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IHO COUNCIL REPORTS

7th MEETING OF THE IHO COUNCIL

IHO C-7

Monaco, 17-19 October 2023

SUMMARY REPORT

(Version 1.1, 26 October 2023)

Note: while the 7th meeting of the IHO Council was conducted according to the timetable, this summary report is in line with the sections of the agenda.

Annex A: *List of Registered Participants*

Annex B: *Agenda*

Annex C: *List of Decisions and Actions*

1. OPENING

2. Secretary-General Opening remarks

Docs: C7-01A List of Documents

C7-01B List of Registered Participants

C7-01.5A Membership Contact List

The **Secretary-General of IHO, Dr Mathias Jonas**, opened the meeting and welcomed participants to the first meeting of the third Council¹ of the IHO cycle. A total of 35 Member States, including the 30 Member States constituting the members of the Council had registered, 28 of whom were present². The main task of this Council was to direct the future activities of IHO in the light of the decisions taken by the 3rd IHO Assembly in May 2023. Seventy participants were present in the conference room of the IHO Secretariat. Australia (Observer status in this third Council) attended the meeting remotely (live streaming).

Decision C7/01: The Council welcomed the opening address from the Secretary-General, who recalled the responsibilities of the Council as per the ROPs, the balance in representation for this 3rd Council in the IHO cycle (continent, tonnage, technical capacity...) and finally the objectives of Council meetings.

2. Adoption of the Agenda and Timetable

Docs: C7-01.2A Agenda Rev 2

C7-01.2B Timetable

C7-01.2C Red Book Rev 1

The agenda and timetable were adopted. Attention was drawn to a recently submitted information paper from the **United States** on navigation regulatory considerations for Hydrographic Organizations (Doc. C7-09.1 INF).

Decision C7/02: The Council adopted the agenda and the timetable as proposed, and noted the availability of the C-7 Red Book.

The Council agreed to consider the information paper (Doc. C7-09.1 INF) at the end of the meeting under AOB, time permitting.

¹ Note: Council#1 (2017-2020), Council#2 (2020-2023), Council#3 (2023-2026).

² Angola and India, Members of the Council, were not represented.

1.3 Formal establishment of the new Council, confirmation of the election of the Chair and Vice-Chair.

Docs: IHO CCL 03/2023 Election of Chair and Vice-Chair of the Third IHO Council

The **Secretary-General** reminded the decisions of the 3rd Session of the IHO Assembly where the selection process and the composition of the Council were agreed, and confirmed the subsequent election of Ms Pia Dahl Højgaard (Denmark) as **Chair** and Dr Masayuki Fujita (Japan) as **Vice-Chair** of the Council for the next three years.

Decision C7/03: Noting Decisions A3/31 and /32 and Council Circular Letter CCL 03/2023, the **3rd Council** of the IHO (2023-2026) was formally established, with **Ms Pia Dahl Højgaard (DK)** as Chair, and **Dr Masayuki Fujita (JP)**, as Vice-Chair.

1.4 Chair's Opening remarks

Docs: C7-01.4A

Ms Pia Dahl Højgaard, Chair of the Council, was honoured to be elected Chair, but acknowledged the considerable challenges ahead if IHO were to achieve its ambitious target of full S-100 product and service implementation in this decade. The decision of the 3rd IHO Assembly that Goal 1 of the IHO Strategic Plan (hydrographic support for safety and efficiency of maritime navigation) should be the main priority over the next three years would affect every area of the Work Programme. The Council would need to oversee the development of new services and ensure their interoperability. The new triennium brought opportunities as well as challenges, however: the new data which would be generated would contribute to the mitigation of climate change and the expansion of renewable energy sources. IHO should publicize those potential benefits widely.

The Council had proved its value at the 3rd Session of the IHO Assembly by presenting mature proposals which had enjoyed a wide consensus among Member States. The main issues it would face at the current meeting included proposals to update the S-100 Roadmap, activities to improve capacity-building, gender balance, Member State participation in IHO meetings and promote a wider knowledge base in national Hydrographic Offices, and initial preparations for the next Strategic Plan, to be finalized at C-9 and adopted at the 4th Session of the IHO Assembly in 2026.

Decision C7/04: Council Members welcomed the opening address by Council Chair and agreed on the participation of **RENCs/RECC** representatives (IC-ENC, PRIMAR and EACC) as Observers.

1.5 Administrative Arrangements

*Docs: C7-01.5A Membership Contact List & Useful References – Marked-up Basic Docs
(IHO Convention, General Regulations, Assembly ROP, Council ROP)*

The **Council Secretariat** requested members to check their entry in the Council's Membership Contact List and advise the IHO Secretariat of any amendments. Participants were reminded about the silence procedure, under which members who did not explicitly oppose a decision were deemed to have accepted it. The IHO Secretariat further explained the process and timelines of the Council Summary Report and the work of the précis-writers and five rapporteurs kindly appointed by France, the Netherlands, the United Kingdom, the United States of America and Mr Jeff Wootton from the IHO Secretariat.

Decision C7/05: IHO Member States having a seat at the Council to provide the IHO Secretariat with their updates to the IHO Council List of Contacts.

2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY

2.1 Review of the List of Assembly Decisions affecting the Council and discussion on the way forward and effective implementation.

Docs: C7-02.1A Assembly decisions affecting the Council and way forward

The **Secretary-General** reviewed the decisions of the 3rd Session of the IHO Assembly that affected the Council, with particular reference to those that would not be discussed under the relevant agenda items of the current meeting.

The **Secretary-General** noted that the Assembly's decision that Goal 1 of the IHO Strategic Plan should have the highest priority in the implementation of the 2024–2026 Work Programme would require major restructuring of the Work Programme (Decision A3/08(b)). The Council was further instructed to develop a revised Strategic Plan for the period 2027–2032, establishing a Working Group if necessary, and submit its proposal to the 4th IHO Assembly in 2026 (Decision A3/08(e); see agenda item 6.2 below).

The Council took note that the Assembly had not reached an agreement on the future of digital charting for the “sub-ECDIS” market, but anticipated that the United Kingdom would keep Council and the Hydrographic Services and Standards Committee (HSSC) informed of progress in that area (Decision A3/15).

The Council took note that the Assembly had agreed with the Council's proposal to close the discussion on a revised definition of hydrographic interest until new submissions or proposals were received from Member States (Decision A3/05).

Decision C7/06: Based on the presentation from the Secretary-General, the **Council** agreed on the list of decisions from A-3 to be considered by the Council under the relevant agenda items of the meeting, as well as on the proposed way forward.

2.2 Cumulative List of A-3 Decisions

For reference only.

3. ITEMS REQUESTED BY THE IHO COUNCIL

3.1 Review of the Status of Decisions and Actions from C-6

Doc: C7-03.1A

IHO Assistant Director Guillam noted that many of the decisions of the Council at its sixth session had been either completed or overtaken by the Assembly decisions. Of those decisions which were not otherwise covered in the agenda of the current meeting, he said with reference to decision C6/17 on the future of the paper nautical chart that a paper had been submitted recently in support of the 9th Meeting of the Nautical Cartography Working Group (*Doc. NCWG9-05.9A*), to be held in the United Kingdom on 27 November–1 December 2023. The IHO Secretariat had completed its revision of Miscellaneous Publication M-1 (IHO Basic Documents) to ensure gender-inclusive language.

A number of Working Groups and Committees had begun to revise their terms of reference with the same aim. Publication M-3 (IHO Resolutions) needs to be considered for gender-inclusive language as and when updates on Resolutions are needed (Decision C6/59).

Decision and Action C7/07 (former C6/67): The **Council** welcomed the update from the United Kingdom on the concept of a national committee on S-100 [See Red Book] and noted the expected benefits of such an approach.

The **Council** invited **Member States** to share their national strategies with regard to the establishment of similar national S-100 committees, as appropriate. (Deadline: C-8 (-3 months)).

4. ITEMS REQUESTED BY SUBSIDIARY ORGANS

4.1 Report and proposals from HSSC

Doc: C7-04.1A – HSSC Report

- Annex A: Draft Revision of Annex 2 to the Roadmap for the S-100 Implementation Decade (2020-2030) - S-100 Timelines, Version 3.0 Dated: 12 July, 2023

*- Annex B: Proposed amendments to the HSSC TORs and ROPs, **redline** version.*

The **HSSC Chair** reported on the work of the Committee since the 6th session of the Council and especially from HSSC 15, held in June this year. He reported that the cooperation between the IHO and IEC to meet the timelines for S-100 ECDIS implementation were very good, and acknowledged the contributions of Expert Contributors (RENCs, industry) in progressing S-100 based Product Specifications development. However, he appealed to Member States and even National Hydrographers to participate more actively in the work of HSSC and / or in HSSC meetings to implement the S-100 series of standards; if Member States failed to participate, industry would step in to fill the gap, with the concomitant risk of undue commercial influence on standard-setting. Member States were invited to contribute to the discussion on inputs to the new Strategic Plan at the next meeting of HSSC.

Decision C7/08: The **Council** noted the report and commended the **HSSC**, its Working Groups and supporting organizations for the achievements since C-6.

The **HSSC Chair** reported that S-100 implementation was challenging; it was essential to speed up the development process by bringing in more people with expertise from the Member States, while ensuring a sustainable technical and administrative infrastructure for the new standards. To that end, a HSSC Project Team had been established to plan how an establishment of a S-100 Infrastructure Centre could be accomplished, which the Assembly had called for in Decision A3/14; it would hold its third meeting in late November 2023. The financial resources needed to set up the S-100 Infrastructure Centre, sustainable structure to manage S-100 and further S-100 standards development and maintenance might be obtained from additional funding resources which IHO hoped to acquire in the near future.

Decision C7/09: In accordance with Decision A3/08(b), 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.

Action C7/10: In parallel of the establishment of the S-100 Infrastructure Centre, the **Council** tasked the **HSSC** to identify at their next meeting, 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 (project based in the short term on one hand, longer term operational mode for standards maintenance on the other hand). (Deadline: HSSC-16 (-7 weeks), then C-8 (-3 months)).

Decision C7/11: The **Council** noted the establishment, under HSSC, of the S-100 Infrastructure Centre Establishment PT, the S-100 Security Scheme PT as well as the establishment of the ECS PT under the ENCWG.

Decision and Action C7/12: Following the update provided by the HSSC Chair on the work plan of the S-100 ICE PT, the **Council** invited **HSSC Members**, then **IHO Member States** to provide their views on the recommendations delivered by the PT, as soon as they become available and no later than HSSC-16. (Deadline: HSSC-16 (-7 weeks)).

The IMO Maritime Safety Committee was expected to approve two ECDIS-related standards: Route Plan S-421, for route exchange from ship to shore and from shore to ship, and IEC SECOM, for secure exchange of information between ship and shore and vice versa, in May 2024, with the same timeline for implementation as other S-100 standards, namely 2026–2029. IMO had also requested more detailed information from IHO about progress made in implementing the S-100 Roadmap.

HSSC had established a Project Team to review the S-100 security scheme, including developing the S-100 appointment and termination process, ensuring that current IHO agreements were legally binding, proposing

processes for new agreements and monitoring of agreements, and ensuring that the process was compatible with SECOM.

The 3rd IHO Assembly had not reached an agreement on the future of digital charting for non-ECDIS mandated vessels but the item was not completely closed on working level. HSSC had considered a proposal with clarified scope focussing on the sub-ECDIS market, which had identified, after a fruitful discussion at the HSSC-15 Stakeholder's Session, three distinct sub-segments in the market: smaller SOLAS vessels; commercial vessels (for example tug boats, smaller passenger ferries, fishing vessels) and yachts larger than 300 GT; and leisure craft smaller than the previous category. HSSC had established an Electronic Chart System (ECS) Project Team, subordinate to the ENCWG, to identify and prioritize ECS navigation requirements, analyse their impacts on current IHO hydrographic standards and draw up recommendations to be addressed by existing IHO bodies, external organizations and Member States. The Project Team had a first meeting in July and will hold its second formal meeting in November 2023.

HSSC had set up a Baseline Portrayal Project Team (BSPT), subordinate to the NCWG, in 2021 to support the automated production of paper charts from S-101 data, including a baseline symbol library. However, progress was slow and more resources from Member States were required to speed it up.

With the aim to align with the planned start of work by IEC on the S-100 ECDIS Test Standard, HSSC would endorse the first operational package of S-100 Product Specifications (Edition 2.0.0) covering Phase 1 implementation for route monitoring – S-101, S-102, S-104, S-111, S-124 and S-129 between April and October 2024. Member States can expect an IHO CL, with the request for approval of the first package of S-100 Product Specifications, early November 2024.

Decision C7/13: In order to meet the IMO timelines for S-100 ECDIS transition, the **Council** agreed that an IHO CL should be issued to inform **IHO Member States** of the schedule for preparation, by early November 2024, for the beginning of the approval phase of Edition 2.0.0 of S-100-based Product Specifications (Phase 1 / Route Monitoring as a 1st step).

Action C7/14: **IHO Secretariat** to implement Decision C7/13 above. (Deadline: December 2023).

Calendar to be updated after HSSC-16, in May 2024 (**HSSC Chair** in preparation of C-8). (Deadline: C-8, -3 months).

The **Secretary-General** reported that the Product Specification for polygonal demarcations of global sea areas, S-130 Edition 1.0.0, was ready for initial implementation, testing and comprehensive evaluation. HSSC had recommended that it should be tested initially in two regions with widely varying conditions, namely Region M - Southern Ocean and Region E - Baltic Sea. The IHO Secretariat would coordinate through external experts to produce test datasets for the two regions and submit them to the S-130 Project Team in late November 2023.

Decision and Action C7/15: Noting the clarifications and views provided by the **Secretary-General**, the **Council** agreed upon the proposed way forward to test S-130 Product Specification Ed. 1.0.0 in two regions (Region E – Baltic Sea, Region M - Southern Ocean) before the publication of the operational version of S-130 Edition 2.0.0 and official production of the single IHO authoritative dataset for limits. **HSSC Chair** to provide an update at the next meeting. (Deadline: HSSC-16 / C-8 (-3 months)).

HSSC Chair summarized proposed changes to the Committee's Terms of Reference and Rules of Procedure, including the proposal to issue a standing invitation to the Regional ENC Coordinating Centres (RENCs) to attend its meetings as Observers. A proposal was made for an annual Champion of Hydrography Award to recognize the contribution of colleagues from a wide range of backgrounds, including beyond the national hydrographic offices.

In the ensuing discussion, participants agreed on the enormous potential of S-100 products and the need to speed up implementation, and acknowledged the need for increased funding. Participants asked for a detailed description of the way any additional funding would be used, to help them plead the case with their governments. Additional funding might take the form of ad hoc, project-based funding or – preferably – longer-term funding, although that might entail an increase in Member States' annual contributions. Any proposal for a long-term increase in funding would involve strategic decisions that should be included in the

next Strategic Plan; for instance, such decisions would be required on the many potential applications of S-100 products other than those required for navigation. One Member State asked why some S-100 Product Specifications, e.g. S-130, as missing in the S-100 Timeline. Replying to the points raised, **HSSC Chair** explained that the S-100 Timeline only encompass S-100 products to be used in S-100 ECDIS, since IHO needs to report those explicitly to IMO. He also acknowledged the need for an efficient mechanism for reporting to IMO, for instance to report the data coverage (planned, expected, achieved) for each S-100 based Product Specification to be used in S-100 ECDIS.

Decision C7/16: While noting the existing IHO Resolution 2/2014 as amended – Prince Albert the 1st Medal for Hydrography, the **Council** endorsed the proposal from **HSSC** and **IRCC** for an annual Champion of Hydrography Award and agreed upon the proposed way forward.

Action C7/17: **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.

Once finalized, **IHO Secretariat** to issue an IHO CL seeking the approval of **IHO Member States** on the proposed IHO Resolution. (Deadline: March 2024).

Decision C7/18: With the aim to include the **RENCs** representation in the HSSC Membership, the **Council** endorsed the proposed amendments to the HSSC TORs and ROPs.

Decision and Action C7/19: (same as former C6/20, ...and C1/06) Considering the timelines between HSSC-16 and IRCC-16 meetings in 2024 and the countdown for submission of reports and proposals to C-7, the **Council** invited **HSSC** and **IRCC Chairs** to prepare their 2024 meeting minutes with the view that it will be used/submitted directly as reports and proposals to be considered at C-8 (Deadline: C-8 (-3 months)).

4.2 Report and proposals from IRCC

Doc: C7-04.2A – IRCC Report

- *Annex A: Empowering Women in Hydrography: From Project to Programme*

- *Annex B: Scoping Team for Fund Generation of IHO' Project Initiatives PT*

The **IRCC Chair** presented a report and outcomes of IRCC-15 which had a particular focus on implementation of the decisions taken at A-3. Excellent cooperation existed with the HSSC which had presented a progress report on the S-100 Implementation Roadmap and on S-100 product specifications to IRCC-15. Further to the ISO Cell set up after HSSC-13 to experiment with ISO 9001 in the development of S-101 product specifications, HSSC had invited IRCC to consider mirroring the ISO Cell on the S-101 via the Regional Hydrographic Committees (RHCs). IRCC had recommended RHCs to start producing S-101 and other S-100 products by focusing on a specific part of the region.

The 15 RHCs had reported their main concerns were: the need for collaboration and coordination in the implementation of the S-100 Roadmap; the need to increase Capacity Building activities; and the lack of participation in RHC activities and meetings. It would be important to encourage more regional participation in working groups. There had been good examples of inter-regional cooperation, including in Capacity Building, and successful partnerships with industry and stakeholders. RHCs and subordinate bodies were encouraged to open debate on future engagement in climate-change related activities.

WWNWS-SC had held a joint meeting with the WMO Worldwide Met-Ocean Information Warning Service, focused on S-124 progress and Iridium SafetyCast Implementation, provided feedback on IHO SPI 3.1.1 and presented a demo on the C-55 GIS project. NCSR10 had approved the joint IMO/IHO/WMO Manual on Maritime Safety Information. IRCC recommended RHCs to encourage Member States to report to IMO and the Chair of the EGC Coordinating Panel on the progress of implementation of newly recognized mobile satellite services by MSI providers.

Generous financial contributions to Capacity Building had been received from Republic of Korea, Nippon Foundation and Canada while bilateral in-kind assistance had been provided by many Member States. Progress had been made in establishing the e-Learning Center with Phase 1 focused on cataloguing existing e-Learning material and signposting existing courses and the need to identify a general manager for the centre. C-55 publication was improved with IRCC tasking CBSC to liaise with the RENCs and the IHO Secretariat to

investigate which Member States were not currently contributing to CATZOC.

A way ahead for the EWH project was developed by Canada and supported by the IHO Secretariat and IRCC. Council was invited to consider the document entitled “Empowering Women in Hydrography: From Project to Program” attached as Annex A and to discuss implementation of a programme called “Gender Balance in Hydrography (GBH)”.

IRCC had asked the subordinate bodies to review the respective RoP and TOR on gender-inclusive language with the IHO Secretariat requested to issue a questionnaire on gender balance every three years before the Assembly.

WENDWG had completed WEND-100 Product and Service Matrix using IGIF pathway principles. The WEND-100 Principles and the S-1xx Implementation Guidelines were to be considered in “maintenance mode” and constantly updated. IRCC commended KHOA for leading the INTOGIS III. IRCC had tasked WENDWG to liaise with HSSC on how to mirror the HSSC ISO Cell on S-101. MSDIWG had embarked on an update of the C-17 publication. The IHO-EU Network Working Group (IENWG) and DG MARE³ had discussed new opportunities for collaboration. The involvement of the IHO Secretariat was recognized as an asset for the promotion of high-level activities in the EU Commission. The FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) had reported on the high number of inadequate submissions; in response, IRCC had tasked the IBSC, in liaison with the IHO Secretariat, to organize an online workshop to provide clarification on the preparation of submissions. IRCC had tasked CSBWG to organize an online workshop on the benefit of Crowdsourced Bathymetry and how to expand data contribution.

GEBCO had been working on a new strategy, a Code of Conduct which had been endorsed by IRCC, and a governance review. In accordance with Decision A3/20, IRCC proposed the establishment of an ad hoc Project Team to explore possible reliable alternative funding for activities including capacity building and GEBCO. A scoping team for fund generation had been established under the lead of Dr John Nyberg. IRCC unanimously re-elected Mr Thomas Dehling as Chair and elected Ms Jennifer Jencks as Vice-Chair for three years.

United States requested that the TORs of the Project Team on Fund Generation should make clear in particular the identity of any voting or non-voting members since the reference to “representatives of IHO Members or non-members (on invitation and without voting rights)” was not clear.

The IRCC Chair confirmed that the Project Team could comprise both IHO Members with voting rights and non-Members without voting rights. The TORs would be finalized but the main challenge would be to find people with the right skills and experience to do the work.

Member States emphasized the importance of the adoption of the TORs which were to be included in a circular letter, inquiring whether they should be agreed by the Council or by IRCC, to which the **Council Chair** recalled that A-3 had tasked IRCC with developing the TORs.

One Member State noted that budget had been a major issue in recent years and attempts to increase funding had been blocked by many countries. Given that funding of Capacity Building was too low, it was pleasing to see the establishment of the Project Team. There was a responsibility, at Council level, to make the Project Team a success.

The Secretary-General underlined that, in order to gain money from external sources, projects must be described with precision. In order to extend goals, extended funding was needed: Member States might wish to examine whether they were willing to mobilize resources internally.

Canada noted the improved Empowering Women in Hydrography project in recent years and in particular the increased participation of women in A-3. Some Member States had come forward with financial and in-kind contributions for continuous support of the project.

The Secretary-General said that the Gender Balance in Hydrography initiative, stemming from a proposal by Canada, was experimental in that it fell outside the usual technical and consultative scope of the organization. However, it had been a successful and timely intervention, with attention gained from within IHO and the associated community for a subject that had been underestimated in the past. Examining the documents

³ Directorate-General – Maritime Affaires and Fisheries.

governing IHO and whether it would be appropriate to create a new work programme item, he explained that the Convention provided the broadest scope of activities, with a second mechanism, the resolutions, providing more details on the subject matters and how they were to be dealt with. Flowing from the Convention and the resolutions, a Strategic Plan set out what was to be achieved in a six-year timeframe based on which a three-year work programme was developed and approved by the Assembly. The budget, also approved by the Assembly, was linked to the three-year work programme and defined what resources could be devoted to the work programme. He was not sure whether the Council was in a position to create an additional work programme item within the current three-year work programme. However, since IHO was eager to pursue the item of Gender Balance, it could be included under the over-arching theme of diversity and inclusion – including the item of Gender Balance. A resolution would provide a sound basis within the regulatory framework of IHO and he suggested that the collective will of IHO Member States could be expressed in a Resolution on diversity and inclusion, providing guidance on what the Organization could address and achieve. The IHO Secretariat could draw up a resolution for consideration at C-8 and subsequent approval at A-4; in the meantime, work on gender balance could continue as a project supported by in-kind contributions from Member States.

Sweden and **Norway** supported the direction outlined by the Secretary-General.

One **Member State**, while supporting the Secretary-General's proposal, would have appreciated further clarity on the meaning of the word "programme".

Responding to a question from **the Chair** as to whether any other actions were requested, **Norway** referred to C-55 and inquired whether further permissions from Member States were required for CATZOC information to be harvested. Norway further wished to note the upcoming workshop in November between IHO and OECD with a focus on seabed mapping which would feed into the 2024 Ocean Decade Conference in Barcelona and the 2025 UN Ocean Conference in Nice, providing an opportunity to position IHO and seabed mapping in the wider community.

Decision C7/20: The **Council** noted the report and commended the **IRCC**, the **RHCs**, and **IRCC Sub-Committees** for their achievements since C-6.

Decision C7/21: The **Council** noted the **IRCC** (and subordinated bodies) action plan to follow-up on A-3 decisions and invited **IRCC** to report on their progress on an annual basis. (Deadline: C-8 (-3 months))

Decision and Action C7/22: Following up on Decision A3/20b, 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**. (Deadline: December 2023)

Decision C7/23: In accordance with Decision A3/8c, the **Council** noted that **IRCC** tasked the **MSDIWG** to **not** invest in another portal, but to focus on global thematic layers by means of the existing IHO GIS infrastructure (like those already available on the INTOGIS).

Decision and Action C7/24: On the proposal for a new *Programme* for Gender Balance in Hydrography (as a follow-up to the successful *Empowering Women in Hydrography Project*), the **Council** agreed on the way forward in three steps suggested by the **Secretary-General**.

As a consequence:

- a. The **Council** tasked the **IRCC**, to first define through the **CBSC** the regulatory framework (M-3) for a continued activity on this social theme through a proposal for an IHO Resolution; (Deadline: IRCC-16)
- b. 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 as currently announced by **CA, NO, DK, US**, but still to be confirmed.
- c. The Council supported by **IRCC** to develop a proposal on the future framework for an IHO social Programme (incl. Gender Balance in Hydrography) to be submitted to A-4. (Deadline: C-9 (-3months) in preparation of A-4).

Decision C7/25: The Council welcomed the proposal from the IRCC supported by the IHO Secretariat to plan two workshops as follows:

one on Standards of Competence (IBSC) matters, to provide clarifications for the institutions on the preparation of submissions to the Board;

- one on Crowd Sourced Bathymetry (CSBWG), on the benefit of crowd sourced bathymetry and how to expand data contribution.

4.3 Left blank intentionally

4.4 A. Proposed version v3.0 of the Roadmap for the S-100 Implementation Decade **redline** proposed working version of the main text.

B. Comment (France) on Annex 2 (fig. 4) of the Roadmap (Doc. C7-04.4A refers): Updated proposal on options for the future production of S-101 ENC in conjunction with S-57 ENC during the dual fuel period.

Docs: C7-04.4A – Main text, Redline Proposed Version

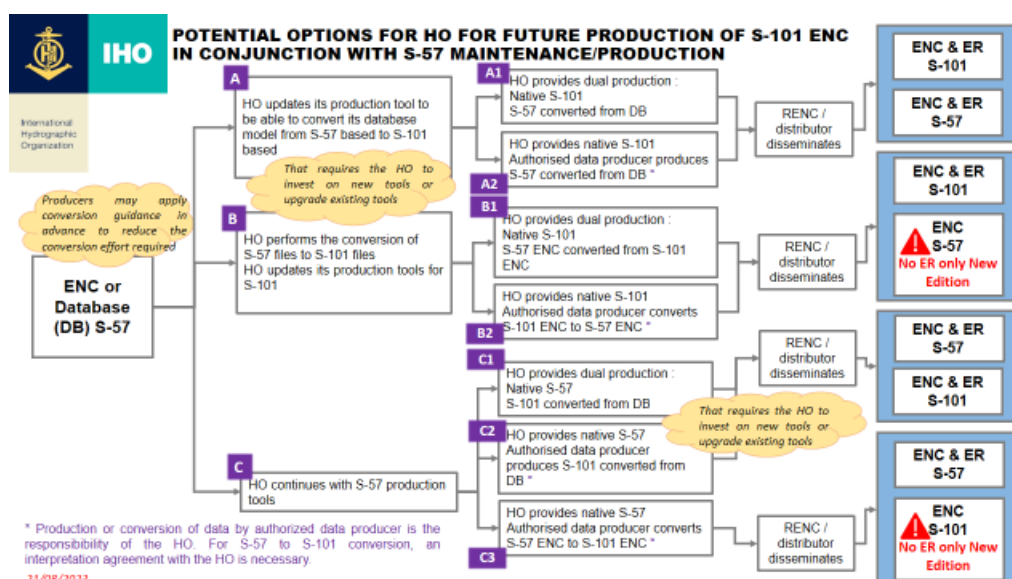
C7-04.1A – HSSC Report, Annex A

C7-04.4B Rev2

The HSSC Chair presented the Secretary General's suggestions, supported by HSSC, for amendments to the proposed version 3.0 of the S-100 Roadmap (current version 2.1), and noted that the implementation timeline had been updated in coordination with IEC since HSSC15. The Roadmap included a new Annex 4 on the Dual-Fuel concept. The timeline for completion of the operational editions of S-124 (Navigational Warnings) and S-128 (Catalogue of Nautical Products) had been brought forward to November 2024 in light of the IMO decision on the S-100 ECDIS transition plan. The criticality of completing S-98 (Data Product Interoperability in S-100 Navigation Systems) and the other components listed under the "Critical Framework" section for Phase 1 were also noted.

In Annex 2, HSSC proposed that the two implementation priority groups of standards should be renamed as Phase 1 (Route Monitoring) and Phase 2 (Route Planning), to allow for the possible future addition of new phases. It was proposed that S-411 (Ice Information) and S-412 (Weather and Wave Hazards) should be added to Phase 2.

France presented an updated proposal, expanding on the original ENC production flow diagram developed by HSSC, on the options available to hydrographic offices for the production of S-101 ENC and S-57 ENC during the Dual-Fuel period, considering the recent developments in charting software capabilities and the implications for ENC Update (ER) production.



Source: Doc. C7-04.4B

Replying to questions raised by participants, **France** said that S-101 implementation should not be considered in isolation. Other products included in the broader S-100 Framework, primarily S-102, S-104, S-111 and S-124, would also need consideration in due course. So far, little feedback had been obtained from potential users of S-100 based products, but France, following the example of Canada and the Republic of Korea had set up national committees with maritime affairs authorities intended to raise the profile to the mariner community. There were no plans for re-scheming of S-101 ENC as part of the process presented for the time being. **IC-ENC** stated that their Value Added Resellers (VARs) had expressed a preference for retaining identical schemes for S-57 and S-101 in the interests of easier catalogue management and better customer service, however it was acknowledged that this did not mean that current S-57 ENC schemes needed to be retained – they could be re-schemed in accordance with S-101 scheming requirements.

Decision C7/26: The Council approved the proposed amendments to the S-100 Implementation Roadmap in order to issue version 3.0 dated October 2023, presented by **HSSC Chair**. This new version includes amendments submitted (Docs C7-04.4A&4.4B):

- by the Secretary-General to the main text taking into account in particular the IMO MSC106 decision on the S-100 ECDIS transition plan;
- by the HSSC Chair to Annex 2, and by France for figure 4 in Annex 2.

Decision C7/27: IHO Secretariat to make available the finalized version 3.0 of the Roadmap. (Deadline: 30 November 2023)

Decision C7/28 (former C6/37, ..., C3/13): **Council/HSSC/IRCC Chairs/SecGen** supported by subject matter experts and Member States as appropriate to maintain the S-100 Implementation Roadmap as an incremental version-controlled document (including narrative and timelines) on an annual basis.

4.5 Update on the Joint IHO-Singapore Innovation and Technology Laboratory – Proposals from the Council to the Governing Board.

Doc: C7-04.5A

IHO Director Nyberg presented an update on the activities of the Joint IHO-Singapore Innovation and Technology Laboratory. The project on development of a S-57 to S-101 conversion guidance document was well under way. An associated workshop, which has attracted 31 registered participants rather than the 20 originally planned, would take place in Singapore in November 2023.

The S-131 Marine Harbour Infrastructure Database project, intended to improve information exchange between Port Authorities and Hydrographic Offices, was making good progress; the first in-person meeting of the Project Team would take place in Singapore, likewise in November 2023.

Under the revised project on creation and test-bedding of ECDIS capable of displaying S-102 Bathymetric Surface (phase 1 of the project) and S-104 Water Level products (phase 2 of the project) on S-101 ENCs, a survey of display of S-102 had been conducted in Singapore in collaboration with the Korea Research Institute of Ships and Ocean Engineering (KRISO). Work on S-104 would begin shortly.

The proof of concept of the 1st IHO and International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) collaboration to demonstrate interoperability of S-101, S-124 and S-125 at sea using wireless updating via 4G/5G telecom links had been completed with a sea trial in April 2023, conducted in collaboration with KRISO.

The Governing Body of the Joint IHO-Singapore Laboratory was keen to evaluate potential collaborations with industry and other partners. A potential future project related to the land/sea interface (for example storm surges, sea-level rise), potentially in collaboration with the recently established United Nations Global Geodetic Centre of Excellence in Bonn, Germany.

Decision C7/29: The **Council** noted the update on the Joint IHO-Singapore Innovation and Technology Laboratory and noted the progress made on the following projects:

- S-131 Marine Harbour Infrastructure Database (MHID)

- Development of S-57 to S-101 Conversion Guidance Document
- Creation and Test-Bedding of ECDIS capable of displaying S-102 (Phase 1) and S-104 (Phase 2) on S-101 ENCs

and the completion of the Proof of Concept Project: IHO-IALA Collaboration to Demonstrate Interoperability of S-101, S-124 and S-125 at sea using wireless updating via 4G/5G Telecommunications links.

Decision C7/30 (former C6/43): The **Council** endorsed the recommendation from the Governing Board of the Lab encouraging more stakeholders to identify collaborative projects, especially with other organizations and industry partners.

5. IHO ANNUAL WORK PROGRAMME AND BUDGET

5.1 Review of the current Financial Status of the IHO

Doc: C7-05.1A

The **Secretary-General**, presenting a summary of the current financial status of the Organization, said that only 70% of Member State contributions had been received in 2023, a lower figure than the average contributions over the previous five years. He appealed to all Member States in arrears to pay their contributions: two Member States had unpaid contributions from 2021; 15 were overdue for 2022; and a further 40 Member States remained to be settled in the current year. The operational budget was dependent on the contributions. Fortunately, some Member States had made advance payments for 2024, amounting to approximately 9% of the budget for that year. Between 2008 and 2023 the budget had grown with the addition of new Member States; in recent years, however, it had reached saturation with some oscillation due to a decline in world fleet tonnage on which contributions were based. Staff costs had increased both due to inflation and the medical costs which had been explained in detail at A-3. The status of Capacity Building, GEBCO and other funds, which were primarily externally funded and separate from the IHO budget, were set out in the report. The Assembly had been held in the Grimaldi Forum at considerable extra cost since the Auditorium Rainier III, usually provided to IHO free of charge, was in use as a Monegasque COVID Centre and therefore unavailable.

Decision C7/31: The **Council** noted the information provided on the current financial status as of September 2023.

5.2 Proposed IHO Work Programme for 2024

Doc: C7-05.2A

The **Secretary-General** said that the proposed Work Programme for 2024 was based on the first year of the three-year Work Programme (2024–2026) approved by A-3, with the highest priority placed on Goal 1 of the Strategic Plan: “Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation”. Further explanation of profound transformation was provided: “on-going transformation in navigation, such as e-navigation, autonomous shipping, reduction of emissions, lead to profound evolution of hydrographic services, in a context of high demands for digital data”.

The proposal covered all three Work Programme elements and cumulated all tasks as an instrument of control for the operations of the IHO Secretariat: Corporate Affairs (WP1); Hydrographic Services and Standards (WP2); and Interregional Coordination and Support (WP3). It took into account all activities that had taken place under the respective Work Programme items since A3. Some adaptations had been made in the internal allocation of staff to tasks 2.7.1-2.7.3 (ABLOS), and tasks 3.7.1-3.7.4 (MSDI), in order to more efficiently distribute the relevant technical competencies and experience.

The **HSSC Chair** clarified that the swapping of the roles of the two IHO Directors between ABLOS and MSDI did not mean that MSDIWG would move under HSSC; the structure would remain the same.

The **Secretary-General** said that the proposed theme for World Hydrographic Day 2024 was: “Hydrographic information – Enhancing Safety and Efficiency in Marine Activities”. It was felt that the theme highlighted the

priority placed on Goal 1 of the Strategic Plan.

Decision C7/32: The **Council** approved the IHO Work Programme for 2024, as presented by the **Secretary-General**, and noted the internal IHO Secretariat's arrangements for a change of the Principal Director and Principal Manager for ABLOS and MSDIWG.

Decision and Action C7/33: The **Council** noted the proposed theme for the 2024 World Hydrography Day by the **Secretary-General** which is "*Hydrographic Information -Enhancing Safety and Efficiency in Marine Activities*".

IHO Secretariat to circulate the theme for 2024 to the **IHO MS** by IHO CL. (Deadline: End of October 2023).

5.3 Proposed IHO Budget for 2024

Doc: C7-05.3

The **Secretary-General** explained that the proposed budget for 2024 was based on the first year of the three-year budget 2024–2026 and on the estimates endorsed by C-6 in 2022, with variations resulting from changes in reported national tonnage and the increase in the value of the contribution share by 3%, which had been approved at A-3. The total increase of 4.3% covered the increase in operational costs due to inflation. The expected surplus of about 0.35% of the real budget at the year-end would ensure that costs were covered, but would prevent further significant investment in specific funds such as the Special Project Fund and the Capacity Building Fund. It should not be forgotten that the IHO budget had been designed first and foremost to cover the operations costs of the IHO Secretariat. Every effort was made to save costs and to support the funds where possible.

The greater part of operational costs were taken up by personnel costs, including salaries, pension schemes and medical costs. The largest share of operating costs were devoted to travel, with smaller amounts allocated to office maintenance, IT, contract support and public relations. There had been some increases in personnel costs over the previous year but no increase in travel costs. Travel represented 6.5% of the total budget and every effort was made to curtail expenses by making smart combinations whereby one staff representative could attend different back-to-back meetings in a particular region. Necessary software and hardware changes had led to some increases in IT expenditure and an additional amount had been allocated to public relations. Additional grants had been made to the IBSC Fund (€ 10,000), to support the move to a new qualification and to the Special Project Fund (€ 5,000).

In summary, the real budget proposed for 2024, after adjustments, was in line with the budget approved at A-3. The budget had been endorsed by the Finance Committee.

Decision C7/34: In application of Decisions A3/26 to /28, the **Council** approved the proposed budget for 2024 provided by the **Secretary-General**, including the proposed adaptations.

6. IHO STRATEGIC PLAN REVIEW

6.1 Strategic Performance Indicators Update.

Doc: C7-06.1A - Secretariat's assessment on the implementation of the Strategic Plan 2021-2026 (Work Programme 1, 2 and 3)

The **Secretary-General** presented his assessment of the Strategic Plan 2021–2026, using the approved Strategic Performance Indicators (SPI) for the IHO Secretariat's activities under Work Programme 1 (Corporate Affairs), for the first three quarters of 2023 with a focus on Goals 2 and 3.

The 3rd IHO Assembly had decided not to invest further in the MSDI data portal (Goal 2, Target 2.1). The associated SPI 2.1.1 would be interpreted to mean the number of downloads of the data and information represented in the global thematic layers.

The IHO website traffic statistics showed a total of over 700,000 page views between 1 January and 1 October 2023. The most popular pages were Navigation Warnings, Standards and Specifications and Circular Letters.

The most popular social media platform was LinkedIn, with an increase of 44% in the number of followers

over the previous year, to 8,448. The IHO X [formerly Twitter] and Facebook pages each had over 1,000 followers. Social media activities would continue to be focused on those three platforms. The S-44 standard on hydrographic surveys had received 1,119 hits between 1 January and 1 October. Collaboration outreach activities had numbered 15 for notable global outreach activities; 3 for regional activities; 25 for stakeholder-specific activities; and 2 consultations.

He gave brief details of the SPI allocated to HSSC and IRCC to 31 December 2022, as submitted to the 3rd IHO Assembly.

Decision C7/35: 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 (pages 153 to 167) refer) and its update for WP1 as of 1 Oct 2023.

6.2 Initial discussion and way forward (C-9 countdown) for the preparation of a Revised Strategic Plan in preparation of A-4 in 2026 (Decision A3/08 (e)).

The Chair recalled that, in Decision A3/08(e), the Assembly had tasked the Council to develop a revised Strategic Plan for 2027–2032 and to submit the result for adoption by A-4 in 2026. The Council was empowered to establish a Working Group for that discrete purpose. The Chair invited comments on whether there should be an evolutionary or revolutionary approach to revising the Strategic Plan; what parts of the Plan might be changed or improved; and how the work was to be accomplished and presented to C-9 before adoption of the Plan at A-4. In preliminary discussions, some Member States had noted the need to be clear about the value proposition and usefulness of S-100, examining the data and services provided for navigation and other uses by IHO. There had been a question as to whether the Strategic Plan should be used to define the competences that we require to deliver S-100. In discussion on further digitalization of the IHO Secretariat's operation (item 7.2), it had been made clear that the required IT infrastructure of IHO is dependent on its strategic direction. In any case, it needs to be sustainable in the longer term.

The Secretary-General said that the new Strategic Plan must be prepared within two years for submission to C-9 in 2025 prior to adoption by A-4 in 2026.

Several **Member States** echoed the view that the next Strategic Plan should provide continuity and not tackle new subjects, particularly at a time when important changes to S-100 are still under way. The plan might focus on strategic communication to potential users of S-100 products and services with a view that this improves the information provided to navigators and other customers. It was noted that the previous Strategic Plan had been developed some six years previously and an evolutionary approach will allow updating, in particular, of Goals 2 and 3. Reasons include the emergence of the UN Decade of Ocean Science for Sustainable Development and the increased interrelation between the Goals. The Plan could focus further on reaching out to the entire maritime community with emphasis on IHO as a robust marine standards organization. Targets could be sharpened and feedback obtained on experience gained in implementing the Strategic Plan to date. Consideration should be given to robust capacity building to bridge the gaps that would undoubtedly be created in the new era of S-100 implementation.

The IRCC Chair said that it would be helpful to look at changes in the outside world as a basis to rephrase and improve the way the goals were to be fulfilled.

The HSSC Chair said that it was proposed to hold virtual meetings with the chairs of working groups to brainstorm with a report on the findings being presented first to HSSC and then to Council

The Secretary-General said that, as described by the Chairs of HSSC and IRCC, revision of the Strategic Plan would be a bottom-up approach, receiving input from IRCC and HSSC and incorporating the views of those potentially affected, including Regional Hydrographic Commissions.

Assistant Director Guillam said that Capacity Building was linked to the development of the S-100 Implementation Roadmap and it was recognized that not all IHO Member States would have to produce all S-100 products and data services for their waters. He invited Council members to read the last circular letter of WENDWG⁴ which stated: *"One of the most important topics of the next meeting, WENDWG14, will be the discussion of the S-1xx production readiness level, in a capabilities-based approach, at regional level."* There

⁴ WENDWG CL 01/2023 <https://iho.int/en/wendwg-letters>

was a need to create an environment at regional level for Member States to share capacities and data as had been done since the origins of IHO.

IHO Director Sinapi noted the wide consensus on the evolutionary approach to development of the Strategic Plan and endorsed the involvement of the two main committees, since IRCC and HSSC would both have important inputs, including on the current achievements of implementing S-100.

The Chair noted the support for an evolutionary revision of the Strategic Plan and that some suggestions had been made on the changes to be considered. As a first step, she proposed the formation of a correspondence group to determine how the revision should be approached. The correspondence group could then report to C-8 on its proposal for the TORs of a Strategic Plan Review Working Group that would submit a draft revised Strategic Plan to C-9. The chairs of the two main committees could be asked to provide input on content to the Strategic Plan Review Working Group. She requested volunteers for the correspondence group.

Decision C7/36: The Council acknowledged that the current structure of the Strategic Plan (SP) 2021-2026 was still relevant at conceptual level (vision, goals, etc.), and agreed that the objective for the next SP 2027-2032 should be limited to a *revision* of the current SP.

Decision C7/37: The Council tasked the HSSC and IRCC to provide their inputs on the possible axis of *evolution* of the existing SP in preparation of the *revision* phase (2024-2025) of the current SP. (Deadline: C-8 (-3 months)).

Decision C7/38: 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 means⁵ to prepare the next IHO Strategic Plan 2027-2032. (Deadline: C-8 (-3 months)).

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

7.1 A. Increased participation on IHO bodies activities - Proposal (Secretary-General) for discussion of the situation and follow up activities (Decision A3/21 refers).

B. Proposal (AU, NZ, GB): Making IHO Events More Inclusive

Docs: C7-07.1A

The Secretary-General recalled that, in Decision A3/21, the Assembly had tasked IHO to provide mechanisms “as soon as possible” to ensure greater participation of all Member States at IHO meetings. In response, the IHO Secretariat had submitted a proposal for discussion in Document C7-07.1A. Concerning the regulatory situation, certain IHO Basic Documents could be subject to changes to reflect new working procedures, including hybridization and virtualization of meetings. In particular, the reference to “present and voting” had originally been intended to denote physical presence. A joint proposal on how to make meetings more inclusive had been received from Australia, New Zealand and United Kingdom (C7-07.1B) which differed from the IHO Secretariat’s proposal for instance in its recommendation that Member States might “vote by postal ballot in elections of the Secretary-General and of Directors”.

New Zealand and **Fiji** recalled that the request to ensure greater inclusion and participation of Member States had been made at A-3 following concerns raised at a meeting of the South West Pacific Hydrographic Commission (SWPHC) in February 2023. Some Member States lacked the resources to attend in-person meetings while others highlighted the time and distance to be travelled and the consequent carbon footprint. Goals 2 and 3 of the Strategic Plan could be better achieved through widened participation and there would be a clear return on investment by allowing online participation. SWPHC had made recordings of meetings, including a meeting with the World Bank, which were made available to all online. The enduring value of recorded meetings was part of the value proposition. Online meetings including streaming and online participation, were being considered by a number of intergovernmental organizations. Pacific Island Coastal States (PICS) relied on the Blue Economy with tourism, fisheries, maritime trade, transport and security amounting to some two-thirds of trade. Hydrography was therefore key to the economy and it was important

⁵ Proposal on the scope, TORs of a Strategic Plan Review Working Group if any, to be submitted to C-8 for approval and implementation

for PICS to participate in IHO events whether in person or online.

The proposal contained in Document C7-07.1B requested that IHO events should be inclusive on all working levels and reflected in the TORs and working practices of subordinate bodies. An Ad Hoc Drafting Group could prepare an IHO resolution on guidelines for making IHO events more inclusive, including an implementation plan, cost efficiency measures and investments to be made. There would be an impact assessment on existing IHO Basic Documents.

Member States agreed that online meetings should be accepted and provision made for the valid adoption of decisions online. One Member State believed that Assembly meetings should be in-person only. Different time zones might also make online participation more difficult.

One Member State questioned whether the technological and practical requirements of especially online hybrid meetings might deter some Member States from holding meetings.

The Secretary-General acknowledged that online meetings had been a valuable tool during the exceptional circumstances of the pandemic. The IHO Secretariat was often obliged to apply pressure in order to receive responses to Circular Letters which were also a means of participation ahead of meetings. He appealed to Member States to make use of established means of communication. At the present time it would not be advisable to make inclusivity compulsory but the aspiration for inclusivity could be expressed. IHO was dependent on the willingness of Member States to host meetings other than the Council and Assembly and he was concerned that if the solution was too radical, the number of Member States willing to host meetings might drastically decrease. A balanced and realistic approach would therefore be necessary. A circular letter could be sent with a survey asking Member States to what extent they could commit to hosting hybrid or virtual meetings.

New Zealand explained that the principle that IHO events should be inclusive was at present expressed as an aspiration. In the experience of the SWPHC, a fully hybrid meeting had been held successfully with directional microphones set up by technicians who had remained for the first morning, thereafter handing over to SWPHC for the rest of the meeting. Rather than jumping straight to hybrid meetings, the streaming of live events could prove to be a positive experience. Host nations would have to assess what was required in terms of technology and participants would need to understand what was required for their participation. Meetings held online during the COVID pandemic had already provided experience and acceptance of the technology required and how to make the most effective contributions.

United Kingdom agreed that the proposal to make a decision that IHO events were to be inclusive on all working levels was not meant to be prescriptive but to enable meeting organizers and participants to consider the most appropriate format in relation to their geographic location and group. Hybrid meetings could enable a wide range of valuable contributions, including from industry participants who were unable to travel.

Malta fully supported the proposal to enable hybrid meetings and did not perceive time differences to be a barrier to participation. The points raised by the Secretary General concerning technological and practical barriers to implementation were also well recognized. Special permissions were required to access documents at IMO and it would be important for administrations to ensure that all hydrographers had access to IHO documentation. It would be regrettable if all hydrographers were unable to see documentation, as was currently the case at IMO. However, IMO also provided a valuable resource in making available audio recordings of its Council and other meetings after the event. Circular Letters might not always be clear but audio recordings could sometimes be more readily understood. IHO might follow the same path in making available both meeting documents and audio recordings post-session.

Member States noted that IMO had made significant technological investments in order to record its meetings. The requirement for financial outlay might lead to more meetings being held at IHO Headquarters. If an Ad Hoc Drafting Group or project team were to be set up to examine the matter, it must include members of the IHO Secretariat as it was important that their perspective was represented. Hybrid attendance made it more difficult for participants to understand who all of the attendees were. Face-to-face meetings provided a different quality of interaction. Member States also acknowledged that, in future years, geographic distance might not be the only barrier to in-person attendance since climate change and the

moral obligation to reduce carbon footprints would also limit the number of meetings delegates could physically attend. Where countries hosting meetings were not able to pay for the infrastructure required for hybrid meetings, a registration fee might be imposed on online attendees by way of contributing to costs.

A representative of the IHO Secretariat noted that it had been possible to organize an Assembly and a Council meeting under exceptional circumstances during the COVID pandemic and that all had worked well. There was a choice to hold meetings either fully in virtual mode, in-person or in hybrid format or with some participants following in passive format. The value of in-person attendance often lay in the informal conversations that could take place outside of the recorded meetings. With the tools currently at hand and noting potential future costs, including the need to take account of carbon footprint, pragmatic solutions would be possible.

Member States underlined the need for clarity on participation, especially when decisions about policy or the finances of the Organization were being taken.

The Chair, summarizing the discussion, said that there was substantial support for a policy of inclusion although clarity was lacking on what was meant by the term, bearing in mind the need to balance the value of informal discussions which could be held in-person with possible future travel restrictions as a result of climate change. The Council might wish to decide that events must be “inclusive” or “more inclusive”. There was a proposal to install an Ad Hoc Drafting Group to examine the financial implications and impact on working methods and the Secretary-General had referred to a Circular Letter to gauge the views of Member States and of potential future meeting hosts. The Assembly had emphasized the need to act with speed and it was possible that views could be sought by Circular Letter before C-8. She noted the willingness of some Member States to join the Ad Hoc Drafting Group. It was clear that the Assembly would continue to be held in Monaco.

The Chair said that the Ad Hoc Drafting Group would examine potential timelines for receipt of comments from Member States and for production of an implementation plan, costs and impact assessment on existing IHO Basic Documents.

The HSSC Chair commented that it was too early to ask subordinate bodies to reflect on their TORs and ways of working; it would be preferable to await the outcome of the deliberations of the Ad Hoc Drafting Group.

The Secretary-General said that IHO was already inclusive and the practical question was how to continue to offer options of participation beyond physical presence. He supported the view of the HSSC Chair that pressure should not currently be placed on subordinate bodies.

A member of the **IHO Secretariat** noted that there was almost one VTC meeting per day of working groups and subordinate bodies.

The Chair noted that the Ad Hoc Drafting Group would revert to the Council on the final morning session of C-7 with the outcome of their discussions.

At the request of the **Chair**, the item was introduced on the last day of the meeting by **New Zealand** in its capacity as **Lead** of the **Ad Hoc Drafting Group on Making IHO Events More Inclusive**. The Drafting Group had convened on the two previous days and had met with the IHO Secretariat. The proposed working title of the draft resolution: “*Guidelines for Making IHO Events More Inclusive*” based on recommendations made by the Secretary-General and the preliminary analysis set out in the paper from Australia, New Zealand and United Kingdom (Document C7-07.1B) but still need to be confirmed. The Drafting Group members were: **Australia, Chile, Fiji, Singapore, New Zealand, United Kingdom and United States**. The objective was to maximize participation in IHO meetings: project teams, working groups, Committees, the Council and Assembly were encouraged, where possible, to consider technology to increase participation, diversity and inclusion to ensure the widest possible contributions in delivery of the IHO strategy and work plan. Technology allowed IHO to engage with a much broader group by extending to additional participants through remote connections.

The **Drafting Group** had produced a draft basic survey that would be sent to Member States, Working Group Chairs, Committee Chairs and the IHO Secretariat, asking for them to outline their preference, capacity and willingness to host meetings based on different criteria. The proposed timeline, as discussed and agreed with

the IHO Secretariat, was to present a draft IHO resolution to Council by the end of January 2024. The Ad Hoc team would then launch the basic survey at the end of January 2024. At the end of March 2024, a consolidated version of the IHO Resolution would be submitted to Member States by Circular Letter for approval.

The survey on preferences, capacity and willingness to host set out the categories of meeting: Full remote VTC; Hybrid (in person and VTC in active mode); in-person only with passive live stream; and in-person only (*Note: first draft presented below for information only at this stage*).

Basic Survey – preference, capacity & willingness to host

Capacity: Yes or No

Freq: 1=case by case, 2=annual, 3=by exception, 4=always

	PT/WG		Committees		Council		Assembly	
	Capacity	Freq	Capacity	Freq	Capacity	Freq	Capacity	Freq
Full remote VTC								
Hybrid – in person & VTC								
In person only + passive live stream								
In person only								



IHO

International
Hydrographic
Organization

4

South West Pacific Hydrographic Commission



A member of the **IHO Secretariat**, responding to questions, explained that some of the boxes in the table relating to the Assembly for instance would need to be shaded to indicate that the option is not applicable. It should be noted that A-2 had been held in mixed mode, by exception, after formal approval by CL that some Rules of Procedure had to be waived.

The **Chair of the Ad Hoc Drafting Group**, responding to questions, said that it was proposed to elaborate a first draft of the resolution prior to sending out the survey and to finalize it once responses to the survey had been received. He agreed that Member States could be asked to indicate the category of meeting they would prefer.

One **Member State** asked for clarification on the meaning of “hybrid meeting”, what level of participation would be accommodated and what technical equipment would be required to support it. Some Member States might not respond positively to the survey if they were unclear about the commitment involved in each category of meeting.

IHO Director Sinapi asked whether a more in-depth survey could be sent to Regional Hydrographic Commissions in order to gauge the capacity of the regions as well as of individual Member States.

A member of the **IHO Secretariat** said that, for the sake of simplification, it had been proposed to limit the scope of the survey to IHO Member States and bodies, including Working Group Chairs. Regional hydrographic commissions operated independently of IHO and there would be added complexity in attempting to identify potential host countries in the regions since many within the regions might not be willing to participate.

IHO Director Sinapi said that he would prefer to include the regional hydrographic commissions in order to promote inclusiveness and to take into account external views and capacities.

The **Chair of the Ad Hoc Drafting Group** said that the survey would be sent to all Member States and since a Member State was chair of each regional hydrographic commission, their response as regional hydrographic commission chairs could be recorded to give a sense of the willingness to host within each region.

United States, speaking as a member of the **Ad Hoc Drafting Group**, said that the Drafting Group had hoped to reach both IHO Member States and coastal states, where regional participation had led to the successful hosting of meetings in the past. In order to broaden inclusion, the survey might be sent initially to IHO Member States and then to all coastal states.

A **Member State** recalled that some Working Groups preferred to hold an annual meeting in person and to hold online meetings for the remainder of the year. The survey could be used to understand how and in what format regional hydrographic commission meetings were held. **Another Member State** underlined the importance of understanding regional contexts: it was planned to host a meeting of the Mediterranean and Black Seas Hydrographic Commission (MBSHC) in Romania in 2024 but the situation at present with Russian Federation and Ukraine as Members and Israel and the Palestinian Authority as Associate Members would make that meeting “inclusive” quite problematic.

Chile, speaking as a member of the **Ad Hoc Drafting Group**, said that the Drafting Group had discussed the importance of placing boundaries around the term “inclusive” in order to avoid over-complication of the process and to refer instead to “maximizing participation”.

The **Secretary-General** suggested as a compromise that Regional Hydrographic Commission Chairs could be consulted through the IRCC.

The **Chair of the Ad Hoc Drafting Group** clarified that the proposal by the Secretary-General would involve two surveys, one of which would be sent directly to IHO Member States. A second survey would be sent to regional hydrographic commission chairs via IRCC.

One **Member State** said that experience had shown that questionnaires must be carefully worded to remove the possibility of unintended responses. The process of clarifying the questions was therefore an important one. The proposal to issue a survey on “capacity and willingness to host meetings” was broadly phrased and did not encompass circumstances in which a meeting might be hosted externally with full IT infrastructure and not in the offices of an administration.

The **Chair**, summarising the discussion, said that timelines had been set out for sending out the survey and finalizing the draft resolution. Further refinement of the questions was required to establish whether potential hosts were able to host in their own offices and with their own resources and to establish any additional costs with respect to external premises and IT providers. In addition to capacity and willingness to host meetings, preferences for a particular category of meeting would be sought. In parallel to the survey which would be sent to IHO Member States and to Working Group and Committee Chairs, a separate survey would be sent to regional hydrographic commissions and coastal states through IRCC. The IHO Resolution would be issued for approval by Circular Letter in March 2024.

United Kingdom, speaking as a member of the **Ad Hoc Drafting Group**, said that, in addition to the surveys, information could be gathered from the online meeting registration system and used as a baseline in current and future years to establish meeting format preferences.

Decision C7/39: Noting the comments made in session and collated in the Red Book, the **Council** agreed to prepare an IHO Resolution on *Guidelines for Making IHO Events More Inclusive* (title to be confirmed) based on the recommendations made by the **Secretary-General** (Doc. C7-07.1A, paragraph 37) and preliminary analysis from **AU, NZ and GB**, available in Doc. C7-07.1B).

Decision and Actions C7/40: The **Council** endorsed the principle of considering an initial proposal for a IHO Resolution *Guidelines for Making IHO Events More Inclusive* (title to be confirmed) to be prepared by an ad hoc drafting group (**AU, CL, FJ, NZ⁶, SG, GB, US...**) (Deadline: 31 January 2024)

The **Council** tasked the **ad hoc drafting group** (respectively **IRCC**) to conduct a survey⁷ 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). (Deadline: 31 January 2024).

⁶ Lead.

⁷ Clear definitions of categories of meetings arrangements to be provided as part of the survey.

Once the outcome of the survey are compiled by the ad hoc drafting group, **IHO Secretariat** to refine the draft proposed IHO Resolution in liaison with the ad hoc drafting group if appropriate, and submit it to **IHO Member States** for approval.

(Deadline 31 March 2024/deadline 31 May 2024).

Decision C7/41: Left blank intentionally

7.2 Further digitalization of IHO Secretariat's operation - Development and introduction of improved registration and information sharing.

Docs: C7-07.2A

The Secretary-General recalled that the IHO Secretariat was currently using a meeting registration system developed and technically maintained by KHOA (Republic of Korea) which would cease at the end of 2023. In addition to replacing the meeting registration system, IHO would also review its website, which provided open access to information and documents but with limitations on file size and storage.

The IHO Secretariat aimed to introduce a system that combined meeting registration with a centralized internal document management approach based on individual accounts. In contrast to the solution at IMO, to which Malta had referred on the previous day, the individual accounts on the IHO website would be offered in principle to everybody who demonstrated an interest in IHO although access would be customized to the position and needs of the applicant. The new IHO Portal would be embedded in the IHO website. IHO Member States and stakeholders would have access to the Portal while information on IHO Standards, GIS functions, Basic Documents, including Work Programmes and Bulletin Reports, would continue to be freely available on the public part of the website.

Development of the portal had been contracted to an external partner and resources would be retained for operational and maintenance costs. The system would be introduced in a phased approach with the meeting registration module projected to be in use from January 2024. The centralized document management module was due to be in operation by the end of the second quarter. The annual IT budget for IHO was just under € 100,000 and therefore careful planning of expenditure on hardware, software and licensing and maintenance was required. United Kingdom had made a comment in the Red Book on which it might wish to provide further explanation.

United Kingdom supported the proposed improvements to the infrastructure and the possibility for Member States to test it; the purpose of the comment in the Red Book had been to address whether the wider technology used by IHO was sustainable in the longer term. This has strategic aspects and should be included in the discussion on the revision of the Strategic Plan.

The Secretary-General agreed that the action on the S-100 Infrastructure Centre development would need to be discussed in the wider context of IHO's IT infrastructure.

Chile requested that revised documents posted on the website should highlight changes so that it was possible to easily identify the new aspects of the latest version.

Norway, while fully supporting the proposed changes, pointed out that some working groups or subordinate bodies that were dependent on input from communities outside of IHO, such as the Crowdsourced Bathymetry Working Group (CSBWG) and GEBCO, would require clear information concerning the new website.

United Kingdom, following on from the comments by Malta on the previous day, noted that the proposed log-in system would result in less transparency than that available under the present arrangement, resulting in the potential loss of usability. Could the logic of placing the documents behind a log-in be explained?

The Secretary-General said that there was a repository dating back almost 20 years and, historically, the lack of management of files and of current and previous meeting documents had made the system unwieldy. The requirement for a user log-in might appear more restrictive, but it would make internal management of the website easier. In terms of marketing, requesting that website users should register with an email address would enable IHO to identify popular content and draw the attention of users to content that might be of interest to them. Responding to the request for clearly highlighted changes in documents, he undertook to

review and improve where necessary, the correct numbering of revised documents. Occasionally, last-minute changes to documents were necessary.

Assistant Director Baek explained that it was current practice for individual users to send email requests and information concerning their contact details to members of the IHO Secretariat. Under the new system, users would be able to update their own details, thereby making for a faster, more efficient service.

The Chair invited Member States to participate in the testing phase of the new website.

Decision and Action C7/42: The **Council** endorsed the **IHO Secretariat's** ambitions to further digitalize the services rendered to IHO Member States and welcomed the offer to **IHO MS** who would like to be involved in the different testing and acceptance phases of the new IHO Portal (POC: addt@iho.int). (from December 2023).

The **Council** noted the potential participation in the testing phase of **BR, DK, FR, ID, JP, NO, SE, GB, and the US**.

7.3 Implementation of a new global MSDI layer dedicated to Marine Protected Areas (MPA) - Proposal (IHO Secretariat) for discussion of the situation and follow up activities

Docs: C7-07.3A

Useful Reference: NIPWG10-11.1.2A

The **Secretary-General** introduced an IHO Secretariat's proposal for a new global MSDI layer dedicated to MPAs. It would allow compatible GIS systems to monitor progress towards the goal of protecting 30% of the ocean in MPAs by 2030, pursuant to the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ), adopted by a United Nations intergovernmental conference in June 2023. It also served Goal 3 of the IHO Strategic Plan by contributing to ocean policy.

At its 10th meeting in September 2023, the Nautical Information Provision Working Group (NIPWG) had reported that work to implement S-122 was likely to be completed on schedule by April 2024. However it was difficult to supply the correct information for the dataset because the authority responsible for information on MPAs was different in each country, multiple jurisdictions might be involved, and the MPA was often defined in terms more useful to fisheries or extractive industries than to navigation.

The United States philanthropic foundation ProtectedSeas had built up a remarkably comprehensive repository of global MPA information, the ProtectedSeas Navigator. The IHO Secretariat now proposed a project to encode those data in an S-122 dataset. The project would have a valuable political and visibility impact as part of the IHO contribution to the activities of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030). He suggested that the IHO Secretariat should pursue the idea further with ProtectedSeas and, if appropriate, create a test dataset before returning to the Council for further instructions.

Participants were divided in their response to the proposal. Several participants voiced the concern that data obtained from an external, private company would not be authoritative while displayed on the IHO website, with possible consequences in terms of liability. They noted that the boundaries of some MPAs were the subject of dispute between States. Some felt that the project was not consistent with the priority of Goal 1 of the Strategic Plan mandated by the 3rd IHO Assembly. France drew attention to an existing resource, the World Database of Protected Areas, a joint project of the United Nations Environment Programme and the International Union for Conservation of Nature. It is important to avoid duplication of data, but instead to harvest existing data without duplication, as duplication leads to discrepancies over time.

Some participants were concerned that unofficial and unverified data might inadvertently be used in navigation, thereby posing a risk to safety: if mariners saw information in ECDIS, they would assume it was authoritative. The **IHO Secretariat** and other participants assured them that only data authorized by the relevant national hydrographic office would be usable in ECDIS navigation: unauthorized products and data would not be included by the RENCs in the S-128 national catalogue of products and could therefore not appear in ECDIS. **Malta** nevertheless asked for a formal assurance that it would be impossible for any future

MSDI layer related to MPAs to appear on an ENC to be used in an ECDIS, unless the data it contained had been validated. The **IHO Secretariat** answered that this summary report could be used as such.

Some participants saw the proposed project as an opportunity for IHO to contribute to the ocean community and increase the visibility of the S-100 framework. It was important to show how to use S-100 data in the real world and how users could benefit. The project would demonstrate the first S-100 data service with global coverage, and could provide an incentive for GIS companies to include S-100 compatibility in their products. There were indeed some challenges, but they could be overcome. For instance, the project could begin with MPAs in the high seas, to avoid potential territorial disputes; it could begin with MPAs already adopted by IMO; it could use data verified by the RENCs. The **United States** informed that nations had referenced a guidance document from UN-GGIM on the definition of “authoritative” data⁸.

Some participants felt that the opportunity to gain access to a wealth of data, provided by an organization eager to adopt S-122 at relatively little cost in effort or money to IHO itself, should not be missed. The **IHO Secretariat** pointed to previous projects that had successfully taken the Organization out of its comfort zone and demonstrated the value of a product in a new context. If IHO did not take the offered opportunity, others would do so.

Decision C7/43: The **Council** noted the valid concerns raised by some Members during discussion and in the Red Book on the proposal to engage the IHO in the development of a new global MSDI MPA layer but did not reach a consensus for the MPA concept approach proposed by the IHO Secretariat.

Decision and Action C7/44: Following on clarification on the objectives provided by the **Secretary-General**, including updates from the last NIPWG-10 meeting on S-122 development, the **Council** agreed on the strategic need to promote the S-100 Concept with a quick-win through S-122.

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. (Deadline: C-8).

8. NEXT MEETING

8.1 Dates and venue for the 8th meeting of the IHO Council.

The **Secretary-General** proposed that the Council should next meet in-person from 15 to 17 October 2024.

Decision and Action C7/45: The **Council** agreed to hold C-8 in Monaco, at the IHO Secretariat, from 15 to 17 Oct. 2024 (full in-person meeting, live streaming on request). (Deadline: Go/no-go decision 15 June 2024).

9. ANY OTHER BUSINESS

9.1 Navigation regulatory considerations for Hydrographic Organizations

The **United States** introduced a Council Information Paper related to IHO Assembly Proposal 2.3 – The future of digital charting and Decision A3/15. The United States wished to share the various challenges it had experienced in applying regulations to all classes of vessels including public and sub-ECDIS vessels. By raising awareness among Member States, it was hoped that appropriate action could be taken.

International and national navigation regulations had been in place for many years but there was a move to digital navigation and the S-100 framework was viewed as the future of the maritime geospatial environment for several decades to come. It was generally agreed that digital navigation improved the safety of navigation of vessels.

Unfortunately, existing national and international regulations, which had been in place for many years, were typically built around paper charts. SOLAS, national and regional regulations would have to be taken into account in ensuring that all vessels benefited from digital data. SOLAS defined carriage requirements as “*affecting all ships, irrespective of size*”. It was generally accepted that if a vessel was fitted with ECDIS, it

⁸ Available on the C-7 webpage as Useful Reference in Doc. C7-09.1A.

could use digital data. Some vessels were allowed to deviate from SOLAS regulations and in those situations, national regulations applied.

Internal regulations in the United States broadly followed SOLAS and had been updated in 2015 to identify Electronic Chart Systems (ECS) as a reasonable approach to navigation. However, neither United States commercial regulations nor SOLAS applied to public vessels which were regulated by the relevant public agency: the Navy; United States Coast Guard; NOAA; Customs, etc. None of the public agencies are regulated by the commercial rules and it was not known whether any of the agency regulations in the United States recognized digital navigation. A new Radio Technical Committee Maritime (RTCM) regulation was created for United States internal operators of commercial vessels specifying minimum operation, performance and technical requirements including methods of testing RTCM-compliant ECS for use as a back-up to ECDIS. The United States was currently engaging with multiple agencies, including the United States Coast Guard, to develop the necessary regulation to allow ECS for all vessels subject to national regulations.

For ships not subject to SOLAS (public ships, smaller craft), chart producing agencies should consider how they are regulated. HOs should examine how they could support the move away from paper and encourage the approved use of digital data, including the S-100 framework. HOs should consider the future of digital navigation and the international and national regulatory environment, reviewing their national regulatory situation for all vessels, including those which might be nationally exempted. RHCs might review the regional situation and encourage regulatory agencies to consider the improved safety and utility of digital data.

Member States expressed gratitude for the shared information and agreed that many countries faced a similar situation to that described in the United States. One Member State recommended that all countries should adopt a top-down regulatory solution based on SOLAS.

A member of the **IHO Secretariat** recalled that a similar discussion had taken place some 15 years previously when S-57 (the IHO standard for the exchange of digital hydrographic data used for encoding ENCs) had been introduced. Subsequently, S-66, last updated in 2018, had been a useful reference in IMO circulars. Definitions of ECDIS and ECS were provided in the standard. As noted at this Council, HSSC had begun a project team on ECS and it would provide recommendations for future action for HOs, Port State control and customers. There was a need to review S-66 and to update it since it was currently out of step with S-100.

One **Member State** explained that its national regulations were governed by regional regulations and directives (concerning the requirement for carriage of ECDIS and other matters) that were issued by the European Union. Performance standards would continue to be updated in step with progress in technology. Obviously, anyone operating ECDIS must have appropriate training. The IMO Instruments Implementation Code (III Code) should also be followed and the relevant Port State control officer must have had the appropriate training to identify whether a ship was in compliance in all respects. All shipping within the European Union must comply with SOLAS but also with EU own regulations and directives or risk being banned from ports within the European Union. European regulations were therefore rigorous. Non-Convention vessels (not in compliance with SOLAS) operated in local waters in some countries as in the United States. However, all passenger ships in the European Union must comply fully with SOLAS. Vessels that did not operate in international waters should be subject to Flag State control, a role carried out in the United States by the United States Coast Guard.

IC-ENC thanked the United States for bringing recognition of a challenging situation on which progress had been slow. IC-ENC had sought to identify international consistency within the small group with which it worked but a myriad of approaches currently existed on sub-ECDIS craft. IC-ENC had begun to bring together a group of some 30 HOs which had signed up to a set of principles and terms and conditions defined in a legal contract for appointing companies which put obligations on the companies to deliver digital services for those type of craft. The situation was not perfect, but evolving, and it was possible to envisage a core of international consistency. IC-ENC, in its capacity as an observer, proposed to report back to C-8 on progress made.

The United States acknowledged the proposal to regulate via SOLAS but believed the difficulty lay in regions where not all vessels had ECDIS. It would be more realistic to allow individual nations to develop their own regulations.

A **Member State**, replying on the question of whether or not SOLAS could be adopted by all administrations, noted that SOLAS required that all vessels that did not have ECDIS must have a paper chart.

United Kingdom encouraged all those interested to join the HSSC ECS project team in order to progress standards; given the introduction of S-100, it was timely that standards should be brought into line with practice. SOLAS required paper charts where ECDIS were not used but, in practice, many vessels used electronic solutions that were not assured.

The Chair thanked United States for having brought attention to the difficult task of introducing regulations. She looked forward to hearing more from the HSSC ECS project team in 2024.

Decision C7/46: The **Council** noted the information paper provided by the **US** on national regulations as well as the useful experience shared by other **Member States**.

The **Council** encourages **Member States** to participate in the activities of the ENCWG / ECS PT.

10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

IHO Assistant Director Guillam went through the identified actions, providing brief comments and explanations for actions and decisions where necessary (see Annex C). He explained the timetable for production of the draft summary report and feedback from participants.

With reference to Decision C7/13 on the timeline for approval of Edition 2.0.0 of the S-100-based Product Specifications, **HSSC Chair** encouraged participants to attend the 16th meeting of HSSC in May 2024 if at all possible, so that they were aware of the status of the project and the issues involved before the approval process began.

With reference to Decision C7/24, on the proposal for a programme on gender balance in hydrography, the **IHO Secretariat** noted that the decision was intended to allow work to begin on the proposal; it did not prejudice any future discussions and decisions about the regulatory framework or the content of the proposed resolution.

11. CLOSURE OF THE MEETING

The **Chair** thanked all participants for their active participation and commitment during the meeting.

The **Secretary-General** expressed his appreciation and gratitude to the Chair for her very capable management of the meeting. The IHO Secretariat would make full use of the Council's guidance as it continued the work of the new cycle. He commended the IHO Secretariat staff for their hard work, which had enabled the meeting to run smoothly.

The **Chair** declared the meeting closed.

LIST OF REGISTERED PARTICIPANTS

7th Meeting of the IHO Council

Face-to-face, 17-Oct-2023 ~ 19-Oct-2023

No	Category	Country	Organization / Company	Name	Status	E-mail	Date
1	IHO Member State	Angola	Agência Marítima Nacional	Helder CONCEIÇÃO	Member of delegation	helderufino46.hr@gmail.com	2023-09-27
2	IHO Member State	Angola	Agência Marítima Nacional	José SANTANA	Head of delegation	josesantana.14js.js@gmail.com	2023-09-27
3	IHO Member State	Angola	Agência Marítima Nacional	MANUEL NARCISO	Member of delegation	mnarciso156@gmail.com	2023-09-27
4	IHO Member State	Argentina	SERVICIO DE HIDROGRAFIA NAVAL	Valentín Alejandro SANZ RODRIGUEZ	Head of delegation	dhydro@hydro.gov.ar	2023-06-27
5	IHO Member State	Brazil	DIRETORIA DE HIDROGRAFIA E NAVEGAÇÃO (DHN, Directorate of Hydrography and Navigation)	Cesar Reinert BULHÕES DE MORAIS	Member of delegation	reinert@marinha.mil.br	2023-08-17
6	IHO Member State	Brazil	DIRETORIA DE HIDROGRAFIA E NAVEGAÇÃO (DHN, Directorate of Hydrography and Navigation)	Carlos ANDRÉ MACEDO	Head of delegation	dhn.intrel@marinha.mil.br	2023-08-17
7	IHO Member State	Canada	CANADIAN HYDROGRAPHIC SERVICE	Annie BIRON	Member of delegation	annie.biron@dfo-mpo.gc.ca	2023-09-19
8	IHO Member State	Canada	CANADIAN HYDROGRAPHIC SERVICE	Manon LAROCQUE	Head of delegation	manon.larocque@dfo-mpo.gc.ca	2023-08-08
9	IHO Member State	Chile	SERVICIO HIDROGRAFICO Y OCEANOGRAPHICO DE LA ARMADA	Arturo OXLEY	Head of delegation	shoa@shoa.cl	2023-08-17
10	IHO Member State	China	HYDROGRAPHIC OFFICE OF MARINE DEPARTMENT THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION	Tak-ming KOO	Member of delegation	tmkoo@mardep.gov.hk	2023-09-18
11	IHO Member State	China	MARITIME SAFETY ADMINISTRATION (MSA)	Yuan CAO	Head of delegation	41283509@qq.com	2023-09-07
12	IHO Member State	Croatia	HRVATSKI HIDROGRAFSKI INSTITUT (Hydrographic Institute of the Republic of Croatia)	Vinka KOLIC	Head of delegation	vinka.kolic@hhi.hr	2023-07-10
13	IHO Member State	Cyprus	HEADQUARTERS OF DEPARTMENT OF LANDS AND SURVEYS	GEORGIOS KOKOSIS	Head of delegation	gkokosis@dls.moi.gov.cy	2023-09-15
14	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSEN (GST)	Hendrik STANG	Member of delegation	hejus@gst.dk	2023-06-27
15	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSEN (GST)	Pia DAHL HØJGAARD	Chair / Vice-Chair	pdh@gst.dk	2023-07-30
16	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSEN (GST)	Sophie HOHWÜ-CHRISTENSEN	Member of delegation	sohoh@gst.dk	2023-06-30
17	IHO Member State	Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Jervis ROBINSON	Member	Director.FHO@fijinavy.org	2023-07-18
18	IHO Member State	Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Apenisa CAVUILATI	Member of delegation	ben.cavuilati@gmail.com	2023-07-21
19	IHO Member State	Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Humphrey TAWAKE	Head of delegation	humphrey.tawake@fijinavy.org	2023-07-21
20	IHO Member State	Finland	FINNISH TRANSPORT AND COMMUNICATIONS AGENCY	Rainer MUSTANIEMI	Head of delegation	rainer.mustaniemi@traficom.fi	2023-06-30
21	IHO Member State	France	SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHIQUE DE LA MARINE	Laurent KERLEGUER	Head of delegation	laurent.kerleguer@shom.fr	2023-05-23
22	IHO Member State	France	SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHIQUE DE LA MARINE	Gabin SOGORB	Member of delegation	gabin.sogorb@shom.fr	2023-05-23
23	IHO Member State	Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE	Thomas DEHLING	Head of delegation	thomas.dehling@bsh.de	2023-05-29
24	IHO Member State	Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE	Jens SCHRÖDER-FÜRSTENBERG	Member of delegation	Jens.schroeder-fuerstenberg@bsh.de	2023-05-29
25	IHO Member State	Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Andreas MICHPOULOS	Member of delegation	geopol_hnhs@navy.mil.gr	2023-08-29

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No	Category	Country	Organization / Company	Name	Status	E-mail	Date
26	IHO Member State	Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Dimitrios EFSTATHIOU	Head of delegation	director_hnhs@navy.mil.gr	2023-08-29
27	IHO Member State	India	NATIONAL HYDROGRAPHIC OFFICE	LOCHAN SINGH PATHANIA	Head of delegation	ia-inho@navy.gov.in	2023-08-10
28	IHO Member State	India	NATIONAL HYDROGRAPHIC OFFICE	PAIKSHIT KUMAR SHAHRAWAT	Member	ia-inho@navy.gov.in	2023-08-10
29	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	MOH. QISTHI AMARONA	Member of delegation	Infohid@pushidrosal.id	2023-09-15
30	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	NURHIDAYAT NURHIDAYAT	Head of delegation	Infohid@pushidrosal.id	2023-09-15
31	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	RENNY LILIK ASMORO	Member of delegation	Infohid@pushidrosal.id	2023-09-15
32	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	LALU KURNIA DARMAWAN	Member of delegation	Infohid@pushidrosal.id	2023-09-15
33	IHO Member State	Italy	ISTITUTO IDROGRAFICO DELLA MARINA (Italian Hydrographic Institute)	Erik BISCOTTI	Member of delegation	erikd.biscotti@marina.difesa.it	2023-09-11
34	IHO Member State	Italy	ISTITUTO IDROGRAFICO DELLA MARINA (Italian Hydrographic Institute)	Massimiliano NANNINI	Head of delegation	massimiliano.nannini@marina.difesa.it	2023-09-11
35	IHO Member State	Jamaica	National Land Agency	Diego BILLINGS	Head of delegation	diego.billings@nla.gov.jm	2023-09-13
36	IHO Member State	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPARTMENT	Masayuki FUJITA	Chair / Vice-Chair	iao@jhod.go.jp	2023-08-29
37	IHO Member State	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPARTMENT	Kentaro KANEDA	Member of delegation	iao@jhod.go.jp	2023-08-29
38	IHO Member State	Malaysia	NATIONAL HYDROGRAPHIC CENTRE	Lukman Hanafiah AZAMAR OMAR	Head of delegation	lukman@navy.mil.my	2023-09-21
39	IHO Member State	Malaysia	NATIONAL HYDROGRAPHIC CENTRE	Siong Hui LIM	Member of delegation	lionsionghui@navy.mil.my	2023-09-21
40	IHO Member State	Malta	HYDROGRAPHIC OFFICE, PORTS AND YACHTING DIRECTORATE, TRANSPORT MALTA	MARK ANTHONY CHAPPELLE	Member	mark.chapelle@transport.gov.mt	2023-08-17
41	IHO Member State	Monaco	DIRECTION DES AFFAIRES MARITIMES	Pierre BOUCHET	Head of delegation	pbouchet@gouv.mc	2023-09-16
42	IHO Member State	Netherlands	HYDROGRAPHIC SERVICE - ROYAL NETHERLANDS NAVY	Toine BARTEN	Head of delegation	wa.barten@mindef.nl	2023-07-27
43	IHO Member State	Netherlands	HYDROGRAPHIC SERVICE - ROYAL NETHERLANDS NAVY	Leendert DORST	Member of delegation	LL.Dorst@mindef.nl	2023-07-27
44	IHO Member State	New Zealand	LAND INFORMATION NEW ZEALAND (LINZ)	Adam GREENLAND	Head of delegation	agreenland@linz.govt.nz	2023-07-10
45	IHO Member State	Norway	Norwegian Mapping Authority	Birte Noer BORREVIK	Head of delegation	borbir@kartverket.no	2023-05-29
46	IHO Member State	Norway	Norwegian Mapping Authority	Evert FLIER	Member of delegation	evert.flier@kartverket.no	2023-05-29
47	IHO Member State	Portugal	INSTITUTO HIDROGRAFICO	João MARREIROS	Head of delegation	ramalho.marreiros@hidrografico.pt	2023-07-10
48	IHO Member State	Portugal	INSTITUTO HIDROGRAFICO	Paula SANCHES	Member of delegation	paula.sanches@hidrografico.pt	2023-09-11
49	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Kwanchang LIM	Head of delegation	kclim00@korea.kr	2023-09-14
50	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Iji KIM	Member of delegation	izzykim@korea.kr	2023-09-14
51	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Eok Dong KIM	Member of delegation	qksel1501@korea.kr	2023-09-14
52	IHO Member State	Republic of Korea	Ministry of Foreign Affairs	KEUNHWA KANG	Member of	khkang22@mofa.go.kr	2023-09-15

ANNEX 1 TO A-4 COUNCIL REPORT

No	Category	Country	Organization / Company	Name	Status	E-mail	Date
					delegation		
53	IHO Member State	Saudi Arabia	GENERAL AUTHORITY FOR SURVEY AND GEOSPATIAL INFORMATION (GASGI)	Salem Salman ALGHZWANI	Member	s.alghzwani@geosa.gov.sa	2023-09-10
54	IHO Member State	Saudi Arabia	GENERAL AUTHORITY FOR SURVEY AND GEOSPATIAL INFORMATION (GASGI)	Saud Homod ALRUWAYS	Head of delegation	s.alruways@geosa.gov.sa	2023-09-10
55	IHO Member State	Singapore	MARITIME AND PORT AUTHORITY OF SINGAPORE (MPA)	Jia Rui Gary CHEW	Member	gary_chew@mpa.gov.sg	2023-09-15
56	IHO Member State	Singapore	MARITIME AND PORT AUTHORITY OF SINGAPORE (MPA)	Ying-Huang THAI LOW	Member	Thai_Low_Ying-Huang@mpa.gov.sg	2023-09-15
57	IHO Member State	Spain	INSTITUTO HIDROGRAFICO DE LA MARINA (IHM)	Rebeca COPÉ DE LOS MOZOS	Observer	rcopdel@fn.mde.es	2023-09-13
58	IHO Member State	Sweden	SJOFARTSVERKET (SWEDISH MARITIME ADMINISTRATION)	Magnus HOVBERG	Member of delegation	magnus.hovberg@sjofartsverket.se	2023-08-29
59	IHO Member State	Sweden	SJOFARTSVERKET (SWEDISH MARITIME ADMINISTRATION)	Magnus WALLHAGEN	Head of delegation	magnus.wallhagen@sjofartsverket.se	2023-06-21
60	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	Taywan SUKKASEM	Member of delegation	hydrotechdtrn@gmail.com	2023-08-25
61	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	CHAIRIT KIRDPOL	Head of delegation	hydrotechdtrn@gmail.com	2023-08-25
62	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Helena PATTON	Member	helen.patton@ukho.gov.uk	2023-07-15
63	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Tom RICHARDSON	Member of delegation	thomas.richardson@ukho.gov.uk	2023-06-21
64	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Angus ESSENHIGH	Head of delegation	angus.essenhigh@ukho.gov.uk	2023-07-15
65	IHO Member State	United States of America	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)	John LOWELL	Head of delegation	john.e.lowell@nga.mil	2023-08-08
66	IHO Member State	United States of America	COMMANDER, NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND (CNMOC)	Matthew BORBASH	Member of delegation	matthew.borbash2.civ@us.navy.mil	2023-08-28
67	IHO Member State	United States of America	National Oceanographic and Atmospheric Administration (NOAA)	Benjamin EVANS	Member of delegation	benjamin.k.evans@noaa.gov	2023-08-29
68	IHO Member State	United States of America	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)	Keith DOMINIC	Member of delegation	Keith.E.Dominic@nga.mil	2023-08-29
69	IHO Secretariat	-	International Hydrographic Organization	Luigi SINAPI	Secretary	luigi.sinapi@iho.int	2023-07-19
70	IHO Secretariat	-	International Hydrographic Organization	Yves GUILLAM	Staff	yves.guillam@iho.int	2023-05-18
71	IHO Secretariat	-	International Hydrographic Organization	Mathias JONAS	Secretary	mathias.jonas@iho.int	2023-06-21
72	IHO Secretariat	-	International Hydrographic Organization	John NYBERG	Staff	john.nyberg@iho.int	2023-09-10
73	IHO Secretariat	-	International Hydrographic Organization	Yong BAEK	Staff	yong.baek@iho.int	2023-08-31
74	Other Organization	-	IC-ENC	James HARPER	Observer	james.harper@ic-enc.org	2023-09-18
75	Other Organization	-	PRIMAR	Hans Christoffer LAURITZEN	Observer	lauhan@kartverket.no	2023-09-18

7TH MEETING OF THE IHO COUNCIL
IHO Secretariat, Monaco, 17 – 19 October 2023
FINAL AGENDA

- References:**
- A. Rule 8 of the Rules of Procedure of the Council.
 - B. IHO Resolution 12/2002 as amended – *Planning Cycle*.

1. OPENING

- 1.1. Secretary-General Opening Remarks.
- 1.2. Adoption of the Agenda and Timetable – Red Book.
- 1.3. Formal establishment of the new Council, confirmation of the election of the Chair and Vice-Chair.
- 1.4. Chair's Opening Remarks.
- 1.5. Administrative Arrangements.

2. ITEMS REQUESTED BY THE 3RD IHO ASSEMBLY

- 2.1. Review of the List of Assembly Decisions affecting the Council and discussion on the way forward and effective implementation.
- 2.2. Cumulative List of A-3 Decisions [affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c))].

3. ITEMS REQUESTED BY THE IHO COUNCIL

- 3.1. Review of the status of Decisions and Actions from C-6.

4. ITEMS REQUESTED BY SUBSIDIARY ORGANS

- 4.1. Report and proposals from HSSC.
 - Annex A: Draft Revision of Annex 2 to the Roadmap.
 - Annex B: Proposed amendments to the HSSC TORs and ROPs.
- 4.2. Report and proposals from IRCC.
 - Annex A: Empowering Women in Hydrography: From Project to Program.
 - Annex B: Scoping Team for Fund Generation of IHO' Project Initiatives PT.
- 4.3. *Left blank intentionally*
- 4.4. A. Proposed version v3.0 of the Roadmap for the S-100 Implementation Decade.
B. Comment (FR) on Annex 2 (fig. 4) of the Roadmap (Doc. C7-04.4A refers): Updated proposal on options for the future production of S-101 ENC in conjunction with S-57 ENC during the dual fuel period.

- 4.5. Update on the Joint IHO-Singapore Laboratory – Proposals from the Council to the Governing Board.
- 5. IHO ANNUAL WORK PROGRAMME AND BUDGET**
 - 5.1. Review of the Current Financial Status of the IHO.
 - 5.2. Proposed IHO Work Programme for 2024.
 - 5.3. Proposed IHO Budget for 2024.
- 6. IHO STRATEGIC PLAN**
 - 6.1. Strategic Plan 2021-2026 and Decisions A3/08 (a) to (d).
Status report on the Strategic Performance Indicators.
Secretariat's assessment on the implementation of the Strategic Plan (Work Programme 1).
 - 6.2. Initial discussion and way forward (C-9 countdown) for the preparation of a Revised Strategic Plan in preparation of A-4 in 2026 (Decision A3/08 (e)).
- 7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL**
 - 7.1. A. Increased participation on IHO bodies activities - Proposal (Secretary-General) for discussion of the situation and follow up activities (Decision A3/21 refers).
B. Proposal (AU, NZ, GB): Making IHO Events More Inclusive.
 - 7.2. Further digitalization of Secretariat's operation - Development and introduction of improved registration and information sharing.
 - 7.3. Implementation of a new global MSDI layer dedicated to Marine Protected Areas (MPA) - Proposal (IHO Secretariat) for discussion of the situation and follow up activities.
- 8. NEXT MEETING**
 - 8.1. Dates and venue for the 8th meeting of the IHO Council (15 - 17 October 2024, Monaco) (*location and dates to be confirmed*).
- 9. ANY OTHER BUSINESS**
 - 9.1. Information Paper (US): Navigation regulatory considerations for Hydrographic Organizations.
- 10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING**
- 11. CLOSURE OF THE MEETING**

LIST OF DECISIONS and ACTIONS FROM C-7

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at Oct. 2023)
1. OPENING					
1.1 Secretary-General Opening remarks and introductions					
		C7/01	The Council welcomed the opening address from the Secretary-General, who reminded the responsibilities of the Council iaw ROPs, the balance in representation for this 3 rd Council in the IHO cycle (continent, tonnage, technical capacity...) and finally the objectives of Council meetings.		
1.2 Adoption of the agenda					
	Agenda	C7/02	The Council adopted the agenda and the timetable as proposed, and noted the availability of the C-7 Red Book. The Council agreed to consider the information paper (Doc. C7-09.1 INF) at the end of the meeting under AOB, time permitting.		Decision
1.3 Formal Establishment of the Council – Confirmation of the Election of Chair and Vice-Chair					
	Council Establishment – Chair and Vice-Chair	C7/03	Noting Decisions A3/31 and /32 and Council Circular Letter CCL 03/2023, the 3 rd Council of the IHO (2023-2026) was formally established, with Ms Pia Dahl Højgaard (DK) as Chair, and Dr Masayuki Fujita (JP) , as Vice-Chair.		Decision

1.4 Chair's Opening Remarks					
1.1, 1.4	Opening	C7/04	Council Members welcomed the opening addresses by Council Chair and agreed on the participation of RENCs/RECC representatives (IC-ENC, PRIMAR, and EACC) as Observers.		Decision
1.5 Administrative Arrangements					
	Contact List	C7/05	IHO Member States having a seat at the Council to provide the IHO Secretariat with their updates to the <u>IHO Council List of Contacts</u> .	Permanent	
2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY					
2.1 Review of the List of Assembly Decisions affecting the Council and discussion on the way forward and effective implementation					
2.1	A-3 Decisions	C7/06	Based on the presentation from the Secretary-General, the Council agreed on the list of decisions from A-3 to be considered by the Council under the relevant agenda items of the meeting, as well as on the proposed way forward.		Decision
2.2 Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).					
			<i>Left blank intentionally</i>		
3. ITEMS REQUESTED BY THE IHO COUNCIL					
3.1 Review of the status of Decisions and Actions from C-6 (pending actions)					
	National S-100 Committees	C7/07 (former C6/67)	The Council welcomed the update from the UK on the concept of a national committee on S-100 [See Red Book] and noted the expected benefits of such approach.	C-8 (- 3 months)	Ongoing

			The Council invited Member States to share their national strategies with regard to the establishment of similar national S-100 committees, as appropriate.		
4. ITEMS REQUESTED BY SUBSIDIARY ORGANS					
4.1 Report and proposals from HSSC					
4.1	Report of HSSC	C7/08	The Council noted the report and commended the HSSC , its Working Groups and supporting organizations for the achievements since C-6.		Decision
4.1	S-100 Infrastructure and Standards Development	C7/09	In accordance with Decision A3/08(b), 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.		Decision
4.1	S-100 Infrastructure and Standards Development	C7/10	In parallel of the establishment of the S-100 Infrastructure Centre, the Council tasked the HSSC to identify at their next meeting 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 (project based in the short term on one hand, longer term operational mode for standards maintenance on the other hand).	HSSC-16 (- 7 weeks), then C-8 (- 3 months)	

4.1	Establishment of new PTs	C7/11	The Council noted the establishment, under HSSC, of: - the S-100 Infrastructure Centre Establishment PT - the S-100 Security Scheme PT as well as the establishment of the ECS PT under the ENCWG.		
4.1	S-100 ICE PT	C7/12	Following the update provided by the HSSC Chair on the work plan of the S-100 ICE PT, the Council invited HSSC Members, then IHO Member States to provide their views on the recommendations delivered by the PT, as soon as they become available and no later than HSSC-16.	HSSC-16 (- 7 weeks)	
4.1	S-100 Operational Implementation Countdown	C7/13	In order to meet the IMO timelines for S-100 ECDIS transition, the Council agreed that an IHO CL should be issued to inform IHO Member States of the schedule for preparation, by early November 2024, for the beginning of the approval phase of Edition 2.0.0 of S-100-based Product Specifications (Phase 1 / Route Monitoring as a 1st step).		Decision
4.1	S-100 Operational Implementation Countdown	C7/14	IHO Secretariat to implement Decision C7/13 above. Calendar to be updated after HSSC-16, in May 2024 (HSSC Chair in preparation of C-8).	December 2023 C-8 (- 3 months)	

4.1	S-130	C7/15	Noting the clarifications and views provided by the Secretary-General, the Council agreed upon the proposed way forward to test S-130 Product Specification Ed. 1.0.0 in two regions (Region E – Baltic Sea, Region M - Southern Ocean) before the publication of the operational version of S-130 Edition 2.0.0 and official production of <i>the</i> single IHO authoritative dataset for limits. HSSC Chair to provide an update at the next meeting.	HSSC-16/C-8 (-3 months)	Decision
4.1	Champion of Hydrography Award	C7/16	While noting the existing IHO Resolution 2/2014 as amended – <i>Prince Albert the 1st Medal for Hydrography</i>, the Council endorsed the proposal from HSSC and IRCC for an annual Champion of Hydrography Award and agreed upon the proposed way forward.		Decision
4.1	Champion of Hydrography Award	C7/17	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. Once finalized, IHO Secretariat to issue an IHO CL seeking the approval of IHO Member States on the proposed IHO Resolution.	February 2024 March 2024	
4.1	HSSC TORs and ROPs	C7/18	With the aim to include the RENCs representation at the HSSC Meetings, the Council endorsed the proposed amendments to the HSSC TORs and ROPs.		Decision

	HSSC&IRCC Reports and Proposals to C-6	C7/19 (same as former C6/20, ...and C1/06)	Considering the timelines between HSSC-16 and IRCC-16 meetings in 2024 and the countdown for submission of reports and proposals to C-8, the Council invited HSSC and IRCC Chairs to prepare their 2024 meeting minutes with the view that it will be used/submitted directly as reports and proposals to be considered at C-8.	C-8 (- 3 months)	
4.2 Report and proposals from IRCC					
4.2	Report of IRCC	C7/20	The Council noted the report and commended the IRCC , the RHCs , and IRCC Sub-Committees for their achievements since C-6.		Decision
4.2	A-3 Decisions	C7/21	The Council noted the IRCC (and subordinated bodies) action plan to follow-up on A-3 decisions and invited IRCC to report on their progress on an annual basis.	C-8 (- 3 months)	
4.2	A-3 Decisions	C7/22	Following up on Decision A3/20b, the Council noted the outcome of a scoping team and endorsed the recommendations from the IRCC to establish a Project Team on <i>Fund Generation of IHO' Project Initiatives</i> under the IRCC. IHO Secretariat to issue a CL on the establishment of the IHO FG PT⁹, as soon as the draft TORs and ROPs are finalized by correspondence within the IRCC.	December 2023	Decision

⁹ Note from the Secretariat: compliance with M-3 Resolutions, IHO Resolution 1/2014 – *Guiding Principles for IHO Funds*, in particular, to be ensured.

[illegible]

4.2	IBSC and CSBWG	C7/25	The Council welcomed the proposal from the IRCC supported by the IHO Secretariat to plan two workshops as follows: - one on Standards of Competence (IBSC) matters, to provide clarifications for the institutions on the preparation of submissions to the Board; - one on Crowd Sourced Bathymetry (CSBWG), on the benefit of crowd sourced bathymetry and how to expand data contribution.	1st semester 2024 1st semester 2024	Decision
4.3 Update on the Dual-Fuel Concept (transition from S-57 to S-101 ENC)					
			<i>Covered under agenda 4.1 (See HSSC Report to C-7.</i>		
4.4 Proposed version 3.0 of the Roadmap for the S-100 Implementation Decade					
	S-100 Implementation Strategy – Roadmap Annex 1	C7/26	The Council approved the proposed amendments to the S-100 Implementation Roadmap in order to issue version 3.0 dated October 2023, presented by HSSC Chair. This new version includes amendments submitted (Docs C7-04.4A&4.4B): - by the Secretary-General to the main text taking into account in particular the IMO MSC106 decision on the S-100 ECDIS transition plan; - by the HSSC Chair to Annex 2, and by France for figure 4 in Annex 2.		Decision
	Roadmap for S-100 Implementation Decade	C7/27	IHO Secretariat to make available the finalized version 3.0 of the Roadmap.	30 November 2023	

	S-100 Implementation Strategy	C7/28 (former C6/37, ..., C3/13)	Council/HSSC/IRCC Chairs/SecGen supported by subject matter experts and Member States as appropriate to maintain the S-100 Implementation Roadmap as an incremental version-controlled document (including narrative and timelines) on an annual basis.	Permanent	
4.5 Update on the Joint IHO-Singapore Innovation and Technology Laboratory – Proposals from the Council to the Governing Board (Decision A2/08)					
	IHO-Singapore Innovation and Technology Laboratory	C7/29	The Council noted the update on the Joint IHO-Singapore Innovation and Technology Laboratory and noted the progress made on the following projects: - S-131Marine Harbour Infrastructure Database (MHID) - Development of S-57 to S-101 Conversion Guidance Document - Creation and Test-Bedding of ECDIS capable of displaying S-102 (Phase 1) and S-104 (Phase 2) on S-101 ENC and the completion of the Proof of Concept Project: IHO-IALA Collaboration to Demonstrate Interoperability of S-101, S-124 and S-125 at sea using wireless updating via 4G/5G Telecommunications links.		
	IHO-Singapore Innovation and Technology Laboratory	C7/30 (former C6/43)	The Council endorsed the recommendation from the Governing Board of the Lab encouraging more stakeholders to identify collaborative projects, especially with other organisations and industry partners.		

5. IHO ANNUAL WORK PROGRAMME AND BUDGET					
5.1 Review of the Current Financial Status of the IHO					
	Financial Reporting Statement	C7/31	The Council noted the information provided on the current financial status as of September 2023.		Decision
5.2 Proposed IHO Work Programme for 2024					
	Proposed IHO WP for 2024	C7/32	The Council approved the IHO Work Programme for 2024, as presented by the Secretary-General , and noted the internal IHO Secretariat's arrangements for a change of the Principal Director and Principal Manager for ABLOS and MSDIWG.		Decision
	World Hydrography Day	C7/33	The Council noted the proposed theme for the 2024 World Hydrography Day by the Secretary-General which is "<i>Hydrographic Information - Enhancing Safety and Efficiency in Marine Activities</i>" IHO Secretariat to circulate the theme for 2024 to the IHO MS by IHO CL.	End of October 2023	Decision
5.3 Proposed IHO Budget for 2024					
	2024 IHO Budget	C7/34	In application of Decisions A3/26 to /28, the Council approved the proposed budget for 2024 provided by the Secretary-General , including the proposed adaptations.		Decision

6. IHO STRATEGIC PLAN REVIEW					
6.1 IHO Strategic Plan – Decisions A3/08a to /08d - Strategic Performance Indicators Update					
6.1	Status on the Strategic Plan - SPIs	C7/35	The Council noted the dashboard (target 2026, WP2 and WP3 SPIs value as of 31 Dec. 2022) allocated to the Secretariat, HSSC and IRCC (IHO Annual Report 2022, Annex B (pages 153 to 167) refer) and its update for WP1 as of 1 Oct 2023.		Decision
6.2 Initial Discussion and Way Forward for the preparation of a Revised Strategic Plan in preparation of A-4 (C-9 countdown)					
	Preparation of A-4 (IHO Strategic Plan)	C7/36	The Council acknowledged that the current structure of the Strategic Plan (SP) 2021-2026 was still relevant at conceptual level (vision, goals, etc.), and agreed that the objective for the next SP 2027-2032 should be limited to a <i>revision</i> of the current SP.		Decision
	Preparation of A-4 (IHO Strategic Plan)	C7/37	The Council tasked the HSSC and IRCC to provide their inputs on the possible axis of <i>evolution</i> of the existing SP in preparation of the <i>revision</i> phase (2024-2025) of the current SP.	C-8 (- 3 months)	
6.2	Preparation of A-4 (IHO Strategic Plan)	C7/38	The Council welcomed the offer from the Council Vice-Chair , , to lead a correspondence group consisting of NO, SE, GB, US, DE, DK, JP, BR, NZ, FR and HR on the ways and means ¹⁰ to prepare the next IHO Strategic Plan 2027-2032.	C-8 (- 3 months)	

¹⁰ Proposal on the scope, TORs of a Strategic Plan Review Working Group if any, to be submitted to C-8 for approval and implementation

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

7.1 Increased Participation on IHO Bodies Activities

	IHO events more inclusive	C7/39	Noting the comments made in session and collated in the Red Book, the Council agreed to prepare an IHO Resolution on <i>Guidelines for Making IHO Events More Inclusive</i> based on the recommendations made by the Secretary-General (Doc. C7-07.1A, paragraph 37) and preliminary analysis from AU, NZ and GB , available in Doc. C7-07.1B).		Decision
	IHO events more inclusive	C7/40	The Council endorsed the principle of considering an initial proposal for a IHO Resolution <i>Guidelines for Making IHO Events More Inclusive</i> (title to be confirmed) to be prepared by an ad hoc drafting group (AU, CL, FJ, NZ¹¹, SG, GB, US...) The Council tasked the ad hoc drafting group (respectively IRCC) to conduct a survey¹² 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). Once the outcome of the survey are compiled by the ad hoc drafting group, IHO Secretariat to refine the draft proposed IHO Resolution in liaison with the ad hoc drafting group if appropriate, and submit it to IHO Member States for approval.	31 January 2024 31 January 2024 31 March 2024 (deadline 31 May 2024)	
		C7/41	<i>Left blank intentionally</i>		

¹¹ Lead.

¹² Clear definitions of categories of meetings arrangements to be provided as part of the survey.

7.2 Further digitalization of Secretariat's operation - Development and introduction of improved registration and information sharing					
		C7/42	The Council endorsed the IHO Secretariat's ambitions to further digitalize the services rendered to IHO Member States and welcomed the offer made to IHO MS who would like to be involved in the different testing and acceptance phases of the new IHO Portal (POC: adtdt@iho.int) The Council noted the potential participation in the testing phase of BR, DK, FR, ID, JP, NO, SE, UK, and the US.	from December 2023	Decision
7.3 Implementation of a new global MSDI layer dedicated to Marine Protected Areas (MPA) - Proposal for discussion of the situation and follow up activities					
	MPA	C7/43	The Council noted the valid concerns raised by some Members during discussion and in the Red Book on the proposal to engage the IHO in the development of a new global MSDI MPA layer but did not reach a consensus for the MPA concept approach proposed by the Secretariat.		Decision
	MPA	C7/44	Following on clarification on the objectives provided by the Secretary-General, including updates from the last NIPWG-10 meeting on S-122 development, the Council agreed on the strategic need to promote the S-100 Concept with a quick-win through S-122. 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.	C-8	Decision

8. NEXT MEETING					
8.1 Dates and venue for the 8 th Meeting of the IHO Council					
	C-8	C7/45	The Council agreed to hold C-8 in Monaco, at the IHO Secretariat, from 15 to 17 Oct. 2024 (full in-person meeting, live streaming on request).	Go / no-go decision 15 June 2024	Decision
9. ANY OTHER BUSINESS					
9.1 Information Paper (US): Navigation regulatory considerations for Hydrographic Organizations					
	C-8	C7/46	The Council noted the information paper provided by the US on national regulations as well as the useful experience shared by other Member States. The Council encourages MS to participate in the activities of the ENCWG / ECS PT.		
10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING					
11. CLOSURE OF THE MEETING					

8th MEETING OF THE IHO COUNCIL

IHO C-8

Monaco, 15 – 17 October 2024

SUMMARY REPORT

(Version 1.0, 23 October 2024)

Note: while the 8th meeting of the IHO Council was conducted according to the timetable, this summary report is in line with the sections of the agenda.

Annex A: *List of Registered Participants*

Annex B: *Agenda*

Annex C: *List of Decisions and Actions*

1. OPENING

1.2. Secretary-General Opening remarks

Docs: C8-01A List of Documents

C8-01B List of Registered Participants

The **Secretary-General of IHO, Dr Mathias Jonas**, opened the meeting and welcomed participants to the eighth IHO Council (the second meeting of the third Council

¹ of the IHO cycle). The Secretary-General recalled the Council's responsibilities and method of work as set out in the Convention, General Regulations and Rules of Procedure and in particular the requirement under Article VI of the Convention that the Council should: "*exercise such responsibilities as may be delegated to it by the Assembly*"; and "*coordinate, during the inter-Assembly period, the activities of the Organization within the framework of the strategy, work programme and financial arrangements, as decided by the Assembly*".

The Council stood ready to undertake its duties, having reached a quorum of 28 Council Member States in attendance. The Council Members, Jamaica and Malaysia, had sent notification that they were unable to attend.

A special welcome was extended to **Mr Javier Yasnikowski**, Head of Operational Safety, Maritime Safety Division at IMO, who would provide information regarding collaboration between IHO and IMO on the S-100 uptake.

In anticipation of the proposals on inclusive participation in IHO meetings to be discussed under agenda item 7.1, the meeting was being broadcast, for the first time, to six registered IHO Member States as a passive live stream. In anticipation of agenda item 6.2, he also invited members interested in installing the Strategic Plan Review Working Group to indicate their interest in the office-bearer functions of the group.

The Council was also informed that the Secretariat had learned that, sadly, Rear Admiral Giuseppe Angrisano, IHO Director from 1992-1997 and IHO President from 1997-2002, had passed away on

¹ Note: Council#1 (2017-2020), Council#2 (2020-2023), Council#3 (2023-2026).

Sunday, 13 October. The approach, legacy and aspirations of Rear Admiral Angrisano would be preserved and would continue to grow.

Decision C8/01: The **Council** welcomed the opening address by the **Secretary-General**, who shared his opinion that this third inter-Assembly Council was fully prepared to undertake the tasks given to the Council iaw. the Articles of the Convention of the IHO that were reminded.

He noted the highest level of participation ever and welcomed the 89 registered participants (in-person) and 16 IHO Member States as observers (in-person and streaming).

Special welcome went to **Mr Javier Yasnikowski**, Head of Operational Safety, Maritime Safety Division of the IMO.

In anticipation of agenda item 6.2, the **Secretary-General** made a call to **Council Members** for them to consider the nomination of office bearers for the establishment of the new SPRWG².

Decision C8/02: The **Council** was informed with sadness that **Admiral Giuseppe ANGRISANO**, Director and President of the IHO from 1992 to 2002, passed away on 13 October 2024.

1.3. Adoption of the Agenda and Timetable

LDocs: C8-01.2A Agenda Rev 2
 C8-01.2B Timetable
 C8-01.2C Red Book Rev 1

The **Secretary-General** drew attention to the Agenda Rev 2 and asked whether Council members wished to make any changes before it was adopted. He noted that no amendments were proposed.

Decision C8/03: The **Council** adopted the agenda and the timetable as proposed and noted the availability of the C-8 Red Book.

1.4 Chair's opening remarks

Docs: C8-01.4A

Ms Pia Dahl Højgaard, Chair of the Council, said that, in her second year in post, she hoped to fulfil the expectations and trust of Council members as they continued their journey to develop digital charting standards and the provision of hydrographic services for the broader benefit of society. At the half-way point between Assemblies, the Council would pave the way for proposals in preparation for C-9, where it would endorse and prepare final decisions for submission to A-4.

Actions with which the Council had been tasked by A-3 included ensuring implementation of S-100 through prioritizing Goal 1 of the IHO Strategic Plan for 2021-2026 in implementing the 2024-2026 Work Programme. A focus must be maintained on: finalization of standards; building of competencies and capacity to produce S-100 data; testing of services; and securing interoperable navigational services. HSSC had put forward proposals to the Council related to implementation of S-100.

At A-3, IHO Members had recognized the need to establish an IHO S-100 Infrastructure Centre. A Project Team under HSSC had worked on the proposal with the Secretariat and Council would be asked to agree on the establishment of a Centre in 2025 on an interim basis, followed by a permanent establishment to be decided by A-4.

The task of developing a revised Strategic Plan for 2027-2032 had been advanced through a Correspondence Group, which had recommended the establishment of a Strategic Plan Review Working Group to provide a draft Strategic Plan in time for submission to A-4. Both HSSC and IRCC had provided input for the Strategic Plan and Council would be invited to contribute input for the SPRWG

² Strategic Plan Review Working Group.

to consider.

Consideration would be given to the request from the South West Pacific Hydrographic Commission (SWPHC) for the provision of mechanisms to ensure greater inclusion and participation of all Member States at IHO meetings. An Ad-Hoc Drafting Group, established at C-7, would present the results of a survey on participation; subsequently, a draft Resolution on Maximising Active Participation in IHO Events would be submitted to Council for approval.

The number of IHO Member States participating remotely, the Member States participating as observers and the presence of development partners was a reminder of the importance of the decisions to be taken by Council and of the opportunity to engage, discuss issues of common interest and share experiences. Knowing each other made it easier to work together with trust and an open mind and to come together to manage the challenges at hand.

Decision C8/04: The Council welcomed the opening address by Council Chair who gave a quick overview of the items to be considered with priority during the week, paving the way to C-9 as tasked by the 3rd Session of the Assembly in 2023 (S-100 Implementation, Infrastructure Centre, revised Strategic Plan, more active participation in IHO meetings, ...) and the cooperation spirit to make the IHO more efficient.

1.5 Administrative Arrangements

Docs: C8-01.5A Membership Contact List & Useful References – Marked-up Basic Docs (IHO Convention, General Regulations, Assembly ROP, Council ROP)

The **Council Secretariat** requested members to check their entry in the Council's Membership Contact List and advise the IHO Secretariat of any amendments. Participants were reminded about the silence procedure, under which members who did not explicitly oppose a decision were deemed to have accepted it. The IHO Secretariat further explained the process and timelines of the Council Summary Report and the work of the précis-writers and rapporteurs kindly appointed by China, France, Thailand, the United Kingdom, the United States of America and Mr Jeff Wootton from the IHO Secretariat.

C8/05: IHO Member States having a seat at the Council to check their contact details on the IHO webpage > Council > Basic Documents (as of C-8) and then on the IHO Portal when commissioned.

2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY

2.1 Status Report on the implementation of the List of Assembly Decisions affecting the Council.

Docs: C8-02.1ARev1 Assembly decisions affecting the Council and way forward

The **Secretary-General** recalled that Council reviewed each year how far it had fulfilled decisions taken by the Assembly. It was noted that a new proposal had been received concerning a revised definition of hydrographic interest (Decision A3/05) and it would be considered under agenda item 7.4.

Decision C8/06: Based on the presentation by the Secretary-General, the Council noted the progress made on the implementation of some decisions and actions from A-3 and the agenda items under which these topics will be addressed during C-8 for further discussions.

2.2 Reference: Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).

For reference only.

3. ITEMS REQUESTED BY THE IHO COUNCIL

3.1 Review of the Status of Decisions and Actions from C-7

Doc: C8-03.1A

IHO Assistant Director Guillam noted that most of the decisions taken by Council at its seventh session had been completed. Pending items that would be reviewed at the present meeting included Decision C7/07 concerning the permanent invitation for Member States to share their national strategies with regard to national S-100 committees. The progress made by the Council, Committees and working groups was very satisfactory.

The **Council Chair** noted the progress made and that any outstanding positions concerning many of the items would be reviewed during the course of the present meeting.

4. ITEMS REQUESTED BY SUBSIDIARY ORGANS

4.1 Report and proposals from HSSC

Doc: C8-04.1A – HSSC Report

- Annex A: Draft Revision of Annex 2 to the Roadmap for the S-100 Implementation Decade (2020-2030)

- Annex B: Dual Fuel Concept for S-100 ECDIS – Executive Summary Edition 1 v012. Dated 7 July 2024.

- Annex C: Draft Terms of Reference of the MASS WG

- Annex D: Draft HSSC List of funding Priorities with Financial Estimates – updated 10 July 2024.

The **HSSC Chair** recalled that a HSSC meeting of 90 participants had been held in Japan in May 2024. The HSSC had welcomed representatives of the World Meteorological Organization (WMO) which had provided an update on the development of weather-related S-100 product specifications. Wide participation at the meeting demonstrated the attention generated by the technical programme and S-100. A three-dimensional “aquarium” diagram, showing how S-100 products worked together, had been developed by the Republic of Korea and was available in the report and on the IHO website.

On development of S-100 product specifications, progress had been made on Phase 1 (Route Monitoring Mode): S-101 ENC; S-102 Bathymetry; S104 Water Level; S-111 Surface Currents; and S-129 UKC Management; were all on time and had received HSSC endorsement. IHO Member State approval would come next. Two Phase 1 product specifications: S-124, Navigational Warnings; and S-128 Catalogue of Nautical Products had been delayed until February or March 2025. Some operational editions set out as Phase 2 could potentially be completed in December 2025.

There were important links between IMO and IHO regarding implementation of S-100 and S-100 ECDIS; IMO’s MSC 108 had approved a revision to resolution MSC.530(106) on ECDIS Performance Standards in May 2024, which included reference to a secure communication format (SECOM) for route exchange information. This communication format could technically be used for provision of S-100 data. MSC had also considered how S-100 data should be distributed. Particular attention was drawn to an input paper on distribution of S-100 products, which underlines the relationship between IHO and IMO. The paper has been submitted as MSC 109/19/3 for consideration at MSC 109 in December 2024. Document MSC 109/19/3 was complex, and it raised important issues on who would distribute S-100 products, what technology would be used for distribution and how it could be disseminated in a cyber-secure manner.

Concerning difficulties and challenges, while IHO had initiated S-100 implementation, it was currently on the agenda of a number of international Organizations and coordination between IHO and these Organizations will be increasingly important. Considering that S-100 is on the IMO agenda, it is important that IHO representatives coordinate with their IMO Member State delegations to avoid undesirable decisions. IHO needed the resources to maintain technical operations and the administrative infrastructure to support S-100 implementation, which would include organizational, financial and operational challenges. The Working Groups, Committees and Project Teams were totally reliant on contributions received from Member States.

The **HSSC** had made inputs to the IHO Strategic Plan. Having set up a system of three votes at HSSC-16, the most votes had been received by the proposal to “connect more to the IMO E-Navigation

Strategy”, although it was noted that a link to the IMO E-Navigation Strategy was not mentioned in the Strategic Plan and it was therefore an aspect that needed to be strengthened. Consumer confidence in S-100 had also been highlighted. (See also paragraph 6.3).

Decision C8/07: The **Council** noted the report and commended the **HSSC**, its Working Groups, Project Teams and supporting organizations for the achievements since C-7.

Decision and Action C8/08: The **Council** was informed of the important MSC 109/19/3 paper to be discussed in December 2024 at the IMO MSC 109 meeting. The **Council** invited the IHO Member States to liaise with their IMO representative prior to MSC 109 and provide support as appropriate. (deadline November 2024).

In response to a decision by C-7 (C7/10), the HSSC had developed a first list of funding priorities which were published in Annex D to the HSSC Report to C-8. Several items had been funded by Republic of Korea, IC-ENC and PRIMAR. There was a continuous need for funding to finalize S-100 implementation.

The Security Scheme Project Team (SSPT) had improved IHO processes and procedures regarding the S-63/S-100 security scheme. The HSSC had agreed with the project team’s proposal to collect annual administration fees from users of the scheme; an online payment function was needed on the IHO Portal.

Decision C8/16: The Council noted the **HSSC** list of funding priorities and requirements and thanked the sponsors (IC-ENC, ROK, PRIMAR, NOAA) for their in-kind and financial contributions.

Decision C8/09: The **Council** agreed on **HSSC**’s proposal to recourse to the IHO’s Special Projects Fund to develop and integrate an online application function supporting the Security Scheme administration process in the IHO Portal, in order to collect administration fees from the OEMs using the security scheme.

HSSC-16 had decided that SENC delivery was not needed for S-100 and had concluded that testing should focus on determining if S-100 Part 15 was feasible for use in data distribution. HSSC had tasked the S-100WG to undertake further testing and to report the results in November 2024.

Decision C8/10: The **Council** was informed on the general agreement reached at HSSC-16 that SENC delivery was not needed for S-100 anymore in particular due to concerns that the data producer digital signature cannot be retained. Tests are still in progress. (deadline HSSC-17).

HSSC-16 had welcomed a kind offer from Canada to designate the St Lawrence River as an IHO S-100 Sea Trial Area. Additional official sea trial areas around the world were welcomed, including in the Baltic Sea, between France and the United Kingdom and between Malaysia, Indonesia and Singapore. The HSSC ISO Cell would work with applicable WGs/PTs to agree on more structured testing of S-100 to ensure meeting end user’s expectations.

Decision C8/11: The **Council** endorsed the principle of creating IHO S-100 Sea Trial Areas around the world and thanked **Canada** in particular for their offer on St Lawrence River (See also **C8/70** and agenda item 7.5).

Action C8/12: Based on the outcome of the experimentation supported by **Canada**, the **Council** invited **HSSC** through its **IHO ISO Cell** (and **Member States** having International S-100 Sea Trial Areas) to consider the possibility of developing some Guidelines (minimum requirements and expected outcomes) for IHO S-100 Sea Trial Areas (for instance: possible impact on standards, impact on equipment, impact on production tools and distribution mechanisms, impact on data services, impact on education and training for users, etc.). **Member States** having International S-100 Sea Trial Areas are also invited to contribute to the development of these Guidelines. (deadline: HSSC-17 (-7 weeks))

NIPWG had worked in close cooperation with IHMA³ on development of the S-131 Marine Harbour Infrastructure product specification. Supported by NIPWG, IHMA had also developed Guidelines for

³ International Harbour Masters Association

Harbour Authorities on electronic and automated exchange of nautical data between ports and HOs.

Decision C8/14: The Council welcomed the effective cooperation between the IHO and IHMA⁴ for the development of the IHMA Guidelines for Harmonized Communication and Electronic Exchange of Nautical Data for Port Calls.

IHO Director Nyberg presented an update on the activities of the Joint IHO-Singapore Innovation and Technology Laboratory. He drew attention to the website <https://iho.int/en/iho-singapore-lab> on which reports and outcomes could be consulted. The first project; a review of S-57 to S-101 Conversion Guidance Document and Workshop had been successfully completed. Project 2, the design of a S-131 Marine Harbour Infrastructure Database had also been completed. A website was being maintained to accommodate potential contributions from harbour and port authorities. On project 3, demonstrating interoperability of S-101 and S-102 on a prototype S-100 compatible ECDIS, an evaluation was continuing on how S-101 and S-102 worked together, from a display perspective, and work was ongoing to match user needs and requirements.

Project 4, demonstrating the handling of the old and the new type of ENC's (S-57 and S-101) in a dual-fuel environment, was well under way. It was planned to make S-101 available in major shipping routes by 2026. A significant contribution to the project would come from Italy, which had Training Ship *Amerigo Vespucci* undertaking an ambitious world tour in which it attempted to download data in remote areas; it would report on the results. They were also testing ENC's (S-57 and S-101) in a prototype dual-fuel ECDIS, as well as wireless updating.

In a new proposal, project 5 aimed to integrate land and sea-level datum to facilitate the development of better applications to evaluate the impacts of storm surge and to potentially address coastal inundation scenarios.

Concerning the dual-fuel S-100 ECDIS, Indonesia, Malaysia and Singapore had put together a prototype in the Malacca and Singapore Straits. Through demonstrations at sea, they had used a KHOA prototype dual-fuel ECDIS to demonstrate the dual-fuel concept.

Decision and Action C8/17: The Council noted the verbal update on the Joint IHO-Singapore Innovation and Technology Laboratory by **IHO Director Dr Nyberg**, and making reference to Doc. [HSSC16-04.4A](#), thanked the Lab and contributors (**ID, IT, MY, SG**) for the achievements (conversion S-57 to S-101, S-131 Database, Interoperability S-101 and S-102 on a prototype S-100 ECDIS, availability of ENC's S-57 and S-101 on a dual-fuel ECDIS onboard the Italian Tall Ship *Amerigo Vespucci* for her circumnavigation, etc.).

The Council encouraged **IHO Members States** and **industry stakeholders** to actively engage in collaborative projects with the IHO-Singapore Lab. (deadline HSSC-17).

The **HSSC Chair** drew attention to other highlights from HSSC-16: it had been decided that Project Teams under S-100WG (S-101PT, S-102PT, S129PT) would remain active until there was an S-100 ECDIS in the market, which would not be at least until 2026. HSSC had also noted the request from CIRM that IHO considered defining a retirement date for S-57 and inform IMO of the outcome. After not meeting for some years, the Hydrographic Dictionary WG had been changed to a Correspondence Group (HDCG).

At HSSC-16, the Maritime Autonomous Surface Ships Project Team (MASS PT) had proposed to reorganize the PT into a permanent IHO Working Group. HSSC had endorsed the proposed Terms of Reference for MASSWG.

Germany queried the value of establishing a permanent working group on MASS and noted the already very heavy workload taken on by the HSSC. The MASS Code was already in existence and Member States were dealing with the necessity of having machine-readable information.

Norway, further to the comment by Germany, asked whether the work programme of the proposed

⁴ International Harbour Masters Association.

working group on MASS would be limited to making data machine readable or whether it would have other tasks, such as to integrate unmanned systems with land infrastructure or to take decisions on the type of data and how it should be delivered. He noted that there had been some developments in unmanned transportation. It would be good to address those issues, perhaps through a Project Team if not a Working Group.

Germany said that machine readability was being addressed within the S-100 suite. In light of existing work, they could not see much benefit in establishing a working group, but would accept the recommendation of the HSSC.

The **Secretary-General** said that MASS operation had a myriad of aspects, from ship construction to remote maintenance, crewing, and remote operation although it was appropriate for IHO to focus purely on the hydrographic element of MASS. A recent report⁵ of 13 September 2024 by the Intersessional Working Group on Maritime Autonomous Surface Ships published what was expected from the hydrographic side in supporting MASS operations, including the functionality of ECDIS and the need for information to be in a machine-readable format. It was his understanding that IMO was requesting only hydrographic support, and, in that context, he believed that it would be sufficient to continue with a Project Team rather than a permanent Working Group.

The **HSSC Chair** agreed that it would be reasonable to maintain a MASS Project Team at the present time.

IHO Director Sinapi asked whether the MASS Project Team would continue with the same Terms of Reference. He noted that the Strategic Plan Review Working Group (SPRWG) would review the strategic goals of IHO which, according to the feedback from HSSC and IRCC, would include e-navigation.

The **Council Chair** concluded that the MASS Project Team would stay in place at the current time and that a decision on whether to form a permanent Working Group would be taken later.

Romania, referring to the MASS WG, said that he agreed with the view of the HSSC Chair that a long-term plan was required. He did not understand the decision to postpone a working group. There were many aspects that still needed to be considered in the Terms of Reference, including unmanned systems.

The **Council Chair** said she believed that the same work could be undertaken, as a Project Team rather than a Working Group.

Decision C8/13: Following up on a proposal from **HSSC**, the **Council** decided not to establish a **MASSWG** as such, but to continue with the current **Project Team** under its current TORs, noting that the next **SPRWG** could bring more guidance on this matter, if deemed appropriate.

The **HSSC Chair**, responding to questions regarding phase out of S-57 raised by the **IC-ENC General Manager**, said that the approval phase was just being reached for the S-101 ENC product specification and an IHO circular letter would probably be issued to that effect within one or two weeks. There were no official S-101 ENCs at the present time and it was therefore too early to contemplate the phase-out of S-57. It was important to think ten years ahead: a phase-out plan could be included in the Strategic Plan Review. In terms of learning lessons from Phase 1 and incorporating them in Phase 2, it was easier to deal with product specifications in packages rather than separately. It was also important to prioritize.

The **Secretary-General** said that the matter on phase out of S-57 could be placed on the agenda of the **WENDWG** and the views of chart providers sought before providing a more detailed answer.

Decision and Action C8/15: Noting the evolution of the IMO ECDIS Performance Standard including

⁵ Doc. IMO MSC/ISWG/MASS 3/WP.1 dated 13 September 2024.

two new standards (one for secure communications⁶, one for exchange of route plan⁷) agreed upon by the IMO MSC 108, the **Council** agreed with the proposal from **HSSC** to include a new work item in the IHO work plan (Programme 2) related to the technical aspects and impact of new distribution concepts of S-100 products and data services including the subsequent phase-out of S-57 ENC distribution. Liaison to be ensured with **IRCC/WENDWG** on this matter. (deadline: HSSC-17/C-9)

Decision C8/18: The **Council** approved the **HSSC** work plan, including the analysis technical aspects and impact of new distribution concepts of S-100-based products.

Action C8/19: Considering the timelines between HSSC-17 and IRCC-17 meetings in 2025 and the countdown for submission of reports and proposals to C-9 (then A-4), the **Council** invited **HSSC and IRCC Chairs** to prepare their 2025 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-9. (deadline: C-9 (-3 months)).

4.2 Report and proposals from IRCC

Doc: C8-04.2A

- Annex: Axis of evolution of the IHO Strategic Plan

The **IRCC Chair** presented the report and outcomes of the 16th meeting of IRCC, held in Ecuador in June 2024. IRCC had enjoyed excellent collaboration with HSSC, as always, particularly in the areas of dissemination of S-100 products and the development of S-11 Part C (guidelines for the coordination and management of the development of S-100 ENDS).

The RHCs had reported on key regional issues, including harmonized development and implementation of S-100 products and services; the need for additional resources for the production of S-101 and S-102 products; improving the services provided for ECS customers; the challenges of parallel production of S-57 and S-101 ENCs; the limited funding available for capacity building; and gender balance in hydrography. IRCC had discussed the creation of an IHO Hydrographic Commission on Antarctica (HCA) action plan addressing the impact of climate change in the *Southern Ocean* and had recommended that RHC Chairs ask their Member States to consider the extended activities in the implementation of the S-100 Roadmap for the HCA region.

Decision C8/20: The **Council** noted the report and commended the **IRCC**, the **RHCs**, and **IRCC Sub-Committees and Working Groups** for their achievements since C-7, as well as the excellent direct cooperation between **HSSC and IRCC** and their subordinate bodies.

Decision C8/21: The **Council** noted that many **RHCs** reported on the importance of CB activities and the need for additional funds especially to support S-1xx data service developments in their regions.

The IRCC Sub-Committee on the World-Wide Navigational Warning Service (WWNWS) had assessed the marine safety information (MSI) of coastal States to be 89.2%; the IHO Strategic Plan target being 90% by 2026. WWNWS had submitted S-124 version 2.0.0 on navigational warnings to HSSC for endorsement and had completed the draft version of the S-124 document encoding guide. It was working with the Capacity Building Sub-Committee (CBSC) on a geographic information system (GIS) under IHO publication C-55 (status of hydrographic surveying and charting worldwide). WWNWS recommended that the use of all recognized mobile satellite services (RMSSs) should be mandatory and had called upon IRCC to send a letter to that effect to RHCs.

Turning to capacity building, the IRCC Chair acknowledged the generous financial contributions, particularly the Republic of Korea, the Nippon Foundation and from a number of Member States in respect of the Empowering Women in Hydrography (EWH) project. The capacity building coordinators had made great efforts to identify national and regional projects that could contribute to the IHO capacity building work programme and to coordinate support for countries in need. IRCC called upon

⁶ IEC SECOM 63173-2.

⁷ IEC S-421.

RHCs to ensure that their regions were represented on the CBSC and encourage more Member States to participate in its work.

CBSC had set up a scoping team to draft the terms of reference for a project team to develop a framework for a future IHO social programme, including issues of gender balance. The scope of the task had been considerably narrowed, and more work remained to be done before the project team could be established.

Decision C8/22: (former C7/24)⁸: On the proposal for a new *Programme* for Gender Balance in Hydrography (as a follow-up to the successful *Empowering Women in Hydrography Project*), the **Council** agreed on the way forward in three steps as suggested at C-7 by the **Secretary-General**.

Consequently:

- a. The **Council** tasked the **CBSC** through the **IRCC**, to first define the regulatory framework (M-3) for a continued activity on this social theme through a proposal for an IHO Resolution; (deadline IRCC-17)
- b. 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 as currently announced by **CA, FR, NO, DK⁹, UK, US**, but still to be confirmed.
- c. The **Council** supported by **IRCC** to develop a proposal on the future framework for an IHO social Programme (incl. Gender Balance in Hydrography) as part of the revised IHO Strategic Plan to be submitted to A-4. (deadline C-9 (-3months) in preparation for A-4).

Decision C8/23: The **Council** noted the update on the *Empowering Women in Hydrography Project* provided by **Director Sinapi**.

CBSC had set up a scoping team to draft the terms of reference for a project team to develop a framework for a future IHO social programme, including issues of gender balance. The scope of the task had been considerably narrowed, and more work remained to be done before the project team could be established.

Decision and Action C8/24: Based on the above, and with reference to Doc. C8-05.2.1A, the Council endorsed:

- a. the specific recommendations of IRCC i.e. the establishment of an IRCC PT in charge of drafting a proposed IHO Resolution on Gender Balance / Inclusiveness.
- b. took note that the Scoping Team established by IRCC proposed ToRs for creating a dedicated Project Team to draft a Resolution to submit to C-9 for endorsement and then to A-4 for approval.
- c. invited the IRCC assisted by the IHO Secretariat to issue CLs for endorsement of the ToR / ROP and the subsequent creation of the Project Team by the end of 2024.

The Members of the Regional ENC Coordinating Centres (RENCs) had proposed two contributions to the capacity building work programme: an opt-in fund initiative from IC-ENC Members and an e-learning package for five non-RENC Member States from PRIMAR Members. IRCC decided that funded activities that had been endorsed by CBSC but not been completed in the calendar year would no longer be automatically carried over into the following year's workplan and that the resources thus freed up would be transferred to S-100 activities. A general manager group had been established at the IHO E-Learning Centre, and a systems manager provided by the Republic of Korea. IRCC called upon Member States and partners to contribute e-learning materials to the e-Learning Centre website.

The Worldwide ENC Database Working Group (WENDWG) had reassessed the WEND100 principles and considered them still adequate to meet the defined objectives. The Working Group had set up two ad

⁸ Kept as a reminder for the context. Still pending.

⁹ DK contribution to EWH confirmed through 2026.

hoc drafting groups, working respectively with amendments to the guidelines on the implementation of the WEND-100 principles and with the development of Edition 1.0.0 of S-11 Part C. The WENDWG is also drafting a document specifying the meaning of the term “ENDS”.

A questionnaire issued in the third quarter of 2023 had shown an estimated level of Member States S-100 readiness of 53%. Completion of the WEND100-IGIF Matrix by RHCs is now optional, although the Matrix was still considered important for hydrographic offices that had not yet scheduled the introduction of S-100 services. Several RHCs still lacked S-100 coordinators. WENDWG had identified the need for a communications strategy aimed at end-users, manufacturers and IMO to address readiness and expected geographical coverage of S-100 based products and data services from 2026 onwards. It would discuss the issue at its next meeting; and the contribution of the RENCs to the debate would be invaluable. (See also Decision C8/32 under agenda item 4.3)

IRCC recommended that the mandate of the Marine Spatial Data Infrastructures Working Group (MSDIWG) should be amended; the Working Group would transfer the resources allocated to the development of a portal to promote regional and international cooperation in MSDI to activities to monitor the S-122 Protected Seas pilot project, with a specific focus on the high seas and marine protected areas (MPAs) adopted by IMO, in order to demonstrate the benefits of S-122 for non-navigation purposes. The new mandate would reduce the Working Group’s workload, but it would be important to avoid duplication of the work of other bodies.

IHO Director Nyberg said that the work of MSDIWG under the S-122 project might also include inviting the United States philanthropic foundation ProtectedSeas to create a data set for MPAs using S-122 and monitoring the implementation of original equipment manufacturer (OEM) and GIS software. The United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) could be invited to consider the S-122 data sets pursuant to the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ). It had been proposed by UN-GGIM that MSDIWG and the UN-GGIM Working Group on Marine Geospatial Information should undertake joint activities; he therefore called upon the Council to task MSDIWG with investigating that possibility, pending further discussion at C-9.

Decision and Action C8/25: The **Council** noted the update on **MSDIWG** activities by the **IRCC Chair**, supported by **Director Dr Nyberg**, as well as noted the request from UN-GGIM to reinforce the relation between the MSDIWG and the Marine Geospatial Working Group of UN-GGIM, for efficiency reasons.

The **Council** invited **MSDIWG** through the **IRCC** to consider Decision 14/111 *-Integrated marine geospatial information*, made at UN-GGIM 14 and propose a way forward. (deadline: IRCC-17 / C-9 (-3 months)).

Decision and Action C8/26: The **Council** tasked the **MSDIWG** through the **IRCC**, in liaison with the **NIPWG**, **Protected Seas**, **ECDIS OEMs**, **GIS software manufacturers**, the **UN**, **IUCN**, and **IHO Member States**, to coordinate a pilot project aiming to demonstrate the operational implementation of S-122. (deadline: IRCC-17/C-9 (-3 months)).

Assistant Director Guillam said that, at a time of increasing interaction and overlap between the activities of organizations working in the same area, they should come together in joint working groups or correspondence groups.

The **IRCC Chair** said that IHO EU (European Union) Network Working Group (IENWG) had issued a report on IHO and European Commission (EC) hydrographic capacity development in third countries. A representative of IENWG had joined a new group created by the EC on the European Marine Observation and Data Network (EMODnet) Vision 2035 project, and the IENWG provided joint initial input to the Vision 2035 project.

IRCC had approved the revised terms of reference of the International Federation of Surveyors/IHO/International Cartographic Association (FIG/IHO/ICA) International Board on Standards

of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC). IBSC had considered 17 submissions for recognition as institutions or professional bodies against the Standards of Competence and had identified significant shortcomings in 15 of them. The IHO Secretariat and members of the Crowdsourced Bathymetry Working Group (CSBWG) had conducted a workshop on CSB for coastal States in April 2024; a second online workshop happened early October 2024 and had provided guidance and clarification on the preparation of submissions. IBSC had begun the revision of the S-5 and S-8 standards and defined the subjects and fees required for recognition as institution or professional body teaching on S-5 standards. It would liaise with CBSC for the future maintenance of the C-47 publication.

Decision C8/28: The Council noted the completion by IRCC of two workshops:

- one on Standards of Competence (IBSC) matters, to provide clarifications for the institutions on the preparation of submissions to the Board; (completed October 2024).
- one on Crowd Sourced Bathymetry (CSBWG), on the benefit of crowd sourced bathymetry and how to expand data contribution. (completed April 2024).

The Crowdsourced Bathymetry Working Group (CSBWG) had identified 10 high-level priority work areas and added a new work item, to deliver the IHO CSB Initiative, which would coordinate national, regional, and international CSB projects and activities. IRCC called upon RHCs to encourage Member States to engage formally or informally with CSBWG and encourage vessels from all sectors to contribute bathymetric data collected during routine maritime operations.

The IHO Data Centre for Digital Bathymetry (DCDB) had archived 93 new multibeam bathymetric surveys and finalized new CSB data ingest pipelines with the Interdisciplinary Centre for the Development of Ocean Mapping, Seabed 2030, the International Seakeepers Society and the Center for Ocean Mapping and Innovative Technologies. The CSB Coastal State Review Application would soon be fully operational. IRCC called upon RHCs to encourage Member States to submit community bathymetric data to the DCDB, regardless of their origin, resolution or quality.

The General Bathymetric Chart of the Oceans programme had celebrated 120 years of ocean discovery, adopted a new strategy and code of conduct and conducted a governance review. It had also set up a new sub-committee on education and training.

In the subsequent discussion, **HSSC Chair** suggested that the Project Team on Fund Generation should explore the potential of the online payment function which was to be included in the new IHO Portal related to the Security Scheme. The **Secretary-General** suggested that the Project Team should also identify other current and future IHO standards products and services for which it might be feasible to charge a fee, just as the standards issued by the International Organization for Standardization (ISO standards) were paid-for products (See also paragraph 4.6, Action C8/27b).

Indonesia suggested that IHO could encourage IMO to adopt a formal regulation requiring all vessels to collect bathymetric data.

Romania called for a formal recommendation by the Council that RHCs should consider the coordination of the implementation of S-100 in their own regions as a priority¹⁰.

Türkiye drew attention to an innovative training course on ENC quality assessment and conversion, held in Istanbul in May 2024 – the first course to be organized by regional coordinators and financed by IC-ENC Members.

United States paid tribute to the success enjoyed by the RHCs in their role as coordinators, for instance in their liaison with non-coastal States.

¹⁰ Note from the Council Secretariat: S-100 implementation is a priority (Decision A2/30, IHO Resolutions 01/2021 & 01/2023, IHO SPIs, ...).

Decision C8/29: The **Council** commended the **RHCs** for their outstanding and broad scope achievements in implementing standards, sharing best practices between coastal States, and coordinating production in their charting regions.

The activities under IRCC regarding the IHO Fund Generation Project Team are grouped under agenda item 4.6.

4.3 Update on the S-100 Roadmap

Doc: A. Annex 2 of the S-100 Roadmap (See Annex A of C8-04.1A above)
B. Annex 4 of the S-100 Roadmap (See Annex B of C8-04.1A above)

The HSSC Chair, referring to Annex 2 of the S-100 Roadmap, invited the Council to approve changes to the timeline for S-100 implementation, in particular the postponement of endorsement and implementation of the interoperability standard S-98 and the S-100 test datasets S-164 to 2025. In future, the HSSC proposed to update the S-100 product specification development timeline twice a year in future, rather than once.

The HSSC had devised a “tree” diagram to illustrate the concept of the Electronic Navigational Data Service (ENDS) and to provide a visual representation of the ways in which S-100 products supported International Maritime Organization (IMO) Maritime Service Portfolios, as defined in the IMO E-Navigation Strategy, and the Convention for the Safety of Life at Sea (SOLAS) regulations. The HSSC proposed that the diagram should be added to Annex 2 of the S-100 roadmap. HSSC further called upon the Council to consider concrete actions to increase interaction with major stakeholders, including IMO, industry and end-users of electronic chart display and information systems (ECDIS).

United Kingdom offered to provide explanatory text to accompany the tree diagram if not reshape the style of the diagram entirely.

Turning to Annex 4 of the S-100 Roadmap, the **HSSC Chair** presented several non-substantive changes to the dual fuel concept for S-100 ECDIS, reflecting technical developments since the adoption of the S-100 Roadmap at A-3 and the adoption of the revised ECDIS Performance Standards.

Decision and Action C8/30: The **Council** approved the proposed amendments to Annex 2 of the S-100 Implementation Roadmap as presented by the **HSSC Chair**.

This new version of Annex 2 includes in particular:

- the ENDS¹¹ diagram, aiming to illustrate the relationship between S-100 products, the IMO Maritime Services and the SOLAS Regulations.
- the revised S-100 timeline.

Noting the **UK's** offer to support, the **Council** tasked the **WENDWG/NIPWG** through the **IRCC/HSSC** respectively, to prepare a concise narrative to be added in the ENDS diagram, with the option to reshape it in style if appropriate. (deadline: IRCC-17/HSSC-17).

Decision C8/31: In accordance with Annex 1 of the S-100 Roadmap, the **Council** agreed with **HSSC Chair's** recommendation to consider concrete actions in 2025 for the reinforcement of interactions with major stakeholders (e.g. IMO, IEC, S-100 ECDIS end-users, OEM, industry, distributors), such as the establishment of an IMO-IHO S-100 ECDIS Stakeholders Forum/ Correspondence Group. (deadline: HSSC-17/C-9).

Decision and Action C8/32: The **Council** welcomed the intention of the **WENDWG** through the **IRCC** to provide, from 2025 onwards, inputs¹² to the **IHO Secretariat's** annual information reports to IMO

¹¹ . ENDS: *Electronic Navigational Data Service*, as introduced in the IMO Resolution MSC.530(106) Performance Standards for ECDIS.

¹² Eventually in digital and dynamic format, using INTToGIS III when commissioned.

NCSR meetings, presenting the planned availability and coverage¹³ per **RHCs**, of S-100 Phase I Products and Data Services (deadline: WENDWG15/IRCC-17 and NCSR-12 (-13 weeks)).

Request for a lunch slot briefing session on S-100 to be considered by the **IHO Secretariat** (deadline: ASAP).

Decision C8/33: The **Council** approved the proposed amendments to Annex 4 of the S-100 Roadmap (Dual Fuel Concept for S-100 ECDIS) as presented by the **HSSC Chair**.

Decision C8/34: Noting the updates approved by the **Council** for Annexes 2 and 4, **IHO Secretariat** to prepare and make available the finalized version 4.0 of the S-100 Roadmap. (deadline: 30 November 2024).

Decision C8/35: **Council/HSSC/IRCC Chairs/SecGen** supported by subject matter experts and Member States as appropriate to maintain the S-100 Implementation Roadmap as an incremental version-controlled document (including narrative and timelines) on a semi-annual basis.

4.4 Update on the establishment of the S-100 Infrastructure Centre.

Doc: A. Information Paper (Republic of Korea): Establishment and effective operation of the IHO Infrastructure Centre.

B. Comment paper (IHO Secretariat): Preliminary considerations.

The **HSSC Chair** said that A-3 had recognized the need to establish a S-100 Infrastructure Centre and it had approved the foundation of a new Project Team (ICE PT) under the HSSC. The first report of the Project Team had been given to HSSC-16. The purpose of the project was to secure a sustainable infrastructure for management of the operational, technical and administrative components supporting S-100 implementation. It would be underpinned by a strategic decision for IHO, since it included organizational, financial and operational challenges. The Republic of Korea had made a very generous offer to become the host country for the Centre. The Infrastructure Centre would be managed by the Secretariat under the IHO Technical Director and alongside an IHO infrastructure advisory board. It was proposed to set up an interim establishment at C-8, with a permanent structure to be finally confirmed at A-4.

The Republic of Korea was grateful for the opportunity to host the S-100 Infrastructure Centre and hoped that its experience in contributing to the development of S-100 over the previous decade would benefit the international community. The IHO S-100 Infrastructure Centre would provide the foundational technology needed to set global standards for maritime navigation. As set out in C-8 04.4A Rev 1, Republic of Korea welcomed the recommendations of the ICE PT report and the endorsement by the HSSC. There was a need for managerial, technical and human resources to establish the IHO Infrastructure Centre. Republic of Korea had offered to host and support funding of the Centre on the understanding that it would be located in the Republic of Korea, that governance would be conducted by the IHO Secretariat, with details defined in a Host Agreement. Republic of Korea would support funding for the Centre's operation until 2035. Republic of Korea would provide interim support for human and financial resources to avoid delays in the Centre's core functions.

IHO Director Nyberg said that the Secretariat was very appreciative of the proposal by Republic of Korea to host the Infrastructure Centre. The Centre was considered to be the only viable long-term solution for IHO to provide sustainable support for S-100 and other technology-based infrastructure. The generous offer of funding by Republic of Korea until 2035 was a strong argument to be considered. Confirmation on the level and duration of engagement by Republic of Korea was to be formalized in a letter from the Republic of Korea to the IHO Secretariat to be received prior to HSSC-17 (- 7 weeks). There would be a distinct clarification of responsibilities between IHO Secretariat in Monaco acting as headquarters and the new Centre, thereby reducing the potential for future misunderstandings.

¹³ Schemed/Planned (when, where) and then produced : one stop-shop IHO Catalogue of INT/ENCs/S-100 Products and Data Services.

Documents would need to be drafted to reflect agreed timelines for implementation. As defined in the IHO Convention, the seat of the IHO is the Principality of Monaco, a principle that would be maintained if full governance and operational oversight of the new Centre were to remain with the IHO Secretariat in Monaco. The Centre would maintain the IHO technical infrastructure. Organizational governance would remain in Monaco. On first analysis, there would be no changes in M-1 and the only new basic document that would be introduced would be a Host Country Agreement with the Republic of Korea. There would be a three-year planning cycle, guiding principles for funding and a new official resolution in M-3. Minor clarifications would be required on staff remuneration, living arrangements, holidays and travel rules in the IHO Staff Regulations. He proposed if Council decided on the interim establishment of the Centre, the Secretariat would be tasked with negotiation of a Host Country Agreement. C-9 would be asked to endorse the updates to the IHO basic documents (M-1, M-3 and Staff Regulations) and the proposed Host Country Agreement which would be presented to A-4 for approval. A continuous communications plan would be put in place.

The **Council Chair** drew attention to the favourable comment in the Red Book from the United States and to the comment from the Secretary-General concerning the IHO Secretariat's preliminary managerial, technical, financial and administrative considerations on the establishment of the Centre (C8-04.4B).

Member States¹⁴ supported the proposal as set out by Director Nyberg and expressed gratitude for the reassurance provided on how the Centre would meet governance requirements. It was essential that the Centre should remain a core part of - and be led by - the IHO Secretariat. Funding would be required for the additional human resource management responsibilities at IHO headquarters. Due note was taken of the need to amend the IHO Staff Regulations and to establish a formal agreement. **Member States** and the **Chair of the Capacity Building Sub-Committee** expressed immense gratitude to the Republic of Korea for its impressive commitment to the Centre over the long term. The Centre was necessary and urgent but would not have been possible without the generosity of the Republic of Korea. More thought would need to be given to the ten-year funding outlook and how to ensure continuity over time.

The **HSSC Chair**, responding to questions, confirmed that the approval of Council was sought to establish the Infrastructure Centre on an interim basis, pending full approval by A-4. The purpose of the Centre was to provide operational, administrative and technical support to S-100 infrastructure but it was not intended that it would be involved in distribution of ENC's.

IHO Director Nyberg, responding to questions and concerns on the nature of the agreement, explained that discussions concerning the technical and operational scope as well as funding were still underway, and this included an element for management of human resources. The nature of the agreement and whether it would be a Memorandum of Understanding between IHO and the Republic of Korea, or either a Host Country Agreement or Service Level Agreement or, had yet to be worked out.

The **Secretary-General** said that it was understood that the installation of the Centre in the Republic of Korea would require an operational and managerial interface with the IHO headquarters Secretariat. He sought a mandate from Council to take forward discussions on the shared environment and strengthening of required resources.

France asked whether Member States might be required to pay an additional contribution for the Centre at some point, noting that the Republic of Korea had agreed to funding until 2035.

IHO Director Nyberg explained that the intent would not be to ask Member States for additional contributions. Once approval had been given, the Secretary-General would enter into more formal deliberations with the Republic of Korea on the details. It was expected that, as with similar projects

¹⁴ Norway, Chile, Singapore, France, Germany, Canada (and Türkiye, Romania, observers)

managed within the United Nations system, the donor country would fund an account that would be managed by the IHO Secretariat.

Monaco noted that A-3 had approved the establishment of the Infrastructure Centre in principle, within the IHO Secretariat. The Centre would provide the technology for developing global standards for maritime navigation. According to A-3 considerations, the financial burden for setting up and operating the Centre would be significant, requiring at least three permanent employees, good IT infrastructure and a stable communication network. The Republic of Korea had offered to provide the required financial support and to host the Centre which would remain an integral part of the IHO Secretariat. The proposal seemed to go beyond operational adjustments that might be implemented to enhance the structure and functioning of IHO. The Principality of Monaco placed great importance on the sustainability and preservation of the integrity of IHO and on the Convention which set out the establishment of the Organization. Monaco expressly requested reassurances that establishment of the Infrastructure Centre as a body of the IHO Secretariat that would be set up outside the territory of Monaco would not result in changes to the IHO Convention or to the Governing Body of the Organization.

Monaco noted that Republic of Korea would support an interim solution until approval of the Centre by A-4 in 2026 by providing human and financial resources. Monaco believed that splitting the Secretariat in two different locations was not a guarantee of synergies or economies of scale. Furthermore, the commitment of the Republic of Korea covered a period of ten years which was a relatively short period of time. Monaco had hosted IHO for over a century and it respectfully invited any country offering to host part of the Secretariat to consider extending the funding period or making it perennial. As the Host Country of IHO and custodian of the IHO Convention, the Principality of Monaco hoped that its concerns would be heard and addressed.

Italy said that the fact that the IHO had been obliged to request the assistance of a Member State to support one of the most important aspects of the Organization's work was a weakness. It would be preferable to fund such projects as an integral part of the Organization; he requested that the Secretariat should give more thought to that aspect.

Norway underlined that, although the commitment of Republic of Korea for a period of ten years might seem short when compared to the lifespan of the Organization which was over one hundred years, it was the next decade that was important in considering how to support S-100 implementation. A commitment of ten years was therefore excellent. In addition, IHO Director Nyberg had examined the basic documents and established that no significant adjustments would need to be made. The proposed Centre would not be the only project established outside of Monaco. IHO existed because of the contributions from Member States and a great many IHO Member States had committed significant resources for decades.

The representative of the IMO, participating as an observer, indicated that it would be important to understand whether ships would be required to access the information on a continuous basis and; what would be the impact on S-100 products if the Centre was not available for any period of time.

The **HSSC Chair** said that there was no direct dependency with respect to the end users, the dependency would be for the ECDIS manufacturers that were developing the S-100 ECDIS systems.

United States said that the work to be undertaken by the Infrastructure Centre was critical, since for S-100 to be truly realised, it required standardized infrastructure, including consistent, machine-readable product catalogues to inform end systems of new versions of product standards and updates. As others had noted, the next decade would be an essential phase of that work. United States supported establishing the interim Infrastructure Centre as proposed, despite the associated challenges, since the requirement was too critical to wait. United States also supported IHO moving forward simultaneously in discussion with the Republic of Korea on the administrative roles and responsibilities for the permanent Centre.

The **Secretary-General** said that the present topic concerned the strategic direction that the IHO would take; the Organization would continue actively search for host countries to take on operations on its behalf, a good example of which was the Data Centre for Digital Bathymetry which was hosted by the United States National Oceanographic and Atmospheric Administration (NOAA) and the Joint IHO-Singapore Innovation and Technology Laboratory. If the practice of seeking host countries were to be abandoned, a strategic decision would need to be taken to allocate sufficient funds within the Organization for essential projects such as S-100 implementation.

Decision C8/36: Following up on Decision A3/14, the **Council** commended **HSSC** (and its **S-100 ICE Project Team** in particular) for the excellent work undertaken in preparation of the design and establishment of an Infrastructure Centre.

Decision C8/37: Noting the generous offer made the **Republic of Korea**, noting the initial assessment provided by the **IHO Secretariat**, the **Council** agreed on the interim establishment of the IHO Infrastructure Centre¹⁵ in the **Republic of Korea** starting in 2025 under the supervision of the **IHO Secretariat** and **HSSC** (supported by the **S-100 ICE PT**), based on the principles described in the HSSC Report complemented by the IHO Secretariat's preliminary considerations.

Decision C8/38: The **Council** agreed that the permanent establishment of the IHO Infrastructure Centre in the ROK should be finally decided by the **Assembly** (A-4), based on the following ground:

- governance, availability of rules of procedures, technical, managerial, financial, staffing arrangements compliant with current principles in IHO Basic Documents and Resolutions¹⁶
- budget and business model secured for at least 3 cycles of 3 years starting in January 2026. (2026+ (3*3) = 2035)
- Council-approved specific IHO Infra Centre annual work plan based on the IHO 3-year work programme which will expand on the Centre's role and duties. (deadline: C-9(-3 months)).

Decision C8/39: The **Council** noted the comments and statements made by some **Council Members** and **IHO Member States** (CL, DE, FR, MC, NO, RO, SG, TR). The **Council** thanked and noted in particular the statement made by the representative of the **Government of Monaco** (See Summary Report).

Decision and Actions C8/40: The **Council** invited **HSSC** and its **S-100 ICE PT** in liaison with the **Republic of Korea and IHO Secretariat**, to consider the comments made at C-8 by some **Council Members** and **IHO Member States** (See above) and to pursue the preparation of all necessary basic documents (new basic docs, amendments to existing IHO Basic Documents, IHO Resolutions, procedures, etc.) to serve in the development of proposal(s) submitted to A-4.

IHO Member States and **Council Members** in particular, to provide their comments and inputs on these documents for discussion at **HSSC-17**.

HSSC in liaison with the **Republic of Korea and IHO Secretariat** to provide the draft proposal(s) to A-4 for endorsement at C-9, as a package. (deadline: C-9 (-3 months))

The **Council** mandated the **Secretary-General** to negotiate a formal Host Country Agreement between the **Republic of Korea and the IHO** to be submitted to C-9 for endorsement and subsequent approval by A-4.

4.5 Update on the development of S-130.

Doc: C8-04.5A

Doc: C8-01.2C

The **Secretary-General** reported on the S-130 project, dealing with polygonal demarcations of global sea areas. The S-130 Project Team had considered sample data sets for the Baltic Sea, Southern Ocean and parts of the North Atlantic, leading to substantive semantic changes to the application schema

¹⁵ Name endorsed by **HSSC**.

¹⁶ and if not, proposed amendments to be made to current IHO Basic Documents and IHO Resolutions for IHO Members approval at A-4.

and the development of a draft Edition 1.1.0 of the S-130 product specification. The geographical coordinates of vertices have been taken from international (INT) charts and electronic navigational charts (ENCs), as they are considered reliable sources for the conversion of textual descriptions of locations contained in S-23, 3rd Edition (1953) for the S-130 authoritative data set.

The outstanding technical problem of representation of MultiPolygon geometry is awaiting expert input and should be resolved at the next meeting of the Project Team in October 2024 for a finalization between autumn 2024 and summer 2025, allowing the Project Team to approve Edition 1.1.0 of the product specification and begin work on the operational Edition 2.0.0. Technical support for the creation of the geographical coordinates is provided by the IHO Secretariat and the Flanders Marine Institute, Belgium, under a contract financed from the IHO Special Projects Fund.

China asked if a contractor has already been chosen.

IHO Secretary-General answered that the contractor has been assigned by the Project Team and is paid by the special project fund of the IHO.

IHO Director Sinapi noted that S-130 and S-122 provided standardized, digitized data, which were greatly appreciated by international authorities such as the United Nations.

Decision and Action C8/41: The **Council** noted the progress made by the S-130PT while testing and experimenting Ed. 1.0.0 of the Product Specification through the production of test data sets for the *Baltic Sea*, the *Southern Ocean* and for some parts of the *North Atlantic Ocean*.

With a new interim Ed. 1.1.0 planned to be developed by the end of 2024, the **Council** noted the timelines with Ed. 2.0.0 of S-130 PS to be submitted to HSSC-17 for endorsement, and then to **IHO Member States** for approval in 2025. (deadline: HSSC-17 (-7 weeks)).

4.6 Update on the activities of the IHO Fund Generation Project Team

Doc:C8-04.2A – Presentation

The **IRCC Chair** reported that IRCC had approved the terms of reference and outline workplan of the Fund Generation Project Team mandated by A-3. The Project Team's initial task was to draw up a priority list of activities and identify both existing/short-term and long-term strategic funding options.

IHO Director Sinapi noted that the Project Team had held three online meetings in April, May and September 2024 and had agreed to hold short online meetings every month thereafter. At its third meeting, it had reviewed a skills matrix to identify areas where specific expertise was needed and discussed engagement with stakeholders, including industry, and ways of acknowledging donors and contributors.

The Project Team's main tasks were to identify IHO projects that would benefit from funding from alternative sources; identify potential sources of funding, including RENCs, multilateral organizations, commercial partners and philanthropic organizations; and identify organizational, functional and resource requirements and gaps, as well as legal, reputational and other risks. Those tasks were laid out in the outline workplan approved by IRCC.

Decision C8/27a: The **Council** noted the update on the activities of the IHO Fund Generation Project Team provided by the **IRCC Chair**, supported by **Director Sinapi**, as well as the other initiatives regarding additional funding (RENCs, IENWG and the Joint IHO/IMO/IALA/IOC/WMO/FIG/AIEA/IMPA CB initiative in particular).

Action C8/27b: The **Council** requested the **Project Team on Fund Generation** through **IRCC** to enhance their ToRs to incorporate a systematic survey of current and future IHO standards products and services for which users can potentially be charged and propose basic conditions such as single fee, subscriptions or other options.

5. IHO ANNUAL WORK PROGRAMME AND BUDGET

5.1 Review of the current Financial Status of the IHO

Doc: C8-05.1A

The **Secretary-General** drew attention to a chart showing that a historic low of 68.39% of Member States contributions had been received at the end of September 2024. In the five years to 2022, the average received by the same period had been 80.85% and the figure had already decreased to 69.97% by 2023. Outstanding Member State contributions currently stood at 1.145 million euros and the situation was therefore very serious. It was difficult to determine why almost one third of contributions were still outstanding: he had believed that the decline in recent years had been due to the aftermath of the COVID-19 pandemic, but there had been no improvement in 2024. Looking at the global execution of the 2024 budget, the amount spent on travel expenses in 2024 was the same as in 2017: yet inflation had been over 15% in that period. The Secretariat capped costs wherever possible, carefully considering whether in-person attendance at meetings was necessary and whether an IHO Member State representative present in-country could represent IHO instead.

Chile recalled that the Secretary-General had explained at C-7 that the effect of the delays in payment of contributions had been somewhat offset by the practice of some Member States to pay in advance. Had the Secretary-General achieved a similar level of flexibility in managing the budget in 2024?

The **Secretary-General** confirmed that he was obliged to pay for current expenses by using contributions for 2025 which had been paid in advance. Furthermore, the Secretariat was understaffed by 10%, with two posts unfilled out of a total of 20. Money was invested with favorable interest rates, but the financial situation was far from sustainable. He hoped that the situation would recover in 2025. There had been a significant increase in membership over the previous years, with 20 new Members joining, although they were smaller countries that sometimes struggled to make payments. The Secretariat approached each country individually to encourage payment since the IHO needed the money to remain operational.

The **Chair of the IC-ENC** said that he would encourage participation in and contribution to capacity building trainings and he would coordinate with the IC-ENC General Manager to raise the matter at the next Steering Committee meeting.

The **Council Chair** said the proposal would be a welcome contribution. The effect of the low level of contributions on the Secretariat was noted.

Decision C8/42: The **Council** noted the information provided on the current financial status as of September 2024.

Decision C8/43: The **Council** was informed on the critical situation of the low level of incoming **Member States** contributions and the effects on the operations of the Secretariat.

5.2 Proposed IHO Work Programme for 2025 (inc. update on Programme 1)

Doc: C8-05.2A

The Secretary-General presented the proposed Work Programme for 2025, based on the second year of the three-year Work Programme (2024-2026) approved by A-3. It covered all three elements of the three-year Work Programme and considered all activities that had taken place since A-3.

Türkiye noted that the resources allocated to capacity building had been cut, while other programmes had seen an increase in their budget or an allocation from the IHO Special Projects Fund. It must surely be possible to make savings in other areas of the Work Programme and reallocate them to capacity building, which was a core priority of IHO.

United States supported the recommendations to increase mutual awareness of efforts and engagements in support of the United Nations Ocean Decade.

Decision C8/44: The **Council** approved the IHO Work Programme for 2025, as presented by the Secretary-General.

The **Council** noted the concerns, comments and suggestions from **Türkiye**.

5.2.1 Update on Empowering Women in Hydrography Project

IHO Director Sinapi presented an update on the Empowering Women in Hydrography (EWH) project. The IHO Secretariat had collaborated with the IMO World Maritime University in hosting joint events, setting up a mentorship programme and providing gender equality training. A scoping team had been set up to prepare a regulatory framework for future capacity building, draft an IHO resolution and propose terms of reference for a future project team for submission to C-8.

The initial phase of the project, financed by Canada, had ended on 31 December 2023. The project was now led by CBSC and supported by other IHO Member States. An EWH assistant had been recruited to the IHO Secretariat for one year, with the post being renewable for a further year.

The project addressed issues beyond technical matters, including recruitment of the best available talent, reducing barriers to gender differences and increasing sensitivity to inclusiveness. Those issues must be thoroughly integrated into the IHO Basic Documents. The Strategic Plan Review Working Group was invited to them into account when revising the Strategic Plan, and an IHO resolution focusing on inclusivity and gender balance would be submitted to A-4.

The EWH project had been endorsed as an action of the United Nations Decade of Ocean Science for Sustainable Development 2021–2030. The IHO Secretariat had co-sponsored a satellite event entitled “Empowering women for the ocean decade: achieving gender equality in ocean sciences and policymaking” at a conference to mark the Decade in Barcelona, Spain in April 2024. The proposed IHO resolution should consider similar gender-related internal resolutions and action plans developed by IMO, the World Meteorological Organization (WMO), the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and other partners.

The **IRCC Chair** drew attention to the required timeline, namely the establishment of the project team by December 2024 so that it could prepare the draft resolution for approval by C-9 and subsequent submission to A-4.

See **Decisions and Actions C8/22, /23, and 24** above.

5.2.2 Update on contributions to the UN Ocean Decade

A. IHO Contribution to the UN Decade of Ocean Science and Sustainable Development.

The **Secretary-General** recalled that contributions to the UN Ocean Decade fell under IHO Strategic Plan Goal 3 concerning active participation in international initiatives related to knowledge and sustainable use of the ocean. GEBCO contributed to the UN Ocean Decade through its partnership with the Nippon Foundation in delivering Seabed 2030. The percentage coverage of the GEBCO Grid had increased from 24.9% to 26.1%, representing an increase of 4.34 million km². IHO and IOC intended to apply for Crowdsourced Bathymetry to become a UN Ocean Decade Action.

The United Nations Operational Framework for Integrated Marine Geospatial Information had been produced with strong participation from the IHO MSDI WG and IHO Member States. It was common practice for IHO to encourage Member States to contribute both formally and informally to the UN Ocean Decade, with 39 countries having formed National Decade Committees.

IHO Director Sinapi recalled that Challenge 8 of the Ocean Decade Vision 2030 was to “Create a digital representation of the ocean”. It was an important part of the Ocean Decade that raised the visibility of ocean mapping and hence the focus of GEBCO, Seabed 2030 and the work in which IHO had been engaged for more than one hundred years.

The **Chair of the GEBCO Guiding Committee** said that in contributing to the UN Decade of Ocean Science, IHO was moving beyond its role in shipping to be part of the holistic ecosystem of ocean

knowledge. Historically, IHO had always been engaged in the safety of navigation with responsibility for the full value chain, from collecting the data to bringing out products for customers, but its work was not widely known. World Hydrography Day might be used to highlight IHO's work and its relevance to the wider world.

Decision C8/46: The **Council** welcomed the presentation of the **IHO Secretariat** on the list of contributions to the UN Ocean Decade.

Decision and Action C8/47: Based on the recommendations and discussions, the **Council** invited the **IHO Secretariat** to consider developing a register of **IHO Member States** representatives who are involved in their national Ocean Decade Committee, if any, and individual Member States activities/formal contributions. (Inputs to be provided within the IRCC CL (Dec. 2024)).

In preparation of the future revised IHO Strategic Plan, the **Council** tasked the **SPRWG** (to be established) to consider the need for specific SPIs that measure contributions to the UN Ocean Decade in support of Goals 2 and/or 3. (deadline: C-9 (-3 months)).

B. IHO Participation in the 3rd UN Ocean Conference

Doc. C8-05.2.2B

The **Secretary-General** recalled Goal 3 of the IHO Strategic Plan to participate actively in international initiatives related to knowledge and sustainable use of the ocean. IHO had participated in key international forums such as the Second UN Ocean Conference and the 2024 Ocean Decade Conference. The overarching theme of the Conference series was to support delivery of Sustainable Development Goal (SDG) 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development. At the First UN Ocean Conference the launch of Seabed 2030 had been announced. IHO had conducted a side event at the Second UN Ocean Conference. The aim of IHO engagement in UNOC 2025 in Nice, France next year (and associated events) was to support the delivery of the IHO Strategic Plan by: ensuring international oceans policy was conducive to and supportive of the broadest utilization of S-100; advocating for investment in primary data gathering and the sharing of existing data holdings, and; protecting the domain expertise of IHO. Participating in the Conference would ensure visibility of IHO and acknowledgement of its relevance.

CBSC23 and IRCC17 would be held in the week prior to UNOC25 and the Conference would be preceded by a One Ocean Science Congress and by a Blue Economy and Finance Forum to take place in Monaco. IHO was in consultation with the Government of Monaco on how it might contribute to the Finance Forum with a focus on the Polar regions. IHO might collaborate with the OECD in a further side event at the Finance Forum. At the main UNOC25 Conference, IHO might participate in a side event with OECD and IOC on S-100 based products and services.

The IHO Secretariat was working with several partner organizations to determine how it might be involved. Member States were encouraged to make use of the co-location of IRCC17 to seek to participate in national delegations to UNOC25. Interested Member States could make themselves known to Assistant Director Harper who would serve as a point of contact and coordinate activities.

The **IRCC Chair** noted that the IRCC was due to meet from 3 to 5 June 2025 and he asked IHO to keep those dates in mind when organizing side events.

France confirmed that it stood ready to help IHO in organizing the side event on S-100, the details of which were still to be discussed.

Norway drew attention to the One Ocean Science Congress that would precede UNOC2025 and that could be of interest.

IHO Assistant Director Harper confirmed that the One Ocean Science Congress would run in parallel to the Blue Economy and Finance Forum. A gap had been left after IRCC to allow Member States time to participate in the Science Congress and the Finance Forum ahead of UNOC25. He stood ready to coordinate a correspondence group on the subject for all interested parties.

Decision C8/48: The **Council** welcomed the proposal from the **IHO Secretariat** and agreed with the proposed engagement in the Blue Economy and Finance Forum June 2025 in Monaco and UNOC 2025 in Nice, encouraged Member States to take advantage of the alignment of IRCC-17 to the Blue Economy and Finance Forum and the UNOC 2025, and to engage early with national delegations to participate accordingly.

The **Council** invited the **IHO Secretariat** to inform the IHO Member States on UNOC 2025 through an **IHO CL** (deadline: December 2024), announcing a coordination VTC meeting (eventually in January, then April, aiming to put together all the initiatives ready for June)

C. Proposal for inclusion of Depth as an Essential Ocean Variable.

Doc. C8-05.2.2C

The **Secretary-General** said that the Global Ocean Observing System (GOOS) defined the scope of the ocean parameters that it monitored through a series of Essential Ocean Variables (EOVs). Depth was not currently an EOV. The present paper set out a proposal for Depth to be included as an EOV within the GOOS framework. GOOS had been set up under the auspices of the United Nations in 1991 to establish a coordination framework and services needed to provide critical ocean data and information to decision makers. Currently, 36 EOVs comprised the observing system and they were split into three categories: Physics, Biogeochemistry; and Biology and Ecosystems. Each of the categories were overseen by a panel of experts.

The inclusion of Depth as an EOV under the GOOS system would mean that the hydrographic community would benefit from various initiatives being undertaken to raise awareness of ocean data at the highest international policy levels. IHO was the competent international body for hydrography, and it was important to be regarded as a significant part of the wider system. The proposal supported IHO Strategic Goals 2 and 3 and aligned with the new GEBCO Strategy.

Depth as an EOV would represent a shift the way that the hydrographic community viewed seabed mapping activity. It would involve a long-term commitment from IHO which would be required (probably through GEBCO) to assume the role of custodian of a GOOS EOV, thereby formally aligning IHO with GOOS. Depth as an EOV and the alignment with GOOS would need to be reflected in the IHO Strategy and in associated annual work plans.

Subject to approval by the Council, the proposal would be made to GEBCO (GGC41) where resource requirements would be considered. The GGC Secretary (IHO Assistant Director Survey and Operations) would lead the development of the subsequent submission which would include a 2–3-page report outlining the justification and rationale against GOOS principles together with a completed specification sheet.

Sweden supported the proposal to include Depth as an EOV but wished to know whether there would be any additional operational costs for the Secretariat.

The **Secretary-General** said that he could not foresee any additional costs other than intensified cooperation with IOC.

United States requested that the decision should record that the submission by the GCC Secretary would be endorsed by the IRCC Chair, given that GEBCO was overseen by IRCC.

The **IRCC Chair** indicated his agreement to the proposal by United States. Speaking as **Germany**, he believed it was essential to make Depth an EOV and he could not understand why it had not been done earlier.

Norway supported the proposal and, speaking as **Chair of the GEBCO Guiding Committee** he agreed with Germany that Depth should already have been made an EOV. He asked Assistant Director Harper, the GGC Secretary, whether there had already been an indication that the submission would be accepted.

IHO Assistant Director Harper said that he was happy to report that a significant amount of informal liaison had already taken place with GOOS: the initial feasibility analysis had been welcomed and there was significant enthusiasm from GOOS to welcome Depth as an EOVS and GEBCO as one of the new observing systems.

Brazil requested more details on the source of the data that would be provided once Depth became a variable.

The **Secretary-General** said that the next step would be determine what sources of data would be provided.

France said that there was no question that Depth was an EOVS, although there should be an awareness that its acceptance could bring legal consequences, including an obligation to provide information to the European Union or other governmental bodies.

The **Council Chair** agreed with France although she believed that the matter would be safe if entrusted to GEBCO. The **Council Chair** asked Assistant Director Harper what the deadline for the proposed action would be.

IHO Assistant Director Harper said that there was no deadline but that, if approved by Council, the proposal would be submitted to the GEBCO Guiding Committee for review in detail. IRCC17 would report back to Council if necessary. There was an open process in which proposals could be made to GOOS on new Essential Ocean Variables. GOOS would be informed once IHO had been given the mandate to engage formally.

The **Secretary-General**, responding to Brazil and France, said that any obligations to be undertaken by IHO as part of its commitment as the formal custodian of an EOVS, shall be discussed with GOOS prior to formal recognition of Depth as EOVS.

Decision and Action C8/49: The **Council** agreed on **IHO Secretariat's** proposals regarding GOOS¹⁷ and Essential Ocean Variable (EOVS).

The Council:

- Recognised the importance of the IHO aligning itself to the aims and ambitions of the broader ocean observing community.
- Tasked the **IHO Secretariat**, through the **GGC Chair/Secretary** as endorsed by **IRCC Chair**, to lead the submission of Depth as a new EOVS, liaising with **GGC** as required.
- Tasked the **GGC** to assume the role of custodian of Depth as an EOVS **on behalf of the IHO** and in liaison with IOC.
- Consider the including participation in GOOS through Depth as an EOVS, in any future IHO strategic planning.

5.2.3 Update on activities to acquire new IHO Member States

The **Secretary-General** said that in late 2023, IHO had welcomed the coastal state of Cabo Verde as its 99th Member, a country with 4,033 km² of land and 800,000 km² of sea. With the accession of Kiribati in 2024, a country with 811 km² of land and 5.1 million km² of sea, the Organization had reached the milestone of its one hundredth Member. IHO had been in discussion with a number of landlocked states, but it had yet to receive firm indications of interest from them.

His standing appeal to IMO Member States was the request that they should, primarily via their Regional Hydrographic Commissions, continue to promote the benefits of IHO membership in their respective regions (including to landlocked states) and in their role as the chart-producing agency for coastal states that did not run a full hydrographic office. The Secretariat stood ready to assist in that process at any time.

¹⁷ GOOS: Global Ocean Observing System.

IHO Director Sinapi said that the focus on landlocked States was valid and timely, given the number of States without coasts that had joined other international organizations that dealt with maritime affairs and the sea. He highlighted the importance of states acting as primary charting authorities where promising results were being achieved; continuous feedback and support was required in those cases and it was sometimes necessary to begin a new engagement following a change in government.

Decision C8/50: The **Council** noted the **IHO Secretariat's** report on the activities carried out since C-7 and the objectives to attract new IHO Members.

5.2.4 Proposed theme for World Hydrography Day 2025

The **Secretary-General** presented his proposed theme for World Hydrography Day 2025, entitled “*Seabed Mapping: Enabling Ocean Action*”. The theme was intended to tie in with the United Nations Ocean Conference, to be held in Nice in June 2025 (UNOC 2025), and to contrast with the likely theme of World Hydrography Day in 2026, which would celebrate the uptake of S-100 compliant data services in navigation.

Türkiye suggested that “leaving no one behind” – a principle cited by HSSC in its consideration of revisions to the IHO Strategic Plan – would also be an appropriate theme for World Hydrography Day.

Decision and Action C8/45: The **Council** noted the proposed theme for the 2025 World Hydrography Day by the Secretary-General which is: “*Seabed Mapping: Enabling Ocean Action*”

IHO Secretariat to circulate the theme for 2025 to the **IHO MS** by IHO CL for comments.

5.3 Proposed IHO Budget for 2025

Doc: C8-05.3

The **Secretary-General** explained that the proposed budget for 2025 was based on the second year of the three-year budget 2024–2026 which had been approved by A-3. The budget was based on receiving all contributions due from Member States. Variations in the income for 2025 compared to the approved estimate had resulted from changes in reported national tonnage and an increase in the value of the contribution share by 3%. The resulting modest increase of 4.7% covered the increase in Secretariat operating costs arising from local and global inflation. Personnel and operational costs accounted for most of the proposed budget estimate for 2025. Some 50% of operational costs were taken up by travel.

Capacity building funds totalled 1.2 million euros, 750,000 euros of which was “earmarked”, i.e. assigned to specific types of capacity building measures by donors. There was a gap of 245,000 euros between requests for funds for capacity building compared to the amount of unearmarked funds available. If all of the Member States contributions had been paid, the Secretariat would have been able to fill the gap. The Capacity Building Sub-Committee would have to reconsider priorities and external donors must be sought.

In response to a question by **United Kingdom**, the **Secretary-General** confirmed that there had been an error in the figures relating to public relations which had been rectified. **United Kingdom** further commented that, where significant changes were made to the proposed budget, it would be useful to receive an explanation of why the change had been proposed alongside the figures.

The **Secretary-General** confirmed that he was ready to provide detailed explanations. He acknowledged that he had given more explanations in the previous year when changes had been substantial due to the cost of hiring the Grimaldi Forum for A-3. Although the Auditorium Rainier III would be provided free of charge for IHO to hold A-4 in 2026, some 150,000 euros would need to be set aside for logistics. Other minor changes in 2025 concerned the Capacity Building Fund and the Special Projects Fund although the sums involved might be comparably small at close to 20,000 euros. Money must be found to engage external contractors to support special projects such as the uptake of S-100.

Türkiye said that 20,000 euros could be viewed as a significant sum and that where one thousand euros could be saved, it would be seen as a positive step by Member States and would further enhance their motivation to contribute to IHO.

IC-ENC General Manager confirmed that, at the Steering Committee in July 2024, there had been general agreement in principle to support Capacity Building, although it was felt that better use could be made of technology to deliver training rather than spending money on travel and subsistence where resources were limited. Concerning the engagement of contractors, a portion of the IC-ENC Activity Fund would continue to be used for S-100 product specification development. However, the use of contractor resources did not guarantee complete success because with that approach came different challenges, including a very robust and secure tender process, as well as contract management for cost and time overruns.

IHO Director Nyberg thanked IC-ENC for the first year of support provided which had been critical to the S-100 product development process. He agreed there were challenges in engaging contractors.

The **Chair of the Capacity Building Sub-Committee** said that the Sub-Committee discussed priorities and it was clear that there was high demand in the regions for S-100-related training and courses. He would also appreciate receiving more formal instruction on identifying capacity building priorities as suggested in the relevant draft decision.

Decision C8/51: In application of Decisions A3/26 to /28, the **Council** approved the proposed budget for 2025 provided by the **Secretary-General**, including editorial corrections reported by the Financial Committee.

Decision and Action C8/52: The **Council** noted that the IHO was not in a position at the moment to fill the Capacity Building gap of ~245,000 euros (among which ~188,000 for S-100 supporting activities) due to the missing dues.

The **Council** invited the **Capacity Building Sub-Committee** through the **IRCC** to consider priorities of additional CB activities for 2025 covered by the 2024 savings with a focus on S-100 related CB activities. (deadline: CBSC-23/IRCC-17).

Decision C8/53: The **Council** invited **IHO Member States** and external partners (such as **RENCs**) to mobilize funding to fill the remaining gap for S-100 related CB activities through financial and/or in-kind support. (deadline: CBSC-23/IRCC-17).

6. IHO STRATEGIC PLAN REVIEW

Doc: C8-06.1A

6.1 Implementation of the IHO Work Programme and other affected IHO instruments resulting from the Strategic Plan 2021-2026 and Decisions A3/08 (a) to (d).

The **Secretary-General** recalled that A-3 had agreed that the annual Work Programme should continue to be conducted based on the Strategic Plan in place for 2021–2026. The Secretariat, assisted by the HSSC and IRCC Chairs, had been tasked to continue to measure the effectiveness and efficiency of the three Work Programmes by means of the Strategic Performance Indicators which had been endorsed by C-4 and C-5.

C-7 had endorsed a new interpretation of Target 2.1 and the associated SPI 2.1.1 for assessment of the use of the global thematic layer presented by means of the IHO GIS infrastructure. The HSSC and IRCC reports were based on assessments made at the end of 2023.

The Secretariat was responsible for reporting on Work Programme 1 on the management and fostering of relations with intergovernmental and other international organizations. The amount and type of each outreach was measured quantitatively and qualitatively. The categories measured were: global outreach; regional outreach; stakeholder-specific outreach; and consultations.

Metrics for the IHO website were positive and showed the increased popularity of the Organization, with almost one million page views recorded since 1 January 2024. The pages most consulted were on standardization and circular letters. Regarding the focus on Target 2.1, on support for national and regional MSDIWG efforts, there had been 5,465 visits to the IHO Online Catalogues page. Further work to refine the statistics gathered under Target 2.1 would be carried out in 2025. Three social media channels were run on LinkedIn, Facebook and Twitter. An Instagram account had just been opened and it was planned that individual themes would be promoted on it.

HSSC had published the SPIs in its report, identifying S-44, the standard used in surveys, as the most popular. On Goal 1, evolving the hydrographic support for safety and efficiency of maritime navigation, the most statistics had been received from United States and Canada, with the least being from East Asia and the Polar regions. He appealed to the East Asia region to provide more statistics. 53% of Member States had indicated that they were ready to meet the S-100 implementation plan. On Goal 3, the percentage of adequately surveyed area per Coastal State had been reported and the IRCC Chair could provide further information on the figures recorded. The percentage of Coastal States able to provide Marine Safety Information (MSI) had risen to 87%, close to the 2026 target of 90%. Data continued to be received by the IHO Data Centre for Digital Bathymetry (DCDB), including from private organizations.

The work of IHO was based on data exchange and open data although the difficult political situation globally meant that the ambition to share data and make it available to the public was not as present as it had been three or four years previously. The activities of IHO were based on collaboration and mutual support and Member States should stand fast to those principles in order to complete the map of the ocean.

Canada asked whether there was potential to automate SPI reporting by leveraging the S-128 Catalogue.

IHO Assistant Director Guillam responded that automation for SPI was part of the project specifications for the evolution of INTToGIS, third and fourth generations, which was still in progress with support from Republic of Korea. As soon as the S-128 files were available some of the SPIs would be extracted, also under the condition that CATZOC values are agreed by the remaining Member States to be made available through the RENCs. These tools will need to be implemented for the next Strategic Plan.

Decision C8/54: The **Council** noted the dashboard (target 2026, WP2 and WP3 SPIs value as of **31 Dec. 2023**) allocated to the Secretariat, HSSC and IRCC (IHO Annual Report 2023, Annex B (pages 121 to 134) refer).

Decision C8/55: The **Council** took note of the amount of notable outreach activities under WP1 in four categories.

- The assessment of Target 2.1 and the associated SPI 2.1.1 according to the new interpretation agreed at C-7 for the period January – October 2024.
- the continued increase of IHO visibility via IHO website and social media activities.
- The summaries of the HSSC and IRCC reports on their respective SPI's assessed at the end of 2023.

6.2 Report and recommendations from the Correspondence Group for the preparatory process of IHO Strategic Plan 2027-2032, way forward and timelines.

The **Council Vice-Chair** reported on the work of the Correspondence Group, which he had been invited to lead at C-7 with the goal to identify the ways and means to prepare the IHO Strategic Plan 2027-2032. At C-7, it had been decided that the basic concept should remain in place and that the objective should be limited to a revision of the current Strategic Plan.

The Correspondence Group, consisting of 12 Member States, had decided to use a bottom-up approach, incorporating input from HSSC and IRCC. To facilitate the process, the Group had agreed to

propose to establish a Strategic Plan Review Working Group (SPRWG) and had prepared terms of reference (TOR), rules of procedure and a timeline. The TOR had been divided into a Scoping Phase of one month and a Drafting Phase which is expected to last about nine months. After inputs and at the end of the Drafting Phase, the SPRWG would support the Council's submission of the draft Strategic Plan to A-4. It was proposed to establish the SPRWG on 1 November.

The **Council Chair** said that, given the tight timeline in which the work of the SPRWG would be undertaken, it would be preferable for the Secretary-General to issue a circular letter as soon as possible. She called for nominations for the positions of Chair, Vice-Chair and Secretary of the new Working Group.

Member States expressed support for the establishment of the SPRWG and 14 Member States requested to join as members. Denmark was nominated as Secretary, New Zealand as Vice-Chair and United States as Chair of the Group.

The **Council Chair**, responding to a suggestion that Regional Commission Chairs could be invited to join the Working Group, said that they would be given further opportunities to comment including at IRCC. She also stressed that all Members could indicate their interest in participation in their response to the IHO Circular Letter. HSSC and IRCC Chairs would be represented on the Working Group as well as the Secretariat.

Decision C8/56: The **Council** commended the **Council Vice-Chair** and the **Correspondence Group (BR, DE, DK, FR, HR, JP, NO, NZ, SE, SG, UK and US)** for their report on the preparatory process of the future IHO Strategic Plan (Action C7/38 refers).

Decision and Action C8/57: As proposed by the **Correspondence Group**, the **Council** established the **Strategic Plan Review Working Group (SPRWG)** and following up on a call made in session, agreed to nominate **US** (Benjamin Evans), **NZ** (Adam Greenland), and **DK** (Hendrik Justus Stang) as **Chair, Vice-Chair and Secretary** of the **SPRWG**, respectively.

The **Council** endorsed the proposed TORs and ROPs of the SPRWG, the timelines as proposed and invited the **IHO Secretariat** to issue an IHO CL to **all IHO MS** calling for SPRWG Membership and inviting to provide comments to the TORs if any.

IC-ENC suggested that the SPRWG should bring in domain experts to broaden thinking on the introduction of AI technology, rather than relying on the knowledge of Member States alone.

United States, referring to the remarks by IC-ENC, said that provision had not been made for SPRWG to bring in outside experts. He would support the possibility to allow broader participation by invitation beyond Member States.

Decision and Action C8/58: The **Council** agreed on the suggestion from **IC-ENC** supported by **US** to involve domain experts (such AI) on case-by-case basis in the activity of the SPRWG.

TORs to be amended accordingly before the IHO CL is issued (**IHO Secretariat**). (deadline: end of October 2024).

Decision C8/59: The **Council** noted the initial intentions from **BR, CA, CN, DE, DK, FR, ID, IN, JP, NO, NZ, RO, SE, and US** to become Members of the SPRWG.

6.3 Initial discussion on the revision of the IHO Strategic Plan based on inputs from subordinate bodies (HSSC, IRCC), Member States and IHO Secretariat.

A. HSSC inputs (See paragraph 7 of Doc. C8-4.1A)

B. IRCC inputs (see Annex A of Doc. C8-04.2A)

The **HSSC Chair** summarized the input of HSSC to the Correspondence Group. HSSC had held a workshop with the chairs of HSSC Working Groups and Project Teams that had resulted in the drafting of a list of items for inclusion in the IHO Strategic Plan. The list had been presented at HSSC-16, where Member States could vote for three top priorities items. The top priority being to connect more to the

IMO E-Navigation Strategy. Other priorities included: consumer confidence in S-100; to leave no one behind; and the S-100 Infrastructure Centre. Further priorities included: new survey technology; and connection to Agenda 2030 Goals.

The **IRCC Chair** said that the IRCC had requested regional hydrographic commissions and subordinate bodies to provide input to the revision of the Strategic Plan. It had received several contributions and had undertaken brain-storming sessions at its previous meeting. There had been strong support for improving the descriptions of the Goals and Targets so that they were fit not only for internal use but easier to use and understand in outreach situations. The SPIs should be easy to measure and comparable, including through electronic means. Language should be more transparent and accessible to IHO Members and to the broader stakeholder group. There had been a question as to whether Goal 3 was independent and whether clearer re-wording of the Goal was required. Regional hydrographic commissions might still make contributions to the consultation process.

Türkiye said that the delay in finalizing standards could be an advantage for small- and medium-scale hydrographic offices. Until the S-100 standards were completed and available, all countries were in the same position. It would be beneficial for all Member States to complete the process simultaneously without leaving anyone behind.

The **Secretary-General** said that the Secretariat would have an observer role in the Strategic Plan Review process, monitoring progress and evaluating how it would support Member States in execution of the process. In its own internal brainstorming, the Secretariat team had developed suggestions: its first observation was that the structure in place should be maintained, with its Goals, Targets and SPIs. He acknowledged the difficulty of separating Goal 2 and Goal 3, since they addressed similar subjects. The Secretariat team believed that there was a missing link, within the existing Strategic Plan, for all activities that affected the workforce and organizational arrangements of IHO. It would be better to keep three Goals: 1) support safety and efficiency of navigation; 2) support all ocean-related activities and hydrographic information; and 3) support capacity building and other activities addressing the human element.

The challenge after 2026 would be implementation of the Roadmap for S-100 which would be a difficult exercise for small- and mid-sized hydrographic offices. Preparation should be made for Phase 2, with a core element of e-navigation. In order to fulfil its objectives, IHO would need to collaborate with providers outside of its domain and take strategic decisions on the degree to which it would collaborate on S-100 products and on the entities with which it would engage. Underlying those decisions would be the extent to which IHO wished to be operational: the establishing of the Infrastructure Centre was a move into an operational role. The Organization would need to recognize its opportunities and limitations here.

Funding of the Organization would also require a strategy: relying on external donors was erratic and uncertain. IHO should more proactively think about whether it would provide its services on a paid for basis. It would be a substantial step to decide whether standardization work would be free or paid for, and such matters should be addressed at a high level and with clarity. An attempt should be made to automate the SPIs as far as possible: it was a process to which Member States could contribute.

There were discrepancies between the Strategic Plan and the current Work Plan, the latter still being based on the previous strategic plan. Once the Strategic Plan had been revised, thought should be given to aligning the Work Plan to it.

The **Council Chair** said that she agreed with many of the remarks made by the Secretary-General. It would be important to make a Strategic Plan that would allow IHO to measure easily whether it was progressing. The SPRWG could strive for clearer SPIs and perhaps reduce their number. The year 2026 would mark the beginning of implementation of S-100 but the Strategic Plan would cover the period until 2032, and IHO would need to look ahead to decide how it would maintain the standards, including developing both Phase 1 and Phase 2 products and services, assessing legacy paper charts and agreeing how standards such as S-57 would be phased out.

IHO Assistant Director Guillam suggested that the Chair, Vice-Chair, Secretary and IHO Member representatives who had indicated an interest in joining SPRWG might wish to use the opportunity of their on-site presence to hold an initial informal meeting on the following morning before the plenary session of C-8.

Rear Admiral Benjamin Evans, United States, nominated Chair of SPRWG, suggested that those wishing to join SPRWG should meet at the IHO Secretariat 8.30am on the following morning. A brief verbal report could then be made to plenary.

Decision and Action C8/60: The **Council** noted and discussed the initial inputs on the revision of the Strategic Plan, provided by **HSSC** and **IRCC** and **the Secretary-General**...

...and tasked the **SPRWG** to consider them during the revision process. (deadline: SPRWG deadlines).

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

7.1 Report on inclusive participation in IHO meetings and proposed Resolution (Inc Annex A: Outcome of the survey on inclusive participation (IHO CL28/2024))

New Zealand, as the Chair of the ad hoc drafting group on inclusive participation in IHO meetings, reported on the results of the stakeholder survey conducted between June and August 2024 and on the proposed draft IHO resolution. A total of 71 responses to the survey had been received, comprising 38 responses from Member States; six responses from Chairs of RHCs and 22 responses from Chairs of committees, sub-committees, working groups, and project teams, three responses from other coastal States and two responses from the IHO Secretariat.

The survey distinguished “active” participation – namely attendance in person, online in a hybrid or livestream format or online in a virtual teleconference (VTC) format – from “passive” participation, in which the remote listener could not speak or vote. The results presented simplified the responses received into these groups which did mean it was not always clear whether a respondent preferred in-person or remote active participation.

Approximately fifty per cent of respondents expressed a preference for in-person attendance at Assembly sessions, while many fewer preferred in-person attendance at meetings of technical bodies. A high percentage of respondents welcomed online meetings, while also acknowledging the advantages of in-person meetings. A high percentage stated that they could provide online options and possessed high capacity to host online meetings.

Insights gained from the survey included the following.

- Guidelines or a good-practice guide are required for online meetings.
- In-person participation was acknowledged as the ideal, especially for building relationships.
- For major meetings, the principals should attend in person.
- Hosting and chairing online meetings can be challenging.
- Online meetings maximize participation, transparency and open access, while also minimizing travel costs, time, fatigue and carbon footprint.
- Technical support to host online meetings may be needed.

The ad hoc drafting group had also prepared a draft resolution on maximizing active participation in IHO events, which recommended that IHO bodies choose an appropriate format for their events taking into consideration the capacity of host nations and the preferences of the expected participants.

Chile drew attention to the need to take into account the varying time zones around the world when planning online or hybrid meetings.

Fiji noted that, if many meetings were conducted online or in hybrid format, some Member States

would require technical assistance if they were not to be left behind.

Singapore asked for clarity on the large number of respondents that had suggested they preferred to attend Council and Assembly online/passive.

It was explained that these respondents were from WG and PT chairs who do not normally attend Council and Assembly but who would be interested in following the events online.

Norway said that effective communication, and in particular active contributions to the work of a body as opposed to the passive reception of information, were built on trust, which was more difficult to create in an online meeting. There was also a risk that financial authorities might see the reduced costs involved in organizing or attending an online meeting as a justification for reducing the budget of the body concerned.

The **Secretary-General** said that, while passive livestreaming appeared to have worked well at the current meeting of the Council, there was no guarantee that it could be provided for sessions of the Assembly.

Turning to the proposed draft Resolution, **United States** and **India** called for in-person participation to be presented as the main and preferred option for Assembly, with online participation listed as the second choice, subject to registration.

Decision C8/61: The **Council** commended **NZ** as lead and the ad hoc drafting group on inclusivity for their report, and for the associated survey (IHO CL 28/2024 refers).

Decision and Action C8/62: Noting the selected comments and insights, the **Council** endorsed the principles of the proposed IHO Resolution submitted by the ad hoc drafting group and invited the group to add an Annex with (minimum) practical Guidelines derived from the outcome of the survey to assist Member States to host and facilitate online meetings. (deadline: January 2025).

IHO Secretariat to submit the proposed IHO Resolution and associated Guidelines to the **IHO Member States** for their approval. (deadline: April 2025).

7.2 S-100 National Strategies (Action C7/07 refers)

A. Information paper (Australia) – Australian S-100 Working Group and National Strategy.

Australia presented details of the country's S-100 Working Group, established in 2022 to coordinate the implementation of a broad range of S-100 products and services in the region. The members came from State-owned and State-operated agencies and private industry. New Zealand, Papua New Guinea and the Solomon Islands attended as observers. The Working Group held two virtual meetings using Microsoft Teams and one hybrid meeting per year. One coordinator post had been made available.

The Working Group had adopted a roadmap, a work programme for 2024–2026 and a production timeline up to 2030. Its work also covered education, awareness-raising and dissemination of information. The S-100 Test Bed Focus Group (TBFG), created in October 2023, was working on a national test bed to enable the development and testing of different S-100 product prototypes.

The Working Group had conducted testing of various S-100 test data sets using the commercial software package SEAIq Pilot. The Italian training ship *Amerigo Vespucci* had used Australian produced S-101 data sets alongside its own ENC's while navigating in Australian waters, providing valuable feedback to the Working Group.

IMO suggested that the Working Group could share its valuable findings with IMO and the shipping community through the IHO Secretariat.

Decision C8/63: The **Council** commended the **Australian Hydrographic Office (AHO)** for their initiative in establishing a national collaborative space to develop and implement S-100 services in Australia and the region.

The **Council** noted in particular the large scope covered by their AU S-100 WG ranging from education/awareness to the coordinated production, and dissemination of harmonized S-100 products and services.

Decision C8/64: The **Council** invited **Member States** to share their national strategies regarding the establishment of similar national S-100 committees, as appropriate. Use cases to be considered and presented, as appropriate.

7.3 Update on the development of the IHO Portal

Based on the lessons learned for a testing and experimentation phase by the **S-101PT** (for S-101PT13), the **NIPWG** (for NIPWG-11) and the **ENCWG** (for ENCWG-9), the **IHO Secretariat** reported on progress in implementing the new IHO Portal, which aims to combine online meeting registration with a centralized internal document management system based on individual accounts. A guidance document entitled *How to create user account and register meetings* is available on the Portal. The registration part of the new Portal is scheduled to be fully operational from January 2025. The current online registration system will cease to operate at the end of 2024, although it will be available in parallel with the new Portal until 31 March 2025 for the management of meetings already registered. An IHO CL will be issued to all Member States after C-8 containing all details on commissioning dates, links to user manuals and other information.

The IHO website has been successfully migrated to the Portal, and the legacy website will be migrated during 2025. The documents currently publicly available on the IHO website (e.g. Basic Documents, IHO standards, publications and journals) will continue to be available, with no login required. The current document archive system will be decommissioned at the end of 2024. Users will be able to access all documents with the same login details.

The RHCs will be able to upload their documents directly to the Portal, but they should contact the IHO Secretariat in advance to agree on the required procedure, file formats, etc. RHC Secretaries will be able to add links to the Portal, but ordinary users will not.

Sweden suggested that the IHO Secretariat should provide a structured procedure for collecting feedback on the new Portal.

The **Secretary-General** noted that basic IHO documentation (e.g. Standards and Periodical Publications, Yearbooks) will remain directly accessible without login, while access to working documents will require a login. However, anyone can create a user account; the IHO Secretariat does not check users' credentials.

United Kingdom offered to use both IHO webpage and IHO Portal simultaneously for the upcoming MACHC meeting in December 2024 and provide feedback on the portal to the IHO Secretariat.

Decision and Action C8/65: The **Council** took note of the update on the development of the IHO Portal (demo, migration status, timelines, ...).

Noting the intention that the full operation of the IHO Portal is scheduled to commence in January 2025, the **Council** invited the **IHO Secretariat** to issue an informative IHO CL announcing the commissioning date, providing links to tutorials and user manuals (inc. for accredited WGs' Secretaries, should they wish to upload documents directly), explaining the consequences and impact on the current IHO website, RHCs and WGs meetings, etc. (deadline: 01 November 2024).

Decision and Action C8/66: Noting the time needed between the official announcement of a meeting and the event (~several months), the **Council** agreed that a transition period allowing the dual use of the current system and/or the new IHO Portal for IHO events held from October 2024 to end of March 2025, should be considered by the **IHO Secretariat** and decided on case-by-case in liaison with the **Chair of the WG/PT/RHC**.

All events held after 31 March 2025 should be prepared using the IHO Portal. (deadline: 31 March 2025).

7.4 Proposal by Bulgaria, Georgia, Romania, Türkiye and Ukraine: Consideration of the definition of Hydrographic Interest.

Türkiye recalled that one third of Council members were elected based on “hydrographic interest”, which was currently calculated from the national flag tonnage of the country concerned. On several occasions, Member States had questioned the fairness of that arrangement, but no suitable alternative had yet been found. At A-3, it was decided to suspend consideration of the issue until interested parties could work out a mature proposal for a revised definition of “hydrographic interest”.

Five Member States (**Bulgaria, Georgia, Romania, Türkiye and Ukraine**) had now devised a scoring table in the form of an Excel spreadsheet, bringing together information on factors demonstrating a Member State’s hydrographic interest; they included participation as a Chair, Vice-Chair, Secretary or ordinary member of IHO bodies, hosting of and participation in working groups, meetings, workshops or training courses, and publication of articles in the *International Hydrographic Review*.

Other Member States had acknowledged that the flag tonnage criterion was imperfect, although it was objective and easy to measure. They had expressed concerns that annual completion of the scoring table would create an excessive administrative burden; however, the required information was already collected by the IHO Secretariat and could, with a little preparation, be used to generate the scoring table.

The proposed new system would particularly benefit smaller countries, but they did not have the resources to implement it. The five Member States responsible for the proposal therefore suggested that the initial, relatively minor, costs of implementation should be met from the IHO Capacity Building budget.

Council members expressed varying views about the proposal, noting that Member States were able to participate fully in the work of the Council, whether they were formally selected as members. Observers were permitted to share their views freely, and the Council had – fortunately – never yet been obliged to call a formal vote on any decision. **Romania** welcomed the principle of a scoring table but found the proposal unduly complicated. HSSC and IRCC already had tools to collect similar information, which could also be used in the present case.

Other members likewise found the proposal to be too complicated and a potential administrative burden. **Germany** noted that Member States had other mechanisms, such as CLs, for making decisions; it would do better to devote resources to increasing the currently low response rate for CLs. **Norway** and **Sweden** did not support the proposal and considered that the IHO budget should be used for technical activities rather than a governance issue. **China** mentioned that efforts should be focused on S-100 standards and product development in the first instance. **India** called for further consideration of the issue, since some Member States were clearly not satisfied with the status quo. **Greece** stated to be in line with IHO and distinguished delegate from Sweden because the standing definition for measuring Hydrographic Interest was simple and until now had not brought any issues therefore Greece did not support the proposal.

IHO Director Sinapi noted that the tonnage list as basis for assessment of hydrographic interest was used not only for the appointment of members of the Council, but also for determining the Member States contributions payable by each State.

Decision C8/67: law. Decision A3/05, the **Council** noted the proposal on the evolution of the definition of Hydrographic Interests supported by **BG, GE, RO, TR and UA**.

Decision C8/68: Noting the ranges of views provided in the discussion including the recommendations of the **Secretary-General** given in the Red Book, the **Council** decided neither to support the proposal to revise the definition of Hydrographic Interest at this stage, nor to allocate capacity building funds

to this proposed revision.

7.5 Information Paper (Canada): Canadian S-100 International Sea Trial Area.

Canada gave details of the S-100 International Sea Trial Area that it had set up along the St Lawrence river between Montreal and Quebec City in order to test the route monitoring layers for the following S-100 products: S-101 (ENCs), S-102 (bathymetric surface), S-104 (water level information for surface navigation), S-111 (surface currents), S-124 (navigational warnings), S-128 (catalogue) and S-129 (under keel clearance management). The project involved State agencies including defence, transport and Environment and Climate Change Canada, the Canadian Coastguard and Port Authorities.

During the trial, which would run from June to November 2025, PRIMAR would offer free access to the data service for registered participants. User feedback would be shared with the IHO S-100 Working Group. Online information sessions would be available from November 2024 and registration would be open from February 2025; a website and social media content were in preparation. Council members were urged to inform interested parties about the trial and encourage them to join. Discussions were under way with stakeholders about the use which might be made of the data in the long term.

Council members welcomed the Canadian initiative. **Finland** suggested that the data might usefully be used in simulators in the short term, since the S-100 technology was not yet widely available in the real world. **United Kingdom** and **France** drew attention to the sea trials area established between the two countries under the initiative S-100 Across the Channel.

The **HSSC Chair** said that the trial and others like it were designed to collect both data and structured feedback from users. The HSSC ISO Cell would work with Canada to prepare guidelines and principles to guide Member States in future trials.

Assistant Director Baek drew attention to the IHO S-100 open online platform (S-10OP), which allows Member States to share test data sets freely.

Decision C8/69: The **Council** welcomed the generous offer made by **Canada** to establish an S-100 International Sea Trial Area and inviting **IHO Member States** to take full advantage of this area to test the S-100 systems, to share the invitation with industry and other interested parties and to provide feedback.

Decision and Action C8/70: The **Council** invited the **IHO Secretariat** to issue an IHO CL informing **IHO MS** on this offer and pointing to the website for the Canadian S-100 International Sea Trials Area, which will include a registration platform. (deadline: 15 December 2024 – opening of the registration planned in Feb. 2025).

8. NEXT MEETING

8.1 Dates and venue for the 9th meeting of the IHO Council.

The **Secretary-General** confirmed the dates of C-9. He had heard some requests to stretch the third day to a full day, but he did not think that it would make the work of the Council more effective or efficient. He proposed that the current format should be retained.

Member States, responding to a proposal from the Chair to postpone a decision on whether to hold a full day of meeting on the third day of C-9, said that it was important for delegations to be informed at the earliest opportunity and before they had made their travel arrangements. Similarly, it would not be possible for some delegations to attend additional meetings at the Assembly, if they were only communicated one month in advance.

United Kingdom asked whether additional information sessions could be held prior to C-9.

The **Secretary-General** said that the informal gatherings on the day before the Council had been introduced to welcome new Members and ensure that any questions were answered prior to commencement of the plenary.

The **Council Chair** took it that Member States were willing to maintain the third day of C-9 as a half day, with the opportunity for information meetings, working groups or informal groups to be held in the afternoon or on the following day for those who so wished.

The **Secretary-General** recalled that, in view of space restrictions, Council members were requested to send no more than two representatives to the meeting room at any one time, with one representative allowed for observers.

The **Council Chair** noted that live streaming of the meeting had been tried for the first time at C-8 and that it would provide an additional opportunity for Council members to follow proceedings in the future.

Decision and Action C8/71: The **Council** agreed to hold C-9 in the known format in Monaco, at the IHO Secretariat, from 14 to 16 Oct. 2025 (full in-person meeting, live streaming by registration).

9. Ad hoc DRAFTING GROUPS - ANY OTHER BUSINESS

9.1 IMO Regulatory Framework and IHO S-100 Roadmap

Mr Javier Yasnikowski, Head, Operational Safety, Maritime Safety Division, IMO, briefly described the longstanding collaboration between IMO and IHO, mainly based on SOLAS (which was celebrating its 50th anniversary in 2024) and strengthened by the Agreement of Cooperation between the two agencies, concluded in 2013.

IMO instruments and publications relevant to S-100 implementation included Circular MSC.1/Circ. 1595 on the e-navigation strategy implementation plan (update 1), which had set S-100 as the baseline standard for maritime services. Most recently, the revised ECDIS performance standards (resolution MSC.530(106)/Rev.1) had been issued, along with the ECDIS Guidance for Good Practice (Circular MSC.1/Circ.1503/Rev.2). From 2026, ships could use either original ECDIS navigation systems, or S-100-compliant ECDIS with dual-fuel functionality. ECDIS equipment installed on board ships on or after 1 January 2029 should be S-100 ECDIS-compliant. Older ships, in particular, could continue to use non-S-100 ECDIS or, indeed, paper charts, but their number would gradually decline through natural wastage. The new data products met the long-felt need for a globally standardized system that would allow for the exchange and constant updating of route and other data between ship and shore, as required by S-100 products.

S-100 implementation faced several challenges. S-100 products needed data, but there was no legal obligation to provide it in the S-100 format. Compliance with the S-100 standards would be required not only for ECDIS systems, but for many other types of equipment used on board ship. Data exchange must be assured at the prescribed intervals and in all geographical areas, which might require regulation of the communications links to be used; however, the process of regulation was slow and prescriptive and risked stifling innovation. Finally, not only seafarers, but many other ship-based and shore-based workers would need to be trained and familiarized with the S-100 technology; IMO was already planning an update of its model training course 1.27 on the operational use of ECDIS.

In the immediate future, the IMO Maritime Safety Committee would consider proposals for a new output to develop guidance for a framework for data distribution and global internet protocol (IP) based connectivity - in other words, to standardize the exchange of dynamic data between ship and shore over the internet. Compliance with the IEC standard 63173-2 on secure communication between ship and shore (SECOM) was recommended, and amendment of the ECDIS Performance Standards and potentially, in future, Chapters 4 and 5 of SOLAS might be required. Equipment manufacturers were concerned that the latter two requirements could lead to delays and extra costs;

they had also drawn attention to the differing technical requirements of older ECDIS systems and more modern ones that required data exchange in real time.

IHO Member States were invited to contribute to forthcoming meetings of the IMO Maritime Safety Committee (2-6 December 2024), IMO Sub-Committee on Human Element, Training and Watchkeeping (HTW) (10–14 February 2025), Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) (13–22 May 2025) and Maritime Safety Committee (18–27 June 2025).

IHO Director Sinapi said that the IHO Secretariat had informed Capacity Building coordinators of the possibilities for collaboration with IMO.

IHO Director Nyberg mentioned the importance of S-100 national committees but also the S-100 coordinator roles to ensure data is being coordinated and collected in S-100 compliant formats. He also suggested the reinvigoration of the ECDIS stakeholder workshop to ensure close collaboration with IMO and encouraged a correspondence group to ensure coordination.

Decision C8/72: The **Council** commended **Mr Javier Yasniouski**, Head Operational Safety, Maritime Safety Division, for his very enlightening presentation on S-100 Implementation from an IMO perspective.

Decision C8/73: The **Council** noted the challenges affecting different domains to be considered throughout the S-100 implementation phase (information providers, data exchange/updates, carriage requirements, machine-machine interface, new regulations?, users).

Decision C8/74: The **Council** noted the information on MSC Circulars already addressing S-100, and the future events that are in the interest of **IHO Member States**:

- MSC 109 (2-6 Dec 2024)
- HTW 11 (10-14 Feb 2025)
- NCSR 12 (13-22 May 2025)
- MSC 110 (18-27 June 2025)

9.2 Reports from Ad hoc Drafting / Working Groups, if any (or for informal kick-off meeting of the SPRWG, tbc) Any Other Business

Rear Admiral Benjamin Evans, United States, nominated Chair of SPRWG, said that an unofficial gathering of interested Member States had taken place earlier that morning. Full membership of SPRWG would be confirmed after a Circular Letter had been issued and responded to. The informal session had enabled an exchange of initial thoughts and views prior to identification and confirmation of the full membership. Member States joining SPRWG thus far were diverse both in their wide geographical representation and in the size and scale of their hydrographic offices; future members would also be highly welcome.

At its first informal meeting, SPRWG had reviewed the Rules of Procedure which had been developed by the Correspondence Group and the general schedule of work to be undertaken in a Scoping Phase of approximately one month, which would begin as soon as possible. A Drafting Phase would follow, in which the Strategic Plan and Strategic Performance Indicators would be developed. There would be logistical challenges, as SPRWG was expected to work in a compressed timeframe and to produce a first draft in time for review by HSSC and IRCC in 2025. The informal group had discussed the critical decisions that would need to be taken immediately in order to frame the scope of work, with communication by correspondence and an occasional VTC. A kick-off VTC would be scheduled as soon as the full membership had been identified. He was appreciative of the support provided by Member States, the IHO Secretariat, the Vice-Chair (Adam Greenland, New Zealand) and the Secretary (Hendrik Justus Stang, Denmark).

Decision C8/76: The **Council** noted the main outcome of the informal meeting of the SPRWG enhancing the large geographic diversity of potential Members, the scope of the work, logistic issues, confirming the **SPRWG** will start its work early November as soon as the IHO CL is issued.

9.3 A-4 Countdown

IHO Director Sinapi said that A-4 would be held at the Auditorium Rainier III, Monaco, from 20 to 24 April 2026. The first day, 20 April, would be set aside for the meeting of the Finance Committee and any other preliminary meetings; the opening of the first plenary session of the Assembly would take place on 21 April 2026. Reports and other documents would be circulated to Member States two months ahead of the meeting. The deadline for submission of proposals to the Secretariat by Member States, the Council and the Secretary-General, was 15 December 2025. Any comments to proposals must be submitted by 17 January 2026. The revised agenda and the Red Book would be published on 16 February 2026.

Decision and Action C8/75: The **Council** noted the countdown for the preparation of A-4 (dates of A-4 now confirmed: 20 – 24 April 2026).

10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

IHO Assistant Director Guillam read out the draft decisions and actions taken during C-8, providing brief explanations where necessary. He drew attention to a decision on “S-100 new distribution concepts” (C8/15) which represented an important addition to the Work Plan and could be viewed as opening a new domain and a new challenge. He drew attention to a decision proposed by a Member State (C8/29) commending the RHCs for their outstanding and broad scope achievements in implementing standards and sharing best practices in their charting regions.

The **Secretary-General** requested that additional text be added to decision C8/27 to the effect that the Council invited the IRCC to expand the scope of the Fund Generation Project Team to consider options for charging the IHO digital standards services. The **Council Chair** noted that there were no objection for the IHO Funding Generation Project Proposal Team to consider that proposal in their work. (See Action C8/27b).

With respect to decision C8/32, the **Chair of WENDWG** said that he was concerned about the coverage per Regional Hydrographic Commission since there were currently insufficient tools available with which to assign feedback from Member States to the relevant Regional Hydrographic Commissions. WENDWG was able to collect data from Member States but there was no way in which it could be managed per region at the present time.

IHO Assistant Director Guillam, in response, drew attention to a footnote attached to Decision C8/32: “Eventually in digital and dynamic format, using INTOGIS III when commissioned.” It was expected that, with the assistance of Republic of Korea, the INTOGIS III would be commissioned in January 2025.

Mr Javier Yasniouski, Head, Operational Safety, Maritime Safety Division, IMO, asked whether the IHO’s annual information reports to IMO NCSR referred to in decision C8/32 would be submitted for information only since currently, NCSR did not have a work output dedicated to S-100. Since NCSR also had a heavy workload, it would be helpful to send advance notification of any substantive items. **IHO Assistant Director Guillam**, confirmed that the purpose of the communication was to engage with and attract stakeholders at IMO. It had previously been standing practice for IHO to provide for information only relevant updates to S-57 ECDIS Carriage Requirements, on small- medium- and large-scale ENCs planned and existing availability.

Mr Javier Yasniouski seconded by **IHO Assistant Director Harper** said that, with respect to reporting into IMO, it could be helpful to request a slot for a lunchtime briefing session since the agenda of NCSR had been condensed from ten days to one week. A briefing slot would allow time to share information

whereas an information paper might simply be noted in plenary. **IHO Assistant Director Guillam**, said that he would include the reference to the IMO briefing in the decision.

With reference to decisions C8/52 and C8/53, dealing with the shortfall in payment of Member States' annual contributions, **Norway** suggested that the Council issue a formal statement expressing its deep concern about the financial status of the Organization.

With reference to decision C8/57, dealing with the nomination of officers to the new SPRWG, the IHO Secretariat confirmed that the persons specified in the decision had merely indicated their willingness to stand for the officer posts. All Member States having a seat at the Council were free to nominate further candidates if they wished.

Ex Abyssis ad Alta Award

The **Secretary-General** introduced the inaugural *Ex Abyssis ad Alta* Award – IHO Award for Hydrographic Excellence, intended to honour an individual who had made a significant contribution to pursuing the aims and objectives of the IHO. The Latin phrase, meaning “from the depths to the heights”, was the personal motto of Prince Albert I of Monaco.

The **Council Chair** said that the *Ex Abyssis ad Alta* Board, of which she was a member, had unanimously decided to present the first Award to Mr Yves Guillam, outgoing Assistant Director, IHO, for his many years of sterling service to the Organization. She presented Mr Guillam with the Award and a certificate, amid sustained applause.

IHO Assistant Director Guillam declared himself moved and honoured to receive the first *Ex Abyssis ad Alta* Award on the eve of his retirement from IHO. He expressed his warmest thanks to the Member States of the Organization, the two Committees, Working Groups and Council Chairs with whom he had worked over the years, and his colleagues at the IHO Secretariat, for their unfailing support and inspiration.

Action C8/77: The **Council Chair** concluded the meeting awarding Mr Yves GUILLAM with the new *Ex Abyssis ad Alta* IHO Award for Hydrographic Excellence.

11. CLOSURE OF THE MEETING

Romania informed the Council that the Romanian national hydrographic office, the Maritime Hydrographic Directorate, would celebrate its 100th anniversary in February 2026. He would keep the Council informed of the associated commemorative events.

The **Council Chair** expressed her thanks to her fellow officers, the representatives of Member States, observers and partners, and the IHO staff who had worked so hard to make the meeting run smoothly. She declared the meeting closed.

Annex A

LIST OF REGISTERED PARTICIPANTS

8th Meeting of the IHO Council
Face, Online, 15-Oct-2024 ~ 17-Oct-2024

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
1	IHO Member State	Angola	Agência Marítima Nacional	Helder DA CONCEIÇÃO	Head of delegation	helderufino46.hr@gmail.com	Face-to-face	2024-09-14
2	IHO Member State	Angola	Agência Marítima Nacional	Filomeno Lopes	Member of delegation	flison02.fl@gmail.com	Face-to-face	2024-09-14
3	IHO Member State	Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Hilary THOMPSON	Member of delegation	hilary.thompson@defence.gov.au	VTC	2024-08-16
4	IHO Member State	Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Robyn PHILLIPS	Head of delegation	robyn.phillips1@defence.gov.au	Face-to-face	2024-08-21
5	IHO Member State	Bangladesh	Bangladesh Navy	MOHAMMAD ANWAR HOSSAIN	Head of delegation	anwarbd613@gmail.com	Face-to-face	2024-09-12
6	IHO Member State	Belgium	MCD-COASTAL DIVISION - Flemish Hydrography/MDK -Afdeling Kust-Vlaamse Hydrografie	Kaatje VANDAELE	Member	kaatje.vandaele@mow.vlaanderen.be	VTC	2024-08-22
7	IHO Member State	Brazil	DIRETORIA DE HIDROGRAFIA E NAVEGAÇÃO (DHN, Directorate of Hydrography and Navigation)	Marco Antônio LINHARES SOARES	Head of delegation	dhn.intel@marinha.mil.br	Face-to-face	2024-09-04
8	IHO Member State	Brazil	DIRETORIA DE HIDROGRAFIA E NAVEGAÇÃO (DHN, Directorate of Hydrography and Navigation)	Cesar Reinert BULHÕES DE MORAIS	Member of delegation	reinert@marinha.mil.br	Face-to-face	2024-09-04
9	IHO Member State	Canada	CANADIAN HYDROGRAPHIC SERVICE	Sonja BHATIA	Member of delegation	sonja.bhatia@dfo-mpo.gc.ca	Face-to-face	2024-09-04
10	IHO Member State	Canada	Fisheries and Oceans Canada (DFO)	Manon LAROCQUE	Head of delegation	manon.larocque@dfo-mpo.gc.ca	Face-to-face	2024-09-04
11	IHO Member State	Chile	SERVICIO HIDROGRAFICO Y OCEANOGRAPHICO DE LA ARMADA	Arturo OXLEY	Head of delegation	direccion@shoa.cl	Face-to-face	2024-07-15
12	IHO Member State	Chile	SERVICIO HIDROGRAFICO Y OCEANOGRAPHICO DE LA ARMADA	Christian MARCHANT	Member of delegation	cmarchant@shoa.cl	Face-to-face	2024-07-16
13	IHO Member State	China	MARITIME SAFETY ADMINISTRATION (MSA)	Hongyin LI	Head of delegation	hydro@msa.gov.cn	Face-to-face	2024-08-21
14	IHO Member State	China	MARITIME SAFETY ADMINISTRATION (MSA)	Bing SUN	Member of delegation	hydro@msa.gov.cn	Face-to-face	2024-08-21
15	IHO Member State	China	MARITIME SAFETY ADMINISTRATION (MSA)	Yiran XU	Member of delegation	xuyiran092@126.com	Face-to-face	2024-08-21
16	IHO Member State	China	HYDROGRAPHIC OFFICE OF MARINE DEPARTMENT THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION	Michael CM CHAU	Member of delegation	michaelchau@mardep.gov.hk	Face-to-face	2024-08-21
17	IHO Member State	China	HYDROGRAPHIC OFFICE OF MARINE DEPARTMENT THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION	Yue Yan Ricky CHEUNG	Member of delegation	ryycheung@mardep.gov.hk	Face-to-face	2024-08-21
18	IHO Member State	Croatia	HRVATSKI HIDROGRAFSKI INSTITUT (Hydrographic Institute of the Republic of Croatia)	Vinka KOLIC BUBIC	Head of delegation	vinka.kolic@hhi.hr	Face-to-face	2024-04-09

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
19	IHO Member State	Cyprus	HEADQUARTERS OF DEPARTMENT OF LANDS AND SURVEYS	GEORGIOS KOKOSIS	Head of delegation	gkokosis@dis.mol.gov.cy	Face-to-face	2024-09-02
20	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODASTYRELSEN (GST)	Pia DAHL HØJGAARD	Chair / Vice-Chair	pdh@gst.dk	Face-to-face	2024-06-25
21	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODASTYRELSEN (GST)	Sophie HOHWÜ-CHRISTENSEN	Head of delegation	sohoh@gst.dk	Face-to-face	2024-06-25
22	IHO Member State	Denmark	DANISH GEODATA AGENCY - GEODASTYRELSEN (GST)	Hendrik Justus STANG	Member of delegation	hejus@gst.dk	Face-to-face	2024-06-25
23	IHO Member State	Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Apenisa CAVUILATI	Member of delegation	director.fho@fjnavy.org	Face-to-face	2024-07-25
24	IHO Member State	Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Humphrey TAWAKE	Head of delegation	humphrey.tawake@fjnavy.org	Face-to-face	2024-07-25
25	IHO Member State	Finland	FINNISH TRANSPORT AND COMMUNICATIONS AGENCY	Rainer MUSTANIEMI	Head of delegation	rainer.mustaniemi@traficom.fi	Face-to-face	2024-07-02
26	IHO Member State	France	SERVICE HYDROGRAPHIQUE ET Océanographique DE LA MARINE	Gablin SOGORB	Member of delegation	gablin.sogorb@shom.fr	Face-to-face	2024-05-06
27	IHO Member State	France	SERVICE HYDROGRAPHIQUE ET Océanographique DE LA MARINE	LAURENT KERLEGUER	Head of delegation	laurent.kerleguer@shom.fr	Face-to-face	2024-07-19
28	IHO Member State	Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE	Thomas DEHLING	Head of delegation	thomas.dehling@bsh.de	Face-to-face	2024-06-24
29	IHO Member State	Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE	Jens SCHRÖDER-FÜRSTENBERG	Member of delegation	jens.schroeder-fuerstenberg@bsh.de	Face-to-face	2024-06-24
30	IHO Member State	Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	IOANNIS ASTERIOU	Head of delegation	director_hnhs@navy.mil.gr	Face-to-face	2024-09-08
31	IHO Member State	Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Vasileios PETROPOULOS	Member of delegation	geopol_hnhs@navy.mil.gr	Face-to-face	2024-09-08
32	IHO Member State	India	NATIONAL HYDROGRAPHIC OFFICE	Lochan Singh PATHANIA	Head of delegation	la-inho-navy@nic.in	Face-to-face	2024-08-21
33	IHO Member State	India	NATIONAL HYDROGRAPHIC OFFICE	Rahul BHATT	Member of delegation	la-inho-navy@nic.in	Face-to-face	2024-08-21
34	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	Budi PURWANTO	Head of delegation	infohid@pushidrosal.id	Face-to-face	2024-09-10
35	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	Dwi JANTARTO	Member of delegation	infohid@pushidrosal.id	Face-to-face	2024-09-10
36	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	Agus SUTRIYANTO	Member of delegation	infohid@pushidrosal.id	Face-to-face	2024-09-10
37	IHO Member State	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, INDONESIA NAVY (Pushidrosal)	Indragiri Yani WARDHONO	Member of delegation	infohid@pushidrosal.id	Face-to-face	2024-09-10
38	IHO Member State	Italy	ISTITUTO IDROGRAFICO DELLA MARINA (Italian Hydrographic Institute)	Massimiliano NANNINI	Head of delegation	massimiliano.nannini@marina.difesa.it	Face-to-face	2024-09-09
39	IHO Member	Italy	ISTITUTO IDROGRAFICO DELLA	Erik BISCOTTI	Member of delega	erikd.biscotti@marina.difesa.it	VTC	2024-09-11

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
	State		MARINA (Italian Hydrographic Institute)		tion			
40	IHO Member State	Jamaica	National Land Agency	Diego BILLINGS	Head of delegation	diego.billings@nia.gov.jm	Face-to-face	2024-09-12
41	IHO Member State	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPARTMENT	Masayuki FUJITA	Chair / Vice-Chair	lao@jhod.go.jp	Face-to-face	2024-08-22
42	IHO Member State	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPARTMENT	Kentaro KANEDA	Member of delegation	lao@jhod.go.jp	Face-to-face	2024-08-22
43	IHO Member State	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPARTMENT	Yuto NAKAMURA	Member of delegation	lao@jhod.go.jp	Face-to-face	2024-08-22
44	IHO Member State	Japan	Ministry of Foreign affairs	Masatora ONO	Member of delegation	masatora.ono@mofa.go.jp	Face-to-face	2024-09-12
45	IHO Member State	Malta	HYDROGRAPHIC OFFICE, PORTS AND YACHTING DIRECTORATE, TRANSPORT MALTA	Fritz FARRUGIA	Member	fritz.farrugia@transport.gov.mt	Face-to-face	2024-05-27
46	IHO Member State	Malta	HYDROGRAPHIC OFFICE, PORTS AND YACHTING DIRECTORATE, TRANSPORT MALTA	Godwin BORG	Member of delegation	godwin-louis.borg@transport.gov.mt	Face-to-face	2024-05-27
47	IHO Member State	Mauritius	Ministry of Housing and Land Use Planning	D MADHOW	Chair / Vice-Chair	olc_hydrounit@govmu.org	VTC	2024-09-24
48	IHO Member State	Mauritius	MAURITIUS HYDROGRAPHIC SERVICE	Hemba TECKMUN	Observer	hydrounit@govmu.org	VTC	2024-09-27
49	IHO Member State	Monaco	Département des Relations Extérieures et de la Coopération	Isabelle ROSABRUNETTO	Observer	irosabrunetto@gouv.mc	Face-to-face	2024-09-20
50	IHO Member State	Netherlands	HYDROGRAPHIC SERVICE - ROYAL NETHERLANDS NAVY	Toine BARTEN	Head of delegation	wa.barten@mindef.nl	Face-to-face	2024-06-26
51	IHO Member State	Netherlands	HYDROGRAPHIC SERVICE - ROYAL NETHERLANDS NAVY	Bjorn VAN VLIET	Member of delegation	b.v.vliet@mindef.nl	Face-to-face	2024-06-26
52	IHO Member State	New Zealand	LAND INFORMATION NEW ZEALAND (LINZ)	Adam GREENLAND	Head of delegation	agreenland@linz.govt.nz	Face-to-face	2024-06-25
53	IHO Member State	New Zealand	LAND INFORMATION NEW ZEALAND (LINZ)	Verena BOSSELMANN	Member	vbosselmann-borsos@linz.govt.nz	VTC	2024-08-16
54	IHO Member State	New Zealand	LAND INFORMATION NEW ZEALAND (LINZ)	Stuart CAIE	Member	scale@linz.govt.nz	VTC	2024-09-24
55	IHO Member State	Norway	Norwegian Mapping Authority	Gudmund JONSSON	Head of delegation	Gudmund.Jonsson@kartverket.no	Face-to-face	2024-05-21
56	IHO Member State	Norway	Norwegian Mapping Authority	Evert FLIER	Member of delegation	evert.flier@kartverket.no	Face-to-face	2024-05-21
57	IHO Member State	Peru	DIRECCION DE HIDROGRAFIA Y NAVEGACION	Javier FERNÁNDEZ	Head of delegation	reint@dhn.mil.pe	Face-to-face	2024-05-24
58	IHO Member State	Peru	DIRECCION DE HIDROGRAFIA Y NAVEGACION	Rodrigo TORRES	Member of delegation	reint@dhn.mil.pe	Face-to-face	2024-05-24
59	IHO Member State	Poland	HYDROGRAPHIC OFFICE OF THE POLISH NAVY	Dariusz KOLATOR	Head of delegation	d.kolator@ron.mil.pl	Face-to-face	2024-08-26
60	IHO Member State	Portugal	INSTITUTO HIDROGRAFICO	João Paulo RAMALHO MARREIROS	Head of delegation	ramalho.marreiros@hidrografico.pt	Face-to-face	2024-07-19
61	IHO Member State	Portugal	INSTITUTO HIDROGRAFICO	Paula SANCHES	Member of delegation	paula.sanches@hidrografico.pt	Face-to-face	2024-07-19

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
62	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Kyusam JUNG	Head of delegation	Infokhoa@korea.kr	Face-to-face	2024-09-02
63	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Bongseok PARK	Member of delegation	bong1510@korea.kr	Face-to-face	2024-09-02
64	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Martin PARK	Member of delegation	martin.park@korea.kr	Face-to-face	2024-09-02
65	IHO Member State	Republic of Korea	KOREA HYDROGRAPHIC AND OCEANOGRAPHIC AGENCY (KHOA)	Eunju PARK	Member of delegation	Infokhoa@korea.kr	Face-to-face	2024-09-02
66	IHO Member State	Republic of Korea	Ministry of Foreign Affairs	Eun Jung CHOI	Member of delegation	ejchol11@mofa.go.kr	VTC	2024-09-19
67	IHO Member State	Republic of Korea	Ministry of Foreign Affairs	Yeong-jae JEONG	Member of delegation	yjjeong23@mofa.go.kr	VTC	2024-09-20
68	IHO Member State	Romania	DIRECTIA HIDROGRAFICA MARITIMA	Lucian GRIGORESCU	Observer	lucian.grigorescu22@gmail.com	Face-to-face	2024-09-17
69	IHO Member State	Romania	DIRECTIA HIDROGRAFICA MARITIMA	Delia CACIUOIU	Observer	dela.caculoiu@dshm.ro	Face-to-face	2024-09-17
70	IHO Member State	Russian Federation	GLAVNOE OUPRAVLENIE NAVIGATSII I OKEANOGRAFI (Department of Navigation and Oceanography of the Ministry of Defence, DNO)	Konstantin SPERANSKII	Head of delegation	shmelev.mbox@yandex.ru	Face-to-face	2024-10-09
71	IHO Member State	Russian Federation	GLAVNOE OUPRAVLENIE NAVIGATSII I OKEANOGRAFI (Department of Navigation and Oceanography of the Ministry of Defence, DNO)	Aleksandr ALEKSEEV	Member	shmelev.mbox@yandex.ru	VTC	2024-10-09
72	IHO Member State	Russian Federation	GLAVNOE OUPRAVLENIE NAVIGATSII I OKEANOGRAFI (Department of Navigation and Oceanography of the Ministry of Defence, DNO)	Dmitrii SHMELEV	Member	shmelev.mbox@yandex.ru	VTC	2024-10-09
73	IHO Member State	Russian Federation	GLAVNOE OUPRAVLENIE NAVIGATSII I OKEANOGRAFI (Department of Navigation and Oceanography of the Ministry of Defence, DNO)	Stanislav KRUTKO	Member	shmelev.mbox@yandex.ru	VTC	2024-10-09
74	IHO Member State	Saudi Arabia	GENERAL AUTHORITY FOR SURVEY AND GEOSPATIAL INFORMATION (GASGI)	Saud ALRUWAYS	Head of delegation	s.alruways@geosa.gov.sa	Face-to-face	2024-09-05
75	IHO Member State	Saudi Arabia	GENERAL AUTHORITY FOR SURVEY AND GEOSPATIAL INFORMATION (GASGI)	Salem ALGHZWANI	Member of delegation	s.alghzwani@geosa.gov.sa	Face-to-face	2024-09-05
76	IHO Member State	Singapore	MARITIME AND PORT AUTHORITY OF SINGAPORE (MPA)	Ying-Huang THAI LOW	Head of delegation	Thai_Low_Ying-Huang@mpa.gov.sg	Face-to-face	2024-08-31
77	IHO Member State	Singapore	MARITIME AND PORT AUTHORITY OF SINGAPORE (MPA)	LUQMAN HAKIM	Member of delegation	Lugman_hakim_abdul_razak@mpa.gov.sg	Face-to-face	2024-09-27

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
78	IHO Member State	Solomon Islands	Solomon Islands Maritime Authority	John DALOMAE	Member of delegation	john.dalomae@sima.gov.sb	VTC	2024-08-29
79	IHO Member State	South Africa	South African Navy Hydrographic Office (SANHO)	Nicolette Le Roux	Head of delegation	nicoletteleroux1@gmail.com	VTC	2024-09-09
80	IHO Member State	Sri Lanka	Sri Lanka Navy	Jayamal JAYAWARDANE	Member of delegation	jayamalwpgbj@gmail.com	VTC	2024-08-26
81	IHO Member State	Sri Lanka	Sri Lanka Navy	Kosala WARNAKULASOORIYA	Head of delegation	sinho@outlook.com	VTC	2024-08-27
82	IHO Member State	Sri Lanka	Sri Lanka Navy	gayan JAYAWARDHANA	Observer	gayan.k.jayawardhana@gmail.com	VTC	2024-09-19
83	IHO Member State	Suriname	MARITIEME AUTORITEIT SURINAME (MAS)	Bernice MAHABIER	Head of delegation	bmahabier@mas.sr	Face-to-face	2024-09-21
84	IHO Member State	Sweden	SJOFARTSVERKET (SWEDISH MARITIME ADMINISTRATION)	Magnus WALLHAGEN	Head of delegation	magnus.wallhagen@sjofartsverket.se	Face-to-face	2024-06-26
85	IHO Member State	Sweden	SJOFARTSVERKET (SWEDISH MARITIME ADMINISTRATION)	Annika AXNE	Member of delegation	annika.axne@sjofartsverket.se	Face-to-face	2024-08-27
86	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	KOMSAN KLINSUKON	Head of delegation	hydrotechhdrtn@gmail.com	Face-to-face	2024-06-14
87	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	Chatchai LUANGTHONGKUM	Member of delegation	hydrotechhdrtn@gmail.com	Face-to-face	2024-08-03
88	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	Intra NETMUKDA	Member of delegation	hydrotechhdrtn@gmail.com	Face-to-face	2024-08-03
89	IHO Member State	Thailand	HYDROGRAPHIC DEPARTMENT, ROYAL THAI NAVY	Parinyawat TANTIPHUTTIROJ	Member of delegation	hydrotechhdrtn@gmail.com	Face-to-face	2024-08-03
90	IHO Member State	Türkiye	SEYİR HİDROGRAFI VE OSİNOGRAFI DAİRESİ BASKANLIĞI (Office of Navigation Hydrography and Oceanography)	Emre TUKENMEZ	Observer	etukenme@gmail.com	VTC	2024-08-17
91	IHO Member State	Türkiye	SEYİR HİDROGRAFI VE OSİNOGRAFI DAİRESİ BASKANLIĞI (Office of Navigation Hydrography and Oceanography)	Burak INAN	Member	burak.inan.na@gmail.com	Face-to-face	2024-09-30
92	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Viktorlia TUZAK	Observer	tuzak.v@hydro.gov.ua	VTC	2024-09-27
93	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Iurii SMIRNOV	Observer	smimov.yu@hydro.gov.ua	VTC	2024-09-27
94	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Oleh MARCHENKO	Observer	chart_dpt@charts.gov.ua	VTC	2024-09-27
95	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Oleh KARBIVNYCHYI	Observer	kcarbivnychyi.o@hydro.gov.ua	VTC	2024-09-27
96	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Yevhenlia MAHAS	Observer	mahas.y@hydro.gov.ua	VTC	2024-09-27
97	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Artem KHARLOV	Observer	kharlov.a@hydro.gov.ua	VTC	2024-09-27
98	IHO Member State	Ukraine	STATE HYDROGRAPHIC SERVICE OF UKRAINE	Viktor BELINSKYI	Observer	belinskyi.v@hydro.gov.ua	VTC	2024-09-28
99	IHO Member State	United Kingdom of Great Britain and	UNITED KINGDOM HYDROGRAPHIC OFFICE	Helena PATTON	Member of delegation	helena.patton@ukho.gov.uk	Face-to-face	2024-08-03

No	Category	Country	Organization / Company	Name	Status	E-mail	Participant Method	Date
		Northern Ireland						
100	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Angus ESSENHIGH	Head of delegation	angus.essenhigh@ukho.gov.uk	Face-to-face	2024-08-03
101	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Tom RICHARDSON	Member of delegation	thomas.richardson@ukho.gov.uk	Face-to-face	2024-08-19
102	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Chris HUNT	Member of delegation	chris.hunt@ukho.gov.uk	Face-to-face	2024-09-06
103	IHO Member State	United Kingdom of Great Britain and Northern Ireland	UNITED KINGDOM HYDROGRAPHIC OFFICE	Lucy FIELDHOUSE	Member of delegation	lucy.feldhouse@ukho.gov.uk	VTC	2024-10-10
104	IHO Member State	United States of America	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)	John LOWELL	Member of delegation	john.e.lowell@nga.mil	Face-to-face	2024-04-08
105	IHO Member State	United States of America	COMMANDER, NAVAL METEOROLOGY AND OCEANOGRAPHY COMMAND (CNMOC)	Matthew BORBASH	Member of delegation	matthew.borbash2.civ@us.navy.mil	Face-to-face	2024-05-16
106	IHO Member State	United States of America	National Oceanographic and Atmospheric Administration (NOAA)	Jonathan JUSTI	Member of delegation	Jonathan.Justi@noaa.gov	Face-to-face	2024-08-07
107	IHO Member State	United States of America	Office of Coast Survey / National Ocean Service (OCS/NOS)	BENJAMIN EVANS	Head of delegation	benjamin.k.evans@noaa.gov	Face-to-face	2024-08-07
108	IHO Member State	United States of America	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)	Keith DOMINIC	Member of delegation	Keith.E.Dominic@nga.mil	Face-to-face	2024-08-07
109	IHO Member State	United States of America	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY (NGA)	Todd JOHANESSEN	Member of delegation	todd.e.johanesen@nga.mil	Face-to-face	2024-08-21
110	IHO Member State	United States of America	Department of State	Amanda WILLIAMS	Member	williamsac3@state.gov	VTC	2024-08-27
111	IHO Member State	United States of America	Department of State	Carrie LACROSSE	Observer	LaCrosseC@state.gov	VTC	2024-09-11
112	IHO Member State	United States of America	National Oceanographic and Atmospheric Administration (NOAA)	Julia POWELL	Member of delegation	Julia.Powell@noaa.gov	VTC	2024-10-01
113	IHO Member State	United States of America	National Oceanographic and Atmospheric Administration (NOAA)	Jennifer JENCKS	Chair / Vice-Chair	jennifer.jencks@noaa.gov	VTC	2024-10-07
114	IGO	-	International Maritime Organization (IMO)	Javier YASNIKOUSKI	Head of delegation	Jyasniko@imo.org	Face-to-face	2024-09-15
115	IHO Secretariat	-	International Hydrographic Organization	Yves GUILLAM	Staff	yves.guillam@iho.int	Face-to-face	2024-04-05
116	IHO Secretariat	-	International Hydrographic Organization	Leonel MANTEIGAS	Staff	adco@iho.int	Face-to-face	2024-04-26
117	IHO Secretariat	-	International Hydrographic Organization	Mathias JONAS	Secretary	mathias.jonas@iho.int	Face-to-face	2024-05-07
118	IHO Secretariat	-	International Hydrographic	Rémy ROQUEFORT	Staff	remy.roquefort@iho.int	Face-to-face	2024-05-08

8TH MEETING OF THE IHO COUNCIL

IHO Secretariat, Monaco, 15 – 17 October 2024

FINAL AGENDA

- References:**
- A. Rule 8 of the Rules of Procedure of the Council.
 - B. IHO Resolution 12/2002 as amended – *Planning Cycle*.

12. OPENING

- 12.1. Secretary-General Opening Remarks.
- 12.2. Adoption of the Agenda and Timetable
- 12.3. *Left blank intentionally.*
- 12.4. Chair's Opening Remarks.
- 12.5. Administrative Arrangements.

13. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY

- 13.1. Status Report on the Implementation of the List of Assembly Decisions affecting the Council.
- 13.2. Reference: Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).

14. ITEMS REQUESTED BY THE IHO COUNCIL

- 14.1. Review of the Status of Decisions and Actions from C-7.

15. ITEMS REQUESTED BY SUBSIDIARY ORGANS

- 15.1. Report and proposals from HSSC.
- 15.2. Report and proposals from IRCC.
- 15.3. Update on the S-100 Roadmap.
 - A. Annex 2 of the Roadmap (See Annex A of Doc. C8-04.1A).
 - B. Annex 4 of the Roadmap (See Annex B of Doc. C8-04.1A)
- 15.4. Update on the establishment of the S-100 Infrastructure Centre.
 - A. Information Paper (Republic of Korea): Establishment and Effective Operation of the IHO Infrastructure Centre
 - B. Comment Paper (IHO Secretariat)
- 15.5. Update on the development of S-130.
- 15.6. Update on the activities of the IHO Fund Generation Project Team.

16. ANNUAL WORK PROGRAMME AND BUDGET

- 16.1. Review of the Current Financial Status of the IHO.
- 16.2. Proposed IHO Work Programme for 2025 (inc. update on Programme 1)
 - 16.2.1. Update on the Empowering Women in Hydrography Project.

16.2.2. Update on contributions to the UN Ocean Decade:

- A. IHO Contribution to the UN Decade of Ocean Science for Sustainable Development.
- B. IHO Participation in the 3rd UN Oceans Conference.
- C. Proposal for inclusion of Depth as an Essential Ocean Variable.

16.2.3. Update on activities to acquire new IHO Member States.

16.2.4. Proposed theme of the World Hydrography Day 2025.

16.3. Proposed IHO Budget for 2025.

17. IHO STRATEGIC PLAN REVIEW

17.1. Implementation of the IHO Work programme and other affected IHO instruments resulting from the Strategic Plan 2021-2026 and Decisions A3/08 (a) to (d).

17.2. Report and recommendations from the Correspondence Group for the preparatory process of IHO Strategic Plan 2027-2032, way forward and timelines.

17.3. Initial discussion on the revision of the IHO Strategic Plan based on inputs from subordinate bodies (HSSC, IRCC), Member States and IHO Secretariat.

- A. HSSC inputs (See Paragraph 7 of Doc. C8-04.1A).
- B. IRCC inputs (See Annex A of Doc. C8-04.2A).

18. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

18.1. Report on inclusive participation in IHO meetings and proposed Resolution (inc. Annex A: Outcome of the survey on inclusive participation (IHO CL 28/2024)).

18.2. S-100 National Strategies (Action C7/07 refers).

- A. Information Paper (Australia) - Australian S-100 Working Group and National Strategy.

18.3. Update on the development of the IHO Portal.

18.4. Proposal by Bulgaria, Georgia, Romania, Türkiye and Ukraine: Consideration of the definition of Hydrographic Interest.

18.5. Information Paper (Canada): Canadian S-100 International Sea Trial Area.

19. NEXT MEETING

19.1. Dates and venue for the 9th meeting of the IHO Council (14 to 16 October 2025, Monaco) (*dates to be confirmed*).

20. ANY OTHER BUSINESS

20.1. IMO Regulatory Framework and IHO S-100 Roadmap

20.2. A-4 Countdown

21. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

22. CLOSURE OF THE MEETING

Annex C

LIST OF **DECISIONS** and ACTIONS FROM C-8

(as of 23 October 2024)

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 23 October 2024)
1. OPENING					
1.1 Secretary-General Opening remarks and introduction					
1.1	Opening	C8/01	The Council welcomed the opening address by the Secretary-General, who shared his opinion that this third inter-Assembly Council was fully prepared to undertake the tasks given to the Council iaw. the Articles of the Convention of the IHO that were reminded. He noted the highest level of participation ever and welcomed the 89 registered participants (in-person) and 16 IHO Member States as observers (in-person and streaming). Special welcome went to Mr Javier Yasnikowski, Head of Operational Safety, Maritime Safety Division of the IMO. In anticipation of agenda item 6.2, the Secretary-General made a call to Council Members for them to consider the nomination of office bearers for the establishment of the new SPRWG¹.		Decision
1.1	Opening	C8/02	The Council was informed with sadness that Admiral Giuseppe Angrisano , Director and President of the IHO from 1992 to 2002, passed away on 13 October 2024.		Decision

¹ Strategic Plan Review Working Group.

1.2 Adoption of the agenda					
	Agenda	C8/03	The Council adopted the agenda and the timetable as proposed and noted the availability of the C-8 Red Book.		Decision
1.3 Left blank intentionally					
			Left blank intentionally		
1.4 Chair's Opening Remarks					
1.1, 1.4	Opening	C8/04	The Council welcomed the opening address by Council Chair who gave a quick overview of the items to be considered with priority during the week, paving the way to C-9 as tasked by the 3 rd Session of the Assembly in 2023 (S-100 Implementation, Infrastructure Centre, revised Strategic Plan, more active participation in IHO meetings, ...) and the cooperation spirit to make the IHO more efficient.		Decision
1.5 Administrative Arrangements					
	Contact List	C8/05	IHO Member States having a seat at the Council to check their contact details on the IHO webpage > Council > Basic Documents (as of C-8) and then on the IHO Portal when commissioned.	Permanent	Last Update: 25 July 2024
2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY					
2.1 Status Report on the Implementation of the List of Assembly Decisions affecting the Council.					
2.1	A-3 Decisions	C8/06	Based on the presentation by the Secretary-General, the Council noted the progress made on the implementation of some decisions and actions from A-3 and the agenda items under which these topics will be addressed during C-8 for further discussions.		Decision

2.2 Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).					
			<i>Left blank intentionally</i>		
3. ITEMS REQUESTED BY THE IHO COUNCIL					
3.1 Review of the status of Decisions and Actions from C-7 (pending actions)					
3.1		Former Decisions and Actions C7/24, C7/25, C7/28, C7/42, C7/44	<i>Addressed under relevant agenda items.</i>		
4. ITEMS REQUESTED BY SUBSIDIARY ORGANS					
4.1 Report and proposals from HSSC					
4.1	Report of HSSC	C8/07	The Council noted the report and commended the HSSC , its Working Groups, Project Teams and supporting organizations for the achievements since C-7.		Decision
4.1, 9.1	MSC 109, S-100	C8/08	The Council was informed of the important MSC 109/19/3 paper to be discussed in December 2024 at the IMO MSC 109 meeting. The Council invited the IHO Member States to liaise with their IMO representative prior to MSC 109 and provide support as appropriate.	November 2024	
4.1	S-100 Infrastructure and Standards Development	C7/09	In accordance with Decision A3/08(b), 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.	Reminder	Decision

4.1	Security Scheme Administration	C8/09	The Council agreed on HSSC's proposal to recourse to the Special Projects Fund to develop and integrate an online application function supporting the Security Scheme administration process in the IHO Portal, in order to collect administration fees from the OEMs using the security scheme.		Decision
4.1	SENC	C8/10	The Council was informed on the general agreement reached at HSSC-16 that SENC delivery was not needed for S-100 anymore in particular due to concerns by which the data producer digital signature cannot be retained. Tests are still in progress.	HSSC-17	Decision
4.1, 7.5	IHO Sea Trial Area	C8/11	The Council endorsed the principle of creating IHO S-100 Sea Trial Areas around the world, and thanked Canada in particular for their offer on St Lawrence River.		Decision <i>See also C8/70 under agenda item 7.5</i>
4.1, 7.5	IHO Sea Trial Area	C8/12	Based on the outcome of the experimentation supported by Canada , the Council tasked the IHO ISO Cell through HSSC to consider the possibility of developing some Guidelines (minimum requirements and expected outcomes) for IHO S-100 Sea Trial Areas (for instance: possible impact on standards, impact on equipment, impact on production tools and distribution mechanisms, impact on data services, impact on education and training for users, etc.). Member States having International S-100 Sea Trial Areas are also invited to contribute to the development of these Guidelines.	HSSC-17 (- 7 weeks)	

4.1	MASS WG	C8/13	Following up on a proposal from HSSC , the Council decided not to establish a MASSWG ² as such, but to continue with the current Project Team under its current TORs, noting that the next SPRWG could bring more guidance on this matter, if deemed appropriate.		Decision
4.1	IHMA	C8/14	The Council welcomed the effective cooperation between the IHO and IHMA ³ for the development of the IHMA Guidelines for Harmonized Communication and Electronic Exchange of Nautical Data for Port Calls.		Decision
4.1, 5.2	S-100 new distribution concepts	C8/15	Noting the evolution of the IMO ECDIS Performance Standard now including two new standards (one for secure communications ⁴ , one for exchange of route plan ⁵) agreed upon by the IMO MSC 108, the Council agreed with the proposal from HSSC to include a new work item in the IHO work plan (Programme 2) related to the technical aspects and impact of new distribution concepts of S-100 products and data services including the subsequent phase-out of S-57 ENC distribution. Liaison to be ensured with IRCC/WENDWG on this matter.	HSSC-17/C-9	Decision
4.1, 5.3	Funding Priorities	C8/16	The Council noted the HSSC list of funding priorities and requirements and thanked the sponsors (IC-ENC, ROK, PRIMAR, NOAA) for their in-kind and financial contributions.		Decision

² Under HSSC.

³ International Harbour Masters Association.

⁴ IEC SECOM 63173-2.

⁵ IEC S-421.

4.1	IHO Singapore Innovation and Technology Lab	C8/17	The Council noted the verbal update on the Joint IHO-Singapore Innovation and Technology Laboratory by IHO Director Dr Nyberg, and making reference to Doc. HSSC16-04.4A, thanked the Lab and contributors (ID, IT, MY, SG) for the achievements (conversion S-57 to S-101, S-131 Database, Interoperability S-101 and S-102 on a prototype S-100 ECDIS, availability of ENC's S-57 and S-101 on a dual-fuel ECDIS onboard the Italian Tall Ship <i>Amerigo Vespucci</i> for her circumnavigation, etc.). The Council encouraged IHO Members States and industry stakeholders to actively engage in collaborative projects with the IHO-Singapore Lab.	HSSC-17	Decision
4.1, 5.2	HSSC Work Plan	C8/18	The Council approved the HSSC work plan, including the analysis of technical aspects and impact of new distribution concepts of S-100-based products.		Decision
4.1, 4.2	HSSC&IRCC Reports and Proposals to C-9	C8/19 (same as former C7/19, ...and C1/06)	Considering the timelines between HSSC-17 and IRCC-17 meetings in 2025 and the countdown for submission of reports and proposals to C-9 (then A-4), the Council invited HSSC and IRCC Chairs to prepare their 2025 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-9.	C-9 (- 3 months)	

4.2 Report and proposals from IRCC					
4.2	Report of IRCC	C8/20	The Council noted the report and commended the IRCC , the RHCs , and IRCC Sub-Committees and Working Groups for their achievements since C-7, as well as the excellent direct cooperation between HSSC and IRCC and their subordinate bodies.		Decision
4.2	Report of IRCC	C8/21	The Council noted that many RHCs reported on the importance of CB activities and the need for additional funds especially to support S-1xx data service developments in their regions.		Decision
4.2	Gender Balance in Hydrography	C8/22 (former C7/24)	On the proposal for a new <i>Programme</i> for Gender Balance in Hydrography (as a follow-up to the successful <i>Empowering Women in Hydrography Project</i>), the Council agreed on the way forward in three steps as suggested at C-7 by the Secretary-General. Consequently: - The Council tasked the CBSC through the IRCC, to first define the regulatory framework (M-3) for a continued activity on this social theme through a proposal for an IHO Resolution; - 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 as currently announced by CA, FR, NO, DK⁶, UK, US, but still to be confirmed.	Reminder IRCC-17	Decision In progress (Doc. C8-04.2A)

⁶ DK contribution to EWH confirmed through 2026.

			c. The Council supported by IRCC to develop a proposal on the future framework for an IHO social Programme (incl. Gender Balance in Hydrography) as part of the revised IHO Strategic Plan to be submitted to A-4.	C-9 (- 3 months) in preparation of A-4	In progress (Doc. C8-04.2A)
5.2.1	EWH	C8/23	The Council noted the update on the Empowering Women in Hydrography Project provided by Director Sinapi .		Decision
4.2, 5.2.1	Empowering Woman and Gender Balance in Hydrography	C8/24	Based on the above, and with reference to Doc. C8-05.2.1A, the Council endorsed: - the specific recommendations of IRCC i.e. the establishment of an IRCC PT in charge of drafting a proposed IHO Resolution on Gender Balance / Inclusiveness. - took note that the Scoping Team established by IRCC proposed ToRs for creating a dedicated Project Team to draft a Resolution to submit to C-9 for endorsement and then to A-4 for approval. - The Council invited the IRCC assisted by the IHO Secretariat to issue CLs for endorsement of the ToR / ROP and the subsequent creation of the Project Team by the end of 2024.	C-9 (- 3 months) in preparation of A-4 End of December 2024	

4.2	GIS thematic layers	C7/23	In accordance with Decision A3/8c, the Council noted that IRCC tasked the MSDIWG to not invest in another portal, but to focus on global thematic layers by means of the existing IHO GIS infrastructure (like those already available on the INTogIS).	Reminder	
4.2	MSDIWG	C8/25	The Council noted the update on MSDIWG activities by the IRCC Chair, supported by Director Dr Nyberg, and noted the request from UN-GGIM to reinforce the relation between the MSDIWG and the Marine Geospatial Working Group of UN-GGIM, for efficiency reasons. The Council invited MSDIWG through the IRCC to consider Decision 14/111 -<i>Integrated marine geospatial information</i>, made at UN-GGIM 14 and to propose a way forward.	IRCC-17 / C-9 (-3 months)	
4.2	MSDIWG / MPA	C7/44	Following up on the clarification on the objectives provided by the Secretary-General, including updates from the last NIPWG-10 meeting on S-122 development, the Council agreed on the strategic need to promote the S-100 Concept with a quick-win through S-122. The Council tasked the IHO Secretariat to establish liaison with relevant data providers of MPAs and tasked the MSDIWG through the IRCC 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.	Reminder C-8	Decision Closed. Superseded by C8/26

4.2	MSDIWG / MPA	C8/26	The Council tasked the MSDIWG through the IRCC , in liaison with the NIPWG , Protected Seas , ECDIS OEMs , GIS software manufacturers , the UN , IUCN , and IHO Member States , to coordinate a pilot project aiming to demonstrate the operational implementation of S-122.	IRCC-17 / C-9 (- 3 months)	
4.2	A-3 Decisions	C7/22	Following up on Decision A3/20b, the Council noted the outcome of a scoping team and endorsed the recommendations from the IRCC to establish a Project Team on <i>Fund Generation of IHO' Project Initiatives</i> under the IRCC. IHO Secretariat to issue a CL on the establishment of the IHO FG PT⁷, as soon as the draft TORs and ROPs are finalized by correspondence within the IRCC.	Reminder December 2023	Decision Complete (IHO CL 42/2023 refers)
4.2, 4.6	Fund Generation Project	C8/27a	The Council noted the update on the activities of the IHO Fund Generation Project Team provided by the IRCC Chair , supported by Director Sinapi , as well as the other initiatives regarding additional funding (RENCs, IENWG and the Joint IHO/IMO/IALA/IOC/WMO/FIG/AI EA/IMPA CB initiative in particular).		Decision
4.2, 4.6	Fund Generation Project	C8/27b	The Council requested the Project Team on Fund Generation through IRCC to enhance the ToRs to incorporate a systematic survey of current and future IHO standards products and services for which users can potentially be charged and propose basic conditions such as single fee, subscriptions or other options.	C-9 (- 3 months)	

⁷ Note from the Secretariat: compliance with M-3 Resolutions, IHO Resolution 1/2014 – *Guiding Principles for IHO Funds*, in particular, to be ensured.

4.2	IBSC and CSBWG	C8/28 (former C7/25)	The Council noted the completion by IRCC of two workshops: - one on Standards of Competence (IBSC) matters, to provide clarifications for the institutions on the preparation of submissions to the Board; - one on Crowd Sourced Bathymetry (CSBWG), on the benefit of crowd sourced bathymetry and how to expand data contribution.	1st semester 2024 1st semester 2024	Decision Complete (held on 2nd and 3rd Oct. 2024) Complete (held 26 April 2024)
4.2	RHCs	C8/29	The Council commended the RHCs for their outstanding and broad scope achievements in implementing standards, sharing best practices between coastal States, and coordinating production in their charting regions.		
4.3 Update on the S-100 Roadmap					
4.3	Annex 2 - Roadmap for S-100 Implementation Decade	C8/30	The Council approved the proposed amendments to Annex 2 of the S-100 Implementation Roadmap as presented by the HSSC Chair. This new version of Annex 2 includes in particular: - the ENDS⁸ diagram, aiming to illustrate the relationship between S-100 products, the IMO Maritime Services and the SOLAS Regulations. - the revised S-100 timeline. Noting the UK's offer to support, the Council tasked the WENDWG/NIPWG through the IRCC/HSSC respectively, to prepare a concise narrative to be added in the ENDS diagram, with the option to reshape it in style if appropriate.	IRCC-17/HSSC-17	Decision

⁸ ENDS: *Electronic Navigational Data Service*, as introduced in the IMO Resolution MSC.530(106) Performance Standards for ECDIS.

4.3, 9.1	Annex 1 - Roadmap for S-100 Implementation Decade	C8/31	In accordance with Annex 1 of the S-100 Roadmap, the Council agreed with HSSC Chair's recommendation to consider concrete actions in 2025 for the reinforcement of interactions with major stakeholders (e.g. IMO, IEC, S-100 ECDIS end-users, OEM, industry, distributors), such as the establishment of an IMO-IHO S-100 ECDIS Stakeholders Forum/ Correspondence Group.	HSSC-17/C-9	Decision
4.3	Annex 3 - Roadmap for S-100 Implementation Decade	C8/32	The Council welcomed the intention of the WENDWG through the IRCC to provide, from 2025 onwards, inputs ⁹ to the IHO Secretariat's annual information reports to IMO NCSR meetings, presenting the planned availability and coverage ¹⁰ per RHCs , of S-100 Phase I Products and Data Services. Request for a lunch slot briefing session on S-100 to be considered by the IHO Secretariat .	WENDWG-15/IRCC-17 and NCSR-12 (- 13 weeks) Asap	
4.3	Annex 4 - Roadmap for S-100 Implementation Decade	C8/33	The Council approved the proposed amendments to Annex 4 of the S-100 Roadmap (Dual Fuel Concept for S-100 ECDIS) as presented by the HSSC Chair .		Decision
4.3	Roadmap for S-100 Implementation Decade	C8/34	Noting the updates approved by the Council for Annexes 2 and 4, IHO Secretariat to prepare and make available the finalized version 4.0 of the S-100 Roadmap.	30 November 2024	

⁹ Eventually in digital and dynamic format, using INTOGIS III when commissioned.

¹⁰ Schemed/Planned (when, where) and then Produced : one stop-shop IHO Catalogue of INT/ENCs/S-100 Products and Data Services.

4.3	S-100 Implementation Strategy	C8/35 (former C7/28, ..., C3/13)	Council/HSSC/IRCC Chairas/SecGen supported by subject matter experts and Member States as appropriate to maintain the S-100 Roadmap as an incremental version-controlled document (including narrative and timelines) on a semi-annual basis.	Permanent	
4.4 Update on the establishment of the S-100 Infrastructure Centre					
4.4, 4.1	IHO Infrastructure Centre	C8/36	Following up on Decision A3/14, the Council commended HSSC (and its S-100 ICE Project Team in particular) for the excellent work undertaken in preparation of the design and establishment of an Infrastructure Centre.		
4.4A & B	IHO Infrastructure Centre	C8/37	Noting the generous offer made by the Republic of Korea , noting the initial assessment provided by the IHO Secretariat , the Council agreed on the interim establishment of the IHO Infrastructure Centre ¹¹ in the Republic of Korea (ROK) starting in 2025 under the supervision of the IHO Secretariat and HSSC (supported by the S-100 ICE PT), based on the principles described in the HSSC Report complemented by the IHO Secretariat's preliminary considerations.		Decision

¹¹ Name endorsed by **HSSC**.

4.4	IHO Infrastructure Centre	C8/38	The Council agreed that the permanent establishment of the IHO Infrastructure Centre in the ROK should be finally decided by the Assembly (A-4), based on the following ground: - governance, availability of rules of procedures, technical, managerial, financial, staffing arrangements compliant with current principles in IHO Basic Documents and Resolutions¹² - budget and business model secured for at least 3 cycles of 3 years starting in January 2026. [2026+ (3*3) = 2035] - Council-approved specific IHO Infra Centre annual work plan based on the IHO 3-year work programme which will expand on the Centre's role and duties.	C-9 (- 3 months)	
4.4	IHO Infrastructure Centre	C8/39	The Council noted the comments and statements made by some Council Members and IHO Member States (CL, DE, FR, MC, NO, RO, SG, TR). The Council thanked the participants and noted in particular the statement made by the representative of the Government of Monaco. (see Summary Report)		Decision

¹² and if not, proposed amendments to be made to current IHO Basic Documents and IHO Resolutions for IHO Members approval at A-4.

4.1, 4.4	IHO Infrastructure Centre	C8/40	The Council invited HSSC and its S-100 ICE PT in liaison with the Republic of Korea and IHO Secretariat, to consider the comments made at C-8 by some Council Members and IHO Member States (See above) and to pursue the preparation of all necessary basic documents (new basic docs, amendments to existing IHO Basic Documents, IHO Resolutions, procedures, etc.) to serve in the development of proposal(s) submitted to A-4. IHO Member States and Council Members in particular, to provide their comments and inputs on these documents for discussion at HSSC-17. HSSC in liaison with the Republic of Korea and IHO Secretariat to provide the draft proposal(s) to A-4 for endorsement at C-9, as a package. The Council mandated the Secretary-General to negotiate a formal Host Country Agreement between the Republic of Korea and the IHO to be submitted to C-9 for endorsement and subsequent approval by A-4.	HSSC-17 (- 7 weeks) HSSC-17 (at the latest) C-9 (- 3 months)	
4.5 Update on the development of S-130					
4.5	S-130	C7/15	Noting the clarifications and views provided by the Secretary-General, the Council agreed upon the proposed way forward to test S-130 Product Specification Ed. 1.0.0 in two regions (Region E – Baltic Sea, Region M - Southern Ocean) before the publication of the operational version of S-130 Edition 2.0.0 and official production of <i>the</i> single IHO authoritative dataset for limits. HSSC Chair to provide an update at the next meeting.	Reminder HSSC-16/C-8 (- 3 months)	Decision Complete

4.5	S-130	C8/41	The Council noted the progress made by the S-130PT while testing and experimenting Ed. 1.0.0 of the Product Specification through the production of test data sets for the <i>Baltic Sea</i>, the <i>Southern Ocean</i> and for some parts of the <i>North Atlantic Ocean</i>. With a new interim Ed. 1.1.0 planned to be developed by the end of 2024, the Council noted the timelines with Ed. 2.0.0 of S-130 PS to be submitted to HSSC-17 for endorsement, and then to IHO Member States for approval in 2025.	HSSC-17 (- 7 weeks)	
5. IHO ANNUAL WORK PROGRAMME AND BUDGET					
5.1 Review of the Current Financial Status of the IHO					
5.1	Financial Reporting Statement	C8/42	The Council noted the information provided on the current financial status as of September 2024.		Decision
5.1	Financial Reporting Statement	C8/43	The Council was informed on the critical situation of the low level of incoming Member States contributions and the effects on the operations of the Secretariat.		Decision
5.2 Proposed IHO Work Programme for 2025					
5.2	Proposed IHO WP for 2025	C8/44	The Council approved the IHO Work Programme for 2025, as presented by the Secretary-General. The Council noted the concerns, comments and suggestions from Türkiye.		Decision

5.2, 5.2.4	World Hydrography Day	C8/45	The Council noted the proposed theme for the 2025 World Hydrography Day by the Secretary-General which is: <i>“Seabed Mapping: Enabling Ocean Action”</i> IHO Secretariat to circulate the theme for 2025 to the IHO MS by IHO CL for comments.	End of October 2024	Decision
5.2.1, 4.2	Empowering Woman and Gender Balance in Hydrography		See C8/22, /23 and /24 above		
5.2.2	UN Decade of Ocean Science for Sustainable Development	C8/46	The Council welcomed the presentation of the IHO Secretariat on the list of contributions to the UN Ocean Decade.		Decision
5.2.2	UN Decade of Ocean Science for Sustainable Development	C8/47	Based on the recommendations and discussions, the Council invited the IHO Secretariat to consider developing a register of IHO Member States representatives who are involved in their national Ocean Decade Committee, if any, and individual Member States activities/formal contributions. (Inputs to be provided within the IRCC CL (Dec. 2024)). In preparation of the future revised IHO Strategic Plan, the Council tasked the SPRWG (once established) to consider the need for specific SPIs that measure contributions to the UN Ocean Decade in support of Goals 2 and/or 3.	December 2024 C-9 (-3 months)	

5.2.2	3 rd UN Oceans Conference (UNOC 2025)	C8/48	The Council welcomed the proposal from the IHO Secretariat and agreed with the proposed engagement in the Blue Economy and Finance Forum June 2025 in Monaco and UNOC 2025 in Nice, encouraged Member States to take advantage of the alignment of IRCC-17 to the Blue Economy and Finance Forum and the UNOC 2025, and to engage early with national delegations to participate accordingly. The Council invited the IHO Secretariat to inform the IHO Member States on UNOC 2025 through an IHO CL, announcing a coordination VTC meeting (eventually in January, then April, aiming to put together all the initiatives ready for June)	June 2025 December 2024 VTC (January 2025 tbc)	
5.2.2	Depth as an Essential Ocean Variable	C8/49	The Council agreed on IHO Secretariat's proposals regarding GOOS¹³ and Essential Ocean Variable (EOV). The Council: - Recognised the importance of the IHO aligning itself to the aims and ambitions of the broader ocean observing community. - Tasked the IHO Secretariat, through the GGC Chair/Secretary as endorsed by IRCC Chair, to lead the submission of Depth as a new EOV, liaising with GGC as required. - Tasked the GGC to assume the role of custodian of Depth as an EOV on behalf of the IHO and in liaison with IOC. - Consider the including participation in GOOS through Depth as an EOV, in any future IHO strategic planning.	IRCC-17	Decision

¹³ GOOS: Global Ocean Observing System.

5.2.3	Increasing IHO Membership	C8/50	The Council noted the IHO Secretariat's report on the activities carried out since C-7 and the objectives to attract new IHO Members.		Decision
5.3 Proposed IHO Budget for 2025					
5.3	2025 IHO Budget	C8/51	In application of Decisions A3/26 to /28, the Council approved the proposed budget for 2025 provided by the Secretary-General , including editorial corrections reported by the Financial Committee.		Decision
5.3	CB fund statistics	C8/52	The Council noted that the IHO was not in a position at the moment to fill the Capacity Building gap of ~245,000 euros (among which ~188,000 for S-100 supporting activites) due to the missing dues. The Council invited the Capacity Building Sub-Committee through the IRCC to consider priorities of additional CB activities for 2025 covered by the 2024 savings with a focus on S-100 related CB activities.	CBSC-23/IRCC-17	Decision
5.3	CB fund statistics	C8/53	The Council invited IHO Member States and external partners (such as RENCs) to mobilize funding to fill the remaining gap for S-100 related CB activities through financial and/or in-kind support.	CBSC-23/IRCC-17	

6. IHO STRATEGIC PLAN REVIEW					
6.1 IHO Strategic Plan – Decisions A3/08a to /08d - Strategic Performance Indicators Update					
6.1	Status on the Strategic Plan - SPIs	C8/54	The Council noted the dashboard (target 2026, WP2 and WP3 SPIs value as of 31 Dec. 2023) allocated to the Secretariat, HSSC and IRCC (IHO Annual Report 2023, Annex B (pages 121 to 134) refer).		Decision
6.1	Status on the Strategic Plan - SPIs	C8/55	The Council took note of the amount of notable outreach activities under WP1 in four categories. • The assessment of Target 2.1 and the associated SPI 2.1.1 according to the new interpretation agreed at C-7 for the period January – October 2024. • the continued increase of IHO visibility via IHO website and social media activities. • The summaries of the HSSC and IRCC reports on their respective SPI's assessed at the end of 2023.		Decision
6.2 Report and recommendations from the Correspondence Group for the preparatory process of IHO Strategic Plan 2027-2032, way forward and timelines					
6.2	Strategic Plan 2027-2032	C8/56	The Council commended the Council Vice-Chair and the Correspondence Group (BR, DE, DK, FR, HR, JP, NO, NZ, SE, SG, UK and US) for their report on the preparatory process of the future IHO Strategic Plan (Action C7/38 refers).		Decision

6.2	Strategic Plan 2027-2032	C8/57	As proposed by the Correspondence Group, the Council established the Strategic Plan Review Working Group (SPRWG) and following up on a call made in session, agreed to nominate US (Benjamin Evans), NZ (Adam Greenland), and DK (Hendrik Justus Stang) as Chair, Vice-Chair and Secretary of the SPRWG, respectively. The Council endorsed the proposed TORs and ROPs of the SPRWG, the timelines as proposed and invited the IHO Secretariat to issue an IHO CL to all IHO MS calling for SPRWG Membership and inviting to provide comments to the TORs if any.	End of October 2024 (Deadline for response: 15 December 2024)	Decision Decision
6.2	SPRWG	C8/58	The Council agreed on the suggestion from IC-ENC supported by US to involve domain experts (such AI) on case-by-case basis in the activity of the SPRWG. TORs to be amended accordingly before the IHO CL is issued (IHO Secretariat).	End of October 2024	Decision
6.2	SPRWG	C8/59	The Council noted the initial intentions from BR, CA, CN, DE, DK, FR, ID, IN, JP, NO, NZ, RO, SE, US to become Members of the SPRWG.	Confirmation expected in response to the IHO CL (Dec. 2024)	

6.3 Initial discussion on the revision of the IHO Strategic Plan based on inputs from subordinate bodies (HSSC, IRCC), Member States and IHO Secretariat.

	Strategic Plan 2027-2032	C7/36	The Council acknowledged that the current structure of the Strategic Plan (SP) 2021-2026 was still relevant at conceptual level (vision, goals, etc.), and agreed that the objective for the next SP 2027-2032 should be limited to a <i>revision</i> of the current SP.	Reminder	Decision
6.3, 4.1, 4.2	Strategic Plan 2027-2032	C8/60	The Council noted and discussed the initial inputs on the revision of the Strategic Plan, provided by HSSC and IRCC and the Secretary-General... ...and tasked the SPRWG to consider them during the revision process.	SPRWG deadlines	Decision

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

7.1 Report on inclusive participation in IHO meetings and proposed Resolution

	IHO events more inclusive	C7/40	The Council endorsed the principle of considering an initial proposal for a IHO Resolution <i>Guidelines for Making IHO Events More Inclusive</i> (title to be confirmed) to be prepared by an ad hoc drafting group (AU, CL, FJ, NZ¹⁴, SG, UK, US...)	Reminder	Complete
			The Council tasked the ad hoc drafting group (respectively IRCC) to conduct a survey¹⁵ 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).	31 January 2024 31 January 2024	Complete

¹⁴ Lead.

¹⁵ Clear definitions of categories of meetings arrangements to be provided as part of the survey.

			Once the outcome of the survey are compiled by the ad hoc drafting group, IHO Secretariat to refine the draft proposed IHO Resolution in liaison with the ad hoc drafting group if appropriate, and submit it to IHO Member States for approval.	31 March 2024 (deadline 31 May 2024)	Complete (Doc. C8-07.1A and IHO CL 28/2024)
7.1	Inclusive participation in IHO meetings	C8/61	The Council commended NZ as lead and the ad hoc drafting group on inclusivity for their report, and for the associated survey (IHO CL 28/2024 refers).		Decision
7.1	Inclusive participation in IHO meetings	C8/62	Noting the selected comments and insights, the Council endorsed the principles of the proposed IHO Resolution submitted by the ad hoc drafting group and invited the group to add an Annex with (minimum) practical Guidelines derived from the outcome of the survey to assist Member States to host and facilitate online meetings. IHO Secretariat to submit the proposed IHO Resolution and associated Guidelines to the IHO Member States for their approval.	January 2025 April 2025	
7.2 S-100 National Strategies					
7.2, 3.1,	National S-100 Committees	C8/63	The Council commended the Australian Hydrographic Office (AHO) for their initiative in establishing a national collaborative space to develop and implement S-100 services in Australia and the region. The Council noted in particular the large scope covered by their AU S-100 WG ranging from education/awareness to the coordinated production, and dissemination of harmonized S-100 products and services.		Decision

7.2, 3.1	National S-100 Committees	C8/64 (former C7/07, C6/67)	The Council invited Member States to share their national strategies regarding the establishment of similar national S-100 committees, as appropriate. Use cases to be considered and presented, as appropriate.	Permanent C-9 (- 3 months)	
7.3 Update on the development of the IHO Portal					
7.3	IHO Portal	C8/65	The Council took note of the update on the development of the IHO Portal (demo, migration status, timelines, ...). Noting the intention that the full operation of the IHO Portal is scheduled to commence in January 2025, the Council invited the IHO Secretariat to issue an informative IHO CL announcing the commissioning date, providing links to tutorials and user manuals (inc. for accredited WGs' Secretaries, should they wish to upload documents directly), explaining the consequences and impact on the current IHO website, RHCs and WGs meetings, etc.	1 November 2024	Decision
7.3	IHO Portal	C8/66	Noting the time needed between the official announcement of a meeting and the event (~several months), the Council agreed that a transition period allowing the dual use of the current system and/or the new IHO Portal for IHO events held from October 2024 to end of March 2025, should be considered by the IHO Secretariat and decided on case-by-case in liaison with the Chair of the WG/PT/RHC. All events held after 31 March 2025 should be prepared using the IHO Portal.	31 March 2025	Decision

7.4 Proposal by Bulgaria, Georgia, Romania, Türkiye and Ukraine: Consideration of the definition of Hydrographic Interest

7.4	Hydrographic Interest	C8/67	law. Decision A3/05, the Council noted the proposal on the evolution of the definition of Hydrographic Interests supported by BG, GE, RO, TR and UA .		
7.4	Hydrographic Interest	C8/68	Noting the ranges of views provided in the discussion including the recommendations of the Secretary-General given in the Red Book, the Council decided neither to support the proposal to revise the definition of <i>Hydrographic Interest</i> at this stage, nor to allocate capacity building funds to this proposed revision.		

7.5 Information Paper (Canada): Canadian S-100 International Sea Trial Area

7.5, 4.1	Canadian S-100 International Sea Trial	C8/69	The Council welcomed the generous offer made by Canada to establish an S-100 International Sea Trial Area and inviting IHO Member States to take full advantage of this area to test the S-100 systems, to share the invitation with industry and other interested parties and to provide feedback.		Decision
7.5	Canadian S-100 International Sea Trial	C8/70	The Council invited the IHO Secretariat to issue an IHO CL informing IHO MS on this offer and pointing to the website for the Canadian S-100 International Sea Trials Area, which will include a registration platform.	15 December 2024 (opening of the registration planned in Feb. 2025)	<i>See also C8/11 and /12</i>

8. NEXT MEETING					
8.1 Dates and venue for the 9 th Meeting of the IHO Council					
	C-9	C8/71	The Council agreed to hold C-9 in the known format in Monaco, at the IHO Secretariat, from 14 to 16 Oct. 2025 (full in-person meeting, live streaming by registration).		Decision
9. ANY OTHER BUSINESS					
9.1 IMO Regulatory Framework and IHO S-100 Roadmap					
9.1	S-100 by IMO	C8/72	The Council commended Mr Javier Yasniouski , Head Operational Safety, Maritime Safety Division, for his very enlightening presentation on S-100 Implementation from an IMO perspective.		Decision
9.1, 4.1	S-100 by IMO	C8/73	The Council noted the challenges affecting different domains to be considered throughout the S-100 implementation phase (information providers, data exchange/updates, carriage requirements, machine-machine interface, new regulations?, users).		<i>See also C8/08, /30 to /32</i>
9.1	S-100 by IMO	C8/74	The Council noted the information on MSC Circulars already addressing S-100, and the future events that are in the interest of IHO Member States : • MSC 109 (2-6 Dec 2024) • HTW 11 (10-14 Feb 2025) • NCSR 12 (13-22 May 2025) • MSC 110 (18-27 June 2025)		

9.2 A-4					
9.2	A-4	C8/75	The Council noted the countdown for the preparation of A-4 (dates of A-4 now confirmed: 20 – 24 April 2026).		
9.2	SPRWG	C8/76	The Council noted the main outcome of the informal meeting of the SPRWG enhancing the large geographic diversity of potential Members, the scope of the work, logistic issues, confirming the SPRWG will start its work early November as soon as the IHO CL is issued.		Decision
10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING					
11. CLOSURE OF THE MEETING					
	Ex Abyssis ad Alta Award	C8/77	The Council Chair concluded the meeting awarding Mr Yves GUILLAM with the new <i>Ex Abyssis ad Alta</i> IHO Award for Hydrographic Excellence.		

9th MEETING OF THE IHO COUNCIL

Monaco, 14 – 16 October 2025

SUMMARY REPORT

(Version 1.1 - 05 November 2025)

Note: while the 9th meeting of the IHO Council was conducted according to the timetable, this summary report is in line with the order of the agenda.

Annex A: *List of Registered Participants (IHO Portal online version available)*

Annex B: *Final agenda (IHO Portal online version available)*

Annex C: *List of Decisions and Actions (IHO Portal online version available)*

1. OPENING

1.1. Secretary-General Opening remarks

Docs: C9-01A *List of Documents*
C9-01B *List of Registered Participants*
C9-01.5A *Membership Contact List*

The **Secretary-General of IHO, Dr Mathias Jonas**, opened the meeting and welcomed Member States and observers to the ninth session of the IHO Council, the last before the fourth session of the IHO Assembly, scheduled for April 2026. A total of 27 of the 30 Member States constituting the members of the Council were present at the meeting, in person or online.¹ A representative of the Bahamas, which had joined the Organization earlier in 2025, was also present.

Decision C9/01: The Council welcomes the opening address from the **Secretary-General**, recalling the role of the IHO Council (IHO convention article 6 refers), particularly:

- C9 agenda covers the tasks given to the Council in accordance with the Articles of the IHO Convention.
- C9 is the third inter-Assembly & last council meeting before A-4.

27 out of 30 Council Members were present in person, therefore the **quorum was reached**.

A special welcome was extended to **13 IHO Member States** participating as Observers, **12 of them** attending in person. Another special welcome was given to both RENCS representatives (IC-ENC and PRIMAR).

1.2. Adoption of the Agenda and Timetable

Docs: C9-01.2A *Agenda (version 1.2 dated 15 August 2025 - adopted)*
C9-01.2B *Agenda and Timetable (version 1.2 dated 29 September – adopted)*
C9-01.2C *Red Book*

Following a request by **Türkiye** for consideration of the paper on electronic navigational chart (ENC) overlapping in the Aegean Sea and Eastern Mediterranean (document C9 07.5A) to be removed from

¹ Angola, Croatia and Saudi Arabia, Members of the Council, were not represented.

the agenda, **Ms Pia Dahl Højgaard, Chair of the Council**, said that the paper had been legitimately submitted by a Member State of the Council and it would therefore be discussed as planned. Other Member States could voice any concerns during that discussion.

Decision C9/03: The Council adopted the agenda and timetable as proposed by the Secretariat and noted the availability of the C-9 Red Book, including comments from **IHO Member States** and the **IHO Secretariat**.

1.3 Left blank intentionally

1.4 Chair's Opening remarks

Docs: C9-01.4A

Ms Pia Dahl Højgaard, Chair of the Council welcomed participants and highlighted a number of items on the agenda, including S-100 implementation and the future IHO infrastructure centre. She called upon the Council to engage in constructive discussion in order to agree, as far as possible, on a set of considered and comprehensive proposals to be submitted to the IHO Assembly.

Decision C9/02: Council Members welcomed the opening address by Council Chair who gave a warm welcome to all participants from Member States as well as from both RENCs and thanked the IHO Secretariat for its support in the preparation of this meeting.

Council Chair reminded that the tasks entrusted in Council by the 3rd Assembly were reflected in this meeting's agenda, i.e. the establishment of the IHO Infrastructure Centre, the IHO Strategic Plan for the forthcoming 6-years period and the S-100 implementation plan. Council Chair enforced the need for forward looking decisions to advance hydrography and safe navigation in a time of ongoing and accelerating digital transformation.

Council Chair concluded by recalling the Council's task to bring all C-7 to C-9 outcomes to the next session of the IHO Assembly (A-4).

1.5 Administrative Arrangements

Docs: C9-01.5A

The Council Secretariat requested members to check their entry in the Council's Membership Contact List, the IHO Yearbook and the IHO Portal and advise the IHO Secretariat of any amendments. Participants were reminded about the silence procedure, under which members who did not explicitly oppose a decision were deemed to have accepted it. The IHO Secretariat further explained the process and timelines of the Council Summary Report and the work of the précis-writers and five rapporteurs kindly appointed by Brazil, Canada, France, Indonesia and the United Kingdom.

Decision C9/04: The Council appointed the following delegates as Rapporteurs for C-9:

- Mr Colin SEDDON (GB)
- Mr Gabin SOGORB (FR)
- Ms Sonja BHATIA (CA)
- Mr Cesar REINERT Bulhões de Moraes (BR)
- Mr Albert Mahendro YUDONO (ID)

Decision C9/05: IHO Member States having a seat on the **Council** to check their contact details on the IHO Portal (refer to C-02B in the 'document' tab).

Decision C9/06: The IHO Council Members to make sure they are listed as Members on the IHO Portal Council Page

2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY

Reference: Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).

For reference only.

2.1 Status Report on the implementation of the List of Assembly Decisions affecting the Council.

Docs: C9-02.1A

The **Secretary-General** reviewed the decisions of the 2nd and 3rd Session of the IHO Assembly that affected the Council, with particular reference to those that would not be discussed under the relevant agenda items of the current meeting. In decision A3/05, the Assembly had decided that the item related to a revised definition of hydrographic interest should be closed until a new submission or proposal by Member State(s) was put forward to the Council or Assembly: no such submission had been received. With reference to decision A3/08(b), he noted that the Inter-Regional Coordination Committee (IRCC) had provided the requested guidance to the Marine Spatial Data Infrastructures Working Group (MSDIWG) on the implementation of Goal 2/Target 2.1 of the IHO Strategic Plan.

Decision C9/07: Based on the presentation by the **Secretary-General**, the **Council noted the progress made on the implementation of decisions and actions from A-2 and A-3 placed on the Council and the agenda items under which these topics have been addressed during C-9 for further discussions.**

2.2 Approval of new IHO Resolution – *Maximising Active Participation in IHO Events*

Doc: C9-02.1B

The **Secretary-General** noted that a Resolution on maximizing active participation in IHO events had been adopted by Member States in Circular Letter 28/2025 of 8 July 2025. The Resolution called upon the hosts of the meeting to make use of technology to maximize active participation in IHO events, in addition to in-person attendance, as far as practicable and within their capacity.

The **Chair of the ad-hoc drafting group**² that had prepared the draft Resolution reported on the results of a stakeholder survey conducted during the drafting process. A high percentage of respondents had expressed a preference for online meetings and could offer online options in their own meetings. They had indicated that, while in-person meetings were the optimum solution, particularly for building relationships, online meetings maximised participation, transparency and open access and reduced costs. Guidelines and good practices should be developed and disseminated. Hosting and chairing online meetings could be challenging, and some hosts might require technical support.

Decision C9/08: The **Council** noted the approval of the new IHO Resolution Maximizing Active Participation in IHO Events via CL20/2025 and CL28/2025.

The Council tasked the **IHO Secretariat** to make the guidelines available as a separate living document. (deadline: 30 October 2025)

3. ITEMS REQUESTED BY THE IHO COUNCIL

3.1 Review of the Status of Decisions and Actions from C-8

Doc: C9-03.1A

IHO Assistant Director Langlois said that, pursuant to Council decision C8/19, HSSC and IRCC had prepared their 2025 meeting minutes with the view that they would be used or submitted directly as reports and proposals to be considered at C-9. In respect of decision C8/26, the Marine Spatial Data Infrastructures Working Group (MSDIWG), with partners, was continuing its work on a pilot project to

² Ad-hoc drafting group: Australia, Chile, Fiji, Singapore, New Zealand (lead), United Kingdom and United States of America).

demonstrate the operational implementation of S-122. Decision C8/64 was a standing invitation from the Council for Member States to share their national strategies and use cases regarding the establishment of national S-100 committees.

Decision C9/09: The Council noted the current status on the decisions and actions of C-8, and those addressed at the relevant C-9 agenda items.

4 ITEMS REQUESTED BY SUBSIDIARY ORGANS

4.1 Report and proposals from HSSC

Doc: C9-04.1A – HSSC Report and annexes

- *Annex A: Draft Revision of Annex 2 to the Roadmap for the S-100 Implementation Decade (2020-2030)*
- *Annex B: Business case: IHO Operated Intergovernmental MCP*
- *Annex C: Draft amendments of IHO M-3 Resolution 2/2007 Principled and Procedures for Making Changes to IHO Technical Standards and Specifications and New draft M-3 Annex B with Instructions for Maintaining IHO Technical Standards and Specifications and List of Technical Standards and Specifications that must follow the 2/2007 Resolution*
- *Annex D: Draft HSSC List of needed and received Funding Updated 07 July 20250.*
- *Annex E: Guidelines for IHO S-100 Sea Trial Areas Draft edition 0.1.1 – March 2025.*
- *Annex F: Draft amendments of IHO M3 Resolutions 4/1919, 5/1919, 9/1919, 5/1932, 6/1932, 2/1947, 1/1967, 2/1977 and two proposed new Resolutions regarding Metadata for Tide and Current Recordings.*
- *Annex G: Draft IHO Infrastructure Centre Work Plan*

The **Chair of the Hydrographic Services and Standards Committee (HSSC)** reported on the work of the Committee since the 8th session of the Council and especially the outcomes of HSSC17, held in May 2025 in Stavanger, Norway.

A large part of HSSC's work was concerned with S-100 products. The ongoing transition from a static navigational system using the S-57 standard data format to a much more dynamic system under S-100 would affect both data production and distribution models. Collaboration with partners such as the World Meteorological Organization (WMO) would enable route optimization and weather-related warnings in addition to purely navigational warnings.

The HSSC Chair was proud to report that HSSC had approved all the core S-100 Implementation Roadmap Phase 1 product specifications – a major achievement aided by the generous financial support of the Republic of Korea and other donors. One challenge that had arisen was the need for IHO Member States, **as a data producer**, to test, refine and update the new S-100 systems, while the original equipment manufacturers (OEMs) were calling for stability to help them navigate the cumbersome type approval process. HSSC was working closely with the *Comité International Radio-Maritime* (CIRM) and the *International Electrotechnical Commission* (IEC) on that issue.

The HSSC S-100 Working Group is preparing a new edition (ed. 3.0.0) of the S-98 interoperability standard, as well as the test datasets required for Electronic Chart Display and Information System (ECDIS) type approval, including essential validation checks.

Some inconsistencies had been identified during the approval process for the Phase 1 products; there had been confusion over edition numbering, and it was not always clear where standards and associated items such as catalogues were located. HSSC therefore proposed a number of changes to IHO M-3 Resolution 2/2007, which outlines the procedures for amending IHO standards and

specifications, as well as a new annex B to M-3, which would be administered by HSSC and IRRC and includes the list of standards currently available as appendices to Resolution 2/2007.

HSSC had endorsed the proposed IHO data protection scheme. It was working closely with the IRCC Fund Generation Project Team, which had proposed the creation of a subscription model to charge navigation systems developers for specific IHO services. The provisionally suggested subscription for the data protection scheme was a joining fee of €2000 plus an annual charge of €1000, both indexed annually, and the IHO Secretariat had developed an online payment application. The HSSC S-100 Infrastructure Centre Establishment Project Team (ICE PT) and the IHO Secretariat were investigating the possibility of using a global certification authority and public key infrastructure to verify the integrity of S-100 data at all stages from the data producer to the end-user, replacing the self-signed IHO root certificate.

India asked how much of the revenue from the subscription scheme would revert to producer countries. Control by a single global entity would reduce the autonomy of Member States and create dependency. Small countries would find it difficult to afford the subscription and the cost of adopting the new system and training staff. Revenue and benefit-sharing models were required, alongside safeguards to ensure affordability for developing Member States.

Director Nyberg replied that charges imposed on Member States would be kept to a minimum; the subscription scheme was intended for commercial companies and other third parties but not for Member States. The revenue it produces would contribute to the sustainability of IHO's operations – it was not intended that this revenue would flow back to producer nations. The security scheme would help IHO to keep track of applications for the use of its data.

The HSSC Chair said that HSSC had endorsed the guidelines for IHO S-100 sea trial areas (see document C9-04.1A, Annex E). Member States were encouraged to establish sea trial areas, as Canada had done on the St Lawrence River, using the new guidelines and focusing on validation of the S-100 Phase 1 product specifications and their own early S-100 products. HSSC had also submitted two further IHO S-100 sea trial areas, proposed by Australia and by France/United Kingdom, for the approval of the Council, and requested that the Council delegate to it the authority to approve future IHO S-100 sea trial areas.

Canada invited the Council to note that the Canadian S-100 sea trials were still ongoing and that they supported the establishment of additional IHO S-100 sea trial areas.

Indonesia urged the Council to adopt the guidelines as soon as possible, as Indonesia and many other countries were eager to begin sea trials.

Replying to a point raised by **USA**, **IHO Director Sinapi** confirmed that the approval process would apply only to S-100 sea trial areas approved by IHO. Member States would remain free to establish other sea trial areas tailored to their own specific needs and priorities.

Turning to other areas of HSSC's work, the **HSSC Chair** said that the Tides, Water Level and Currents Working Group (TWCWG) had proposed two new IHO resolutions, relating to metadata for tide and current recordings, and amendments to eight further resolutions (see document C9-04.1A, Annex F). The ENC Standards Maintenance Working Group (ENCWG) had produced new editions of the S-57 ENC Portrayal Standard, S-52:100 Edition 5.0.0 and the S-57 ENC Test Dataset, S-64:100 Edition 4.0.0, intended for use in future dual fuel S-100 ECDIS. HSSC had endorsed the operational Edition 2.0.0 of S-130, the product specification for polygonal demarcations of global sea areas.

The ENC Standards Maintenance Working Group (ENCWG) had produced new editions of the S-57 ENC Portrayal Standard, S-52:100 Edition 5.0.0 and the S-57 ENC Test Dataset, S-64:100 Edition 4.0.0, intended for use in future dual fuel S-100 ECDIS. HSSC had endorsed the operational Edition 2.0.0 of S-130, the product specification for polygonal demarcations of global sea areas.

The Electronic Chart System Project Team (ECS PT) had submitted its final report and had now been

dissolved; HSSC had requested the S-100 Working Group to continue the development of an ECS security scheme. HSSC had decided that “SENC delivery” (ashore decryption and conversion of S-100 products into an ECDIS internal format and delivering data in that format) would not be supported under S-100. The S-100 Working Group would work closely with the IRCC Worldwide ENC Database Working Group (WENDWG) to find technical solutions to resolve overlapping data in a S-100 ECDIS; such solutions should at least prevent the ECDIS system from crashing owing to the occurrence of overlaps.

The next meeting of HSSC would take place on 18–22 May 2026 in Gdansk, Poland.

Decision C9/10: The Council noted the report and commended the HSSC, its Working Groups, Project Teams and supporting organizations for the achievements since C-8.

Decision C9/11: The Council noted the major accomplishments made in finalizing the core S-100 Phase 1 Product Specifications and **commended IHO Member States and Office Bearers** of the involved IHO bodies for their long-lasting effort.

Decision C9/12: The Council noted the **ECS PT** recommendations and final report and the **HSSC** decision to dissolve **ECS PT**.

The **Council commended** the **ECS PT** for its work.

The Council to report the findings to A-4 (deadline: 15 December).

Decision C9/13: The Council endorsed the proposed IHO Data Protection Scheme Subscription Model, **also noting** the charging system proposed by **IRCC**.

The Council to **submit** the proposed Scheme to A-4 for approval. (deadline: 15 December 2025).

Decision C9/14: The Council endorsed the proposed amendments to IHO Resolution 2/2007 — *Principles and Procedures for Making Changes to IHO Technical Standards and Specifications* – and associated M-3 Annex B. **The Council to submit** endorsed amendments of IHO Resolutions to A-4 for approval. (deadline: 15 December 2025)

Decision C9/15: The Council endorsed the proposed amendments to the following IHO Resolutions:

- IHO Resolution 4/1919 - *Use of the Terms “Tide”, Tidal Stream” and Tidal Current”*,
- IHO Resolution 5/1919 - *Description of Currents and Tidal Streams*;
- IHO Resolution 9/1919 - *Exchange of Tidal Information*;
- IHO Resolution 5/1932 - *Extension of World Network of Tidal Observations*;
- IHO Resolution 6/1932 - *Study of Mean Sea Level*;
- IHO Resolution 2/1947 - *Issuing Authorities for Tidal Predictions*
- IHO Resolution 1/1967 - *Geographic Positions of Tide Stations*;
- IHO Resolution 2/1977 - *National Tidal Constituent Banks*.

The Council to submit endorsed amendments of IHO Resolutions to A-4 for approval. (deadline: 15 December 2025).

Decision C9/16: The Council endorsed the following proposed new IHO Resolutions:

- Proposed Resolution - *Metadata for Tide Recordings*;
- Proposed Resolution - *Metadata for Currents Recordings*.

The Council to submit endorsed new IHO Resolutions to A-4 for approval. (deadline: 15 December 2025).

Decision C9/17: The Council approved the draft Guidelines for IHO S-100 Sea Trial Areas.

Decision C9/18: The Council endorsed two additional IHO S-100 Sea Trial Areas, proposed by Australia and France/United Kingdom.

Decision C9/19: The Council recommended Australia, Canada, France and United Kingdom to provide access to their S-100 sea trial area dataset to the IHO Secretariat for internal use and communication purposes. (deadline: HSSC 18)

Decision C9/20: The Council agreed to mandate HSSC to endorse any further IHO S-100 Sea Trial Areas onwards and to report back to Council accordingly.

The **IHO Secretariat to circulate** the procedure and reference documentation including the guidelines to the Member States via Circular Letter. (deadline: 30 November 2025).

Decision C9/21: The Council noted the HSSC list of funding priorities and requirements as well as the sponsors (IC-ENC, ROK, PRIMAR, NOAA, SMA) and recognizes their significant in-kind and financial contributions.

The Council also noted the principle to allocate funding from the IHO Special Project Fund for *S-100 Communication and Stakeholder Coordination activities*.

The Council invited the IHO Secretariat in liaison with HSSC Chair, to examine the distribution and specific amount of this allocation according to Member States individual requests and the overall availability of funds. (deadline: 30 October 2025)

4.1.1 Proposal to review the HSSC WGs/PTs structure

Doc: C9-04.1B

See item 6.5

4.2 Report and proposals from IRCC

Doc: C9-04.2A– IRCC Report and annexes

- *- Annex A: Proposal - From “Capacity Building” to “Capacity Development” (see 4.2.3)*
- *- Annex B: Guidelines on the implementation of WEND-100 principles*
- *- Annex C: Proposed ToR UN-GGIM & IHO Joint WG on Marine Geospatial Information (MGI)*
- *- Annex D: Fund Generation Project Team Outcome Report (see 4.2.1)*
- *- Annex E: Draft IHO Resolution to “Inspire, recruit and maintain a competent workforce” (see 4.2.2)*

The IRCC Chair presented the report and proposals from IRCC following its 17th meeting (IRCC-17) which had been held from 3 to 5 June in Monaco and had attracted some 60 participants. In addition to regional hydrographic commission (RHC) and working group updates, IRCC had considered: the revision of the IHO Strategic Plan 2027-2032; the change of the term “Capacity Building” to “Capacity Development”; the proposal to merge the UN-GGIM Working Group on Marine Geospatial Information (UN-GGIM MWG) with the IHO MSDIWG into a unique UN-GGIM structure in order to reduce overlaps and elevate IHO influence in the UN environment; fund generation through a dedicated project team; and, with a view to creating and attractive work environment, the development of an IHO Resolution entitled “*Inspire, recruit, and maintain a competent workforce*” by a “*Workforce of the Future*” project team. There had been very friendly and effective cooperation between HSSC and IRCC.

In their reports to IRCC, the 15 RHCs had highlighted the importance of capacity building activities and the need for additional funds; addressed S-100 readiness and the technical skills gap; support of the S-100 Coordinator role in the regions; the desire to foster closer relationships among the members of the RHCs and the inter-RHCs; recognition of the importance of providing bathymetric data to DCDB

and GEBCO; addressed the MSDI portal's important role within the RHCs; and the challenges with the IHO Portal.

The HCA Chair had highlighted the need from HCA members to allocate new bathymetric data and extractions from Deep ARGO data to map the gaps in the Southern Ocean. World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC) had reported on S-124 products and services, with the development and adoption of a phased implementation approach, where both S-124 and traditional MSI would be available simultaneously for an undetermined period.

Generous financial contributions to capacity building had been received from Republic of Korea and from Japan via the Nippon Foundation, as well as from other IHO Member States and from IC-ENC and Primar Members for S-100 related support. Thanks to that remarkable support, all proposed regional activities for 2025 had been fully funded.

IRCC had taken on the proposal from CBSC to change the name of the strategic pillar of IHO from "Capacity Building" to Capacity Development". The change reflected a fundamental shift in approach from the top-down approach of "Capacity Building" which implied the absence of capabilities, to the bottom-up and inclusive methodology of "Capacity Development", which encouraged ownership, sustainability and local relevance. By transitioning to the term "Capacity Development", IHO would be aligning with international practices and terminology, reflecting a commitment to empowering States based on their existing knowledge and infrastructure, enhancing engagement by emphasizing collaboration over prescription and increasing the appeal and legitimacy of IHO development in the eyes of partners, donors and beneficiaries. Strong consensus had already been expressed among Capacity Building Sub-Committee (CBSC) and IRCC members in support of the change, indicating organizational readiness and acceptance. It was recommended that the IHO Council should endorse the renaming of the strategic pillar to "Capacity Development" and propose approval to A-4, direct the Secretariat to plan the update of relevant documentation, strategic plans and communications to reflect the change, recommend the use of the term "Capacity Development" in all future reporting, planning and public communication; and consider renaming the "Capacity Building Sub-Committee" as the "Capacity Development Sub-Committee".

A further proposal was to change the name and structure of the IHO Publication C-47 on education and training; to replace the outdated content with the list of IBSC recognized Programmes and Schemes; and to request the eLearning Centre to archive the static information captured in the current version of C-47 and make it available on the eLearning Centre Platform. Volunteers were sought for participation in the e-Learning Steering Committee and General Manager Team. IRCC recommended RHCs to request Member States to actively participate in the CBSC meetings either as Members or Observers.

Amendments to the WEND-100 Principles and the S-100 Roadmap were under consideration by **WENDWG** and the guidelines on Implementation of the WEND-100 Principles had been updated. The S-100 coordination readiness level in RHCs for meeting the 2026-2029 milestones had been assessed by the WG and an S-100 Communication Strategy had been drafted for consideration by HSSC, IRCC and the IHO Secretariat. The S-11 Part C *"Guidelines for the Coordination and Management of the Development of S-100 Electronic Navigational Data Services (other than S101 ENC's)"* was under refinement and drafting of S-11 part C phase 2 products was to be completed by 2030. The IRCC requested C-9 to endorse the revised *"Guidelines on the Implementation of the WEND100 Principles"* (Annex B) in accordance with IHO resolution 01/2021.

IRCC had recommended that the RHCs should continuously update their S-100 products provision coverage and production schedule and share their own roadmap at the next WENDWG and IRCC meetings. IRCC recommended that RHCs encourage Member States to approach their respective authorities and request they consider products affecting water level adjustments be declared mandatory; and recommended that RHCs establish S-100 Coordination Working Groups to harmonize implementation of S-100 products. Overlaps in combination with S-100 products interoperability

would be challenging and would require work in line with WEND-100 principles for the provision of technical workaround in S-98. IRCC tasked WENDWG with finalizing S-11 Part C phase 1 products content; initiating drafting of S11 Part C phase 2 products content; drafting guidance on future assessment of S-57 sunset determination; and continuing determination of the S-100 production readiness level and expected geographic coverage of S-100 based products and data services.

MSDIWG had designated a liaison to coordinate with NIPWG on S-122/MPAs and provide feedback to the Pilot Project Team.

The IENWG had held its 15th meeting on European Maritime Day (21 May 2025) in Cork (Ireland) with the participation of representatives of the European Commission (EC) and information on EU-funded projects involving Hydrographic Offices was shared, and the European Commission had expressed that the international hydrographic community was well organized and was an essential provider of global marine observation, products, standards and best practices. A new group had been formed by the EC on the Vision 2025 of EMODnet and a representative from the IENWG had been invited as a member.

The International Board on Standards of Competence (IBSC) had set a goal to complete revision of the four Standards (S-5 A and B and S-8 A and B) and to submit them to IHO Member States for approval.

The Crowdsourced Bathymetry Working Group (CSBWG) had recommended a revision to B-12 3.0.0 (related to IHO Resolution 2/2007) indicating that the contents provided minimum guidance for data and metadata. The number of positive Member States respondents to IHO CL21/2020 and IRCC CL1/2020 had risen to 37. IRCC had endorsed the Terms of References modified by CSBWG to allow the Vice Chair position to be held by a member of Industry/Academia.

Concerning the **IHO Data Centre for Digital Bathymetry (DCDB)**, the initial build of a new end-to-end multibeam archiving system was nearly complete. The DCDB developed Crowdsourced Bathymetry (CSB) Coastal State Review Application had been deployed to operational status in 2024. Improvements had been made to the discovery and access of CSB data through programmatic methods with a point cloud API. IRCC recommended that RHCs should encourage Member States to provide bathymetric data contributions to the DCDB, regardless of origin, resolution or quality. IRCC further recommended RHCs to collaborate with the DCDB on developing and highlighting annual regional breakdowns of data holdings as part of Strategy Performance Indicator (SPI) reporting. GEBCO had reported that over 27 per cent of the world's ocean floor had been mapped to modern standards. IRCC took note of the funding challenges faced by the GEBCO programme.

The **Fund Generation Project Team (FGPT)** had analysed the current demand for funds and assessed associated challenges. It had identified opportunities for new funding streams; analysed the impact and gaps to identify areas for further development; investigated new forms of funding via subscription fees; and a subscription approach for the S-100 Security Scheme with an initial and annual fee. IRCC proposed that Council should endorse the FGPT report and forward it to A-4 for approval.

IRCC recommended the review of IRCC bodies with regard to ever-changing and increasing workloads and that a more comprehensive review should be carried out with HSSC to include an examination of the structure of the WG/PT.

The next IRCC meeting (IRCC-18) would be held from 16 to 18 June 2026 in Lima, Peru.

Decision C9/22: Considering the timelines between A-4, HSSC-18 and IRCC-18 meetings in 2026 and the countdown for submission of reports and proposals to C-10, **the Council invited** future HSSC and IRCC Chairs to prepare their future 2026 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-10. (deadline: 15 July 2025)

Decision C9/23: **The Council invited Member States** to share their national strategies regarding the establishment of similar national S-100 committees, as appropriate. Use cases to be considered and presented, as appropriate. (Permanent).

Decision C9/24: The **Council noted** the report and **commended** the **IRCC**, the **RHCs**, and **IRCC Sub-Committees** and **Working Groups** for their achievements since C-8, as well as the excellent direct cooperation between **HSSC** and **IRCC** and their subordinate bodies.

Decision C9/25: The **Council endorsed** the Guidelines on the implementation of the revised WEND-100 principles. The **IHO Secretariat to issue** a Circular Letter calling for **Member States** approval (IHO Resolution 01/2021 refers). (deadline: 30 November 2025).

Decision C9/26: The **Council confirmed** the merger of MSDIWG and UN-GGIM MWG and the related Terms of Reference.

Decision C9/27: The **Council endorsed** the updated IHO Publication C-47 (Training Courses in Hydrography and Nautical Cartography). The **Council to submit** the proposal to A-4 for approval. (deadline: 15 December 2025).

Decision C9/028: The **Council endorsed** the proposed change in the regime of B-12 (Guidance on Crowdsourced Bathymetry) updates and the implied IHO Resolution 2/2007 amendments. The **Council to submit** the proposed change to A-4 for approval. (15 December 2025).

4.2.1. Outcome of the IHO Fund Generation PT

Doc: C9-04.2A Annex D

The **IRCC Chair** said that it had taken time to put together the different types of competencies required for fund generation in the Project Team. While pathways had been identified, further work was required to establish the conditions for new funding schemes. IRCC proposed that Council should endorse the recommendations presented in the FGPT Outcome Report and forward to A-4 for approval. The Council was further invited to decide whether the work of FGPT should continue through amended Terms of References (ToRs) of the current Project Team or whether it should be dissolved and a new set-up formed.

IHO Director Sinapi highlighted the two possible forms of a new Project Team.

The **Council Chair** noted that in comments in the Red Book, New Zealand supported dissolving the Project Team and establishing a new one. The Chair had also heard at IRCC-17 that there had been few participants in the PT and believed that it would be difficult to form a new one when it was not clear who would take the lead. The Chair invited interested countries to come forward with proposals for a new group.

The **IRCC Chair** said that it was complicated to find participants with a wide range of experience in fund generation and it would be important to develop proposed ToRs before asking new members to join. The Chair suggested that the current PT should be dissolved and that he should consult with its members to develop the ToRs that would be used for a new group.

IC-ENC, speaking as a member of the FGPT, asked whether the question of forming a new group could be considered alongside the discussion on the IHO Strategic Plan and the Work Plan since it had struck him that, over the previous 18 months, the PT had a target to work towards in terms of the level of funding it was seeking. Once the IHO Strategic Plan had been developed, it would be possible to clarify the type of financial resources that were required.

The **Secretary-General** noted that, since A-4 would be called upon to make important decisions concerning the new IHO Strategic Plan and the IHO Infrastructure Centre, it would be wise to put forward the report to A-4 so that Member States could reflect on the outcome of the activity and decide, in the light of the new Strategy and new developments, whether to tackle the issue with a new approach. He believed that it was not just a question of having a new group, but of having new ideas and it might therefore be preferable to wait until April 2026 before calling upon IRCC to form a new PT.

Türkiye said that, while the PT had made commendable efforts, it had not yet been able to deliver a tangible outcome. It might be beneficial to engage a company from outside IHO that could propose fund generation solutions; it might be financially supported by RENCs.

The **Council Chair** said that a proposal might be forwarded to A-4 but that it might be preferable to have agreed the IHO Strategic Plan and to have identified the purpose for which funds should be generated before setting up a new PT. She proposed therefore that Council endorse the FGPT report and forward it for approval to A-4 and that the current PT should be dissolved.

The **IRCC Chair** said that the possibility of introducing a consultancy had been included in the FGPT report.

IHO Director Sinapi noted that the current PT had put together suggested ToRs for a future PT.

Decision C9/029: The Council endorsed the recommendations and final report of FGPT and commended FGPT for its work.

The Council to forward the FGPT report and outcomes to A-4.

The Council decided to dissolve FGPT.

Interested Member States are invited to submit proposals to A-4 on how the fund generation issue can be addressed with regards to upcoming new strategy, work programme, restructure and available fundings. (deadline: 15 December 2025).

4.2.2 Outcome of the Workforce of the Future PT

Doc: C9-04.2A Annex E

The **Council Chair** recalled that WFPT had been tasked by C-8 to work on a draft resolution which it presented to C-9 under the title to *"Inspire, recruit and maintain a competent workforce"*.

United States supported the effort to promote an inclusive and equitable work environment but believed the framework for achieving that outcome should strongly emphasize merit-based principles in all aspects of human resource management. A diverse workforce should be a natural outcome of a system that prioritized qualifications, skills and performance in a fair and transparent manner, offering equal opportunity to all. The draft resolution should be revised to focus on a merit-based principles and addressing all aspects of human resources. United States proposed to work with the Project Team outside of the formal meeting to address its concerns.

Norway, speaking as **WFPT Chair**, proposed that members of the WFPT should work with United States to produce a revised version of the draft resolution to submit to Council on the following day (Day 2).

The **Council Chair** was supportive of that course of action, noting that the relevant comments in the Red Book should also be taken into consideration during review of the draft resolution.

Norway, speaking as **WFPT Chair**, reporting back to Council on Day 2 on the outcome of informal discussions, said that a majority of the Project Team had joined with Member States in working to keep the spirit of the draft resolution while meeting the requirement to effect some changes. He was highly appreciative of the input of hydrographers from Australia, Denmark, Norway, New Zealand, United Kingdom, United States and others, who had worked effectively to produce a text that was in some ways an improvement on the previous version. A reference to the United Nations Sustainable Development Goals had been changed since, from a technical standpoint, the United Nations Sustainable Development Agenda had a time horizon of 2030 and the time horizon in the IHO resolution should not be limited. Therefore, the content of the Goals had been retained but the time limit had been removed.

With respect to the formulations that were unacceptable to some Member States, many international organizations were currently addressing the topics set out in the draft resolution and IHO was seeking to align with them. The draft resolution did not instruct individual hydrographic offices how to behave

or how to recruit, but set out how work could be conducted in an international arena in which opportunities were provided to everyone and it provided guidance from Member States to the IHO Secretariat. It was proposed that the revised version of the resolution should be provided to Member States so that they could reflect overnight and return with their response on the final day of C-9.

IHO Director Sinapi noted that the draft resolution flowed from a process that had begun in 2021 and it represented the outcome of efforts on the part of the IHO Secretariat and Member States. The subject matter was related to hydrography and included in the IHO Strategic Plan and Member States had contributed to the Empowering Women in Hydrography project.

Norway, speaking as **WFPT Chair**, noted that the proposed resolution was not the end of the process, but it provided a framework for the future work of IHO.

The **Council Chair** confirmed that the revised draft resolution would be printed and made available to Member States for their consideration and that the item would be suspended until the following day.

On the last day of the meeting, the **Chair of the WFPT** presented the final draft resolution, noting one further modification with the deletion of the terms ‘human activity’ in the first paragraph.

Decision C9/30: The Council endorsed the proposed IHO resolution on *Inspire, Recruit and Maintain a Competent Workforce*. The Council commended the WFPT for its work. The Council to submit the endorsed new resolution to A-4 for approval. (deadline: 15 December 2025).

4.2.3 Proposal to change terminology from "Capacity Building" to "Capacity Development"

Doc: C9-04.2A Annex A

Norway, speaking as **Capacity-Building Sub-Committee Chair**, observed that there was considerable support for the proposal to change terminology from “Capacity Building” to “Capacity Development” and that it was a process that had already been undertaken in most partner and intergovernmental organizations. Recognizing the concern raised by the Secretary-General regarding the potential burden placed on time and resources in effecting the change, it was suggested that it should be introduced on a gradual basis, commencing with the renaming of the Sub-Committee to “Capacity Development Sub-Committee” and by the active use of the new terminology in documents and meetings going forward. Norway asked if it would be possible to make a decision in principle during A-4 which would allow the Secretariat to update administratively documents.

The **Secretary-General** said that the process of replacing the terminology in resolutions might be somewhat more complicated: the change implied addressing the subject matter in a different way and therefore it might be necessary to include a rationale for the change in the body of the resolutions, including with reference to the preface of the IHO Convention where necessary. The Secretariat could be tasked by A-4 to amend the resolutions, but the new terminology could be used in working documents in the interim.

Romania inquired as to the purpose of a change that would make a great deal of work for the Organization. The new terminology could be used going forward without changing the IHO Convention. Many organizations had retained the term “Capacity Building”. It could be noted that “Capacity Development” was included in the definition of “Capacity Building”.

The **IRCC Chair** said that he was only aware of one organization (**IALA**) that still used the term “Capacity Building” actually inspired by the current IHO terminology. It was not merely a question of changing a word: nowadays, the term “Capacity Building” was considered to have a colonial connotation. It was agreed that the workload involved in making the changes must be reduced as far as possible, but the new wording could be introduced in working documents and in the new IHO Strategic Plan.

IHO Director Sinapi, referring to the reasoning behind the proposed change, explained that, over the previous five years, more than 50 percent of IHO’s “Capacity Building” activities had been related to S-

100 development: therefore, there had already been a de facto change in the support provided by IHO to Member States and in the nature of the support requested by them.

Portugal said that it had a great deal of experience in Capacity Development and the term itself more accurately described the interaction with countries that were actively involved in the actions for their development.

India supported the proposal of the IRCC to effect the name change since “Capacity Building” denoted a short-term process whereas “Capacity Development” could be understood as a continuous and long-term process.

Türkiye said that the Capacity Building programme in Türkiye had met all of the country’s needs and had been experienced as an outstanding achievement that reflected a collective dedication. Türkiye could support the proposed name change if it was considered necessary.

Fiji echoed the comments by India in support of the proposal.

New Zealand drew attention to its comments in the Red Book in support of the proposal: in its experience in the South-West Pacific, New Zealand engaged with “development partners” and its discussions were built around a development programme. Therefore, New Zealand strongly encouraged Council to approve the change.

Romania requested further explanation of the concept of “Capacity Building” which he understood to mean the development of the workforce and of the organization. To change the word in the IHO Convention might add a layer of complexity.

The **Council Chair** explained that the definitions of the term were explained in Annex A to the report of the IRCC.

Norway, speaking as **Capacity-Building Sub-Committee Chair**, said that the proposal to change the terminology had been introduced in the CBSC some five years previously. The Secretary-General had noted that there would be work involved but that the additional work was not considered a reason not to undertake the change.

The **Council Chair** noted the strong support for renaming of the “Capacity Building” strategic pillar to “Capacity Development”.

Decision C9/31: The Council agreed to the need to change the approach and therefore endorsed:

- the change of terminology from "Capacity Building" to **“Capacity Development”**,
- the change of the Sub-Committee name from Capacity Building Sub-Committee (CBSC) to **Capacity Development Sub-Committee (CDSC)**.

The Council to submit the proposal to A-4 for approval.

The Council tasked the IHO Secretariat **to assess and plan** the necessary changes and adaptations in the IHO documentation to implement that change to be annexed to the Council submission to A-4 (deadline: 15 December 2025).

4.3 Update on the S-100 Roadmap

Doc: C9-04.3A Annex A of the HSSC Report (i.e. C9-04.1A)

The **HSSC Chair**, recalling that all the core Phase 1 S-100 product specifications had been approved and were ready for Member States to use, briefly summarized the priorities for Phase 2, currently including information traditionally made available in nautical publications and weather-related product specifications, to be prepared by WMO. Together, those specifications were intended to meet the requirements of the Safety of Life at Sea (SOLAS) convention of the International Maritime Organization (IMO) in respect of nautical charts, nautical publications and weather-related services. The work of the Nautical Information Provision Working Group (NIPWG) was progressing well and even

ahead of schedule for some product specifications.

HSSC proposed that a third category of specification, Phase 3, should be introduced for S-100 standards that did not currently have a fixed development timeline. For instance, weather-related services were not yet sufficiently developed to be included in the operational edition of S-98, the interoperability standard which would be used for type approval of S-100 ECDIS; accordingly, weather-related services would be an optional rather than mandatory element of the type approval process. In due course, IHO hoped that the S-41x standards should become a fundamental part of the International Maritime Organization (IMO) maritime safety information system, although IMO did not currently recognize S-100 maritime safety information products as part of an official service.

United Kingdom, supported by **Brazil** and **Türkiye**, expressed that while being steadfastly committed to the implementation of S-100 Phase 1, they were concerned at the proposal to amend the interoperability standard S-98 to make additional Phase 2 product specifications mandatory in S-100 ECDIS systems. Their primary concern was for end users. They stated that making such products mandatory for S-100 ECDIS would require rigorous trials, testing and impact assessments to reduce the risks of information overload and alarm fatigue which ultimately presents a risk to safety. Consequently, there would be no time to develop and deliver the necessary training for mariners. Mandating the inclusion of Phase 2 product specifications appears to be a high-risk approach, posing a significant risk that S-100 ECDIS could become undeliverable. Making the Phase 2 product specifications optional rather than mandatory for S-100 ECDIS would reduce that risk, and rigorous trials, testing and impact assessments (in accordance with IHO Resolution 2/2007) would be required. They indicated that some industry stakeholders, including CIRM, were concerned that mandatory requirements for Phase 2 products would jeopardize the effective delivery of approved Phase 1 products.

Director Nyberg said that industry stakeholders had been kept fully informed of the process for approval of S-100 products. The mandatory requirement for S-100 ECDIS was that it should be capable of displaying Phase 2 products; it was not a requirement that data from those products must necessarily be loaded and used. Several Phase 2 products were already being implemented as overlays, but it seemed prudent to ensure that they could be used actively with the future S-100 ECDIS systems.

The **HSSC Chair** noted that the product specifications that would be added to S-98 employed a relatively simple data format, the Geography Markup Language (GML), which had already been used in one of the Phase 1 products, S-124.

Germany, New Zealand, Norway and Sweden expressed support for the original timeline for the mandation of S-100 ECDIS Phase 2 product from 2029 onwards. **India** stressed the need for targeted capacity development programmes to ensure that all countries could meet the new requirements as quickly as possible.

Director Nyberg noted that the Regional ENC Coordinating Centres (RENCs) offered financial support for capacity development related to S-100.

Decision C9/32: The Council approved that the new version of Annex 2 introduces a S-100 Phase 3 set for Product Specifications without a fixed development timeline.

The Council approved the revised timeline presented in the S-100 Roadmap as presented by the HSSC Chair.

The Council recognized the importance of including Phase 2 Products and Services as mandatory specifications in the next version of S-98 (edition 3.0.0) and in ECDIS. This item will be on the agenda for discussion and decision at the forthcoming HSSC18 meeting in May 2026.

Decision C9/33: Noting the updates approved by the **Council** for Annex 2 of the Roadmap, **IHO Secretariat** to prepare and make available the finalized version **5.0** of the Roadmap on the IHO websites. (deadline: 30 November 2025).

Decision C9/34: The Council/HSSC Chair/IRCC Chair/Secretary-General, supported by subject matter experts and Member States as appropriate, **to maintain** the S-100 Implementation Roadmap as an incremental version-controlled document (including narrative and timelines) on an annual basis. (Permanent).

4.4 Update on the establishment of the IHO Infrastructure Centre.

4.4.1 Establishment of IHO Infrastructure Centre.

Doc: C9-04.4A Constitution & organization of the IHO Infrastructure Centre

C9-04.4A Annex A Proposed Host Agreement between the IHO and the Republic of Korea

C9-04.4B Proposed IHO Resolution for the establishment of the IHO Infrastructure Centre

The Secretary-General said that the item dealt with the constitutional aspects of the project to establish the S-100 Infrastructure Centre: based on Council Decisions C8/37-C8/40, he had negotiated a formal Host Country Agreement between IHO and Republic of Korea to be submitted to Council for endorsement and, subsequently, for approval by A-4. The agreement had been based on the Host Country Agreement between the Principality of Monaco and IHO and adapted to take account of local conditions at the expected site in Busan. An overarching principle had been that the new Host Agreement should offer a similar level of privileges, as well as operational, logistic and administrative support for the new entity which would be regarded as strictly international and subject to the full oversight of the IHO Secretariat. Local administration would be delegated to an onsite manager but would remain fully accountable to the IHO Secretariat. Republic of Korea had requested further refinement of some details in the Host Agreement but it was envisaged that the text would be finalized in time for submission to A-4. The Secretary-General therefore requested Council to take note of the Agreement in its present form since there would be opportunity to comment on it at the A-4. The section of the IHO staff regulations (M-7 Publication) concerning rental subsidy appeared to be redundant since the salaries of international staff were designed to cover the usual costs for rented accommodation and he proposed that it should be deleted for IHO Secretariat and IHO Infrastructure Centre.

Council was requested to endorse an IHO Resolution regarding the status and operation of the IHO Infrastructure Centre and the specific technical and administrative services it would provide to support IHO standardized products, including: the S-100 standards framework; management, maintenance and operation of the IHO Geospatial Information Registry and of the IHO S-100 security scheme elements; and support of S-100 based operative services and secure S-100 data service distribution. He understood that some minor amendments might be made to the text and fully concurred with the recommendation of United States in the Red Book, that the scope of the proposed resolution should be widened to: “support any additional IHO infrastructure assistance beyond S-100”.

Sweden supported the recommendation of United States to broaden the scope of the IHO Infrastructure Centre beyond S-100. **United Kingdom** supported the recommendation of United States with the caveat that there should be an understanding concerning the costs of any additional products. United Kingdom had also submitted minor amendments to the text to remove gender specific language.

Republic of Korea expressed appreciation for the valuable comments from Sweden, New Zealand, United States and United Kingdom regarding the Host Agreement and would work closely with the IHO Secretariat to incorporate them in the text. Republic of Korea had set aside an annual budget of approximately \$1.74 million to cover the personnel and operational costs; it would also provide office space.

Chile expressed appreciation to Republic of Korea and full support for the creation of the IHO Infrastructure Centre. The Centre would improve IHO’s technical capacity and infrastructure and it should be managed within the Regular IHO Budget and be subject to the same rules, annual controls

and reporting requirements rather than under a separate financial administration. Since the creation of the Centre represented a structural change, it should be subject to a two-thirds majority vote at A-4. The **Secretary General** welcomed the comments made and, in response to Chile's comment, offered to check whether any other basic documents are affected by the establishment of the IHO Infrastructure Centre.

He indicated that the scope of the IHO Infrastructure Centre might be widened to include management of other platforms such as e-learning. Concerning financial management, he reaffirmed that, while the IHO Infrastructure Centre might be managed from a separate account, it would be subject to the same financial rules and regulations as the IHO budget, including those relating to external audit.

Norway expressed gratitude to Republic of Korea for its contributions and commitment to IHO and supported the suggestion by the Secretary-General to incorporate the current IHO e-learning centre in the IHO Infrastructure Centre.

The Council Chair noted that any further remarks, including those by Chile with respect to the vote at A-4, could be included in the Red Book of the A-4.

Decision C9/35: The Council commended HSSC (and its S-100 ICE Project Team in particular) and the **IHO Secretariat** for the excellent work undertaken in preparation of the design and establishment of an Infrastructure Centre.

The Council also expressed its gratitude to the **Republic of Korea** for its generous offer regarding the IHO Infrastructure Centre.

Decision C9/36: The Council noted the verbal report by the **Secretary-General** on the ongoing negotiation process of the Host Agreement, including the need for further consolidation prior submission to A-4.

The IHO Secretariat to submit the final agreed version of the Host Agreement to A-4 for approval and official signature by the Parties. (deadline: 15 December 2025).

Decision C9/37: The Council endorsed the proposed modifications of the **IHO Staff Regulations (M-7)** related to the establishment of the IHO Infrastructure Centre.

The IHO Secretariat to submit the endorsed amendments to A-4 for approval. (deadline: 15 December 2025).

Decision C9/38: The Council endorsed the proposed modifications of the IHO Resolution 1/2014 (as amended).

The IHO Secretariat to submit the revised 1/2014 resolution to **A-4** for approval. (deadline: 15 December 2025).

Decision C9/39: The Council endorsed the proposed new IHO Resolution addressing all aspects of the status, scope and the operation of the IHO Infrastructure Centre and agreed to include support to any additional IHO infrastructure assistance beyond S-100 in the scope of the Resolution. **The IHO Secretariat to submit** endorsed new resolution to A-4 for approval. (deadline: 15 December 2025).

Decision C9/40: The Council endorsed the selection of the proposed office site in **Busan (Republic of Korea)** to establish the IHO Infrastructure Centre.

Decision C9/41: The Council endorsed the proposed tentative Work Plan for the IHO Infrastructure Centre for the 2026-2029 period. Subject to final approval on the establishment of the Infrastructure Centre by A-4, a follow up shall be submitted to Council for approval and inclusion in the IHO Work Programme 2027-2029. (deadline: 15 July 2026).

4.4.2 Operational Framework of the IHO Infrastructure Centre (HSSC).

Doc: C9-04.4C (submitted as Annex B of the HSSC Report – 04.1A)

The **HSSC Chair** said that, further to the agreement reached at C-8, the Interim IHO Infrastructure Centre had been in operation under interim management since March 2025. The Infrastructure Centre Establishment Project Team (ICE PT) continued to hand over tasks to the IHO Infrastructure Centre, and some of the related weekly meetings had been attended by the HSSC Chair and IHO Director Nyberg. In February 2025, the HSSC Chair, IHO Director Nyberg, Assistant Director Baek and the ICE PT Chair had visited four sites in Republic of Korea with an evaluation pointing to a site in a newly-built building in Busan; the city would become increasingly accessible with the building of a new international airport. ICE PT had drafted a work plan for the IHO Infrastructure Centre which had been endorsed at HSSC-17. Council was requested to endorse the draft Work Plan pending its presentation to A-4.

ICE PT had proposed that the IHO Infrastructure Centre should operate a centralized Maritime Connectivity Platform (MCP), following discussions held with the IMO Head of Operational Safety, Maritime Safety Division, during his attendance at C-8. IMO MSC had taken the decision to establish a framework for data distribution and global IP-based connectivity for shore-based facilities and ships supporting S-100 products. The ICE Project Team had been in close contact with IMO stakeholders in order to understand how best IHO could support the future S-100 and S-200 ecosystems, VTS services and WMO development of weather-related services. The MCP would not be for end-user distribution but would allow data producers to have official S-100 services registered in an official, IHO-recognized service registers. The use of an IHO-operated intergovernmental MCP would not be mandatory and it would not jeopardize the existing distribution model. IHO was uniquely positioned to host such an MCP given its current work with INTToGIS. Considering that an IHO operated MCP would be an additional task for the IHO Infrastructure Centre, HSSC had decided to forward the proposal to Council for endorsement.

An IMO-IHO Workshop on S-100 Implementation had been held back-to-back with NCSR12 and an IMO Correspondence Group, led by Australia, had been established to continue the development of IMO draft Guidance and the content had been endorsed by NCSR12. In the IMO draft Guidance, MCP and SECOM were referenced as standardized formats and international organizations (particularly IALA, IEC and IHO) were invited to consider further development and operational support for the components and inform IMO as appropriate. Based on the IMO-IHO Workshop, NCSR12 outcomes and IHO Member States feedback, the IHO Business Case had been updated and was set out in Annex B to the report of HSSC to C-9 (C9-04.4C). Council was invited to agree upon the draft IHO Infrastructure Centre Work Plan and to endorse the proposal that the IHO Infrastructure Centre should operate an intergovernmental IHO MCP in the form of service and identity registers.

Germany fully supported the establishment of MCP but questioned the reference to SECOM given that other technologies might be available.

Sweden supported distribution solutions based on open, internationally agreed standards and the proposal that IHO should operate an intergovernmental MCP as part of the scope of the IHO Infrastructure Centre. Currently, there were no other open technologies developed for distribution of S-100 data in near real time that were ready for implementation, and any alternative solutions would take many years to implement. The generous financial contribution from Republic of Korea to the Infrastructure Centre would cover the operational cost. IMO had invited IALA, IEC and IHO to support IP-based distribution of S-100 services and the IHO MCP would be welcome in supporting the maritime community with such critical infrastructure.

Thailand agreed with the remarks by Japan and UK in the Red Book that SECOM might not be the only solution and noted that Member States might have their own existing data distribution platforms. Therefore, it would be essential to liaise with the Sub-Committee on the World-Wide Navigational Warning Service (WWNWS-SC) before making a final decision.

The **HSSC Chair** explained that the technology used for distribution was not part of the present decision-making process.

France had some concerns about IHO becoming involved in MCP management of the end user because in the view of most Member States, IHO was a standardization body. It was therefore reassuring to hear the explanation of the HSSC Chair that IHO intended to maintain the a marine service and identity register and that it would be open to all producers but was not intended for end users. Given its proposed role, could the IHO MCP be used as a unique, central registry.

IHO Director Nyberg agreed that the intention was to have a high-level, central register that validated services, and it was anticipated that it would work to support RENC services. It would add an important validation tool in the system.

Japan welcomed the establishment of the MCP and the IHO Infrastructure Centre but had concerns about the operation of the MCP. It would be appreciated if more technical information could be provided about MCP and SECOM. In addition, the technology would affect the real-time distribution of S-124 and it would therefore be important for the Infrastructure Centre to work closely with WWNWS-SC on the matter.

IHO Director Nyberg agreed on the need to work closely with WWNWS-SC. Consideration of the technology was in the initial phase, but the vision was that it would be an extension of INTogIS III, which was already being built to catalogue services: with the agreement of Council, work on the database and technology would be carried out.

Chile valued IHO's openness and its ability to adapt to new technology which was important in improving the services that it provided: a forward-looking approach helped to keep the organization relevant and effective. IHO was not an operational organization and therefore it would be preferable that the MCP should be operated by a trusted external organization. The topic was very important and deserved more discussion.

The **HSSC Chair** noted that the IHO Secretariat had run some operational services for a number of years, including the IHO S-100 Geospatial Information Registry (GI Registry) and the IHO International Web Catalogue of INT charts and ENC schemes (INTogIS) platform. The IHO Infrastructure Centre had been proposed to professionalize such services.

United Kingdom thanked the HSSC Chair for having addressed a number of the points it had raised in the Red Book. It was a concern that there would be reliance on one nation when operationalizing at the proposed magnitude since the nation might change its views at a later date. The business case, as presented, did not lay out how IHO funds would support the project or whether there was sole reliance on Republic of Korea.

The **HSSC Chair** said that funding would be provided by Republic of Korea but it was open to other contributions. IHO was very grateful to Republic of Korea for its generous support.

China said that the development of the MCP involved not only technical dimensions but also management frameworks and coordination beyond the hydrographic domain. IMO had not yet determined the communication protocol standards for transmission and distribution of S-100 data. In light of those considerations, it was not a good time to advance the creation of an intergovernmental MCP to be operated by the IHO Infrastructure Centre.

IHO Director Nyberg said that he did not consider that the financial investment would be significant: there would be a management aspect to collecting the information and verification with the hydrographic offices. There could not be reliance on the generous contribution from Republic of Korea alone given the need for long-term sustainability. He was mindful in discussions with other organizations such as IMO, that the best solution for the hydrographic offices would be for them to be part of an open system so that, moving into the future, they would be in control of their own distribution. It was important to take advantage of an opportunity that would enable developing such

a system rather than risk handing over product ownership, distribution and return on investment to a global industrial company. He hoped that Member States trusted IHO to manage the system to register data for hydrographic services. IALA had already put their own system in place and, as a sister organization that knew the most about the data in question, it would be beneficial for IHO to do the same.

Norway, having listened to arguments on both sides of what was a complex issue, acknowledged that there was not complete certainty on how the system would work but, if IHO was to move forward into the future, there would need to be an acceptance that there would be a certain level of uncertainty and that the stakeholders that had been involved had done everything they could to mitigate the risks. There was a generous contribution from Republic of Korea and the potential for contributions from the RENCs and from other improved sources of funding. The idea was an excellent one and the opportunity should be seized in order for IHO to remain relevant and ready for the future.

Netherlands acknowledged that the proposal presented a great opportunity although it could also backfire given the uncertainty surrounding maritime connectivity platforms in terms of timing, finance, and business continuity. Recognizing the opportunity, it could be agreed that the MCP would be founded as an experiment for a limited period and monitored by a group of Member States with reporting to future IHO Councils.

The **HSSC Chair** said that it was important that the project was set up by a trusted entity and that it would be complicated for it to be run as a Member State initiative: it should be officially run by IHO. The situation could be reevaluated in three years' time.

IHO Director Nyberg said that it was possible that the risks were being overestimated: there was no great risk involved in making a database of services and identifying whether they were valid. Even if the shipping industry organized under IMO regulations decided not to use MCP, IHO would have achieved a database of validated services. The proposal was a very natural extension of the discussion on building INTogIS III to catalogue services for S-100 around the world. The worst outcome would be to revert to IMO with an unclear answer.

Netherlands asked for and received confirmation that the proposal was not to build a full MCP but a maritime identity register and a maritime services register.

New Zealand, referring to its Red Book comment, wished to go on record as fully supporting the proposal that the IHO Infrastructure Centre would operate an intergovernmental IHO MCP. The New Zealand Maritime Safety Authority were very supportive of that proposal.

The **Council Chair** took it that the Council agreed to the draft IHO Infrastructure Centre Work Plan. Turning to the invitation to the Council to endorse the proposal that the IHO Infrastructure Centre should operate an intergovernmental IHO MCP, in the form of service and identity registers, she took it that the Council was in agreement, subject to a more specific description of the service and identity registers to be set out in the relevant decision. There would be an option to evaluate the service after some years.

United Kingdom requested that it be made clear in the business case that the proposed MCP would not be customer facing and that it would not encompass functionality for end use distribution.

The **HSSC Chair** said that the business case had been misunderstood since it had never been intended that the MCP would be for end use distribution.

Following an intervention by **IHO Director Nyberg**, the **Council Chair** clarified that the business case would not be forwarded to A-4: approval was sought from Council to continue to work on the service and identity registers but they would not form part of an item for consideration by the Assembly.

Decision C9/42: The Council endorsed the proposal to develop and operate standardized registers (service and identity) of S-100 Products and Services to support IP-based distribution in the course of the establishment of the IHO Infrastructure Centre.

Decision C9/43: The IHO Secretariat to submit the IHO Infrastructure Centre Proposal as a package to A-4 for approval. (deadline: 15 December 2025).

4.4.3 Management of the S-100 Security Scheme (Australia/Germany).

Doc: C9-04.4D

Australia, introducing the proposal for Strategic Management of the IHO Security Scheme, said that an effective security scheme was core to the integrity of the IHO S-100 framework and to the safe use and market confidence in S-100 products used in ECDIS Systems. Users of S-100 products, particularly ECDIS, expected robust cyber security frameworks and adherence to contemporary standards. Digital signatures confirmed authenticity and integrity: users knew data came from an official source and that the data was protected against corruption during the distribution process. Encryption protected information while it was stored and transmitted; it protected data from malicious manipulation or insertion of false data.

Security was not optional. It was fundamental to safe navigation and user confidence. Without trusted data, safety at sea was comprised. Effectively managed security builds user trust and confidence in hydrographic products would safeguard the reputation of data producers and IHO. Security underpinned financial, legal and operational trust in S-100 products.

At the present time, responsibility for security was fragmented across S-100WG, ENCWG and SS PT; each did valuable work, but there was no single body with overall accountability. Without one clear owner, coordination was inconsistent and risked falling between groups or being handled reactively rather than strategically. Security required forward planning, especially with long lead times for updates to standards. IHO required the right experts, and it needed to be able to obtain external security advice, guidance and planning. At present, the organization lacked a structured mechanism to set the direction and ensure continuity. Industry and end users expected IHO to meet contemporary security standards: without action, confidence in official data and safety at sea could be at risk.

Future work might involve upgrading the digital signature and certificate framework, which was essential in order to stay aligned with best practice. Linking signatures to producer codes and roles could provide a practical layer of assurance, allowing ECDIS users to instantly verify that data was both official and correctly sourced. Any future governance model needed to include proper representation from stakeholders and be able to effectively take action and make decisions. IHO's valuable work could be undermined if it failed to give proper attention to data security. Council was asked to decide whether a working group or steering committee of some type was needed to oversee evolution of the security scheme.

Sweden supported the proposal.

The **HSSC Chair** recalled that, at HSSC-17, the ICE PT had been tasked to investigate the relevancy of global certification authority recognition and to work on improving the IHO signature. The ICE PT might be tasked to work in liaison with the IHO Security Scheme Project Team (SS PT) to propose the formation of a responsible body to manage the S-100 security scheme.

IC-ENC said that the IC-ENC group of countries placed importance on what they termed distribution assurance. Because of the prominence and importance IC-ENC members placed on security, if there was a need for funding of specialist advice from outside of the immediate community then it would be received swiftly and positively by the IC-ENC assessment process.

United Kingdom said that anyone reading the press could see that quantum computing was coming and that it would break codes very, very quickly. IHO Members would have to work on security in a wider sense and in a more mature way. Irrespective of the energies of their staff, it would not be possible to keep pace with developments in the field and any external support from wider entities would be greatly appreciated. At UKHO, external experts had just conducted

penetration testing to see how far an attack could go, and the results had been very enlightening and quite scary. Given the reports of people trying to disrupt normal patterns of business around the world, it would be helpful for IHO to get on the front foot. The intervention by Australia and Germany was therefore timely.

IHO Director Nyberg seconded the statement by the United Kingdom: one of the great promises of S-100 in particular had been better data security. The IHO Secretariat had also been working on a penetration test for security scheme and the result had been enlightening.

The **Council Chair** noted the consensus on the need to improve security and that work was under way in the Infrastructure Centre Establishment Project Team (ICE PT); and the Security Scheme Project Team would work with ICE to that end. It might be possible to fund external experts since IHO did not have the relevant internal capacity or experience to tackle the matter. HSSC might be tasked with instructing the teams to submit a proposal to HSSC-18 and to examine whether there was a need for external assistance and find a way to fund it.

The **HSSC Chair** thanked IC-ENC for the offer to source external funding.

Decision C9/44: The Council tasked HSSC to propose the formation of a responsible body to manage the S-100 Security Scheme and to explore funding opportunities to include subject matter experts.

HSSC to report back to Council on that matter (deadline: 15 July 2026).

4.5 Update on the development of S-130.

Doc: C9-04.5A

The **Secretary-General** reported on progress in the development of S-130 on polygonal demarcations of global sea areas. Regional sample datasets, such as the one prepared for the Baltic region using limits (not “boundaries”, which was a legal term) defined by the Baltic Sea Hydrographic Commission and coastline data from United Nations sources, had helped to identify and remedy the deficiencies of Edition 1.1.0 of the S-130 Product Specification and contributed to the finalization of the operational Edition 2.0.0, which Member States had adopted in Circular Letter 33/2025.

The S-130 project team was now preparing the authoritative global dataset, which would bear the official IHO identifier 00AA: the IHO Secretariat was responsible for cartographic work, while the geographical coordinates of vertices were taken from INT charts and ENCs. Encoding in Geography Markup Language (GML) format was being undertaken by the Flanders Marine Institute, Belgium under a contract financed from the IHO Special Projects Fund. The final draft would be submitted to A-4. National authorities were free to prepare their own products following the IHO model, although the Secretariat did not encourage the practice.

Australia, noted that the Australian Government did not agree with the northern limits of the Southern Ocean as agreed by A3 in its Resolution 2/2023. Australia could produce its own S-130 product, as suggested, but that was likely to cause confusion. It should be possible to find a technical solution that would indicate that certain limits were not unanimously accepted.

Türkiye supported Australia’s approach of leaving Coastal States defining their maritime boundaries.

The **Secretary-General** recalled that using the legal term ‘boundary’ to address S-130 is inaccurate, as it only addresses the concept of limit of the oceans and seas.

China asked where to obtain the United Nations coastal dataset used in S-130 and suggested that Member States should be invited to contribute data to the dataset and should be guaranteed the right to benefit from it.

The **Secretary-General** pointed out that the mandate given to him at A3 was based on the 1953 standard S-23 on the limits of oceans and seas and on Resolution 2/2023 adopted by A3. Neither

document provided for the recording of a dissenting view, or for data provided by national authorities. He suggested that Member States should familiarize themselves with the dataset when it was launched in mid-December 2025, and then make their views clearly known at A-4.

Replying to a point raised by the **United Kingdom**, the **Secretary-General** expressed his intent to raise the question of future updates to the dataset at A-4, to reflect updated information from coastal States or regional hydrographic commissions and the more accurate data made possible by technical advances since the latest adoption of S-23 Edition 3 in 1953.

Decision C9/45: The Council noted and commended S-130 PT for their progress report, particularly for the finalization of the approved Edition 2.0.0 of S-130 Product Specification and the ongoing work on the S-130 authoritative dataset taking due regard of decision A3/19 (recognitions of the Southern Ocean).

The Council also noted the Secretary-General's intention to report the S-130 PT outcomes and his conclusions in view of decision A2/24 & A2/25 to A-4. (deadline: 15 December 2025).

4.6 Report on the Joint IHO-Singapore Innovation and Technology Laboratory

Doc: C9-04.6A

Director Nyberg reported on the activities of the Joint IHO-Singapore Innovation Laboratory. The Laboratory had completed the S-131 Marine Harbour Infrastructure Database project, intended to improve information exchange between harbours and hydrographic offices by acting as a neutral repository of harbour information. It would maintain the database, probably for a further three years, but a new host might be needed after that. Another project, currently under discussion, related to the integration of land and sea datums to potentially address coastal inundation scenarios. It would involve close collaboration with the United Nations Global Geodetic Centre of Excellence. Another potential project involved the preparation of a questionnaire for hydrographic offices on their use of artificial intelligence.

Romania noted that non-standard institutions such as the Laboratory or start-up businesses could be very useful in tackling the "innovation challenge".

Decision C9/47: The Council noted the update on the Joint IHO-Singapore Innovation and Technology Laboratory by IHO Secretariat.

The Council encouraged IHO Member States and industry stakeholders to actively propose new and engage in existing collaborative projects with the IHO-Singapore Laboratory. (deadline: HSSC18).

5. IHO ANNUAL WORK PROGRAMME AND BUDGET

5.1 Review of the current Financial Status of the IHO

Doc: C9-05.1A

The **Secretary-General**, presenting a summary of the current financial status of the Organization, said that, as of 30 September 2025, a total of 74.08% rate of Member State contributions had been received, compared with 68.43% rate in 2024 and above the average 'over 5 years' rate of nearly 77%. In 2025, outstanding Member State contributions totaled ~972,000 €. Overall, the Organization was recovering, albeit slowly, from the coronavirus pandemic and other shocks. Personnel and operational costs had remained within budget, but travel costs had exceeded the budget for all three Work Programmes. He called upon Member States in financial difficulty to discuss possible solutions with the IHO Secretariat. Wherever possible, he would avoid suspending a Member State on the grounds of non-payment.

Decision C9/47: The Council noted the information provided on the current financial status of the Organization as of October 1st 2025, in particular the slow return to regular average rate of incoming MS contributions and the resulting impact on the Secretariat's operations.

5.2 Proposed IHO Work Programme for 2026 (inc. update on Programme 1)

Doc: C9-05.2A

The **Secretary-General** invited the Council to approve the Work Programme for 2026, the final year in the three-year programme cycle. The proposal covered all three work program elements. As mandated by A3, priority had been accorded to Goal 1 of the IHO Strategic Plan: "Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation".

Decision C9/48: The Council approved the IHO Work Programme for 2026, as submitted by the **Secretary-General**.

5.3 Proposed IHO Budget for 2026

Doc: C9-05.3A

The **Secretary-General** introduced his proposed budget for 2026, which had been slightly amended to reflect a 9% increase in operating costs and, on the credit side, the assessed contribution of €26 000 paid by Lithuania on its accession to the Organization. By far the largest element was personnel costs – salaries, pensions and increased medical costs. Travel was the largest element of operational costs, while expenditure on information technology (IT) and public relations had also increased sharply. He proposed that €25 000 of the contributions received from Lithuania should be allocated to duty travel. The funding allocated to the organization of A-4 and to the IHO Special Projects Fund had also increased; in particular, financing from the Special Projects Fund would be required to obtain IT expertise which had previously been provided by Member States. He also noted that the Capacity Building fund of €60 000 had been maintained.

Replying to a query from **United Kingdom**, he said that, while some additional staff posts might be needed to provide enhanced support for the General Bathymetric Chart of the Oceans (GEBCO), no firm commitment had been reached. Additional posts might also be needed for the IHO Infrastructure Centre.

Replying to a query from **Chile**, he said that all expenditure relating to the future IHO Infrastructure Centre had been kept separate for the time being. Once the IHO Infrastructure Centre project is formally approved by A-4, it would be included in IHO's regular accounting with full transparency.

Decision C9/50: In application of Decisions A3/26 to /28, the Council approved the proposed budget for 2026 as submitted by the **Secretary-General** including the proposed adaptations.

5.4 Proposed Budget & Work Programme for 2027-2029

Doc: C9-05.4A

The **Secretary-General** presented the budget estimates submitted in Document C9-05.4A. The figures had been recorded before Lithuania had joined IHO. The proposed budget would be updated to reflect the accession of Lithuania and any other States joining IHO prior to 15 December 2025; it would then be submitted to the Finance Committee for endorsement and A-4 for approval.

The **Secretary-General** drew attention to the main achievements of IHO under WP1: a growing membership from 98 to 103; ongoing digitalization, including the INtoGIS platform and the IHO Portal; extended communication through Instagram and IHR articles; and an increased presence in ocean science and economic forums; under WP2: S-100 framework, infrastructure and standards development; operational versions of S-100 based Product Specifications; and preparatory work for the installation of the IHO Infrastructure Centre; and under WP3: investment in S-100 education and training programmes in support of the transition; investment in S-100 data service coordination

(WEND); intensified collaboration in GEBCO/Seabed2030; and continued contribution to develop the workforce: Empowering Women in Hydrography.

The proposed three-year Work Programme was based on the usual IHO Work Programme structure with reference to the IHO Strategic Plan 2020–2026 in place. In view of the ongoing revision process of the IHO Strategic Plan, it was envisioned that the new Plan would undergo an adaptation process after approval of the IHO Strategic Plan 2027–2032 and it would then be submitted to Council for endorsement and subsequent approval by Member States by Circular Letter by the end of 2026.

It was acknowledged that Australia had submitted a comment in the Red Book concerning element 1.1 of the proposed Budget and Work Programme requesting the inclusion of “Maintain relationship with Pacific Community (SPC)” as an MoU but it had been determined that only global organizations would be included since there were a great many regional organizations. He requested Australia’s agreement to keep the reference generically under element 1.1.16. Australia had also made a suggestion in the Red Book under item 5.1 (“Review of the Current Financial Status of the IHO”) which could be considered under the present item to peg “annual IHO dues to French CPI or like framework for increases in dues to cover increases in inflation”. In response to that suggestion, he explained that the budget and finances of IHO were deeply anchored in the Monégasque system and therefore it would be very difficult to make such a substantial change. Any suggestions for radical change could be brought as a proposal to the Assembly, but he believed that it was unlikely to meet with the approval of Member States.

Australia said that the intent of the Red Book comment was about considering an indexation framework for the annual IHO dues to cover increases in inflation, and was not actually supposed to be a suggesting that IHO move away from the Monegasque system. Australia understands the challenges associated with considering an indexation framework as explained by the Secretary-General.

The **Secretary General** explained that it was proposed to establish guiding principles for better alignment of the three-year work programmes of IRCC and HSCC with the Work Plan of IHO. A proposal had been submitted for alignment and synchronization of work to be considered by a future joint HSSC-IRCC Project Team, to be addressed further with item 6.5.

Decision C9/51: The Council endorsed the Proposed Work Programme for 2027-2029 and took note of the likely need for later adaptations after A-4 approval of the revised IHO Strategic Plan 2027 – 2032.

The Council noted the Proposed Budget Estimates for 2027-2029 including the necessity for late adaptations before submission by the Secretary-General to the Finance Committee for endorsement and A-4 for approval.

5.5 Activities to acquire new IHO Member States

Doc: C9-05.5A

The **Secretary-General** said that he was pleased to report that The Gambia had joined IHO as the 101st Member State in March 2025 and The Bahamas had joined as the 102nd Member State in May 2025. There was a strong need for an increase in the hydrographic domain in Africa and with potential to grow IHO’s membership there. The Bahamas had already contributed to the Regional Commission in its region. In joining as the 103rd Member State in August 2025, Lithuania had completed the list of European Union coastal states with commercial ports that were Members of IHO. Lithuania had for decades contributed to the Baltic Sea Hydrographic Commission. High-level consultations were ongoing with other coastal states and there were strong indications that an additional member would join IHO prior to A-4.

IHO Member States, via their Regional Hydrographic Organizations, were invited to continue to promote the benefits of IHO membership in their regions (including landlocked states) and in their role as the chart producing agency for coastal states that did not run a full-service hydrographic office. The

IHO Secretariat stood ready to assist at any time. The Secretariat would pursue further expansion of the IHO membership in line with the IHO Strategic Plan.

IHO Director Nyberg thanked Member States that had facilitated contact with the new membership and in particular the high-level visits carried out with support from SHOM (France) and UKHO.

IHO Director Sinapi noted that candidate countries were frequently associate members of their regional hydrographic commissions and that those relationships were a factor in the important role played by RHCs in facilitating the accession of new members to IHO.

Responding to a question from **Romania** concerning RHC meetings, **IHO Director Sinapi** clarified that RHCs were able to invite any coastal state within their region and the IHO Secretariat stood ready to facilitate contact in that regard. **Assistant Director Langlois** recalled that RHCs could issue invitations directly to their associate members; RHCs might wish to reach out to coastal states in their regions to invite them to join by becoming associate members.

Decision C9/52: The Council noted the IHO Secretariat's report on the activities carried out since C-8 and the objectives to attract new IHO Members.

The Council commended the IHO Secretariat on its work to attract new Member States and welcomed the new Member States to the IHO.

6. IHO STRATEGIC PLAN

6.1 Implementation of the IHO Work Programme and other affected IHO instruments resulting from the Strategic Plan 2021-2026 and Decisions A3/08 (a) to (d)).

Doc : : C9-06.1A

The **Secretary-General** recalled that A3 agreed on the continuation of the conduct of the annual WP on the basis of the Strategic Plan in place for 2021-2026 and 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 SPIs as endorsed by C-4, 5.

The **Secretary General** presented the Secretariat's recommendations for the implementation of the Strategic Plan 2025. In respect of Work Programme 1, Council had endorsed (C-7) a new interpretation of Target 2.1 and the associated strategic performance indicator (SPI) 2.1.1 for assessment of the use of the global thematic layer presented by means of the IHO Geographic Information System (GIS) infrastructure. The IHO Secretariat had maintained its good relationships with intergovernmental and other international organizations.

The IHO had a large following on social media, including LinkedIn and Instagram; however, the number of hits on the IHO website had decreased markedly, in responding to a query from **Norway**, the **Secretary General** remarked that the reduction in visits to the website may be because there is there was now an alternative way to access documentation through the IHO Portal.

The **Secretary General** noted that the Secretariat is planning to revamp the website, in particular the underlying technology to improve traceability. The **Secretariat** then intends to improve the IHO Portal to better count how visitors are landing there.

HSSC and IRCC had their own SPIs: for instance, the metrics showed that HSSC standard S-44 on hydrographic surveys had been downloaded over 1300 times. For IRCC, 89.2% of coastal states were already able to provide MSI data. This is positive as the target for next year is 90%.

The number of non-hydrographic offices who contributed to the DCDB increased and currently sits at 59 contributors; a remarkable success.

Decision C9/53: The Council noted the dashboard (target 2026, WP2 and WP3 SPIs value as of **31st December 2024**) allocated to the **IHO Secretariat, HSSC and IRCC** (IHO Annual Report 2024, Annex B refers).

6.2 Outcomes from 3rd UN Ocean Conference (UNOC3), contributions to the UN Ocean Decade, and next steps.

Doc : C9-06.2A

The Secretary-General drew attention to the comprehensive overview of IHO's strategic engagement in the 3rd UN Ocean Conference (UNOC3) contained in Document C9-06.2A, which highlighted the significant investment made in fulfilling the commitment to intensifying IHO's contribution to ocean policy and to the maritime community and in particular the support to IHO Strategic Plan Goal 3: "Participating actively in international initiatives related to the knowledge and the sustainable use of the Ocean".

The Secretariat had created a register to track IHO contributions to the Ocean Decade and had received a limited response to a Circular Letter inviting Member States to register their activities. In preparation for UNOC3, more than 40 Voluntary Commitments with a seabed mapping or hydrographic component had been formally registered with the Ocean Decade or via the UN Ocean Conference Series. Although hydrography was not the main topic of UNOC3, the relevance of IHO and GEBCO's activities were highlighted by the presence of the Secretariat, with a small team attending, and proactively contributing to, a number of UNOC3 events. IHO's engagement at UNOC3 was a clear success, with strong involvement and interest from new partners who invited the IHO team to their events.

IHO had become a formal institutional member of the **Ocean Decade Alliance**. Collaboration with **OECD** had continued with a Joint Workshop in Monaco in November 2023 on seabed mapping and the sustainable ocean economy and a Dedicated Policy Brief in June 2025 on Exploring and Mapping the Ocean Depths for a More Sustainable Future. Through **OECD**, IHO was better aligned to the wider landscape of the blue economy and more connected to major players in the areas of resources and funding. It was proposed that the funding insights gained at UNOC3 should be shared with a future Funding Project Team. The approach to engagement in UNOC3 could be used as a blueprint for participation in future activities such as the 2nd Ocean Decade Conference (2027) and the 4th UN Oceans Conference (2028).

IHO had been invited to join the **Space4Ocean Alliance**, which provided a bridge between the space sector and marine and maritime stakeholders to apply space data and solutions for ocean and coastal challenges. A declaration of interest had been signed although no specific activities had been proposed.

The Ocean Conference had been hosted by France with a focus on measurable and tangible outcomes. At the request of IHO, the high-level political statement of intent included advocacy for increased seabed mapping. The political declaration had been accepted by participating Member States.

Sweden asked for further details concerning IHO's membership of the **Ocean Decade Alliance** and queried whether it might be more appropriate for IHO to be an observer member of another international organization.

The Secretary-General said that the membership had been entered into on the basis that it would be endorsed by Council and approved by A-4. He would provide more in-depth information to the Assembly. He believed the membership would be a positive step.

Norway expressed strong appreciation for the Secretariat's engagement in UNOC3, which had raised the profile of IHO and communicated the relevance of hydrography. The role of IHO Assistant Director Harper in the strategic work and engagement had been highly appreciated.

Canada echoed the remarks of Sweden and requested further clarification concerning memberships of organizations. The Space4Ocean Alliance had also approached the Canadian Hydrographic Service, and it was her understanding that the intention of the Alliance was to use data sources to support ocean monitoring and modelling. There were questions concerning the financial and resource implications of joining organizations, but Canada was generally supportive of IHO's attempts to highlight the work it did.

Decision C9/054: The Council noted and acknowledged the success and positive policy influence of the IHO engagement in **UNOC3** and the value of participation in future events, and the intention of the IHO Secretariat and IOC to further develop future funding solutions for GEBCO.

Decision C9/55: The Council noted the request for endorsement ex-post facto of the declaration of interest to become a member of the Space4Ocean Alliance and an institutional member of the Ocean Decade Alliance.

The Council expressed its general support and requested that the **IHO Secretariat submit** the proposal to A-4, providing further explanations on the exact role and obligations of both endeavours. (deadline: 15 December 2025).

6.3 GEBCO developments.

Doc : C9-06.3A

IHO Director Sinapi provided an overview of recent developments within the General Bathymetric Chart of the Oceans (GEBCO) initiative, progress made in implementing the GEBCO Strategy for 2024–2030 and updates to governance structures, the transition of GEBCO into a global hub for seabed mapping, and new opportunities, following the third United Nations Ocean Conference (UNOC3), for coordination, policy influence and securing funding.

Key documents and projects of interest were included the IHO Strategic Plan 2021–2026. A proposal for recognizing depth as an Essential Ocean Variable (EOV) in IOC-UNESCO's Global Ocean Observation System (GOOS) was under consideration. Outcomes from UNOC3 (as set out in Document C9-06.3A) and initiatives related to the UN Decade of Ocean Science were shaping ongoing efforts. The GEBCO-Nippon Foundation Seabed 2030 Project was central to global seabed mapping initiatives.

GEBCO had articulated its new strategic plan on the vision to make knowledge of the planet's seabed accessible to everyone, supported by five strategic pillars. Concerning governance, a professionally managed, project-based portfolio structure was being put in place. There was recognition of the need to increase available resources. Following UNOC3, more than 40 voluntary commitments and 30 pledges had been made in support of seabed mapping; GEBCO was positioned to serve as a global ocean mapping hub and there was potential to explore blended financing models and develop new partnerships to further advance GEBCO's mission.

A dedicated Task Group had been established to develop the proposal for recognizing depth as an Essential Ocean Variable, which would be submitted to GOOS in late 2025. Alignment with GOOS was expected to increase both responsibilities and resources for GEBCO.

It was proposed to create a dedicated GEBCO Secretariat, located and operationally supervised by IHO Secretariat. Responsibilities of the GEBCO Secretariat would include managing strategic, administrative and partnership activities for the GEBCO programme. Assurances had been received from the Government of Monaco concerning potential funding of GEBCO's expanded activities beginning in 2026.

GEBCO was evolving from a focus on data delivery to providing strategic leadership in global ocean mapping. A professionalized governance structure and increased resources were necessary to support the transition. The establishment of the new GEBCO Secretariat would be central to advancing the mission, to strengthening partnerships and securing funding.

Responding to questions from **France** concerning the number of resources and who would pay for them, the **Secretary-General** explained that discussions on strengthening GEBCO had been ongoing with the Government of Monaco for two years in recognition of GEBCO as the legacy of IHO and of its home base in Monaco. Support from the national parliament was still subject to its internal budget negotiations but it seemed likely that the equivalent of two members of staff could be allocated to GEBCO, one of whom would be funded by the Government of Monaco and one of whom would be the current IHO project officer from Peru. Once the new GEBCO entity had been founded, IHO could focus on fundraising for more ocean mapping campaigns. It was a source of great pride that, despite competition for resources, it appeared that the IHO Secretariat had succeeded in obtaining funding for GEBCO for a period of five years. **IHO Director Sinapi** noted further that IHO project officers are funded

by their countries and that in the list of priorities it had drawn up, the IHO Secretariat had identified space for one project officer to be dedicated to GEBCO.

Norway, speaking as **Chair of GEBCO Guiding Committee (GEBCO GC)**, warmly welcomed the news concerning the allocation of future resources to GEBCO. He emphasized that the professionalized, project-based management structure was at a very early stage. GEBCO was a strategic priority for IHO and the establishment of the new hub would be of mutual benefit.

Decision C9/56: The **Council noted** the report on GEBCO developments and **supported** the development of a proposal for the creation of a **GEBCO Secretariat** including consequential adjustments to the IHO Secretariat's Structure.

The **Council also agreed** with the arguments related to the opportunities related to GEBCO and the need to increase fundings.

The **IHO Secretariat to submit** the proposed creation of a GEBCO Secretariat to A-4 for approval. (deadline: 15 December 2025).

6.4 Proposed IHO Strategic Plan for 2027-2032

Doc : C9-06.4A

The **Chair of the Strategic Plan Review Working Group (SPRWG)** noted that Council established the group to review and revise the IHO Strategic Plan from 2021-2026. He also noted that he was pleased with the broad representation in the working group, with 13 member states and all but two regional hydrographic commissions represented. He also noted his appreciation for the work of the Chair Team, Working Group Members and Chairs of IRCC and HSSC for their work and input and to the Member States for their comments and feedback.

He presented the final draft of the proposed revisions to the IHO Strategic Plan for 2027–2032. He reported that the new version offered fully integrated front matter and combined the goals, narratives and Strategic Performance Indicators (SPIs) into a single, unified document. The introductory sections, the preamble and challenges and opportunities section had been expanded.

The document maintained its three-goal structure, but Goals 2 and 3 had been combined into a revamped Goal 2 titled *"Enhance and promote hydrography to advance science, benefit society, and support sustainable marine management"*. A new Goal 3 had been added, focusing on technical infrastructure and the workforce, including S-100 implementation and the capacity development strategy. The **Chair of the SPRWG** expressed that reshaping Goal 3 was critical to the success of S-100. Each goal was now accompanied by a textual narrative explaining the motivation behind the goal to make the document more accessible to those outside of the IHO community.

As for the set of associated SPIs, the number of SPIs had been reduced from over 20 to 11. They were clear and precise, durable, and used data from existing sources as far as possible. SPI 6 measured progress under the Seabed 2030 project, but without specifying a numerical target that might prove infeasible. Other SPIs measured the implementation of S-100 products, the performance of the IHO Infrastructure Centre, capacity development and international engagement. He noted that as the team went through the exercise of mapping the SPIs to Goals and Targets, it became evident that, while the SPIs captured the work to be completed under the Strategic Plan well, the SPIs would stand best on their own.

IC-ENC asked if the IHO Secretariat had a good understanding of the budget that would be needed to meet the level of ambition of the plan.

The **SPRWG Chair** replied that good strategic plans are ambitions, broad participation in the working group and thoughtful and thorough feedback from HSSC and IRCC ensure that the plan is realistic from a technical perspective.

The **Chair of Council** noted that we start with ambitious goals, then we have a plan and strive to achieve it and finally – work out how to do it.

The **Secretary General** noted that he considers the SPIs in the light that not all resulting activities are

conducted by the Secretariat – some will fall to member states themselves and so at this stage, it is not necessary to show how financial and human resources will be allocated.

Replying to a query from **IHO Director Sinapi**, who noted that separating the SPIs from the Goals and Targets was a new approach, the **Chair of the SPRWG** said that, although the SPIs were not strictly aligned with a particular goal, improvements in the SPIs would provide a general indication of progress in achievement of the three goals and associated targets of the revised strategic plan.

United Kingdom stressed that the connectivity platform for the distribution of S-100 based ENDS products referred to in SPI 3 should be fully aligned with the Council's other decisions relating to the IHO Infrastructure Centre and the proposed IHO Maritime Connectivity Platform (MCP) addressed at item 4.4.2.

Replying to a point raised by the **United States**, the **Chair of HSSC** said that, in SPI 4, the deadline of 2031 for the issuing of route planning product specifications under S-126 seemed reasonable as a stand-alone deadline, even though no such deadline had yet been specified for S-126 products in the S-100 roadmap.

HSSC, IRCC Chairs, Germany, Sweden, and IC-ENC thanked the drafting group for their excellent work and endorsed the new draft.

Following discussions in an informal drafting group, the **Chair of the SPRWG** presented on the following day a revised version of SPI 3, which the Council endorsed.

United Kingdom confirmed that the revised version avoided the risk for IHO of an open-ended and burdensome commitment to operational management of the connectivity service.

Decision C9/57: The **Council commended the SPRWG for the work undertaken and its fruitful effort in elaborating an ambitious IHO Strategic Plan for the 2027-2032 period.**

Decision C9/58: The **Council endorsed the draft IHO Strategic Plan 2027-2032 as presented by the SPRWG**, including the front matter, goal structure, goal narratives, targets, and Strategic Performance Indicators, including the latest wording adjustments and the following consolidated SPI 3 definition aligned with Decision C9/42(see item 4.4.2):

“Ensure availability of connectivity service for the distribution of S-100-based Electronic Navigational Data Service (ENDS) products supporting the seamless transition of maritime service providers to S-100 standards.

Target Values:

- 2027: IHO Infrastructure Centre to deliver prototype implementation of connectivity service for operational testing*
- 2029: Full implementation and compliance with IMO strategy*
- 2030 and beyond: Connectivity service (product and service catalogues) managed and supported by IHO Infrastructure Centre.”*

The **Council to submit** the endorsed Strategic Plan to A-4 for approval. (deadline: 15 December 2025).

6.5 Proposed IHO Work Programme Revision for 2027-2032

Doc : C9-06.5A

The **Council Chair** recalled that consideration of the proposal to review the HSSC and IRCC Work Realignment which had been submitted under item 4.1.1. as Document C9-04.1B, had been deferred; she requested that it be presented by the Committee Chairs.

The **HSSC Chair**, supported by the **IRCC Chair**, presented Document C09 04.1B, recalling that HSSC and IRCC had been active in the Strategic Plan Review Working Group (SPRWG) which had been established to provide inputs to the Strategic Plan 2027–2032. In order to efficiently achieve future Strategic Plan goals, the two Committees proposed to establish a Project Team to investigate a possible realignment of their work structures. Pending production of a Work Plan for approval by Member States, the Project Team could provide a status report to C-10.

The **Council Chair** said that it seemed timely to look at the split of work between the two Committees

since new items have been assigned over time. It was not clear whether the Project Team should be established in 2025 or whether approval for its establishment should be sought at A-4.

The HSSC Chair, supported by the **IRCC Chair**, said that it would be preferable to commence the work of the Project Team as soon as possible. The **IRCC Chair** requested that informal approval be given to the Project Team to begin its work with endorsement being sought at A-4. In the alternative, there would be a delay of one year while awaiting for the new Council to task the Committees to form the Project Team. The Committee Chairs undertook to refine the ToRs of the Project Team and to propose how it would handle the appointment or election of new Committee members.

IHO Director Sinapi suggested that the process of establishing working groups such as SPRWG be replicated in the present case, with a call for composition, including from the regions, being sent out over a period of 45 days and allowing Member States time to express whether they wished to join the Project Team. The ToRs could be revised by the two Committee chairs. The Secretariat was available to issue a Circular Letter when necessary.

The **IRCC Chair** noted that the IRCC was composed of subordinate body chairs and regional hydrographic commission chairs and he would be keen to retain representatives of the hydrographic commissions rather than Member States. The **HSSC Chair** said that both he and the IRCC Chair had in mind some candidates for the Project Team.

The **Secretary-General** said that a Circular Letter might include the names of those candidates who had indicated their willingness to have their names put forward as members of the Project Team.

Decision C9/59: The Council agreed to the proposal from HSSC and IRCC Chairs and the IHO Secretariat to establish a joint Project Team to investigate potential restructuring between Sub-Committees and better Work Plan alignment between their respective Bodies under the revised IHO Strategic Plan 2027-2032.

The IHO Secretariat to issue a CL to this effect with the associated updated version of the Terms of References.

The Council to report to A-4 on that established Project Team, proposing that custodianship of that joint PT will be handed over to SG until new Council is established. (deadline: 15 December 2025).

The joint Project Team to consider the following tasks and **to report** status to the new Council: (deadline: 15 July 2026).

- Working Group alignment,
- Possible creation or retirement of Working Groups, including office bearers election.
- Potential impacts on the IHO Basic Documents and Structure (IHO Secretariat),
- Timeline for implementation.
- Opportunities to align both Committees Work Plans with the revised Strategic Plan and IHO Work Programme for 2027-2032.

6.6 Proposal for ANCHOR - Antarctic Climate and Hydrographic Operation Response (HCA).

Doc : C9-06.6A

The **Secretary-General**, presenting Document C9-06.6A, said that the Hydrographic Commission on Antarctica (ANCHOR) had initially proposed, in light of the increased risks posed by sea level rise and the melting of sea, land and shelf ice around Antarctica, to add a dedicated Annex to the revised IHO Strategic Plan 2027–2032. However, given the views of Australia, New Zealand and United States of America, as set out in the Red Book, it was proposed to refer the matter to HCA at its next meeting in December 2025.

Decision C9/60: The Council agreed not to consider the ANCHOR Proposal for inclusion in the revised IHO Strategic Plan 2027-2032.

Instead, the **IHO Secretary-General** in its capacity of **HCA Chair was tasked to submit** that proposal to the HCA Members for consideration. (deadline: HCA20).

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

7.1 Proposed theme for World Hydrography Day 2026

Doc : C9-07.1A

The **Secretary-General**, noting that 2026 would be the first year of regular uptake of S-100 compliant data services in navigation, suggested that World Hydrography Day would provide an excellent opportunity to increase public awareness of S-100. He suggested the theme “*Transforming how ocean data is shared*”.

Decision C9/49: The Council noted the proposed theme for the 2026 World Hydrography Day by the Secretary-General, which is “*Transforming how ocean data is shared*”.

IHO Secretariat to circulate the theme for 2026 to the IHO Member States by Circular Letter. (deadline: 30 October 2025)

7.2 Proposed MoU between IHO and ProtectedSeas

Doc: C9-07.2A

The **Secretary-General** said that the IHO Secretariat had taken steps to establish a formal liaison with the non-profit organization *ProtectedSeas*, recognizing it as a relevant collector and provider of key data for Marine Protected Areas (MPAs) to support the S-122 MPA global dataset for international waters. S-122 Product Specifications had been consolidated to a level where the continued, up-to-date provision of an S-122 global dataset for International Waters was a viable option. The data holdings of *ProtectedSeas* could also assist the national production of S-122 datasets. As already indicated by Australia, it was understood that some Member States would not be in a position to accept *ProtectedSeas* as the relevant data provider for MPAs in their waters. However, there was an increased need for cartography in international waters following the entry into force of the High Seas Treaty or BBNJ Agreement that would lead to the creation of MPAs in international waters. Following the entry into force of BBNJ, there would be a legally binding obligation for the Parties to establish marine protected areas. A Conference of the Parties would agree on a way forward, that could include seabed mapping or utilization of standards such as S-122. There could be a role for IHO and GEBCO to provide formal advice on procedures for seabed mapping and mandatory deposition of datasets.

Australia explained that Government authorities in Australia would determine the data in Australian waters and they intended to produce their own S-122. In response to a comment from the **Council Chair** that the MoU did not mention that *ProtectedSeas* would be the custodian of any data, **Australia** responded that it had difficulty in understanding the function of the MoU.

IHO Director Nyberg explained that *ProtectedSeas* had already invested time and effort in developing IHO standards; it had been a very active participant in advancing S-122 and that Standard was on the verge of becoming an operational specification in large part because of the contribution of *ProtectedSeas*. The non-profit’s datasets had provided an excellent opportunity to see how the standard worked before it was fully operational. The MoU would therefore support technical aspects of IHO’s work. *ProtectedSeas* was a valuable partner and it had invested a lot of time and money in attending technical meetings with IHO.

IHO Director Sinapi, reporting on the outcome of 12th IHO-AIG Advisory Board on the law of the sea (ABLOS), said that the attention of the legal community and the international community had focused on IHO’s development of a new standard, especially for products like MPAs, and their relevance for demarcation of limits and boundaries. From the entry into force of the BBNJ in January 2026, those products would help to monitor the development of marine protected areas.

United Kingdom asked whether it was the intention that the MPAs referred to would only be in international waters or whether it was the intention also to cover those in national waters. If a ship transiting through an area believed that it was complying with the regulations present on a chart but found subsequently that the regulations were different, where would the liability for that representation lie? If two nations contested a piece of water and both put an MPA in the area, which one would be represented on the chart?

The Secretary-General said that the mandate in the present case would cover international waters. It was not clear who would take responsibility for the provision and maintenance of a dataset in international waters: responsibility could be delegated to a future MPA United Nations Secretariat or to IHO. On the question of responsibility in national waters, the situation was more delicate and overlapping was unfortunately not a new phenomenon. The situation was new, and not all answers were available, although some would be facilitated by technology in the years to come.

Canada said that, in the absence of a globally agreed definition of MPAs, she was curious as to how the MoU would work: it had been drafted at a high level and did not appear to be overly binding. Domestically, Canada had three different types of marine protected areas and it would definitely wish to maintain authority over its national areas. The comment by the IHO Directors on the importance of recognizing the involvement of *ProtectedSeas* in establishing the standard was understood, but it was not clear what the next step or end result of the MoU might be.

France supported the remarks made by Australia, Canada and United Kingdom. France accepted the S-122 product specification, stating that the corresponding S-122 product and dataset in waters within its jurisdiction must be managed by France.

Assistant Director Baek said that the concept of the current S-122 product specification was to support safe navigation at sea but, as identified by the UN, it could also support datasets for MPA management.

Sweden said that, in discussing the use of S-122 in navigation systems in national waters, reference should be made to the WEND-100 principles which could also cover the use of S-122 and, possibly, datasets that were outside national jurisdictions.

United States said that *ProtectedSeas* was a valued partner: it had the capability to gather and update data quickly and to provide it to customers quickly, although its business models might not always reflect the most accurate data. United States supported the MoU since the data would not be authoritative, allowing each Member State to produce their own S-122. The MoU sought to provide a global view of MPAs and demonstrated the principle of MSDI.

IHO Director Nyberg said that when IHO developed standards, it was important that they should be widely used, as they had been by *ProtectedSeas*. There were probably different definitions of an MPA; IUCN was an organization that collected a lot of information on marine protected areas and they had also been invited to participate in the development of the standard. *ProtectedSeas* was a very important development partner that had already implemented S-122 for its data.

Thailand underlined that S-122 was important for mariners: it provided information about what they could or could not do under MARPOL regulations.

The Council Chair said that she believed Council members could endorse the MoU, with approval being sought from A-4.

Singapore suggested that the MoU be limited to the technical development of S-122. There might be difficulty in gaining approval in relation to the population of S-122, even if it related only to international waters since there might be waters where some Member States believed the jurisdiction was national and others believed it was international.

Following discussions in an informal drafting group, the Secretary-General presented a revised version emphasizing that the Memorandum of Understanding would apply to technical cooperation only, which the Council endorsed.

Decision C9/61: The Council endorsed the proposed MoU between IHO and *ProtectedSeas* including the modifications agreed during C-9.

The Council to submit the proposed MoU to A-4 for approval and subsequently official signature by the Parties.

Decision C9/62: The Council noted the potential role for IHO in the implementation of the High Seas Treaty and encouraged the IHO Secretariat to monitor and engage in this process, reporting back to relevant IHO bodies for endorsement as required.

7.3 4th IHO Assembly Preparation

Doc: C9-07.3A

IHO Director Sinapi highlighted the countdown to A-4, which would be held at the Auditorium Rainier III, Monaco, from 19 to 23 April 2026. Registration of delegations and the meeting of the Finance Committee and other preliminary meetings, including for heads of delegations, would take place on 19 April at the IHO Secretariat. The opening of the first plenary session of the Assembly would take place on 20 April 2026. Reports and other documents would be circulated to Member States two months ahead of the meeting. The deadline for submission of proposals to the Secretariat by Member States, the Council and the Secretary-General, was 15 December 2025. Any comments to proposals must be submitted by 19 January 2026. A provisional agenda (ACLO1) had been made available; the revised agenda and the Red Book would be published on 9 February 2026.

Decision C9/63: The Council noted the status reported by the IHO Secretariat on the preparation of A-4.

7.4 IHO Portal – Key Updates and next steps

Doc: C9-07.4A

IHO Assistant Director Baek said that, since 31 March 2025, the IHO Portal had been adopted as the official collaborative platform for all IHO events. A total of 72 IHO events had been hosted through the Portal as of July 2025. The Portal currently hosted 560 registered organizations, including IHO Member States, other States, external liaison, and other stakeholders. All meeting documents had been successfully migrated into the IHO website. IHO webpages had been restructured, focusing on user-centric content. The Legacy website would remain accessible until A-4 and would be decommissioned thereafter.

Key updates to the Portal included: standardized management settings for IHO Committees, working groups and project teams; an enhanced Portal calendar with improved visibility and integration; a streamlined registration process for recognized IHO organizations; and an improved system for monitoring and responding to user feedback. Future plans included integration of IHO P5 data; a Data Protection Scheme Online application; and a Portal Training Programme with provision of training for Chair groups and RHC representatives planned for November and December 2025.

The **Council** was requested to invite RHCs to use the IHO Portal as the main platform for resources, documents, membership management and meeting registration and encourage participation in the tutorial sessions for Chair groups and RHC representatives. The Council was further requested to encourage submission of National information and contact details to the IHO Yearbook (P-5 publication) via the IHO Portal once the process had been formally announced.

Assistant Director Langlois pointed out that the IHO Secretariat manages the content for meetings of the Committees and other IHO bodies. As for the Regional Hydrographic Commissions, independent bodies recognized by IHO, it was therefore expected that each RHC secretariat of each would manage their own section of the Portal with technical support from the IHO Secretariat as required.

Decision C9/64: The Council noted the status reported by the IHO Secretariat on the IHO Portal.

7.5 ENC Overlapping in the Aegean Sea and Eastern Mediterranean

Doc: C9-07.5A

C9-07.5B

Greece presented the information contained in Document C9-01.5A which set out the historical background to the situation of ENC Overlapping in the Aegean Sea and Eastern Mediterranean. In 2004, Greece had released ENCs in an area covering its territorial waters and international waters. The action had adhered to the WEND Principles. In 2015, IC-ENC had released four Band 2 (1:350:000) Turkish ENCs for the Aegean Sea which overlapped the Band 2 Greek ENC. In October 2024, IC-ENC informed Greece about two new Band 2 ENC cells produced by Türkiye which resulted in an overlap that IC-ENC classified as low risk. The overlapping Turkish ENCs violated the Guidelines on the Implementation of the WEND Principles to the extent that they depicted areas under Greek jurisdiction.

Greece had submitted two documents regarding the overlap to WENDWG at its 15th Meeting (WENDWG15), arguing that Türkiye had released two ENC cells through IC-ENC instead of submitting them under the Region F ICCWG for approval. Although these Turkish ENCs were classified as low and medium risk in a maritime area, Greece argued the safety of navigation was indeed jeopardized due to dense maritime traffic in this area.

Greece sought the withdrawal of the four overlapping Turkish ENCs in the Aegean Sea and the two Turkish ENCs in the Eastern Mediterranean. The exclusive use of the relevant ENC cells produced by Greece should apply. Given the impact on the safety of mariners, Greece requested that the procedures set out in IHO Resolution 1/2018 should be applied.

The Council Chair noted that IHO had received a response from Türkiye in which it strongly opposed the resolution of the matter by international mediation and requested that it be held at the regional level and that this had been included in the Council meeting documents as an Information Paper.

Türkiye presented its *“Response to Allegations by Greece”* which were set out in its Circular Letter 10/2025 dated 23 September 2025. The continental shelf area in the Aegean Sea were yet to be delimited. At present, neither country possessed a delimited maritime jurisdiction. The issue should be solved first and foremost bilaterally. There were over 500 cases of overlapping around the world and the Greek paper highlighted one overlapping case as a matter of global importance. It was the IHO role to focus on strategic and global issues and prolonged discussions on a bilateral matter risked diverting valuable time from higher IHO priorities. Türkiye rejected the proposal by Greece.

The Council Chair noted that the request by Greece was to submit the case to IMO in accordance with Resolution 1/2018 whereas Türkiye requested that it be solved regionally or bilaterally. The **Council Chair** sought the views of Council as to whether the relevant RHC, the Mediterranean and Black Seas Hydrographic Commission (MBSHC) should be requested to resolve the matter. There would be a deadline of March 2026 for reporting the case to the IMO Sub-Committee on Navigation, Communications and Search and Rescue (IMO NCSR).

Norway recognized the challenging situations that were often involved in geopolitical decisions. Since the matter had not been resolved for the previous ten years, it would be appropriate to refer it to IMO in accordance with procedures already in place.

The Secretary-General said that Resolution 1/2018 referred to “appropriate action by the IHO Secretariat” but he could not report the matter to the IMO NCSR without a decision by Council. An attempt for further bilateral resolution through MBSHC could be made before the deadline of 17 April 2026 for submission to the IMO NCSR.

Greece said that IHO should support the process set out in its Resolution 1/2018 (article 1.7.2).

Norway, speaking as a member of WENDWG, recalled that the matter had been discussed in the Working Group for some 12 years. WENDWG had referred the matter to MBSHC but there had been no regional solution. Therefore, the process would be to automatically report the matter to IMO. WENDWG had also attempted to find technical solutions but where a case was navigationally critical and it had not been solved bilaterally or within the region, it should be referred to IMO.

Germany, speaking as Chair of WENDWG, would prefer that a regional or bilateral solution should be found. The matter was more complicated than it seemed at first sight, and he questioned whether IHO should choose to highlight the two overlaps to IMO when there were globally some 500 more in existence. It was a technical, manageable issue and he hoped that a solution could be found through MBSHC and WENDWG.

Türkiye said that the matter should be handled directly between the two countries involved and raising it to a higher level only made the situation more complicated and gave the wrong impression that IHO organs did not work. The Council should not become involved. He recalled that a meeting on charting responsibilities in the area had been held in Paris in 2008 under the auspices of the Region F ICCWG coordinator, France, with the participation of IHO, Türkiye and Greece but that the Greek delegation had left the meeting while decisions were being written. It was difficult to justify an assessment of demonstrable risk given that existing charts had been used by vessels in the area for the previous 10

or 15 years with no reported incidents.

Romania, speaking as MBSHC Chair, said that he understood the concerns of both parties but they were not the only issues of overlapping in the Mediterranean and Black Sea area. He offered, as MBSHC Chair, to discuss technical solutions to the problem.

Greece did not wish to bring the matter to the MBSHC at the present time. Either the matter should be referred to IMO or Türkiye should withdraw all of the six overlapping ENCs in question before submitting them to the Region F ICCWG accordingly.

IHO Director Nyberg said that, as a matter of process, the issues could be referred to IMO as a matter of safety rather than asking IMO to solve the issue. He agreed with the Chair of WENDWG that it would be preferable to resolve the matter before it was brought to the attention of IMO.

The Council Chair acknowledged that there were two opposing views from Greece and Türkiye on how to solve the matter, while not being sure that Council would wish to highlight the present cases of overlapping out of 500 in its report to IMO. The Region could assess the risk involved with these overlaps.

IHO Director Sinapi said that the decision before the Council was whether to refer the matter to IMO, with an offer put forward by the MBSHC Chair. If the ultimate attempt by the MBSHC could not resolve the matter, it would be referred to IMO to the following meeting of NCSR in May 2026.

Germany, speaking as **IRCC Chair**, said that there were two ways forward: either to give time for regional and bilateral solutions and then subsequently in April 2026 to forward the matter to IMO, or to ask the MBSHC to engage in a solution and to report back to IRCC, with IRCC reporting back to Council-10. The second solution would allow an extra year of time for the matter to be resolved bilaterally or regionally.

Decision C9/65: The **Council noted** the paper submitted by **Greece** regarding regional overlapping issues and the paper submitted as information by **Türkiye** on the same matter.

Decision C9/66: The **Council recommended** the concerned **Member States to bring** this case to the attention of the **MBSHC** to assist a bilateral solution and **MBSHC Chair to report** back in its regional report to IRCC in accordance with **IHO Resolution 1/2018** with an emphasis on the associated risks of the overlaps.

(deadline: IRCC18 – 7 weeks)

If a solution would not be found to solve this case, the **IRCC to report back to Council** to decide on the need for the **IHO Secretariat** to include this situation in its next periodic report to the **IMO NCSR**. (deadline: 15 July 2025).

7.6 Adoption of Automated Paper Charts from ENC (France)

Doc: C9-07.6A

France presented a project launched by SHOM, the French hydrographic service, initiated in 2024 to produce paper charts from ENCs (referred to as CPENC) in automation by a customized software. This innovation is driven by the declining in paper chart sales, the need to invest more resources in electronic charts with S-100 standards, and reducing the workload to produce paper charts without compromising navigational safety on paper charts. Sample charts were on display throughout the Council session.

The project used a chart builder software, customized for better compatibility by adding more than 7000 lines of codes from the regular chart builder software. The customized process included refinement and adaptation to the paper chart symbols, additional tools for creation of banner on the side, generation of tracing and blocs (for update), and for creation of repomat. A CPENC could be produced in two minutes or less, compared with around 20 days using conventional techniques. First official CPENC by SHOM released in October 2025, and SHOM ready to share its developments and expertise to support interested HOs.

The **HSSC Chair** noted that one of the challenges in producing charts with automation is regarding the placement of texts, therefore to better support future production, the new S-4 edition will regulate

the replacement of texts with symbols.

Replying to a point raised by **Indonesia**, France said that the software could be used with any ENC not necessarily for the ENCs that already converted to paper charts.

Norway asked about updating of the paper charts. Had an updating mechanism had been included, as required under S-4, was printing out an updated version of the paper chart sufficient to ensure compliance with S-4? What will be the cooperation strategy, for Industry presumably it will be better to work with HOs individually for better profits, while for HOs it will be cost effective for working together and make use of other HO's early steps.

France said that the software provided tracings and blocks for maintaining the charts updating, and a simple approach is to reprint paper charts regularly based on an updated ENC data. (Based on Norway's follow up question) This printing process will be managed with the original goal of using the resources more efficiently. SHOM was currently in discussions with the software manufacturer, to have the feedback from them regarding the value generated from investments made in the project.

Replying to a point raised by **Brazil**, **France** said that a paper chart could be generated from a subset of data from any S-57 database, or from a combination of data derived from more than one ENC.

United States said that they are working on graphical corrections for maintaining CPENCs in the process of moving away from textual notice to mariners, and they are willing to share the developments with the other HO's.

The **Secretary-General** encouraged countries to contribute copies of their ENCs to the IHO chart repository for reference collections and internal use, as had been implemented with paper charts, based on the principles of the S-11 which is guidance for the preparation and maintenance of INT Chart and ENC.

Decision C9/67: The Council noted the paper submitted by France.

Decision C9/68: The Council, in application to IHO Publication S-11 (article 3.14.1.d.), and having noted the evolution of hydrographic offices policies regarding paper chart printing, **encouraged all concerned Member States** to facilitate the access of digital chart materials to the IHO Secretariat for its internal use and at no additional cost.

7.7 Renewal of MoU between IHO and IALA.

Doc: C9-07.7A

The **Secretary-General** said that IALA had changed its name and constitution to become an intergovernmental organization. The IALA and IHO Secretariats had worked jointly on a renewal of the existing agreement which also reflected, retrospectively, the entry into force of the new IHO Convention in 2017. The renewed MoU had been approved by the General Assembly of IALA in March 2025. Council was invited to endorse the renewed MoU. To facilitate a signature of the renewed MoU during the A-4 opening ceremony by the Parties, the IHO Secretariat was tasked to initiate a call for approval via circular letter instead of the expected A-4 submission.

Decision C9/69: The Council endorsed the proposed renewed version of the MoU between IHO and IALA and tasked the IHO Secretariat to issue a Circular Letter calling for its approval by the Member States. Once approved, the IHO Secretariat to arrange its official signature by the Parties. (deadline: 30 October 2025).

8. NEXT MEETING

8.1 Dates and venue for the 10th meeting of the IHO Council.

The **Secretary-General** proposed that the 10th meeting of the Council should take place in person in Monaco on 13–15 October 2026, with attendance also possible via a passive livestream.

Decision C9/70: The Council agreed to hold C-10 in Monaco, at the IHO Secretariat, from 13 to 15 Oct. 2026 (full in-person meeting, with passive live streaming).

9. ANY OTHER BUSINESS

Romania said that an announcement relating to the Caspian Sea was expected at the next meeting of the Mediterranean and Black Seas Hydrographic Commission (MBSHC). The Commission was eager to recruit new members. They hoped that the Council would also issue a statement about the Caspian region in due course. They invited members of the council and the secretariat including the council of IALA to attend a conference to mark the 100th anniversary of the establishment of the Romanian Hydrographic Directorate, scheduled for 26 and 27 February 2026 an official invitation will follow. They hope after the upcoming Conference in Romania IHO and IALA could agree on a common sea trial area.

France noted that a change in the terms of reference of the MBSHC would be required if it wished to admit new members from outside the region.

Chile reminded Council members that the 20th conference of the IHO Hydrographic Commission on Antarctica (HCA20) would take place in Punta Arenas, Chile, from 2 to 6 December 2025.

India reported that, over the last three years, his country had begun to recruit and train female naval personnel and hydrographers for the first time with a commendable performance.

Nigeria (Observer) reported that, with the valuable training support of the IHO Capacity-Building Sub-Committee, his country had successfully established its National Hydrographic Agency in the last 2 years. Nigeria had also participated in the Women in Hydrography programme and had benefited from training provided by friendly nations.

10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

Assistant Director Langlois went through the identified actions, providing brief comments and explanations for actions and decisions where necessary (see Annex C). He explained the timetable for production of the draft summary report and feedback from participants.

With reference to Decision C9/06, he requested members to ensure that national hydrographers were registered as members of the Council in the list on the IHO Portal.

With reference to Decision C9/26, IHO Director Nyberg suggested that the sentence “The council invites IRCC to finally approve this merger” [of MSDIWG and UN-GGIM MWG] should be deleted, since IRCC had, in fact, approved the merger at its 17th session.

With reference to Decision C9/29, the Council added a statement of its appreciation for the work of the Fund Generation Project Team.

Decision C9/36 was amended because the Secretariat had already checked the IHO basic documents for any possible conflict arising from the establishment of the IHO Infrastructure Centre.

In Decision C9/41, the tentative work plan for the IHO Infrastructure Centre should run from 2026 (not 2027) to 2029.

In Decision C9/47 the phrase “consolidating effect” [on the Secretariat’s operations] should be replaced by “the resulting impact”.

With reference to Decision C9/66 on ENC overlapping in the Aegean Sea and Eastern Mediterranean, **Türkiye** said that the issue had implications beyond the regional level. Overlaps were a challenge for the entire hydrographic community: the important issue was to ensure that IHO managed such cases in a consistent, fair and transparent way. IRCC should report all unresolved overlap cases to the Council rather than a regional commission.

11. CLOSURE OF THE MEETING

The Chair thanked all participants and commended the constructive spirit and mutual respect that had prevailed throughout the session. She thanked the IHO Secretariat for its guidance and support. She and her Vice-Chair would continue in their posts until their successors were elected at A-4.

The Secretary-General commended the detailed knowledge, clarity of thought and skill in brokering a compromise that the Chair had displayed throughout her term of office. Amid sustained applause, he

presented her with a small gift on behalf of the Council.

Assistant Director Langlois thanked all the IHO staff for their hard work and their contribution to the smooth running of the session.

The Chair declared the session closed.

Annex A

LIST OF PARTICIPANTS

9th IHO Council Meeting

Registration List

Last Update: 16 Oct 2025

#		Country	Org/Cie	Name	Method	Status
1		Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Robyn PHILLIPS	IN_PERSON	Guest [N]
2		Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Michael ANDREW	VIRTUAL	Guest [N]
3		Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Rebecca CUSACK	VIRTUAL	Guest [N]
4		Australia	AUSTRALIAN HYDROGRAPHIC OFFICE	Hilary THOMPSON	VIRTUAL	Member
5		Bangladesh	DIRECTORATE OF HYDROGRAPHY	Chief hydrographer B...	IN_PERSON	Guest [N]
6		Belgium	MCD-COASTAL DIVISION - Flemish Hydrography	Dorien MESTROM	VIRTUAL	Guest [N]
7		Belgium	MCD-COASTAL DIVISION - Flemish Hydrography	Caroline LOOTENS	IN_PERSON	Guest [N]
8		Belgium	MCD-COASTAL DIVISION - Flemish Hydrography	Nathalie BALCAEN	VIRTUAL	Guest [N]
9		Brazil	Diretoria de Hidrografia e Navegação	Daniel PEIXOTO DE C...	IN_PERSON	Guest [N]
10		Brazil	Diretoria de Hidrografia e Navegação	Almir LODI	IN_PERSON	Guest [N]
11		Brazil	Diretoria de Hidrografia e Navegação	Cesar reinert BULHÔ...	IN_PERSON	Member
12		Brazil	Diretoria de Hidrografia e Navegação	Marco antonio LINHA...	IN_PERSON	Member
13		Canada	CANADIAN HYDROGRAPHIC SERVICE	Manon LAROCQUE	IN_PERSON	Member
14		Canada	CANADIAN HYDROGRAPHIC SERVICE	Sonja BHATIA	IN_PERSON	Member
15		Chile	SERVICIO HIDROGRAFICO Y OCEANOGRAFICO DE...	Harald URBINA	IN_PERSON	Guest [N]
16		Chile	SERVICIO HIDROGRAFICO Y OCEANOGRAFICO DE...	Carlos ZÚRIGA	IN_PERSON	Guest [N]
17		China	MARITIME SAFETY ADMINISTRATION	Yiran XU	VIRTUAL	Guest [N]
18		China	MARITIME SAFETY ADMINISTRATION	Bing SUN	IN_PERSON	Member
19		Croatia	HRVATSKI HIDROGRAFSKI INSTITUT	Vinka KOLIĆ BUBIĆ	VIRTUAL	Guest [N]
20		Cyprus	HEADQUARTERS OF DEPARTMENT OF LANDS AN...	Georgios KOKOSIS	IN_PERSON	Guest [N]
21		Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSE...	Hendrik Justus STANG	VIRTUAL	Member
22		Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSE...	Sophie HOHWÜ-CHRI...	IN_PERSON	Member
23		Denmark	DANISH GEODATA AGENCY - GEODATASTYRELSE...	Pia dahl HØJGAARD	IN_PERSON	Member
24		Ecuador	INSTITUTO OCEANOGRAFICO DE LA ARMADA	Nilton jair SANCHEZ ...	IN_PERSON	Absence
25		Egypt	EGYPTIAN NAVY HYDROGRAPHIC DEPARTMENT (...)	Karam EL BELTAGY	IN_PERSON	Guest [N]
26		Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Jervis ROBINSON	IN_PERSON	Member
27		Fiji	REPUBLIC OF FIJI NAVY HYDROGRAPHIC OFFICE	Timoci NATUVA	IN_PERSON	Member
28		Finland	FINNISH TRANSPORT AND COMMUNICATIONS AG...	Rainer MUSTANIEMI	IN_PERSON	Guest [N]
29		France	SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHI...	Laurent KERLEGUER	IN_PERSON	Guest [N]
30		France	SERVICE HYDROGRAPHIQUE ET OCEANOGRAPHI...	Gabin SOGORB	IN_PERSON	Guest [N]
31		Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDR...	Thomas DEHLING	IN_PERSON	Member
32		Germany	BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDR...	Jens SCHRÖDER-FO...	IN_PERSON	Member
33		Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Vasileios PETROPOU...	IN_PERSON	Guest [N]
34		Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Ioannis ASTERIOU	IN_PERSON	Guest [N]
35		Greece	HELLENIC NAVY HYDROGRAPHIC SERVICE	Andreas MICHOPOLU...	IN_PERSON	Guest [N]
36		India	NATIONAL HYDROGRAPHIC OFFICE (India)	Arjun MALIK	IN_PERSON	Member
37		India	NATIONAL HYDROGRAPHIC OFFICE (India)	Lochan singh PATHA...	IN_PERSON	Member
38		Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, I...	Albert mahendro YU...	IN_PERSON	Guest [N]
39		Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, I...	Bambang IRAWAN	IN_PERSON	Guest [N]
40		Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE, I...	Oke dwiyana PRIBADI	IN_PERSON	Guest [N]

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#	Country	Org/Cie	Name	Method	Status
41	Indonesia	HYDROGRAPHY AND OCEANOGRAPHY CENTRE,I...	Dwi JANTARTO	IN_PERSON	Guest [N]
42	 Italy	ISTITUTO IDROGRAFICO DELLA MARINA	Fabrizio ORENGO	IN_PERSON	Member
43	Italy	ISTITUTO IDROGRAFICO DELLA MARINA	Erik BISCOTTI	IN_PERSON	Member
44	 Jamaica	SURVEYS AND MAPPING DIVISION	Diego BILLINGS	IN_PERSON	Guest [N]
45	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPART...	Akihiro SETA	IN_PERSON	Member
46	Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPART...	Yuto NAKAMURA	IN_PERSON	Member
47	 Japan	HYDROGRAPHIC AND OCEANOGRAPHIC DEPART...	Hideki KINOSHITA	IN_PERSON	Member
48	Japan	Japan Hydrographic Association	Masayuki FUJITA	IN_PERSON	Guest [N]
49	Malaysia	NATIONAL HYDROGRAPHIC CENTRE (Malaysia)	Muhamad khairul BIN...	IN_PERSON	Member
50	Malaysia	NATIONAL HYDROGRAPHIC CENTRE (Malaysia)	Mohd firdaus MOHD T...	IN_PERSON	Member
51	 Malaysia	NATIONAL SECURITY COUNCIL	Najhan MD SAID	IN_PERSON	Member
52	Malta	TRANSPORT MALTA,PORTS AND YACHTING DIRE...	Godwin BORG	IN_PERSON	Member
53	 Malta	TRANSPORT MALTA,PORTS AND YACHTING DIRE...	Capt.fritz FARRUGIA	IN_PERSON	Member
54	Netherlands	Hydrographic Service - Royal Netherlands Navy	Leendert DORST	IN_PERSON	Guest [N]
55	 Netherlands	Hydrographic Service - Royal Netherlands Navy	Toine BARTEN	IN_PERSON	Guest [N]
56	New Zealand	LAND INFORMATION NEW ZEALAND (LINZ)	Adam GREENLAND	IN_PERSON	Guest [N]
57	 Nigeria	NATIONAL HYDROGRAPHIC AGENCY	Rear admiral AYO OL...	IN_PERSON	Guest [N]
58	Norway	Norwegian Mapping Authority / Hydrographic Se...	Evert FLIER	IN_PERSON	Guest [N]
59	 Norway	Norwegian Mapping Authority / Hydrographic Se...	Birte BORREVIK	IN_PERSON	Guest [N]
60	Peru	DIRECCION DE HIDROGRAFIA Y NAVEGACION	Jaime VALDEZ	VIRTUAL	Guest [N]
61	Peru	DIRECCION DE HIDROGRAFIA Y NAVEGACION	Pop IHO SEC	IN_PERSON	Guest [N]
62	Portugal	INSTITUTO HIDROGRAFICO	Paula SANCHES	IN_PERSON	Guest [N]
63	Portugal	INSTITUTO HIDROGRAFICO	João MARREIROS	IN_PERSON	Guest [N]
64	Republic of Korea	Ministry of Foreign Affairs of the Republic of Korea	Tae soo KIM	VIRTUAL	Guest [N]
65	Republic of Korea	Korea Hydrographic and Oceanographic Agency	Martin PARK	IN_PERSON	Guest [N]
66	Republic of Korea	Korea Hydrographic and Oceanographic Agency	Eunju PARK	IN_PERSON	Guest [N]
67	 Republic of Korea	Korea Hydrographic and Oceanographic Agency	Kyu sam JUNG	IN_PERSON	Member
68	Republic of Korea	Korea Hydrographic and Oceanographic Agency	Minju LEE	IN_PERSON	Guest [N]
69	Romania	DIRECTIA HIDROGRAFICA MARITIMA	Lucian GRIGORESCU	IN_PERSON	Guest [N]
70	Singapore	Maritime and Port Authority of Singapore	Dillian TEO	IN_PERSON	Member
71	 Singapore	Maritime and Port Authority of Singapore	Ying-huang THAI LOW	IN_PERSON	Member
72	 South Africa	HYDROGRAPHIC OFFICE	Nicolette LE ROUX	IN_PERSON	Member
73	 Sweden	SJOFARTSVERKET SWEDISH MARITIME ADMINIS...	Magnus WALLHAGEN	IN_PERSON	Member
74	Sweden	SJOFARTSVERKET SWEDISH MARITIME ADMINIS...	Erik EKLUND	IN_PERSON	Guest [N]
75	 Thailand	HYDROGRAPHIC DEPARTMENT	Yordluk SILAPADURI...	IN_PERSON	Guest [N]
76	Thailand	HYDROGRAPHIC DEPARTMENT	Intira NETMUKDA	IN_PERSON	Guest [N]
77	Thailand	HYDROGRAPHIC DEPARTMENT	Chatchai LUANGTHO...	IN_PERSON	Guest [N]
78	The Bahamas	BAHAMAS PORT AUTHORITY	Duane MILLER	IN_PERSON	Guest [N]
79	Türkiye	SEYİR HIDROGRAFI VE OSINOGRAFI DAİRESİ BAS...	Süleyman GÜRBÜZ	IN_PERSON	Member
80	Türkiye	SEYİR HIDROGRAFI VE OSINOGRAFI DAİRESİ BAS...	Tuba CINAR PEHLIVAN	VIRTUAL	Guest [N]
81	 Türkiye	SEYİR HIDROGRAFI VE OSINOGRAFI DAİRESİ BAS...	Burak INAN	IN_PERSON	Guest [N]
82	 United Kingdom	UNITED KINGDOM HYDROGRAPHIC OFFICE	Angus ESSENHIGH	IN_PERSON	Member
83	United Kingdom	UNITED KINGDOM HYDROGRAPHIC OFFICE	Colin SEDDON	IN_PERSON	Guest [N]

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#	Country	Org/Cie	Name	Method	Status
84	United Kingdom	UNITED KINGDOM HYDROGRAPHIC OFFICE	Helena PATTON	VIRTUAL	Guest [N]
85	United Kingdom	UNITED KINGDOM HYDROGRAPHIC OFFICE	Tom RICHARDSON	VIRTUAL	Member
86	 United States	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY	Keith DOMINIC	IN_PERSON	Member
87	United States	National Oceanic and Atmospheric Administration	Benjamin EVANS	IN_PERSON	Guest [N]
88	United States	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY	Leeanne GORDON	VIRTUAL	Guest [N]
89	United States	NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY	Kevin DICKENS	VIRTUAL	Guest [N]
90	United States	National Oceanic and Atmospheric Administration	Christiaan VAN WEST...	IN_PERSON	Member
91	United States	Office of Coast Survey / National Ocean Service, (...)	Julia POWELL	VIRTUAL	Member
92	Venezuela (Bolivarian Republic of)	SERVICIO DE HIDROGRAFIA,OCEANOGRAFIA	Rafael CONTRERAS B...	IN_PERSON	Guest [N]
93	 Venezuela (Bolivarian Republic of)	SERVICIO DE HIDROGRAFIA,OCEANOGRAFIA	Jose GONZALEZ	VIRTUAL	Guest [N]
94	 Venezuela (Bolivarian Republic of)	SERVICIO DE HIDROGRAFIA,OCEANOGRAFIA	Carlos TACOA	VIRTUAL	Guest [N]
95	Venezuela (Bolivarian Republic of)	SERVICIO DE HIDROGRAFIA,OCEANOGRAFIA	Daniel ROJAS	IN_PERSON	Guest [N]
96	Uganda	COMMISSIONER FOR TRANSPORT REGULATION	Simon KWESIGA	IN_PERSON	Guest [N]
97	 RENCs	International Centre for Electronic Navigation (...)	James HARPER	VIRTUAL	Guest [N]
98	RENCs	PRIMAR	Hans christoffer LAU...	IN_PERSON	Guest [N]
99	IHO Secretariat	International Hydrographic Organization123	Eric LANGLOIS	IN_PERSON	IHO Sec - Manager
100	IHO Secretariat	International Hydrographic Organization	Sarah JONES COUTU...	VIRTUAL	Guest [N]
101	IHO Secretariat	International Hydrographic Organization	Isabelle ROSSI	VIRTUAL	Guest [N]
102	IHO Secretariat	International Hydrographic Organization	Caroline FONTANILI	IN_PERSON	IHO Sec - Manager
103	IHO Secretariat	International Hydrographic Organization	Michele ABDOU	IN_PERSON	Guest [N]
104	IHO Secretariat	International Hydrographic Organization	Luigi SINAPI	IN_PERSON	IHO Sec
105	IHO Secretariat	International Hydrographic Organization	Leonel MANTEIGAS	VIRTUAL	IHO Sec
106	IHO Secretariat	International Hydrographic Organization	John NYBERG	IN_PERSON	IHO Sec
107	IHO Secretariat	International Hydrographic Organization	Luz verónica DELVAS...	IN_PERSON	IHO Sec
108	IHO Secretariat	International Hydrographic Organization123	Remy ROQUEFORT	IN_PERSON	IHO Sec - Manager
109	IHO Secretariat	International Hydrographic Organization	Yong BAEK	VIRTUAL	IHO Sec
110	IHO Secretariat	International Hydrographic Organization	Mathias JONAS	IN_PERSON	Chair

9th MEETING OF THE IHO COUNCIL
IHO Secretariat, Monaco, 14 – 16 October 2025
FINAL AGENDA

- References:**
- A. IHO Council Rules of Procedure (Rule 8) – *Provisional agenda of meetings*.
 - B. IHO Resolution 12/2002 as amended – *Planning Cycle*.

1. OPENING

- 1.1. Secretary-General Opening Remarks.
- 1.2. Adoption of the Agenda and Timetable
- 1.3. *Left blank intentionally.*
- 1.4. Chair's Opening Remarks.
- 1.5. Administrative Arrangements.

2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY

Reference: Cumulative List of A-3 Decisions affecting the Council (Decisions A3/05, A3/08 (a) to (e), A3/13, A3/14, A3/15, A3/20 (c), A3/21, A3/28 (c)).

- 2.1. Status Report on the Implementation of the List of Assembly Decisions affecting the Council.
 - 2.1.1. Approval of IHO Resolution - *Maximizing Active Participation in IHO Events*

3. ITEMS REQUESTED BY THE IHO COUNCIL

- 3.1. Review of the Status of Decisions and Actions from C-8.

4. ITEMS REQUESTED BY SUBSIDIARY ORGANS

- 4.1. Report and proposals from HSSC.
 - 4.1.1. Proposal to review the HSSC WGs/PTs structure (HSSC/IRCC).
- 4.2. Report and proposals from IRCC.
 - 4.2.1. Outcomes of the IHO Fund Generation Project Team (IRCC/FGPT).
 - 4.2.2. Outcomes of the Workforce of the Future Project Team (IRCC/WFPT).
 - 4.2.3. Proposal to change terminology from "Capacity Building" to "Capacity Development" (IRCC).
- 4.3. Update on the S-100 Roadmap (HSSC).
- 4.4. Update on the establishment of the IHO Infrastructure Centre.
 - 4.4.1. Establishment of IHO Infrastructure Centre (IHO Sec).
 - 4.4.2. Operational Framework of the IHO Infrastructure Centre (HSSC).
 - 4.4.3. Management of the S-100 Security Scheme (Australia/Germany).

- 4.5. Update on the development of S-130 (IHO Sec/HSSC).
- 4.6. Report on the Joint IHO-Singapore Innovation and Technology Laboratory (IHO Sec).

5. ANNUAL WORK PROGRAMME AND BUDGET

- 5.1. Review of the Current Financial Status of the IHO (IHO Sec).
- 5.2. Proposed IHO Work Programme for 2026 (inc. update on Programme 1) (IHO Sec).
- 5.3. Proposed IHO Budget for 2026 (IHO Sec).
- 5.4. Proposed Budget & Work Programme for 2027-2029 (IHO Sec).
- 5.5. Activities to acquire new IHO Member States (IHO Sec).

6. IHO STRATEGIC PLAN

- 6.1. Implementation of the IHO Work programme and other affected IHO instruments resulting from the Strategic Plan 2021-2026 and Decisions A3/08 (a) to (d) (IHO Sec).
- 6.2. Outcomes from 3rd UN Ocean Conference (UNOC3), contributions to the UN Ocean Decade, and next steps (IHO Sec).
- 6.3. GEBCO developments (IHO Sec).
- 6.4. Proposed IHO Strategic Plan for 2027-2032 (SPRWG).
- 6.5. Proposed IHO Work Programme Revision for 2027-2032 (IHO Sec).
- 6.6. Proposal for ANCHOR - Antarctic Climate and Hydrographic Operation Response (HCA).

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL

- 7.1. Proposed theme of the World Hydrography Day 2026 (IHO Sec).
- 7.2. Proposed MoU between IHO and Protected Seas (IHO Sec).
- 7.3. 4th IHO Assembly Preparation (Action C8/75 refers).
- 7.4. IHO Portal – Key Updates and next steps (IHO Sec).
- 7.5. ENC Overlapping in the Aegean Sea and Eastern Mediterranean (Greece).
- 7.6. Adoption of Automated Paper Charts from ENC (France)
- 7.7. Renewal of MoU between IHO and IALA (IHO Sec).

8. NEXT MEETING

- 8.1. Dates and venue for the 10th IHO Council meeting (IHO Sec).

9. ANY OTHER BUSINESS

10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

11. CLOSURE OF THE MEETING

- 11.1. Ex Abyssis ad Alta Award ceremony (IHO Sec)

Annex C

LIST OF **DECISIONS** and ACTIONS FROM C-9

(Version 1.0 – 22 October 2025)

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (as of 22 Oct 2025)
1. OPENING					
1.1 Secretary-General Opening remarks and introduction					
1.1	Opening	C9/01	The Council welcomed the opening address from the Secretary-General, recalling the role of the IHO Council (IHO convention article 6 refers), particularly: - C9 agenda covers the tasks given to the Council in accordance with the Articles of the IHO Convention that were reminded, - C9 is the third inter-Assembly & Last council meeting before A-4. 27 out of 30 Council Members are present in person – quorum reached Special welcome to 13 Member States participating as Observers, 12 of them attending in person. Special welcome both RENCS representatives i.e. IC-ENC and PRIMAR.		Decision

1.4 Chair's Opening Remarks					
1.4	Opening	C9/02	Council Members welcomed the opening address by Council Chair who gave a warm welcome to all participants from Member States as well as from both RENCs, and thanks the IHO Secretariat for its support in the preparation of this meeting. Council Chair reminded that the tasks entrusted in Council by the 3rd Assembly are reflected in this meeting's agenda, i.e. the establishment of the IHO Infrastructure Centre, the IHO Strategic Plan for the forthcoming 6-years period and the S-100 implementation plan. Council Chair enforced the need for forward looking decisions to advance hydrography and safe navigation in a time of ongoing and accelerating digital transformation. Council Chair concluded by recalling the Council's task to bring all C-7 to C-9 outcomes to the next session of the IHO Assembly (A-4).		Decision
1.2 Adoption of the agenda and timetable					
1.2	Agenda	C9/03	The Council adopted the agenda and the timetable as proposed by the Secretariat and notes the availability of the C-9 Red Book including comments from IHO Members States and the IHO Secretariat .		Decision
1.5 Administrative Arrangements					
1.5	Appointment of Rapporteurs	C9/04	The Council appointed the following delegates as Rapporteurs for C-9: - Mr Colin SEDDON (GB) - Mr Gabin SOGORB (FR) - Ms Sonja BHATIA (CA) - Mr Cesar REINERT Bulhões de Morais (BR) - Mr Albert Mahendro YUDONO (ID)		Decision
1.5	Contact List	C9/05	IHO Member States having a seat at the Council to check their contact details on the IHO Portal (refer to C-02B in the 'document' tab).	Permanent	
1.5	Membership	C9/06	The IHO Council Members to make sure they are listed as Members on the IHO Portal Council Page .	Permanent	

2. ITEMS REQUESTED BY THE 3rd IHO ASSEMBLY					
2.1 Status Report on the Implementation of the List of Assembly Decisions affecting the Council.					
2.1	Assembly Decisions	C9/07	Based on the presentation by the Secretary-General, the Council noted the progress made on the implementation of decisions and actions from A-2 and A-3 placed on the Council and the agenda items under which these topics have be addressed during C-9 for further discussions.		Decision
2.1.1	New IHO Resolution - Maximizing Active Participation in IHO Events	C9/08	The Council noted the approval of the new IHO Resolution Maximizing Active Participation in IHO Events via CL20/2025 and CL28/2025. The Council tasked the IHO Secretariat to make the guidelines available as a separate living document.	30 Oct 2025	Decision
3. ITEMS REQUESTED BY THE IHO COUNCIL					
3.1 Review of the status of Decisions and Actions from C-8 (pending actions)					
3.1	Updated C-8 List of Actions and Decisions	C9/09	The Council noted the current status on the decisions and actions of C-8, and those addressed at the relevant C-9 agenda items.		Decision
4. ITEMS REQUESTED BY SUBSIDIARY ORGANS					
4.1 Report and proposals from HSSC					
4.1	Report of HSSC	C9/010	The Council notes the report and commends the HSSC, its Working Groups, Project Teams and supporting organizations for their achievements since C-8.		Decision
4.1	S-100 Infrastructure and Standards Development	C9/011	The Council noted the major accomplishments made in finalizing the core S-100 Phase 1 Product Specifications and commends IHO Members States and Officers Bearers of the involved IHO bodies for their long-lasting effort.		Decision
4.1	Electronic Chart System Project Team (ECS PT)	C9/012	The Council noted the ECS PT recommendations and final report and the HSSC decision to dissolve ECS PT. The Council commended the ECS PT for its work. The Council to report the findings to A-4.	A-4 (15 Dec 2025)	Decision
4.1	IHO Data Protection Scheme	C9/013	The Council endorsed the proposed IHO Data Protection Scheme subscription model, also noting the associated charging system proposed by IRCC. The Council to submit the proposed Scheme to A-4 for approval.	A-4 (15 Dec 2025)	Decision

4.1	IHO Resolution 2/2007 amendments	C9/014	The Council endorsed the proposed amendments to IHO Resolution 2/2007 - <i>PRINCIPLES AND PROCEDURES FOR MAKING CHANGES TO IHO TECHNICAL STANDARDS AND SPECIFICATIONS</i> - and associated M-3 Annex B. The Council to submit endorsed amendments of IHO Resolutions to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.1	IHO Resolution amendments related to Tides, Level and Currents.	C9/015	The Council endorsed the proposed amendments to the following IHO Resolutions: - IHO Resolution 4/1919 - <i>Use of the Terms "Tide", Tidal Stream" and Tidal Current"</i>, - IHO Resolution 5/1919 - <i>Description of Currents and Tidal Streams</i>; - IHO Resolution 9/1919 - <i>Exchange of Tidal Information</i>; - IHO Resolution 5/1932 - <i>Extension of World Network of Tidal Observations</i>; - IHO Resolution 6/1932 - <i>Study of Mean Sea Level</i>; - IHO Resolution 2/1947 - Issuing Authorities for Tidal Predictions - IHO Resolution 1/1967 - <i>Geographic Positions of Tide Stations</i>; - IHO Resolution 2/1977 - <i>National Tidal Constituent Banks</i>. The Council to submit endorsed amendments of IHO Resolutions to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.1	New IHO Resolution related to Tides, Level and Currents.	C9/016	The Council endorsed the following proposed new IHO Resolutions: - Proposed Resolution - <i>Metadata for Tide Recordings</i>; - Proposed Resolution - <i>Metadata for Currents Recordings</i>. The Council to submit endorsed new IHO Resolutions to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.1	IHO S-100 Sea Trial Area	C9/017	The Council approved the draft Guidelines for IHO S-100 Sea Trial Areas.		Decision
4.1	IHO S-100 Sea Trial Area	C9/018	The Council endorsed two additional IHO S-100 Sea Trail Areas, proposed by Australia and France/United Kingdom .		Decision

4.1	IHO S-100 Sea Trial Area	C9/019	The Council recommended Australia, Canada, France and United Kingdom to provide access to their S-100 Sea Trial Area datasets to the IHO Secretariat for internal use and communication purposes.	HSSC-18	Decision
4.1	IHO S-100 Sea Trial Area	C9/020	The Council agreed to mandate HSSC to endorse any further IHO S-100 Sea Trial Areas onwards and to report back to Council accordingly. The IHO Secretariat to circulate the procedure and reference documentation including the guidelines to the Member States via circular letter.	30 Nov 2025	Decision
4.1	HSSC Funding Priorities	C9/021	The Council noted the HSSC list of funding priorities and requirements as well as the sponsors (IC-ENC, ROK, PRIMAR, NOAA, SMA) and recognizes their significant in-kind and financial contributions. The Council also noted the principle to allocate funding from the IHO Special Project Fund for <i>S-100 Communication and Stakeholder Coordination activities</i> . The Council invited the IHO Secretariat in liaison with HSSC Chair, to examine the distribution and specific amount of this allocation according to Member States individual requests and the overall availability of funds.	30 Oct 2025	Decision
4.1 4.2	HSSC & IRCC Reports and Proposals to Council	C9/022 (same as former C8/19, C7/19, and C1/06)	Considering the timelines between A-4, HSSC-18 and IRCC-18 meetings in 2026 and the countdown for submission of reports and proposals to C-10, the Council invited future HSSC and IRCC Chairs to prepare their future 2026 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-10.	C-10 (-3 months)	

4.2 Report and proposals from IRCC					
4.2	National S-100 Committees	C9/023 (former C8/64, C7/07, C6/67)	The Council invited Member States to share their national strategies regarding the establishment of similar national S-100 committees, as appropriate. Use cases to be considered and presented, as appropriate.	Permanent	
4.2	Report of IRCC	C9/024	The Council noted the report and commends the IRCC , the RHCs , and IRCC Sub-Committees and Working Groups for their achievements since C-8, as well as the excellent direct cooperation between HSSC and IRCC and their subordinate bodies.		Decision
4.2	WEND-100 Principles	C9/025	The Council endorsed the Guidelines on the implementation of the revised WEND-100 principles. The IHO Secretariat to issue a circular letter calling for Member States approval (IHO Resolution 01/2021 refers).	30 Nov 2025	Decision
4.2	MSDIWG	C9/026	The Council confirmed the merger of MSDIWG and UN-GGIM MWG and the related Terms of Reference.		Decision
4.2	C-47 Publication	C9/027	The Council endorsed the updated IHO Publication C-47 (<i>Training Courses in Hydrography and Nautical Cartography</i>). The Council to submit the proposal to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.2	B-12 Publication	C9/028	The Council endorsed the proposed change in the regime of B-12 (Guidance on Crowdsourced Bathymetry) updates and the implied IHO Resolution 2/2007 amendments. The Council to submit the proposed changes to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.2.1	Fund Generation Project Team (FGPT)	C9/029	The Council endorsed the recommendations and final report of FGPT and commended FGPT for its work. The Council to forward the FGPT report and outcomes to A-4. The Council decided to dissolve FGPT . Interested Member States are invited to submit proposals to A-4 on how the fund generation issue can be addressed with regards to upcoming new strategy, work programme, restructure and available fundings.	A-4 (15 Dec 2025)	Decision

4.2.2	Outcomes of the Workforce of the Future Project Team	C9/030	The Council endorsed the proposed IHO resolution on <i>Inspire, Recruit and Maintain a Competent Workforce</i>. The Council commended the WFPT for its work. The Council to submit the endorsed new resolution to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.2.3	Capacity Building	C9/031	The Council agreed to the need to change the approach and therefore endorsed: - the change of terminology from "Capacity Building" to "Capacity Development", - the change of the Sub-Committee name from Capacity Building Sub-Committee (CBSC) to Capacity Development Sub-Committee (CDSC). The Council to submit the proposal to A-4 for approval. The Council tasked the IHO Secretariat to assess and plan the necessary changes and adaptations in the IHO documentation to implement that change to be annexed to the Council submission to A-4.	A-4 (15 Dec 2025)	Decision
4.3 Update on the S-100 Roadmap					
4.3	Roadmap for S-100 Implementation Decade	C9/032	The Council approved that the new version of Annex 2 introduces a S-100 Phase 3 set for Product Specifications without a fixed development timeline. The Council approved the revised timeline presented in the S-100 Roadmap as presented by the HSSC Chair. The Council recognized the importance of including Phase 2 Products and Services as mandatory specifications in the next version of S-98 (edition 3.0.0) and in ECDIS. This item will be on the agenda for discussion and decision at the forthcoming HSSC18 meeting in May 2026.		Decision

4.3	Roadmap for S-100 Implementation Decade	C9/033	Noting the updates approved by the Council for Annex 2 of the Roadmap, IHO Secretariat to prepare and make available the finalized version 5.0 of the Roadmap on the IHO websites.	30 Nov 2025	
4.3	S-100 Implementation Strategy	C9/034 (former C8/35; C7/28, C3/13)	The Council/HSSC Chair/IRCC Chair/Secretary-General , supported by subject matter experts and Member States as appropriate, to maintain the S-100 Implementation Roadmap as an incremental version-controlled document (including narrative and timelines) on an annual basis.	Permanent	
4.4 Update on the establishment of the IHO Infrastructure Centre					
4.4.1	Establishment of the IHO Infrastructure Centre	C9/035	The Council commended HSSC (and its S-100 ICE Project Team in particular) and the IHO Secretariat for the excellent work undertaken in preparation of the design and establishment of an Infrastructure Centre. The Council also expressed its gratitude to the Republic of Korea for its generous offer regarding the IHO Infrastructure Centre.		Decision
4.4.1	Establishment of the IHO Infrastructure Centre	C9/036	The Council noted the verbal report by the Secretary-General on the ongoing negotiation process of the Host Agreement, including the need for further consolidation prior submission to A-4. The IHO Secretariat to submit the final agreed version of the Host Agreement to A-4 for approval and official signature by the Parties.	A-4 (15 Dec 2025)	Decision
4.4.1	Establishment of the IHO Infrastructure Centre	C9/037	The Council endorsed the proposed modifications of the IHO Staff Regulations (M-7) related to the establishment of the IHO Infrastructure Centre. The IHO Secretariat to submit the endorsed amendments to A-4 for approval.	A-4 (15 Dec 2025)	Decision
4.4.1	Establishment of the IHO Infrastructure Centre	C9/038	The Council endorsed the proposed modifications of the IHO Resolution 1/2014 (as amended). The IHO Secretariat to submit the revised 1/2014 resolution to A-4 for approval.	A-4 (15 Dec 2025)	Decision

4.4.1	Establishment of the IHO Infrastructure Centre	C9/039	The Council endorsed the proposed new IHO Resolution addressing all aspects of the status, scope and the operation of the IHO Infrastructure Centre and agrees to include support to any additional IHO infrastructure assistance beyond S-100 in the scope of the resolution. The IHO Secretariat to submit endorsed new resolution to A-4 for approval.		Decision
4.4.1	Establishment of the IHO Infrastructure Centre	C9/040	The Council endorsed the selection of the proposed office site in Busan (Republic of Korea) to establish the IHO Infrastructure Centre.		Decision
4.4.1	Establishment of the IHO Infrastructure Centre	C9/041	The Council endorsed the proposed tentative Work Plan for the IHO Infrastructure Centre for the 2026-2029 period. Subject to final approval on the establishment of the Infrastructure Centre by A-4, a follow up shall be submitted to Council for approval and inclusion in the IHO Work Programme 2027-2029.	C-10 (-3 months)	Decision
4.4.2	Establishment of the IHO Infrastructure Centre	C9/042	The Council endorsed the proposal to develop and operate standardized registers (service and identity) of S-100 Products and Services to support IP-based distribution in the course of the establishment of the IHO Infrastructure Centre.		Decision
4.4.2	Establishment of the IHO Infrastructure Centre	C9/043	The IHO Secretariat to submit the IHO Infrastructure Centre Proposal as a package to A-4 for approval.	A-4 (15 Dec 2025)	
4.4.3	Management of the Security Scheme	C9/044	The Council tasked HSSC to propose the formation of a responsible body to manage the S-100 Security Scheme and to explore funding opportunities to include subject matter experts. HSSC to report back to the Council on that matter.	C-10 (-3 months)	Decision

4.5 Update on the development of S-130					
4.5	S-130 update	C9/045	The Council noted and commended S-130 PT for their progress report , particularly for the finalization of the approved Edition 2.0.0 of S-130 Product Specification and the ongoing work on the S-130 authoritative dataset taking due regard of decision A3/19 (recognitions of the Southern Ocean). The Council also noted the Secretary-General's intention to report the S-130 PT outcomes and conclusions in view of decision A2/24 & A2/25 to A-4.	A-4 (15 Dec 2025)	Decision
4.6 IHO Singapore Innovation and Technology Lab					
4.6	IHO Singapore Innovation and Technology Lab	C9/046	The Council noted the update on the Joint IHO-Singapore Innovation and Technology Laboratory by the IHO Secretariat . The Council encouraged IHO Members States and industry stakeholders to actively propose new and engage in existing collaborative projects with the IHO-Singapore Lab.	HSSC-18 (- 7 weeks)	Decision
5. IHO ANNUAL WORK PROGRAMME AND BUDGET					
5.1 Review of the Current Financial Status of the IHO					
5.1	Financial Reporting Statement	C9/047	The Council noted the information provided on the current financial status of the Organization as of 1st October 2025 , in particular the slow return to regular average rate of incoming MS contributions and the resulting impact on the IHO Secretariat's operations.		Decision
5.2 Proposed IHO Work Programme for 2026					
5.2	Proposed IHO WP for 2026	C9/048	The Council approved the IHO Work Programme for 2026, as submitted by the Secretary-General .		Decision

7.1	World Hydrography Day 2026	C9/049	The Council noted the proposed theme for the 2026 World Hydrography Day by the Secretary-General which is <i>"Transforming how ocean data is shared"</i> IHO Secretariat to circulate the theme for 2026 to the IHO Member States by circular letter.	30 Oct 2025	Decision
5.3 Proposed IHO Budget for 2026					
5.3	2026 IHO Budget	C9/050	In application of Decisions A3/26 to /28, the Council approved the proposed budget for 2026 as submitted by the Secretary-General , including the proposed adaptations.		Decision
5.4 Proposed IHO Budget and Work Programme for 2027-2029					
5.4	Proposed Budget & Work Programme for 2027-2029	C9/051	The Council endorsed the Proposed Work Programme for 2027-2029 and took note of the likely need for later adaptations after A-4 approval of the revised IHO Strategic Plan 2027 – 2032. The Council noted the Proposed Budget Estimates for 2027-2029 including the necessity for late adaptations before submission by the Secretary-General to the Finance Committee for endorsement and A-4 for approval.		Decision
5.5 Update on activities to acquire new IHO Member States					
5.5	Update on activities to acquire new IHO Member States	C9/052	The Council noted the IHO Secretariat's report on the activities carried out since C-8 and the objectives to attract new IHO Members. The Council commended the IHO Secretariat on its work to attract new Member States and welcomed the new Member States to the IHO.		Decision

6. IHO STRATEGIC PLAN					
6.1 Secretariat's assessment on the implementation of the Strategic Plan 2021-2026 (WP 1, 2 and 3)					
6.1	Status on the Strategic Plan – SPIs	C9/053	The Council noted the dashboard (target 2026, WP2 and WP3 SPIs value as of 31st December 2024) allocated to the IHO Secretariat, HSSC and IRCC (IHO Annual Report 2024, Annex B refers).		Decision
6.2 Outcomes from 3rd UN Ocean Conference (UNOC3), contributions to the UN Ocean Decade, and next steps					
6.2	Outcome of UNOC3	C9/054	The Council noted and acknowledged the success and positive policy influence of the IHO engagement in UNOC-3 and the value of participation in future events, and the intention of the IHO Secretariat and IOC to further develop future funding solutions for GEBCO .		Decision
6.2	Outcome of UNOC3	C9/055	The Council noted the request for endorsement ex-post facto of the declaration of interest to become a member of the Space4Ocean Alliance and an institutional member of the Ocean Decade Alliance. The Council expressed its general support and requested that the IHO Secretariat submit the proposal to A4 , providing further explanations on the exact role and obligations of both endeavours.	A-4 (15 Dec 2025)	Decision
6.3 GEBCO developments					
6.3	GEBCO developments	C9/056	The Council noted the report on GEBCO developments and supported the development of a proposal for the creation of a GEBCO Secretariat including consequential adjustments to the IHO Secretariat's Structure. The Council also agreed with the arguments related to the opportunities related to GEBCO and the need to increase fundings. The IHO Secretariat to submit the proposed creation of a GEBCO Secretariat to A-4 for approval.	A-4 (15 Dec 2025)	Decision

6.4 Proposed IHO Strategic Plan for 2027-2032					
6.4	Strategic Plan 2027-2032	C9/057	The Council commended the SPRWG for the work undertaken and its fruitful effort in elaborating an ambitious IHO Strategic Plan for the 2027-2032 period.		Decision
6.4	Strategic Plan 2027-2032	C9/058	The Council endorsed the draft IHO Strategic Plan 2027-2032 as presented by the SPRWG, including the front matter, goal structure, goal narratives, targets, and Strategic Performance Indicators,, including the latest wording adjustments and the following consolidated SPI 3 definition aligned with Decision C9/43 (see item 4.4.2): <i>“Ensure availability of connectivity service for the distribution of S-100-based Electronic Navigational Data Service (ENDS) products supporting the seamless transition of maritime service providers to S-100 standards.</i> <i>Target Values:</i> - 2027: <i>IHO Infrastructure Centre to deliver prototype implementation of connectivity service for operational testing</i> - 2029: <i>full implementation and compliance with IMO strategy</i>	A-4 (15 Dec 2025)	Decision
			- 2030 and beyond: <i>Connectivity service (product and service catalogues) managed and supported by IHO Infrastructure Centre.”</i> The Council to submit the endorsed Strategic Plan to A-4 for approval.		

6.5 Proposed IHO Work Programme Revision for 2027-2032					
4.1.1 6.5	HSSC/IRCC WGs/PTs structure	C9/059	The Council agreed to the proposal from HSSC and IRCC Chairs and the IHO Secretariat to establish a joint Project Team to investigate potential restructuring between Sub-Committees and better Work Plan alignment between their respective Bodies under the revised IHO Strategic Plan 2027-2032. The IHO Secretariat to issue a CL to this effect with the associated updated version of the Terms of References. The Council to report to A-4 on that established Project Team, proposing that custodianship of that joint PT will be handed over to SG until new Council is established. The joint Project Team to consider the following tasks and to report status to the new Council: - Working Group alignment, - Possible creation or retirement of Working Groups, including office bearers election. - Potential impacts on the IHO Basic Documents and Structure (IHO Secretariat), - Timeline for implementation. - Opportunities to align both Committees Work Plans with the revised Strategic Plan and IHO Work Programme for 2027-2032.	A-4 (15 Dec 2025) C-10 (-3 months)	Decision
6.6 ANCHOR – Antarctic Climate and Hydrographic Operation Response					
6.6	Hydrographic Commission of Antarctica	C9/060	The Council agreed not to consider the ANCHOR Proposal for inclusion in the revised IHO Strategic Plan 2027-2032. Instead, the IHO Secretary-General in its capacity of HCA Chair was tasked to submit that proposal to the HCA Members for consideration.	HCA20 (-3 weeks)	Decision

7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL					
7.2 Proposed MoU between IHO and Protected Seas					
7.2	MoU between IHO and Protected Seas	C9/061	The Council endorsed the proposed MoU between IHO and Protected Seas including the modifications agreed during C-9. The Council to submit the proposed MoU to A-4 for approval and subsequently official signature by the Parties.	A-4 (15 Dec 2025)	Decision
7.2	Maritime Protected Areas	C9/062	The Council noted the potential role for IHO in the implementation of the High Seas Treaty, and encouraged the IHO Secretariat to monitor and engage in this process, reporting back to relevant IHO bodies for endorsement as required.		Decision
7.3 4th IHO Assembly Preparation					
7.3	A-4 Preparation	C9/063	The Council noted the status reported by the IHO Secretariat on the preparation of A-4.		Decision
7.4 IHO Portal – Key Updates and next steps					
7.4	IHO Portal	C9/064	The Council noted the status reported by the IHO Secretariat on the IHO Portal.		Decision
7.5 ENC Overlapping in the Aegean Sea and Eastern Mediterranean					
7.5	Overlapping case in Aegean Sea	C9/065	The Council noted the paper submitted by Greece regarding regional overlapping issues and the paper submitted <u>as information</u> by Türkiye on the same matter.		Decision
7.5	Overlapping case in Aegean Sea	C9/066	The Council recommended the concerned Member States to bring this case to the attention of the MBSHC to assist a bilateral solution and MBSHC Chair to report back in its regional report to IRCC in accordance with IHO Resolution 1/2018 with an emphasis on the associated risks of the overlaps. If a solution would not be found to solve this case, the IRCC to report back to Council to decide on the need for the IHO Secretariat to include this situation in its next periodic report to the IMO NCSR .	IRCC18 (- 7 weeks) C-10 (- 3 months)	Decision

7.6 Adoption of Automated Paper Charts from ENC					
7.6	Automated Paper Chart Production from ENCs	C9/067	The Council noted the paper presented by France .		Decision
7.6	Access to digital nautical chart resources	C9/068	The Council , in application to IHO Publication S-11 (article 3.14.1.d.), and having noted the evolution of hydrographic offices' policies regarding paper chart printing, encouraged all concerned Member States to facilitate the access of digital chart materials to the IHO Secretariat for its internal use and at no additional cost.	Permanent	
7.7 Renewal of MoU between IHO and IALA					
7.7	Renewal of MoU between IHO and IALA	C9/069	The Council endorses the proposed renewed version of the MoU between IHO and IALA and tasks the IHO Secretariat to issue a CL calling for its approval by the Member States prior to A-4. Once approved, the IHO Secretariat to arrange its official signature by the Parties.	30 November 2025 A-4 (15 Dec 2025)	Decision
8. NEXT MEETING					
8.1 Dates and venue for the 10 th Meeting of the IHO Council					
	C-10	C9/070	The Council agrees to hold C-10 in Monaco, at the IHO Secretariat, from 13 to 15 Oct. 2026 (full in-person meeting, live streaming on request).	Go / no-go decision 15 June 2026	Decision
9. ANY OTHER BUSINESS					
10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING					
11. CLOSURE OF THE MEETING					

**REPORTS OF THE REGIONAL HYDROGRAPHIC
COMMISSIONS AND THE HYDROGRAPHIC
COMMISSION OF ANTARCTICA**

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COMMISSION OF ANTARCTICA**

(IN ALPHABETICAL ORDER)

1. Arctic Regional Hydrographic Commission	ARHC
2. Baltic Sea Hydrographic Commission	BSHC
3. East Asia Hydrographic Commission	EAHC
4. Eastern Atlantic Hydrographic Commission	EAtHC
5. Meso-American - Caribbean Sea Hydrographic Commission	MACHC
6. Mediterranean and Black Seas Hydrographic Commission	MBSHC
7. Nordic Hydrographic Commission	NHC
8. North Indian Ocean Hydrographic Commission	NIOHC
9. North Sea Hydrographic Commission	NSHC
10. ROPME Sea Area Hydrographic Commission	RSAHC
11. Southern Africa and Islands Hydrographic Commission	SAIHC
12. South East Pacific Regional Hydrographic Commission	SEPRHC
13. South West Atlantic Hydrographic Commission	SWAtHC
14. South West Pacific Hydrographic Commission	SWPHC
15. United States Canada Hydrographic Commission	USCHC
16. Hydrographic Commission on Antarctica	HCA

REPORTS OF THE REGIONAL HYDROGRAPHIC COMMISSIONS AND THE HYDROGRAPHIC COMMISSION OF ANTARCTICA

1. REPORT OF THE ARCTIC REGIONAL HYDROGRAPHIC COMMISSION (ARHC)

1. Chair: Mrs. Manon Larocque (Canada)

Vice-Chair: Ms. Pia Dahl Højgaard (Denmark)

2. Membership:

Canada, Kingdom of Denmark, Norway, Russian Federation, United States (full members)

Finland, Iceland, Italy, United Kingdom (associate members)

IHO Secretariat (permanent observer)

3. Meetings:

ARHC 13 – Nuuk, Greenland – September (Kingdom of Denmark - Ms. Pia Dahl Højgaard Chair)

ARHC 14 – Tromsø, Norway – September (Norway – Evert Flier (for Birte Borrevic) Chair)

ARHC 15 – Nome, Alaska, USA – September (USA – RDML Ben Evans Chair)

4. Agenda Items:

- a) National Report updates addressing charting, survey, science and technology, personnel and national interagency coordination and policy developments
- b) Coordination with the Arctic Council Protection of the Arctic Marine Environment (PAME) on various initiatives, including joint publication of the renewed Arctic Cautionary Note
- c) Progress with new innovative technologies and techniques to acquire hydrographic data, such as autonomous vehicles, drone projects, crowd sourced bathymetry, and satellite derived bathymetry
- d) Primary outreach and collaboration focus on the Arctic Council PAME Working Group, the Arctic Spatial Data Infrastructure (SDI), and the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) and its marine working group.
- e) Engaging on the readiness of S-100 data within the region. Through the AICCWG, ARHC members shared snapshots of S-100 progress. The AICCWG is chaired by Norway who also serves as S-100 Implementation Coordinator for the region.
- f) Additional working groups and coordinators with the ARHC currently operating include
 - a) Arctic Marine Spatial Data Infrastructure Working Group (ARMSDIWG),
 - b) Operational and Technical Working Group (OTWG), and
 - c) Crowd Source Bathymetry/Seabed 2030 Coordinator.
 - d) ARHC PAME Project Team
- g) Arctic Hydrographic Risk Assessment to assess navigational risks in the Arctic
- h) Coordination and alignment on C-55 reporting
- i) Exploring the Arctic Council Emergency Prevention, Preparedness and Response working group (EPPR) for opportunities to support both organizations' goals (ARHC and EPPR)

REPORTS OF THE REGIONAL HYDROGRAPHIC COMMISSIONS AND THE HYDROGRAPHIC COMMISSION OF ANTARCTICA

5. Difficulties encountered and challenges yet to be addressed:

The Arctic is vast, remote, and experiencing ever increasing ship traffic and a rapidly changing environment. The challenges in the Arctic pose unique challenges for ARHC members who are working to support safe navigation and protect the unique Arctic marine environment. These challenges are being addressed by sharing knowledge and experience of innovative technological solutions, such as implementation of satellite derived bathymetry, crowd sourced bathymetry, and autonomous vessel operation.

6. Achievements/outputs/conclusions:

a) ARHC & PAME Cooperation – With US as liaison under the ARHC & PAME MoU, renewed in early 2025, cooperation is continuing to progress. ARHC Members regularly attend PAME Shipping Expert Group Meeting calls as part of their national delegations, fostering cooperation between the bodies. Additionally, ARHC members have participated in the IMO PAME Polar Maritime Seminar in 2023, 2025, and will continue this engagement at future seminars.

b) A direct outcome of this PAME & ARHC collaboration is the pending renewal of the Arctic Cautionary note, which is expected to be published in early 2026 (awaiting formal PAME approval February 23, 2026).

c) Updating the ARHC's Arctic Risk Assessment – US-led initiative to develop a report mapping chart confidence data against depth and Arctic vessel traffic. The most recent report was published in 2025, and the model was last renewed in 2024 to include an expanded area (totalling 16.2 M km²), covering both US waters, the Eastern Canadian Arctic, Southern tip of Greenland, and Iceland. See ARHC15 Document C1a

d) Sharing of experiences and pilot projects using Crowd Sourced Bathymetry, autonomous vessel technology, and satellite derived bathymetry (SDB). Work is underway, led by Denmark and Canada, to standup a project team to consider the potential use of SDB in official navigation products, using several Arctic regions as a case study.

e) Host organisation of three Open forums - to facilitate scientific exchange with external organizations. These one-day meetings preceded the formal ARHC sessions and encouraged local scientific, governmental, academic, and community representatives to contribute perspectives regarding hydrographic advances, covering many innovative topics from the latest drone technology to satellite derived bathymetry. In recent years, challenges, innovation, engagement, community hydrography and Indigenous partnerships was also of particular focus to the ARHC open forums.

f) Exploring coordination and alignment on C-55 reporting.

g) Meeting documents are available on the [ARHC page of the IHO Portal](#).

7. Actions required of the Assembly:

- a) **Note** the report of the ARHC.
- b) **take** any other action considered appropriate.

REPORTS OF THE REGIONAL HYDROGRAPHIC COMMISSIONS AND THE HYDROGRAPHIC COMMISSION OF ANTARCTICA

2. REPORT OF THE BALTIC SEA HYDROGRAPHIC COMMISSION (BSHC)

1. Chair

Mr Rainer Mustaniemi, **Finland**, from 23 September 2022

Mr Olavi Heinlo, **Estonia**, from 22 September 2023

Mr Janis Krastinš, **Latvia**, from 20 September 2024

Mr Tomas Kolendo, **Lithuania**, from 25 September 2025

Vice-Chair

Mr Olavi Heinlo, **Estonia**, from 22 September 2022

Mr Janis Krastinš, **Latvia**, from 22 September 2023

Mr Tomas Kolendo, **Lithuania**, from 25 September 2024

Mr Thomas Dehling, **Germany**, from 25 September 2025

2. Membership

Members: Denmark, Estonia, Finland, Germany, Latvia, Poland, Russian Federation, Sweden, Lithuania (from the 28 of July 2025)

Associate Member: Lithuania (up to the 28 of July 2025)

Observers: IHO Secretariat, United States of America, United Kingdom

3. Meetings

27 th Meeting:	Stockholm (Sweden)	20–22 September 2022
28 th Meeting:	Helsinki (Finland)	19–21 September 2023
29 th Meeting:	Tallinn (Estonia)	17–19 September 2024
30 th Meeting:	Riga (Latvia)	23–24 September 2025

4. Agenda Items

BSHC Strategy

The Commission established a Strategic Correspondence Group (SCG) to ensure alignment with the IHO Strategic Plan, with particular responsibility for coordinating S-100 implementation on behalf of the Commission. The group successfully completed its mandate by the end of 2023, having fulfilled its assigned objectives. As the group has concluded its work, it is no longer operational.

Hydrographic Re-survey Monitoring and coordination

The Baltic Sea is a vulnerable sea basin with extensive impact from human activities. A regional platform for environmental policy making, HELCOM, was established already in 1974 to protect the marine environment of the Baltic Sea from all sources of pollution. HELCOM, the Baltic Marine Environment Protection Commission (also known as the Helsinki Commission) is an Intergovernmental Organization (IGO) and a Regional Sea Convention in the Baltic Sea area. HELCOM has identified that

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it is of uttermost importance that the MS perform hydrographic surveying in the Baltic Sea to avoid groundings due to shipping activities and establish a reliable source of knowledge of the seabed of the sea basin. The BSHC has been recognized as trusted organization to propose hydrographic survey plans to be adopted and agreed upon by HELCOM MSs through the Baltic Sea Action Plan. A revised Baltic Sea Action Plan including targets for hydrographic surveying, was agreed upon by the HELCOM MSs and the EU commission in November 2021.

BSHC maintains the hydrographic re-surveys plan for the Baltic Sea through the Re-Survey Monitoring Working Group (MWG) and reports on an annual basis to HELCOM. The group is chaired by Finland. Planned and performed surveys are being updated in a web-based tool, which is maintained and operated by the Swedish Maritime Administration. See <https://helcomresurvey.sjofartsverket.se/>. The BSHC MWG tries to identify possible problems and propose solutions or workarounds to them.

In 2025, BSHC has also engaged with the Policy Area Maritime Safety & Security (PA Safe) of the EU Strategy for the Baltic Sea Region (EUSBSR), working with a Task Force to update HELCOM Recommendation 34E/2. The BSHC contributed through a special interim Working Group, and the Task Force has now completed its work, with the revised recommendation reflecting the engagement of the Hydrographic Offices of the region.

Harmonized Chart Datum in the Baltic Sea

BSHC has developed the Baltic Sea Chart Datum 2000 (BSCD 2000) as a common Chart Datum and a Vertical Reference Frame for all waters within the Baltic Sea. It is derived from the European Vertical Reference Frame (EVRF) and Member States (MS) has agreed upon to implement the system for all navigational and hydrographic products and services. The first specification of BSCD 2000 was completed in 2013. BSCD 2000 is based on EVRF, which is also used as the vertical height reference on land in all Baltic Sea countries. BSCD 2000 is registered in the IHO GI Registry.

The Chart Datum Working Group (CDWCWG), chair by Sweden, monitors and provides guidance for the implementation of BSCD 2000. BSHC MSs are committed to implementing BSCD 2000 in form of new editions of ENCs and paper charts as well as introducing BSCD 2000 as a new reference for water level information. The implementation is already completed in many areas. However, a lot of implementation activities are still ongoing, and the full implementation is expected to be finalized before 2029. To improve the geoid model further in the Baltic Sea, also gravity measurements and geoid computations are performed in cooperation between HOs, land survey authorities and academia. At BSHC28 the working group was renamed to Chart Datum, Water level and Currents Working Group (CDWCWG). The CDWCWG has been tasked to coordinate the implementation of Water Level Information for S-104 format and Surface Currents for S-111 format within the Baltic Sea.

Maritime Safety Information (MSI)

The Baltic Sea is a Sub-area of NAVAREA I (NE Atlantic – coordinated by UK) and is coordinated by Sweden. To facilitate that the GMDSS MSI services in the Baltic Sea are arranged in compliance with the applicable regulations and recommendations, the Baltic Sea MSI Working Group (BSMSIWG) has been established. The WG is monitoring and resolves possible transmitting and interference problems and exchange information about major planned operations at sea that are expected to affect international shipping in coastal waters of the Baltic Sea. UK as the NAVAREA I coordinator participates also in the WG and the BSMSIWG Chair participates in the North Sea MSI WG, covering whole NAVAREA I. A joint North Sea and Baltic Sea meeting was organized on October 7-8, 2025 in Hamburg.

The BSMSIWG has been tasked to coordinate the implementation of navigational warnings in S-124 format within the Baltic Sea.

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Baltic Sea INT-chart and ENC scheme coordination

The Baltic Sea INT Chart Coordination Working Group (BSICCWG) is the responsible body for nautical charts scheming, resolving ENC gaps and overlaps, ENC distribution, harmonization of ENCs and ENC coverage status in the Baltic Sea region. Finland successfully chaired the workgroup, at the beginning of 2026 Germany's representative has been elected as a new Chair, and Sweden – as a Vice Chair.

The WG also coordinates the coverage and the numbering of INT paper charts and monitors that the IHO Chart Web Catalogue is updated over the region.

BSHC Member States harmonize the S57 ENC content, scales and coverages. Besides they agreed to split scale band 1 overview ENC, and at beginning of 2025 have released a new scale band 1 cells simultaneously.

The BSICCWG have been tasked to coordinate and harmonize the implementation of S-101 ENC and S-102 Bathymetric Surface products in the Baltic Sea region and also coordinate and reports on the overall S-100 implementation in BSHC. The BSICCWG Chair is also the BSHC representative in the IHO WENDWG.

Marine Spatial Data Infrastructure (MSDI)

MSDI provided hydrographic information to stakeholders beyond the classic field of surface navigation. The two neighboring Hydrographic Commissions, BSHC and NSHC have worked as a common regional corporate approach and have established the joint BSHC and NSHC Baltic Sea North Sea Marine Spatial Data Infrastructure Working Group (BSNSMSDIWG). BSHC tasked the BSICCWG, the CDWG and the BSMSIWG to have specific responsibilities for the S-100 implementation in the region and BSHC28 decided to close the WG and since NSHC took the same decision the WG is now dissolved.

WENDWG

BSHC is represented in the WEND Working Group by Finland. The representative shall report to the Commission, including review of the progress on the work items of WEND, resolving overlaps, ENC distribution and harmonization, ENC coverage status, the WEND principles and the development of the new WEND-100 principles. BSHC receives the annual report and gives further guidance to the BSHC WENDWG representative. BSHC has decided that BSICCWG Chair represents the Baltic Sea at the WEND and it should be same person.

IHO-EU Network WG (IENWG)

Sweden is the BSHC representative in IENWG. Also, several other BSHC Member States have been actively participating in the working group since its inception in 2012. Several Baltic Sea HOs have been partners in a consortium, coordinated by SHOM in France, with the objective to develop one of the European Commission's flagship maritime projects the European Marine Observation and Data Network (EMODnet) Bathymetry Portal. Bathymetry for all European waters is made available at the EMODnet Bathymetry portal and data is also subsequently reused by GEBCO, Google and many other stakeholders.

Baltic Sea Bathymetry Database

Sweden operated a cross-border bathymetry database and a geoportal, the Baltic Sea

Bathymetry Database (BSDB) - data.bshc.pro, on behalf of the Commission. BSHC Member

States were providing gridded bathymetry information and the Baltic Sea Bathymetry Database

Working Group (BSBDWG) acted as a coordinator. At BSHC28 it has been decided that Baltic Sea Bathymetry Database data will be transferred to EMODNet Bathymetry portal and the data.bshc.pro

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will be marked as historic, the WG closed, but Sweden is still acting as coordinator. It is expected that BSHC31 will sign the MoU with the Seabed 2030 consortium.

EMODNet Bathymetry portal, is the major hub for bathymetry data within Europe. Bathymetry for all European waters is made available at the EMODNet Bathymetry portal and this data is also subsequently reused by GEBCO, Google and many other stakeholders.

Capacity Building

Activities in CB are monitored within BSHC. Germany is the CB Coordinator for the BSHC.

BSHC Website

BSHC has a website www.bshc.pro operated by Sweden. The website contains information on the BSHC WGs including ToRs, WG members and minutes from their meetings. Useful links to services provided by the Commission such as the BSHC-HELCOM Re-Survey Scheme and links to MS web services, are available as well.

5. Difficulties encountered and challenges yet to be addressed

Suspension of all BSHC-Related Activities by Denmark, Estonia, Finland, Germany, Latvia, Poland and Sweden with the Russian Federation. The BSHC Full Members Denmark, Estonia, Finland, Germany, Latvia, Poland and Sweden each decided, that collaboration with the Russian Federation is considered no longer technically possible under the current situation in Ukraine.

GNSS disruptions have been a big issue in the Baltic Sea area. Different MS reported observations of spoofing and jamming GNSS signal and AIS signal manipulations. Navigational warnings and Notice to Mariners have been published. Baltic sea countries submitted a formal letter to IMO and ITU to inform about the increased risks with GNSS disturbance in the region.

The lack of budget limits the possibilities to recruit the requested personnel and expenses to take part at international events. Sometimes VTC meetings help to solve the challenges.

A major challenge is the implementation of S-100 products and services in the region. Currently the BSHC has prioritized to coordinate implementation of route monitoring products, as pointed out in the IHO S-100 Roadmap. Appointed WGs working on harmonization, timelines, technical coordination, dissemination strategies and identifying need for knowledge building. The Baltic Sea e-Nav project “Shared waters – Same standards. Baltic Sea Partnership for Future Navigation” helps to deal with the implementation of IHO S101, S102, S104 and S111 products that make the basis for the implementation of S124 and other first and second stages of S100 products.

6. Achievements/outputs/conclusions

The revised BSHC Re-survey plan was adopted and included in the HELCOM Baltic Sea Action Plan, signed at HELCOM Ministerial Meeting by the MSs and the EU Commission. The most important waterways and areas covering common shipping routes have been now resurveyed and work continues with the lower priority waters.

The implementation of the common Baltic Sea Chart Datum 2000 (BSCD2000) proceeds satisfactorily by many Member States.

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BSHC has tasked the existing WGs for overall coordination of the S100 implementation within the BSHC Region. The groups will also ensure that the decisions and actions made by the Commission are in line with the IHO Strategic Plan.

A pilot project „E-NAV“ is an excellent basis for phase one S100 products creation and testing on navigational bridge simulators and pilots PPU and is a start for autonomous shipping, international collaboration to reach safer, more harmonized and eco-efficient navigation.

The Baltic Sea e-Nav partnership, led by Sweden with partners from Germany, Finland, Denmark, Estonia, and Latvia, academia from Sweden and Finland, private company -FURUNO, Finnish Met Institute (FMI). Associated partners from Lithuania, Poland and RENCs: PRIMAR and IC-ENC. Project is entering its final phase. The project is building full production capability for S-100 products: S-101 ENC, S-102 bathymetry, and in Finland, S-104 water levels and S-111 surface currents.

In 2025, pilot tests in Finland using Furuno's upgraded prototype ECDIS confirmed the added value of S-100 products-greater safety margins, more efficient routing, and fewer nuisance alerts. Harmonization rules for S-101 have been finalized, while S-102 guidelines are still being refined.

By 2026, mariners will see S-101 ENCs and S-102 bathymetry across the Baltic's main shipping routes, with FMI rolling out S-104 and S-111 services for Finnish waters.

Notes on the project published in the IHO International Hydrographic Review ([IHR](#)) and

Article in Baltic Transport Journal, BTJ : BTJ 2/25 - MARITIME: Development grounded in practice. Toward the S-100 standard in sea navigation - in the Baltic & beyond. Information also available on [project website](#).

7. Actions required by the Assembly

- a) **Note** the report of the Baltic Sea Hydrographic Commission (BSHC)
- b) **Take** any other action considered appropriate.

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3. EAST ASIA HYDROGRAPHIC COMMISSION (EAHC)

1. Chair: Mr SHI Binfeng—China

Vice-Chair: Mr JUNG Kyu-sam—Republic of Korea

2. Membership:

- a. Members:** Brunei Darussalam, China, Democratic People's Republic of Korea, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand
- b. Observers:** Australia, Cambodia, Timor Leste, UK, USA, Viet Nam, GEBCO Guiding Committee

3. Meetings:

10th EAHC SC Meeting: Bali, Indonesia (6 — 8 March 2024)

11th EAHC SC Meeting: Hangzhou, China (26 — 27 February 2025)

15th EAHC Conference: Jakarta, Indonesia (17 — 18 September 2025) EAHC Special Conference: Tokyo, Japan (4 — 5 February 2026)

4. Agenda Items:

- a. TRDC-BOD Report
- b. Amendment to the EAHC Statutes
- c. Election of IHO Council Members
- d. EAHC Membership Status
- e. New Structure of EAHC (STAR TG Report)
- f. Proposal for the Establishment of a Working Group on Allocation of CATZOC/QoBD Values
- g. EA-RECC Report
- h. EAHC MSDIWG Report
- i. Updates on S-100
- j. Updates on S-101
- k. NAVAREA XI Report
- l. Seabed2030 Progress in EAHC Region

5. Difficulties encountered and challenges yet to be addressed:

- a. S-100 implementation presents challenges for some Member States, including shortages of human resources and expertise, the need for significant upgrades to technical and operational infrastructure, increased workload with limited resources for workflow sustainability and resource management, and gaps in capacity building and awareness.

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- b. While demand for capacity-building activities remains high across the region, funding constraints require careful prioritization of project submissions to the CBSC, with some activities inevitably deferred.
- c. In implementing IHO Resolution on Maximizing Active Participation in IHO Events, meeting hosts are encouraged to make use of technology to complement in-person attendance, as far as is practicable and within their capacity. However, some Member States continue to face technical difficulties in hybrid format.

6. Achievements/outputs/conclusions:

- a. China is the Chair of EAHC for 2025-2028, and the Republic of Korea is the Vice-Chair for the same term.
- b. EAHC appointed China as Chair and the Republic of Korea as Vice-Chair of the TRDC-BOD.
- c. EAHC Member States have approved the amendment of the EAHC Statutes and the transition of EAHC to a more efficient new structure in which the Conference will be held annually.
- d. EAHC established a Working Group on Allocation of CATZOC/QoBD Values to coordinate and promote consistent data quality representation in ENC's across EAHC waters, enhance navigational safety, and facilitate feedback to IHO for improvement of Publication S-68.
- e. EAHC approved the nominations of Malaysia and the Philippines as IHO Council Members for the next three-year inter-Assembly period.
- f. EAHC successfully implemented capacity-building activities since the 3rd IHO Assembly, including P-37 "Hydrography for Disaster Mitigation and Humanitarian Support" hosted by China, "Technical Visit to Cambodia", as well as P-19 "Seminar on S-57 to S-101 Transition", P-27 "Seminar on Interpretation and Enhancement of MSI", and P-28 "Training on the Production of S-102 Bathymetric Surfaces", organized by Indonesia. The East Asia Hydrographic Leaders Programme (EAHLP) was also successfully concluded with 13 participants from 7 Member States.
- g. Regarding S-100 Readiness of EAHC, EAHC Member States have plans to produce S-100 products, with 6 out of 10 Member States providing S-101 ENC's by 2026, representing a readiness rate of 60%.
- h. According to the EAHC Statutes amended in 2026, the EAHC Conference will be held annually. The next EAHC Conference will be held in Singapore, in the second half of March 2027.

7. Actions required of the Assembly:

- a) **Note** the report of the East Asia Hydrographic Commission.
- b) **Take** any other action considered appropriate.

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4. REPORT OF THE EASTERN ATLANTIC HYDROGRAPHIC COMMISSION (EAtHC)

1. Chair: Captain Mostafa **TAFRHY (Morocco)**

Vice-Chair: Captain Francissco Diaz Rodriguez **(Spain)**

2. Membership:

Member States:

Angola, Cameroon, Cabo Verde, Democratic Republic of the Congo, France, **Gambia**, Ghana, Morocco, Nigeria, Portugal, Spain

Associate Members:

Benin, Congo, Côte d'Ivoire, Guinea, Guinea-Bissau, Mauritania, Senegal, Togo, United Kingdom.

Observers:

Equatorial Guinea, Gabon, Liberia, São Tomé and Príncipe, Sierra Leone, United States of America, IALA.

3. Meetings:

- EAtHC VTC 01 (2023) and S-100 Workshop – 23 November 2023
- 18th EAtHC Conference – 1 to 3 May 2024, Casablanca, Morocco
- EAtHC VTC 01 (2025) – 23 September 2025
- Next 19th EAtHC Conference – 22 to 26 June 2026, Côte d'Ivoire

4. Agenda Items:

The main subjects addressed during the inter-Assembly period included:

- Strengthening regional hydrographic cooperation and coordination among coastal States.
- Capacity building, including technical training and knowledge transfer.
- Follow-up on the implementation of the S-100 framework and international hydrographic standards.

5. Difficulties encountered and challenges yet to be addressed:

- Uneven hydrographic coverage among coastal States in the region, with a continued need for modern hydrographic surveys in several areas.
- Support for settling National Hydrographic Office among member States in the region.
- Need for further development of human and technical capacities, including specialized training.
- Harmonization of the implementation of international standards, particularly the transition to S-100-based products.

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- Ensuring sustainable funding for hydrographic activities in favor of some Member, Associate Member and Observer States.

6. Achievements/outputs/conclusions:

- Successful organization of the 18th EAtHC Conference in Casablanca, fostering extensive exchange of experience and regional strategies.
- Adoption of decisions endorsing the reports of the IHO, HSSC and IRCC, and acknowledging challenges related to S-100 implementation.
- Fostering the African cooperation through the organization in Morocco of a seminar on hydrography, oceanography and marine cartography, highlighting the importance of partnership and hydrography for secure and sustainable seas in the region.
- Organize in Morocco, in October 2026, a S100 seminar with the support of PRIMAR and SHOM.

7. Actions required of the Assembly:

- a) **Note** the report of the Eastern Atlantic Hydrographic Commission (EAtHC).
- b) **Take** any other action considered appropriate.

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5. REPORT OF THE MESO AMERICAN AND CARIBBEAN SEA HYDROGRAPHIC COMMISSION (MACHC)

1. Chair: Ms. Bernice Mahabier (Suriname)

Vice-Chair: Rear Admiral Laurent Kerléguer (France)

2. Membership:

Members: Brazil, Colombia, Cuba, Dominican Republic, France, Guatemala, Guyana, Jamaica, Mexico, Netherlands, Suriname, The Bahamas, Trinidad and Tobago, United Kingdom, United States of America, Venezuela.

Associate Members: Antigua and Barbuda, Barbados, Belize, Costa Rica, El Salvador, Grenada, Haiti, Honduras, Nicaragua, Panama, Saint Lucia, St Kitts and Nevis, St. Vincent and the Grenadines.

Observers: Dominica, Spain. IHO Secretariat, RENCs (IC-ENC, PRIMAR), IALA, industry partners and regional stakeholders.

3. Meetings:

- MACHC24 – Paramaribo, Suriname, 12 – 15 Dec 2023.
- MACHC25 – Panama City, Panama, 3 - 6 December 2024.
- MACHC26 – Niterói, Brazil, 10 – 12 December 2025.

4. Agenda Items:

- ENC production, harmonization and coverage (S-57)
- S-100 implementation and regional coordination
- Capacity building and workforce development
- Bathymetric data contribution (GEBCO / Seabed 2030)
- Marine Spatial Data Infrastructure (MSDI)
- Maritime Safety Information (MSI)
- Engagement with RENCs, industry and partners
- Alignment with the IHO Strategic Plan 2027–2032

5. Difficulties encountered and challenges yet to be addressed:

a. ENC Production and Coordination

- Variability in compilation practices;
- Increasing maintenance workload and limited human resources;
- Remaining offshore data gaps.

b. S-100 Implementation:

- Uneven readiness across Member States;
- Limited access to validation tools and infrastructure;

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- Lack of coordinated regional S-101 coverage planning ;
- Shortage of trained personnel and budget constraints .

c. Capacity and Infrastructure:

- Funding limitations impacting capacity building;
- Need for structured hydrographic education pathways;
- Infrastructure disparities among Member States.

6. Achievements/outputs/conclusions:

a. Strong Regional Coordination and Growth

- Successful MACHC26 meeting with over 100 participants and broad international engagement;
- Expansion of membership with The Bahamas joining as a Full Member, strengthening regional representation;
- Establishment of the MACHC International S-100 Working Group (MISC), reinforcing structured regional coordination for next-generation hydrography.

b. Significant Progress in ENC (S-57) Delivery:

- Sustained ENC production across the region, supporting safety of navigation in a high-traffic maritime area;
- Improved harmonization and reduction of ENC overlaps through effective MICC coordination;
- Increased ENC update rates and strengthened validation workflows with RENC support;
- Expansion of ENC coverage in coastal zones, ports, and key shipping routes.

c. Advancing S-100 Implementation (Early Leadership Phase):

- MACHC positioned among active regions initiating S-100 transition efforts;
- Completion of initial national readiness assessments across several Member States;
- Launch of pilot S-101 datasets and early S-102 and S-124 initiatives;
- Formal commitment to develop a Regional S-100 Implementation and Benefits Realization Plan, aligned with global frameworks;
- Strong engagement with RENCs (IC-ENC, PRIMAR) and the SIMBR framework.

d. Impactful Capacity Building and Workforce Development:

- High regional participation in the IHO Capacity Building Programme, with strong uptake of training opportunities;
- Delivery of specialized training including:
 - S-57 to S-101 Conversion

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- MSI training
- Technical visits and hydrographic awareness initiatives;
- Measurable progress in gender representation, with increased participation of women in hydrographic leadership roles.

e. Contribution to Global Bathymetric Initiatives:

- MACHC achieved approximately 30.8% coverage of the GEBCO grid, demonstrating strong regional contribution to global seabed mapping;
- Active participation of multiple national and regional organizations in Seabed 2030 initiatives;
- Continued expansion of bathymetric datasets through coordinated regional efforts.

f. Strengthened Partnerships and Innovation:

- Close collaboration with RENCs (IC-ENC and PRIMAR) supporting validation, training and S-100 readiness;
- Active engagement with industry partners, promoting automation, digital workflows and innovation in chart production;
- Strengthened cooperation with international organizations (IALA, IOCARIBE, IMO);
- Alignment with the IHO Strategic Plan 2027–2032, ensuring regional activities contribute to global hydrographic priorities.

7. Actions required of the Assembly:

- a) **Note** the report of the MACHC.
- b) **Take** any other action considered appropriate.

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6. REPORT OF THE MEDITERRANEAN AND BLACK SEAS HYDROGRAPHIC COMMISSION (MBSHC)

1. Chair: Captain (N) Lucian GRIGORESCU

Vice Chair: Rear admiral Laurent Kerléguer (France)

2. Membership:

Members: Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, France, Georgia, Greece, Italy, Lebanon, Malta, Monaco, Montenegro, Morocco, Romania, Russian Federation, Serbia (suspended), Slovenia, Spain, Syria(suspended), Tunisia, Türkiye, Ukraine.

Associate Member(s): Israel, Palestinian Authority, United Kingdom, United States of America.

Observers: CIESM, Germany, IALA, IC-ENC, IHO Secretariat

3. Meetings:

- MBSHC24, Constanta Romania 2nd to 4th of July 2024
- MBSHC25, Marseille France 31st of March to 3rd of April 2026

4. Agenda Items:

IHO Matters (Assembly, Council, IRCC, HSSC, IENWG, WENDWG). Regional Coordination (ICC, S-100, CB, MSDI, MSI, Disaster Response, GEBCO - Seabed2030, CSB). Relations with other organizations (IALA, RENCs, Industry Partners), National updates from Members.

Current MBSHC Working Groups:

❖ REGION F INTERNATIONAL CHARTING COORDINATION WORKING GROUP (F-ICCWG)

Charting Coordination Activities

1. Coordination regarding INT chart (including S-57 and S-101 ENCs) production responsibilities has been conducted by FICCWG Coordinator (Türkiye) as per the FICCWG and MBSHC S-1XX WG ToR and RoP.

2. Since the last MBSHC Meeting (MBSHC24), 6 charting-related requests from MSs (Lebanese Navy Hydrographic Service (LNHS), Morocco Hydrographic Office (DHOC), Romanian Maritime Hydrographic Directorate (RMHD), State Hydrographic Service of Ukraine (SHSU) and Hellenic Navy Hydrographic Service (HNHS)) have been received. 5 of them have been successfully processed with no objection from FICCWG MSs.

Results of Questionnaire About S-101 Readiness Status

A questionnaire has been conducted to assess the “S-101 Readiness Status” of MBSHC Member States. As part of this, several questions were asked, and the following results were obtained from the responses;

a. The question about when to complete the S-101 production was answered by 10 countries. Among these, the majority, 3 countries plan to complete the S-101 production in 2026, while 3 other countries are uncertain on this matter.

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b. When countries were asked about their S-101 readiness status, the majority of the 10 responding countries, specifically 5 countries, replied that production has not yet started.

c. When asked about the challenges faced during the S-101 transition period, 10 countries provided responses. The challenges were listed by the MSs in order of frequency as follows: insufficient number of personnel (%40), lack of required software (%30), all specified (%20) and technical support (%10).

❖ **Black and Azov Seas WG (BASWG)**

BASWG18 Meeting

BASWG-18 was held on 16-17 September 2025 in İstanbul with the participation of 5 MSs (except for RF), IHO Director RAdm (LH) Luigi SINAPI, Region F ICCWG Coordinator and NAVAREA-III Coordinator.

Highlights of BASWG-18 (Decisions and Actions):

No	Decision
BASWG18/D03	Challenges in the Black Sea encountered by Ukraine due to the current situation are well noted.
BASWG18/D10	BASWG recognizes that the S-100 transition represents both challenges and opportunities, requiring urgent coordinated action and acknowledges that interoperability and validation remain central to successful S-100 implementation.
BASWG18/A07	MSs are requested to provide inputs about the 2026-2027 MBSHC CB Work Plan taking into account their training activity needs/requests (especially regarding S100 transition).
BASWG18/A09	MSs to provide their opinions about S-100 readiness (including S-124), production plan, coverage alternatives (full, partial) etc. responding to the Questionnaire to be issued by Türkiye.
BASWG18/A11	IHO Secretariat to provide high-level support for encouraging the Caspian Sea littoral states to attend MBSHC/BASWG meetings as observers.

Results of Survey About Creating Testbed in the Black Sea

- When asked to MSs about the S100 testbed in Black Sea Region, all participants (6 countries) viewed it positively.
- 4 participants indicated that they would support the S100 testbed project when established.
- 1 country is positive and 1 country is negative to include a port/region in their own country to S100 Testbed.
- The following products were voted to be included in the S100 testbed by 5 participants from BASWG and Spain:
 - o **S101:** 5 votes
 - o **S102:** 4 votes
 - o **S124:** 3 votes

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- Among the products that are currently ready for inclusion in the project, the following datasets were identified:
 - **S101:** 2 votes
 - **S102:** 1 vote
- Production Plans by Country for S101, S102, and S124:
 - **S101:**
 - 1 country plans to produce by **Q2 2026**.
 - 2 countries plan to produce by **Q4 2026**.
 - 1 country plans to produce by **2028**.
 - **S102:**
 - 1 country plans to produce by **Q2 2026**.
 - 2 countries plan to produce by **Q4 2026**.
 - 1 country plans to produce by **2027**.
 - **S124:**
 - 1 country plans to produce by **2027**.
- Current Production Status:
 - **S101:** 2 participants have commenced production.
 - **S102:** 1 participant has commenced production.
- Production Completion Plans by Country:
 - **S101:**
 - 2 countries plan to complete production by **Q4 2026**.
 - 1 country plans to complete production by **Q1 2027**.
 - 1 country plans to complete production by **2030**.
 - **S102:**
 - 1 country plans to complete production by **Q4 2026**.
 - 1 country plans to complete production by **Q1 2027**.
- Participants are encountering the following key challenges in the S100 Transition:
 - Insufficient personnel to support the transition.
 - Lack of the required software tools.
 - Limited technical support for implementation.
- Some reported that, they believe S100 testbed should be located in a port where traffic, currents and tidal conditions are demanding, in order to evaluate the proper functioning of the services.

❖ **S-1xx WORKING GROUP (S-1xx WG)**

The major achievement of the S-1XX WG is the approval of the ToRs and RoPs on the 18th of November 2025 (MBSHC CL12/2025). Several S-1XX related activities have been conducted in the framework of the Capacity Development and in relation with the Coordinator: Türkiye.

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The next step is the meeting of the working group in the margin of next MBSHC25 Conference that will take place 30th of March 2026 in Marseille (France). Each Member will have an opportunity to update the group on their latest developments, needs for Capacity Development and election of a Vice-Chair.

❖ **CAPACITY BUILDING WORKING GROUP (CBWG)** The Capacity Building (CB) Coordinator role of the MBSHC has been carried out by Türkiye. Capacity-Building activities, which are based on assessing the development and capacities of each coastal state within the region, play a key role in providing and maintaining a fundamental level of understanding and capability in related fields. This base makes it possible for the coastal states to cooperate, exchange information and experience. Another essential objective of these activities is to help the Member States fulfilling their obligations with respect to the SOLAS Convention.

S-100 implementation training 12-15 May 2025 – funded by IC-ENC

Training focus:

- IHO Phase 1 S-100 products
- A strong focus on S-101 migration
- Overview and technical explanations of S-102/S-104 aspects and how they affect bathymetric aspects of ECDIS
- Compilation and use of S-111 surface currents, S-124 navigational warnings and S-129 under keel clearance management.
- Revision control in ECDIS

5. Difficulties encountered and challenges yet to be addressed:

The MBSHC is the region with the largest number of member countries, and improving cartographic coordination among them remains both a key priority and a permanent ongoing task. While progress has been achieved in Region F, particularly regarding the resolution of certain ENC overlaps and improvements to the INT and ENC charting schemes, significant challenges remain.

The main difficulties faced by the MBSHC relate to coordination and negotiation among interested parties concerning INT chart schemes and ENC coverage. The only sustainable way forward is to continue structured technical discussions among the relevant stakeholders, with the objective of reaching formal technical agreements to resolve ENC overlaps and rationalize INT paper chart schemes within the framework of the Region F ICCWG, in accordance with its Terms of Reference (ToR) and Rules of Procedure (RoP).

In addition, several bilateral issues related to cartographic coordination remain to be resolved. There is also a clear and growing need for capacity development across the region, particularly in relation to the implementation and adoption of S-100-based products and services.

6. Achievement/output/conclusions:

Achievements/outputs

MBSHC is the biggest RHC and the activity of its Members reflects their engagement in all hydrographic and cartographic matters within IHO and in the transition to the S-100.

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Following a fruitful cooperation with France, Morocco is now publishing all ENC's, paper charts and nautical publications in its waters

In order to solve any maritime/hydrographic issues in our area of responsibility, a closer collaboration among stakeholders is needed and must be strengthened.

At MBSHC24, the Mediterranean Science Commission (CIESM), presented a new IT tool, easy to customize, developed from open-source technologies, that will facilitate integration of all kind of marine scientific data and application samples.

CIESM also presented an evaluation on marine hazards, coastal vulnerability and risk (mis)perception in Mediterranean Sea.

Conclusions

MBSHC is a RHC covering a small geographic area but with the largest number of countries and different kind of issues. It became clear that we are most productive to address strategic issues when we are working together and in person.

- We are in the process to identify requirements for a S-100 Testing areas within MBSHC Member States. More details will be sent via CLs to MBSHC Member States.
- We promote and encourage bilateral/multilateral discussions and agreements between MBSHC Member States due to
 - INT charting issues taken to higher level IHO bodies, bypassing the Region F ICCWG.
 - High-risk ENC overlaps in the region.
 - Resolving the production responsibilities of the four existing INT Charts (at 1:300000 scale) in the Aegean Sea.
- We consider that the main challenge in the MBSHC region is still the implementation of S-100 products and services, and for that reason, additional effort, capacity building activities, education, trainings and cooperation among MS in the MBSHC region is required.
- We remain committed to support and assist in solving the challenges in the region by any appropriate means, and remain committed to IHO priorities and standards.

7. Actions required of the Assembly:

- a) **Note** the report of the MBSHC
- b) **Take** any other action considered appropriate

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7. REPORT OF THE NORDIC HYDROGRAPHIC COMMISSION (NHC)

1. Chair:

Gudmund Jønsson (Norway) from 26 March 2026 to present.

Georg Kr. Lárusson (Iceland) from 3 April 2025 to 26 March 2026.

Rainer Mustaniemi (Finland) from 12 April 2024 to 3 April 2025.

Magnus Wallhagen (Sweden) from 22 March 2023 to 12 April 2024.

Vice-Chair:

Evert Flier (Norway) from 26 March 2026 to present.

Guðmundur Birkir Agnarsson (Iceland) from 3 April 2025 to 26 March 2026.

Jarmo Mäkinen (Finland) from 12 April 2024 to 3 April 2025.

Annika Axne (Sweden) from 22 March 2023 to April 2024.

2. Membership:

Members: Denmark, Finland, Iceland, Norway, Sweden.

Observers: IHO Secretariat.

3. Meetings:

For purposes of this report, the reporting period is considered from Assembly 3 (May 2023) to the current Assembly (April 2026).

- NHC 67, 11-12 April 2024, Malmö, Sweden.
- NHC 68, 1-3 April 2025, Helsinki, Finland.
- NHC 69, 24-26 March 2026, Reykjavík, Iceland.

4. Agenda Items:

National Reports: MSs address charting, survey, technology and personnel.

Data Distribution Policies: Updating and debating current and future plans of the MSs.

S-100: NHC Member States actively exchange S-100 implementation knowledge—sharing practical production capabilities, management approaches, and coordination strategies with national authorities.

The Committee prioritizes this collaborative learning at its meetings to ensure all members benefit from collective experience.

Sub-ECDIS market: Discussion about the Sub-ECDIS market and future of paper charts.

Expert groups: Within NHC are two active expert groups; Nordic Survey Expert Group (NSEG) and Nordic Chart Production Expert Group (NCPEG). Ongoing work of NCPEG is harmonization of how to handle preliminary and temporary notices to mariners.

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IHO Strategic Plan: MS of NHC have taken active role in the work of revision of the IHO Strategic Plan, 2027 - 2032.

5. Difficulties encountered and challenges yet to be addressed:

How to better serve Sub-ECDIS customers with reliable, affordable and easy to access digital navigational products, to be used for official navigation.

6. Achievements/outputs/conclusions:

Cooperation within the NHC is very productive. The NHC MSs participate actively in the NHC and its expert groups. Member states have continued to contribute extensively to the work of the IHO and have been active participants in IHO working groups and committees.

Most MSs are making good progress in S-100 implementation.

Several MSs have adopted automated sounding selections and contouring in their chart production process and are going to share their experiences within the NCPEG.

Seabed2030 MoU – At NHC67 2024 in Malmö Sweden, the Member States signed an MoU with Seabed2030 to represent the commitment of NHC in working to advance understanding of ocean bathymetry and the sea floor and to provide the GEBCO grid with bathymetry data for the region.

7. Actions required of the Assembly:

- a) **Note** the report of the Nordic Hydrographic Commission (NHC).
- b) **take** any other action considered appropriate.

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8. REPORT OF THE NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION (NIOHC)

1. **Chair:** Rear Admiral Mohammad Musa, OSP, NPP, rcds, afwc, psc, MPhil, PhD (Bangladesh)

Vice-Chair: Captain Hassan Atef EL-Halawany (Egypt)

2. Membership:

Member States

Bangladesh, Egypt, India, Indonesia, Myanmar, Pakistan, Saudi Arabia, Sri Lanka, Thailand, United Kingdom

Associate Members

Australia, France, Malaysia, Oman, Mauritius, Seychelles, USA

Observers

Russian Federation, Sudan

3. Meetings:

a. 23rd NIOHC Conference – From 21 to 23 May 2024, in Chiang Mai, Thailand, hosted by the Royal Thai Navy.

b. 24th NIOHC Conference – From 11 to 13 February 2025, in Bangkok, Thailand, hosted by the Royal Thai Navy.

4. Agenda Items:

Agenda Items of 23rd NIOHC Conference

- IHO Matters
- National Reports
- NIOHC Committee and Working Groups
- Relevant International Organizations Reports
- Maritime Safety and the Worldwide Navigational Warning Service
- Bangladesh present CAT B
- Industrial Presentation
- Regional Issues/Challenges
- NIOHC Input to IHO Meeting

Agenda Items of 24th NIOHC Conference

- IHO Matters
- National Reports
- NIOHC Committee and Working Groups

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- Relevant International Organizations Reports
- Industrial Presentation
- Malaysia applies for Associate Member
- Regional Issues/Challenges
- NIOHC Input to IHO Meeting
- Selection of Next Vice Chair
- Chairmanship Handing Over Ceremony

5. Difficulties encountered and challenges yet to be addressed:

- The transition from S-57 to S-100 standards
- Communication between the NIOHC members
- Limited technical and financial resources
- Arrangement of Capacity Building program

6. Achievements/outputs/conclusions:

- 23rd and 24th NIOHC Conference conducted and hosted by Thailand in 2024 and 2025 respectively.
- 25th NIOHC Conference will be held from 11-13 May 2026 in Chattogram, Bangladesh and will be hosted by Bangladesh.
- The next Chair and Vice Chair of NIOHC for 2025-2027 have been determined. Bangladesh nominated as Chair and Egypt elected as Vice Chair.
- UK is assisting the NIOHC countries for developing the S-100 Roadmap and Capacity Building Programs.
- Updating of C-55 is in progress.

7. Actions required of the Assembly:

- a) **Note** the report of the NIOHC to the 4th Assembly of IHO.
- b) **Take** any other action considered appropriate.

Reports of the Regional Hydrographic Commissions and the Hydrographic commission of Antarctica

9. REPORT OF THE NORTH SEA HYDROGRAPHIC COMMISSION (NSHC)

1. Chair:

Thomas Dehling, Germany – March 2026 – Present

RAdm Angus Essenhigh, United Kingdom – April 2024- March 2026

Magnus Wallhagen, Sweden, April 2022 – April 2024

Vice-Chair:

Pia Dahl Højgaard – Denmark, March 2026 - Present

Thomas Dehling, Germany, April 2024 - March 2026

RAdm Angus Essenhigh, United Kingdom, June 2023 – April 2024

2. Membership:

Members: *Belgium, Denmark, France, Germany, Iceland, Ireland, Netherlands, Norway, Sweden, United Kingdom*

Observers: *IHO Secretariat*

3. Meetings:

37th NSHC Meeting, 8th – 10th April 2024, hosted by Sweden

38th NSHC Meeting, 8th-9th April 2025, VTC hosted by United Kingdom

39th NSHC Meeting, planned 17th – 18th March 2026, hosted by United Kingdom

4. Agenda Items:

S-100 Implementation

NSHC reviewed the progress of S-100 implementation across Member States (MS), focusing on the development and integration of key product specifications such as S-101 (ENCs), S-102 (bathymetric surfaces), S-104 (water level information), S-111 (surface currents), and S-124 (navigational warnings). Discussions emphasized the need for harmonized approaches to ensure interoperability and consistency across the North Sea region. It was recommended that NSHC MS produce an “operational stack” of Phase 1 S-100 products, focussed on the highest priority ports and the routes between them, then begin upscaling production of S-100 products between these ports and routes. This recommendation should not preclude MS producing S-100 coverage based on their individual S-100 conversion/production strategies. As S-100 Phase 1 products develop, the NSHC, BSHC, and USHC should investigate the production of a coherent S-100 offering, along shipping routes between these RHCs.

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INT chart schemes and S-57 ENC coverage

Member States have continued to provide timely updates on the status of INT chart schemes and S-57 ENC coverage within Region D. This has included reports on new editions, co-production initiatives, and ongoing gridding programs aimed at improving chart consistency and reducing overlaps. Future adjustments to the INT chart series have also been considered, with a focus to understand evolving user requirements and production efficiency, whilst continuing to focus on the transition toward S-100 products.

Technical and Industry Engagement

NSHC has welcomed several external speakers to the most recent Hydrographic Commissions, who have been able to showcase maritime achievements in the North Sea Region. NSHC37 included a visit to the IMO World Maritime University, Malmö Sweden, where Member States were given a valuable opportunity to speak to the future generation of those working within the Maritime sphere. At NSHC38, Wietse van der Werf, founder and CEO of Sea Ranger Service, presented the organisation's mission to inspire young people into a maritime career. At NSHC38, Member States also welcomed Andreea Strachinescu from the European Commission DG MARE, who provided a comprehensive overview of their Ocean Observation Initiative.

EMODNET Bathymetry

At NSHC38, Shom presented the recent successes of the EMODNET Bathymetry partnership in the North Sea Region. EMODnet Bathymetry aims to provide a single access point to bathymetric data (survey data sets and composite DTMs) and derived bathymetric data products. Its flagship data product is the harmonised Digital Terrain Model (DTM) for all European sea regions with a common grid resolution which is generated and regularly updated on the basis of an increasing collection of bathymetric data sets, gathered from organisations from government, research institutes, and industry. The 2024 DTM was made public in March 2025. There were 43,000 Survey entries. Shom also shared the 2026 DTM production agenda, with data providers finalising their contributions by the end of 2025.

5. Difficulties encountered and challenges yet to be addressed:

S-100 Transition: readiness, resourcing and the dual/triple fuel burden.

The transition from S-57 to S-100 standards is proving challenging for the region. It is recognised that there are varying degrees of readiness among NSHC Member States for S-100.

S-100 Implementation Challenges:

- Technical: dependent on production software updates / OEM / ECDIS.
- Training / Capacity / competing priorities e.g. requirement to “Triple Fuel”.
- Availability of high-quality data to support S-102.
- High cost of port scale dynamic data models to create S-104 and S-111.
- National Hydrographic Offices are not all responsible for the source data to make S-1XX products and services. National coordination is required.

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Resurvey Working Group (RWG)

Members debated the group's future, noting that tools like the UK Centre for Seabed Mapping Planning Information Portal (PIP) or AllOceanObs have limited value without Member States' engagement. The key issue is whether there is enough capacity and interest to revitalize the group. The resulting next steps include the UK assessing the PIP tool for NSHC use, while the Netherlands will update on the EU Ocean Observation Initiative tool.

Sunsetting S-57

The HSSC chair advised the MS that there was discussion at Comité International Radio-Maritime (CIRM) regarding a request to sunset S-57, to enable a focus on S-100. Member States from the NSHC region noted that acting would require support from the IMO, the discussion is ongoing at this stage.

6. Achievements/outputs/conclusions:

Knowledge Sharing and Collaboration

Member States continue to share experiences and lessons learned through participation at the Regional Hydrographic Commission and in IHO S-100 working groups, fostering a collaborative environment for problem-solving. This has included presentations from UK, France, Germany and Sweden, which have shown excellent progress in S-100 and cross-member collaboration on S-100 Trials. Germany demonstrated their automated production of S-127 to Member States, using QGIS and Python. Sweden presented the Baltic Sea e-Navigation project, which serves as a valuable reference model, offering insights into harmonization and digital navigation solutions.

Revision of NSHC Statutes

At NSHC37, Member States approved updating the NSHC statutes to include the reference to the applicable IHO Resolution and to ensure they contained gender-inclusive language. This aligns with the IHO's proposal at the 3rd Assembly (A3-2023) to use gender-inclusive wording in its documents and communications.

Working Groups and Structured Progress Monitoring

The NSHC International Charting Coordination Working Group (ICCWG) is organising additional meetings to monitor progress and maintain momentum in S-100 implementation. The group is developing a set of harmonisation recommendations for the region as well as identifying complementary areas for initial rollout.

The NSHC MSI Working Group has examined the progress of implementing S-124 for navigational warnings and discussed its coordination within NAVAREA I. This included consideration of operational challenges such as NAVTEX capacity limitations, as well as the introduction of new MSI technologies like VHF Data Exchange System (VDES), NAVDAT, and Maritime Connectivity Platform (MCP) for future digital dissemination.

The NSHC has approved new Terms of Reference for Tidal Working Group (TWG) to have a permanent chair and encompass the responsibility for coordination of Member States implementation of S-104 and S-111.

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Seabed2030 MoU – At NSHC39, the NSHC Chair signed an MoU with Seabed2030 to represent the commitment of NSHC in working to advance understanding of ocean bathymetry and the sea floor.

7. Actions required of the Assembly:

- a) **Note** the report of the North Sea Hydrographic Commission
- b) **Take** any other action considered appropriate.

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10. REPORT OF THE SOUTHERN AFRICAN AND ISLANDS HYDROGRAPHIC COMMISSION (SAIHC)

1. Chair: Captain Nicolette le Roux – South Africa (from March 2026).

Vice-Chair: Mr Mohummad Shamad Ayoob Saab, Mauritius (from February 2021)

2. Membership:

Members: Angola, France, Kenya, Mauritius, Mozambique, Norway, Republic of South Africa, Seychelles, United Kingdom.

Associate Members: Comoros, India, Madagascar, Malawi, Namibia, Portugal, Tanzania.

3. Plenary Meetings:

- SAIHC19: 29-31 August 2023 hosted by Mauritius in Pointe aux Piments, Mauritius.
- SAIHC20: 17-19 September 2024 hosted by United Kingdom in Kisumu, Kenya.
- SAIHC21: 16-18 September 2025 hosted by France in Saint Denis, La Réunion.

4. Agenda Items:

Hydrographic Awareness and Capacity Development

With the support of the IHO Capacity Building fund, a series of Hydrographic Awareness Seminars have been delivered for the region. These seminars, which have focused on Survey technologies, IHO Standards and Crowd Sourced Bathymetry, have supported regional engagement and collaboration and helped to increase the awareness of international obligations.

African Great Lakes and Rivers Sub Working Group

There has been continued focus over the last three plenary meetings on ensuring that time is dedicated to covering Africa's significant inland waterways, this is particularly important for the land-locked nations where hydrography still plays an important role. A key activity of the group is to enhance the coordination and sharing of regional hydrographic information.

Technical and Industry Engagement

SAIHC has welcomed regular industry presentations showcasing innovations in hydrography, ocean mapping and data collection to advance hydrographic capabilities. There are also regular presentations from RENCs (IC-ENC and Primar) and updates on benefits of RENC membership. Discussion at plenary has also been enriched by attendance from International Organisation for Marine Aids to Navigation (IALA) and the Maritime Organization for Eastern, Southern, and Northern Africa (MOESNA).

Safety, Resilience and Disaster Response

Dedicated sessions on a SAIHC Disaster Response Plan and Maritime Safety including NAVAREA coordination have encouraged collaboration on risk management and emergency preparedness.

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Regional and International Collaboration

SAIHC agendas cover regional representation at IHO meetings (such as Council, IRCC and HSSC) and align with IHO priorities such as the IHO Revised Strategic Plan.

Full and Associate Members feedback annually on their progress and challenges faced and there is an emphasis on chart coordination and harmonisation through the ICCWG.

There has also been a focus on integration of Crowd-Sourced Bathymetry and Seabed 2030 initiatives to improve data availability for the wider international hydrographic community.

SAIHC20 and SAIHC21 plenaries also both included vessel visits as part of the programme. At SAIHC20 the delegation visited MV Uhuru II in Monkey Bay, Kenya which enabled delegates to understand the challenges of navigating on the Great Lakes and the need for improved hydrography. At SAIHC21 the delegation were welcomed on board ice breaking vessel 'L'Astrolabe' in La Réunion. A comprehensive overview of the ship's operations provided valuable insights into the vital work undertaken in support of polar and maritime missions.

5. Difficulties encountered and challenges yet to be addressed:

S-100 Transition: readiness, resourcing and the dual/triple fuel burden.

The transition from S-57 to S-100 standards is proving challenging for the region.

It is recognised that there are varying degrees of readiness among SAIHC Member States for S-100 with some Member and Associate Member states currently at low levels of preparedness.

The added workload of maintaining S-57/Paper whilst standing up S-100 has also been identified as an issue within the region and there are calls for training and sustained funding to support the S-100 transition for the wider SAIHC community.

Data Sharing and Coverage Gaps

Large areas of the SAIHC region remain poorly surveyed, especially inland waters and remote coastal zones. In part this is due to the challenges of data collection in remote locations.

National Crowdsourced Bathymetry (CSB) policies vary or are absent in places and there is some hesitancy about data security and release. Lack of data coverage to meet the Seabed 2030 goals remains a huge challenge for the SAIHC region particularly as many members find it challenging to unlock scarce resources to invest in hydrography.

Limited Capacity and Funding for Hydrographic Development

Member states report inadequate resources for hydrographic surveys, processing software, training and equipment.

Marine Safety Information Gaps

There has been absent or irregular MSI reporting from some Member and Associate Member states. A need has been identified for operator training and contingency planning to support this.

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Governance and stakeholder awareness

There is an absence of active National Hydrographic Committees within SAIHC membership, and difficulties remain in raising hydrography's importance within government planning. Multi-agency coordination is still maturing and there have been some challenges unlocking donor funding.

6. Achievements/outputs/conclusions:

Capacity Development and Collaboration

Bilateral and industrial partnerships are delivering tangible outcomes within the SAIHC region.

The narrative shift from capacity “building” to “development” has been matched by diversified delivery including increased focus on eLearning, industry SME inputs, and the Empowering Women in Hydrography initiative. Cross Regional Hydrographic Commission collaboration has been encouraged for example with S-100 coordinators sharing knowledge and experience.

Since A-3 Technical Visits have been carried out in the region to Madagascar, Republic of Tanzania and to the Republic of Uganda which was delivered in collaboration with IHO Director John Nyberg. These events support the development of hydrographic capability and have raised awareness at a policy level of the value of hydrography and its role in supporting a country's economy. In addition, these visits provide opportunities to discuss the benefits and opportunities of IHO Membership and help identify opportunities where stakeholders can collaborate to understand the nation's future ambitions.

Participants from the region have benefited from the support of the IHO Capacity Building Fund and the generous support of the donor organisations – Mr Sibonelesihle Brighten Dlamini of South Africa was selected to participate in the Category B Nautical Cartography Programme, sponsored by the Republic of Korea in 2025 and the Nippon foundation have sponsored Mr Anthony Waiyego from Kenya to attend the IHO – NF GeoMAC course.

Empowering Women in Hydrography

The Empowering Women in Hydrography Project has been promoted in region with opportunities for secondments and funding. In 2023 Ms Victoria Obura was selected for the At-Sea Internship Experience provided by NOAA. As part of this the UK Gender Balance Fund has supported attendance at SAIHC for Uganda (2024) and Kenya (2025), attendance at regional Maritime Safety Information Courses and participation at the CSB working Group meeting. UK also supported a technical inbound visit to UKHO under the Gender Balance Fund for South Africa and SHOM supported Marie Anna Baovola (Madagascar) to attend the Hydro3 training in France in June 2025.

Inland waters are on the map.

Governance and collaboration through the African Great Lakes and Rivers Sub Working Group (AGL&RSWG) are unlocking progress beyond the coast. There is now an annual meeting at plenary, attracting improved regional engagement, with Uganda and Zambia now regular observers at the commission.

IALA and MOESNA conducted a joint technical visit of Lake Victoria in 2024 which further highlighted the regional challenges and opportunities. The 8th meeting of the AGL&RSWG took place in La Réunion, September 2025 and there have been ongoing discussions around the requirement for modern navigational products and a data information portal to support regional collaboration and improve awareness of the status of hydrography.

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GEBCO and Seabed 2030 Engagement

There has been increased engagement with Seabed 2030 and CSB projects including deployment of data loggers, a stakeholder workshop and data-sharing agreements. The SAIHC data sharing culture is strengthening with more CSB positive policies and low resolution/gridded releases. As part of the IHO supported Hydrographic Awareness Seminar in 2025, SAIHC CSB co-ordinators South Africa produced a series of videos to provide an introduction to CSB and to demonstrate how data loggers can be installed on vessels and data retrieved.

Charting Developments and S-100

There has been successful implementation of gridded ENC schemes in Seychelles and East Africa, improving chart coverage and readiness for S-100 transition.

S-100 is advancing in the SAIHC region, unevenly but surely. SAIHC appointed Mauritius as S-100 Coordinator at SAIHC20 and have suggested developing terms of reference for this role at SAIHC22.

As part of the Hydrographic Awareness Seminar in 2024 an introductory session was delivered on S-100 to raise awareness within the region of the benefits that its implementation will bring

and to discuss some of the challenges faced. An S-100 workshop held prior to SAIHC21 attempted to summarise S-100 readiness within the SAIHC community. The workshop determined that of Member and Associate Members states 25% are advanced, 35% are developing and 40% are emerging in terms of S-100 preparedness. This has provided a useful baseline for targeting support and Members are collaborating and sharing to accelerate readiness as much as possible.

7. Actions required of the Assembly:

- a) **Note** the report of the Southern African and Islands Hydrographic Commission
- b) **take** any other action considered appropriate.

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11. REPORT OF THE SOUTH-EAST PACIFIC REGIONAL HYDROGRAPHIC COMMISSION (SEPRHC)

1. Chair:

Chair: Captain Carlos Zúñiga Araya (Chile).

2. Members:

Members: Chile, Colombia, Ecuador, Peru.

Observers: Spain, Panama.

3. Meetings:

3.1 Held:

- SEPRHC15, Valparaiso (CHILE), 27–29 November 2023.
- SEPRHC 16, Valparaiso (CHILE), 14–16 May 2025.

3.2 Scheduled:

- SEPRHC17, Cartagena de Indias (COLOMBIA), 5–7 October 2026.

4. Agenda Items:

- Edition of the 5th version of the Statutes published in May 2023.
- IHO matters (Assembly, Council, IRCC, HSSC, WENDWG).
- Regional Coordination (S-100, CB, MSDI, GEBCO - Seabed 2030, CSB).
- Coordination of the distribution of datalogger devices provided by the GEBCO Seabed 2030 project.
- National updates from Member States.Change of Chairmanship.

4.1 Edition of the 5th version of the Statutes (May 2023)

The provisions contained in the previous version of the published Statutes were reviewed and analyzed in order to assess their practical implementation and propose possible adjustments to optimize governance, decision-making, and the active participation of Member States (MS). The need to keep the Statutes aligned with the guidelines and resolutions of the International Hydrographic Organization and with current developments was emphasized.

4.2 IHO Matters

The main issues addressed by the IHO subsidiary bodies were analyzed, including the Assembly, the Council, and the relevant technical committees such as the IRCC (Inter-Regional Coordination Committee), the HSSC (Hydrographic Services and Standards Committee), and the WENDWG (Worldwide ENC Database Working Group).The importance of strengthening regional participation in these groups was highlighted in order to ensure that the needs and priorities of the region are adequately represented.

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4.3 Regional Coordination

Regional initiatives related to the implementation of the S-100 standard and its derived products were reviewed, as well as efforts in Capacity Building (CB). It was also highlighted that the Member States of Colombia, Chile, and Peru deliver Category “A” Hydrography courses, while Colombia and Ecuador offer Category “B” Hydrography courses.

In addition, as a Hydrographic Commission, topics such as Marine Spatial Data Infrastructure (MSDI), the GEBCO–Seabed 2030 Project, and the Crowdsourced Bathymetry (CSB) initiative are addressed.

Furthermore, progress in technical cooperation among Member States was emphasized, aimed at addressing common challenges, sharing experiences, and optimizing the use of resources.

4.4 National Updates from Member States

Each Member State presented a report on national hydrographic progress, including technological modernization, chart production, hydrographic surveys, implementation of international standards, and technical training.

4.5 Coordination of the distribution of datalogger devices provided by the GEBCO Seabed 2030 project.

During the Chair’s tenure, and with the support of the International Hydrographic Organization, the distribution of datalogger devices among the Member States was agreed. Consequently, these devices were delivered to each country.

Additionally, presentations were coordinated with the observer Member State, Spain, regarding their use.

4.6 Change of Chairmanship to the Member State of Colombia

The transfer of the Chairmanship to the Member State of Colombia was agreed upon, recognizing its commitment to strengthening regional cooperation and ensuring continuity of ongoing strategic projects. This will take place at the beginning of SEPRHC17 in October 2026.

5. Difficulties and Challenges

S-100 Implementation Projects

The main challenge identified is the progressive implementation of the S-100 Standard and its associated specifications (S-101, S-102, S-104, among others) in the Hydrographic Offices of the region.

The main difficulties include:

- Budgetary limitations for technological upgrades.
- Need for specialized training of technical personnel.
- Adaptation of cartographic production infrastructure.
- Transition from current standards to the new S-100-based framework.
- Interoperability of systems and data management.

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The comprehensive implementation of the S-100 Standard requires strategic planning, international cooperation, and access to IHO-supported capacity-building programs to meet the established schedule.

6. Achievements and Conclusions

Achievements:

- Fourteen cooperation agreements and four concrete actions were established to be fulfilled by the Commission, strengthening regional integration.
- Interregional coordination was consolidated through periodic meetings among Member States.
- Thematic presentations were delivered on the implementation of the Standard.
- Active collaboration with the GEBCO / Seabed 2030 project was carried out through the distribution of datalogger devices in the region, contributing to the collection of bathymetric data.
- The Commission published various technical articles in the International Hydrographic Review, promoting visibility and dissemination of regional work.
- The region maintains active participation in the IHO Capacity Building Committee.

Conclusions:

- Regional cooperation is an essential element in improving productivity and efficiency in hydrographic services.
- The signing of bilateral and multilateral agreements is actively promoted to strengthen technical capabilities.
- The main challenge remains the full implementation of the S-100 standard.
- A firm commitment is maintained to the strategic priorities, resolutions, and technical standards of the International Hydrographic Organization.

7. Actions Requested from the Assembly

The Assembly is invited to:

- Take note of the report presented by the SEPRHC.
- Take any other action it deems appropriate to support the achievement of the IHO objectives.

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12. REPORT OF THE SOUTH WEST ATLANTIC HYDROGRAPHIC COMMISSION (SWAtHC)

1. **Chair:** Captain Niki Silvera (Uruguay)

Vice-Chair: Rear-Admiral Hernán Jorge Montero (Argentina)

2. **Membership:**

Member States: Argentina, Brazil and Uruguay

Associate Member: Paraguay

Observers: Bolivia, Portugal and Spain

3. **Meetings:**

- SWAtHC-18 – 09 and 10 April 2024 – Buenos Aires – ARGENTINA
- Preceded by the 4th Hydrographic Awareness Seminar funded by the IHO – 08 April 2024 – Buenos Aires - ARGENTINA
- SWAtHC-19 – 25 and 26 March 2025 – Niterói – BRAZIL
- Preceded by the Workshop S-100 – 24 March 2025 – Nierói - BRAZIL
- SWAtHC-20 – 12 and 13 March 2026 – Montevideo – URUGUAY
- SWAtHC-21 scheduled to be held in Buenos Aires – 27 and 28 April 2027

4. **Agenda Items:**

The main subjects discussed during inter-Assembly period were:

- Capacity building;
- Contributions to GEBCO/SEABED 2030; and
- S-100 Implementation.

5. **Difficulties encountered and challenges yet to be addressed:**

There is consensus among SWAtHC Members our main challenges are related to dual-fuel production and capacity building.

6. **Achievements/outputs/conclusions:**

The main achievements during inter-Assembly period were:

- Release of the first S-101 ENC in the region;
- Contributions to SEABED2030 have reached 27.66% of coverage in the region;
- Capacity building coordination with neighboring RHC;
- Partnership among Members sharing data and products; and
- Partnership among Members to implement S-100 Roadmap.

7. **Actions required of the Assembly:**

- a) **Note** the report of the SWAtHC
- b) **take** any other action considered appropriate.

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13. REPORT OF THE SOUTH WEST PACIFIC HYDROGRAPHIC COMMISSION (SWPHC)

1. Chair: Hilary Thompson (Australia) from June 2023.

Vice-Chair: Lt Cdr Jervis Robinson (Fiji) — from February 2023 ; promoted to CMDR and continued from January 2025; Lt CMDR Ben Cavuilati (Fiji) — February 2024 to January 2025.

2. Membership:

- **Member States:** Australia, Fiji, France, Kiribati (admitted as the 100th IHO Member State in May 2024), New Zealand, Papua New Guinea, Samoa, Solomon Islands, Tonga, United Kingdom, United States of America, Vanuatu.
- **Associate Members:** Cook Islands, Indonesia, Nauru, Niue, Palau, Republic of Marshall Islands (admitted in May 2024).
- **Observers:** New Caledonia.
- **Observer Organizations:** International Maritime Organization (IMO), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), GEBCO, Pacific Community (SPC).

3. Meetings:

- **SWPHC21:** 28 February – 1 March 2024; Nadi, Fiji (Hybrid meeting).
- **SWPHC22:** 3–5 March 2025; Koror, Palau (Hybrid meeting).
- **SWPHC23:** 18–20 February 2026; Noumea, New Caledonia (Hybrid meeting).

4. Agenda Items:

- **SWPHC WorkPlan 2024–2027:** Development of a regional plan using the "Theory of Change" framework to deliver the goals of the IHO Strategic Plan.
- **Pacific One Maritime Framework (POMF):** Active engagement as a development partner to incorporate hydrography and S-100 standards into core Pacific maritime strategy.
- **S-100 Implementation:** Establishment of a Regional S-100 Coordinator, conduct of a regional state assessment, and development of a coordinated implementation strategy.
- **Capacity Building (CB):** Delivery of workshops on Hydrographic Disaster Response (Fiji 2024), Maritime Safety Information (MSI) (Noumea 2026), and Maritime Law and Hydrographic Contracting (Palau 2025).
- **Hydrographic Leaders Programme (HLP):** Delivery of **Cohort 2** (2025), providing technical and leadership training for 12 participants across the region.
- **Marine Spatial Data Infrastructure (MSDI):** Refreshing regional strategies to promote data sharing and implementation of the **Integrated Geospatial Information Framework (IGIF)**.

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5. Difficulties encountered and challenges yet to be addressed:

- **High-Level Engagement:** Continued difficulty in coordinating with international and regional agencies at a senior enough level to raise awareness of the benefits of hydrography.
- **S-100 Governance:** Supporting Pacific Island Countries and Territories with the technical transition to **S-100 next-generation products** while traditional paper charts are still needed in the region.
- **IHO Portal Implementation:** The new portal has presented barriers to engagement due to functionality, accessibility, and performance issues, increasing the administrative burden on the Commission.
- **Inclusion Barriers:** Ongoing challenges for members from the region to participate in in-person meetings due to distance, prohibitive travel costs, and carbon impacts.

6. Achievements/outputs/conclusions:

- **Expanded Membership:** Successful admission of **Kiribati as an IHO Member State** and the **Republic of Marshall Islands as an Associate Member**.
- **IHO-SPC Memorandum of Understanding:** Refreshed this critical relationship, which is essential for regional maritime goals.
- **Charting Milestones:** Release of the **first ENC for Nauru (2024)** and the first **domestically produced paper chart for Fiji**.
- **Strategic Recognition:** Formal acknowledgement of hydrography and S-100 as a core enabler in the **Pacific One Maritime Framework** to be endorsed by the Pacific Energy and Transport Minister meeting in May 2026.
- **Disaster Preparedness:** Finalization of the **SWPHC Disaster Response Framework** to coordinate regional assistance following natural disasters.
- **Leadership Development:** Successful delivery of **HLP Cohort 2**, fostering a self-sustaining network of regional leaders.
- **IHI Circular Letter Voting Support:** Conduct of targeted virtual sessions to help member states understand complex IHO matters and exercise their voting rights.

7. Actions required of the Assembly:

- a) **Note the report** of the South West Pacific Hydrographic Commission.
- b) **Support inclusive participation** by considering appropriate mechanisms (including remote participation) to ensure greater representation of SWPHC Member States at all IHO fora.
- c) **Note the requests regarding digital platforms**, specifically the need to retain accessible pre-portal website content and provide digital collaborative spaces for working groups.
- d) **Implement** the refreshed **IHO-SPC Memorandum of Understanding**.
- e) **Take any other action** considered appropriate.

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15 REPORT OF THE UNITED STATES – CANADA HYDROGRAPHIC COMMISSION (USCHC)

1. Chair: RDML Chris van Westendorp, Director, Office of Coast Survey, NOAA

Vice-Chair: Mrs. Manon Larocque, Director General, Canadian Hydrographic Service

2. Membership: Canada, United States of America (Full Members)

IHO Secretariat (Permanent Observer)

3. Meetings:

(Please provide dates and places for meetings held during the period)

USCHC46	March 16-17, 2023	Mobile, Alabama, USA	Chair: RDML Benjamin K. Evans Vice Chair: Dr Geneviève Béchard
Hydrographic Geospatial Products and Services Committee	Ongoing (approximately monthly)	VTC	Co-leads: Ms. Christie Ence, NOAA Ms. Mina Foroutan, CHS (2024-present)
USCHC47	May 30-31, 2024	St. John's, Newfoundland, Canada	Chair: Mrs. Manon Larocque Vice Chair: RDML Benjamin K. Evans
USCHC48	May 20-21, 2025	Wilmington, North Carolina, USA	Chair: RDML Benjamin K. Evans Vice Chair: Mrs. Manon Larocque
USCHC49	March 23-24, 2026	Burlington, Ontario Canada	Chair: Mrs. Manon Larocque Vice Chair: RDML Chris van Westendorp
USCHC50 (Planned Forthcoming)	Spring 2027	USA (tbd)	Chair: RDML Chris van Westendorp Vice Chair: Mrs. Manon Larocque

4. Agenda Items:

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- Scoping the future of paper charts e.g. paper charts derived from ENC
- Hydrographic Geospatial Products and Services and coordination in transboundary areas (ENCs, S-102, S-104, S-111)
- UNGGIM and other MSDI initiatives and the Joint UNGGIM – IHO MSDI WG
- WEND and S-100 Implementation, including S-100 Sea Trials and S-102 data buildout
- National contributions to Seabed 2030
- Autonomous survey vessels, satellite derived bathymetry and other innovative technologies (how to incorporate, how to respond to public availability of non-navigational bathymetric data)
- Implementation and review of the IHO Strategic Plan, HSSC, IRCC Realignment
- Agency Status reports (National Reports and national initiatives- S-100 roadmap implementation, modernization of products and services, personnel updates to ensure proper lines of communication, etc.)
- Capacity Building
- Collaborative and joint projects, especially in transboundary areas (e.g. collaborations on survey vessels, ENC data sharing)

5. Difficulties encountered and challenges yet to be addressed:

- Completing chart harmonization of gridded cells in transboundary areas
- Implementing WEND-100 and standing up a USCHC S-100 Working Group to harmonize and coordinate the delivery of S-100 products and services in transboundary waters.
- Completing the phasing out of paper charts and continued development and improvement of their ENC-derived replacements
- Development and exchange of S-128 between the U.S. and Canada

6. Achievements/outputs/conclusions:

- Signed annexes to the Schedule A process of the NOAA-CHS Memorandum of Understanding facilitating ENC and data exchange and coordinating hydrographic surveys in transboundary areas
- Ongoing work on upgrading the USCHC Transboundary Web App site to reflect cell cut and single-agency solution decisions throughout all U.S./Canada transboundary coverage, as well as track S-100 product availability.¹
- Facilitation of data transfer for bathymetry collected on the US/Canada border in the Great Lakes
- Continued support by US and CA for the IHO Crowdsourced Bathymetry Initiative
- Data contributions from US and CA in USCHC region to IHO DCDB and SB2030
- Planning for the global transition to S-100 ECDIS
- USCHC focal points
 - o Seabed 2030/CSB Coordinator: Andy.Armstrong@noaa.gov

¹ <https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=3d56cca277334bb18d918e4292bd3313>

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- o WEND Coordinator: Jeremy.Nicholson@dfo-mpo.gc.ca
- o Capacity Building Coordinator: jonathan.justi@noaa.gov

7. Actions required of the Assembly:

- a) **Note** the report of the USCHC
- b) **take** any other action considered appropriate.

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16. REPORT OF THE IHO HYDROGRAPHIC COMMISSION ON ANTARCTICA (HCA)

1. Chair: Dr Mathias Jonas, IHO Secretariat

Vice-Chair: Patrick Dorr, USA, Carlos Zuñiga, Chile (since April 2024)

Secretary: Yves Guillam, IHO Secretariat

Region M ENC/INT Chart Coordinator: Lee Truscott, UK

2. Membership of full Members:

Argentina, Australia, Brazil, Chile, China, Colombia, Ecuador, France, Germany, Greece, India, Italy, Japan, Korea (Rep. of), New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, United Kingdom, Uruguay, USA, Venezuela

3. Meetings:

HCA17: Video Conference 14 June 2021

HCA18: Hybrid event, 24 - 26 May 2022, Berlin, Germany, in conjunction with the XLIV Antarctic Treaty Consultative Meeting (ATCM).

HCA-19: Planned in Italy, 27-29 March 2024 (*dates to be confirmed*).

4. Agenda Items:

- a) Revision of HCA Statutes
- b) Assessment of the adequacy of INT Chart and ENC coverage on the Maritime Shipping Routes around the Antarctic Peninsula
- c) Presentation of respective National Polar Strategic Plans
- d) Bathymetric data sharing
- e) S-100 Implementation Roadmap for the region
- f) Recognition of the Southern Ocean
- g) Contribution to the management of effects of climate change in the region

5. Difficulties encountered and challenges yet to be addressed:

- a) Set up of regular data service provisions for the Priority 1 S1xx data products to meet the timelines of the S-100 Implementation Roadmap (PRO 1.1 refers) and the introduction of S-100 Dual Fuel ECDIS based on IMO requirements (PRO 2.1 refers).
- b) Involvement of the IHO in general, and HCA in particular, on scientific matters in relation to climate change.
- c) Practical and coordinated implementation of the good will and statements collected in ATCM Resolutions focused on hydrography.

Reports of the Regional Hydrographic Commissions and the Hydrographic commission of Antarctica

6. Achievements/outputs/conclusions:

- a) HCA Statutes are now fully aligned with the IHO Resolution 2/1997 - Establishment of Regional Hydrographic Commissions (RHC), the Antarctic Treaty System¹, the last ATCM Resolutions and the IHO Strategic Plan 2021-2026.
- b) Proposed change of Art. 8.e of the General Regulations of the IHO (A3 PRO 3.3 refers).
- c) Establishment an HCA S-100 Implementation Working Group. Distribution of work among HCA member on the governance and production strategies for the top priority S-100 based products (S-101, S-102, S-104, S-111, S-122, S-124, S-128, and S-411).
- d) New straightforward procedure to submit survey coverage metadata for being displayed in HCA GIS maintained by the IHO Secretariat.
- e) Proposal of an IHO Resolution addressing the recognition of the Southern Ocean (PRO 3.3 refers).
- f) Analysis of the Scientific Committee on Antarctic Research (SCAR) **Recommendations for Action** available in their recent report: *Antarctic Climate and the Environment: A Decadal Synopsis and Recommendations for Action*.
- g) Call towards to all remaining IHO Member States, who are Parties to the Antarctic Treaty (Consultative or Non-Consultative Status) to join the HCA (in progress at the date of this report).
- h) Significant increase of new assets (Polar research vessels) for collecting data in Antarctica.
- i) Close relationship with the Antarctic Treaty Secretariat (in charge of ATCM meetings).

7. Actions required of the Assembly:

- a) **Note** the report of the IHO Hydrographic Commission on Antarctica;
- b) **Commend** Mr Lee Truscott, Chair of the HCA Hydrographic Priority Working Group and ENC / INT Chart Coordinator for his outstanding achievements and sustainable support;
- c) **take any other action** considered appropriate.

¹ Antarctic Treaty, Article III 1.(c) states that “scientific observations and results from Antarctica shall be exchanged and made freely available”.