

3rd MEETING
OF THE IHO COUNCIL
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REPORT OF THE IHO
INTER-REGIONAL COORDINATION
COMMITTEE

REPORT OF THE INTER-REGIONAL COORDINATION COMMITTEE TO THE THIRD MEETING OF THE IHO COUNCIL

Reference: IHO Circular Letter 32/2019 dated 27 June - Call for approval of the revision of IHO Resolution 2/2007

Annexes:

- A. Proposal for amendments to the IHO Resolution 2/1997 *Establishment of Regional Hydrographic Commissions (RHC)*
- B. Proposal for a guaranteed minimum level of IHO Capacity Building Fund share
- C. Progress report on the Worldwide Electronic Navigation Services (WENS)
- D. Proposal for amendments to the IHO Resolutions 1/2005 *IHO Response to Disasters*

Introduction

This document reports on the progress of the ongoing implementation of the Work Programme for 2019.

The eleventh meeting of the Inter-Regional Coordination Committee (IRCC11) was held in Genoa, Italy, from 3 to 5 June 2019. The IRCC reviewed the reports and activities of its subordinate bodies and the RHCs and considered the need for enhancing regional coordination and cooperation. IRCC also considered the outcomes of the 2nd meeting of the IHO Council (C-2), acknowledged the accomplishments and challenges of the Capacity Building programme and the IBSC, examined the developments on Crowdsourced Bathymetry and ocean mapping activities, and considered issues related to the Worldwide ENC Database (WEND).

Difficulties and challenges yet to be addressed

There is no significant change to the difficulties and challenges reported to C-2. Most of the actions agreed in June 2018 at IRCC10 have progressed normally. The IRCC11 acknowledged the concerns of the Capacity Building Sub-Committee (CBSC) due to the lack of funding to cover all projects identified within the CBWP.

Achievements/outputs/conclusions

Progress made on revising the Resolution 2/2007

IRCC endorsed the final consolidated version of the IHO Resolution 2/2007 and reviewed its appendixes.

The Resolution 2/2007 as amended (see Annex A to IHO CL 32/2019 in Reference) is structured as follows:

- A main body describing the updated revised review cycle for working groups and project teams for the development phase of Product Specifications and Standards;
- Two Appendixes listing the Standards that have to be maintained in conformance with the IHO Resolution 2/2007 as amended;
- A third Appendix which provides guidance for conducting stakeholders impact study (see Action C2/12);
- Substantial editorial changes to align the Resolution with HSSC and IRCC new TORs and ROPs (IHO CL 02/2019 refers) were also made.

During IRCC11 it was noted that, as expected, the Resolution 2/2007 as amended, not only will facilitate the working groups and project teams work in developing S-100 based products speeding up the development phase, but it will also enable IHO to maintain a high level of control on changes to standards and specifications. In addition, the authority of the two main Committees of the IHO (HSSC and IRCC) is preserved and consolidated.

The Resolution 2/2007 was firstly endorsed by the HSSC11 and then by the IRCC11 (see Decision IRCC11/32). Consequently, the approval phase by Member States has been launched (See IHO CL 32/2019). Noting that the deadline for response is 15 September 2019, a report on the outcome of the approval phase is planned to be given at C-3.

Cooperation with Member States and attendance at relevant meetings

1. During the reporting period, Nordic Hydrographic Commission (NHC), US-Canada Hydrographic Commission (USCHC), East Asia Hydrographic Commission (EAHC), Eastern Atlantic Hydrographic Commission (EAtHC), South West Pacific Hydrographic Commission (SWPHC), Meso American - Caribbean Sea Hydrographic Commission (MACHC), Southern African and Islands Hydrographic Commission (SAIHC), North Indian Ocean Hydrographic Commission (NIOHC), ROPME Sea Area Hydrographic Commission (RSAHC), Mediterranean and Black Seas Hydrographic Commission (MBSHC) and South West Atlantic Hydrographic Commission (SWAtHC) had their scheduled meetings. These Regional Hydrographic Commissions (RHC) considered and coordinated their regional activities including the coordination of International (INT) Charts and ENC schemes, surveys operations, Capacity Building programmes, response to disasters, engagement with marine spatial data infrastructures (MSDI), outreach to external stakeholders and others.

In accordance with Assembly-1 Decision 5.o IRCC considered and agreed on the revision of IHO Resolution 2/1997 as amended (*Establishment of Regional Hydrographic Commissions - RHC*).

A Proposal for amendments to the IHO Resolution 2/1997 is provided in Annex A.

Increase participation by non-Member States

2. Co-operative Republic of Guyana became the 90th Member State of the IHO during the reporting period. The IHO Secretariat continues its campaign to recruit new Member States to the IHO, working with the Government of Monaco, RHCs and other Stakeholders.

Capacity Building Management

3. The 17th Meeting of the IHO Capacity Building Sub-Committee (CBSC17) took place in Genoa, Italy, from 29 to 31 May 2019. The CBSC updated and adjusted the 2019 CB Work Programme (CBWP) and approved the 2020 CB Management Plan and the 2020 CBWP considering the priorities identified by the Sub-Committee with respect to the IHO CB Strategy, the available resources and potential additional resources. IRCC acknowledged the CBSC's concerns on the restrictions and shortage of funding to meet the needs of capacity building of Member States.

A Proposal for a guaranteed minimum level of IHO Capacity Building Fund share is provided in Annex B.

Evolution of the CB Fund

4. The IHO CBWP was funded in 2018 (total 844 517 Euros) from the IHO budget and supplemented by additional financial support from Member States (currently the Nippon Foundation of Japan, and the Republic of Korea) with in-kind support from Member States and from stakeholders. For the 2019 CBWP, the Republic of Korea (ROK) contributed 543 500 Euros to the Capacity Building Programme to sponsor two students on the Category "A" Hydrographic Master Programme at the University of Southern Mississippi in USA (CL 17/2019 refers) and to sponsor five students on a Category "B" Marine Geospatial Information Program at the Korea Hydrographic and Oceanographic Agency (KHOA), Busan, ROK (CL 27/2019 refers). In addition, some of the short courses in the 2019 CBWP are being supported by the ROK's contribution. Fund provided previously by the Nippon Foundation (NF) of Japan (194 514 Euros) was used to sponsor seven students at the Category "B" 2018 course in "Marine Cartography and Data Assessment" delivered for the CHART (Cartography, Hydrography and Related Training) Project, at the UKHO, Taunton, UK. The following course is being conducted from September to December 2019 at the UKHO. (CL 22/2019 refers).

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

5. Sixteen course submissions were reviewed by the IBSC at its 42th meeting held in Hawaii, USA in March/April 2019 against the new Standards (IHO Publications S-8A and S-8B *Standards of Competence for Category "A" and Category "B" Nautical Cartographers* and IHO Publication S-5A and S-5B *Standards of Competence for Category "A" and Category "B" Hydrographic Surveyors*). From these submissions, 11 were recognized, three were considered for intersessional review and two were not recognized. The IRCC recognized the work done by the IBSC in the delivery of Edition 2.1.0 of the companion document *Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers* (May 2019).

Capacity Building Assessment

6. During the reporting period, technical assessment visit was made to Guatemala by the MACHC team, and technical implementation visits were made to Lebanon by the MBSHC team and to Niue by the SWPHC team. Additional technical visits are planned to Samoa, Marshall Islands, Palau, Togo, Gambia, Cambodia and Iran (Islamic Republic of) by relevant RHCs to be conducted by the end of 2019.

Capacity Building Provision

7. At the time of the preparation of this report, a Seminar on Raising Awareness of Hydrography was conducted in the NIOHC region and a Technical Workshop on Disaster Response Planning and Data Discovery was carried out by SWPHC. The remainder of the scheduled CB activities for 2019 are planned to be delivered by the end of the year.

Coordination of Global Surveying and Charting

C-55 - Status of Hydrographic Surveying and Nautical Charting worldwide Database

8. The IRCC noted the outcome of the C-55 Review Project Team (C55RPT), under the lead of Norway, with a proposal to address the limitations of the current IHO Publication C-55 (*Status of Hydrographic Surveying and Nautical Charting Worldwide*) and proposal for future development with a two-step approach. A short-term solution is using CATZOC information as an indicator for survey adequacy based on the proposal from France and UK (doc. CBSC16-08.3B). The IRCC recommended to RHCs to encourage Member States to use CATZOC to generate the input for C-55 in a consistent and harmonized way based on this proposal.

9. A longer-term solution is envisaged in making use of modern MSDI and GIS information. C-55RPT was tasked to propose and define the scope for future work using CATZOC in a GIS environment and the differentiation of uses for the future of C-55, engaging with the DQWG.

WENDWG activities

10. The IRCC11 reviewed progress towards the full implementation of the WEND Principles and considered with concern that overlapping ENCs create confusion onboard ships and that IHO community should work to eliminate overlapping data. The IRCC identified the need for a regional engagement to encourage Member States to use CATZOC to generate the input to C-55 (paragraphs 8 and 9) and for . this to be effective, there is the need to encode meaningful values of CATZOC in ENCs. Reports were received by the IRCC on the status of populating CATZOCs in ENCs, paper charts generated automatically from ENCs, high resolution ENCs and on possibilities to support and/or regulate the chart production for leisure boats.

11. The importance of data quality and consistency was considered and the IRCC invited RHCs to encourage Member States to distribute their ENCs via the RENCs and to provide their agreement for making CATZOC values available in the additional layers of INToGIS II (Manager Mode, available to MS only). The IRCC noted that work continues by stakeholders to improve coverage and to manage overlaps. The IRCC approved a revision to the WENDWG Terms of Reference that support an implementation strategy for S-100 based products, including S-101 ENCs and also continuity of WENDWG activities. The IRCC noted the early draft of the provision of S-100 services roadmap.

12. Council instructed the IRCC, at its Second meeting, to task the WENDWG (C2/30 refers) to investigate the applicability of the WEND-like Principles to the production and dissemination of S-101 ENCs and the first generation of S-100 based products and to report back at C-3. The IRCC has completed this task and the WENDWG established a drafting group to re-write the WEND principles to include the full suite of navigation services to be offered though the S-100 suite of product specifications. The WENDWG presented a progress report on the Worldwide Electronic Navigation Services (WENS) to IRCC11 and received feedback on how to proceed. Notably, the IRCC instructed the drafting group to reference the S-100 Roadmap for the Provision of S-100 Services once it is complete and to keep the scope of the WENS to include services that are related to navigation and MSDI. The new principles will follow the original intents outlined in the WEND Principles including data availability anywhere in the world, distribution through compatible and coordinated networks, standardization, authority of service, capacity building and data protection. The IRCC invites the Council to provide a progress report on WENS, in the context of the S-100 Roadmap, to the A-2.

The progress report on the Worldwide Electronic Navigation Services (WENS) is provided in Annex C.

13. The IRCC noted the improvements to the IHO ENC Catalogue and commended IC-ENC and PRIMAR for the ongoing support to ENC producers and user communities and the EAHC Regional ENC Coordination Centre (RECC) for its progress in establishing its operations. The IRCC also commended Republic of Korea and other stakeholders for their hard work in developing INTogIS Phase II.

Maritime Safety Information

14. The IRCC11 was informed of the activities of the World-Wide Navigational Warning Service, including NAVAREA and coastal warnings and progress on documentation of WWNWS. The IRCC noted the difficulties in ensuring Maritime Safety Information (MSI) infrastructures in the West and Central Africa region, where there are only three Member States and 18 Associate Members, with only two hydrographic services in place. The IRCC urged close liaison between regional CB Coordinators and the WWNWS-SC on the programming of and candidate selection for MSI training. The meeting was also informed on the risk to ensuring MSI training due to the lack of qualified trainers.

Ocean Mapping Programme and GEBCO Activities

15. The IRCC11 was informed of the development of the GEBCO activities in particular the progress on Seabed 2030 Project. The IRCC approved the GEBCO Work Plan and endorsed the amendments to the Terms of Reference (ToR) of the GEBCO Guiding Committee. The IRCC also endorsed the new edition 4.0.2 of IHO Publication B-6 (*Standardization of undersea features names*) (CL 34/2019 refers) to make the supporting bathymetric data available to the IHO DCDB as part of a submission. The IRCC noted that the new GEBCO grid was released in March 2019, which contained significantly more data, particularly in the Arctic and Antarctic regions, where the coverage has increased to approximately 15%. The IRCC also noted the creation of the new Sub-Committee on Communications, Outreach and Public Engagement (SCOPE) by the GGC.

Project Seabed 2030

16. Seabed 2030 is a new global project within the IHO-IOC GEBCO framework with the focused goal of producing the definitive, high-resolution bathymetric map of the entire World Ocean by the year 2030. Initiated at the Forum for Future Ocean Floor Mapping by Mr Sasakawa, Chairman of the Nippon Foundation, in Monaco in June 2016, the Nippon Foundation-GEBCO Seabed 2030 project commenced its operational phase at the beginning of February 2018. Under the initial Directorship of Mr Bindra Sindra, the project stood up the four regional centres (North Pacific-Arctic Oceans, South and West Pacific Ocean, Atlantic-Indian Oceans, and Southern Ocean) and the Global Center based at the British Oceanographic Data Centre (BODC) of the National Oceanographic Centre (NOC) in the United Kingdom (UK).

17. Under the current acting Director, Dr Graham Allen, a number of regional meetings have been held with a focus on data discovery, making data publicly available and gap assessment. A reappraisal analysis of the data coverage of the GEBCO 15 arc-second grid, based on current technology variable resolution bands, indicates that about 6% of the current GEBCO grid has been completed. The Seabed 2030 project has a goal of completing the GEBCO grid by 2030, such that each grid cell at the defined target resolutions that varies by depth will contain at least one depth sounding.

18. Work has continued on making additional datasets available and encouraging the IHO Crowdsourced Bathymetry (CSB) initiative to help increase the publicly available bathymetric data. The Seabed 2030 regional and global centers continue to work closely with the CSBWG. At the time of the preparation of this report, the selection process for a permanent Director of Seabed 2030 has been completed and the final contract negotiations are underway.

Crowdsourced Bathymetry

19. The IRCC noted the progress in Crowdsourced Bathymetry (CSB) activities, the edition 2.0.2 of IHO Publication B-12 (*Guidance on Crowdsourced Bathymetry*) and the need for RHCs to engage and encourage Member States to release datasets or subsets into the public domain via the IHO Data Center for Digital Bathymetry (DCDB).

20. The IRCC also noted the importance of increased awareness and information as well as stakeholder engagement/involvement in order to help to overcome a degree of scepticism on the CSB concept within parts of the IHO community and some sections of the marine domain where an overly cautious focus on potential,

although untested, legal issues and concerns on commercial exploitation of data these reservations. The IRCC approved the CSBWG to continue its work under the existing ToRs.

Marine Spatial Data Infrastructures

21. The IRCC11 reviewed the progress on global Marine Spatial Data Infrastructure (MSDI) activities and the outcome of the MSDI Concept Development Study jointly conducted by the Open Geospatial Consortium (OGC) and the IHO, funded by USA-NGA. A joint report is under preparation. It also acknowledged the work of the IHO Project Team on the implementation of the UN- GGIM Shared Guiding Principles for Geospatial Information within the IHO. The co-Chair of the UN-GGIM Working Group on Marine Geospatial Information (WGMGI) updated the meeting on its programme of work. The IRCC was informed on the development of training material for MSDI, funded by Denmark which is intended to be publicly available. IRCC also approved the amendments to ToRs and RoPs of the MSDIWG.

Other Issues

22. The Chair of the Strategic Plan Review Working Group (SPRWG) briefed the IRCC11 on the progress made by the Strategic Plan Review Working Group (SPRWG) and on the possible impact on the implementation of the IRCC work programme. IRCC Members were invited to provide feedback on the draft Strategic Plan and on the implementation of the IRCC work programme.

23. The IRCC noted the status report on the International Hydrographic Review by the IHO Secretariat and invited the RHC Chairs to ensure a qualified IHR Editorial Board Member represents the RHC. The IRCC also acknowledged the excellent work done by the late Mr Ian Halls as the Editor of the International Hydrographic Review. Assistant Director Alberto Costa Neves is the Acting Editor of the Review until a replacement for Mr Halls is found.

24. The International Cable Protection Committee (ICPC) reported its activities and the IRCC noted the growing threat to submarine cable infrastructure from uncoordinated deep seabed mining activity and the need to chart cables to full ocean depth in these areas, recognizing the need for ICPC members to provide as-laid cable data in a timely manner. It also noted the dialogue of ICPC with OGC with respect to commissioning an Interoperability Experiment and future Pilot project with the objective to develop a S-4xx submarine cable product specification.

25. In accordance with Assembly Decision A-1/19 that tasked the IRCC to review and redraft IHO Resolution 1/2005 – *IHO Response to Disasters* as amended taking into consideration PRO-3 and related comments and submit a draft revision to the Council. The IRCC11 endorsed the draft amended IHO Resolutions 1/2005 (*IHO Response to Disasters*).

A Proposal for amendments to the IHO Resolutions 1/2005-IHO Response to Disasters is provided in Annex D.

Key Priorities of IRCC for 2020

26. At its 11th meeting, IRCC considered and endorsed its key priorities for 2020 which are *Capacity Building Provision, transition from WEND to WENS concept, Crowd-sourced Bathymetry, Project Seabed 2030, and Marine Spatial Data Infrastructures (MSDI)*.

Actions required of the Council

27. The Council is invited to:

- a) **note** the report of the IRCC;
- b) **endorse** the amendments to the IHO Resolution 2/1997 (see Annex A, red-line and clean versions);
- c) **endorse** the proposal for a guaranteed minimum level of IHO Capacity Building Fund share and provide guidance (see Annex B);
- d) **provide** a progress report on WENS, in the context of the S-100 Roadmap, to the A-2;
- e) **endorse** the amendments to the IHO Resolutions 1/2005 *IHO Response to Disasters* (see Annex C, red-line and clean version);
- f) **endorse** the proposed IRCC key priorities of the IHO Work Programme for 2020 listed in Paragraph 26 of this report;

- g) acknowledge** the work done by the IC-ENC and PRIMAR for the ongoing support to ENC producers and user communities and the EAHC Regional ENC Coordination Centre (RECC) for its progress in establishing its operations;
- h) acknowledge** the significant effort from CB Coordinators to assess the needs in the region, to invite Member States to identify national and regional projects that may contribute to the CBWP and to coordinate the support for countries in need;
- i) acknowledge** the work done by the IBSC in the delivery of the new companion document Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers Ed. 2.1.0 (May 2019);
- j) take** any other action considered appropriate.