



# Arctic SDI basic presentations

The standardized Arctic SDI slide show consists of 2 basic presentations of which one is technical.

Supplementary slides can be found in a separate file.

- Arctic SDI standard presentation\_V1.0\_150311
- Arctic SDI technical presentation\_V1.0\_20150219
- Arctic SDI supplementary slides \_V1.0\_150311
  - ✓ The series are to be seen upon as gross series.
  - ✓ They can be used as they are but it is recommended to edit/modify/complete due to the audience
  - ✓ Slides from the supplementary could be used as complement

# Arctic Spatial Data Infrastructure

- A circumpolar mapping initiative -  
Technical presentation

Name of conference or meeting  
Place

Name  
Organization or logo

[www.arctic-sdi.org](http://www.arctic-sdi.org)

Name  
Organisation or logo





# What is a Spatial Data Infrastructure?

SDI is a ***coordinated series of agreements*** on technology standards, institutional arrangements, and policies that ***enable*** the ***discovery and use*** of ***geospatial information*** by ***users*** and for purposes other than those it was created for

Kuhn, W. (2005) presentation "Introduction to Spatial Data Infrastructures".



# Spatial Data Infrastructure Basics

- Data and metadata are managed by the ***data originator and/or owner***
- Tools and services connect via computer networks to the various sources through a ***common end point***

To achieve the objectives

- ***coordination*** is necessary
- ***standards*** are essential

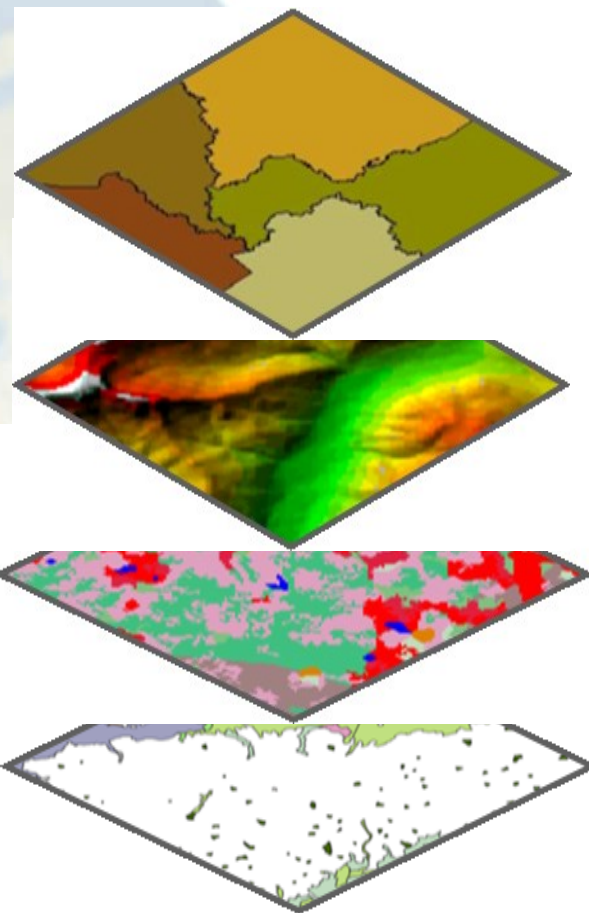
Steiniger, S., and Hunter, A.J.S. (2012) preprint "Free and open source GIS software for building a spatial data infrastructure".



# 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)
- Thematic data (birds, icecover, ship routes, land cover change, flora etc.)





# Arctic SDI from a technical perspective

- Easy access to updated spatial data in the Arctic
  - National Mapping Agencies
  - Thematic data producers
- Use National SDI's
  - Add as little overhead as possible
- Some common services are needed
  - Cascading service
  - Map cache
  - Metadata catalogue
  - Geoportal
- Geospatial Digital Rights Management
  - Authentication
  - Authorisation
  - (Payment)



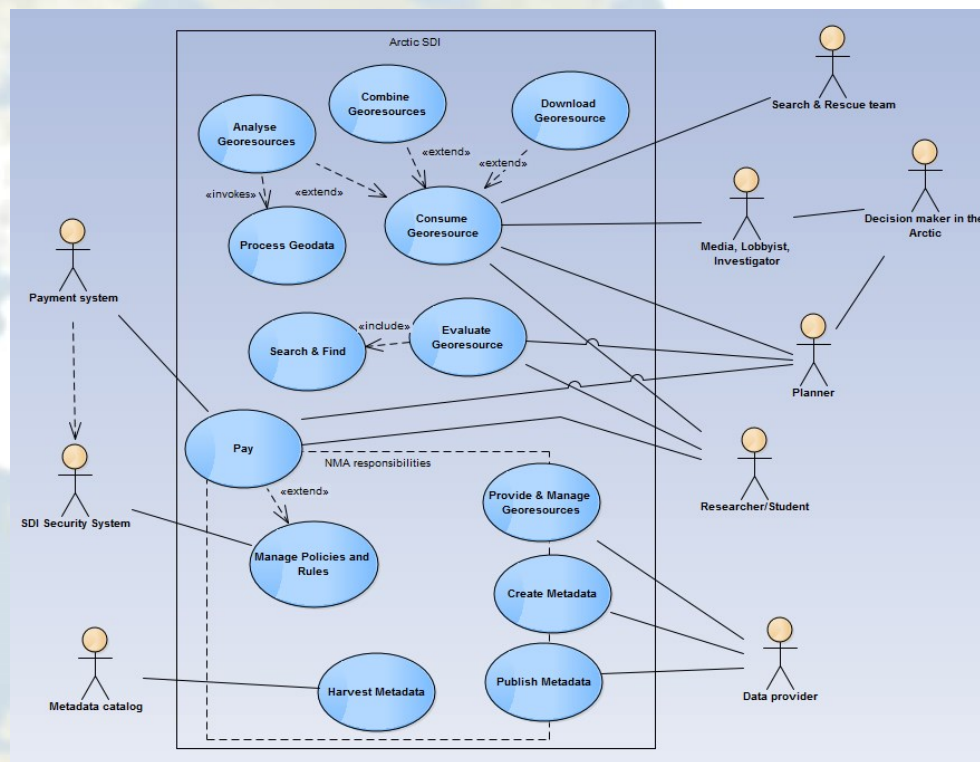
# Use Cases

- Actors

- Decision makers
- Media
- Lobbyists
- Investigators
- Planners
- Researchers/Students
- Data providers
- Supporting Systems

- Use cases

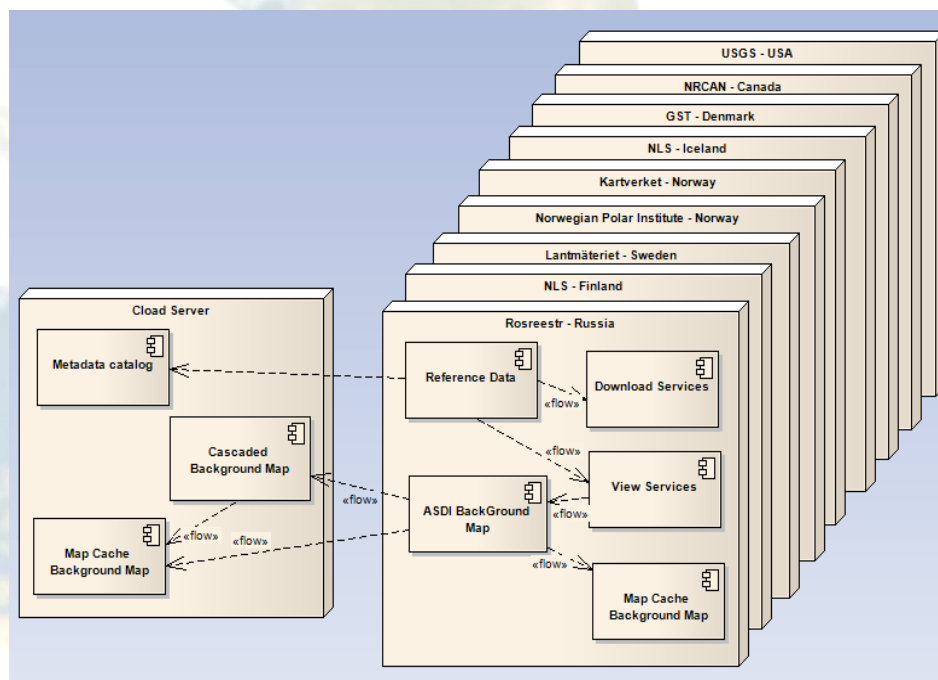
- Provide & Manage Georesources
- Create Metadata
- Publish Metadata
- Evaluate Georesources
- Consume Georesources





# Deployment

- Only covering Arctic Mapping Agencies responsibilities
- Arctic SDI Components and their physical deployment environment
- Points out the need of 24-7 runtime





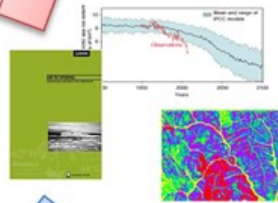
# Data, technology and standards

- What data is provided in the SDI?
  - Reference data
  - Thematic data
- Standards
  - Focus on WMS, CSW
  - ISO19115, ISO19139
  - WFS, REST API for download

Action



Decision support



Visualization



Data Collection (Feeds)



Download

Registries

View

Processing

Services

Data Storage



# Location Search

Artic SDI Guest - ASDI view

159.162.102.133/oskari-map

Apps Bookmarks Inbox - rdanderson... Quicktime Time and... USGS WebEx Enterpr... DOI Remote Access DOI Access Portal - ... myUSGS 4.0- AHTWG https://webforms.us... Calendar - Calendar USGS AK GIS Workin... od, tod, tom: Todoist TOMIS | Sign In Alaska Map Plannin...

SEARCH

MAP LAYERS

SELECTED LAYERS

MY DATA

CREATE MAP

Username

Password

Log in

Search

Angoon	Hoonah-Angoon Census Area, United States	city, village,...
Barrow	North Slope Borough, United States	city, village,...
Bethel	Bethel Census Area, United States	city, village,...
Cordova	Valdez-Cordova Census Area, United States	city, village,...
Dillingham	Dillingham Census Area, United States	city, village,...
Eagle	Southeast Fairbanks Census Area, United States	city, village,...
Haines	Haines Borough, United States	city, village,...
Homer	Kenai Peninsula Borough, United States	city, village,...
Juneau	Juneau City and Borough, United States	city, village,...
Kenai	Kenai Peninsula Borough, United States	city, village,...
Ketchikan	Ketchikan Gateway Borough, United States	city, village,...
Kotzebue	Northwest Arctic Borough, United States	city, village,...
Nenana	Yukon-Koyukuk Census Area, United States	city, village,...
Nome	Nome Census Area, United States	city, village,...
Palmer	Matanuska-Susitna Borough, United States	city, village,...
Petersburg	Wrangell-Petersburg Census Area, United States	city, village,...
Seward	Kenai Peninsula Borough, United States	city, village,...
Sitka	Sitka City and Borough, United States	city, village,...
Skagway	Skagway Municipality, United States	city, village,...

Search Results

Nenana

Yukon-Koyukuk Census Area, United States

city, village,...

Close

North Pole LAEA Europe

N: 4867050

E: 3701226

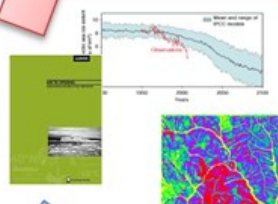
# Metadata Search

The screenshot displays the Arctic SDI web application interface. On the left, a sidebar contains navigation links: SEARCH, MAP LAYERS, SELECTED LAYERS, MY DATA, and CREATE MAP. Below these is a login section with fields for Username and Password, and a Log in button. The main content area is titled 'Search' and features two tabs: 'Location Search' and 'Metadata Search'. The 'Metadata Search' tab is active, showing a list of search results under the heading 'Search Results'. Each result includes a title, a brief description, and a link to the full record. The results list includes items such as 'Permafrost decay rates for frozen peatlands in northern Quebec, CAFF', 'Distribution of the eiders', 'Number of marine mammal species in Arctic marine regions, Conservation of Arctic Flora and Fauna (CAFF)', 'Circumpolar map of all polar bear subpopulation - Davis Strait, Conservation of Arctic Flora and Fauna (CAFF)', 'Sites of existing river biotic and abiotic data in the CAFF designated zone, CAFF', 'CBMP Arctic Marine Areas (AMAs), CAFF', 'Species richness of marine mammals, Conservation of Arctic Flora and Fauna (CAFF)', 'Mean trophic levels in seven sub-Arctic and Arctic Large Marine Ecosystems, Conservation of Arctic Flora and Fauna (CAFF)', 'Distribution of Arctic Char species, CAFF', 'Large Marine Ecosystems (LMEs) of the Arctic area, CAFF', 'Terrestrial monitoring sites as identified in CBMPs terrestrial monitoring plan, CAFF', 'Eight Arctic Marine Areas, Conservation of Arctic Flora and Fauna (CAFF)', 'Circumpolar map of all polar bear subpopulation', 'Circumpolar map of all polar bear subpopulation - Chukchi Sea, Conservation of Arctic Flora and Fauna (CAFF)', 'Alternative delineations between Canadian polar bear subpopulations, Conservation of Arctic Flora and Fauna (CAFF)', and 'Regions used to enumerate Arctic marine mammal species, Conservation of Arctic Flora and Fauna (CAFF)'. On the right, a map of the Arctic region is displayed, showing the Arctic Ocean and surrounding landmasses. A scale bar at the bottom left indicates 200 km and 200 miles. A coordinate box in the bottom right corner shows the North Pole LAEA Europe coordinates: N: 3220464, E: 2837772.

Action



Decision support



Visualization



Data Collection (Feeds)



Download

Registries

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Processing

Services

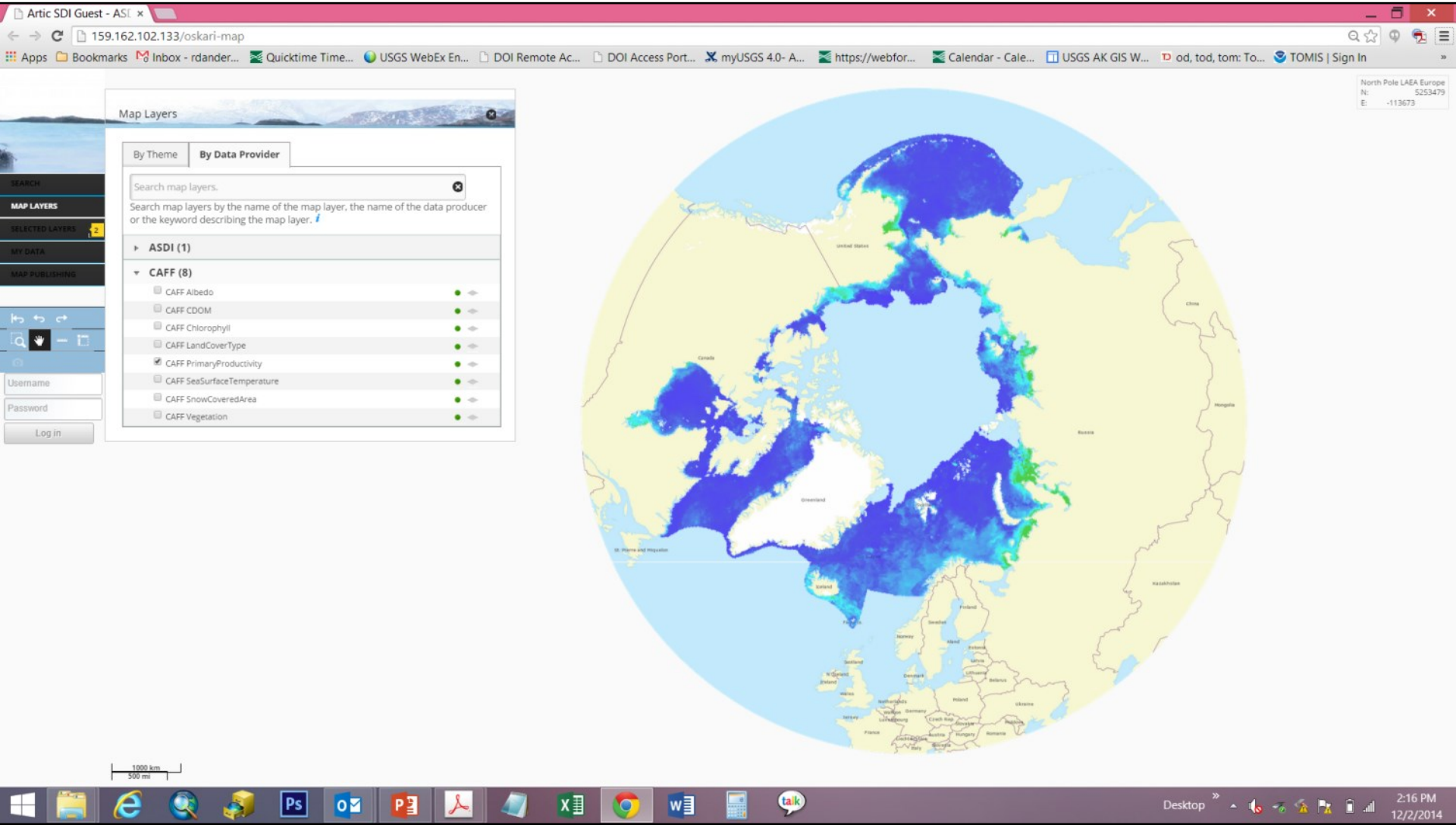
Data Storage



Data Storage



# CAFF – EOP Available on Arctic SDI Geoportal



# Thank you!

Name of presenter  
Organization or logo

Name of presenter  
Organization or logo

