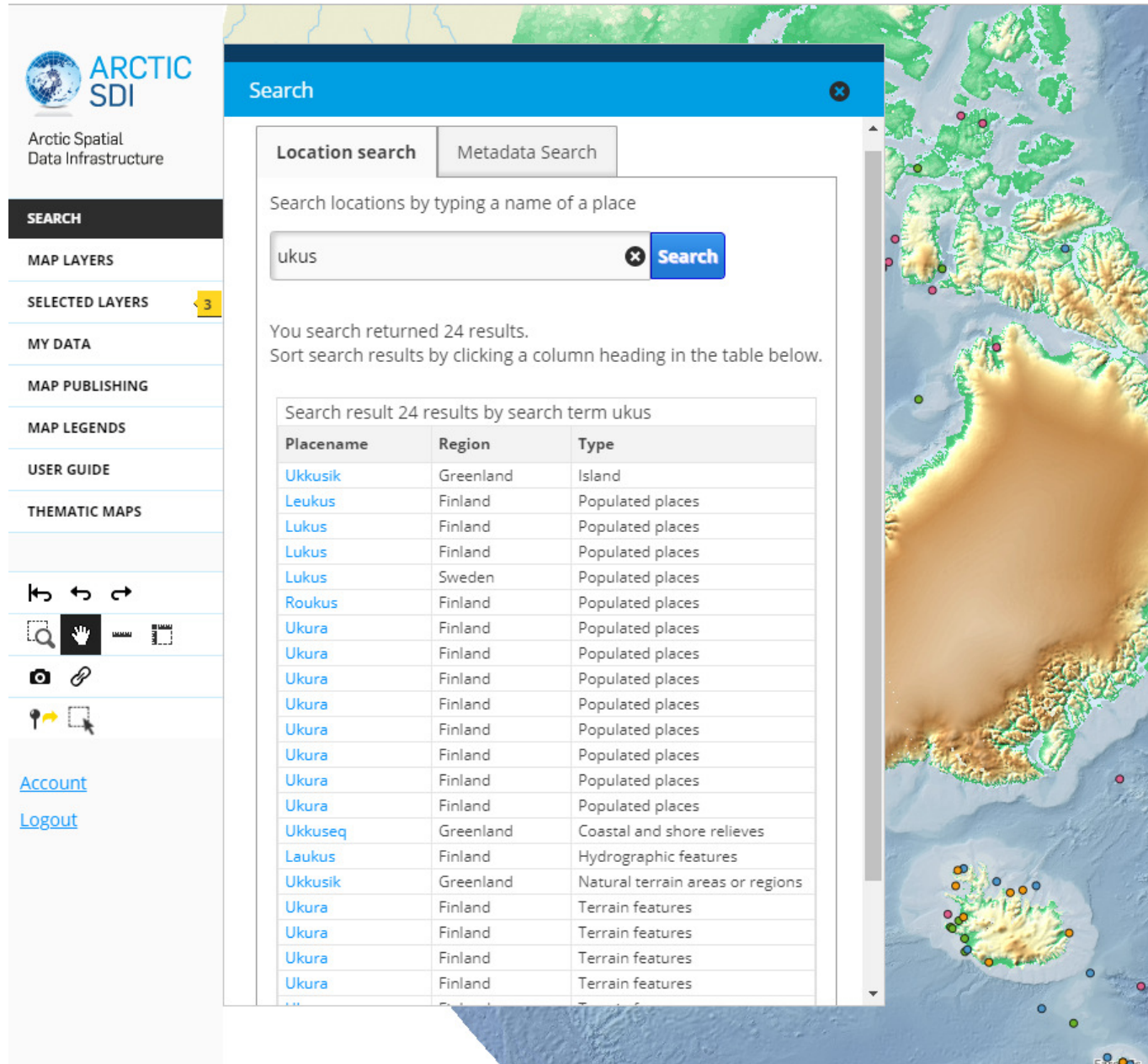


Europe [i](#)



Russia [i](#)

Pan-Arctic Gazetteer Search



ARCTIC SDI Arctic Spatial Data Infrastructure

SEARCH

MAP LAYERS

SELECTED LAYERS 3

MY DATA

MAP PUBLISHING

MAP LEGENDS

USER GUIDE

THEMATIC MAPS

Account

Logout

Search

Location search Metadata Search

Search locations by typing a name of a place

ukus Search

You search returned 24 results.
Sort search results by clicking a column heading in the table below.

Placename	Region	Type
Ukkusik	Greenland	Island
Leukus	Finland	Populated places
Lukus	Finland	Populated places
Lukus	Finland	Populated places
Lukus	Sweden	Populated places
Roukus	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukura	Finland	Populated places
Ukuseq	Greenland	Coastal and shore relieves
Laukus	Finland	Hydrographic features
Ukkusik	Greenland	Natural terrain areas or regions
Ukura	Finland	Terrain features
Ukura	Finland	Terrain features
Ukura	Finland	Terrain features
Ukura	Finland	Terrain features

ARCTIC SDI Arctic Spatial Data Infrastructure

SEARCH

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USER GUIDE

THEMATIC MAPS

Navigation icons: Home, Back, Forward, Search, Print, Full Screen, Refresh, Share, Location, Zoom In, Zoom Out, Full Screen, XY

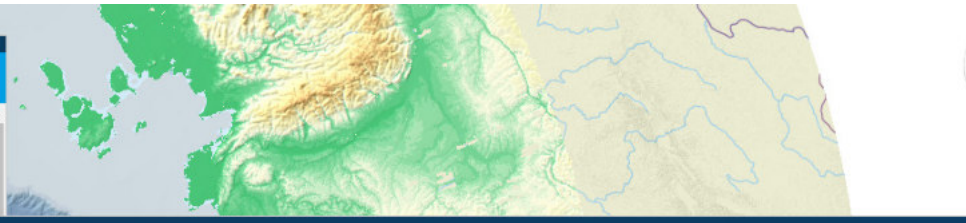
Search

Location search Metadata Search

Search Results [Show only datasets](#) [Show only services](#) [Edit search options](#)

Name


- Circumpolar distribution of arctic char species complex *Salvelinus alpinus*, and related species (publication:2001-01-01, update frequency: irregular) [i](#) [x](#)
- Cumulative numbers of marine fish. (publication:2014-12-16, update frequency: unknown) [i](#) [x](#)
- Boundary for Arctic Assessment and Monitoring Programme (AMAP) working group of the Arctic Council [i](#) [x](#)
- Lichen Arctic regions, CAFF [i](#) [x](#)
- Locations of sub-Arctic and Arctic shipping accidents and incident causes, 1995-2004 (publication:2014-12-16, update frequency: irregular) [i](#) [x](#)
 - Shipping Accidents and Incident Causes [Hide map layer](#)
- Arctic vascular plant species (publication:2014-12-16, update frequency: unknown) [i](#) [x](#)
- The Arctic Ocean and adjacent seas: marine fish species (AOAS regions) (publication:2014-12-16, update frequency: irregular) [i](#) [x](#)
- Arctic SDI Discovery Service, Arctic SDI [i](#) [x](#)
- Boundaries of the geographic area covered by the Arctic Biodiversity Assessment, CAFF (creation:2001-02-01, update frequency: asNeeded) [i](#) [x](#)
 - CAFF Boundary [Show map layer](#)
- Avian biodiversity in different regions of the Arctic (publication:2014-12-16, update frequency: unknown) [i](#) [x](#)
- Major flyways of Arctic birds (publication:2015-02-18, update frequency: unknown) [i](#) [x](#)



Metadata

Locations of sub-Arctic and Arctic shipping accidents and incident causes, 1995-2004

Basic information ISO 19115 metadata Inspire metadata Data quality Actions



LOCATIONS OF SUB-ARCTIC AND ARCTIC SHIPPING ACCIDENTS AND INCIDENT CAUSES, 1995-2004

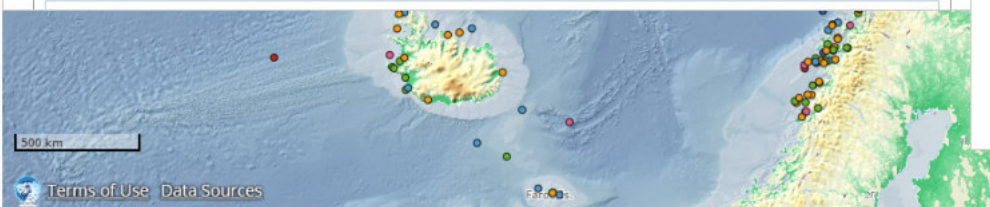
ABSTRACT TEXT (DATA)

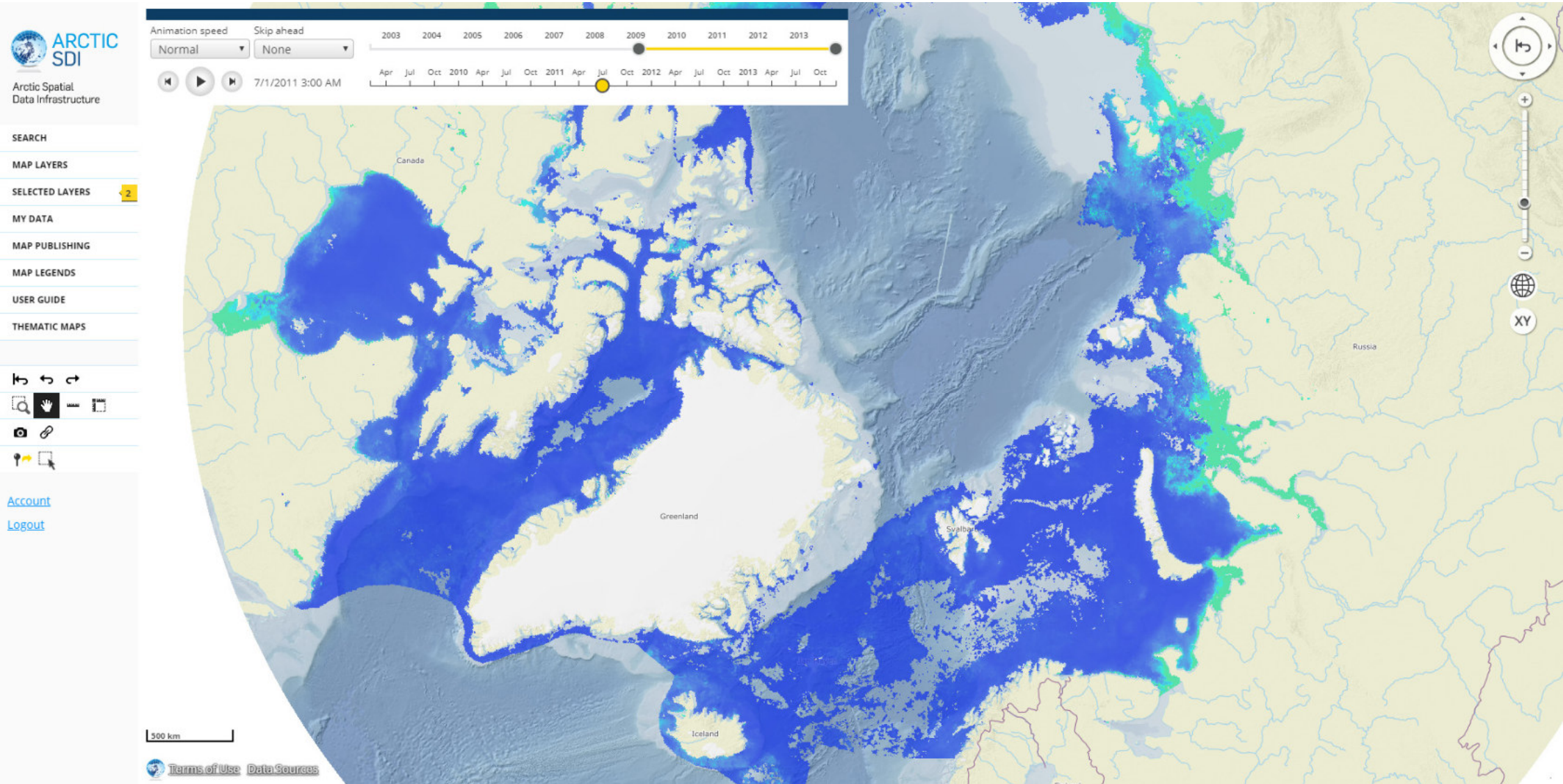
Locations of sub-Arctic and Arctic shipping accidents and incident causes, 1995-2004 (source: Arctic Marine Shipping Assessment 2009).

Published in the Arctic Biodiversity Assessment (ABA) released in 2014.

METADATA DATE

2017-03-21T09:22Z





Visualization of Time Series

Create Embedded Map

Basic settings

Website address (without http and www prefixes)

caff.is

Map name (required)

Alaska-Yukon Bioclimate data

Language

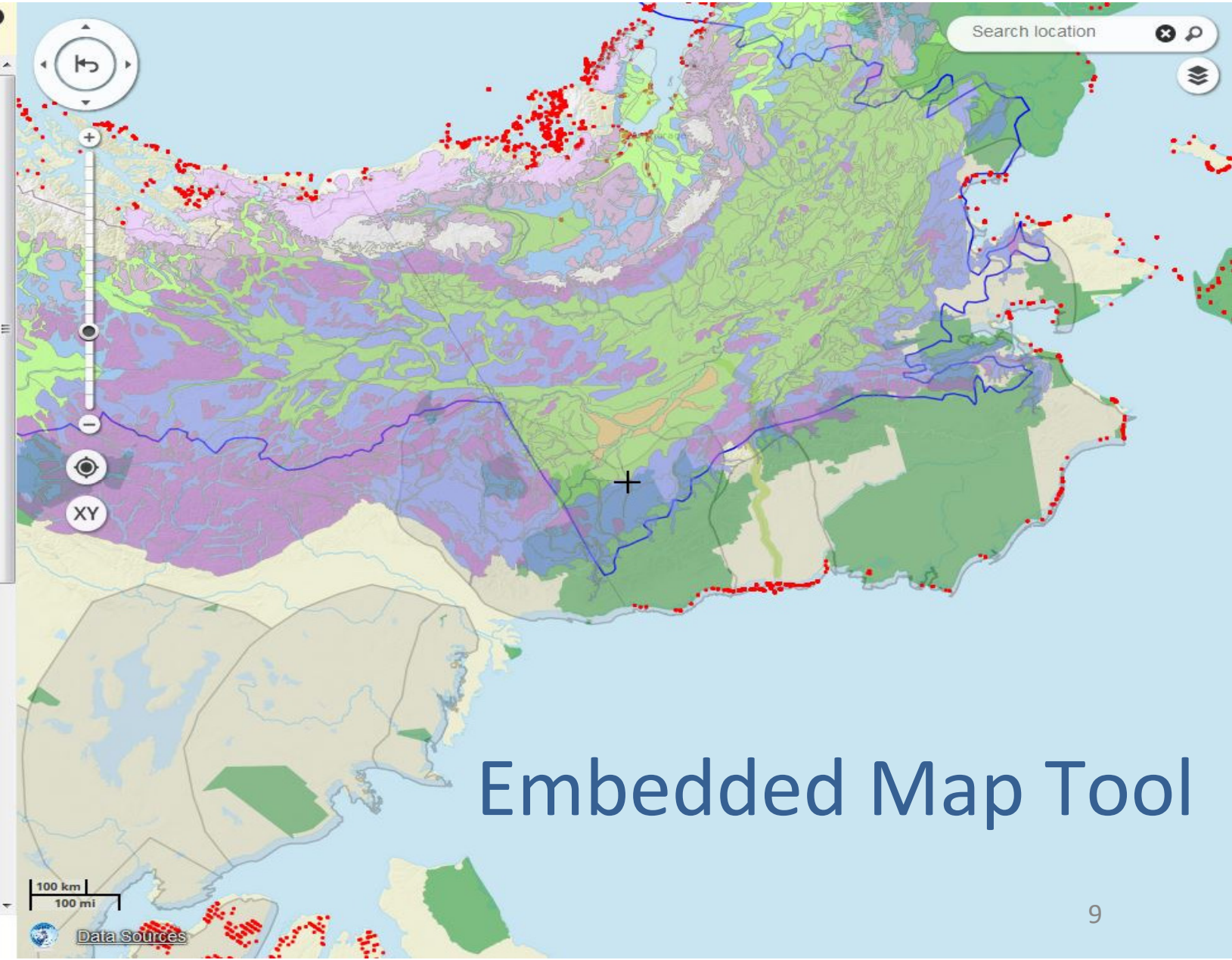
English

Map Size

Map Layers

Tools

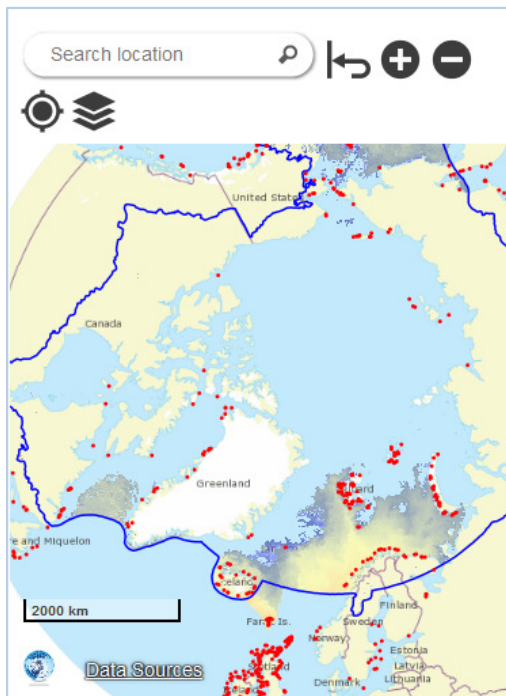
- Scale bar
- Index map
- Map layers menu
Select the background map layer. You can select the default background map layer in the map preview.
 - Arctic SDI Background Map
 - Protected Areas
 - AMAP Boundary
 - Caribou herds 2014
 - CAFF CBird
 - BioClimate Map Alaska-Yukon
- Pan tool
- Map tools
- Zoom bar
- Coordinate tool
 - Hide user interface (Use RPC interface)
- Center to location



Embedded Map Tool

Search CAFF

Search ...



2012 Arctic Report Cards describe dramatic changes in the Arctic (December 4, 2012)

December 4, 2013, U.S.A.- The Arctic Council, through the Arctic Monitoring and Assessment Programme (AMAP) and the Conservation of Arctic Flora and Fauna's (CAFF) Circumpolar Biodiversity Monitoring Programme (CBMP), has contributed to the [Arctic Report Card](#), an annual report released today by the National Oceanic and Atmospheric Administration (NOAA) that monitors the often-quickly changing conditions in the Arctic.

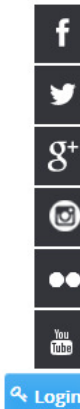
The peer-reviewed report contains contributions from 141 authors from 15 countries. For this year's issue CAFF's CBMP developed and edited the terrestrial and marine ecosystem chapters in cooperation with others, while AMAP organized an independent peer-review process involving international experts.

The Arctic region continued to break records in 2012—among them the loss of summer sea ice, spring snow cover, and melting of the Greenland ice sheet. This was true even though air temperatures in the Arctic were unremarkable relative to the last decade, according to the report.

Major findings include:

- **Snow cover:** A new record low snow extent for the Northern Hemisphere was set in June 2012, and a new record low was reached in May over Eurasia.
- **Sea ice:** Minimum Arctic sea ice extent in September 2012 set a new all-time record low, as measured by satellite since 1979.
- **Greenland ice sheet:** There was a rare, nearly ice sheet-wide melt event on the Greenland ice sheet in July, covering about 97 percent of the ice sheet on a single day.
- **Vegetation:** The tundra is getting greener and there's more above-ground growth. During the period of 2003-2010, the length of the growing season increased through much of the Arctic.
- **Wildlife and food chain:** In northernmost Europe, the Arctic fox is close to extinction and vulnerable to the encroaching Red fox. Additionally, massive phytoplankton blooms below the summer sea ice suggest estimates of biological production at the bottom of the marine food chain may be ten times too low.
- **Ocean:** Sea surface temperatures in summer continue to be warmer than the long-term average at the growing ice-free margins, while upper ocean temperature and salinity show significant interannual variability with no clear trends.
- **Weather:** Most of the notable weather activity in fall and winter occurred in the sub-Arctic due to a strong positive North Atlantic Oscillation. There were three extreme weather events including an unusual cold spell in late January to early February 2012 across Eurasia, and two record storms characterized by very low central pressures and

Embedded Map mockup on CAFF Web Page



Search CAFF

Monitoring: The CBMP

About the CBMP

Marine Ecosystem

State of the Arctic Marine Biodiversity Report

(SAMBR)

Marine Steering Group

Marine Monitoring Plan

Marine Expert Networks

Marine Monitoring Publications

Marine Data

Freshwater Ecosystem

Terrestrial Ecosystem

Coastal Ecosystem

Community Based Monitoring

Indices and Indicators

Monitoring Data

Monitoring Publications

CBMP Newsletter

CBMP Partners

Contact the CBMP

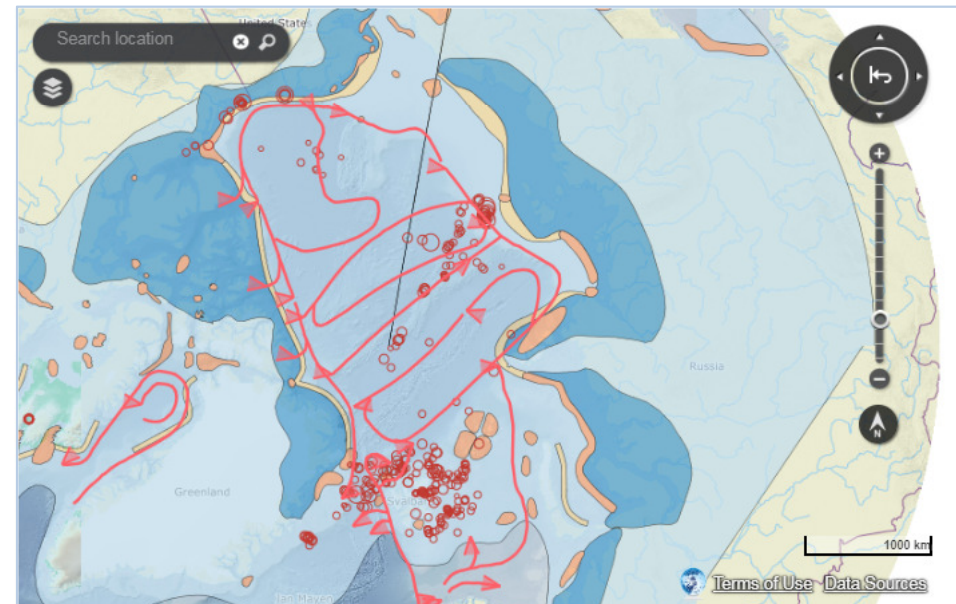
Interact-WP7

Data

Marine Ecosystem Monitoring

Arctic marine environments are experiencing, or expected to experience, many human-induced and natural pressures from:

- Climate change
- Harvest
- Industrial development
- Contaminants
- Introduced alien species
- Tourism
- Disease and parasites
- Scientific research
- Shipping



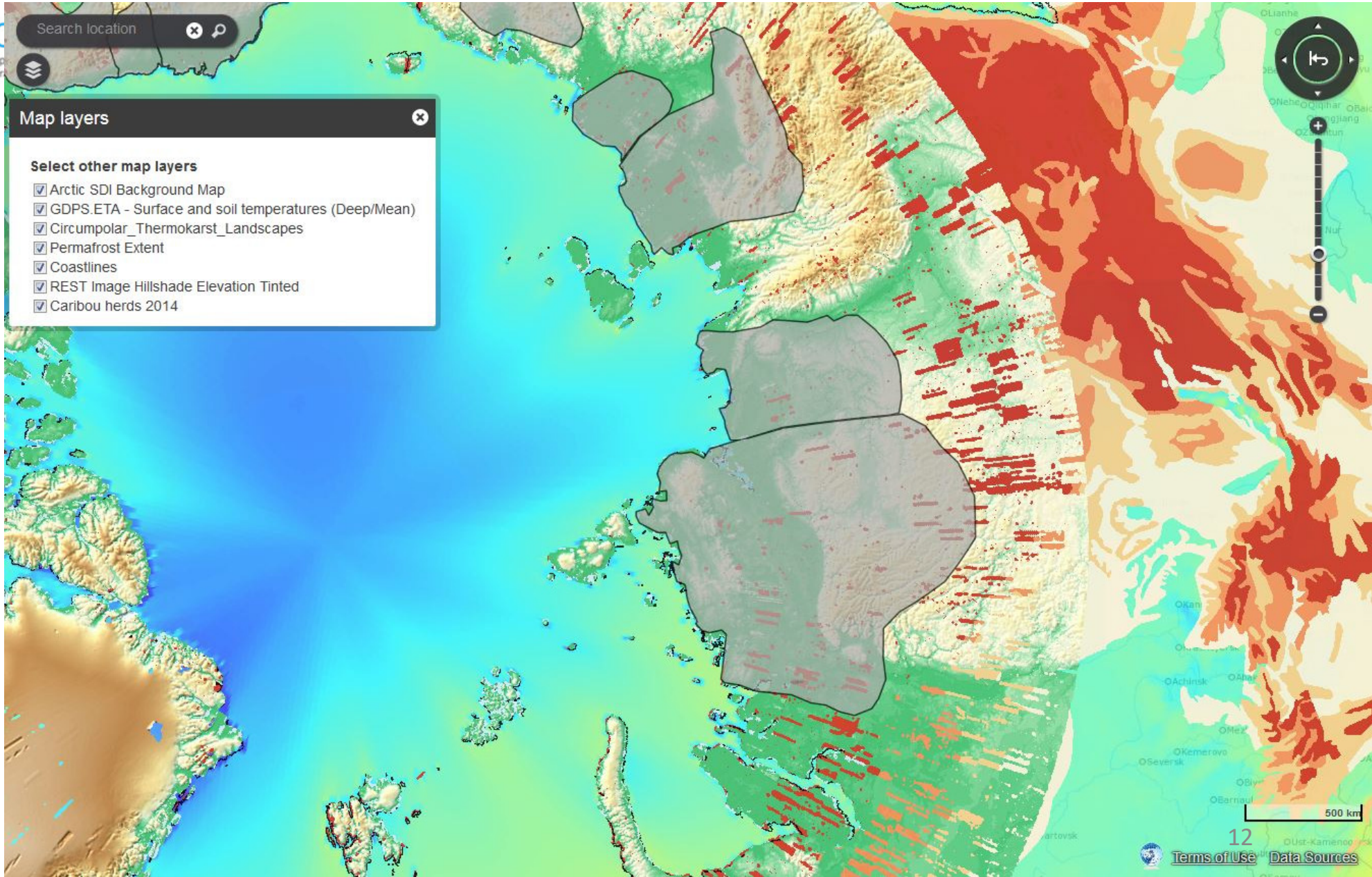
It is not certain how these pressures - alone and in combination - affect marine species and ecosystems because the Arctic's complexity and size make it difficult to detect and attribute changes in marine biodiversity. In addition, existing marine monitoring efforts are not connected on a circumpolar scale, which limits the ability to efficiently make effective management decisions.

Embedded Map mockup on CAFF Web Page

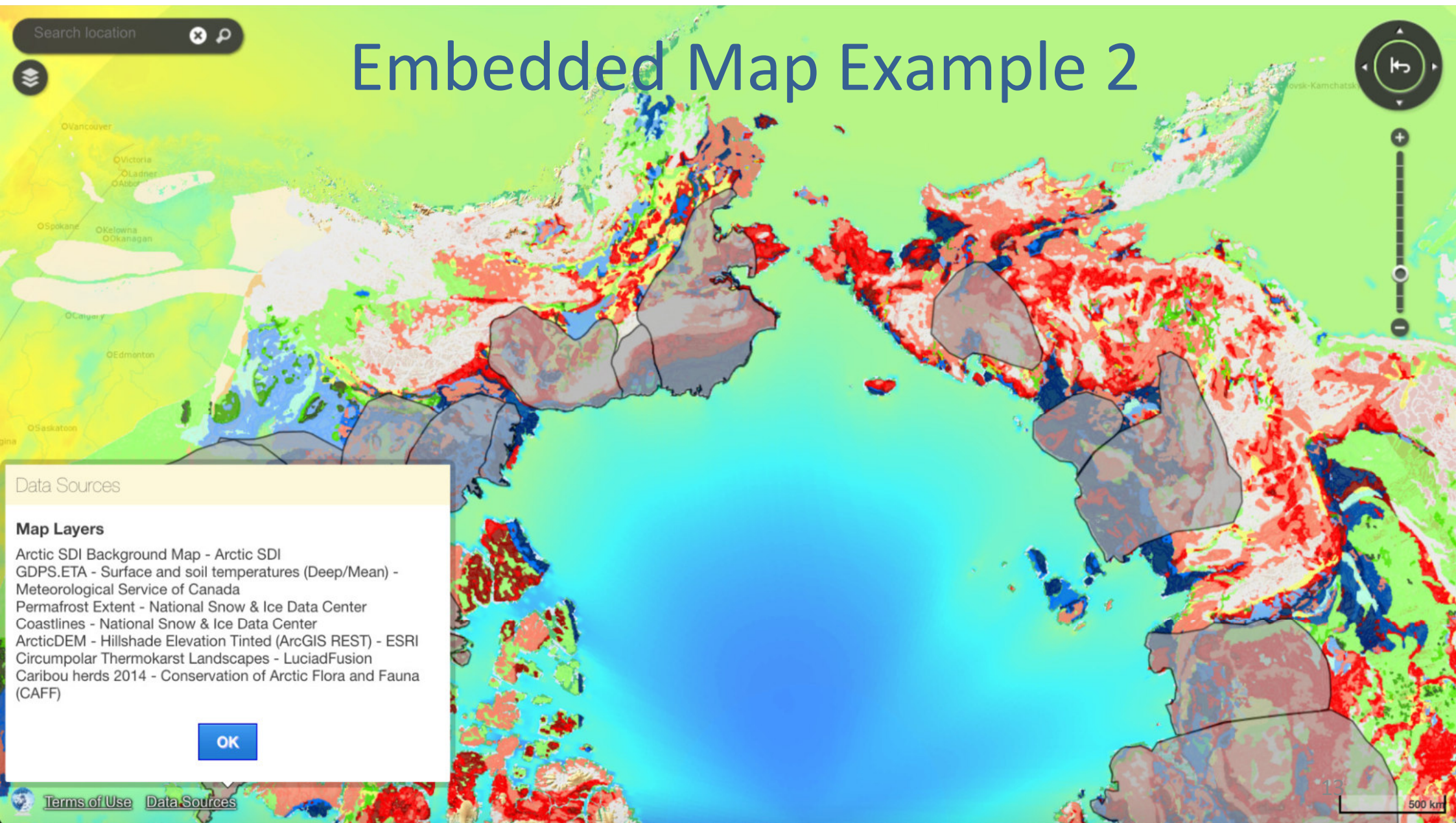
Embedded Map Example



ARCTIC SDI
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Embedded Map Example 2



ARCTIC SDI
Arctic Spatial Data Infrastructure

SEARCH

MAP LAYERS

SELECTED LAYERS 2

MY DATA

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USER GUIDE

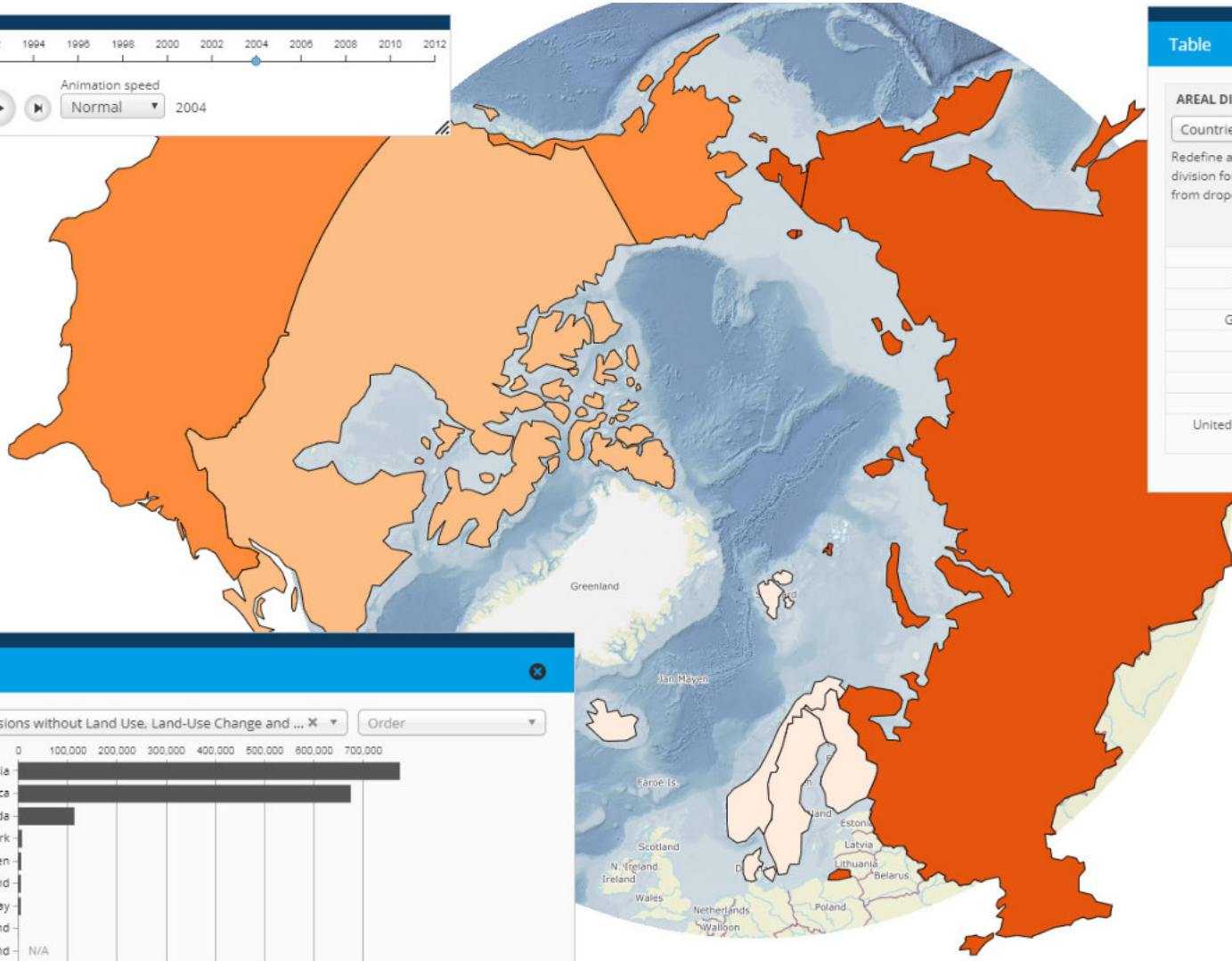
THEMATIC MAPS

- Search data
- Table
- Bar chart

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Animation speed: Normal

2004

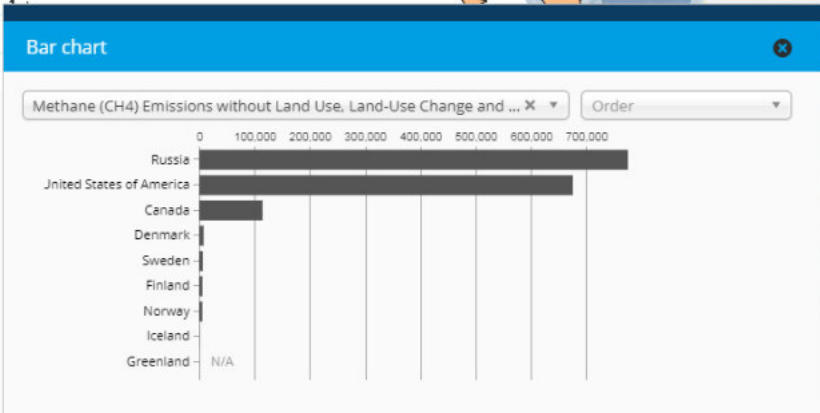


Table

AREAL DIVISION: Countries

SEARCHED DATA (1): Methane (CH4) Emissions without Land Use, Land-Use Change and Forestry (LULUCF), in kilotonne CO2 equivalent 1990 - 2012 (2004)

AREAL DIVISION	SEARCHED DATA (1)
Canada	114,619.8
Denmark	7,942.4
Finland	5,829.4
Greenland	
Iceland	570.7
Norway	5,685.5
Russia	775,375.1
Sweden	6,569.3
United States of America	675,810.3



Methane (CH4) Emissions without Land Use, Land-Use Change and Forestry (LULUCF), in kilotonne CO2 equivalent 1990 - 2012 (2004)

Map style: Choropleth map

Classification method: Natural intervals

Class division: 5

Class breaks: Continuous

Colors: Flip colors

Distribution: Quantitative

Decimal places: 1

- 519.1 - 8,204.3 (3)
- 8,204.3 - 118,084.9 (1)
- 118,084.9 - 713,913.2 (1)
- 713,913.2 - 804,166.9 (1)
- 804,166.9 - 942,070.7 (0)

Navigation controls: Home, Zoom in (+), Zoom out (-), Full screen, XY coordinates, and a globe icon.

Combining Spatial and Statistical data - beta

In Summary, The Arctic SDI provides

- Access to Authoritative data across the Arctic
- Capacity building materials on principles of SDIs, how to bring your own data in and leverage from it
- Geoportal with Embedded maps, Time Series visualization and other tools to help you achieve your mission
- Means to combine statistical and spatial data, e.g. SDGs, over the Arctic to demonstrate the changing Arctic



**ARCTIC
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arctic-sdi.org
geoportal.arctic-sdi.org