



14th Arctic Regional Hydrographic Commission Meeting
3 - 5 September 2024
Tromsø, Norway

Status report of the Arctic Regional Marine Spatial Data Infrastructures Working Group (ARMSDIWG)

<i>Submitted by</i>	Chair ARMSDIWG, Denmark
<i>Executive Summary</i>	ARMSDIWG conducted four virtual workshops over the past year with participation from Canada, Denmark, Finland, Norway, and the USA. Canada led the proposal to discontinue the MSDI Aggregated Data Web Service Checklist due to redundancy and limited value, reallocating resources to more impactful projects. ARMSDIWG actively collaborated with Arctic SDI, contributing to the Arctic Council Data Policy and providing marine datasets to the Arctic SDI Geoportal. Canada proposed using the Integrated Geospatial Information Framework (IGIF) to evaluate the current state of MSDI across the Arctic. Future work includes enhanced collaboration with Arctic SDI, evaluation of MSDI using IGIF, development of communication strategies, adoption of technical standards, and regular workshops.
<i>Related Documents</i>	None
<i>Related Groups/Projects</i>	Arctic SDI https://arctic-sdi.org/

ARMSDIWG workshops

Arctic Regional Marine Spatial Data Infrastructures Working Group Workshops (ARMSDIWG8) were held virtually over multiple days:

- ARMSDIWG 8.1: 23 October 2023
- ARMSDIWG 8.2: 18 January 2024
- ARMSDIWG 8.3: 4 April 2024
- ARMSDIWG 8.4: 13 June 2024

The meetings consisted of attendees from the Hydrographic Offices (HOs) of Canada (CAN), Denmark (DNK), Finland (FIN), Norway (NOR), and United States of America (USA).

Key Proposals and Engagements

Proposal to discontinue MSDI aggregated data web service checklist implementation

The proposal to discontinue the MSDI Aggregated Data Web Service Checklist Implementation was led by Canada. The main rationale behind this proposal was the identified redundancy and limited added value of

the checklist in its current form. The ARMSDIWG group recognized that the initial goals set out by ARHC for the checklist have largely been met through other ongoing initiatives and that maintaining the checklist might divert resources from more impactful projects. The decision-making process involved thorough discussions and a consensus within the group, concluding that resources could be better allocated to other priorities.

Engagement with Arctic SDI and the Arctic council data policy

ARMSDIWG has been actively engaging with Arctic SDI and contributing to the development of the Arctic Council Data Policy. Key updates include participation in multiple meetings with Arctic SDI representatives to discuss data integration and policy alignment. Significant progress has been made in aligning marine spatial data initiatives with broader Arctic data policies, ensuring that marine data is adequately represented. Contributions to the Arctic SDI Geoportal include providing critical marine datasets from Canada and the USA, with additional data from Norway and Denmark. Future actions include continued collaboration with Arctic SDI, participation in upcoming policy development meetings, and further integration of marine data into the Arctic SDI framework.

New proposal for the evaluation of MSDI in the arctic

Canada presented a new proposal for evaluating Marine Spatial Data Infrastructure (MSDI) in the Arctic using the Integrated Geospatial Information Framework (IGIF). This proposal aims to leverage the IGIF's established methodology to assess the current state of MSDI across the Arctic region. The evaluation will identify gaps, strengths, and areas for improvement, providing a comprehensive overview of how MSDI supports Arctic-specific needs. Canada has committed resources to lead this initiative, with plans to distribute materials and collect input from other ARMSDIWG members.

Federated Marine Spatial Data Infrastructure (FMSDI) pilot

The Federated Marine Spatial Data Infrastructure (FMSDI) Pilot, an initiative under the Open Geospatial Consortium (OGC), aims to enhance the interoperability and accessibility of marine spatial data. ARMSDIWG has been involved in the pilot's third phase, focusing on land/sea use cases in the Arctic. Despite funding constraints limiting active participation, ARMSDIWG continues to monitor the pilot's progress and provides oversight. The pilot has demonstrated the potential for FAIR (Findable, Accessible, Interoperable, Reusable) data principles in the marine environment, and future plans include supporting related projects and leveraging pilot findings to improve regional MSDI capabilities.

Future work and initiatives

Forward-Looking Plans and Initiatives: Moving forward, ARMSDIWG will focus on several key initiatives that promise to enhance the effectiveness and scope of marine spatial data infrastructure in the Arctic region. These initiatives include:

1. **Enhanced collaboration with Arctic SDI:** ARMSDIWG will deepen its collaboration with Arctic SDI to ensure that marine data is seamlessly integrated into the broader Arctic data ecosystem. This includes participating in the development of the Arctic Council Data Policy and contributing to the Arctic SDI Geoportal. The group will work to provide additional high-quality marine datasets and ensure their continuous update and accessibility.
2. **Evaluation of MSDI using IGIF framework:** Canada will lead a comprehensive evaluation of the Marine Spatial Data Infrastructure (MSDI) in the Arctic using the Integrated Geospatial Information Framework (IGIF). This evaluation aims to identify gaps and strengths within the current MSDI

setup, providing a detailed roadmap for improvements. The findings will help align the Arctic MSDI with global best practices and ensure it meets the specific needs of Arctic stakeholders.

3. **Development of communication strategies:** Effective communication is crucial for the success of ARMSDIWG's initiatives. The group will develop and implement a robust communication plan that includes updating the new ARMSDIWG website, enhancing outreach efforts, and maintaining regular engagement with key stakeholders. This will ensure transparency, foster collaboration, and promote the benefits of marine spatial data infrastructure.
4. **Technical standards and implementation:** ARMSDIWG will focus on adopting and implementing technical standards that improve data interoperability and usability. This includes aligning with IHO standards and contributing to global geospatial initiatives. By ensuring that Arctic marine data adheres to these standards, the group will enhance data quality and facilitate its use in various applications.
5. **Regular workshops and meetings:** To maintain momentum and ensure continuous progress, ARMSDIWG will hold regular workshops and virtual meetings. These sessions will serve as key platforms for members to share experiences, best practices, approaches to data sharing, and innovative solutions. The group will also explore opportunities for in-person meetings to strengthen collaboration and build stronger relationships among member states. By fostering an open and collaborative environment, ARMSDIWG aims to enhance the collective capabilities and knowledge of its members.

By concentrating on these strategic areas, ARMSDIWG aims to significantly advance the state of marine spatial data infrastructure in the Arctic, supporting sustainable development, environmental protection, and safe navigation in this critical region.

Invited actions of ARHC

The ARHC members are invited to:

- Take note of the report.
- Approve the proposal to discontinue the MSDI Aggregated Data Web Service Checklist.
- Support enhanced collaboration with Arctic SDI and contributions to the Arctic Council Data Policy.
- Endorse the IGIF Framework Evaluation for assessing MSDI in the Arctic.
- Take action as seen appropriate.