ARCTIC SDI
Arctic Spatial Data Infrastructure

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GEOSPATIAL DATA AND SERVICES – TOOLS FOR INFORMED DECISIONS AND EFFICIENT ADMINISTRATION IN THE ARCTIC

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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 Strategic Vision

The Arctic Spatial Data Infrastructure will **facilitate access to geospatial information** in support of social, economic, environmental, monitoring, decision-making and other needs in the Arctic.

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Arctic SDI provides an

Authoritative Reference Basemap

Provided Directly from the

8 Arctic National Mapping Agencies

Spatial Data Infrastructure

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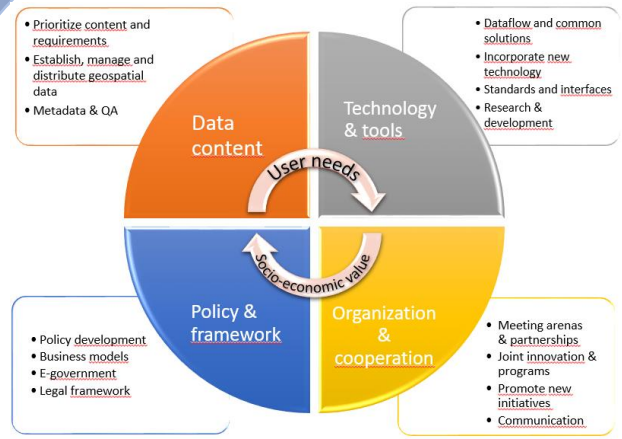
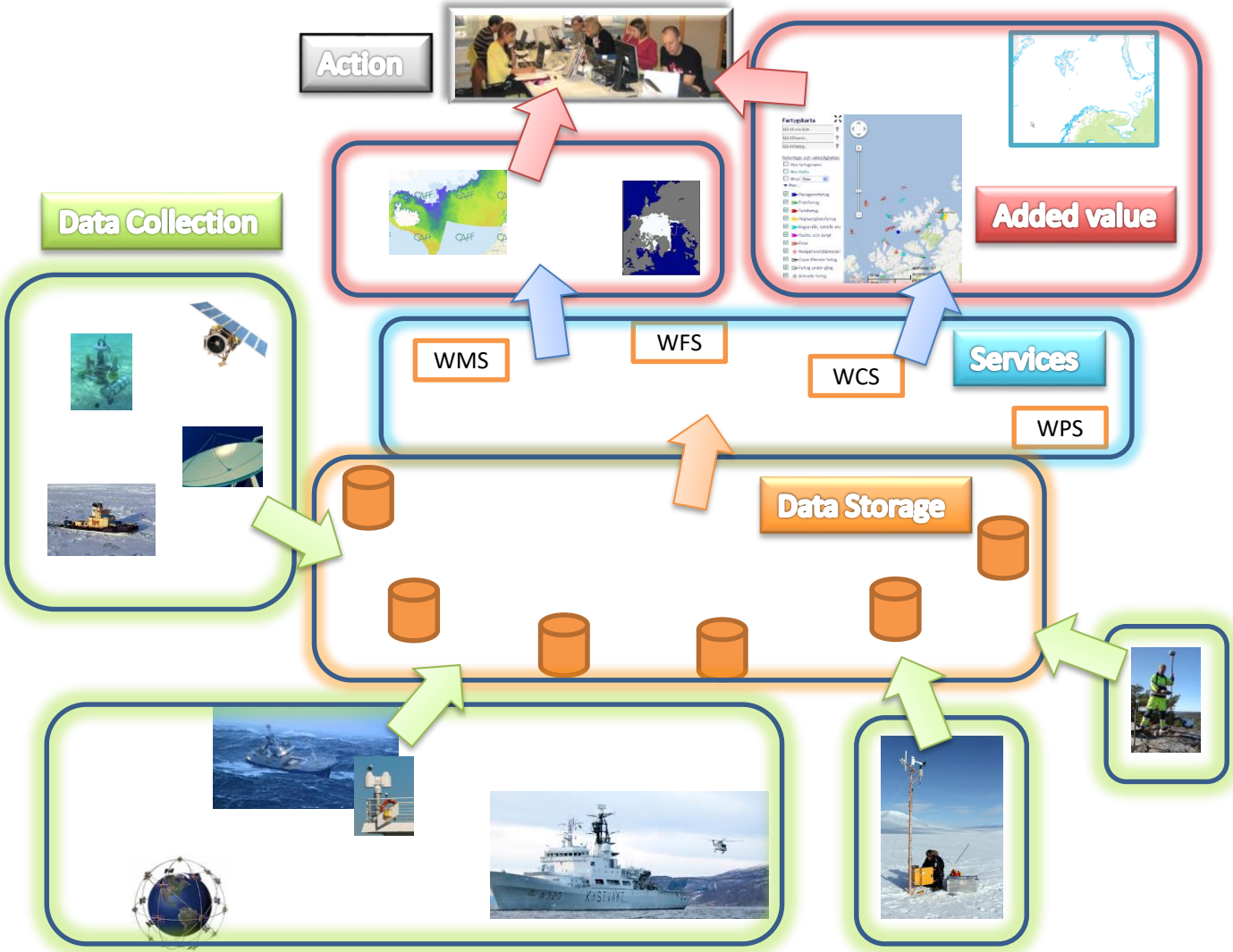


Data flows



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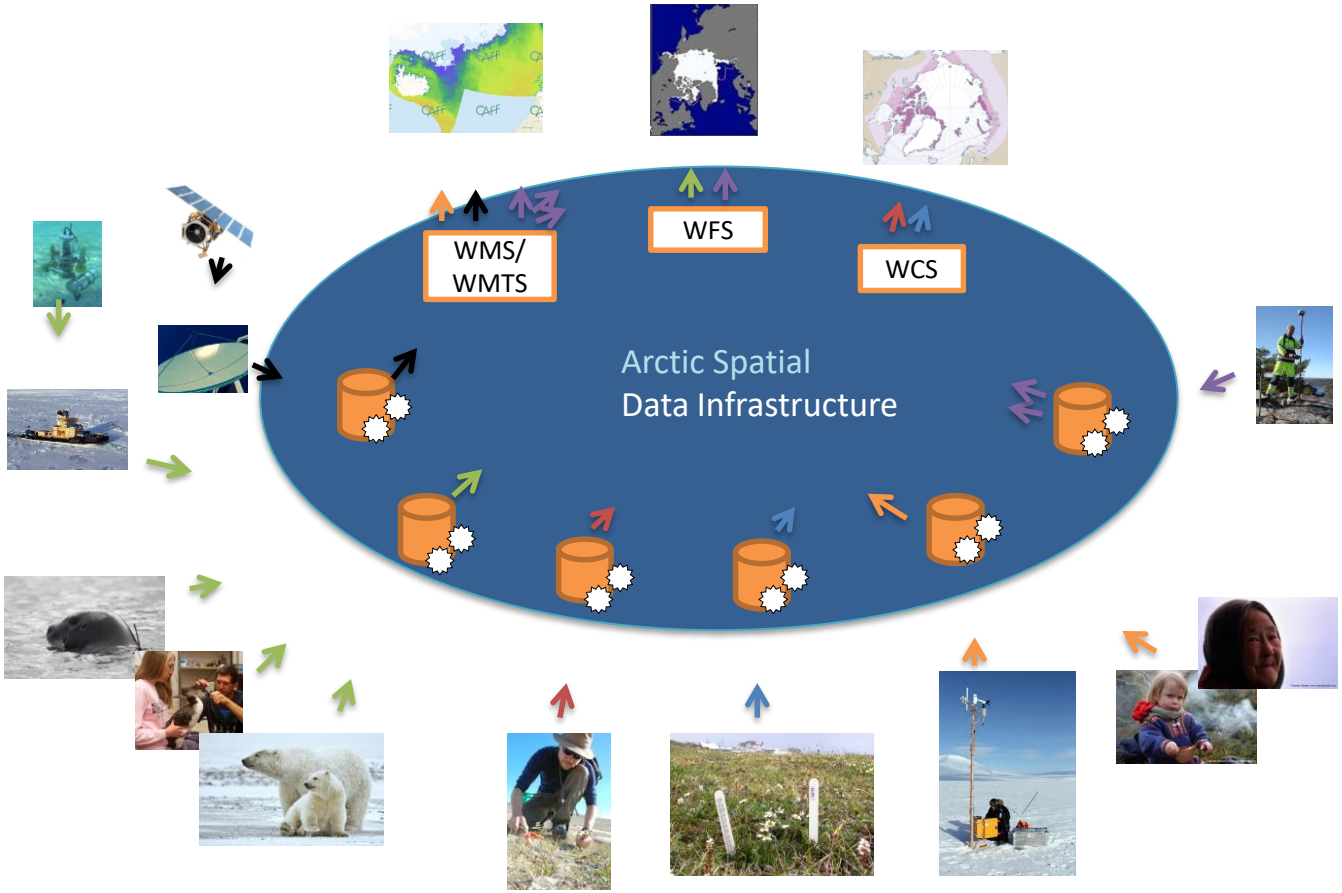
Data from distributed sources



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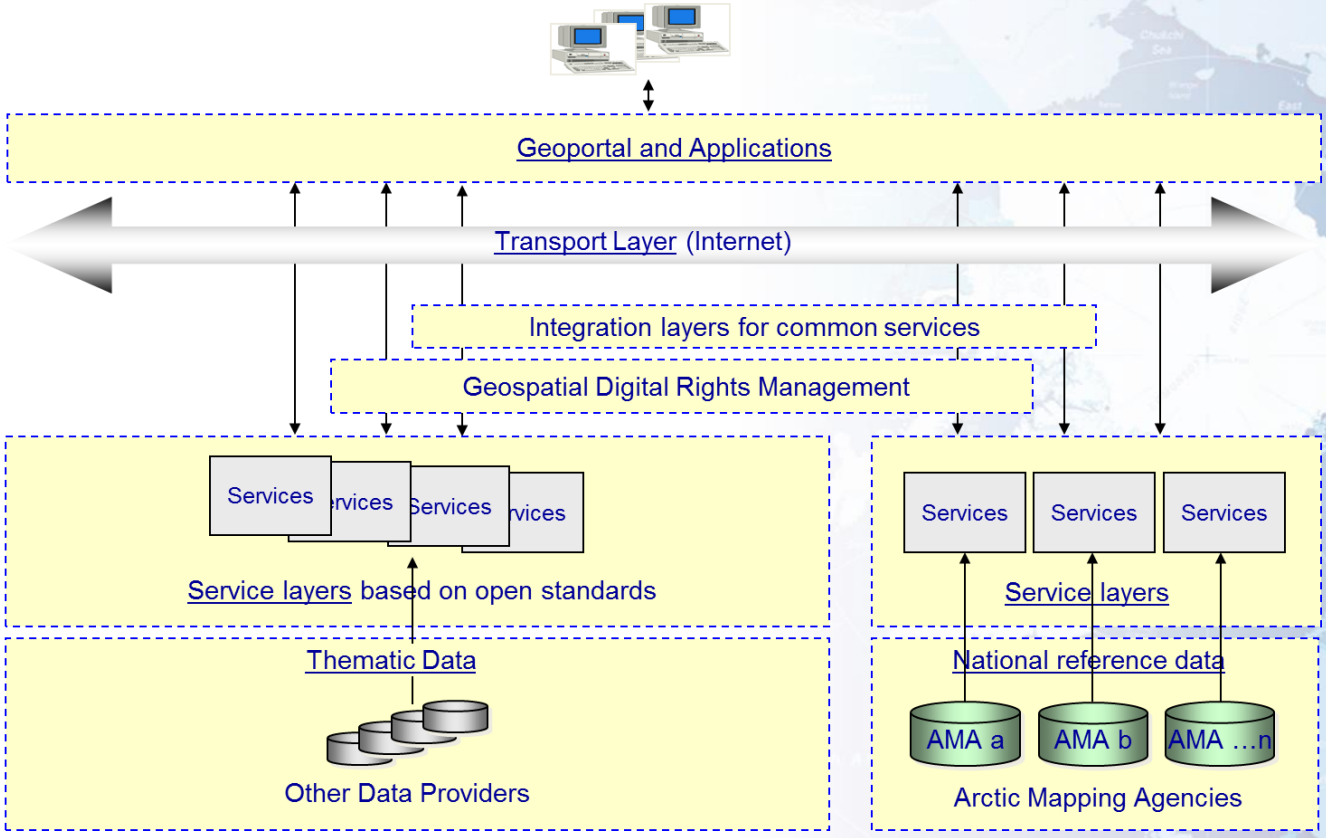
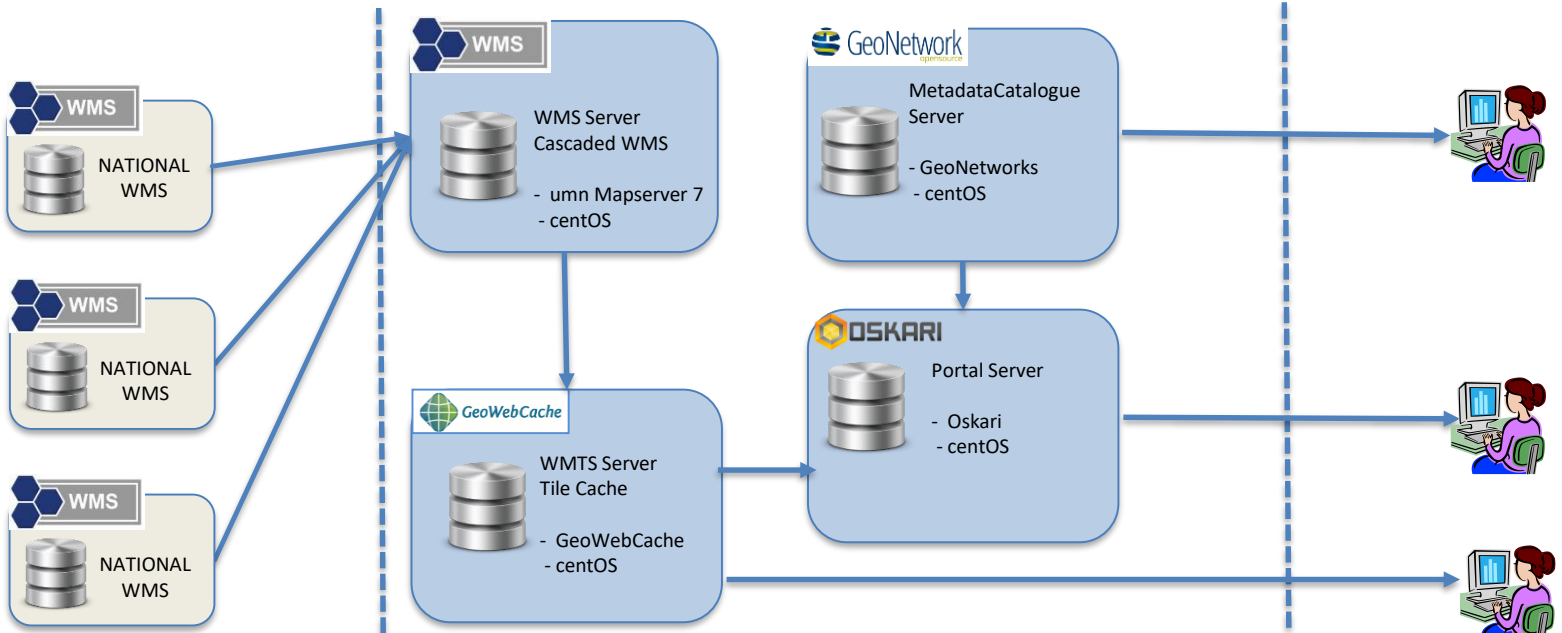
Arctic SDI Architecture



Arctic SDI Cloud Infrastructure



National Data and Service Layer | **ASDI Cloud Infrastructure – NMA Governmental cloud** | **Application layer**

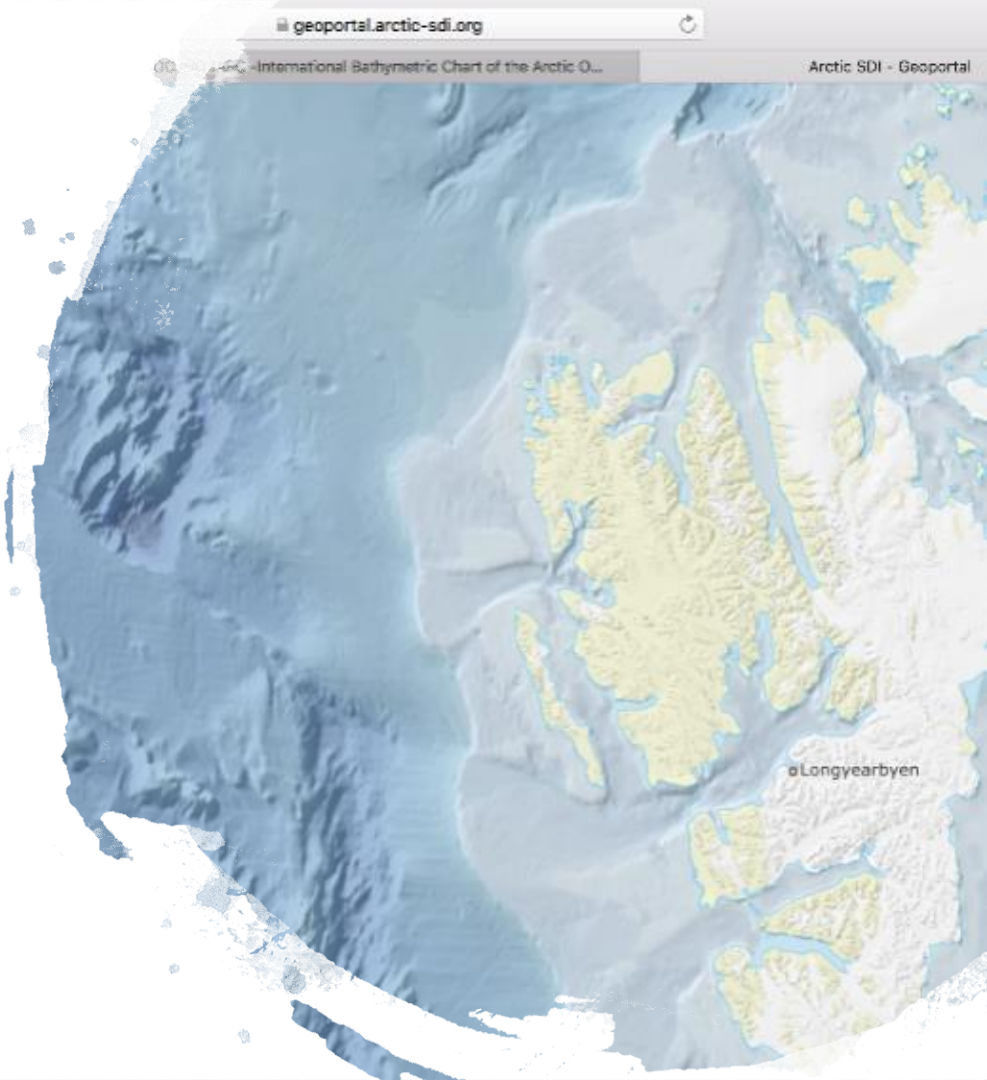
ARCTIC SDI Arctic Spatial Data Infrastructure

- Divide tasks with respect to established stakeholder “domains”

- Build on existing infrastructure, such as
  - Geoportal and its services, communication tools such as the Website, centralized document storage environment, and Guidelines whenever possible.

Partnering with IHO/ARHC

Arctic Regional Marine SDI Working Group - ARMSDIWG



Thematic data

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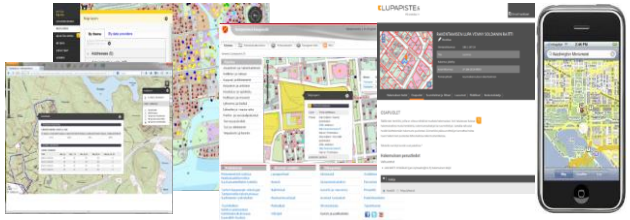
Scientific data

Arctic SDI Geoportal Hides the complexity



SAAS

Embedded Maps

Arctic SDI Geoportal

(Oskari)

Proprietary interface

Standard interface

Standard interface

Standard interface

Statistical data

INSPIRE data

CAFF data

Raster

Metadata

GML

User needs Assessment

- User needs assessment for the international Arctic Spatial Data Infrastructure
- Better access to geospatial data for Arctic marine areas – User Survey Report

Data/Data Architecture

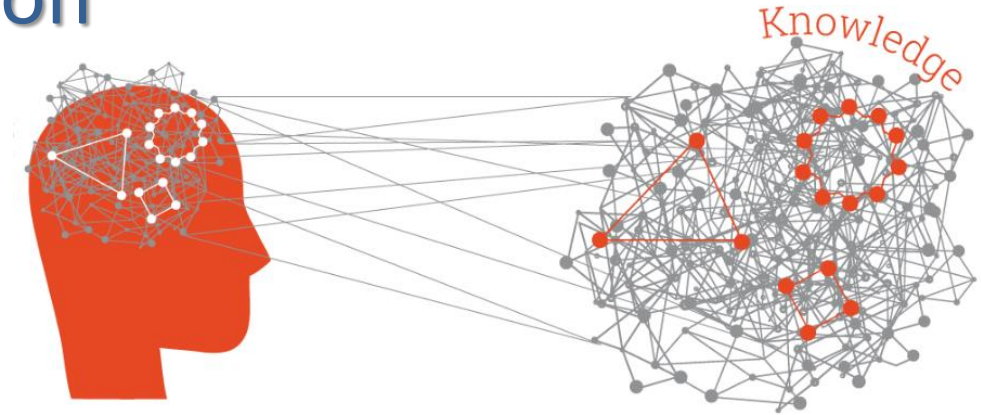
- Need of a consistent architecture that allows sharing of data
- Access to free and open Earth Observation data

Geoportal to Geodata platform

- Investigate processing of data in the cloud - extend the Geoportal to Geodata platform

- Currently access to specialized knowledge are required to access and prepare raw satellite data
  - *Investigate integration of the Open Data Cube and Analysis Ready Data (ARD) - lower the barrier of using BIG Data in individual applications*

Geoportal evolution



Quality of Service

- Metadata for services must be of good quality
- Map Services disseminated through the Geoportal must always be available and stable


Data & Service
Stewardship

Recommendations

1. Develop an infrastructure that meets the growing demand for platform level services
2. Ensure that data platforms are interoperable
3. Expand the scope of data that is accessible through the infrastructure to include social science data
4. Ensure the needs of "generalists" are given foremost consideration
5. Improve data discovery mechanisms
   - Annotation, vocabularies, service availability/reliability, etc
6. Consider the distinctive needs of Indigenous communities in governance and policy development
7. **Build relationships with established Arctic data organizations and other data initiatives**
8. Support methods for data quality assurance, uncertainty characterization and propagation of errors and provenance articulation
9. Provide functionality to handle the temporal dimension of data for analysis of evolution over time
10. Advocate for resolution of semantic issues in spatial data sharing and service interoperability
11. Ensure the necessary resources are available to develop the capacity to collect data in an SDI compatible format

Let's do it

Together!

Thanks!

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