Arctic Regional Marine Spatial Data Infrastructures Working Group (ARMSDIWG)

Current status of activities and the Arctic Voyage Planning Guide

MSDIWG12 Online

17-18 MAR 2021

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Cooperation with Arctic SDI

Arctic SDI and ARHC Joint Statement of Intent

*The Arctic National Mapping Agencies of the **Arctic SDI Board** and the Member State Representatives of the **Arctic Regional Hydrographic Commission (ARHC)** are committed to maintain a collaborative partnership in order to provide both the terrestrial and marine foundations in a regional SDI. The collaboration will facilitate bringing land and marine data together in an infrastructure that connects users across domains to the spatial data valued to support research, planning, and decision making in the Arctic.*

OGC – IHO Federated Marine SDI (FMSDI) Demonstration Pilot

- *As recommended by the successful **OGC-IHO MSDI Concept Development Study (CDS)**, and as evidenced by the success of the OGC-IHO collaboration in the OGC-IHO Maritime Limits and Boundaries pilot, we are seeking support to initiate a full-scale Pilot to demonstrate a multi-country, federated MSDI under a **land/sea boundary use case**.*

- The FMSDI Pilot will demonstrate:

    The value of MSDI can unlock data and information for use beyond traditional providers and consumers of hydrographic data, across borders, and across domains inclusive of improved connections between the terrestrial and marine foundational communities.
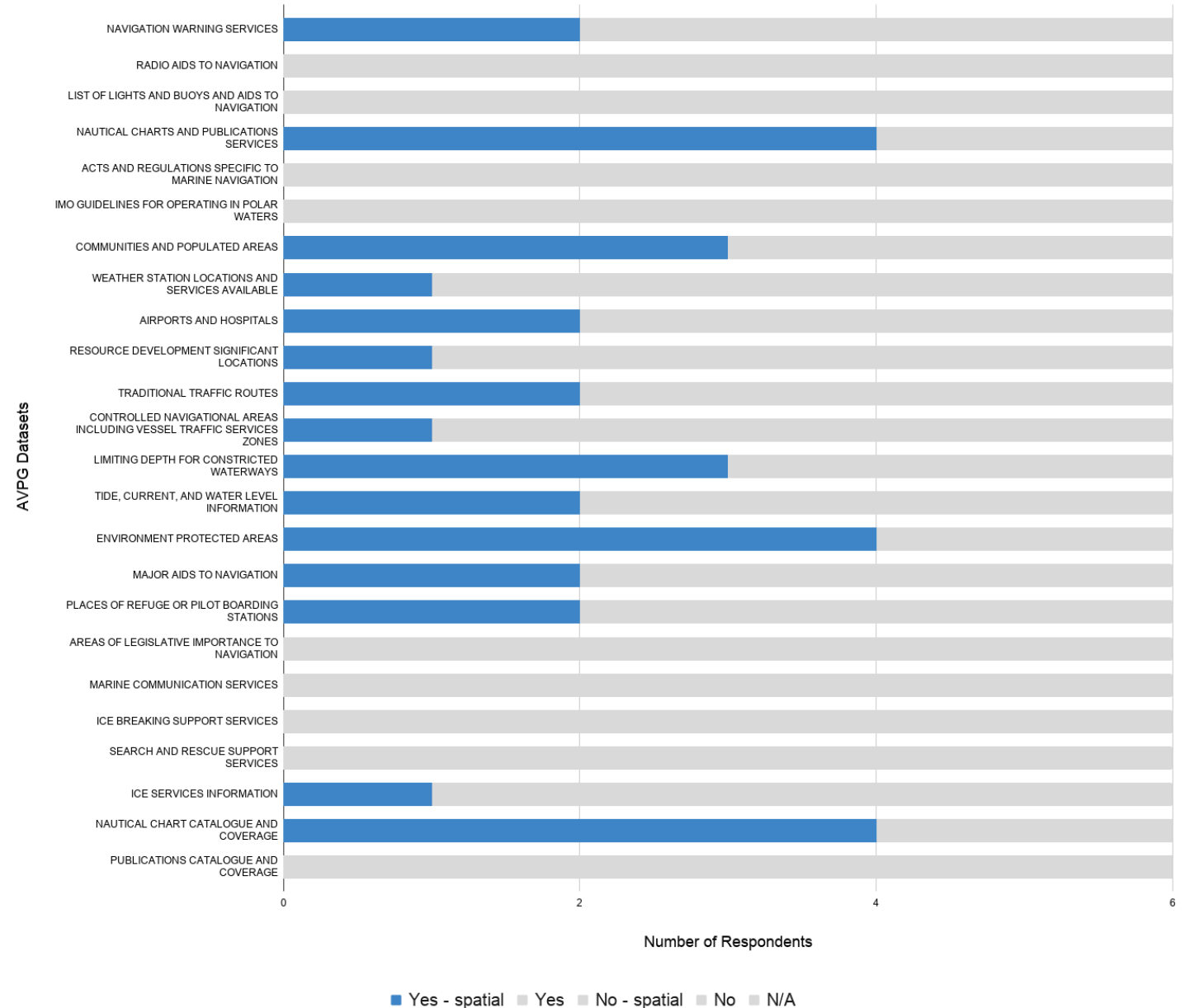
Arctic Voyage Planning Guide (AVPG)

- The AVPG is intended as a strategic voyage planning tool (i.e. used in advance), for national and international vessels. It is intended to be a compilation of data and services relevant to mariners preparing to travel in the Arctic.

- Since the founding of the Arctic Regional MSDIWG (ARMSDIWG) under the Arctic Regional Hydrographic Commission (ARHC), ARMSDIWG has been tasked with creating a geospatially-enabled AVPG.

- 7 Themes for AVPG:
  - Theme 1 Carriage Requirements
  - Theme 2 Regulatory Requirements
  - Theme 3 Arctic Environment Considerations
  - Theme 4 Route Planning
  - Theme 5 Reporting and Communicating
  - Theme 6 Marine Services
  - Theme 7 Nautical Charts and Publication

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AVPG Status

- 24 Total Datasets within 7 themes

- Currently available spatial web services
  - Graph (at right) shows 38% of already available web services (blue) for a federated, MSDI-enabled, AVPG

- **NOTE:** *Within ARMSDIWG, AVPG is being used as "springboard" to running a similar analysis to identify available marine spatial data to support the Arctic Council WGs, as identified in the Norwegian User Survey Report.*
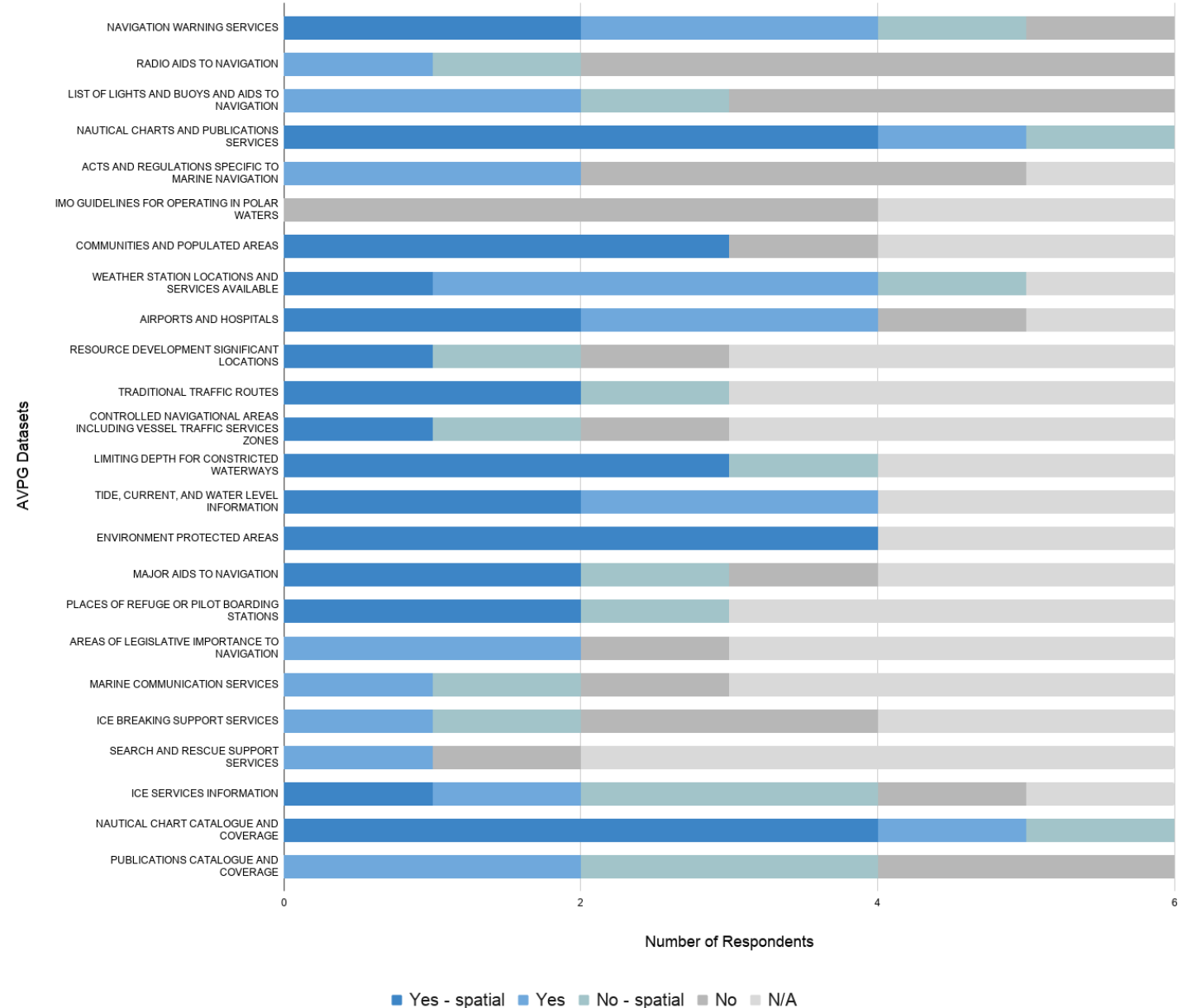
Current Web Service Availability for AVPG Themes

Chart — horizontal bar graph titled "Current Web Service Availability for AVPG Themes", y-axis labeled "AVPG Datasets", x-axis labeled "Number of Respondents" (0 to 6). Legend: Yes - spatial, Yes, No - spatial, No, N/A.
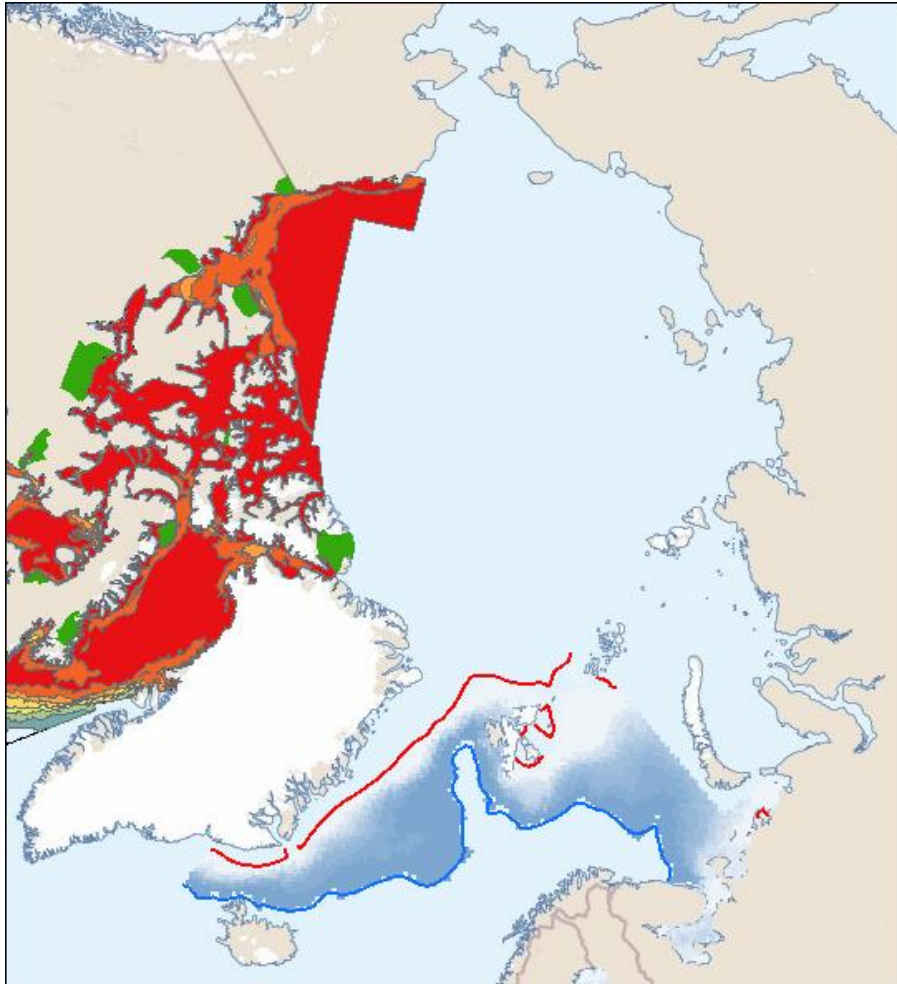
AVPG Status

- 5 Datasets strongly supported:
  - Navigation Warning Services
  - Nautical Charts and Publication Services
  - Weather Station Locations and Services Available
  - Airports and Hospitals
  - Nautical Chart Catalogue and Coverage.

Current Web Service Availability for AVPG Themes

AVPG Web Service Reuse

Canadian Arctic Voyage Planning Guide (AVPG) web service displaying in Norway Marine Spatial Management Tool made possible by OGC WMX standards.

AVPG Governance Challenges

- Significant progress has been made in identifying available data/services and resources

- In order to successfully provide a centralized, comprehensive AVPG, office-level requirements/governance, or higher, may need to be established for each participating member to ensure that (1) authoritative data exists and (2) is maintained to supply the information required to fulfill the AVPG themes.

- Additional technical expertise, time, and technology resources would be necessary to develop, host, and curate a collective geospatial AVPG.

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