

North Sea Hydrographic Commission

Minutes
of the
35th North Sea Hydrographic Commission Meeting 2022
Hosted by Icelandic Coast Guard
April 5th-6th 2022 09:00-16:20 GMT

Participants

BE: Koen Vanstaen

DK: Pia Dahl Hojgaard, Jens Peter Hartmann, Niels Tvilling Larsen

FR: Pierre-Yves Dupuy

GE: Thomas Dehling

IS: Georg Kr. Lárusson, Auðunn Kristinsson, Árni Þór Vésteinsson, Guðmundur Birkir Agnarsson

IR: Sean Cullen, Declan Black

NL: Marc C.J.c.d. Donck, Leendert Dorst, Toine Barten

NO: Birte Noer Borrevik, Evert Flier, Gudmund Jonsson

SE: Magnus Wallhagen, Annika Kindeberg

UK: Jackie Sydenham, Rhett Hatcher, James Coles

IHO: Mathias Jonas

Meeting coordinator: Níels Bjarki Finsen

Secretaries: Andri Leifsson, Sigríður Ragna Sverrisdóttir

Day 1 - April 5th 2022**A. Opening formalities****A.1 Opening remarks**

Docs:

- *NSHC35 A1 List of Participants*

Chair, Georg Lárusson, Director General of the Icelandic Coast Guard welcomed guests and remarked that 60 years have passed since the founding of NSHC. A lot has passed in these years. He focused on the importance of IHO work in the development towards a digital world. IHO is stepping into the future and cooperation is paramount.

Georg passed the chair of the meeting to Árni Þór Vésteinsson.

Árni welcomes the meeting.

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A.2 Adoption of the Agenda

Docs:

- *NSHC35 A2 Agenda and Timetable*

Chair addresses the agenda of the meeting and suggests that agenda item A4 be moved to “Any other business” as several items on the *List of Actions* will be addressed in various parts of the meeting. Confirmed, no objections.

A.3 NSHC34 Minutes for approval

Docs:

- *NSHC34 A3 NSHC34 Draft minutes V2*

Chair addresses minutes of NSHC34. Minutes for NSHC34 are approved. No objections.

A4. NSHC34 List of Actions

Docs:

- *NSHC34 A4 List of Actions*

Moved to *E.1. Any other business*

B. IHO Work Program 1 – “Corporate affairs”**B.1 IHO Report**

Docs:

- *NSHC35 B1 IHO Secretariat Report*
- *NSHC35 B1.1 IHO Sec Report - Presentation*

SG thanks and celebrates NSHC being able to meet in person. SG acknowledges the work of IHO WG’s and thanks for perseverance in their work through COVID-19 times. IHO has 97 member states with 18 subordinate bodies such as committees, subcommittees, working groups and project teams, among other things and only 18 office employees. The capacity building budget is substantive, but the vast percentage is earmarked in collaboration with the donors. IHO working group participation in 2021 had people from 40 MS, about 480 people in all, covering some statistics on the operation on IHO WG’s and HO participation.

Albania has set up national regular framework to become the 98th member state of IHO. Thanks to NO for the support in this work.

Implementation of the IHO Strategic plan is to elaborate on the gap analysis and with support of the IRCC conducting a specific workshop in April to identify and measure the suitable SPI.

Note HSSC governance doc. on the *dual fuel* concept.

Invitation to HO’s to further women in hydrography through contribution to the Empowering Women in Hydrography (EWH) project currently, under coordination of the IHO Secretariat. NSHC members are also invited to provide content to IHO’s new E-learning center hosted by the Republic of Korea.

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NSHC Statutes – adapt to the IHO Resolution 2/1997 in place. This is already an action item in the agenda of this meeting.

Capacity building programme and the Maritime Safety Information Services

– A second service provider to Inmarsat has been called for. This has to be elaborated on.

GEBCO support is requested through acceptance of crowdsourced bathymetry in national waters of jurisdiction and in-kind contribution of any survey data accessible for blue water.

International Hydrographic Review (IHR) is now a website, not only a .pdf copy of the publication.

New editor in chief is Dr. Patrick Westfeldt (Germany) and there are high hopes for elevating the IHR publication. To do this, content and participation from the member states including those of NSHC is needed.

Forthcoming 3 IHO Assembly 2023. The Assembly is scheduled as an in-person event on the 24th-28th of April 2023 [update Sept 2022: Assembly moved to 2nd -5th May 2023]. Among other duties, the Assembly is requested to discuss, endorse, and finally forward the triennial work plan for 2023-2026. NSHC is invited to discuss this.

NSHC is requested to take note of this briefing and to take action on the items raised in the full report submitted as meeting document.

B.2 IHO Council Activities

Docs:

- *NSHC35 B2 IHO Council Report*

DE: Report on the IHO council activities. Highlighting issues related to NSHC. 6 out of 10 members of the NSHC are also council members, but still 4 are not. During DE time in NSHC it has been an extremely strategic commission. An IRCC workshop will be held later this month. The Singapore lab is valuable, and the importance of making use of it for innovation and how it can be used to further development of harbor infrastructure and other issues.

IHO: For the running year there will be extensive report on the activities and strategic goals and targets, to be submitted to the Council C-6 in October 2022. This report will eventually become a chapter in the annual report.

B3. What does the future have in store for us?

Docs:

- *NSHC35 B3 What does the future have in store?*

IHO: NSHC, as a group of highly developed countries with enormous hydrographic interests can address this and find answers. For IHO it is important to keep in mind that some IHO Member States have different situations and are less developed and struggle with the basics.

Presenting on the situation, as it is towards NSHC and NSHC nations. To look to the future, we must start with the past. Matthew Fontaine Maury was a US-American that undertook the first large scale ocean mapping activity. This was inspired by the desire for cable laying. In 1850 they understood the importance of sharing data and shared data with the public.

Addresses IHO Strategic goals as core of the Strategic Plan. IHO is committed to deliver on S-100 compliant ECDIS. Discussed data shortage for coverage for such an ECDIS made by 2025. S-100

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ecosystem is taking shape, within the next two years product specifications will be ready, but data services are needed for regions, single HO's supplying data for one country is not sufficient.

Request for flexible global standardization to address local specifics.

For MASS now technical solutions are available, are those commercially viable?

Increasing request for HD-ENCs seabed topography increases the value of ENCs for many stakeholders. Revitalization of the GEBCO program with SeaBed2030 project. Increasing request for bathymetry from ocean and climate science plus a wide range of commercial stakeholders.

UN Sustainable Development Goals, UNESCO Decade of Ocean Science for Sustainable Development.

Regional activities: Europe – collaboration with EMODNET, Digital Twin of the Ocean (Starfish Project).

Proposed collaboration with observation programs such as ARGO and OceanOps.

IHO MS need to consider that more can be done beyond ocean mapping, tides and current info, standardized data model (S-100) in support of the Ocean Decade. Integrate local knowledge from IHO RHC's.

A vision for a North Atlantic coworking space. Synchronized approach of NSHC and USCHC for new initiatives.

- systematic survey in deep water
- test and deployment of new survey technology and data retrieval.
- Enhanced national support of CSBWG

B3.1 Roundtable Discussion. *Where do MS wish to see IHO in few years' times?*

DE: What can we, as a region, do to be an example for other regions? Where can we start?

NO: The cooperation of the US, Canada and North Atlantic should be discussed, opportunities in the North Atlantic, the GEBCO issues have been addressed.

SE: As chair of the Baltic Sea Commission, we have a great history of cooperation. There we will coordinate how to deal with the implementation of S-100. We are having a proposal within the Baltic Sea, with the working groups within the commission.

I would also like to add a bit on the S-421. As SG mentioned the safety of navigation is not only the main focus now. Harbor operations can affect on how ships report upon arrival and of supplying recommended routes, like airport operations, Sea Traffic Management.

UK: Form and function. SG reminded us of the various functions. Now I am focusing on the form, how we do what we do. Do we think the IHO is in the right form to deliver on the issues we want it to deliver on?

DK: We need to start thinking how we collaborate and find different methods to collect data because we cannot have ships sailing only collecting data for us, to cover all that needs to be covered. What about the geological surveys in relation to offshore wind farms? Have any of us been contacted on this? We need to find our partners and survey accordingly.

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NO: This has been approached and it has been collaborated on. Data should be accessible without limitations.

IE: We can build the case for the gathering of backscatter data for geological research.

NO: Frequently the value of the data we produce is manifold if combined with other relevant data.

DE: Looking at projects in other states can help and improve regional cooperation. With whom could we collaborate? We could establish a new WG for this cooperation, we should work towards cooperation with other regions in the Atlantic Ocean.

IE: The North Sea and the North Atlantic, is there ground for cooperation between the 3 regional commissions in the North Atlantic?

IHO: Within the last two decades we were focused on uniformity in hydrographic products and capacity building. Ocean mapping had lesser visibility and consequently lesser resources at hand. uniformity of existing services remains important but how can we focus on setting up new data services? We must do that ultimately globally, but if we want to expand on this idea of standardization, it must be done regionally as the first step. The North Atlantic is an opportunity to showcase this and attract industry into the matter.

DE: In the Baltic Sea the cooperative work that has been done on the different S-xxx, for example bringing currents into the data. Doing this in the North Atlantic would be a good showcase. Only some HO's have this type of data.

FR: SHOM is both a hydrographic office and an oceanographic office. We are seeing a need for oceanographic services. Services for deep sea navigation and networking are very important and we need to spend time on this to make things happen. If a description of the marine environment can be delivered with the data we collect for navigation; it can be useful for users and services. There are changes ahead we need to prepare for.

IS: What this future brings; sometimes it can be daunting and hard to cope, especially for our micro hydrographic office.

NO: A question of geography, the 16 regional hydrographic commissions cover the world. Where lies NSHC responsibility? What we feel may be one thing and what do we see as our geographical responsibilities? We have a role beyond our geographical territory, reaching out to half the Atlantic, as we see on the IHO website.

NL: When we think of the value chain and where we are in the value chain. What are we aiming for? Data can be assimilated into the value chain for a wider range of users. Providing S-111 services, how do we combine this? What model would we do? If we want to move up in the value chain too much, this can hamper us. If we don't get there before 2025, how can we expect the others to get there? The others will then come after us. Do we want to put a lot of effort into this new thing or do a consistent package to the end user?

DE: We should do this, it doesn't have to be our service but as everyone has a current model the national organizations must play a part in this. It is also important to consider that we should not be overly optimistic that we will be in control of all of this.

IHO: The IHO Goals are the ambition that we have put on ourselves. If we want to do this, we must think bigger.

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SE: We need to remember we are an intergovernmental organization, and we must seek confirmation with our governments. We should be able to coordinate this in each country and cooperate between NSHC countries.

NL: EMODNET recently expanded into the Caribbean. We should be and maybe we are very good at promoting the standards. If I go to the EMODNET homepage I can download data on many different standards but none on IHO standards. We should invest in this base layer that is ready to be taken up by the world.

B4. IHO SP 2021-2026, NSHC MS Gap Analysis.

Docs:

- *NSHC35 B4 IHO-SP NSHC MS Gap Analysis*

BE: NO mentioned S-102, BE and other MS also talked about that they were implementing this. Discussion is needed on how this can be implemented. Cooperation is needed, BE needs collaboration with neighbors, seafarers coming to BE do have to go through other national waters and implementation of new things is based on collaboration for this.

The states also mentioned the need to secure resources, to make sure that this can happen in the region as a whole. MS have mentioned that they have portals in place. We all have our own portals, but shouldn't we be looking at a unified portal, to get the big picture? How do you make those public portals take up our standards? Agree on methodology (C-55). What are the new applications? How do we increase visibility and ensure uptake?

UN Ocean Conference in Lisbon this July. Voluntary commitments. What would be the NSHC voluntary commitment for this? What are we going to do individually as HO's?

Sharing of data in both directions. The emphasis should not be on portals for downloading data but more on portal where you can use the data. Exchange of best practices and how can we learn from others that have already started in this field and exchange information. How do we align implementation to avoid S-1XX islands? What do we need to do?. How are we actually going to do this.

B4.1 S-100 plans - Roundtable discussion. *Where would NSHC MS like to be in a few years' time?*

BE: This was on the agenda for the VTC meeting last year. I have come to realize that this is still very much a current issue. I need a plan for how "my" S-100 plans fit to the plans of the surrounding states. Are we going to start thinking about this now, rather than going each our own way and then realizing down the road that our borders don't match? I don't think we should. But how are we going to move this forward? Lets hear from the people who were here when S-57 came, how did you do this then, is there something there that we can use now?

I say we should fit our plans together, but the question is HOW do we do it?

NO: Good issues and questions. If we agree that the NSHC is a commission who likes to be taken seriously, we should have serious coverage. Otherwise, how can we expect other states to come to the same level. We should start and use the time to find the solutions and find this joint coverage for the region. If we can't do this, then maybe the IHO roadmap as a whole is not realistic.

BE: What is the difference for the end user if we only have S-101?

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DE: There are some international prerequisites before we can start. The interesting thing might be as BE said, would be that value added resellers ask, why should we wait until 2025 to come forward with products related to S-101?

SE: We would need a body within the NSHC to coordinate. SE proposes that we give the task to NSICCWG, to coordinate this in the region. We will have to make sure that we have the right competence within the working group.

NL: We should set a minimum ambition. We can decide to do S-102 today.

The conclusion to the discussion was:

“The NSHC commits to be ambitious in developing regional data services based on matured IHO S-1xx data product specifications for navigational use. The targeted launch date will be mid 2025.”

Understanding the strategic priorities for S-1xx data services and what it means for HOs to deliver on required further analysis. BE volunteered to draft a proposal overnight.

The NSHC considered the excellent proposal drafted overnight from BE and decided further correspondence was required to ensure clear direction is provided for the RWGs affected (the North Sea International Chart Committee Working Group (NSICCWG), Tidal Working Group (TWG) and Resurvey Working Group (RWG)). See E2.

C. IHO Work Programme 2 – “Hydrographic Services and Standards”

C1. HSSC - items relevant to NSHC (incl. S-100 Roadmap Implementation)

Docs:

- *NSHC35 C1 HSSC report*

IHO: If it comes to S-111 and you want to do something visible and useful at the same time why not by 2024? That would be an excellent amendment for the ENC's.

NL: These are the same hydrographic models that create the LAT, but they are not the same across borders. I suggest we all invest in this.

UK: There is crossover between the S-57 and S-100. This would be too big of a task for just the chair for the NSICCWG.

NO: We all have our ENC coverage, why don't we just say that when you pass from one ENC model (f.ex. the Norwegian, to the Danish) that you move also from one tidal model to another. We must make sure this is possible.

BE: Do we want the mariners to choose their routes because they are avoiding having to shift to another model? It is better to look into this now rather than to have the problem later.

NE: It is one package, if it is under the authority of one service provider, and yes if you cross from one area responsible to another. But there is data. I am not worried about this if we have a complete package on this. You can't claim “national ownership” of ocean currents. If you enter this realm this is another discussion. In ECDIS this is not prescribed. There will be lessons learned but we need to get started with some sort of baseline.

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FR: If we can make a resolution together as a region, it would be something remarkable and SHOM is ready for this, maybe rather for 2025 rather than 2024. If we would make this resolution this would give the matter a push.

BE: Would we need to focus this matter in a separate WG? Is that a possible next step?

DE: We should make some steps to interregional coordination which is already proposed by the IRCC. This can follow the existing coordination with paper charts.

Would it be feasible to task this to TWG and come up with an idea and propose a way forward for regional cooperation for S-111?

FR: I believe we talk about tidal currents because these are the main currents we have in our areas. I think we can choose the tidal models to use in different areas.

NE: The problem isn't that big to the end user. We can spend a lot of time solving a problem that to the end user doesn't exist. We need to harmonize. We decided some time ago that we would have a different reference system for land surveys and for sea based surveys.

BE: Look at EMODNET they have brought data together, but have they harmonized?

SE: We should task the tidal working group with issue. We have realized that the chairmanship of the tidal WG changes in accordance with the chairmanship of the NSHC and this is unfortunate for such a technical working group to change its chair every other year.

DE: This needs more work before a decision can be made.

NO: We should not be making technical decisions here, but we should indeed make strategic decisions to set the course for the WG. We need to supply guidance to the experts as to where we want to be headed.

NE: We have been asked to be quick, but we cannot ask the WG to do that. Is there a solution we can employ quickly?

BE: We haven't defined a mechanism today that we can provide to the WG's.

NE: If we ask each HO, you will get different answers. To ensure a common denominator we need to know the situation in the MS and to be able to move forward in a reasonable way. Is 2025 realistic? To decide on that we need to realize what is the situation in the region.

UK: S-100 to coordinate. There is a suggestion from the WEND working group (that is being submitted to IRRC) for RHCs to consider the role of an S-100 Services Coordinator as we transition from S-57 to S-100. At the MBSHC the TORs for their ICCWG will be updated to include this.

NE: To have knowledge what the situation is in the region as opposed to individual MS.

NO: We need to make sure the working group has the competence needed to deliver what we want.

DE: This is a strategic question, there are producers that are interested in this, we do not have to be the producers of the end product. We want to avoid the obstacles on the way.

NE: Are we thinking about developing a NSHC service for use outside SOLAS?

SE/DE: This can be within SOLAS, this is for the use of S-1xx products for the market, who is providing the service is not the question here.

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NE: So individual MS will create data/products available in a harmonized approach?

NE: S-1XX is the format.

SE: To avoid one country having a service but the next country not.

DE: A data format and a service format is not the same thing.

NO: There are private companies out there that want to make money. We need to coordinate so that the end user suppliers can offer coverage, without there having to be “manual labor” included in making this useable. The end goal is to ensure that you can sail from one part of the region to another in a safe way.

BE: Do we want to have another meeting on this in 6 months, to be able to take this forward. There is not sufficient time here to discuss this adequately.

DE/DK: We need to put something forward today, that we need to agree upon before tomorrow, so that we can decide tomorrow.

SE: In Annex 2 to the S-100 Implementation Roadmap three alternatives are suggested for parallel production of S-57 and S-101 ENC. These options must be considered when taking strategic decisions in each HO. The coming Governance Document on the *Dual fuel* will clarify this further. It is an important document for how we will handle the Dual fuel concept. There are activities within Primar and IC-ENC in this direction.

Revision of the IMO ECDIS Documents on S-100 ECDIS. The report has been submitted to the NCSR 9 and cosponsored by CIRM and Intertanko.

IEC is making progress on updating IEC 61174 ECDIS Operational and Performance Requirements to include S-100.

The Hydrographic Survey WG (HSWG) has been established. First ordinary meeting June 29th -July 1st 2021

HSSC 13 agreed to establish a Project team on Maritime Autonomous Surface Ship (MASS).

How should we understand S-102? Originally it was not considered as for use for navigation. Using it for navigation does not exclude the option of using it for data exchange.

The first edition of S-98 has been agreed upon by S-100 WG6 and will be submitted for approval to HSSC14. Interoperability between the prioritized S-100 PS (first step) is included. What S-98 is doing is not create an overlay but will instead change the visualizing and alarm settings. It is therefore very important that this is in harmony. It will be presented in a different way if we have different water level data. It is crucial for MS to have their experts study this before the next HSSC meeting.

NE: I want to reinforce that because S-101 data may be replaced with S-102 data we have to be very careful who creates this data. This needs to be considered to harmonize both products.

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C2. Future of the paper nautical chart - outcome

Docs:

- *NSHC35 C2 Future of the Paper Nautical Chart*
- *NSHC35 C2.1 DGA production questionnaire*

SE: HSSC decision, NCWG created the *Future of the Paper Chart Final Report* and presented at HSSC12, October 2020.

Sales of paper charts is declining and sales of ENC's are increasing.

There is still demand for paper charts and paper charts are still valid for navigation. We should acknowledge that there are areas in the world that do rely to a large extent on paper charts. We need to keep the standard for paper charts alive. While we still do not want to put a big effort into producing them.

Optimize your portfolio. What do you need in your paper chart portfolio? Content – what do you need/what don't you need? Rule based cartography.

Use the future S-101 as base for the future paper chart (use possibilities for enhanced cartography).

The goal is to create a "Common IHO Baseline Symbology" including basic symbol sets and rules.

The resulting Baselines symbology may then be used

- by the production software developers as basis for further development
- by HO's to provide simplified products.

Recommendations:

No separate specification for simplified or back-up paper charts

DK: Baseline symbology. What is the estimated timeline for the simplified S-101 to be operational?

SE: Somewhere between 2025 and 2026.

DK: We need a harmonized way of doing this.

SE: If you have an advanced production system it is not so resource consuming to produce paper charts. You could have a large scale ENC but still only offer a smaller scale paper chart for the same area.

C3. The INFOMAR seabed mapping programme - progress update.

Docs:

- *NSHC35 C3 INFOMAR - progress update*
- *NSHC35 C3.1 Ireland INFOMAR – Presentation*

IE: Irish survey plan. Survey vessels and INFOMAR graduate training. Data handed over to the UKHO and all data available on the INFOMAR webpage. This is very valuable to all doing research and facilitates planning and research. Looking at backscatter especially, which has a cost to it, but it has benefits such as seabed classification etc. Graduate training and sharing of experience. Recording lectures and sharing openly.

Marine planning: Any developer gathering data will have to deliver this data to Irish HO and are responsible for doing so.

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NO: Keenly following INFOMAR. You are world leaders on this issue. You have a clear goal and have a socio-economic study that supports the activity. You have set fixed, timed goals for finishing surveying your wast area.

C4. Marine base maps in Norway

Docs:

- *NSHC35 C4 Marine base maps in Norway*

Started in 2018 to apply for funds, together with Marine research institute and Geological survey. Pilot program 2020-2022. NOK 84M budget.

Propose to map 80% of the coastal waters over up to 16 years.

Culture differences between the different agencies. Optimizing the surveying, not to cut back but to enhance. UNSD 17 - Partnerships for the Goals.

C5. Danish Geodata Agency - strategy 2021-2030

Docs:

- *NSHC35 C5 GDA strategy 2021-2030*

After 6 years of building the agency after relocation that meant the agency lost most of their employees. Goals for Hydrographic and Cadaster offices separate with common goals as well.

Meeting the needs of tomorrow. Goals in line with the goals of the IHO. Look into new technologies.

Maybe some data is better than no data.

NO: This comes to crowdsourced data.

DK: One thing is the data management issue (you cannot cope with ALL the data). Our defense is not happy with all data, for Greenland to be accessible.

Now we are looking further than only supplying data for navigation and looking into other uses for data.

Day 2 - April 6th 2022**D. IHO Work Programme 3 – “Inter Regional Coordination and Support”****D1. IRCC - items relevant to NSHC**

Docs:

- *NSHC35 D1 Report IRCC*

DE: IRCC meetings in 2020 and 2021 were both VTC meetings, IRCC14 will be held as a hybrid meeting in June 2022. IRCC has 15 RHC and 9 subordinate bodies. The oral reporting was reduced to focusing on three main topics: Work on strategic Plan and Gap analysis, Important findings, and proposals to the IRCC.

Highlight IHO-EU Network WG is contributing to the programs of the EU, focusing on:

EMODNET portals and Marine Spatial Planning. NSHC member states have been very active in participation.

2022 is the 10th birthday of the Memorandum of Understanding IHO-EU network with the EU Commission. Next meeting will be held on the 6th of May in Brussels with a meeting with the commissioner to Environment.

SWPHC18 provided an excellent Gap Analysis that could be used as example for other RHC

Cooperation is considered essential as well as sharing experience within RHC and inter-regionally.

SPI's have been allocated to the relevant IRCC bodies. IRCC bodies are tasked to develop measures for the respective SPIs and to report back to IRCC14.

First workshop was held as a VTC meeting in 7th of October 2021. Second IRCC workshop to be held on 28th April 2022. Focus on SPI for RHC. As simple as possible. SAIHC and SWAtHC will report on their experience. Support from MSDI and special demands for CBSC. Discussion and proposal to IRCC.

NO: Norway is member of 5 different RHCs and NO would like to offer to take over in the CSB committee.

Decision: NO (Evert Flier) will take over the chairmanship. NO will take care of the formalities.

BE: Commented on the IHO-EU WG, compliments on this work. We may see less tension and more cooperation. This meeting with the EU commissioner of the Environment is a great opportunity.

DE: At the last IRCC meeting there was a presentation by Shell (the company) and Jamie explained how difficult it is for the company to share data. They are happy to share the data they acquire, but some coastal states meet them with administrative burdens and no support. This is good data but there are obstacles in approving the data. They want to supply the data to the various states, but they do not seem keen to accept/confirm.

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D2. IRCC13 actions and recommendations

Docs:

- *NSHC35 D2 IRCC13 actions and recommendations*

Tasks assigned to RHCs at IRCC13:

From HSSC:

Recommendation 1: *RHCs are to encourage Member states to focus on ENC schemes but still follow applicable IHO Resolutions and Standards for any continuing INT chart production.*

Recommendation 2. *RHCs to recommend MS to note the information on ECDIS anomalies and support the implementation of the recommendations given by the ENCWG.*

The commission tasks the NSICC working group to follow up recommendation 2 on ECDIS terms of reference.

From Report by secretariat:

Recommendation 3. *RHCs and MS to advise the IHO Secretariat of any update/change to their position in relation with the CSB questionnaire (IHO CL21/2020)*

CSB – Crowdsourced Bathymetry. The CSB questionnaire has been dealing with the data and the CBS WG has been working with this. The recommendation is whether they will be willing to continue this action.

Recommendation 4. *RHCs to identify regional coordinators to act as a point of contact for CBS/Seabed 2030 and to raise the profile of data gather and provision within their respective Region.*

Regional coordinators have been identified.

Decision: NSHC thanks Patrick Westfeld (DE) for his contribution as CBS/Seabed 2030 coordinator within NSHC and elects Evert Flier (NO) as his successor.

Recommendation 5. *RHCs to encourage MS to participate in the Empowering Women in Hydrography project.*

NO: Suggested actions:

1. Leadership of NSHC MS commit to the Empowering Women in Hydrography project by putting the topic on their respective agendas, to address this topic in their organizations and to report on status, initiatives and progress at the next NSHC meetings.

2. IRCC to ask RHCs to have their MS report on gender balance;
a) total, b) management positions, c) survey and d) production

DE: This is part of capacity building.

NO: We do not need male leadership to send women to leadership positions but for them to acknowledge the resources in female leadership. Encourage leadership to take this onto their agenda. This may be done on a small or large scale. Report back to NSHC.

DE: Germany supports this from NO.

Action: MS to report to next NSHC on their activities to support this recommendation.

Recommendation 6: *RHCs to encourage MS to submit Articles and Notes for publication in the IHR.*

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DE: I think we should follow this, Leendert Dorst(NL) was nominated as NSHC member at the IHR Editorial Board.

Recommendation 7: *RHCs to consider extending the role of Charting Regional Coordinators for the implementation of the S-100 Implementation Roadmap.*

BE: Will make a draft and circulate for people to reflect and then we will decide.

Recommendation 8. *RHCs to try to plan at least one face-to-face meeting between the 2nd and the 3rd Session of the IHO Assembly.*

Resolved

Recommendation 9. *RHCs to coordinate the efforts on the implementation of S-100 and promote the cooperation and exchange of experiences.*

NL: Make a standing agenda item on S-100 to move forward and reach common ground.

DE: Supports.

Recommendation 10: *RHCs to apply Resolution 1/2005 in case of disasters occurred to support the affected States in their regions.*

DE: This applies to actions taken in advance to disasters occurring.

NE: Create a disaster relief framework, preplanning. As DE said, now there is no action needed in our region, but this should be put in place.

Reports from IRCC Subordinate Bodies:

Recommendation 11: *RHCs to invite relevant Member States to report to the IMO Secretariat and the Chair of the EGC Coordinating Panel on the progress and status of implementation of newly recognized mobile satellite services by MSI providers.*

No action needed.

Recommendation 14: *RHCs to encourage all Member States to actively contribute with new data to GEBCO and to discuss how MS can share existing data.*

Encourage MS to supply data.

IS: There is a closed action from 2018 in the action list.

DE: The discussion has been quite active, and this may have been more relevant.

No further action needed.

NO: The percentage of supplied data may be good but there are MS that are struggling and stronger MS can set an example for those. This should be a continuous action item and we have an obligation to challenge our national legislation, if needed.

Continuous action

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Recommendation 15: *Encourage RHCs and relevant Bodies to contribute to the recommendations provided by Shell to increase the cooperation between HO's and Natural source Regulators and reduce permitting requirements for transits through countries EEZ's.*

DE: I do not see this as a problem for the NSHC region.

NO: We have 2 member states within the NSHC who have considerable influence. We should not have this restricted to the regional limits.

Outcomes of the 2nd session of the IHO Assembly(A-2)

Action 5: *IRCC members involved to develop measurements to the SPI allocated to them and report back to IRCC14.*

Action 6: *RHCs and WGs to include the measurement of the SPI attributed by IRCC in their annual Work Plans (Permanent).*

D3. Strategic Performance Indicators (SPI) allocated to IRCC

Docs:

- *NSHC35 D3 Strategic Performance Indicators allocated to IRCC. Presentation*

NL: Follow on action on IRCC CL 1/2021 IHO Strategic Plan for 2021-2026 Procedure for measuring the Strategic Performance Indicators (SPI)

SPI 1.2.2.: *Percentage of navigationally significant areas for which the adequacy of the hydrographic knowledge is assessed through the use of appropriate quality indicators.*

NL: It means that the data has the appropriate quality indicator, not that the chart/survey is adequate.

NO: Good suggestion to adopt this. Do we have the right metadata? There will be many different users for the data and there will be uses for metadata. Should we include something on metadata? Are we limiting ourselves by being datacentric? Is data quality the only issue or should metadata clarify the quality of the data?

NL: There is a lot of metadata to this data.

DE: For this region, would it suffice to use CATZOC information? We could aim higher than the average HC.

IHO: We are of course looking for a global solution. How long until all HO's will have adopted CATZOC? We can manage this from the MS, without going from "door to door" and for many countries we will not get a response. We need to act with what we have.

NL: If you have better information than the CATZOC you should include them as quality indicators.

FR: SHOM: France supports this. Maybe we should also clearly define the areas, if we want to have a global consistent indicator.

DK: Changes in depth are different depending on the area, what is adequate in a certain area; Denmark has generally little change over time, Dutch harbors have a lot of changes over time.

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IHO: CATZOC is the measurement that is there already. Nobody should not produce better data. We need support.

NL: Nations are responsible for producing the ENC coverage for their areas (WEND principles).

IHO: The SPI analysis comes from the IHO the CATZOC comes from SOLAS. The SPI is not an absolute quality indicator, it is a relative indicator for if there is Global development. It is a relative measurement and must be easily accessed on a yearly basis.

NL: CATZOC is a mandatory attribute. It cannot be left out.

NO: Not all nations have all their ENC's assessed. Maybe a performance indicator could be "are the ENC's CATZOC assessed or how much of the ENC's have been assessed.

DE: there is obviously a deficiency globally on what is available and through the CATZOC evaluation status of ENC's we can have a good indicator. This is not really a problem for the NSHC region. I do not know if we should try to make this more sophisticated for our region. CATZOC is now available and doing more will take time and not provide performance indicators.

DK: If states want to include additional data should we standardize this additional information?

NL: This is standardized.

NO: For the CATZOC it either unassessed or one of the CATZOC variables.

NL: But "unassessed" is also a valid CATZOC validation category. If it is in the middle of the ocean that may be ok.

IHO: Looking at the situation on a global scale, we look for percentages of validated data.

NO: I understand the need for a global approach.

NE: If we include unassessed as "No CATZOC value" this would be an indicator.

SPI 1.3.1. Ability and capability of Member States to meet the requirements and delivery phases of the S-100 Implementation Plan.

Allocated CBSC as supported by CBC of RHC's

NO: I think that we need both leading and lagging indicators as this is a plan that is going to take some time to implement.

IHO: The key word here is metrics. This question is about ability and capability to do things. This splits into different ability can be difficult to tackle, technical ability - what can you do? Capability is education and knowledge. This way we can identify the bottlenecks, is it lack of money or is it lack of knowledge? Are HO's on their way or do they see themselves heading in the right direction?

DE: It comes to the point: where are the focal areas where capacity building is needed? At this stage a questionnaire is the way to go. This is good work from NL, excellent structure and setup.

Consensus of the room to have a questionnaire that can translate to metrics to start with.

SPI 2.1.1. Number of hits downloading data/information from the portal.

NL: Allocated MSDIWG as supported by RHC. Is the portal being used? Type of user? Who are we connecting with? Are we connecting with the right user group?

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Consensus: we follow the MSDI WG.

SPI 2.2.1. Percentage of adequately surveyed area per coastal State.

NL: "Adequately surveyed" is not defined. Refers to the C-55 survey status. Should we give this to the Resurvey WG? This could otherwise be a lengthy discussion here.

NO: There is a strategic PI for this. If we use this as it is, we meet two targets with this.

IHO: I welcome this very much; I support the Seabed 2030 requirement.

DE: This could be something for the resurvey working group.

DK: We agree to send this to the resurvey WG to work with these base lines, supplied here.

NO: The categorization <40 mtr to CATZOC A1 or A2 can be too much for countries with a complex shoreline and a lot of shallow waters below 40 m. In some areas you would absolutely want to survey this to CATZOC A1 or A2 but in some areas this is not necessary.

UK: A question on the action we are putting on the Resurvey WG, are we setting a deadline?

NE: Until the next meeting?

Action: Bring the issue to the WG and as the WG to clear this how we can make this work for everybody.

SPI 2.3.1. Number of Hydrographic Offices reporting success applying the principles in their national contexts.

NL: On the UN shared Guiding Principles for Geospatial Management.

NL: This is very generic. I find this one very difficult to measure. An oversimplified solution but the best so far.

NO: this is good to support less developed countries to establish infrastructure for this. You can use the questionnaire but most MS within the NSHC are using these.

D3.1 Roundtable discussion - How do we identify or provide values needed to measure the SPIs?

DK: Now we are developing the "Active Hydro" if we want to transform ourselves towards the future.

NL: We have data and if we look at the "Nine pathways" we have evolved.

FR: Everything must go through S-1xx products. Those can also be used for other products. It is important to have a more global picture of where we stand. The goal is to increase the USE of hydrographic data, although we collect it for S-100 data,

NL: I think this goes too far now.

DE: I agree. This should be a very generic status of matters for the SPI's.

IHO: This should be a high level, simple document that states our understanding of this and the situation as we see it.

DE: As IRCC chair I was tasked to do this, and I suggest we task the IRCC to do this on our behalf.

DK: Jens Peter Hartmann circulates this 2 page document from the UN, via chair.

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D4. NSHC sub-WGs

D4.1 North Sea International Chart Coordination Working Group (ICCWG)

Docs:

- *NSHC35 D4.1 ICCWG Report*

UK: To use RENCs more, where the RENC identifies the gap risk.

Note the recommendation made to WENDWG12

D4.2 Tidal Working group (TWG)

TWG has been inactive due to Covid 19 restrictions.

SE has set a meeting in the coming months.

Thomas Hammarklint will take chair at this time. SE suggests a more permanent chair is chosen.

Action: IS: Permanent chair for TWG to be chosen per correspondence.

D4.3 Resurvey Working group (RWG)

Docs:

- *NSHC35 D4.3 RWG Report*

UK: Sharing data internally, for cross border planning purposes.

The NSHC is requested to suggest a new chair for the RWG

DK: Who is the North Sea Shipping Group?

UK to supply report on North Sea Shipping Group (NSSG).

NL: Marc: Question: What we discovered in the North Sea Risk map was that for example for shipping lanes in Traffic Separation Schemes the two lanes had different CATZOC values.

DE: It is important to liaise to this group (NSSG), I do not set any obstacles. This is an informal group.

NL: We have a limited knowledge as to what this harmonized risk map is, and how are we now supposed give recommendations?

DE: I suggest that we task the RSWG to report on what can be done further.

Action: RWG to provide an update on the harmonized risk map to include the rationale for making the recommendation to NSHC.

IR: It would be valuable to note who the members of the North Sea Shipping Group are.

NL: Would it be possible to circulate this risk map in sufficient scale to be assessed?

DE: We could evaluate this intersessionally.

UK: Harmonization has happened to some level, as much as possible.

DE: We should change the ToR for the RSWG, are there any changes to the ToRs? Who is going to be the next chair?

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NL: From the audience I notice there are no volunteers for chair. I suggest that NL will chair the next physical meeting for, a one-off meeting. Leendert will sit in on the next VTC meeting planned before the physical meeting in the Netherlands.

No objection.

Decision: NL (Leendert Dorst) will Chair the next RWG meeting (RWG 12).

Action: NSHC to appoint the Chair for RWG 13.

Action: RWG to provide an update on the NSSG.

Post Meeting Note:

The NSSG assess navigational risk and shipping routeing resulting from wind farm planning. Each MS assesses these impacts within their waters but increasingly wind farms are closer to the MS boundaries and ship routeing needs to transit via neighbouring MS.

There is a need to liaise with neighbours, and to assess these impacts on the resurvey planning.

The RWG and NSSG will get mutual benefits and share very useful information.

Many members of the RWG already knew their counterparts in the NSSG.

Phil Payne (UKHO) was thanked for his work as Chair of the RWG.

D5. Report of the WEND WG to NSHC

Docs:

- *NSHC35 D5 WENDWG*

UK: Gaps and overlaps. WENDWG12 heard how Gaps and Overlaps will be treated in Area D. NSICC and WENDWG Representative will support and encourage members to resolve Overlaps deemed as High Risk and Medium Risk overlaps would also be considered as "HO Must Correct" which would mean all overlaps for Band 3 and 4 cells (used for navigation) must be resolved alongside those for Band 5 and 6. In future NSHC will focus on ENC overlaps deemed medium and high risk and ENC gaps that are larger than 1mm at compilation scale.

WEND-100 Principles were adopted at the 5th Council (IHO C 37/2021)

IRCCs decision to adopt WEND-100 principles was agreed at 5th Council.

WEND-100 Implementation Guidelines - The drafting group was headed up by the Netherlands. It was decided at the meeting to focus on the drafting work to SOLAS V, (ECDIS in particular) considering S-102, S-104, and S-111 products in particular.

S-101 ENC scheming Guidelines working group looked at the option for a Global Common Grid Scheme but it was agreed by WENDWG that right now we need to maintain the status quo and gather strategy from regional areas.

RHC WENDWG Reps will be asked to report back the regional approach and information to WENDWG 13 based upon an IGIF template. IGIF - (UN-GGIM compliant - Integrated Geospatial Information Framework (IGIF): <https://ggim.un.org/IGIF/>)

The NSHC is invited to:

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Commend MS work towards reducing overlaps by applying the WEND Principles in defining approved ENC schemes.

Note the recommendation being submitted to IRCC to develop regional organizational pathway for S-1xx priority products*.

Note the recommendation being submitted to IRCC for RHCs to consider the role of an S-100 Services Coordinator*.

Note the IHO Council Decision to further update the S-100 Implementation Roadmap.

NSHC is considering how to address the recommendations (*) made to IRCC (see Action at B4.1).

D6. BSNSMSDI WG

Docs:

- *NSHC35 D6 BSNSMSDI WG*

DK: Last meeting was held last September as a VTC meeting. The advantage was that participants were there that have otherwise not been participating.

A discussion to have a VTC meeting every other year and to have a physical meeting the other year. Also, to have shorter intermittent meetings. Also, outside stakeholders could be invited.

Focus on S-122 Marine Protected Areas.

Decided to join the OGC/IHO pilot.

Phase 1 is finalized. It was difficult to find the owners of data on marine protected areas.

DE was the only MS who had data on marine protected areas on the S-122 format.

The MSP data fit for a S-122 but the content was not there. We must get in contact with all the data owners to get the correct data we can use.

IHO: We all know it is one thing to create a data set but another thing to maintain. How will this be maintained?

DK: The biggest challenge was to determine the data owner, and do/will they have data that is S-122 compatible?

D7. Status CSB/GEBCO/Seabed 2030

Docs:

- *NSHC35 D7 Status CSB/GEBCO/Seabed 2030*

NO: The last great mapping endeavor of our planet.

Building partnerships for ocean mapping. What I do not see there is the need to improve.

Milestones: 2017: Seabed 2030, the sole aim to improve GEBCO.

The people of Seabed 2030 are most also involved or previous GEBCO people.

There is a lot of momentum in the CSB (Crowd sourced bathymetry) but still people find this scary. How can we relate to this with regard to security? Some nations would like to see the guidance

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document to be in line with national policy. How could this be, what would be the guidance in that? The guidance is thought to be to assist smaller (island) states.

GEBCO can be the base layer for ocean data.

How do you protect what you do not know? Massive coral reef recently discovered by Tahiti. The value is clear.

For NSHC MS 70% have responded to provision of CBS data but in general the response % is about 30%.

D8. Proposal for establishment of a Maritime Safety Information (MSI) Working Group

Docs:

- *NSHC35 D8 Proposal for establishment of a Maritime Safety Information (MSI) Working Group*

UK: The United Kingdom acts as NAVAREA I coordinator. Maritime safety information is going through a sustained period of change, with the introduction of new recognised mobile satellite service providers, the development of new technologies such as NAVDAT and S-124, and an increase in the number of warnings being promulgated.

Currently NAVAREA coordination is achieved on an ad-hoc basis with emails between NAVAREA and national coordinators. There is no defined mechanism for coordination.

To facilitate that the GMDSS MSI services in the NAVAREA are arranged in compliance with the regulations and recommendations of the IMO, IHO and other relevant organisations.

To facilitate cooperation concerning technical and administrative matters related to the MSI service.

To facilitate the exchange of information about events that could affect safety at sea within the NAVAREA.

To facilitate the exchange of advice concerning all aspects of daily MSI work.

To facilitate harmonization of new and existing methods that make MSI and other relevant information to shipping available.

To evaluate and compile views on new and changed methods of providing MSI and to forward these to the relevant body.

To exchange information about major planned operations at sea that are expected to affect international shipping in coastal waters of neighbouring countries.

Improve and develop capacity building.

UK invites all MS of NSHC to note the paper and endorse the setting up of a Maritime Safety Information Working group.

E. Any other business

E1. Moved from A4: NSHC34 List of Actions

Docs:

- *NSHC34 A4 List of Actions*

An invitation to visit the aircraft carrier HMS Prince of Wales at 1500. In order to keep this invitation, the meeting must agree to shorten the agenda.

It is suggested that List of Action will be handled per correspondence. This is confirmed, no objections

E2. Moved from B.3.1: Roundtable discussion.

IS: Proposes a review of the NSHC statutes.

IS proposes the forming a group for revision of the statutes.

Proposal for SE and IS to work together on a working document and circulate those.

Discusses some points for revision. SE is happy to take on the task, but the calendar is packed, patience would be needed. September this could be scheduled.

IHO. No need to start from scratch.

IS will take the lead on this and SE join in September.

No objection.

E3. From B.4.1: S-100 plans – Roundtable discussion.

BE: Proposal: NSHC - B4.1Action items:

1. The NSHC commits to be ambitious in developing a package of S-1xx products for navigational use with regional coverage, distributed through existing service channels. The targeted launch date will be mid 2025.
2. The NSHC commits to strive for harmonisation across the package of S-1xx products to support the increased use of hydrographic data for the benefit of society. These will be distributed, where appropriate, through navigational service channels or other appropriate regional data service providers.
3. NSHC, coordinated through BE, will launch a questionnaire to identify in addition to S-101 by 2025 which other S-1xx products can be available for production, maintenance, and service provision by MS as part of a regional package. The questionnaire will help to:
 1. Identify the scope of the initial package (e.g., S-101, S-104, S-111, ...)
 2. Identify a regionally aligned delivery timeline

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4. The outcome of the questionnaire will be shared intersessional for consideration by NSHC Member States and to finally form a proposal if and how data services for the named S-1xx products can be installed for the region.
5. Where there is agreement, the adjusted proposal will be accepted intersessional by correspondence. Where discussion is needed, a VTC will be arranged to agree the scope of the package and timeline. The aim is to reach conclusion by September 2022 to allow Working Groups to consider the outcome before the 2023 NSHC VTC.

SE: As part of the questionnaire, for the time being we should limit the task to S-101, -102, --104, -111.

BE: We should look at all but select out some as we select the ones to focus on, without giving ourselves a too big a task. I'm happy to be ambitious, but then it is important to have support.

NE: The questionnaire, is it like the CBC questionnaire, we should build on that instead of having it run parallel.

DE: There is quite a difference between this questionnaire in discussion and the CBC questionnaire.

FR: I would like to emphasize the importance of getting full coverage for S-102, 104.

BE: We will make a questionnaire and with response to that we can identify the S-1xx modules we want to include.

ACTION: BE to lead on the strategic correspondence required for NSHC to provide guidance to RWGs on what needs to be implemented to align S1-xx implementation (this work will take into account the recommendations made to IRCC by the WEND WG at D5).

F. Election of new Chair

F.1

SE: Magnus Wallhagen is elected new chair of NSHC. No objection.

UK is elected new vice chair of NSHC. No objection.

G. Place and date of next conference

G.1

VTC meeting proposed by SE. 29.- 30. March 2023. No objection.

H. Approval of NSCH 35 list of actions

H.1

List of actions will be circulated per correspondence.

I. Closing remarks

I.1

IS Thanks MS and closes the meeting.