

Report of the 3rd meeting of the Arctic Regional Hydrographic Commission

October 9-11 2012
Fram Centre, Tromsø, Norway

1 Opening of the Conference

1.1 Welcome

The Chair, Lars Hansen DK, opened the 3rd Arctic Regional Hydrographic Commission meeting excusing the de facto Chair, Danish National Hydrographer, Sigvard Stampe Villadsen, who had to leave prematurely due to urgent national business.

The Chair welcomed delegates from member states Canada, USA, Norway and Denmark as well as observers from Finland and Iceland. Regrettably, the delegation from the Russian Federation was unable to attend the ARHC3.

He thanked the Norwegian hosts for the thorough preparations and the scenic venue for the meeting, and made note of the diverse and very interesting papers presented at the Scientific Forum the day before. Mention was also made of the enjoyable arrangement at the Polaria Aquarium, a reminder that the vulnerable and unique arctic wildlife also stand to benefit from the ARHC work.

The Chair welcomed IHB Director, Admiral Mustafa Iptes to his first ARHC session. Mustafa Iptes was pleased to be present in Tromsø and looked forward to follow, first-hand, the interesting development in the Arctic Regional Hydrographic Commission.

1.2 Administration and logistics

No briefed on practical matters of the meeting as well as the evening's setting.

1.3 Adoption of the agenda

Reference document ARHC3-1.a

The Annotated Agenda, *ARHC3-1.b*, was used as guiding document for the progress of the meeting.

An additional agenda item was added, *Agenda item 4.5*, from questions raised during the Scientific Forum October 9:

1. Adoption of third party data from vessels of opportunity
2. ARHC liaising with the Arctic Council
3. Use of modelled world wide vertical reference frames.

The agenda was subsequently adopted.

1.4 Status of actions from ARHC2

Reference document ARHC3-1.d

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|---------------------|------------------|---|
| 1. <i>ARHC2-03B</i> | Completed | |
| 2. <i>ARHC2-03B</i> | Completed | The subject will be covered during ARHC3 under agenda items 3 and 6. |
| 3. <i>ARHC2-03B</i> | Completed | The subject will be covered during ARHC3 under agenda item 3.1.2. |
| 4. <i>ARHC2-04C</i> | Ongoing | Canada informed that the report will be ready and distributed shortly. |
| 5. <i>ARHC2-04C</i> | Completed | The subject will be covered during ARHC3 under agenda item 3.1.4. |
| 6. <i>ARHC2-04D</i> | Completed | |
| 7. <i>ARHC2-04H</i> | Completed | The Chair thanked US for the report. |
| 8. <i>ARHC2-05</i> | Completed | Denmark has investigated the possibilities, concluding that it is not feasible to |

		access funding. Mustafa Iptes agreed – additional funding is primarily intended for developing countries.
9. <i>ARHC2-05</i>	Completed	
10. <i>ARHC2-05</i>	Ongoing	The subject will be discussed during ARHC3 under agenda item 4.5. with the help of Norway.
11. <i>ARHC2-05</i>	Completed	December 2011. The subject will be further discussed during ARHC3 under agenda item 3.3.
12. <i>ARHC2-06</i>	Completed	
13. <i>ARHC2-06</i>	Completed	Canada has received the routeing guide for the Northern Sea Route, and will circulate it to the other member states.
14. <i>ARHC2-06</i>	Completed	Denmark gave their report on TSMAD's efforts to decide on a suitable polar projection for ENCs.
15. <i>ARHC2-08</i>	Completed	It is the hope of TSMAD that it can be included in the new version of S-64. Mustafa Iptes noted that the IHB would deliberate this matter at their next meeting.
		The following new actions were raised under this subject:
		Action item ARHC3-01 Denmark to monitor the work led by TSMAD in fixing on a suitable polar projection for ENCs and when appropriate report to member states and to the ARHC4.
		Canada pointed out that the TSMAD Chair does not consider polar projection a major problem.
		Action item ARHC3-02 Denmark to inform TSMAD about the ARHC expectations and decision on how to proceed with a suitable polar projection for ENCs and paper charts.
		Canada enquired about the test dataset, the response being that TSMAD will provide it to HOs and OEMs.
		Action item ARHC3-03 Denmark to circulate test dataset to the member states.
		Lars Hansen concluded that monitoring the TSMAD progress will continue and that Norway will bring up the question at the next IRCC meeting. Furthermore, ARHC member states shall have their TSMAD representative ensure that TSMAD does not neglect this subject.
		Action item ARHC3-04 ARHC Chair to raise the issue of polar projections with the IRCC and HSSC.
		Action item ARHC3-05 ARHC members to raise the polar projection question on TSMAD level.
16. <i>ARHC2-10</i>	Completed	
17. <i>ARHC2-12</i>	Completed	Denmark gave a report at the IRCC4 in Singapore in June 2012.

1.5 IHB report

Reference document ARHC3-IHB report

IHB Director Mustafa Iptes gave his report on current IHB issues.

Awareness to the IHB work is on the rise; the aim is to increase the number of member states to a three digit number, and he therefore encouraged ARHC member states to approve amendments and new member state submissions.

The potential for improving the information flow from the IHB to the HOs, for instance in the case of applications for new member states, was considered.

The inexpedient distribution of ENC cells to the IHB was discussed. Canada and Norway proposed a means of distribution of ENCs to the IHB based on “pull” rather than “push”.

Action item ARHC3-06 ARHC Chair to suggest a new system of distribution of ENCs to the IHB and, pending the approval of ARHC member states, to submit the proposal to the IRCC5.

2 National updates on Arctic hydrography

2.1 National report Canada

Reference document ARHC3-2.a

Savithri Narayanan presented the Canadian national report.

The Canadian Hydrographic Service is going through a transition with an increased national emphasis. National priorities do not yet include the Arctic.

Growing amounts of data will certainly add pressure on data processing. However, systematic evolution will warrant continuous HO integrity.

The report was noted by the ARHC3.

2.2 National report Denmark

Reference document ARHC3-2.b

Jens Peter Hartmann presented the Danish national report.

The new organizational structure of the National Survey and Cadastre was presented, including the future constitution of the Danish Hydrographic Office.

IHB Director Mustafa Iptes requested national changes to be updated in the hydrographic yearbook, when available. Rainer Mustaniemi added that the Finnish Hydrographic Office has undergone a similar exercise 3 years ago.

The report was noted by the ARHC3.

2.3 National report Norway

Reference document ARHC3-2.c

Evert Flier presented the Norwegian national report.

A point was made of greater data gathering capacity vs. data processing calling for more resources.

Vessels of opportunity will cross national borders and nations will have to somehow determine a policy on assessing the quality of data gathered, for instance when establishing CATZOC.

The report was noted by the ARHC3.

2.4 National report Russia

Reference document ARHC3-2.d

Though not presented, the Russian national report was noted by the ARHC3.

2.5 National report USA

Reference document ARHC3-2.e

Gerd Glang presented the US national report.

The possibility of remote processing of bathymetric data was discussed.

The report was noted by the ARHC3.

3 Reporting of Working groups

3.1 Report of ARHC strategic WG

Reference document ARHC3-6.2

NO presented the document on the work with strategy planning, stressing that contribution to the strategy work would be most appreciated.

It was decided to base the strategy on the objectives from the statutes, thereby anchoring the strategy in the statutes. It was also recommended to take into account the Terms of Reference when relating to the statute objectives.

Action item ARHC3-07 NO to call for member states' input for the strategic plan by New Year 2013.

Action item ARHC3-08 Member states to provide comments and suggestions on the objectives in the statutes with regards to the strategy.

Action item ARHC3-09 Norway to draft a proposal for a strategic plan based on the inputs from the member states and circulate the draft for ARHC approval.

3.1.1 ARHC information exchange

Reference document ARHC3-3.1INF1

DK put forward the proposition of forming a Hydrographic Data and Information Exchange Working Group, HYDIXWG.

In the following discussion, CA noted that exchange of hydrographic data between member states will best be handled through bilateral agreement.

DK encouraged the ARHC members to investigate if there is hydrographic information held by the respective HO's that could be made available for charts in Greenland in order to improve coverage.

USA stated that low resolution data from the Navy may be made available to member states, but that source data will not.

The ARHC agreed not to form a working group and agreed that exchange of hydrographic data and information shall remain a matter of bilateral arrangement. ARHC encouraged such bilateral initiatives for the benefit of safety of navigation.

3.1.2 Draft TOR for AICCWG

Reference document ARHC3-3.1.2

Norway gave their presentation on the process of INT Chart coordination.

The overall premises for the Arctic International Charting Coordination Working Group were discussed, following which the working group was officially formed. The AICCWG is chaired by Norway.

Action item ARHC3-10 Norway to call for ARHC member states to appoint members for the AICCWG.

Action item ARHC3-11 ARHC member states to modify the standard S-11 template ToR for use in the AICCWG and forward comments and suggestions to the AICCWG Chair.

Action item ARHC3-12 Norway to circulate the draft AICCWG ToR for ARHC approval.

3.1.3 BSMSDIWG - status report

Reference document ARHC3-3.1.3

Jens Peter Hartmann gave a presentation on the status of the Baltic Sea Marine Spatial Data Infrastructure Working Group, BSMSDIWG.

The ARHC took note of the report and a few points were discussed.

3.1.4 Conceptual model for maritime planning tool.

Reference ARHC-2 action 04-c

Shortly after the ARHC2 meeting in Copenhagen in September 2012 the Danish Maritime Safety Administration, DaMSA, closed down. Despite splitting up their fields of responsibility into other administrations, this action item, ARHC2-04C, has been completed.

Jens Peter Hartmann gave Denmark's presentation on a conceptual model for a maritime priority planning tool.

The ARHC3 took note of the presentation.

3.2 Report of technical WG

Reference documents ARHC3-3.2, -3.2.3, -3.2.4, -3.2.5, -3.2.7

USA gave their report from the Operational and Technical Working Group, OTWG.

Based on the guidelines in the ToR, USA opted to carry on as chair for the WG and Canada volunteered for vice chair.

It was decided that the OTWG shall carry on with the work plan as stated.

Action item ARHC3-13 OTWG Chair to propose the 2013 work plan with further requirements established by the ARHC3.

3.2.1 Arctic Charting and Mapping Pilot Project

Reference document ARHC3-3.2_INF3

Canada gave a presentation on their Arctic Charting and Mapping Pilot Project, stating that valuable lessons have been learnt during the process.

The presentation and a descriptive paper will be made available.

3.2.2 CIS ice charts

Reference document ARHC3-3.2INF2

Canada gave their presentation on CIS ice charts.

Issues regarding overlaps in international waters were discussed.

3.3 Report of arctic routing guide WG

Reference document ARHC3-3.3

Denmark gave a status report for the Arctic Routing Guide Working Group, ARGWG.

Based on the recommendation of the report, the common term *Arctic Voyage Planning Guide* was unanimously adopted by the ARHC. Consequently, the name of the working group would have to be changed to Arctic Voyage Planning Guide Working Group, AVPGWG, see **3.3.2** below.

File size for a PDF format solution as well as the textual content of an Arctic voyage planning guide was discussed.

3.3.1 Proposed Canadian Arctic planning guide

Reference document ARHC3-3.3INF1

Canada presented their work on the Canadian Arctic Voyage Planning Guide and draft editions of both paper and online versions were demonstrated.

The voyage planning tool is presented as a GIS product in an ESRI environment.

The potential for an open source solution was considered.

3.3.2 Mariners routing guide

Reference document ARHC3-3.3INF2

US presented their Arctic Mariners Routing Guide.

Rather than a national one, the US prefer a regional approach as the way forward for the Arctic Voyage Planning Guide, and they would be willing to compile 5 charts for the ARHC member states. NGA would also explore the possibility for a GEO-PDF version of the voyage planning guide.

The US proposed a short term response from member states by mid December 2012 with a subsequent 6 months to produce a prototype.

On a longer term an online edition like the one demonstrated by Canada should be considered.

Discussion ensued on the national vs. the regional approach.

Needs for a uniform look and feel as well as a certain degree of consistency with regards to the themes included in the national editions of the voyage planning guides were also debated.

Issues of distribution and updating were considered.

Subsequently, it was decided to discontinue the Arctic Routing Guide Working Group. Instead it was proposed that a drafting group consisting of Canada, the US and Denmark should draft an Arctic Voyage Planning Guide.

Action item ARHC3-14 Canada to convene USA and Denmark to commence drafting the Arctic Voyage Planning Guide.

3.4 Report of Nordic Nautical Publication WG

Reference document ARHC3-3.4

Denmark gave a report for the work done in the Nordic Nautical Publications Working Group, NNPWG.

Action item ARHC3-15 Denmark to invite ARHC member states to participate in the next NNPWG workshop, which will be held in Copenhagen in the beginning of 2013 (date to be decided).

4 International cooperation - IHO, IMO, IALA...

4.1 BLAST

Evert Flier gave a presentation on the BLAST project - *Bringing Land and Sea Together*.

4.2 MAREANO

Norway gave a presentation on the MAREANO programme.

General points on ocean management were discussed.

4.3 Arctic SDI

Jens Peter Hartmann presented the status report for the Arctic Spatial Data Infrastructure project, Arctic SDI.

Action item ARHC3-16 Denmark to forward background documents on the Arctic SDI to member states.

4.4 Issues arising from WEND-WG2 and HSSC meetings

Issues have been sufficiently covered under previous agenda items in the course of the ARHC3 meeting.

Mustafa Iptes will forward the minutes from the WEND-WG2 meeting held in London in September 2012 to be annexed the ARHC3 minutes.

Action item ARHC3-17 The ARHC Chair to include an item to the fixed agenda on informing the ARHC of WEND activity specifically related to ARHC work.

4.5 Items arising from Scientific Forum

Three additional items arising from the October 9 Scientific Forum were recognized and discussed:

1. Strategy for adoption of third party bathymetric data and policy for deploying vessels of opportunity.
This issue was brought to the attention of the ARHC during the presentation made by General Secretary Frigg Jørgensen from the Association of Arctic Expedition Cruise Operators, AECO.

Action item ARHC3-18 The ARHC Chair to address the issues of using third party bathymetric data to the IRCC.

2. How to gain IHO observer status and/or profile with the Arctic Council.
The background for this item was the presentation made by Head of the Arctic Council Secretariat, Nina Buvang Vaaja. The presentation surfaced a comment that Arctic hydrography could be a foundation infrastructure element for Arctic Council decision-making.

Action item ARHC3-19 The IHB, linking to ARHC, to investigate the possibility of liaising with and gaining observer status at the Arctic Council.

3. Use of modeled vertical reference frames.
Dr. Ole Baltazar Andersen from the Danish National Space Institute gave his presentation on Satellite derived reference surfaces for surveying. This approach is gaining use and recognition by IHO member states. Norway, Denmark and Canada have some experience in this area, as does the UKHO, and Denmark will conduct experiments specifically in Arctic waters in 2013 to further improve understanding on the subject.

Action item ARHC3-20 The OTWG Chair to coordinate with Norway in gathering member state know-how on the use of modelled vertical reference frames in the Arctic and to report back to the ARHC4. Norway will be point of contact for initial activity.

5 Actions arising from XVIII-IHO Conference

No actions from the XVIII-IHO Conference have been identified.

6 Actions arising from IRCC4

6.1 List of actions IRCC4

Reference document ARHC3-6.1

Lars Hansen went through the list of IRCC4 actions.

Mustafa Iptes informed the ARHC of the progress with the framework for the C-55 development.

6.2 INT chart region N

Reference document ARHC3-6.2

Agenda item has been covered, see **3.1.2** above.

6.2.1 The process of establishing INT region N

NO gave a presentation outlining the process of establishment of INT chart region N.

The commission took note of the presentation

7 Next steps and action items

Reference document ARHC3-List of actions

The Chair went over the updated list of action items from the ARHC3, and the document was adopted by the ARHC.

8 Unscheduled items

No unscheduled items were identified.

9 Election of next ARHC Chair

Reference document Statutes of the ARHC

Impracticalities arising from the present ARHC meeting practice of assigning chair and host from two different member states were discussed. In order to lighten the logistical and administrative burden of arranging future ARHC conferences, it was decided that the role of chair should coincide with that of host.

The ARHC chairmanship was passed to Evert Flier of Norway. The vice chairmanship is pending, but is provisionally passed to the Russian Federation.

Action item ARHC3-25 Denmark to circulate amended order of chair, vice chair and host for future ARHC meetings.

10 Time and venue for next ARHC meeting

Reference document Statutes of the ARHC

Action item ARHC3-22 The ARHC Chair (Norway) to schedule and arrange the ARHC4 meeting.

Action item ARHC3-23 The US to confirm hosting of ARHC4 and propose dates and venue.

Action item ARHC3-24 The US to present a draft program for the Scientific Forum seminar prior to the ARHC4.

11 Closing formalities

The Chair expressed his appreciation with the course of the ARHC3 and thanked all concerned for their contributions to a very successful conference. He thanked Norway for hosting the meeting and wished everyone a safe return journey.