

SOUTHERN AFRICAN AND ISLANDS HYDROGRAPHIC COMMISSION

17-19 SEPTEMBER 2024, KISUMU, KENYA

Report of the IHO Secretariat

Submitted by: IHO Secretariat

Executive Summary: This paper reports on activities of the IHO Secretariat that may impact the work of the Southern African and Islands Hydrographic Commission.

Commission Specific Information, Opportunities, Events, and Recommendations

Technical Program and S-100 Implementation

- As presented in IHO [CL 43/2023](#), the Hydrographic Services and Standards Committee, S-100 Working Group put forth a 2024 timeline for advancing Phase 1 product specifications of S-100 Roadmap. In order to meet IHO and IMO expectations for 2026, the HSSC intends to adhere to the following schedule:

<i>Task</i>	<i>IHO CL issue date</i>	<i>MS Response Due</i>
<i>S-100 PSs Phase 1¹ Endorsement</i>	<i>October 2024</i>	<i>December 2024</i>

- The SAIHC is kindly requested to monitor IHO Circular Letter distribution and vote accordingly at their earliest convenience.

Opportunities for Training and Capacity Building

- Empowering Women in Hydrography (EWH) - A webpage (<https://iho.int/en/basic-cbssc-ewh>) has been set up for this project.
- NOAA (USA) announced that **3 opportunities** will be available in 2024 (CL09/2024). Selected candidates will spend a cruise (approximately two to three weeks underway) aboard a NOAA hydrographic ship gaining hands-on experience. Ideally candidates will be early to mid-level hydrographers with a strong background and continued interest in hydrography. **Application expected in early 2025.**
- SHOM (France) offered two opportunities (French proficiency required) in 2024 associated with the EWH project to participate in the hydrographic training programme at SHOM in partnership with the French speaking Hydrographic Association (AFHy) to obtain the Hydro3 certification and offered three opportunities to participate in hydrographic and oceanographic survey activities aboard two SHOM (France) research vessels. (CLs 40 and 41/2023). More opportunities will be announced on the second semester of 2024. **Application expected in early 2025.**
- Two opportunities for the Master of Science Programme in Hydrographic Science at the University of Southern Mississippi (USA), sponsored by the Republic of Korea 2024/2025, was announced in IHO CL 27/2023. A new CL is expected to be issued soon with more opportunities for 2025. A new CL is expected to be issued soon with more opportunities for

¹ S-101 *Electronic Navigational Chart*, S-102 *Bathymetric Surface*, S-104 *Water Level Information*, S-111 *Surface Current*, S-124 *Navigational Warnings*, S-129 *Under Keel Clearance Management*

2025. Application expected in late 2024.

7. Ten opportunities for the IHO - Republic of Korea Category “B” Hydrographic Survey Programme, held in Busan, Republic of Korea, was announced in IHO CL 44/2023. A new CL is expected to be issued in December 2024 with more ten opportunities for 2025. **Application expected in late 2024.**
8. Opportunities for the IHO - Nippon Foundation Geospatial Marine Analysis and Cartography (GEOMAC) Project, held in Taunton, UK. **Application closed March 4** (CL03/2024). A new CL is expected to be issued in early 2025 with more opportunities for 2025. **Application expected in early 2025.**
9. CL12/2024 informs Member States on the opportunity to present nominations for the 21st course of the IHO-IOC-Nippon Foundation/GEBCO Training Program leading to a Graduate Certificate in Ocean Bathymetry at the University of New Hampshire (UNH), USA. A new CL is expected to be issued in early 2025 with more opportunities for 2025. **Application expected in early 2025.**

Upcoming Events

10. Preparation of the 8th Meeting of the IHO Council - The 8th Meeting of the IHO Council is scheduled to take place in Monaco, from 15 to 17 October 2024. The preparation of the meeting has already started with “*CCL 01/2024 - Announcement of the Eight Meeting of the IHO Council and Provisional Agenda*” and “*CCL 02/2024 - IHO Annual Report for 2023 and Approval of the Finance Report for 2023*”, and “*CCL 03/2024 - Call for comments on the proposals to be considered at the 8th Meeting of the IHO Council (C-8)*”.

With reference to the C-8 Provisional Agenda (cfr. CCL 01/2024), the following items related to the subsidiary organs of the Council and the annual work program and budget deserve attention:

- Update on the establishment of the S-100 Infrastructure Centre
- Update on the S-100 Roadmap
- Update on the activities of the IHO Fund Generation Project Team
- Update on the Empowering Women in Hydrography Project
- Initial discussion on the revision of the IHO Strategic Plan based on inputs from subordinate bodies (HSSC, IRCC), Member States and IHO Secretariat
- Report on inclusive participation in IHO meetings and proposed Resolution.
- Proposed IHO Budget for 2025

As per CCL 03/2024 and in order for the IHO Secretariat to prepare the C-8 Red Book, Member States are invited to monitor the updates made on the list of proposals on the [C-8 webpage](#) on a regular basis and to forward any comments that they may have, **no later than 5 August 2024**.

11. GEBCO Week - In 2024, the Annual GEBCO Week will be held in Nadi, Fiji, in partnership with the Fiji Navy Hydrographic Office, SWPHC and the Nippon Foundation-GEBCO Seabed 2030 Project South West Pacific Regional Data Archive Centre (Run by NIWA and Supported by LINZ). The week will consist of a regional seminar and workshop investigating opportunities to unlock access to currently embargoed data holdings, as well as exploring opportunities for primary data gathering. It will also include the GEBCO Guiding Committee meeting which is open access to any interest parties.

Status of IHO Membership in the SAIHC

12. IHO membership now stands at 100 with two suspended. Current United Nations Member States are not required to seek IHO Member State approval in order to join the IHO. The IHO Secretariat, in cooperation with the Department of External Relations of the Government of Monaco, stands ready to assist non-IHO Member States with the IHO application process for membership and is willing to pay High Level Visits to those States in the region which are not yet IHO Member States. The IHO respectfully invites non-IHO Member States to accede to the IHO Convention.

The Commission is invited to review its information in P-5 and C-55 through the IHO Online Form system. The status of the data in the IHO Country Information Database concerning the Commission's Member States is as follows:

SAIHC

Table updated: July 22, 2024

Country	P-5 -Yearbook Last update received	C-55 Last update received
Angola	May 2023	September 2022
Australia - Heard I	December 2023	February 2019
Comoros	December 2022	May 2023
France	January 2024	May 2023
India	February 2024	July 2024
Kenya	November 2023	August 2020
Madagascar	August 2019	May 2023
Malawi	August 2019	August 2019
Mauritius	June 2023	October 2023
Mozambique	September 2019	May 2016
Namibia	September 2018	November 2012
Norway - Bouvet Island	February 2020	April 2022
Portugal	November 2022	August 2022
Seychelles	September 2019	August 2020
South Africa	June 2024	August 2022
South Africa - Prince Edward Islands	June 2024	August 2019
United Kingdom	July 2023	November 2023
United Republic of Tanzania	September 2019	August 2020

Recommendations and Invitations for the Commission's Consideration

- Committees are requested to respond to IHO CLs in a timely manner, particularly during Phase 1 implementation of S-100;*
- Support the continuation of the EWH project through financial and / or in-kind support.and to provide proposals via the specific webpage (<https://iho.int/en/basic-cbasc-ewh>);*
- Conduct a survey within Commission on hosting and attending meetings in the four different modalities (in-person, in-person with live streaming, hybrid, or full VTC);*
- Provide contributions to the IHO e-Learning Center at KHOA;*

- e. *Ensure the timely provision of MSI through NAV and MET Area Coordinators;*
- f. *Make data freely available for inclusion in the DCDB and the widest possible use, in accordance with IHO Resolution 1/2017;*
- g. *Review entries in the IHO Yearbook (P-5) and C-55 to provide the IHO Secretariat with the appropriate updates or to report no change (CL 20/2019);*
- h. *iaw @WENDWG14/23, acknowledge that the S-100 strategic approach to support and attract end-users for the IHO is not to complete the full S-101 coverage first, then consider the other products... but to engage the IHO into the development of a new distribution model, including cybersecurity and integrity measures and ensuring that end-users can easily access and get all S-100 Phase I products and ENDS in confidence along a given route;*
- i. *based on the above, that S-1xx Coordinators take appropriate actions (Work Plans for individual Phase I Products ENDS), by anticipation of the availability of Ed.2.0.0 Product Specs and consider testing, then using the forthcoming INToGIS III system for planning S-100 Products & ENDS Coverage;*
- j. *support the S-100 communication strategy towards end-users, manufacturers, IMO, addressing readiness and expected geographic coverage of S-100 based products and data services in the following years, from 2026 onwards (still to be developed) (WENDWG13/08 and WENDWG14/20 refer);*
- k. *Initiate the preparation of inputs for the review of the IHO Strategic Plan (C7/37 refers);*
- l. *Consider increase active participation of some IHO Members (see inclusivity) in the activities of the IHO in general; and*
- m. *Please note this report.*

**** See Annex A for additional information and subsequent recommendations from around the IHO. The recommendations presented above are for the primary consideration of the SAIHC.**

IHO Information

Decisions of the 3rd Session of the IHO Assembly

13. Decision 8: The Assembly agreed on the continuation of conduct of the annual Work Programmes on the basis of the Strategic Plan in place for 2021 – 2026 and directed the Council accordingly. Approved that Goal 1 of the IHO Strategic Plan and its targets shall have the highest priority in the implementation of the 2024–2026 Work Programme; directed IRCC to provide guidance to the MSDI Working Group on the implementation of Goal 2/Target 2.1 through supporting national and regional MSDIWG efforts via RHCs and the continued provision of global thematic layers by means of the existing IHO GIS infrastructure (trusted source, standardized, interoperable); tasked the Secretariat, assisted by the 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 (SPI) as endorsed by the Council; and tasked the Council with the development of the revised Strategic Plan to be put in place for 2027 – 2032 in compliance with the Planning Cycle and to submit the result for adoption by A-4 in 2026.

14. Decision 9: The Assembly 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.

15. Decision 13: The Assembly took note and approved the fundamental strategic change introduced by the S-100 framework and approved the Dual Fuel Concept for S-100 ECDIS.

16. Decision 14: The Assembly recognized the need to establish the S-100 Infra Center and approved the foundation of a new Project Team under HSSC with a three-year work plan including the establishment of the S-100 Infra Center and to prepare for the actual implementation period with consideration of the possible location of the Center; and tasked Council to report to the 4th IHO Assembly the progress of its three year operation including the establishment of the S-100 Infra Center.

17. Decision 19: The Assembly approved the proposed IHO Resolution on the recognition of the Southern Ocean; took note of the consequences on the limits of some global sea areas as a result of recognition of the Southern Ocean; and endorsed the fact that this new Resolution is without prejudice to or limitation of the views of the IHO, any other international body or any IHO.

18. Decision 20: The Assembly recognized the important global maritime issues facing the hydrographic community worldwide and that addressing these issues will require expanded global hydrographic capacity; 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; and 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).

19. Decision 27: The Assembly approved the increase of the value of the Member States contribution share by 3% to 4,145.05 Euro (~120 Euro per share) in one step taking effect in 2024.

Outcomes of the 7th Meeting of the IHO Council

20. In accordance with the decisions of A-3, the Council endorsed the principle that additional funding resources (Decision A3/20 and IRCC15 Decision 41 refer) should be considered for setting up a sustainable technical and administrative infrastructure around S-100 including standards development to meet the S-100 timeline, and in parallel of the establishment of the S-100 Infrastructure Centre, the Council tasked the HSSC to identify the current or emerging components that are critical in the implementation of the S-100 Roadmap that could candidate for being funded by

the IHO. The IRCC Chair reported that the WENDWG 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, whilst 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.

21. While noting the existing IHO Resolution 2/2014 as amended – Prince Albert the 1st Medal for Hydrography, the Council endorsed the proposal for an annual Champion of Hydrography Award and tasked HSSC and IRCC Chairs supported by IHO Secretariat, to prepare a proposed IHO Resolution for the Champion of Hydrography Award, to be awarded on an annual basis, followed by an IHO CL seeking the approval of IHO Member States on the proposed IHO Resolution.

22. The Council noted the outcome of a scoping team and endorsed the recommendations from the IRCC to establish a *Project Team on Fund Generation of IHO’ Project Initiatives* under the IRCC. IHO Secretariat to issue a CL on the establishment of the IHO FG PT, as soon as the draft TORs and ROPs are finalized by correspondence within the IRCC.

23. The Council agreed to continue with the EWH project led by the CBSC supported by remaining funds and future financial and / or in-kind support. Then, the Council supported by IRCC will develop a proposal on the future framework for an IHO social Programme (incl. Gender Balance in Hydrography) to be submitted to A-4.

24. The Council noted the dashboard (target 2026, WP2 and WP3 SPIs value as of 31 Dec. 2022) allocated to the IHO Secretariat, HSSC and IRCC (IHO Annual Report 2022, Annex B refer) and its update for WP1 as of 1 Oct 2023. The Council welcomed the offer from the Council Vice-Chair to lead a correspondence group consisting of BR, DE, DK, FR, GB, HR, JP, NO, NZ, SE and US on the ways and means to prepare the next IHO Strategic Plan 2027-2032.

25. The Council agreed to prepare an IHO Resolution on Guidelines for *Making IHO Events More Inclusive*, endorsed the principle of considering an initial proposal for a IHO Resolution Guidelines for Making IHO Events More Inclusive to be prepared by an ad hoc drafting group (AU, CL, FJ, NZ, SG, GB, US...), and then tasked the ad hoc drafting group (respectively IRCC) to conduct a survey on behalf of the Council to assess the feasibility, preference and willingness of MS, WGs, Committees Chairs... (respectively RHCs), to host and attend meeting in the four different modalities (in-person, in-person with live streaming, hybrid, or full VTC).

26. The Council tasked the IHO Secretariat to establish liaison with relevant data providers of MPAs and tasked the IRCC through the MSDIWG to establish a pilot project for the High Sea and MPAs adopted by IMO, to demonstrate the benefits of S-122 for non-navigation purposes.

27. Recommendations:

27.1 The Commission is invited to create the role of regional S-100 coordinator in accordance with the WEND-100 Principles and S-1xx Implementation Guidelines.

27.2 The Commission Chair is invited to evaluate the opportunity to participate with a representative from THE COMMISSION to the Project Team on Fund Generation of IHO’ Project Initiatives under the IRCC.

27.3 The Commission Members are encouraged to support the continuation of the EWH project through financial and / or in-kind support.

27.4 The Commission is requested to provide the IRCC Chair with an update regarding the measurement of those SPI of regional interest allocated to IRCC.

27.5 The Commission Chair is invited to conduct a survey within the Commission on hosting and attending meetings in the four different modalities (in-person, in-person with live streaming, hybrid, or full VTC).

27.6 *The Commission is invited to review the statutes implementing the gender-inclusive language as mentioned in Decision 9b of the 3rd Session of the IHO Assembly.*

Technical Program

28. As presented in CL 43/2023, the Hydrographic Services and Standards Committee, S-100 Working Group put forth a 2024 timeline for advancing Phase 1 product specifications. In order to meet IHO and IMO expectations for 2024, the HSSC intends to adhere to the following schedule:

Task	IHO CL issue date	MS Response Due
<i>S-100 Phase 1 Endorsement</i>	<i>October 2024</i>	<i>December 2024</i>

29. Member States, in particular those not directly involved in the activities of Working Groups and Committees, are kindly reminded that, unless Member State Circular Letter votes are issued in accordance with the timeline presented, the goals outlined in the Roadmap for the S-100 Implementation Decade will not be met. We must follow the deadlines presented in this schedule in order to meet the IMO requirements with regard to the implementation of S-100 ECDIS (Decisions A3/07, A3/13 and IHO Resolution 1/2023 – S-100 Implementation refer)

30. **Recommendation:**

30.1 Committees are requested to respond to IHO CLs in a timely manner, particularly during Phase 1 implementation of S-100.

Capacity Building Programme

31. CBSC 21 decided that the funded activities which were not executed in the 2023 CBWP could be carried over to the 2024 CBWP. The 2024 CBWP has 293,265 euros for non-earmarked projects and 790,223 € for earmarked projects. The total of funds available for 2024 is 1,083,488 €. In 2024 the CBWP will return to the pre-COVID practice of not carrying over incomplete activities from year-to-year. The 2025 CBWP approved at CBSC22 has 189,061 euros for non-earmarked projects.

32. The IHO expects increased pressure on CB finances in the next years with the expected reduction of non-earmarked funds, so it will be increasingly important to share resources across projects along with investing in remote activities, including across regions. There are expectations that the IRCC Fund Generation Project Team and the initiatives from the RENCs can contribute to improve the situation. CBSC22 evaluated and ranked submissions for 2025 and has posted the results on the Capacity Building and Technical Cooperation webpage on the IHO website. The focus is on the S-100 Implementation Roadmap and important support is expected to be received from both RENCs. SAIHC has the following activities planned and funded by the CB Funds for 2024:

- A-03 Technical Visit to Uganda
- P-30 Seminar on Raising Awareness of Hydrography
- P-33 ENC Training for Mozambique

For 2025 the following activities are planned and funded by the CB Funds:

- A-05 Technical Visit – Republic of Zambia
- P-07 Seminar on Raising Awareness of Hydrography

33. In 2024 were selected two candidates for 2024/2025 Master of Science Programme in Hydrographic Science at the University of Southern Mississippi (USA) (CL05/2024) and 10 candidates for the 2024 Cat B Hydrographic Survey Programme (CL 15/2024), both sponsored by the Republic of Korea. Seven candidates were also selected to participate in the 16th GEOMAC course in Cartography Cat B (see IHO CL 17/2024) sponsored by Nippon Foundation.

34. The C-55 PT progressed the proposal on 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. IRCC tasked CBSC to liaise with the RENCS and the IHO Secretariat to investigate Member State contributions of 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). C-55 is an important external IHO document, used by IMO as source for the status of survey and cartography worldwide in supporting the IMO Member State Audit Scheme (IMSAS) programme, and is also a source of data in measuring the Strategic Performance Indicators (SPI) that measure progress against the IHO Strategic Plan 2021-2026. At CBSC22 the Chair reported on the geospatial solution for MSI status of Coastal States on their website. This solution can function for C-55 reporting on MSI and therefore does not require membership input, as demonstrated at IRCC15.

35. The Empowering Women in Hydrography (EWH) work item aims to contribute to more women participating equitably in the field of hydrography and assuming leadership roles within the hydrographic community. Empowering Women in Hydrography - A webpage (<https://iho.int/en/basic-cb-sc-ewh>) has been set up for this project. Due to additional and continued support from Member States (Belgium, Canada, Denmark, France, Norway, UK and USA) the project continues as supported by the decision of the 7th Meeting of the Council. Events since IRCC15 include:

- Continuation of the Mentoring Programme.
- 2 opportunities from SHOM (France) training in hydrography (HYDRO-3 / AFHy)
- 3 opportunities to participate in hydrographic and oceanographic survey activities aboard two SHOM research vessels
- Numerous activities with the WMU (World Maritime University of IMO) on Gender Equality (workshop, webinars, etc.) and the participation at the UN Ocean Decade Conference in Barcelona in April 2024 with a joint WMU-IHO Satellite Event.

Current and future activities include:

- NOAA (USA) offered three opportunities for an at-sea experience/advanced training on NOAA hydrographic survey vessels for 2024 (see IHO CL 22/2024)
- Secondment to IC-ENC on e-Learning Creation (see IHO CL 23/2024)
- Hiring an EWH assistant
- Continuation of the Mentoring Programme supported by UKHO
- Internships / Secondments
- Funding support via UK Gender Balance Fund (see IHO CL 25/2024)

36. The IHO e-Learning Center, established by KHOA, is accessible at <https://elearning.iho.int>, or via the IHO website. With IHO CL 24/2023 the e-Learning Centre Steering Committee was established. Since its establishment, the IHO eLearning Centre Steering Committee (SC) has formed and met virtually 3 times. In the absence of a General Manager a General Manager Group has formed from the SC who in collaboration with the System Manager will assess any submitted material (for suitability and technical compatibility), share it with the appropriate IHO WG, facilitate its uploading and make the SC aware of the material. A System Manager is provided by the Republic of Korea to maintain the system. Their continued support is greatly appreciated and will ensure that IHO Members and Non-Members will be able to access important learning opportunities. The SC continue to seek e-Learning material from Member States and partner organizations to be added to the e-Learning Centre platform.

37. The 13th Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG/IMPA Capacity Building (CB) Coordination Meeting was held on 13 and 14 May 2014 at the headquarters of the IHO in Monaco. The meeting marked the restart of the joint CB coordination meetings after 5 years of interruption caused by the COVID pandemic, bringing together 16 representatives from the eight organisations. The main objective of the meeting was to coordinate the efforts of international organizations / associations for building and developing capacity in the maritime and marine sectors, in line with the United Nations concept of "Delivering as One". The organisations presented on their respective workplans and discussed how to cooperate having joint CB activities. Subsequent meetings have already been

scheduled in September 2024 (VTC) and September 2025 hosted by IOC. Associated with the Joint CB activities, once again the IHO participated as co-organizer in the 2024 Joint Capacity Building Asia-Pacific workshop on Enhancing Safety of Navigation with Maritime Digitalization that was held in the Intercity hotel, Daejeon city, Republic of Korea (ROK) from 9 to 11 July 2024. The Workshop was hosted by the Ministry of Oceans and Fisheries of Republic of Korea and co-organized by IMO, IHO, IALA and Republic of Korea.

38. The IHO Secretariat participated in the 74th IMO Technical Cooperation Committee (TCC) meeting, to share best practices and research synergies in the field of Capacity Building / Capacity Development related to Maritime Safety Information (MSI) and how the IHO and its Capacity Building (CB) program are committed to contributing support for the initiatives related to safety of navigation and the hydrographic responsibilities attributed to the States in the SOLAS Convention, with reference to all RHCs. At the last IMO TC74 meeting held in June 2024, a paper was presented by the IHO representative, with the aim to collaborate with the IMO in the areas of MSI and the development of the new S-100 Standard through joint activities in those regions / geographical areas that need more investment in terms of capacity development, in order to optimize the use of financial and human resources for the benefit of the International Maritime Community.

Number of Participants Selected from Region	
EWH – NOAA Ship Experience (2023)	0
Shom Hydrographic Training and hydrographic and oceanographic surveys	0
ROK Master of Science USM	0
IHO-IOC-Nippon Foundation/GEBCO Graduate Cert UNH	0
ROK Category “B” Hydrographic Survey	0
NF 16 th GEOMAC course in Cartography Cat B	0

39. Recommendations:

- 36.1 Commission members are invited to continue follow and evaluate the possibility to contribute to the CB Work Programme, with consideration for implementing an inter-regional approach.
- 36.2 Commission members are invited to participate in EWH and to provide proposals via the specific webpage (<https://iho.int/en/basic-cb-sc-ewh>) along with disseminating the call for Mentors and Mentees of the EWH Mentorship Programme (IHO CL 46/2022).
- 36.3 Commission members are invited to provide contributions of the IHO e-Learning Center at KHOA.

Maritime Safety Information Services

40. Work by the International Maritime Organization (IMO) on the modernization of the Communications and Global Maritime Distress and Safety System (GMDSS) continues with the ongoing review and updating of the SOLAS chapters III and IV and on the related and consequential amendments to existing instruments. The consequential changes as a result of the recognition of the Iridium SafetyCast service as a recognised mobile satellite service (RMSS) provider in the GMDSS continue to be implemented. The Iridium SafetyCast service became SOLAS carriage compliant from 1 January 2020. As a key outcome of MSC105 was that the use of all Recognised Mobile Satellite Services (RMSS) is now mandatory. The IMO made it clear that if any member state was experiencing issues with the implementation of SafetyCast, regardless of the nature of the issue, they should contact the IMO to discuss what support could be provided.

41. WWNWS provided feedback on IHO SPI 3.1.1 (target 90%) assigned to WWNWS. Overall, for 2023, 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 status of MSI among Member States to meet the MSI SPI. The presented demo on the C-55 GIS project will be evaluated to be incorporated into the INTogIS III. On Iridium SafetyCast Implementation, WWNWS 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.

42. 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 must 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. Good progress has been made with implementation with a number of NAVAREAs due to become operational in 2022-2023, with more entering the formal testing phase. However, there is still a number of NAVAREAs that need to commit to implementation before the service can be declared fully operational. This causes concerns for Coastal States.

43. Recommendations:

The Commission Chair is requested to encourage all Commission members to:

40.1 Establish and maintain effective communications with the relevant NAV and MET Area Coordinators to ensure the timely provision of MSI.

40.2 Use and follow the guidance provided in S-53 – Joint IMO/IHO/WMO Manual on Maritime Safety Information – to ensure the necessary facilities and capabilities are provided and maintained for the gathering and communication of MSI within their area of national responsibility.

40.3 Implement the Iridium SafetyCast services, as a consequence of the approval by IMO Member States of the Iridium SafetyCast as an RMSS.

Crowd-Sourced Bathymetry, GEBCO and Seabed2030

44. Following the publication of B-12 Ed 3.0.0, CSBWG 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.

45. The Circular Letters (IHO CL 21/2020 and IRCC CL 1/2020) to request MS to indicate their positions on the provision of CSB data are receiving new positive replies, in addition to the 35 already available at the link: https://iho.int/uploads/user/Inter-Regional%20Coordination/CSBWG/MISC/B-12_2023_EN_Acceptance_of_CSB_Data_in_NWJ_v7.0.pdf thanks also to the continuous engagement of the CSB-GEBCO-Seabed 2030 Regional Coordinators with IHO Member States, to advocate for open data access and CSB activities. There continues to be concern over the apparent lack of dedicated resources available within national HOs to process data available via DCDB. The importance of liaison with other IHO bodies, as well as appropriate engagement with industry to progress the work items, continues to be a key enabler for the project.

46. An IRCC CSB Workshop was held on the 26 April 2024, with the aim of reviewing the current status of the IHO CSB initiative, dispel some of the misconceptions surrounding the legal framework

for CSB, provide a forum for member states to ask questions regarding the adoption of CSB as a tool for filling data gaps, and to received feedback on the current approach of the CSBWG. The workshop was highly successful with over 100 participants in attendance.

47. A CSB Pointstore Dashboard is under development at the DCDB. The DCDB will continue to support the GEBCO Gazetteer and KHOA Beta-Gazetteer interoperation, 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 of the amount of data and number of contributors to the DCDB which are not Hydrographic Offices. For future reports, the DCDB will cooperate with RHCs to produce annual regional breakdowns of data holdings as part of SPI reporting.

48. The GEBCO Guiding Committee (GGC) has been working on the celebration of GEBCO's 120th year of ocean discovery, a new GEBCO strategy, a GEBCO Code of Conduct, a GEBCO Governance review, including the GEBCO organogram with all the relations codified and the next steps for the approval of the new GEBCO governance. A new GEBCO SubCommittee on Education and Training was established. Celebrations of GEBCO 120th anniversary were held in Monaco during the 3rd Session of the IHO Assembly in May 2023, in Paris during the IOC General Assembly in June 2023, and at the *Maps the Gaps Symposium* held in Monaco in November 2023.

49. With IHO CL 05/2023 – and with an IOC CL within the IOC community as well – the IHO advised Member States that nominations were being sought for the 20th course of the IHO-IOC-Nippon Foundation/GEBCO Training Program leading to a Graduate Certificate in Ocean Bathymetry at the University of New Hampshire (UNH), USA. The 20th course began in late August 2023 and students will undertake an intensive 12-month period of lectures, practical laboratory and on-the-water projects, secondments to relevant laboratories and cruises on research or survey ships. The course represents a strong investment in future generations of ocean scientists and hydrographers, In order to liaise with this successful existing program and to identify and connect with other ocean mapping programs, GGC38 decided to establish a new Sub-Committee on Education and Training (SCET), now operational.

50. Nippon Foundation GEBCO-Seabed 2030 project was endorsed as an Action of UN Decade of Ocean Science for Sustainable Development. The complex network of this project was explained along with the data ingestion in the system and mapping coverage that now stands at 24.9%, as announced by H.S.H. Albert II - Prince sovereign of the Principality of Monaco at the opening ceremony of the 3rd Session of the IHO Assembly on 2nd May 2023. The project is focused on mapping the gaps with three different initiatives: the Ocean Frontier Mapping, Crowd Sourced Bathymetry and Technology Innovation. It is necessary to promote the need to map the entire seabed and to encourage organizations to make their data available.

51. Nippon Foundation GEBCO-Seabed 2030 project signed many Memorandum of Understanding in recognition of the organizations' work to advance the understanding of ocean bathymetry, and to complement the goals of the United Nations Decade of Ocean Science for Sustainable Development. Data contributions increased from the previous year and, in addition to the regional programmes in support of IHO's Crowdsourced Bathymetry (CSB) initiative, it is seeing increasing interest across a diverse community of owners and operators of super yachts and small vessels who wish to help gather new depth information and support the harvesting of this bathymetry. New Trusted Nodes were established with the invaluable assistance of DCDB and CSB Working Group.

52. New global survey calls for greater coordination of seabed mapping activities were launched in London, 15 October 2021 to give a major boost to efforts to map the entire seafloor by the end of the decade. The survey aimed to develop a more consolidated global view of seabed mapping needs in order to move towards an agreed list of strategically important priority areas for further action. With IHO CL 11/2023, the IHO encouraged Member States to participate at the online survey to find out more about the status and potential of mapping the ocean floor, prepared by NLA International working on behalf of Seabed 2030. The survey is intended to reflect the views across both hydrographic and oceanographic communities that discharge responsibilities for seabed mapping in EEZs and ocean basins beyond national jurisdiction. In addition, it seeks the views from the wider global community of national government agencies involved in seabed mapping data acquisition,

production and use. Finally, the results of the survey could help guide efforts to review and adapt IHO Publication C-55 Status of Hydrographic Surveying and Nautical Charting Worldwide.

53. **Recommendations:**

Commission members are invited to:

49.1 *Consider the impacts of the increasing global societal and United Nations (UN) driven need to complete the picture of the seafloor as well as the potential benefits to individual coastal States.*

49.2 *Make data freely available for inclusion in the DCDB and the widest possible use, in accordance with IHO Resolution 1/2017.*

49.3 *Consider responding to the IHO CL 05/2023 and 11/2023.*

IHO and United Nations Decade of Oceans for Sustainable Development

54. GOAL 3 confirms the IHO's ambition to help facilitate a paradigm shift in the design and delivery of qualitative and quantitative ocean knowledge to inform solutions that will contribute to the 2030 Agenda for Sustainable Development, whilst the IHO's ambition to be an effective and recognized contributor to the major Ocean related challenges identified by the international community. The IHO Secretariat, for its part, is moving in line with the aforementioned GOAL 3, reinforcing and expanding cooperation with International Organizations and participation in those events and initiatives closely related to the knowledge and the sustainable use of the Ocean. In fact, in accordance with the *Decade Challenge nr.8 – Create a digital representation of the ocean*, IHO is promoting the essential role of bathymetry in underpinning ocean science and related activities.

55. Within the framework of the UN Ocean Decade, significant attention is being paid to the importance of bathymetry, in addition to that range of ocean parameters such as temperature and salinity. The Global Ocean Observing System (GOOS) steering committee has identified a number of Essential Ocean Variables (EOVs), suggesting that depth could be added to such list, with the IHO and IOC as leads under the auspices of the General Bathymetric Charts of the Oceans (GEBCO). In addition, the IHO and the OECD (Organization for Economic Co-operation and Development), with input from a broad range of stakeholders, have been undertaking a joint project to explore and identify the linkages between seafloor mapping, the ocean economy and ocean health. The latest step in this process was a joint IHO-OECD Satellite Event at the Ocean Decade Conference in Barcelona, April 2024. The satellite event provided an opportunity to formally launch the collaborative initiative, with a number of thought leaders providing case studies that brought to life key seabed mapping use cases.

56. **Recommendation:**

Commission members are invited to:

56.1 *Take note of the engagement of the IHO Secretariat in the UN initiative and the items for further consideration.*

IHO GIS and Databases

57. Work has *continued* on IHO internal systems. Especially, two components are to be mentioned:

- IHO Country Information system, and
- IHO Online Form system.

The IHO Country Information system has been progressively upgraded to include administrative information and facilitate the maintenance of the IHO publications such as Yearbook (P-5) and Status of Hydrographic Surveying and Charting Worldwide (C-55) posted on the IHO website. The IHO Online Form system has been used since March 2019 and has been widely accepted by the Member States for Circular Letter responses and updating P-5 and C-55 (CL20/2019 and CL03/2020 refers). Countries in the Commission's Region are invited to review their entry in the publications on an annual basis and provide the IHO Secretariat with the appropriate updates.

58. An Esri-based GIS solution has been implemented for the efficient visualization of geospatial data stored in the Country Information System. This Cloud-based service has enabled access to

various layers and functions through the IHO website such as the IHO ENC Catalogue. Currently, six WebGIS applications have been available to the public in this new environment (ENC Coverage Catalogue, IHO Web Catalogue of INT Charts and ENC Schemes, IHO Member States Map, FIG-IHO-ICA IBSC Recognized Programmes and Schemes, GEOMAC project and the Map regarding National Marine Spatial Data Information (MSDI) Portals).

59. Recommendation.

Commission members are invited to:

59.1 Countries in the Commission's Region are invited to review their entry in the IHO Yearbook and C-55 and to provide the IHO Secretariat with the appropriate updates or to report no change (CL 20/2019 refers).

IHO Outreach

60. There have been several actions to raise awareness about the IHO's work and the importance of hydrography to a broader audience. The Secretariat has continued communication on social media and participated in regional and global initiatives for the ocean.

World Hydrography Day

61. The theme for WHD 2024 was:

“Hydrographic Information -Enhancing Safety and Efficiency in Marine Activities”

This theme highlighted - as per Decision 8 of the 3rd Session of the IHO Assembly in May 2023 - Goal Number 1 of the Strategic Plan and it targets shall have the highest priority in the implementation of the 2024–2026 Work Programme, which means priority in application of material and human resources, liaison with public sector and industry partners, promotion of concerted regional approaches including increased collaboration with the RENCs, and support of test beds delivering best practice examples for the production, maintenance and distribution of all prioritized S-100 derivatives. The Secretariat would welcome any comments and suggestions aimed at improving the impact and the organization of annual WHD celebrations.

International Hydrographic Review (IHR)

62. Twice per year, the IHR provides an opportunity for Member States to publicize technical and other achievements in their regions. An editorial board comprising a representative from each region has been established. As it was announced through IHO CL 03/2022, since 5 January 2022 the IHR has a new editor, Dr Patrick Westfeld from Germany. Recently Dr Westfeld was confirmed for another two-year term as IHR editor.

63. Papers for consideration for publication in the IHR should be forwarded directly to the editor (ihreview@iho.int, copy to ihr.editor@iho.int.com). The deadlines are:

- End of January for the May Edition
- End of July for the November Edition.

64. At the 3rd Session of the IHO Assembly, the Review celebrated its 100th Anniversary with an IHR editor's report on the history, the achievements and evolution of the Review. The IHR May 2023 nr.29 issue was the jubilee issue and it was delivered to the Assembly's delegates.