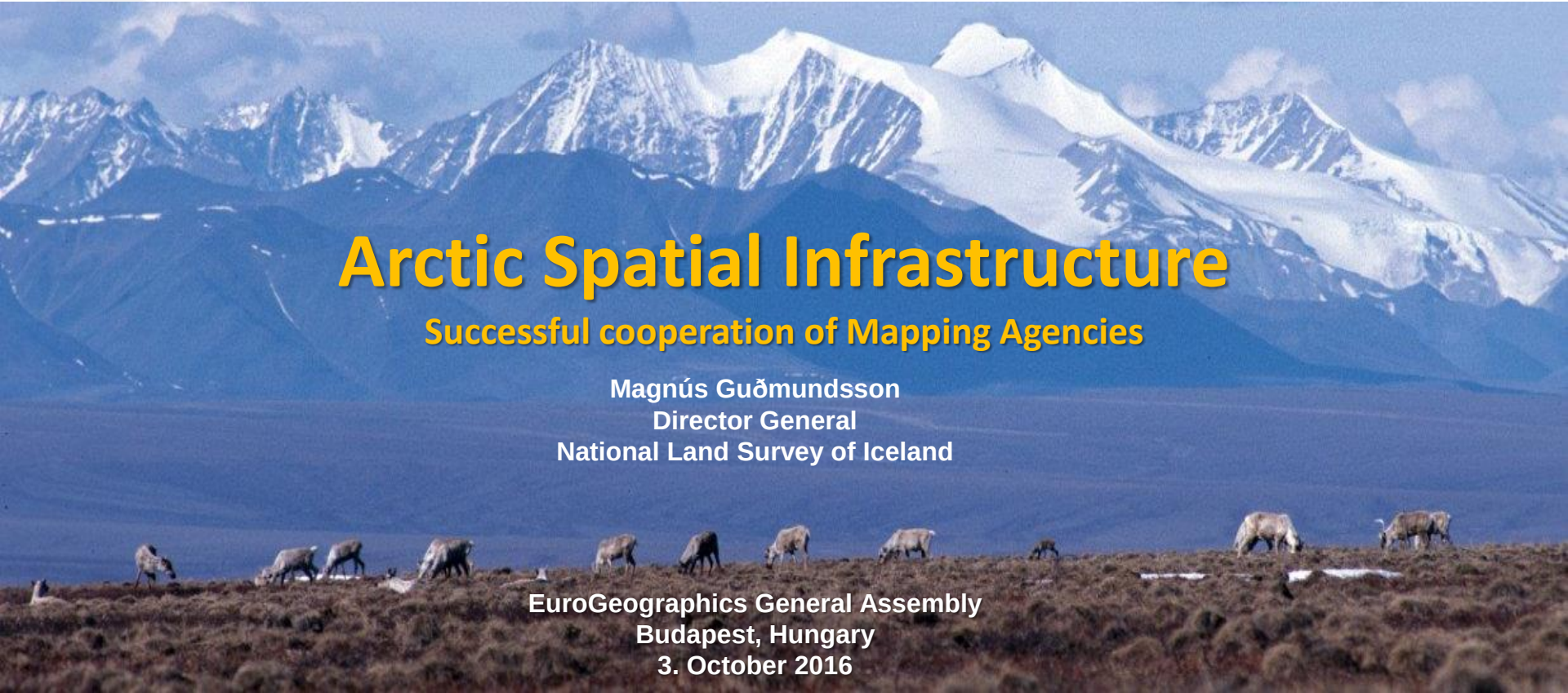
ARCTIC SDI
Arctic Spatial Data Infrastructure



Arctic Spatial Infrastructure

Successful cooperation of Mapping Agencies

Magnús Guðmundsson
Director General
National Land Survey of Iceland

EuroGeographics General Assembly
Budapest, Hungary
3. October 2016

A Brief History of the Arctic SDI

… a voluntary collaboration of the 8 Arctic National Mapping Agencies

1990's:
Cross-Border Arctic GIT Barents launched

2007:
Exploring possibilities for an Arctic SDI including the first Arctic SDI Roadmap …

2008-2009:
Arctic SDI proposal to AC from Nordic National Mapping Director Generals

Arctic Council SAOs endorsed the Arctic SDI initiative

2010-2013:
Constitutional meeting – Project plan approved

Kick off Technical Working Group

Arctic SDI Topo-graphic Base Map

2014:
Geoportal Launched

MOU between the Arctic countries in to support and develop an SDI for access & distribution of Arctic geospatial data and maps

2015:
5-year Strategic Plan and Governance established

2016 and forward:
Delivering on the Strategic Plan

Pan-Arctic DEM

OGC Pilot

Increasing outreach

Delivering Stakeholder Documentation & User Guides

Arctic SDI: The Results of Collaborative Efforts → **Maturing of the Arctic SDI**

Monitoring, management, emergency preparedness and decision making responses to impacts of climate change and human activities require accessible and reliable data

Arctic SDI Video on YouTube

Arctic SDI Phases and Milestones

The Arctic SDI cooperation has built a foundation on which important strategic work is being conducted by lead countries through several working groups in alignment with a 5-year Arctic SDI Strategic Plan 2015-2020

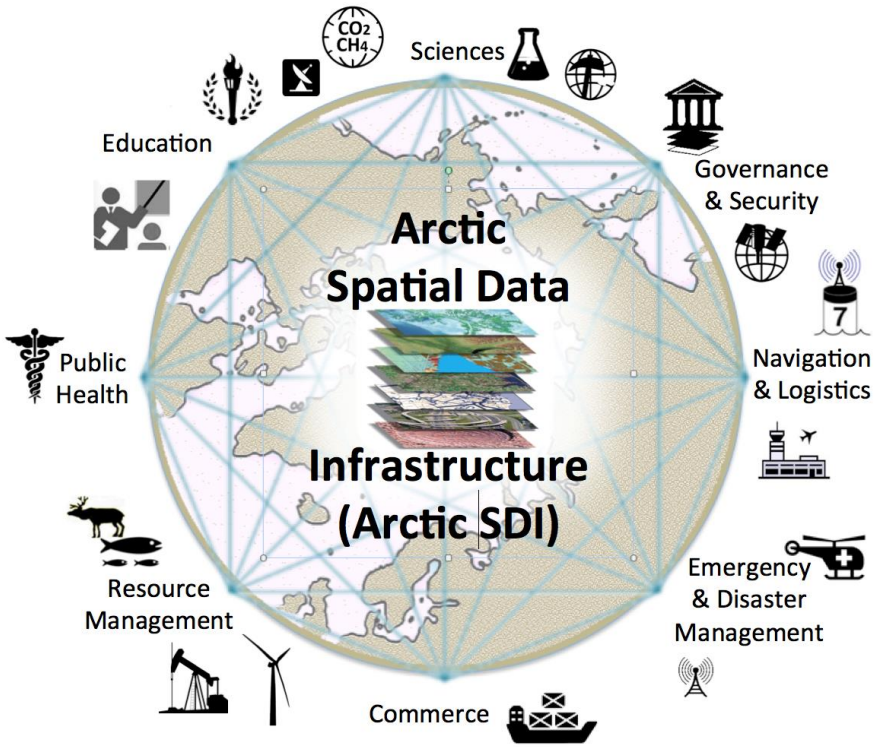
Structuring Phase 2010/2011
- Arctic Council Links
- Project Management
- Technical Group
- Steering Committee

Establishing Phase 2011/2014
- Memorandum of Understanding, 2014
- Simplified Governance
- Reference Model
- Working Groups Established

Operational Phase 2014/2015
- Geoportal
- Metadata Catalogue
- Web Map Service- National Mapping Data
- Thematic Data Provider Partnerships- CAFF

SDI Engagement Phase 2015/2020
- Leverage Global/National SDI Communities
- Stakeholder Engagement and Requirements
- From Strategy to Roadmap to Projects
- SDI Interoperability
- Resource Allocation and Business Models
- Voluntary Resource Commitment to Tasks
- Performance Metrics
- Standards Coordination

A Cooperative Model in the Arctic



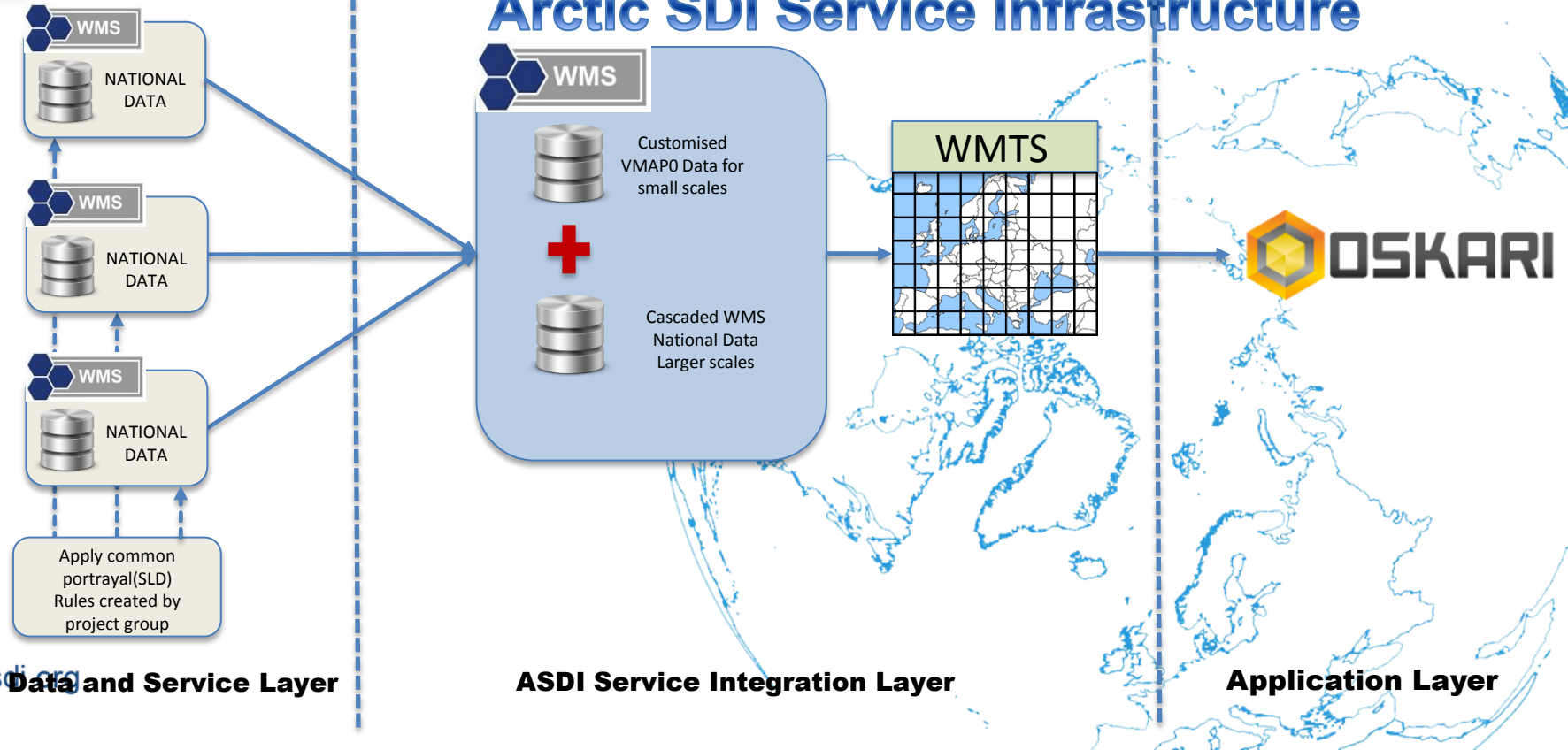
The Arctic SDI is focused on

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

Graphic Source: OGC

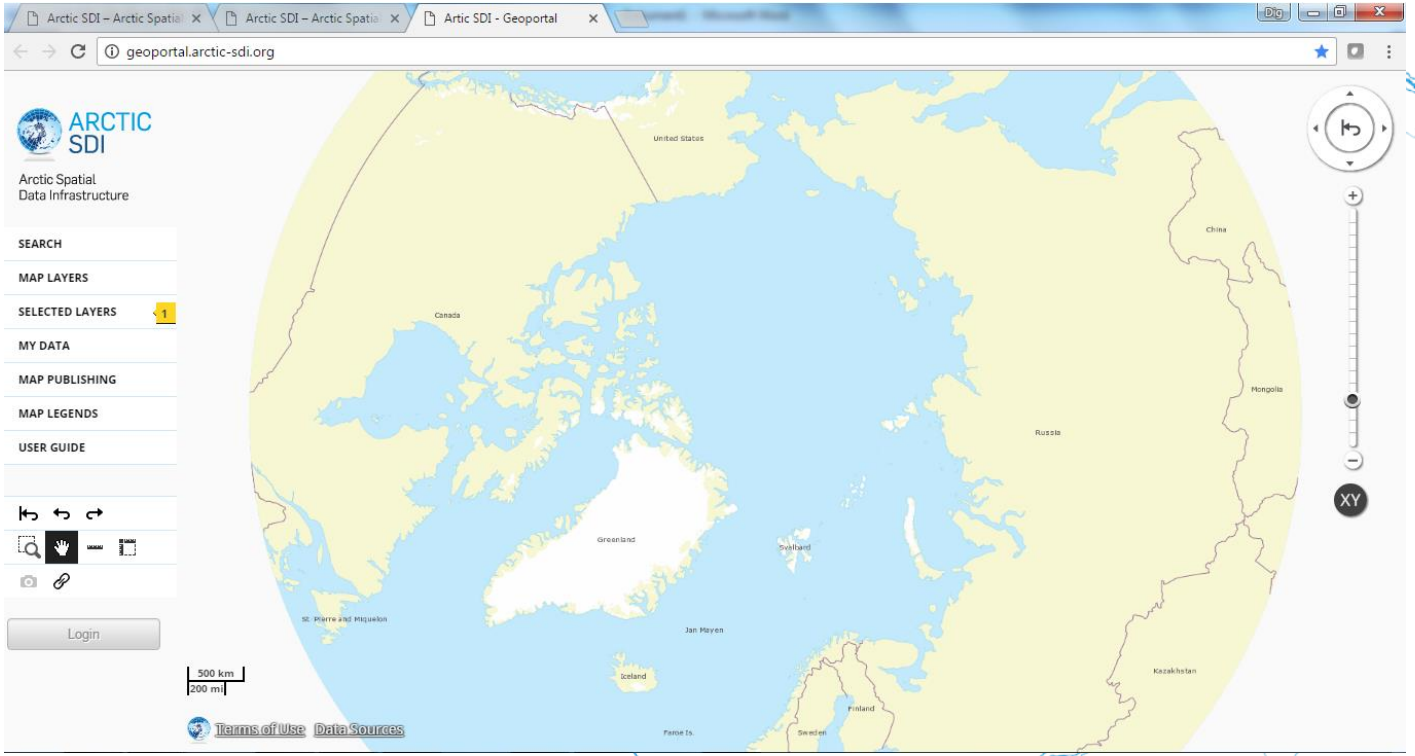
ARCTIC SDI
Arctic Spatial Data Infrastructure

Arctic SDI Service Infrastructure

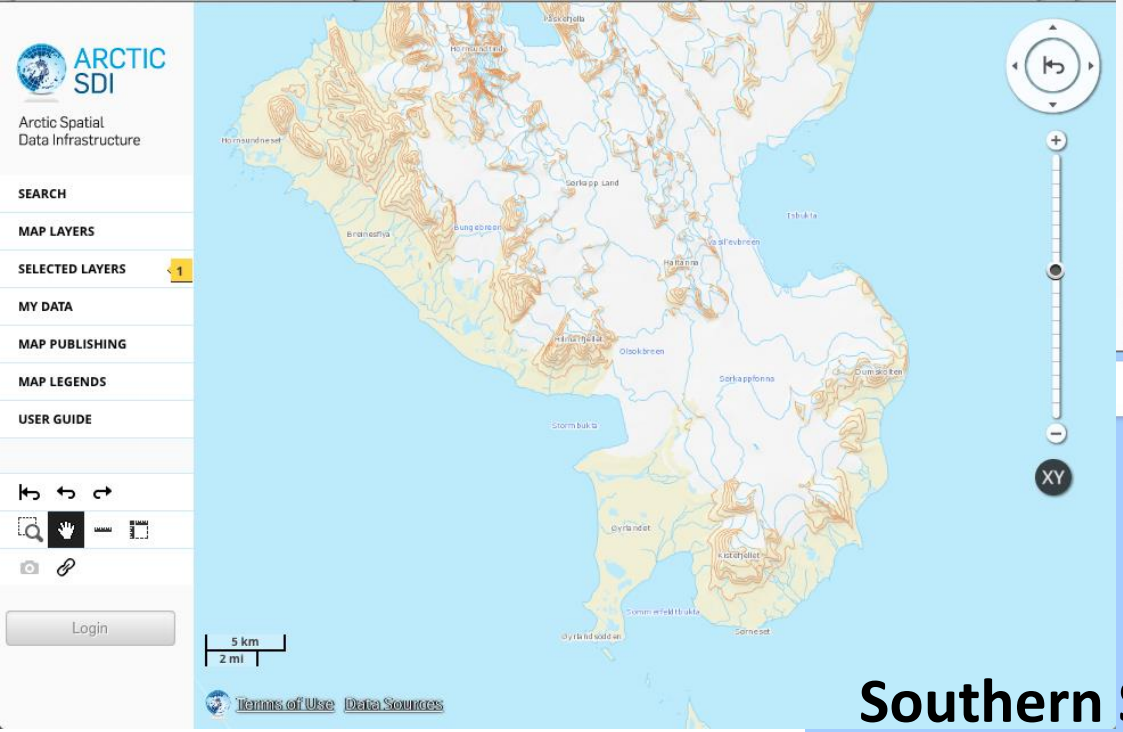


ARCTIC SDI
Arctic Spatial Data Infrastructure

Arctic SDI Geoportal

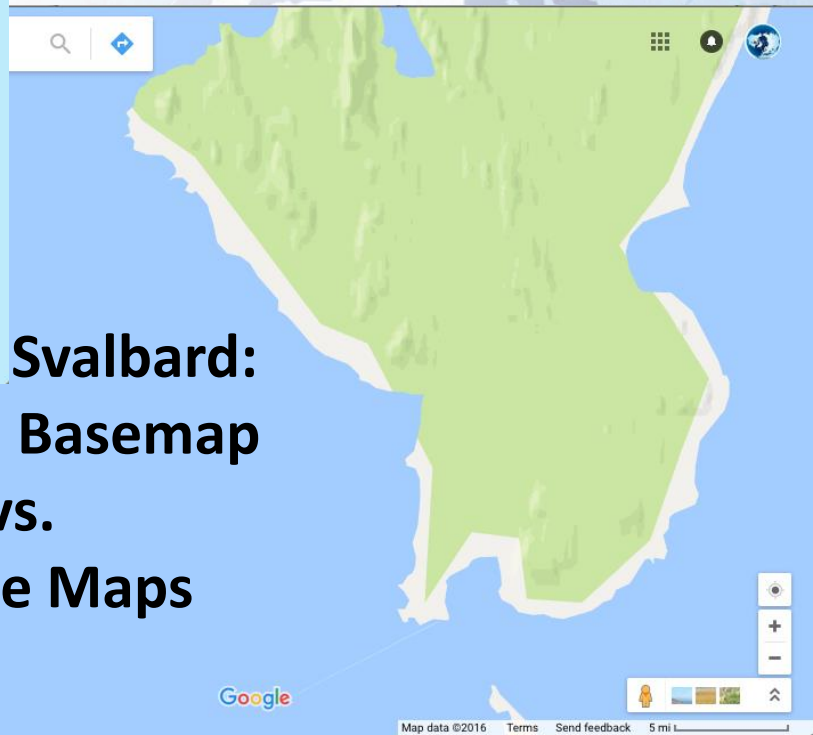


arctic-sdi.org



Arctic SDI provides an
Authoritative Reference Basemap
Provided Directly from the
8 Arctic National Mapping Agencies

arctic-sdi.org



Arctic SDI Basemap: A Trusted Source

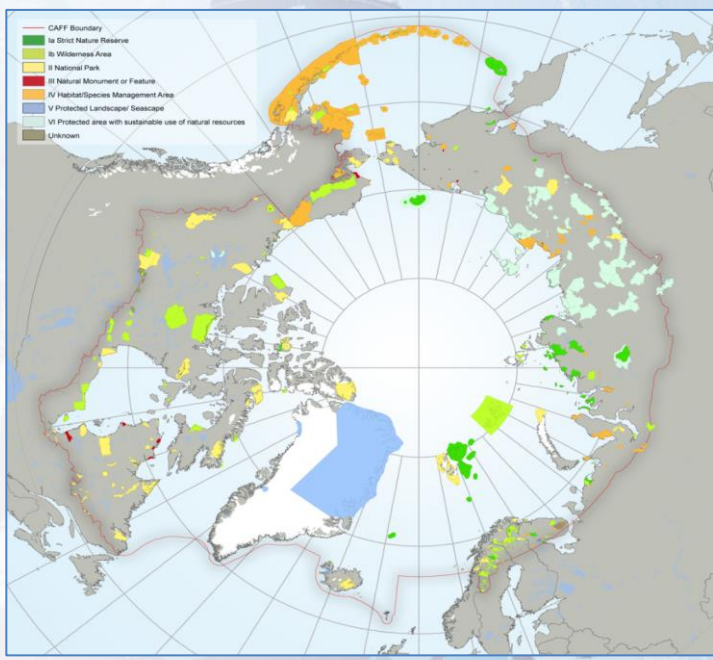
Southern Svalbard: Arctic SDI Basemap vs. Google Maps

Arctic SDI is Partnering to Enhance Data Management Best Practices

Collaborating with Arctic Council Working Groups to develop common data sharing methodologies and best practices

- Contributing to the data management plan of the Biodiversity Monitoring Stations (Iceland, Canada, Greenland) project lead by CAFF
- Collaborating with CAFF and PAME to enable time series embedded maps of the new protected areas database for the last century
- Assisting with CAFF's Earth Observation Plan to acquire and distribute derived products for Landsat EO data (70' to present)

Providing an SDI Manual for the Arctic provides data management practices and guidelines for efficient monitoring and decision making in the Arctic.



11,4 % protected
4,7 % marine
20,2 % terrestrial

Arctic Spatial Data Pilot - Climate Change Scenarios

- Sponsored by NRCan and USGS, in collaboration with the Arctic SDI participants, this Open Geospatial Consortium Arctic Spatial Data Pilot will
  - Use a scenario based video to showcase how standards and common approaches to data management can be used to
    - break down information silos
    - improve access to reliable data for monitoring, management, emergency preparedness and decision making in the Arctic.
  - Address Arctic specific issues that consider the realities of frontier economies, such as in zero/low bandwidth

http://www.opengeospatial.org/projects/initiatives/arcticsdp

OGC®
Making location count.

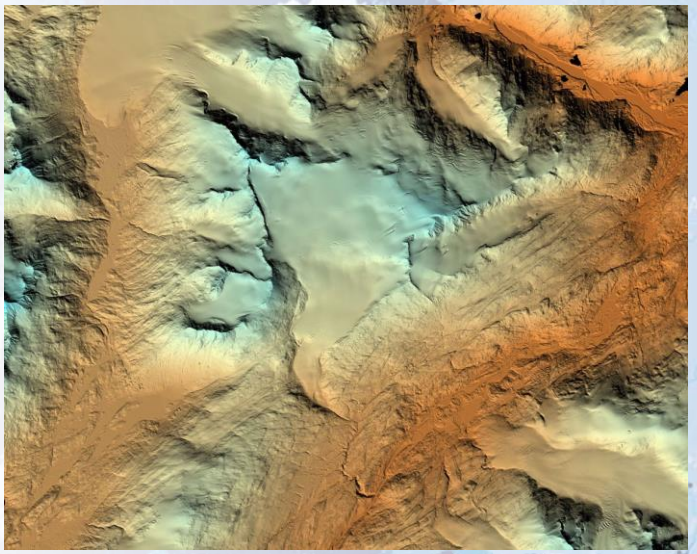
Natural Resources Canada

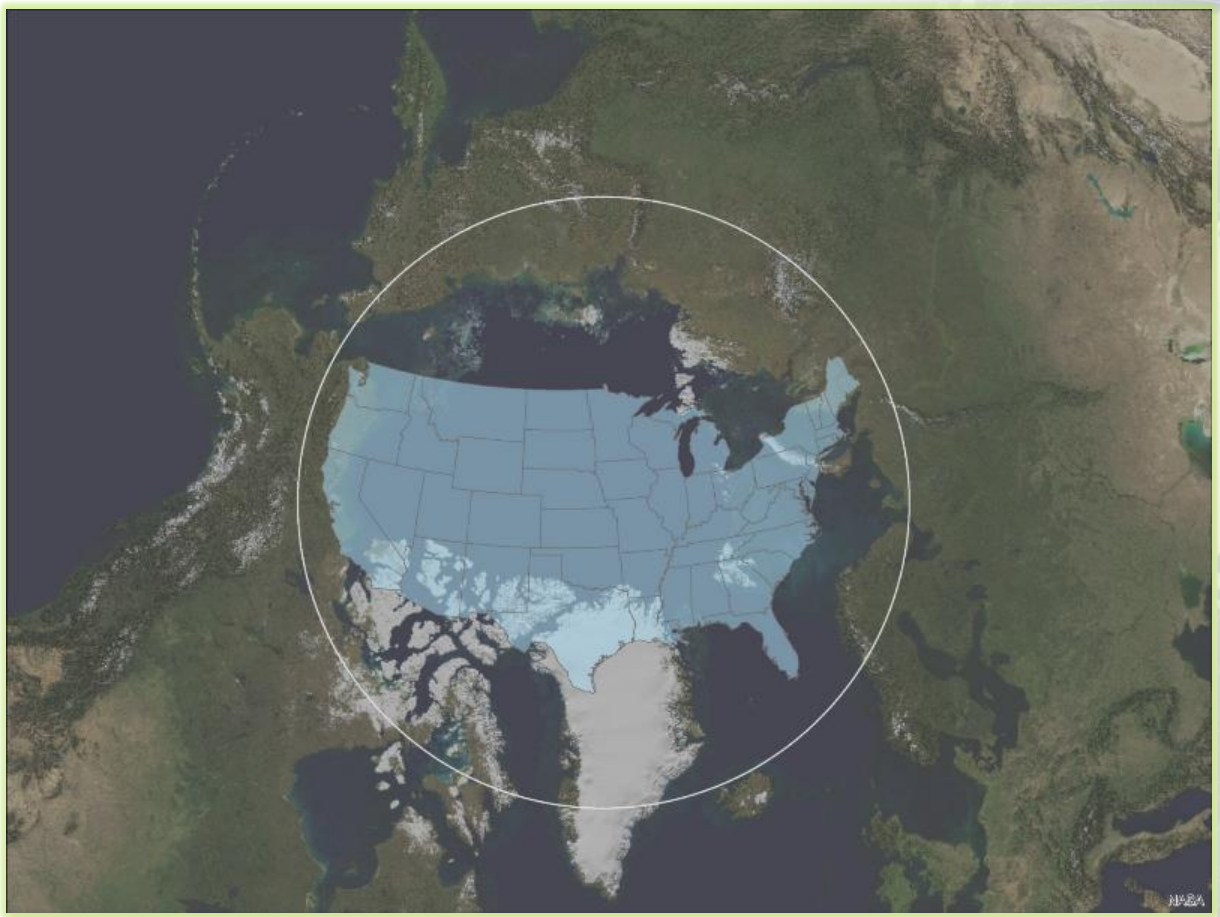
USGS
science for a changing world

ARCTIC SDI Arctic Spatial Data Infrastructure

Arctic DEM

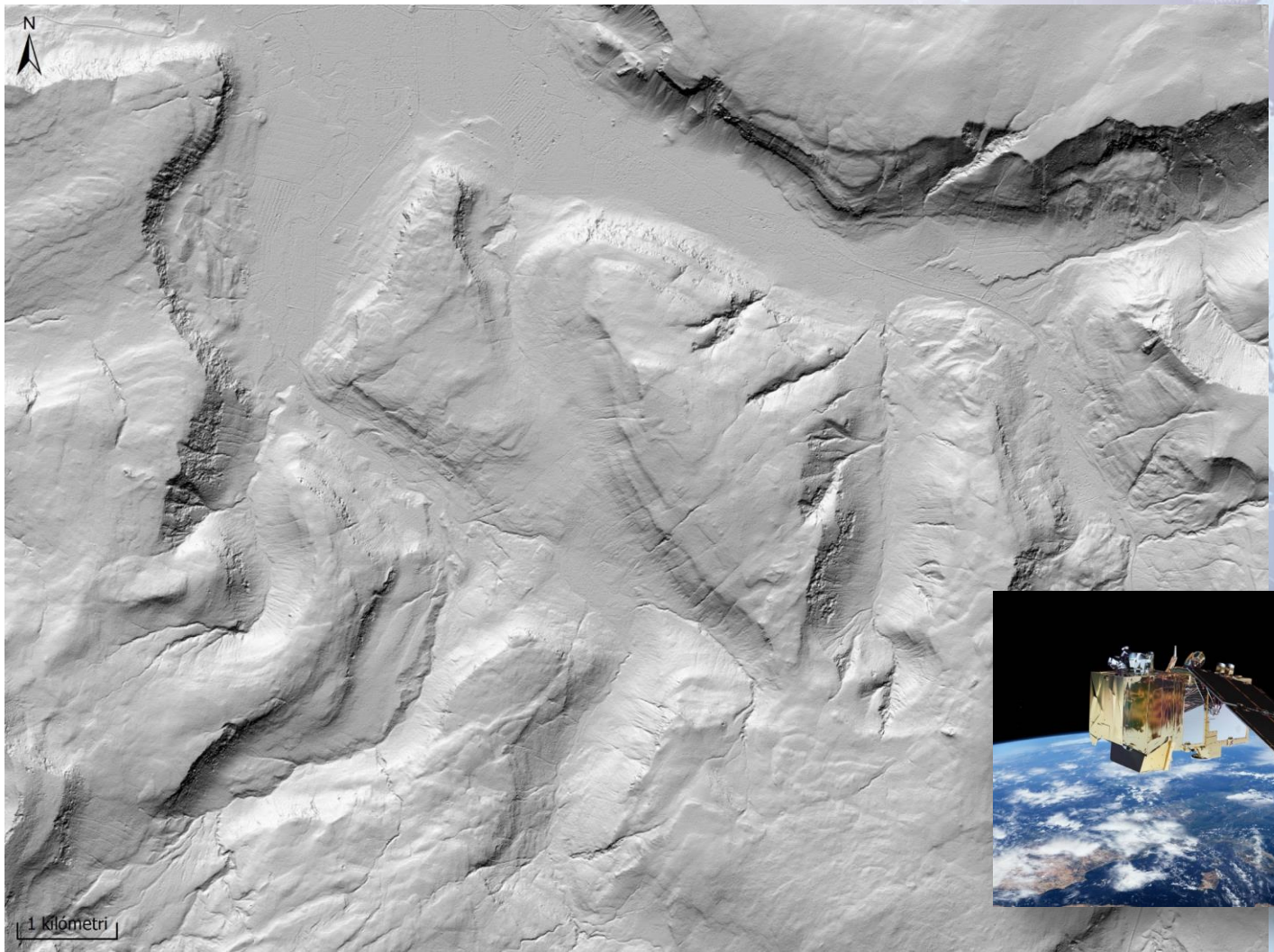
- Experts from the national mapping agencies have been cooperating with the National Science Foundation and Polar Geospatial Center to provide data and expert reviews in support of a **high quality Pan-Arctic Digital Elevation Model** being developed in support of a U.S. Chairmanship Arctic Council Initiative.
- The goal is to produce a 2m posting digital surface model of the Arctic using DigitalGlobe stereo imagery
- Arctic DEM is a significantly important contribution to national and international mapping of the Arctic





ARCTIC SDI
Arctic Spatial Data Infrastructure

arctic-sdi.org



ARCTIC SDI

Arctic Spatial Data Infrastructure

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

arctic-sdi.org

Visit arctic-sdi.org


arctic-sdi.org