

**7<sup>th</sup> MEETING**  
**OF THE IHO COUNCIL**  
**Monaco, 17 – 19 October 2023**



**REPORT OF THE IHO**  
**INTER-REGIONAL COORDINATION**  
**COMMITTEE**  
**(IRCC)**

# **REPORT OF THE INTER-REGIONAL COORDINATION COMMITTEE TO THE SEVENTH MEETING OF THE IHO COUNCIL**

## References:

- A. List of Decisions and Actions from A-3 affecting IRCC
- B. List of Decisions and Actions of IRCC-15

## Annexes:

- A. Empowering Women in Hydrography: From Project to Program

## **Introduction**

This document reports on the progress of the ongoing implementation of the Work Programme for 2023, especially the developments since the last report to the Council in 2022.

The 15th meeting of the Inter-Regional Coordination Committee (IRCC-15) was held in Tokyo, Japan, from 12 to 14 June 2023, hosted by JHOD, the Hydrographic and Oceanographic Department of the Japanese Coast Guard. The meeting was chaired by Mr Thomas Dehling (Germany) and attended by 47 registered participants from 19 Member States. The IHO Secretariat was represented by Director Luigi Sinapi and Assistant Director Leonel Manteigas.

The IRCC reviewed the reports and activities of its subordinate bodies and the RHCs. IRCC also considered the outcomes of the 3rd IHO Assembly (A-3).

## **Difficulties and challenges yet to be addressed**

None, if the funding issue raised at C-6 and A-3 is considered being addressed by Decision 20 of A-3.

## **Achievements/outputs/conclusions**

IRCC15 had a particular focus on the 3rd Session of IHO Assembly's Decisions affecting IRCC prior to C-7 in order to be more efficient. The relevant Decisions are listed in this section with reference to the respective paragraph in this report.

Decision 8 of Assembly 3 (extract): [see paragraph 35]

- c) directed IRCC to provide guidance to MSDI Working Group on implementation of Target 2.1 through supporting MSDIWG efforts via RHCs and the continued provision of global thematic layers by means of the existing IHO GIS infrastructure. Any proposed extension of the portfolio of global thematic layers by MSDIWG has to be brought forward to IRCC for endorsement and Council for approval.
- d) agreed to task the Secretariat, assisted by HSSC and IRCC chairs, to continue to measure the effectiveness and the efficiency of the three Work Programmes implementation by means of the Strategic Performance Indicators as endorsed by the Council.

Decision 9b of Assembly 3: Gender-inclusive language [see paragraph 26]

9 b) directed the IHO Secretariat to implement the gender-inclusive language in M-1 as a first step and invited all IHO Committees, Sub-Committees, Working Groups, Project Teams and Regional Hydrographic Commissions to review their TORs and ROPs in application of the new IHO Resolution.

This decision affects the RHCs and the IRCC subordinate bodies so it originated one recommendation and one action respectively.

Decision 17: [see paragraph 15]

A-3 approved changes to Art. 8 (e) of HCA and now offers the possibility to all IHO Member States, by the revised HCA Statutes, to become more engaged in HCA activities.

An HCA full membership is reserved for MS whose governments have

- acceded to the Antarctic Treaty and
- contribute resources to the provision of hydrographic data, products and services supporting marine safety of navigation within, and/or the wider marine geospatial information of the Antarctic region.

Decision 20 of A-3: [see paragraph 46] The Assembly:

- a) recognized the important global maritime issues facing the hydrographic community worldwide and that addressing these issues will require expanded global hydrographic capacity.
- b) approved the proposal to establish an ad hoc Project Team under IRCC to explore the possible establishment of reliable alternative funding for activities including capacity building and GEBCO.
- c) authorized Council via IRCC to review progress reports from the Project Team at least annually and provide guidance to the Project Team in preparation to report out to 4th Assembly (A4).

### ***Hydrographic Standards and Services Committee (HSSC)***

The HSSC Vice-Chair presented the progress on the S-100 Implementation Roadmap and on the S-100 product specifications. HSSC is focussed on the “Phase 1 - Navigational Route Monitoring Mode” Product Specifications to be operational by October/November 2024. IHO will report to IMO NCSR the progress of Product Specifications against the S-100 Implementation Roadmap, as well as the expected coverage of S-100 products once they start to become available. HSSC approved Ed. 1.0.0 of S-68 - Guidelines and recommendations for hydrographic offices for the allocation of CATZOC/QOBD (Quality of Bathymetry Data) values from survey data for initial implementation, testing and evaluation -, and Ed 1.0.0 of B-13 - Guidance to Satellite Derived Bathymetry -. HSSC tasked NCWG to work on S-11 Part A, Section 200, to incorporate S-101 Scheming Guidelines. HSSC discussed the paper provided by Germany on the effects of amended paper chart production practice, similarly discussed at IMO MSC 107, and tasked NCWG to make an impact study and develop a standard for NtM (XML) if appropriate. HSSC approved ToRs for the establishment of the S-100 Infrastructure Centre Establishment Project Team (ICE PT) under HSSC (following Decision A3/14). An ISO Cell was set up after HSSC13 to experiment with the application of ISO 9001 in the development of S-101 Product Specifications. On this, HSSC invited IRCC to consider mirroring such an ISO

Cell on S-101 via the RHCs. IRCC recommended RHCs to start producing S-101 and other S-100 Products by focusing on a specific part of the region.

HSSC endorsed the proposal from the UK for the IHO to consider the creation of a new award, more inclusive than the Medal of Prince Albert 1st, recognising once a year a champion of hydrography across HSSC and IRCC (WGs, SCs and PTs). IRCC also supported this proposal to consider the creation of a new award, to be presented to C-7.

### ***Regional Hydrographic Commissions***

The RHC Chairs (and those speaking on behalf of those chairs not present at the meeting) focused their reports on the most important regional key achievements, key findings and lessons learned, and then on the proposals to bring to IRCC's attention. The main concerns were related to the need of collaboration and coordination in the implementation of the S-100 Roadmap, the need to increase the Capacity Building activities at regional levels, as well as the lack of participation in the RHCs' activities and meetings and data collection in remote locations. Good progress in the inter-regional cooperation and successful partnership with industry and international stakeholders, especially in the field of Capacity Building and the implementation of new technology, were noted and discussed.

RHC Chairs were requested to discuss how HO's can assume a geo-coordinating role to help ensure provision of data on a regional level.

### ***Hydrographic Commission on the Antarctica***

IRCC recommended RHC Chairs to ask their MS and potential contributors to consider the extended activities in the implementation of the S-100 Roadmap for the HCA region.

IRCC recommended RHCs and Subordinate Bodies to consider to open the debate on future engagement in climate change related activities in reference to strategic goal 3.

### ***Maritime Safety Information***

The Sub-Committee on the World-Wide Navigational Warning Service (WWNWS-SC) Chair informed on the last WWNWS14 meeting, which was also a joint meeting with WMO Worldwide Met-Ocean Information Warning Service, focused on S-124 progress and Iridium SafetyCast Implementation. During the meeting, a Space Activities Working Group and a Task Team on Volcanic Activity were established.

WWNWS provided feedback on IHO SPI 3.1.1 (target 90%) assigned to WWNWS. Overall, for 2022, WWNWS assessed Coastal States MSI capacity to be 87%. The SPI is measured yearly, based on the navigational warnings issued and on the MSI support provided by NAVAREAs. WWNWS is working in cooperation with CBSC on a C-55 GIS project, considering the States having MSI capacity and meeting the MSI SPI, and those not having such capacity and not meeting the MSI SPI. The presented demo on the C-55 GIS project will be evaluated to be incorporated into the INTToGIS III.

On Iridium SafetyCast Implementation, WNWNS agreed that the use of all IMO RMSSs should be mandatory, showing those NAVAREAs already fully implementing the Iridium SafetyCast system, as well as those still in trial and those that have not yet implemented the system. Two courses on MSI were conducted in 2022. S-124, Edition 1.0.0 is ready for submission for approval. NCSR10 approved the joint IMO/IHO/WMO Manual on Maritime Safety Information.

IRCC recommended RHCs to encourage 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.

It has to be noted that MSI providers, should they implement Iridium SafetyCast services, are compelled to bear the burden of all additional costs, as a consequence of the approval by IMO Member States of the Iridium SafetyCast as an RMSS. This causes concerns for Coastal States.

### ***Capacity Building***

The Capacity Building Sub-Committee (CBSC) Chair presented the CB Work Programme (CBWP) highlighting the significant impact of the COVID-19 pandemic on the CB activities, the new projects launched lately (e-Learning Center and EWH), Proposal 3.5 to the 3rd Assembly and the C-55 improvements. The Chair highlighted the generous financial external contribution to Capacity Building coming from the Republic of Korea, Japan through the Nippon Foundation and Canada, and the related initiatives/projects funded with those contributions. The CB funds available for 2023 and 2024 were also presented, highlighting once again the core strategic role of Capacity Building in Hydrography. RHCs are recommended to ensure representation of their region in the CBSC and to encourage other IHO Member States to join in the work of the CBSC.

With reference to the e-Learning Center, the Project Team completed the Guidelines that includes the proposed composition of the Steering Committee. The CBSC endorsed the Guidelines and IRCC approved them, asking the IHO Secretariat to inform the Member States, via an IHO CL, that the e-Learning Center is fully operational and call for the establishment of the Steering Committee, in line with the indications provided in the Guidelines.

On C-55, the PT progressed on the proposal for the future of the IHO C-55 publication, highlighting that the C-55 PT developed a solution for survey status in countries based on CATZOC provided via the RENCS directly to the IHO Secretariat. For non-navigational purposes, data from Seabed2030 can support annual regional and global reporting including Areas Beyond National Jurisdiction (ABNJ). IRCC tasked CBSC to liaise with the RENCS and the IHO Secretariat to investigate which Member States are currently not contributing CATZOC data to the IHO Secretariat via the RENCS and to proceed with the proposed solution as given to IRCC11 (to populate C-55 Status of Survey for Safety of Navigation Purpose).

CBSC welcomed Decision 20 of the 3rd Assembly, requesting that CBSC is involved, highlighting that the project team should consist of members with the appropriate skills.

A way-ahead for the EWH project was presented by Canada on behalf of the IHO Secretariat, IRCC, CBSC and Canada, proposing how the project could evolve into a programme and the possible ways to support, financially and in-kind, the programme. The way-ahead will be reported from IRCC Chair to Council at C-7 for decisions. The one-pager “Empowering Women in Hydrography: From Project to Program” is attached as Annex A.

Regarding the gender-inclusive language (Decision 9b of Assembly 3), IRCC asked the subordinate bodies to review the respective ROP and TOR on gender-inclusive language and encouraged RHCs with a similar recommendation. To monitor the evolution of the respective figures, the IHO Secretariat was asked to issue a questionnaire on gender balance via Circular Letter every 3 years before the Assembly.

### **WENDWG**

The Worldwide ENC Database Working Group (WENDWG) Chair reported on achievements of the WENDWG in the last few years, focusing on the transition from a pure S-57 focus to the S-100 world. The WG completed a WEND-100 Product and Service Matrix using the UN-Integrated Geospatial Information Framework (IGIF) pathway principles to assist RHCs and MS, through the application of a basic UN-GGIM check-list and good practices applied to S-100 Products and Services. This approach is aimed at identifying the key issues and critical paths to be considered for a healthy product lifecycle, noting that not all future S-100 based products services can or will be provided by every Hydrographic Office. Responses to the Matrix were received from 8 of the RHCs resulting in an average total score of 45.85. The WG considered the WEND-100 Principles and S-1xx Implementation Guidelines to be in “maintenance mode” and included them as part of the regular agenda to consider updates as S-100 Products and Services mature.

IRCC commended KHOA for leading the INTToGIS III development, noting its importance for sharing S-100 product coverage into the future, encouraging submission of S-128 datasets for use in INTToGIS, and thanked NGA for the updates on NGA World Port Index and Global Maritime Traffic Density Service.

On the regional S-100 coordinator’s role, some RHCs requested more guidance on what the role entails. An amendment to include Section 300 in S-11 Part A to describe the Coordinator responsibilities was considered. Some progress was made on measuring the SPI 1.3.1 via a first run of the WEND IGIF Products and Services Matrix that has been completed.

IRCC tasked WENDWG to liaise with HSSC on how to mirror the HSSC ISO Cell on S-101 with the following scope: RHC S-101 production/coordination/distribution in the near future.

### ***Marine Spatial Data Infrastructures***

The Marine Spatial Data Infrastructures Working Group (MSDIWG) Chair reported on the progress on the IHO Strategic Plan Target 2.1 - Build a portal to support and promote regional and international cooperation in marine spatial data infrastructures - and, Target 2.3 - Apply UN shared guiding principles for geospatial information management -. MSDI reported as well on the S-100 framework, the Digital Twins (DT), the FAIR principles and UN-GGIM IGIF-Hydro from a MSDI perspective. On DITTO (Digital Twins of The Ocean), MSDIs are evolving from

a data infrastructure to a knowledge infrastructure and enabling and benefiting from DT would be one of the many ways MSDIs would drive marine knowledge.

The MSDI Chair mentioned the importance of the RHC MSDI Ambassadors to promote MSDI and help MS prepare national reports with respect to their MSDI status. The MSDIWG embarked on an update of the C-17 publication. The updates were deemed significant enough to entail an Edition 3.0.0. with the two most notable, a cookbook for HOs on not only establishing MSDIs but also advancing existing MSDIs and addressing all levels of MSDI maturity - leaving no one behind. This gives newly established MSDIs a chance to keep abreast of future trends and to adopt the latest advances in technologies, standards and practices; and secondly an “IGIF-aligned MSDI implementation”, explaining the bridge between the MSDI 4 pillars to the UN-GGIM IGIF 9 strategic pathways. The updated publication will also provide information on how HOs can apply these frameworks such that MSDIs can be integrated with the larger geospatial ecosystem, in line with the IHO Strategic Goals 2021 - 2026, to address many of the environmental challenges, climate change and sustainable development, and increase safety and efficiency of port-to-port navigation with integrated marine spatial data.

IRCC approved the MSDIWG Terms of Reference version 2.0, and endorsed C-17 Ed. 3.0.0, requesting the IHO Secretariat, in accordance with Resolution 2/2007 as amended, to issue a Circular Letter seeking for the approval of the IHO MS.

IRCC approved the application of ISO 9001- 7 Quality Management Principles from MSDI Perspective and for inclusion into IHO C-17 version 3.0, depending on the approval of C-17 by IHO Member States.

Finally and in accordance with A-3 Decision 8 point c), IRCC tasked MSDI to not invest in another portal, but to focus on the existing global thematic layers already available on the INTogIS. If new potential global thematic layers are identified in addition to those potential ones listed into the PRO 1.2 approved by A-3, they should be brought to the attention of IRCC for the approval by the Council.

### ***IHO-EU Network WG***

The IHO-EU Network Working Group (IENWG) reported on the MoU signed in 2012 by the European Commission and the IHO, which ensures a continuing liaison in areas of common interest. The 10th anniversary meeting of the EC and IHO in 2022 valued the contributions of the EU HOs and outlined prospects. The latest IENWG13 meeting was organised in Brest, France back to back with the annual European Maritime Days (EMD) of the European Commission and focused on global issues concerning the blue economy, the marine environment, the maritime security and ways of moving forward. IENWG and DG MARE discussed new opportunities for collaboration, covering also EU policies of interest for the IHO, projects and strategy. Information on some EU projects (EU study on marine data collection coherence, re-use of environment public data applied to marine knowledge, Inspire - European Spatial Data Infrastructure for the purposes of EU environmental policies and Maritime Spatial Planning) was provided and shared, highlighting the interoperability with data and IHO

standards. The EU countries' contribution to GEBCO's interoperability between EMODnet, the IHO DCDB and the IHO and IOC GEBCO was also discussed.

The strategy for the IENWG has been reviewed and the way forward has been discussed at the meeting, highlighting Maritime policies in order to continue to monitor and influence the EU policies, focusing on

- the development of the S-100 hydrographic products and services, in order to promote them across the European Commission (to make good use of for the purposes of blue economy, marine safety, climate change, protection of marine areas and biodiversity),
- the IHO Capacity Building programme, in order to promote the development of programmes for the hydrographic capacity in the EU, and outside EU in particular for safe sea lines with East Asia and Africa, in connection with IRCC initiatives to extend CB funds,
- and finally the data collection, in order to develop common acquisition campaigns of bathymetric data in the EU maritime basins.

The involvement of the IHO secretariat was recognized as an asset for the promotion of activities at high level in the EU Commission.

IRCC took note of the IHO-EU Network Working Group review of the strategy and the way forward for the IENWG, and the proposal to connect the IENWG activities with other IRCC developments on extending CB funds.

#### ***FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC)***

The FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) Chair reported that at the IBSC45 meeting in 2022, 13 submissions were received with only 3 initially recognized, but after the intersessional review all 13 were recognized. At this year's IBSC46 11 submissions were received. 1 submission was recognized and for the remaining 10, whilst 3 submissions were not recognized, the Board offered 8 inter-sessional revisions.

The Board decided to develop a pathway to recognize Subjects of the S-5 Standards S-5A & S-5B in addition to the recognition of full programmes. IBSC worked on the review of the IBSC Standards and maintenance of IBSC Publications. Ms Cecilia Cortina (Mexico), currently attending the University of New Hampshire - Nippon Foundation/ GEBCO programme alumna, joined the Meeting as an intern supported by Nippon Foundation/GEBCO within the EWH project. The Board discussed the need to update the Standards and potentially create a new standard for Marine Spatial Data Professionals. During the discussion the need to liaise with other stakeholders, in particular the IHO MSDIWG, to make an informed decision on the way forward on this subject was considered necessary.

IBSC also highlighted that the high number of inadequate submissions cause additional workload to the Board, and a second annual inter-sessional meeting is again required in 2023 to finalize reviews of the inadequate submissions, but mainly to progress on the revision of the standards and the recognition of Subjects. The future engagement of IBSC with the IHO e-Learning Center was also discussed.



IRCC tasked the IBSC in liaison with the IHO Secretariat to organize an online IRCC workshop to provide clarifications for the institutions on the preparation of submissions to the Board.

### ***Crowdsourced Bathymetry (CSB) WG***

The Crowdsourced Bathymetry Working Group (CSBWG) Chair reported on the last meeting and on the achievements of CSBWG. Following the publication of B-12 Ed 3.0.0, CSBWG13 focused on a critical review of the group's operating mandate, as set out in the ToRs and RoPs.

The new version of CSBWG ToR was approved by IRCC.

CSB has reached a level of maturity and is picking up momentum rapidly, assisting in a change in the way many Member States view CSB. CSB is working on designing a work plan and determining their direction forward, reviewing the evidence, working on the strategy and agreeing with the outcome. An important point is to investigate and promote ways to increase data contributions and incentives to take active part in the CSB initiative, also investigating ways to foster and facilitate data providers, increase data contributors and identify incentives on how and why mariners should become involved.

IRCC tasked the CSBWG in liaison with the IHO Secretariat to organize an online IRCC workshop on the benefit of Crowdsourced Bathymetry and how to expand data contribution.

### ***Data Centre for Digital Bathymetry (DCDB)***

Chair reported on the enhancements made over the last year at the DCDB.

A CSB Pointstore Dashboard is under development and the DCDB is formatted into a database schema and will then go through a data ingest pipeline to get archived and published. DCDB will continue to support the GEBCO Gazetteer and KHOA Beta-Gazetteer interoperability, developing a modern user interface. DCDB reported on SPIs 3.2.1 and 3.2.2 in a way that allows better understanding on the evolution on the amount of data and number of contributors to DCDB who are not Hydrographic Offices. Nearly 30 surveys from the ARHC region were added to the DCDB database since June 2022. For the next reports, DCDB would cooperate with RHCs to produce annual regional breakdowns of data holdings as part of SPI reporting. The MoU signed between IHO and NOAA to reaffirm NOAA's relationship and commitment to Ocean data was also mentioned.

### ***Ocean Mapping Programme and GEBCO Activities***

The GEBCO Guiding Committee Chair reported on the organization of the next GEBCO meetings in 2023 (Principality of Monaco) and 2024 (Fiji). A newly IHO appointed GGC member joined GGC in 2022 for a mandate of 5 years. GGC has been working on the celebrations of GEBCO 120th years of ocean discovery, a new GEBCO strategy, a GEBCO Code of Conduct, a GEBCO Governance review, including the GEBCO organigramme with all the relations codified and the next steps for the approval of the new GEBCO governance. The

high activity and intense cooperation with Seabed2030 was highlighted. A new GEBCO Sub-Committee on Education and Training was established. The main activities of the 5 GEBCO Sub-Committees were presented, with focus on outreach, including the presentation of the new 2023 GEBCO map during the IHO Assembly in May 2023 in the presence of H.S.H. Prince Albert II. IRCC endorsed the GEBCO Code of Conduct.

### *General Strategic Issues*

The IRCC Vice-Chair presented on the Proposal 3.5 - Establish an ad-hoc Project Team under IRCC to explore the establishment of reliable alternative funding for activities related to Capacity Building and GEBCO (see A-3 Decision 20). The PT composition was discussed, as well as the team's timeline and objectives. The possible available opportunities such as an ENC surcharge, voluntary contributions and approaches to Development Banks were presented, with aim to provide additional Capacity Building opportunities and Standards development. With reference to UN-GGIM, the important tool for engaging with the Development Banks via the IGIF-Hydro was also discussed. IRCC established a scoping Team under the leadership of Dr John Nyberg to investigate potential additional sources of funding and the Team's objectives for the following presentation to C-7.

A paper from Germany on "Effects of amended paper chart production practice" was presented to IRCC (the same paper was presented by Germany to HSSC at HSSC15 meeting). The IRCC acknowledged the work being done at the HSSC in supporting Safety of Navigation for non-ECDIS mandated vessels (small commercial, fishing, leisure, etc) to allow for the transition from paper nautical charts via the provision of digital maritime data for these users. IRCC invited RHCs to assign the INT paper chart scheme appropriateness check and possible amendment of the scheme. IRCC also encouraged RHCs to invite Member States to consider the provision of paper chart updating procedures depending on the findings of NCWG. IRCC additionally encouraged RHCs to invite Member States to consider the requirements (including regulations) for non-ECDIS mandated vessels (e.g. small commercial, fishing, leisure, etc) within national, regional and global discussions on this topic (HSSC15 decision 7 regarding Electronic Chart Systems PT refers). IRCC requested HSSC to direct the NCWG to liaise with WWNWS for the definition of the impact of the future of the paper chart production on the navigational warnings. IRCC decided to discuss RHC requirements regarding the future of all paper products (charts and publications) at IRCC 16.

IRCC decided to continue the quite successful tool of IRCC online workshops and defined two new workshops for the intersessional period. One is a workshop on IBSC submissions and the other is on the benefits and extension of contributions to CSB. The organization is on the respective subordinate bodies in liaison with IHO Secretariat.

### *Elections and next meetings*

The IRCC re-elected Mr Thomas Dehling as IRCC Chair and elected Ms Jennifer Jencks as IRCC Vice-Chair for the next 3 years by unanimity.

The next IRCC meeting is planned to be held on 10-12 June 2024 in Galapagos (Ecuador). Following meetings will be held in Nigeria (May/June 2025), Peru (May/June 2026) and Australia or New Zealand (May/June 2027 – Venue TBD).

### *Actions required of the Council*

The Council is invited to:

- a) note the report of the IRCC;
- b) note the activities launched by IRCC regarding the decisions from A-3 related to WP 3;
- c) give further guidance on these activities if considered appropriate;
- d) consider the implementation of a program called Gender Balance in Hydrography (GBH);
- e) note the planned workshops on Standards of Competence and Crowd Sourced Bathymetry;
- f) take any other action considered appropriate.