



Arctic Regional Hydrographic Commission (ARHC)

Special ARHC meeting in conjunction with the 1st Session
of the IHO Assembly

Wednesday 26 April, 12:30-14:00 in Room C

Draft agenda:

1. Welcome and introductions
2. Approval of the Agenda
3. Outstanding action items from ARHC6
4. Focus point:
 - AICCWG (Arctic International Charting Coordination Working Group)
 - ARMSDIWG (Arctic MSDI working Group)
 - OTWG (Operations and Technology Working Group)
5. Matters emerging from 1st Session of the IHO Assembly
6. Applications for associate membership
7. ARHC7
8. Any other business

**Updated List of Actions
6th ARHC Meeting, October 3 and 6, 2016
Iqaluit, Nunavut, Canada
April 24, 2017.**

Action Nr.	Agenda Item	Actions	Responsible	Deadline/Status
ARHC6-01	4	Member States (MS) are requested/reminded to prepare for the 1 st Assembly of the IHO (April 2017), as soon as practically possible (ASAPP), in accordance with the deadlines indicated in the Conference/Assembly Circular Letters (CCL/ACL).	All IHO MS	Done
ARHC6-02	4	MS asked to review entries to IHO C-55, P-5 (Yearbook), and ECDIS back-up, at least annually.	All IHO MS	Permanent
ARHC6-03	4	Provide updates to S-11 Part B for INT Region N through the INTOGIS tool, as required (Reminder: in accordance with IHO CL 89/2015), DK and RU are invited to request their ID and password to be able to provide these updates).	All IHO MS	Permanent
ARHC6-04	4	ARHC International Charting Coordination WG Chair, MS and Associate Members (AM) to report to the IHB on the status and description of the ENC schemes in Region N, for UB1, UB2 and UB3 in particular.	All ARHC MS and AM / AICCWG	Permanent
ARHC6-05	4	MS that are members of more than one RHC are reminded to respond to IHO CL 46/2016 before November 30 th .	All IHO MS	Done
ARHC6-06	4	ARHC Chair (DK) to plan with the IHB an ARHC extraordinary meeting in the margins of the 1st Session of the IHO Assembly.	ARHC Chair	Done
ARHC6-07	6	CA to provide ARHC6 participants with link or copy of September 2016 Sea Technology article on Continuous Vertical Datum.	CA	DONE

ARHC6-08	6	NO requested to provide English translation of the executive summary of their Socio-Economic study to ARHC.	NO	2016-12-31
ARHC6-09	9	CA to provide edited version of Annex 5 for final approval of the Members by October 6 th .	CA	DONE
ARHC6-10	9	Past Chair/ARHC (CA), on behalf of and in liaison with ARHC Chair (DK), to inform Secretariat/IHB that the Russian Federation will be the ARHC representative to the IHO Council.	CA	Done
ARHC6-11	10	MS and AM to review statutes and return to the ARHC Chair by November 15, 2016.	All ARHC MS and AM	Done
ARHC6-11.1	10	c/ARHC (DK) to forward statutes to MS for signature by November 30, 2016.	c/ARHC	Done
ARHC6-12	12	OTWG to provide ARHC7 with a discussion paper on autonomous vehicles vis-à-vis Arctic applications.	c/OTWG	ARHC7
ARHC6-13	12	OTWG Chair to validate OTWG membership list and update, as necessary.	c/OTWG	2017-04-01
ARHC6-14	12	OTWG Chair (US) to review ARHC tasking list and other suggestions to determine priorities to update/finalize the OTWG work plan.	c/OTWG	2017-04-01
ARHC6-15	14	c/AICCWG to report back to ARHC7 on the re-scoping of the WG to include Arctic nautical charting issues (INT charts and ENCs).	c/AICCWG	ARHC7
ARHC6-16	15	CA to ask Chris Hemmingway (MSDIWG) to adapt NO video on "What is hydrography?" to "What is MSDI?"	CA	2016-11-30
ARHC6-16.1	15	NO to provide contact information regarding the video production for "What is hydrography", to CA.	NO	DONE sent via e-mail
ARHC6-17	15	ARMSDIWG Chair (US) to draft a consolidated work plan (using IHO template), to be reviewed at the ARHC extraordinary meeting.	c/ARMSDIWG	2017-04-01
ARHC6-18	15	All MSs to contact their respective Arctic SDI national representative to promote awareness of the marine component of the SDI and the work of the IHO.	All ARHC MS and AM	Done

ARHC6-19	15	All ARHC Members, Associate Members and Observers invited to include in their national reports at ARHC7 their progress in capturing traditional knowledge.	All ARHC MS and AM	ARHC7
ARHC6-20	16	ARHC to select a new rep for WEND WG (before WENDWG7 31 Jan – 2 Feb 2017). NO to inform MS of the possibility to become ARHC rep to WENDWG.	NO and All ARHC MS	2017-01-01
ARHC6-21	16	c/ARHC to recommend to IRCC that the IRCC decision regarding MIOs be reported to the 1 st IHO Assembly.	c/ARHC	Done
ARHC6-22	17	ARHC6 participants to contact their national Arctic Council (AC) reps regarding the promotion and support of IHO's Observer application (before the 2017 Senior Arctic Official (SAO) meeting).	All ARHC MS and AM	2017-03-01
ARHC6-23	17	c/ARHC To provide feedback to PAME before their next meeting (February 2017).	c/ARHC	Done
ARHC6-24	17	c/ARHC to determine best way to continue engagement at AC (that is, with which group(s) and establish points of contact.	c/ARHC	ARHC7
ARHC6-25	17	c/ARMSDIWG to prepare a white paper on Arctic MSDI for the next AC meeting.	c/ARMSDIWG	Done
ARHC6-26	17	NO to follow-up with its AC rep regarding the possible existence of an Automated Identification System (AIS) database maintained by NO for AC.	NO	ARHC7
ARHC6-27	19	c/ARMSDIWG to investigate the idea of a pan-Arctic bathy database.	c/ARMSDIWG	ARHC7
ARHC6-28	22	CA to draft and circulate a short document on navigational risks in the Arctic.	CA	2017-04-01

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Arctic Regional Marine Spatial Data Infrastructures Working Group (ARMSDIWG) & Arctic SDI Cooperation

The ARMSDIWG held its first workshop (ARMSDIWG1) in Copenhagen, Denmark 04 - 05 APR 2017.

The representatives from Canada, Denmark, Finland, Norway, and United States were in attendance.

ARCTIC REGIONAL MARINE SPATIAL DATA INFRASTRUCTURES WORKING GROUP (ARMSDIWG) CONSOLIDATED WORK PLAN 2017-2020 Version 14 April 2017

Tasks

A	Common Understanding of MSDI in Arctic
B	Spatial Data Interoperability, Sharing and Display
C	Liaise with External Users of MSDI
D	ARMSDIWG / Arctic SDI Collaboration
E	Geospatial-enablement of Arctic Voyage Planning Guide (AVPG)
F	Pan-Arctic Bathymetry Database
G	Annual Meetings

White paper on Arctic MSDI

Arctic Regional Marine Spatial Data Infrastructures Working Group International Hydrographic Organization – Arctic Regional Hydrographic Commission

Enhancing the Arctic with marine geospatial data from the region's prime hydrographic authorities.

Increasing ocean accessibility in the Arctic yields a growth in maritime/marine activities for the region. Marine geospatial data is a valuable asset to enable those activities to advance the applicable sectors of society (e.g. academic/scientific research, natural resource exploration, fisheries management, emergency management, marine spatial planning). Hydrographic Offices (HOs) collect and store marine geospatial data for use on Safety of Navigation products. This source, marine geospatial data (e.g., bathymetry) maintained by the HOs, when made available, can benefit these Arctic activities for the greater advancement of society.

The Arctic Regional Marine Spatial Data Infrastructures Working Group (ARMSDIWG), under the Arctic Regional Hydrographic Commission (ARHC) of the International Hydrographic Organization (IHO), is the key coordinating body for the deliverability of marine geospatial data from Arctic HOs to a broader user base.

Leveraging technology, standards, and governance for better data access and interoperability.

The ARMSDIWG analyzes how its participating HOs can contribute marine spatial data. In order to accomplish this, the working group investigates best practices for leveraging currently available technologies, identifies applicable open geospatial standards from the IHO and the Open Geospatial Consortium (OGC), and addresses policies & governance for the participating nations to provide users discoverable, accessible, and interoperable marine geospatial data for the Arctic.

A champion for MSDI in the region.

- The ARMSDIWG functions as a regional body in the following ways:
 - Identify and assess the statuses of individual Member State MSDI implementation.
 - Consider MSDI policies in related international projects.
 - Analyze how maritime authorities can contribute their spatial data so information can be easily collated to form a current overall picture for the region.
 - Focus on how the IHO ARHC can continue to benefit from a regional approach to MSDI.
 - Monitor the development of SDI that could be relevant for the region.
 - Monitor the development of OGC standards and activities.
 - Seek areas for collaboration, sharing, and interoperability with other national mapping agencies in order to connect both topographic and hydrographic data in a larger and more complete regional infrastructure.
 - Present a yearly report to the ARHC that describes the current status, recommendations on how to proceed with MSDI implementation, and an action plan for future Arctic Regional MSDI activities.
- The ARMSDIWG is currently tasked to research two projects for the ARHC:
 - Incorporate themes of the Arctic Voyage Planning Guide (AVPG) into a web-based, geospatial portal where information is linked and spatially represented in a unified, regional view.
 - Investigate the possibility of a Pan-Arctic Bathymetry Database that could be used to support key, non-navigational activities in the region if made available in an efficient and formal infrastructure.

What is MSDI?

Among the HO community, establishment of a Marine Spatial Data Infrastructure (MSDI) is generally regarded as the solution for discoverability, accessibility, and interoperability of marine geospatial data. A MSDI is the marine dimension to the broader Spatial Data Infrastructure (SDI). A MSDI is built from policies & governance, information systems, and technical standards working in harmony to provide marine geospatial data.



Collaborating with other working groups for a stronger SDI in the Arctic.

The ARMSDIWG does not operate as an isolated body, but monitors the development of SDI in the region by other relevant bodies and cooperates with them. In particular, the ARMSDIWG coordinates with the Arctic SDI (arctic-sdi.org), an organization of eight National Mapping Agencies from the Arctic countries operating under a Memorandum of Understanding. The Arctic SDI works to provide stakeholders access to authoritative spatial data for the region. The ARMSDIWG, also works with other relevant Regional Hydrographic Commissions (RHCs) and groups within the IHO (iho.int). Additionally, the ARMSDIWG works closely with the OGC through the Marine Domain Working Group (opengeospatial.org/projects/actions/mawg/) to monitor relevant open geospatial standards and activities to be applied to MSDI best practices.

Established as the MSDI approach for the Arctic.

After a proposal by the United States and Denmark, the ARHC officially established the ARMSDIWG in October 2016 based on the benefits observed in other RHCs and their MSDI projects or working groups. Today, the Arctic has an active and organized working group comprised of representatives from almost all ARHC Members and Associate Members. Together, these represented HOs coordinate and monitor SDI and MSDI activities in the region and cooperate with other relevant projects and groups.

The major MSDI body within the IHO is the MSDI Working Group (MSDIWG). The MSDIWG is responsible for monitoring SDI activities and trends, and supplying information up the organizational structure of the IHO to the Inter-Regional Coordination Committee (IRCC). Since the initiation of the MSDIWG, there have been several multi-national efforts among RHCs, like the ARHC's ARMSDIWG, to address MSDI for their hydrographic regions.

Who supports Arctic MSDI?

- ARHC Members and Associate Members**
- Canada
 - Canadian Hydrographic Service
 - Denmark
 - Danish Geodata Agency
 - Finland
 - Finnish Transport Agency
 - Iceland
 - Icelandic Coast Guard
 - Norway
 - Non-regional Mapping Authority
 - Russian Federation
 - Department of Navigation and Oceanography
 - United States
 - National Geospatial-Intelligence Agency
 - National Oceanic and Atmospheric Administration



Arctic Regional Marine Spatial Data Infrastructures Working Group (ARMSDIWG) & Arctic SDI Cooperation

On 06 APR 2017, the ARMSDIWG representatives from ARMSDIWG1 met with 8 National Mapping Agencies of the Arctic nations

The ARMSDIWG identified great benefits in working more closely with the Arctic SDI for a stronger, foundational SDI in the Arctic.

Examples of further, close cooperation include:

- Continued yearly meetings.
- Organized web presence (e.g., marine.arctic-sdi.org).
- Combined White Papers and coordinated outreach.
- Consistent reference of each group's existence and activities, regardless of our respective progress.

Both groups see themselves as facilitating the foundational spatial data (topography and hydrography) for which all other data contributors can reference their data for a comprehensive and meaningful infrastructure.

The ARMSDIWG will formally propose this working relationship for approval at the 7th ARHC meeting in Ilulissat, Greenland, Denmark (22 - 24 AUG 2017).

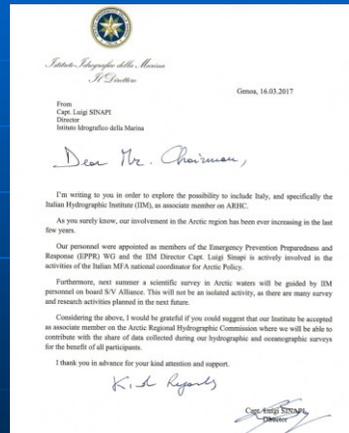
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Applications for associate membership

- Sweden
- Italy

In accordance to Article 3c of the ARHC Statutes that covers applications for associate membership of the Commission, the ARHC Chair shall distribute the proposal to the ARHC Members for consideration and a decision on acceptance should be made by consensus



ARHC7

7th ARHC meeting in Ilulissat, Greenland, (22 - 24 AUG 2017).



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Practical information:

A block reservation has been made for the period 21 to 25 August (4 nights), at the conference hotel.

If you want to use the conference hotel you have to send your **binding reservation** to Trine Vinther Schmidt in GST (mail to: trvin@gst.dk) before May 25, 2017. You have to pay for the room when you are in Ilulissat.



ARHC7

7th ARHC meeting in Ilulissat, Greenland, (22 - 24 AUG 2017).

Registration

Registration is to be completed by each participant and forwarded before **May, 24, 2017** to Trine Vinther Schmidt in GST (trvin@gst.dk) with a copy to Jens Peter Hartmann (jepha@gst.dk) and Yves Guillam (yves.guillam@iho.int).

Documents of the meeting

You are kindly asked to deliver your **National report** and **other documents** such as Explanatory notes, reports etc. to Jens Peter Hartmann jepha@gst.dk and Yves Guillam (yves.guillam@iho.int), no later than **2 August 2017**.



ARHC7

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A Draft Overview of the Program for the ARHC 7 Conference

	Tuesday 22 August	Wednesday 23 August	Thursday 24 August
Morning 09.00 - 12.30	Open Forum	The ARHC 7 conference commences	The ARHC 7 conference continues
12.30 - 13.30	Lunch	Lunch	Lunch
Afternoon 13.30 - 1700	Open Forum	The ARHC 7 conference continues	The ARHC 7 conference continues
Evening 19.00 ~ 2100	Ice breaker meeting	ARHC 7 Dinner	Dinner

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Open Forum meeting

User driven approach to Arctic Hydrographic information

Draft themes for the open forum meeting:

- Safety of navigation
- Use of Hydrographic information for non navigation
- Maritime agencies
- Scientific approach

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ARHC7 Draft agenda:

- A. Opening Formalities
- B. IHO Work Programme 1 - "Corporate affairs"
- C. IHO Work Programme 2 - "Hydrographic Services and Standards"
- D. IHO Work Programme 3 - "Inter Regional Coordination and Support"
- E. Any other business
- F. Election of new Chair and Vice-Chair
- G. Place and date of the next ARHC8 Conference
- H. Review of ARHC6 List of actions
- I. I. Closing the Conference

Any other business



**We are looking forward to see you at the 7th
ARHC meeting in Ilulissat, Greenland, 22 - 24
AUG 2017.**

