

### Arctic Regional Hydrographic Commission 2022 Year in Review

### The Arctic Regional Hydrographic Commission's first in-person meeting since 2019

The 12th meeting of the Arctic Regional Hydrographic Commission (ARHC-12) was convened in person for the first time since 2019 in St. John's Newfoundland and Labrador Canada September 12 to 16, chaired by Director-General Canadian Hydrographic Service Dr. Geneviève Béchard. The weeklong activities included meetings and visits with local scientific research hubs and community organizations active with indigenous communities. During the meeting, the revised ARHC statutes (Edition 3.0) adopted in ARHC-11 were signed by the three associate members of Finland, Iceland, and Italy. The renewed statutes offer new and flexible governance mechanisms to support ARHC decision-making. National reports and meeting documents are on the <u>ARHC-12 meeting site</u>.

### Realizing the IHO's vision in the Arctic Region

The IHO's Strategic Plan in place (2021-2026) identifies three essential goals to be addressed by means of the IHO Work Programme:

- evolving the hydrographic support for safety and efficiency of maritime navigation undergoing profound transformation,
- increasing the use of hydrographic data for the benefit of society, and
- participating actively in international initiatives related to the knowledge and the sustainable use of the ocean.

As part of the implementation and realization of these goals and associated targets, the members of the ARHC undertook a gap analysis in the Arctic region as an initial baseline. The ARHC Strategic Gap Analysis assessed the current state of the relevant aspects of the plan in the Arctic. The gap analysis and development of next steps continues as the members increasingly share respective programmatic and geographic planning given existing resources.

### Promoting spatial data discovery, awareness, and access for the Arctic marine environment

"The truth today is that an Arctic user still does not currently have a central or common way to find authoritative Arctic marine spatial data from ARHC's HOs, nor do they have a total set (i.e. gaps in coverage) of usable web services available to them for the majority of themes they've asked for in various studies and surveys."

-Sebastian Carisio, Chair ARHC Marine Spatial Data Infrastructure Working Group

Important linkages continue to be made between IHO member states active in the Arctic together with global initiatives including the United Nations (UN Sustainable Development goals, UNESCO-IOC's Decade of Ocean Science for sustainable development and the UN Global Geospatial Information Management), the Nippon Foundation Seabed 2030 Project, the Arctic Council's relevant working groups, and others.

### Developing a pan-Arctic nautical chart grid

When considering navigation in polar regions, nautical charting offices are confronted with unique spatial management challenges. At ARHC-12, Mr. Jonathan Prichard of IIC Technologies presented the results of an analysis of <u>three options for gridding</u> with relative implications and considerations of each. The various schemes are being studied further now with subsequent readout at the next meeting of the Commission. Defining a widely acknowledged grid promises to support a new generation of navigation support services in connection with the S-100 hydrographic data model not limited to the future provisions of S-101 ENCs.



A graphic showing the gridded Arctic Ocean

## Next generation navigation services by 2030 S-100 data framework?

The IHO developed a roadmap to make S-100 based navigation support services available, which promise improved navigation safety, environmental protection, and cost efficiencies. Six product specifications are prioritized by the IHO community, including electronic navigational chart (S-101), bathymetric service (S-102), under keel clearance (S-129), tides and currents (S-111), and marine protected areas (S-122). Members of the ARHC are invited to share their plans for the capacity to roll out these services nationally and regionally in the Arctic. Budgetary, staffing, scope, and other constraints are expected to significantly limit this capacity in the Arctic in the near future.

# Supporting Seabed 2030: Arctic hydrography added to the IHO's global bathymetric database



A graphic showing the United States plans to deliver prioritized S-100 product specifications.

In 2022, thirteen new data contributions from the Arctic region were provided to the <u>IHO Data Centre for Digital Bathymetry</u>. The bathymetric datasets, collected from six vessels (R/V *Neil Armstrong*, USCGC *Healy*, R/V *Sikuliaq*, R/V *Sonne*, DSSV *Pressure Drop*, *and ITS Alliance*) are discoverable and accessible to the public with no restrictions.

### New Associate Member joins ARHC

On 19 December 2022, the UK formally signed the ARHC Statues to join Finland, Iceland and Italy as an Associate Member. This recognizes the UKHO's commitment to the domain of hydrographic surveying, marine cartography, nautical information, MSDI and scientific research in the Arctic region. The UKHO will seek to contribute to the development of spatial data management and provide a central point of contact for access to data collected in the Arctic by UK research-related organizations.

### Looking to 2023

With the completion of ARHC-12, Denmark and Norway succeed as incoming Chair and Vice Chair for the current period with the planned ARHC-13 meeting to be held in Nuuk, Greenland in September 2023.

Planned deliverables in the current intersessional period include:

1) Implementation of the work plan developed at ARHC-12

2) An update on chart adequacy in the Arctic in support of the MOU between the Arctic Council Protection of the Marine Environment Working Group. This will be an update on the 2018 assessment which examined maritime transportation patterns in the Arctic against known survey data vintage, bottom depth, and bathymetric surface. Initial findings of this report are targeted for delivery to the PAME-I 2023 meeting in Spring.

### For further information

VAN/

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