CAFF
Conservation of Arctic Flora and Fauna

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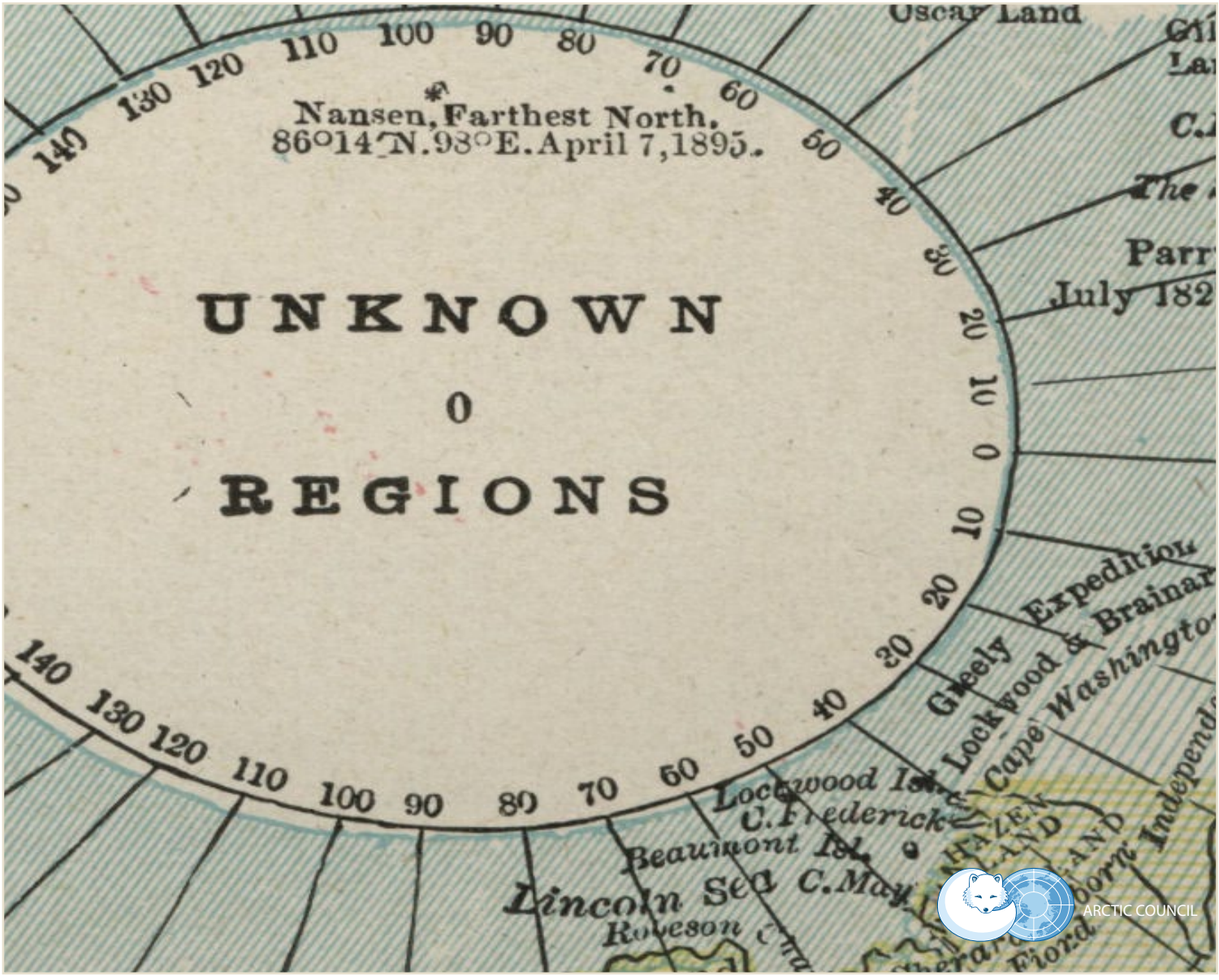
ARCTIC SPATIAL DATA INFRASTRUCTURE

CONCEPT PAPER



Acknowledgements

The Conservation of Arctic Flora and Fauna (CAFF) is a Working Group of the Arctic Council.
CAFF Designated Agencies:

- Directorate for Nature Management, Trondheim, Norway
- Environment Canada, Ottawa, Canada
- Faroese Museum of Natural History, Tórshavn, Faroe Islands (Kingdom of Denmark)
- Finnish Ministry of the Environment, Helsinki, Finland
- Icelandic Institute of Natural History, Reykjavik, Iceland
- The Ministry of Domestic Affairs, Nature and Environment, Greenland
- Russian Federation Ministry of Natural Resources, Moscow, Russia
- Swedish Environmental Protection Agency, Stockholm, Sweden
- United States Department of the Interior, Fish and Wildlife Service, Anchorage, Alaska

CAFF Permanent Participant Organisations:

- Aleut International Association (AIA)
- Arctic Athabaskan Council (AAC)
- Gwich'in Council International (GCI)
- Inuit Circumpolar Conference - (ICC) Greenland, Alaska and Canada
- Russian Indigenous Peoples of the North (RAIPON)
- Saami Council

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CAFF Designated Area

The Arctic Spatial Data Infrastructure

Concept document

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"SDI is often used to denote the relevant base collection of technologies, policies and institutional arrangements that facilitates the availability of and access to spatial data. The SDI provides the basis for spatial data discovery, evaluation and application for users and providers…[1]"

1. Definition of Spatial Data Infrastructure as quoted in [1].

1. Why is there a need for an Arctic SDI?

"With the current interest on climate change the Arctic has been subjected to intense scrutiny and as a result a wide array of data has been generated which is spatial in nature. The approach to managing much of this data has largely been national or dedicated to specific issues. As a result many of the existing datasets are distributed throughout many organisations. They are often not integrated or coordinated and it is difficult to find an environment in which these diverse datasets can be combined and analysed together.

There is a need for a dedicated Arctic SDI, which would provide for the development of the necessary standards and framework to encourage more efficient integration of and access to these datasets. It would allow for more robust management and manipulation of data for both research and management purposes." [2]

2. How will the Arctic SDI be created?

- The circumpolar national mapping agencies will lead the development, maintenance and administration of the Arctic SDI with national geographic information and systems for data sharing amongst circumpolar countries.
- The Arctic SDI will make use of existing technologies, data and other experiences gathered from other ongoing SDI projects.
- The project's organisational structure will include a Board, which will provide overall direction and oversight, as well as a Task Force, which will guide and monitor the project's progress and operations (figure 2).
- The project is organised in three phases; Structuring (2010), Establishing (2011) and Operational (as of January 1 2012) (figure 3).
- The work shall be described and agreed on by all parties in a Work Plan. This concept document will serve as a guideline for the development of the Work Plan.

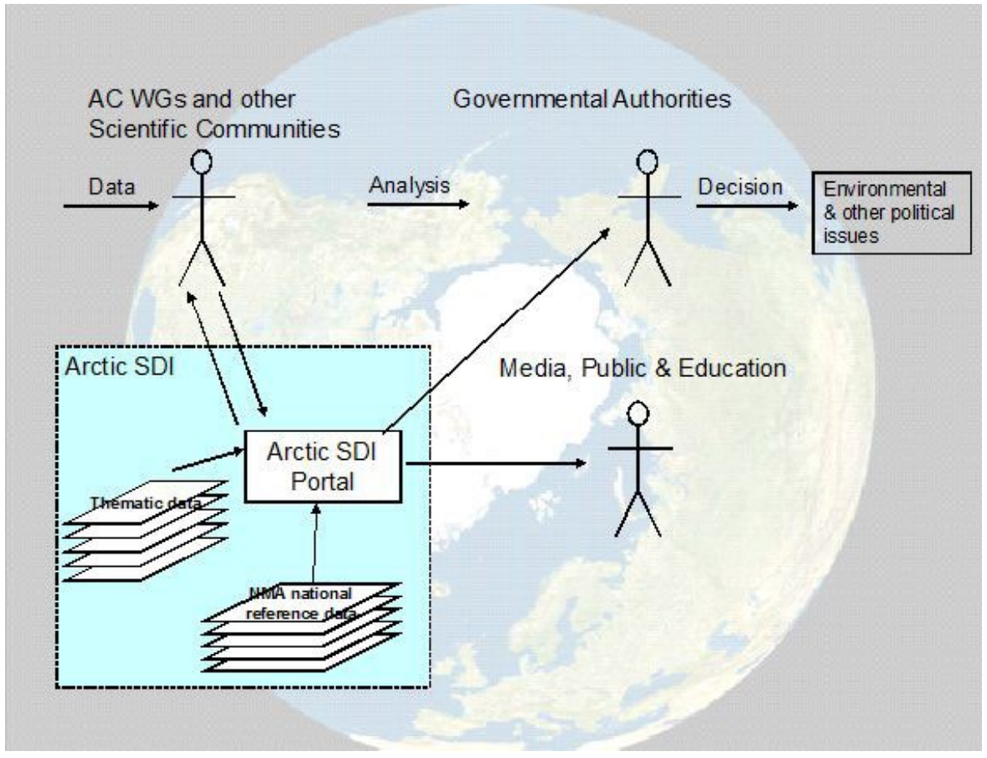

Figure I: Project concept.

3. User driven approach

Four main categories of users have been identified:

- The Arctic Council Working Groups
- Research groups within the International Polar Year and other scientific communities engaged in Arctic research
- Government and governmental authorities involved in decision making processes concerning the Arctic
- Media and the public including non governmental organisations

The project will initially focus on identifying and meeting the needs of the Arctic Council Working Groups .

4. Partnership Framework

The partnership will include:

- Agreements between NMAs concerning organisation, implementation and financing of each of the three phases: Structuring, Establishing and Operational.
- Agreement between all data providers concerning data provision and data policy e.g. specifications, standards, quality, terms and conditions for use of the data, etc.

5. organisational structure

The two first phases will be carried out as a project, while the Operational Phase will be carried on by the existing organisational structures within the participating agencies. During the first two phases, a Task Force jointly established between the circumpolar national mapping agencies will be responsible for detailing, planning and implementing the Arctic SDI. The Arctic Council Working Groups and other user groups will be solicited to provide ongoing input during the Structuring and Establishing phases.

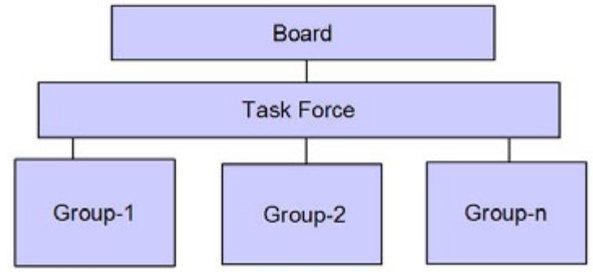

Figure 2: Project structure.

During the Structuring Phase, the project will define the vision, strategies, long- and short term objectives and activities needed to reach these objectives. The costs for the project during the Structuring Phase will be borne centrally or by countries. During the Establishing Phase, additional costs for implementation – including system development, data enhancing, etc. – will be borne by the circumpolar national mapping agencies or other means. Models for sustainable financing of the future work considered and put in place. The costs during the Operational Phase – maintenance of IT hardware & software, updating of geographic data and management costs will be financed as outlined above.

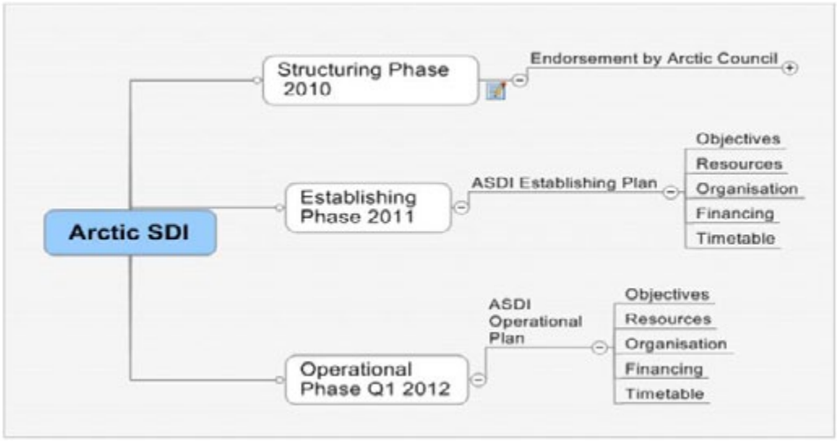

Figure 3: Project structure.

6. Information resources

Data will be structured so that it is possible to provide national geographic information in a harmonised form as background for analysing and presentation of other Arctic spatial data. Internationally adopted standards for data and metadata will be adhered to by all data providers and system developers.

7. Technology

The project will – if and when suitable – make use of technologies, data and experiences gained from the GIT Barents project [3] and build upon principles contained in INSPIRE [4]. The IT architecture will be based on a distributed data structure and wherever feasible open source technology will be used.

8. Milestones

- First draft of Project Plan created by January, 2011.
- Final draft submited to the Arctic SDI Coordinators by mid February, 2011.
- Meeting of the project team in March 2011 to start implimentation plan

9. References

1. SDI Reference Manual - Cookbook. 2004. http://www.gsdidocs.org/GSDIWiki/index.php/Main_Page.
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