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## IHO COUNCIL – CONSEIL DE L’OHI

### 2<sup>nd</sup> MEETING OF THE IHO COUNCIL IHO C-2

London, 9-11 October 2018

#### SUMMARY REPORT

(Version dated 19 October 2018)

Note: while the 2nd 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 Participants*  
[Annex B:](#) *Agenda*  
[Annex C:](#) *List of Decision and Actions*

## 1. OPENING

### 1.1. Opening remarks and introductions

- Docs: C2-1.1A [List of Documents](#)  
C2-1.1B [List of Participants](#)  
C2-1.1C [Membership Contact List](#)

RAdm Tim Lowe, National Hydrographer of the United Kingdom, head of the host organization, welcomed all Council members to London. The Secretary-General of the IHO, Dr Mathias Jonas, thanked the UK Hydrographic Office for hosting the meeting. He noted the absence of India and the Russian Federation and stated that the quorum was met with the presence of altogether 28 out of 30 Council Member States present. He acknowledged the registration of the following Observer States: Bangladesh, Chile, Croatia, Fiji, Malta, Myanmar, Nigeria, Poland, Portugal and Qatar. He reminded the Council that the first International Hydrographic Conference occurred in London in 1919. It was at this event where France was proposing the establishment of an International Hydrographic Bureau which eventually led to the foundation of the IHB in 1921 and for the later conversion into the IHO in 1970.

The Chair of the Council, RDML Shepard Smith (US), declared the second meeting of the Council open and noted that almost 40% of the IHO membership were represented. The Chair referred to a letter that he had circulated prior to the meeting and reiterated the need to ensure any conclusions and recommendations are completed for C-3 next year in order to submit the report to A-2. He considered there were three main tasks that needed to be completed at C-2:

- 1) To develop the Strategic Plan.
- 2) To discuss at the National Hydrographer level the new S-100 based products and services – linking this to the next years centenary celebration of the IHO.
- 3) To ensure the Council considers, updates and endorses the resolutions, terms of reference and recommendations as appropriate.

## 1.2. Adoption of the Agenda

*Docs: C2-1.2A Rev1 [Agenda](#)  
C2-1.2B Rev2 [Timetable](#)*

The Chair invited comments on the revised provisional agenda and the timetable. He informed the Council that Dr Graham Allen, Acting Director of the Seabed 2030 Project, would address the meeting on Thursday 11 October. He noted that a number of comments from Member States (MS) submitted after the official deadline were made available as information documents only but were very useful to be considered as part of the discussion. The agenda and timetable were adopted without changes.

**Decision C2/01: The Council** agreed to consider the information papers available on the C-2 webpage, as part of the agenda of C-2.

**Decision C2/02: The Council** welcomed the proposal to be informed on Day 3 by Dr Graham Allen about the Seabed 2030 Project.

**Decision C2/03:** Subsequently, **the Council** adopted the agenda and the timetable.

## 1.3. Administrative arrangements

*Docs: C2-1.3 Useful References – Marked-up Basis Docs ([IHO Convention](#), [General Regulations](#), [Assembly ROP](#), [Council ROP](#))*

The IHO Secretariat invited all members to check the Council membership list and confirm their individual details. He explained the process to prepare the Council summary report after every session, the timelines and the work of the précis-writers and rapporteurs.

**Action C2/04: IHO Member States** having a seat at the Council to provide the IHO Secretariat with their updates to the IHO Council List of Contacts. (deadline: Permanent)

## 1.4. Red Book (Comments to be discussed under relevant agenda items)

*Docs: C2-1.4 [Red Book](#)*

**Decision C2/05: The Council Chair** commended the IHO Member States who provided comments

in time for the preparation of the Red Book.

## 2. ITEMS REQUESTED BY THE 1<sup>ST</sup> IHO ASSEMBLY

- 2.1. **Revision of the IHO Strategic Plan** (*to be considered under Agenda Item 6*)
- 2.2. **Revision of IHO Resolutions 2/2007** (Decision A1/12) (*to be considered under Agenda Item 4, HSSC&IRCC report*).
- 2.3. **Revision of the IHO Resolution 1/2005** (Decision A1/19) (*to be considered under Agenda Item 4, IRCC Report*).
- 2.4. **Revision of the IHO Resolution 2/1997** (Decision A1/05) (*to be considered under Agenda Item 4, IRCC Report*).

## 3. ITEMS REQUESTED BY THE 1<sup>ST</sup> IHO COUNCIL

### 3.1. Review of the status of Decisions and Actions from C-1

Doc: C2-3.1      [Status of Decisions and Actions from C-1](#)  
    [Follow-up on Action C1/49 \(Presentation\)](#)

The Assistant Secretary drew attention to document C2-3.1, showing the status of decisions and actions from C-1 as at 4 October. Since C-1, all proposals related to amendments of IHO Resolutions have been communicated to Member States by Circular Letter for approval and an updated Publication M-3 is now available, including in Spanish. A number of pending actions and decisions await action by A-2.

**Decision C2/06** (former C1/17) **The Council** agreed to submit the proposed revised Rule 12 of the Council ROP to A-2 and to seek A-2 for clarification for the identified discrepancy (deadline: C-3 for A-2).

**Decision C2/07** (former C1/46) **The Council** endorsed the proposal for amending the General Regulations to address medical fitness of candidates for election and invited the Council Chair to include the proposed amendment in its report and proposals to A-2 (deadline: C-3 for A-2).

**Decision C2/08** (former C1/47) **IHO Secretariat** to raise the issue of the definition of hydrographic interest at A-2 in accordance with Clause (c) of Art. 16 of the General Regulations and request possible guidance on the objectives and ways to reconsider this issue (deadline: C-3 for A-2).

The informal discussions by Australia, Brazil, Canada, France and Norway, on possible improvement of the General Regulations with regard to the election process, were considered in the margins of the meeting and it was agreed to close Action C1/49 (See discussion under paragraph 9.2).

**Decision C2/09** (former Action C1/49) **The Council** thanked Canada supported by Australia, Brazil France, Norway and any other interested MS, for offering to pursue informal discussions on possible improvements of the General Regulations with regard to the election process (Action C1/49 was closed).

**Decision C2/10** (former C1/51) In the Council Circular Letter calling for Council meetings in Monaco, **IHO Secretariat** to remind that MS may use meeting rooms available at the IHO Headquarters, prior and after the Council meetings sessions (deadline: Permanent).

## 4. ITEMS REQUESTED BY SUBSIDIARY ORGANS

#### 4.1. Report and proposals from HSSC

Doc: C2-4.1A [Report and Proposals from HSSC - Presentation](#)

The Chair of HSSC reported that the work of HSSC was guided by ‘IHO Work Programme 2’ tasks and by the key priorities of the Council. As with IRCC, HSSC had a high level of autonomy and it had been able to preserve and increase its flexibility using the resources provided by the IHO Secretariat and Member States. HSSC9 had been held in Canada in November 2017 and HSSC10 had been held in Germany in May 2018 due to the decision taken at C-1 to adjust the timing in order to provide timely input to the IHO Council. Accordingly, HSSC11 would be held in South Africa in May 2019. There had been no significant change to the difficulties and challenges reported to C-1 apart from the shortened time window between HSSC9 and HSSC10. Most of the actions agreed at HSSC9 had progressed normally. None of the results would have been possible without the constant and fruitful work of the HSSC working groups and project teams.

Revision of IHO Resolution 2/2007 – *Principles and Procedures for making changes to IHO Technical Standards and Specifications* - had been proposed as a two-stage process: “Guidance on conduction of an Impact Study” had been endorsed at HSSC10 and was ready for inclusion as an Annex to the resolution. HSSC had considered the purpose of the study (testable hypotheses); specification of the result assessment methods; the minimum measureable indicators; and the suitability of impact study questions. The working group had developed the review cycle after gaining feedback from stakeholders through a confidential survey. Development of the endorsement/approval procedure of the relevant standards, taking into account the role of the Council, would be undertaken at HSSC11. It was proposed to divide Appendix 1 into two parts: Standards and Publications (including Guidance) to follow the full process of IHO Resolution 2/2007; and Standards and Publications (including Guidance) to be developed and maintained without following the full process. The purpose of the revised review cycle had been to provide more flexibility in the approval process for issuing a new Product Specification. Participants welcomed the revised review cycle, recommended that stakeholders should be involved at an early stage and noted the need to clarify the three different levels of the new development cycle: publish, endorse and approve.

**Decision C2/11:** As part of the revision process of the IHO Resolution 2/2007, **the Council** endorsed the new revision cycle for the development phase of Product Specifications.

**Decision C2/12:** As part of the revision process of the IHO Resolution 2/2007, **the Council** endorsed the guidance on the conduction of an impact study in support of the approval process for new Standards / Publications / Product Specifications.

**Action C2/13:** **IHO Secretariat in liaison with HSSC & IRCC Chairs** to prepare amendments to IHO Resolution 2/2007 accordingly and seek endorsement of the Council prior to submission at A-2.

The Chair of the HSSC expressed that HSSC ToRs and RoPs had been amended to reflect the presence and role of the Council; and the possibility for the HSSC to decide on the need to go through the Council for recommendations on Standards and Publications before submitting them to Member States for approval. The main changes proposed to the ToRs and RoPs were as follows: “1.8 **Consider and decide upon proposals for new work items under the Committee Work Programme, taking into**

account the financial, administrative and wider stakeholder consequences and the IHO Strategic Plan and Work Programme and report to each meeting of the Council”; and “2.9 Recommendations of possible strategic importance made by the Committee shall be submitted to IHO Member States for adoption through the Council to the Assembly. The Committee should appreciate and determine the need to go through the Council for recommendations. If prior endorsement of the Council is not deemed necessary by the Committee, the recommendations on standards and publications can be submitted directly to the IHO Member States for approval, once endorsed by the Committee.”

Brazil raised the need to harmonize some specific paragraphs of the HSSC ToRs and RoPS with those of the IRCC (or vice-versa) and requested that endorsement should be postponed until a later discussion at C-2 when the outcome from the harmonization process could be finalized.

**Decision and Action C2/14: The Council** endorsed the proposed amendments to the HSSC TORs and ROPs. **IHO Secretariat** to issue an IHO Circular Letter seeking the approval of Member States (deadline: November 2018).

The Chair of the HSSC presented the key priorities of the IHO Work Plan for 2019, beginning with the notional S-100 timeline for Product Specifications. A new simplified S-100 Master Plan was to be reviewed annually. HSSC had endorsed the S-100 Product Specification Guidebook and agreed to include it with the S-100 work plan. S-97 had been assigned to the Product Specification Guidebook. HSSC had endorsed S-122 Edition 1.0.0 and S-123 Edition 1.0.0; the IHO Secretariat had issued CL 45/2018 to seek Member States’ approval (deadline 30 November 2018). S-100 Edition 4.0.0 had been endorsed by HSSC members and was ready for approval by Member States. With regard to S-102 Edition 2.0.0, S-100WG and S-102PT are to address comments by some HSSC Members before the IHO Secretariat can issue a Circular Letter seeking Member States’ approval. HSSC had agreed to the publication timeline of S-100 based Product Specifications, under the conditions proposed by the HSSC Chair for the new review cycle for the WG/PT development phase of product specifications that were endorsed with immediate effect: S-101 Edition 1.0.0; S-111 Edition 1.0.0; and S-121 Edition 1.0.0. Key priorities also included the development of an S-100 interoperability specification; the development of all the components needed to make S-101 a reality; an S-121 product specification for maritime limits and boundaries; consolidation and clarification of standards in relation to ECDIS/ENC; consideration of the data quality aspects in an appropriate and harmonized way for all S-100 product specifications; the preparation of Edition 6.0.0 of S-44; and the development of initiation guidance on harmonization of the Maritime Service Portfolios.

The HSSC Work Plan for 2019-2020 had been amended in light of the progress made to date, namely: development of “S-98 - *Specification for Data Product Interoperability in S-100 Navigation Systems*”; consolidation of the Product Specification Timeline in accordance with the new simplified S-100 Master Plan, with particular attention to S-101; submission of Ed. 6.0.0 of S-44; the development of a Minimum Standard for Data Validation with respect to the data quality aspects of all S-100 based product specifications; and contribution to the development of an initial guidance on definition and harmonization of Maritime Services.

In response to questions by France, the Chair of the HSSC and the Secretary-General explained that the priority on S-121 had been set out by C-1 in ‘Work Programme 2’ and it had derived from the UN process for UN Member States to deposit their maritime limits and boundaries to meet UNCLOS

requirements and for those looking to compile maritime and technical limits based on a GIS approach. Emphasis on that priority would not take much resources from HSSC.

The US and Germany supported and echoed the remarks of the Secretary-General concerning S-121 and underlined the importance of S-98. The HSSC had a complicated mission and a lot of priorities. Republic of Korea underlined the importance of developing S-100 data sets as an industry priority.

The HSSC Chair set out a request for the use of the IHO Fund for Special Projects: incremental updates of S-100 GML datasets:

- Priority 1: to test the possibility to manage incremental updates using radio-communication equipment, without replacing the whole database;
- Priority 2: to develop an experimental production tool and viewer on the web, for S-100 based product specification development;
- Priority 3: to develop a prototyping system for vector S-100-based data, a general-purpose toolkit that can be used for rapid setup of web applications for dataset and exchange set creation for S-100 vector products.

The Chair explained that the request for use of the IHO Fund for Special Projects had been made in response to a request for transparency made at C-1. The Fund is administered by the Secretariat. Norway underlined the usefulness of receiving funds directly for special projects in order to accelerate the development of S-100 standards.

Responding to comments from Netherlands, United States and Singapore, the Secretary-General explained that the possibility to use the Fund for Special Projects enabled the Secretariat to work in a flexible manner.

**Decision and Action C2/16: The Council endorsed the proposals made for the use of the IHO Fund for Special Projects, as requested by HSSC and invited the HSSC and the IHO Secretariat to implement this decision accordingly, under the 2019 IHO Budget. (deadline: HSSC-11)**

The Chair of HSSC outlined the top three work items of the proposed work plans for 2019-2020 which had been identified for each Working Group/Project Team. S-100 WG would work on publication of S-101 Edition 1.0.0 (by end 2018); continue to investigate how to include S-100 into the IMO ECDIS Performance Standards (2019); and work on continued development of the S-98 Interoperability Specification (2019). ENCWG would maintain IHO Publications (S-52, S-57, S-58, S-63, S-64, S-65, S-66); consider the development of high-density contour lines related to ENCs; and conduct an impact assessment on the new edition of the S-63 in relation to the cyber security risk. NCWG would maintain IHO Publication S-4 as the foundation document for all nautical charts (paper and electronic); and develop a discussion paper on the future of the paper chart. NIPWG would develop S-12n – Nautical Information Product Specifications; and coordinate the IHO contribution to the definition and harmonization of IMO Maritime Services within IHO's remit. DQWG would develop and maintain a data quality checklist for product specification developers; provide guidance to Hydrographic Offices and ensure harmonized implementation' and periodically review S-100 based product specifications and provide input papers on data quality to working groups and project teams where necessary. TWCWG would develop, maintain and extend a Product Specification for digital tide and tidal current tables; develop, maintain and extend a Product Specification for dynamic surface currents in ECDIS (S-111) and for dynamic tides water level in ECDIS (S-104); and maintain and extend relevant IHO standards, specifications and publications. HDWG would maintain and

extend the definitions in the IHO S-32 Hydrographic Dictionary Registry; liaise with other IHO bodies and other organizations and publications containing glossaries; and develop a digital structure and database application to support the IHO S-32 Hydrographic Dictionary Registry on-line version. ABLOS would maintain IHO Publication C-51 “Technical Aspects of the Law of the Sea (TALOS) Manual”; deliver training on hydrographic aspects of maritime delimitation; and provide advice and guidance on the technical aspects of the Law of the Sea to relevant organizations and Member States. HSPT would review the existing edition of S-44 (5<sup>th</sup> edition) and identify any deficiencies; update the content and structure of S-44 with the intention of publishing the 6<sup>th</sup> edition; and submit a recommendation to the HSSC on whether the Project Team should continue as a standing Working Group.

The Chair clarified that the priorities had been requested in order to maintain accountability and therefore, he would prefer that working groups maintained a focus on those activities which could be completed and reported on. Norway and the UK supported that view and underlined the usefulness of the list. The UK highlighted a potential mismatch in that HSSC priorities included S-121, which was not within the top-3 items reported by the Working Groups. The Chair of the HSSC explained that the list of priorities had been produced for the first time to respond to a request from C-1. They were not an exhaustive list of the subjects considered by each working group. It was expected that all matters assigned to the working groups and project teams would be completed within three years. Netherlands stated that it would be useful to perform a cross-check between the overarching priorities of the HSSC and their allocation to working groups and their fit with Annex D – Top 3 Work Items of the proposed Work Plans for 2019-2020.

**Decision C2/15: The Council** approved the key priorities of the HSSC/IHO Work Programme 2 for 2019 and the key priority work items. **The Council** took also note of the top priority work items proposed by the HSSC WGs/PTs for 2019-2020.

**Action C2/17:** Considering the timelines between HSSC-11 and IRCC-11 meetings in 2019 and the countdown for submission of reports and proposals to C-3, **the Council** invited **HSSC and IRCC Chairs** to prepare their 2019 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-3. (deadline: July 2019)

#### 4.2. Report and proposals from IRCC

*Doc: C2-4.2A      [Report and Proposals from IRCC - Presentation](#)*

The Chair of IRCC presented the Committee’s report and proposals, with particular emphasis on the continued need for Capacity-Building; the persistence to resolve overlapping ENCs, noting the associated risk of unpredictable ECDIS behaviour giving rise to safety concerns; crowd-sourced bathymetry, particularly in its legal aspects; Project Seabed 2030; and Marine Spatial Data Infrastructure (MSDI). The Republic of Korea pledged its continued support for the IHO Capacity Building Fund and stressed increased funding from 2017. Director Iptes highlighted the need to further develop the good coordination between the Regional Hydrographic Commissions (RHCs), resulting in better value from the available resources. The network of alumni of IHO training courses is constantly expanding. MSI training is another area to coordinate between the regions.

In the ensuing discussion, members were invited to register to attend, in person or online, a start-up meeting for the joint conceptual study on MSDI by IHO and the Open Geospatial Consortium (OGC) on 30 October. A workshop on the conceptual study is scheduled for March 2019 in the Republic of Korea, involving the MSDI Working Group, OGC and the United Nations Committee of Experts in Global Geospatial Information Management (UN-GGIM). Pakistan stressed the important role of MSDI in activities to assess coastal erosion, saltwater intrusion and land subsidence, which are often a consequence of climate change.

The proposed amendments to IRCC TORs and ROPs were endorsed after a benchmarking with the HSSC TORs and ROPs, made by the Chair of IRCC and Director Iptes (Secretary of IRCC).

**Decision and Action C2/18: The Council** endorsed the proposed amendments to the IRCC TORs and ROPs, as revised during C-2, with full alignment with the paragraph 9 of the ROP of HSSC. **IHO Secretariat** to issue an IHO CL seeking the approval of Member States on these amendments. (deadline: November 2018)

In respect of the proposal to amend Resolution 2/1997 on the establishment of regional hydrographic commissions (see document C2-4.2, Annex B and its Appendix), members suggested minor editorial changes intended to bring the wording into line with the General Regulations, and noted that a further, more comprehensive revision of the resolution has now been submitted to the regional hydrographic commissions for their comments; any further revisions should include a reappraisal of the phrase “...the RHCs shall complement the work of the IHO Secretariat” in paragraph 1. The Council endorsed the proposal, as follows.

**Decision and Action C2/19: The Council** endorsed the proposed amendments to the IHO Resolution 2/1997, with the wording changed in paragraph 1 to read in the last sentence. “*Recognized by the Assembly, the RHCs ...Secretariat.*” **IHO Secretariat** to issue an IHO CL seeking the approval of Member States on these amendments. (deadline: November 2018).

**Decision and Action C2/20:** Noting the work still in progress for potentially more substantive changes, **IRCC** to submit the consolidated amendments to the IHO Resolution 2/1997 at C-3 for subsequent approval at A-2. (deadline: C-3 in preparation of A-2).

The Council considered the proposal to amend the terms of reference and rules of procedure of the Capacity Building Sub-Committee (see document C2-4.2, Annex C and its Appendix Rev. 1).

**Decision and Action C2/21: The Council** endorsed the proposed amendments to the CBSC TORs and ROPs. (deadline: November 2018). **IHO Secretariat** to issue an IHO CL seeking the approval of Member States on these amendments. (deadline: November 2018).

In respect of the proposal for the approval of IHO publication B-12 (IHO Guidelines on Crowdsourced Bathymetry) (see document C2-4.2, Annex D), Brazil declared itself unable to approve the tabled draft of the publication for a number of reasons, principally the deletion of the final chapter of the original draft dealing with legal considerations. In view of Brazil, at least some reference to the United Nations Convention on the Law of the Sea (UNCLOS) should be included. The same Member State also expressed the view that crowdsourced bathymetry (CSB) data should be submitted to the IHO Data Centre for Digital Bathymetry (DCDB) only through Trusted Nodes, while another Member State

considered that CSB data should be collected only by vessels flying the flag of the country concerned and submitted to the national authority of that country in the first instance.

Other members of the Council, while appreciating the restrictions imposed by some Member States' national legislation, appealed for a global perspective, pointing to the potential contribution of CSB data to the resolution of universal problems such as climate change. Guidance from a respected international organization like the IHO could help to dispel some of the prevailing scepticism about the value of CSB data. Several members felt that the IHO cannot provide legal guidance and that legal issues should be left to the individual State and the organization collecting the CSB data. It was generally agreed that the publication must point out that CSB data cannot be obtained legally in some jurisdictions, or need to comply to national laws and regulations; the proposed list of States permitting CSB data collection, detailing any limitations on the process, was considered a valuable resource, which should potentially be published on the IHO website, though some Member States mentioned that they would not be in position to give any other information than references to national laws and regulations. However, the Islamic Republic of Iran considered that naming States in that way might expose them to international criticism.

The Chair drew attention to further comments on the issue in the Red Book document (C2-1.4).

The Secretary-General pointed out that the publication is a technical document intended to provide guidance and suggest standard procedures to be followed in an area where private operators are already active consistent with applicable laws.

Following informal consultations during the meeting, Norway suggested the inclusion of the following caveat on page 3 of Edition 1.0.0 of the publication: "*This document provides technical guidelines only that in no way supersede or override national or international laws and regulations*". This statement clarified that in a technical publication like B-12, the issue is the potential of obstacles to data flows, rather than legal liability in general. The Assistant Secretary explained that the caveat will be included in the first edition of B-12, so that this eagerly awaited guidance can be made public on the IHO website as soon as possible. The discussion resulted in an action to instruct CSBWG to work out more details of the data flow. A future Edition 2.0.0 containing these details will be submitted to Member States for their approval in due course, completed with any further guidance on data flow processes issues agreed by the CSBWG and endorsed by IRCC in the interim.

**Decision C2/22: The Council** endorsed the proposed Edition 1.0.0 of IHO Publication B-12 - *IHO Guidelines on Crowdsourced Bathymetry*, -with the inclusion of the caveat<sup>1</sup> agreed at C-2 - but acknowledged that further work was needed for depicting the data flow (sensor, coastal States information, DCDB) before these guidelines can come into force with full effect.

**Action C2/23: IRCC** to instruct and provide guidance to the **CSBWG** to further develop a more detailed paragraph on the data flow in preparation for Ed. 2.0.0. of B-12.(Deadline 31 October and 31 January 2019). **IRCC** to endorse it by correspondence. (Deadline: 31 March 2019). As soon as endorsed by IRCC, **IHO Secretariat** to issue an IHO CL seeking the approval of IHO Member States on Ed. 2.0.0 of B-12, incl. this paragraph. (Deadline: 15 April 2019)

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<sup>1</sup> "*This document provides technical guidelines only that in no way supersede or override national or international laws and regulations*"

In respect of the proposal to amend Resolution 6/2009 as amended, relating to the International Hydrographic Review (see document C2-4.2, Annex E and its Appendix), the Council expressed its appreciation to the University of New Brunswick, Canada, which has undertaken the digitalization of the archives of the Review, currently available online back to 1923.

**Decision and Action C2/24: The Council** endorsed the proposed amendments to the IHO Resolution 6/2009. **IHO Secretariat** to issue an IHO CL seeking the approval of MS on the proposed amendments to IHO CL 6/2009. (deadline: December 2018).

**Decision C2/25: The Council** endorsed the proposed IRCC key priorities of the IHO Work Programme for 2019.

**Decision C2/26: The Council** commended the IBSC, the RENCs and the CSBWG for their outstanding respective achievements since C-1.

**Item 4.2B – Comments on IHO Resolution 1/2018 – *Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation***

Doc: C2-4.2B [Comment by France on IRCC Report to C-2: Application of the IHO Resolution 1/2018 \(IHO CL 19/2018\) - Presentation](#)

In respect of the implementation of IHO Resolution 1/2018 (see document C2-4.2B), France drew attention to the overlaps in ENCs which caused ECDIS to behave unpredictably, with a resulting risk to safety of navigation. Resolution 1/2018 called for the elimination of ENC overlaps within one year of their detection. However, different ENC producers could not always agree on the prioritization of risks associated with the overlaps. It was proposed that the criticality of the risk should be one of the factors considered in the prioritization process and that, if opinions differed, the highest criticality should be used. IRCC should prepare an assessment, within one year, of the effectiveness of implementation of Resolution 1/2018 and, if necessary, draw up proposals for improving the effectiveness of implementation.

Some Members noted that overlaps in ENCs often have political origins which are challenging to solve quickly and suggested that technical improvements to ECDIS could solve issues when loading overlapping ENCs. IRCC could produce technical guidance for regional hydrographic commissions, which are often responsible for assessing overlap status and risks to navigation. The Chair drew attention to further comments on the issue in the Red Book document (C2-1.4). France clarified that its proposal is about the evaluation of the effectiveness procedural approach of the resolution, not the assessment of the global overlap status itself.

The Assistant Secretary suggested that the issue could be considered in two steps, first at the next meeting of the WEND Working Group in February 2019, with a report to IRCC in June 2019.

**Action C2/27: IRCC** to instruct the **WENDWG** to include in its next meeting agenda, an initial assessment of the lessons learned from the implementation process of the new IHO Resolution 1/2018 since its entry into force. (deadline: February 2019) Subsequently, **WENDWG Chair** to report on this initial evaluation to **IRCC-11**. (deadline: end of April 2019)

**Decision and Action C2/28:** Following this initial evaluation, **IRCC** to instruct and provide guidance to the **WENDWG** on how such an evaluation of the effectiveness of IHO Resolution 1/2018 should be conducted, and on the expected outcomes. (deadline: June 2019) Subsequently, **IRCC** to submit

amendments to this Resolution, if appropriate, and report on the outcome of this process across the charting regions. (deadline: C3 in preparation of A2)

### 4.3 Development and future provision of S-100 products

*Doc: [C2-4.3](#) & Red Book comments – [Presentation](#) – Beyond the Charts ([Presentation](#))*

The Secretary-General noted that comments in the Red Book would not be restated in the course of the Council meeting (due to time constraints) in principle and drew attention to a number of S-100-based hydrographic products that have reached a level of maturity that warrants discussion of the practical aspects of production and dissemination of the datasets and requires specific action by HSSC and IRCC. It will also be necessary to collaborate with industry and also approach the IMO to explore the legal status of the new products as equivalent to existing digital nautical charts and publications for compliancy with the applicable carriage requirements of SOLAS. S-100 is the most important application of the ISO 19100 series of geographic standards on a global scale which will ensure new components are part of a family of standards and not frozen in time but updated and reviewed as technology changes.

A number of activities were proposed. HSSC could host a workshop on S-100-based data production, validation and distribution concepts in 2019, possibly back to back with C-3. IRCC could instruct WENDWG to consider the applicability of the WEND Principles to the S-101 ENCs and the first generation of S-100-based products and report to C-3. The Chairs of the Council, HSSC and IRCC, with the Secretary-General, could draft a “roadmap” for the coordination of the regular production and dissemination of S-100-based hydrographic products, for regional discussion. This would then be discussed at A-2 for the 2021-2023 Work Programme. The Secretary-General sought advice on when and how to inform the IMO on these recent and important developments.

Member States made various comments for consideration:

- Maybe the term “roadmap” was not appropriate unless it looked to a particular task such as demonstrating the achievement/ implementation of standards.
- Further work was required before presenting anything to the IMO such as assessing the user demand; demonstrating the benefits of the new standards and providing guidance on their implementation; the test bed was not considered mature enough at this point. On the other hand, some other Member States indicated that the IMO should also be further involved in the discussion on S-100 products.
- Is the development and dissemination of S-100-based products an end in itself, or merely one of the milestones in a roadmap with a longer-term strategic endpoint?
- Should the IHO be responsible for coordinating, developing and disseminating new products, or should this be left to regional or national hydrographic authorities as regional variations need to be taken into account as the objectives of delivering a standard may be different? IHO should play an overall coordinating role in that process.
- The need to align the proposed roadmap with the final revised strategic plan of IHO and pointed out guidance was needed (for example) for Port State Control to understand what S-100 compliance a ship should have.
- Guidance should not be too specific: references to earlier standards that relied on a paper-based model may no longer be relevant, so it is important to allow some flexibility.

- S-100 products focus on electronic navigation and may not be applicable to issues of relevance to other stakeholders, e.g. more general marine rather than maritime issues.
- Those with experience of applying the S-101 test dataset stated more attention must be paid to the transition plan, allowing for both pre-processing and post-processing stages if required.
- IHO must promote the implementation of the new standards if it is to maintain its leadership role in this area. Maybe focus on the most important standards or easier ones in order to achieve an end result.
- The applicability of the WEND Principles were based on paper and ENC publication distribution. As this is a digital issue, will there be different WEND Principles? This could be looked into by a Working Group using the experience gained during the introduction of S-57 ENCs.
- The need to engage with OEMs and Distributors.

The following decisions were made:

**Action C2/29: HSSC** to consider the possibility to organize a demonstration showcase of S-100 based products and test beds as an embedded session of C-3. (deadlines: HSSC-11, C-3)

**Action C2/30: IRCC** to instruct and provide guidance to the **WENDWG** in order to investigate the applicability of the WEND-like Principles to the production and dissemination of S-101 ENCs and the first generation of S-100 based products and to report back at C-3. (deadlines: Dec. 2018, C-3)

**Action C2/31: Council, HSSC, IRCC Chairs and Secretary-General** to draft an implementation strategy aiming to the regular and harmonized production and dissemination of S-100 based products for further discussion at A-2 and for the preparation of the 2021-2023 IHO Work Programme. (deadline C-3 in preparation for A-2)

**Action C2/32: Secretary-General** to start engaging with the IMO Marine Safety Division, on an informal basis as appropriate, to update on the current status of the S-100 framework and potential future impact on IMO instruments.

Four Member States reported on their initial experiences of implementing the new S-100 based standards. Canada has focused on expanding the delivery of data services using a cloud-based application operated by PRIMAR. Norway is conducting a pilot project with Canada and Sweden to make the new S-100-based products available for experimentation by end-users, through the infrastructure established for RENCs. The Republic of Korea is working on its commitment to make S-100 based datasets available by 2021. USA is trialling using S-102 for precision navigation; S-111 for surface currents; S-412 for ocean forecasting of waves; S-104 for water levels and S-129 for Under Keel Clearance Management, which has already facilitated the entry of larger vessels into the port of Long Beach, Los Angeles. US noted challenges to include the scheming of data not matching chart boundaries; the frequency of data distribution (daily; hourly etc.) and system integration.

## **5. IHO ANNUAL WORK PROGRAMME AND BUDGET**

### **5.1. Review of the Current Financial Status of the IHO**

Docs: C2-5.1 [Monthly Financial Reporting Statement](#)

Discussed together with agenda item 5.3.

## 5.2. Review of IHO Corporate Affairs (Programme 1) and Proposed IHO Work Programme for 2019

Doc: C2-5.2 [Proposed IHO Work Programme for 2019 - Presentation](#)

The Secretary-General presented an overview of the IHO Work Programme for 2019, which was based on year two of the three-year work programme approved by the first session of the IHO Assembly. This covered: corporate affairs; hydrographical services and standards and interregional coordination and support. Programme 1 included contribution to the IMO-IHO Harmonization Group on Data Modelling HDGM; assessing participation in events peripheral to the core scope of hydrography; overhauling the website; assisting the Council in its operational consolidation phase; and considering engagement with the UN-GGIM Working Group on Marine Geospatial Information. Programme-related actions resulting from C-1 included gaining Member States' approval to pursue the procedure for approving recommendations made by HSSC and IRCC, gaining approval for revision of nine IHO Resolutions; and providing enhanced management support for Capacity Building. The proposed theme for World Hydrographic Day 2019 was: *Hydrographic information to drive marine knowledge*.

Norway supported the Work Programme for 2019 and expressed a willingness to work with the Secretariat and IRCC chair to provide key deliverables for the Arctic Regional Hydrographic Commission (ARHC) for 2019. This was welcomed by the Secretariat<sup>2</sup>. The US expressed support for the work programme priorities and the need to incorporate the broader community to achieve desired goals, including academia and industry, without whom it would be impossible to meet S-100 requirements. Responding to comments concerning interregional coordination and support, the Secretary-General indicated that he wished to intensify engagement with the UN and academia, including with the World Maritime University in Malmö. IMLI and its new Ocean Institute.

**Decision C2/34: The Council** approved the key priorities identified by the IHO Secretary-General and the HSSC and IRCC Chairs and approved the IHO Work Programme for 2019.

**Action C2/35: IHO Secretariat** to issue an IHO CL making the IHO Work Programme 2019 as approved by the Council available to the IHO MS [final version including the key deliverables/targets of the ARHC]. (deadline: Permanent)

**Decision and Action C2/36: The Council** noted the theme for the World Hydrography Day 2019 "*Hydrographic information to drive marine knowledge*" that will be circulated to the IHO Member States by IHO CL.

**Action C2/37: The Council** invited the **Chair/Secretary-General** to provide IHO Work Programme key priorities in time with the other supporting documents for Council meetings. (deadline: Permanent)

## 5.3. Proposed IHO Budget for 2019 (Discussed together with 5.1)

Doc: C2-5.3 [Proposed IHO Budget for 2019 and Annex A - Presentation](#)

<sup>2</sup> Key deliverables provided to the IHO Secretariat during the meeting.

The Secretary-General highlighted details of the current financial status and proposed IHO Budget for 2019. In accordance with the revised regulations (IHO CL 26/2018 refers), IHO followed the new Resolution on the Procedure for considering the annual Financial Statement and the forthcoming Budget Estimate and Work Programme. Budget estimates and the associated annual work programme for each forthcoming year were provided by the Secretary-General two months prior to the Council meeting and the budget estimates for the following financial year were provided by the Secretary-General to the Finance Committee by correspondence. The recovery of contributions was 85.65% (higher than the previous year and higher than the average of the last five years (80.87%). Three Member States had not settled their outstanding contributions for 2017, one Member State had not paid their contributions for 2016 and 2017 and had been suspended. Advance payment for 2019 had been received from 15 Member States. As of September 2018, 71% of expenditure was on personnel costs, 18% on operating costs, 2% on capital expenditure and 9% on funds. Some 50% of the operating budget (or 9% of total costs) had been devoted to travel: in the current year, travel expenditure would be reduced by 10%. The end of year surplus was €171K resulting in a saving of 5% of the €3,519,400 annual budget.

The budget did not include accommodation costs thanks to the generous provision of IHO's headquarter offices by the Principality of Monaco. The Secretary-General carefully reviewed the accounts at each month end and was pleased to report a balanced budget which would remain stable in 2019. Responding to questions, he confirmed that funds were allocated for special projects but that it was not always possible to allocate them in advance: in addition, special projects were often funded with support from Member States.

**Decision C2/33: The Council** noted the information provided on the current financial status.

**Decision C2/38: The Council** approved the proposed IHO budget for 2019 and, noting the impact of the IHO-100 activities, supported the request for an additional allocation to the Special Project Fund for contract support.

## 6. IHO STRATEGIC PLAN REVIEW

### 6.1. Report and Proposals from SPRWG

*Doc: C2-6.1 [Report of the IHO Strategic Plan Review Working Group – Annex A – Presentation](#) – Proposed Orientation for the Strategic Plan ([Presentation](#))*

The Chair of the Strategic Plan Review Working Group (SPRWG) introduced the WG report. The WG has agreed on its terms of reference and rules of procedure. It has 23 members, of which 17 are members of the Council. It has worked mainly by correspondence, although 15 members attended an *ad hoc* meeting convened during the 10th meeting of the IRCC in Goa, India in June 2018.

SPRWG identified a number of issues in the current IHO strategic plan. The strategic assumptions are a mixture of hypothesis and context analysis, with various degrees of impact on IHO business. The document is complex, particularly in respect of the links between the strategic directions and the corresponding work programmes, making it difficult to identify priorities. There is no practical involvement in monitoring the strategic performance indicators and there is no item for this review and assessment of progress in Assembly's or Council's agenda.

Suggestions from SPRWG members – still tentative and subject to comment and review by the Council – include a greater focus on the overall strategic context; a more straightforward and target-oriented plan with a fixed number of strategic targets to be achieved by 2026. Examples of overall goals might include good coverage of relevant services and products, or greater harmonization and accessibility of hydrographic data, products and services.

Council members noted that formal definitions of the strategic goals and targets would be required. Members asked about the potential role of HSSC and IRCC in the preparation of the revised strategic plan, in view of the relatively short time remaining before A-2.

The Secretary-General stressed IHO’s role as a force for harmonization, ensuring that each Member State conducted its hydrographic activities in a consistent way, and providing capacity-building and training to that end. The organization must recognize the wider societal context beyond shipping, including climate change and other environmental questions.

In the ensuing discussion, members called for a simpler strategic plan, perhaps along the lines of the one adopted by IALA, with a small number of overarching strategic goals. It was important to increase the visibility of IHO and align the revised strategic plan with global policy frameworks such as the United Nations Sustainable Development Goals related to the blue economy and climate change mitigation measures.

Following informal consultations, Chair of SPRWG presented a revised structure for the strategic plan (see Fig. 1 below).

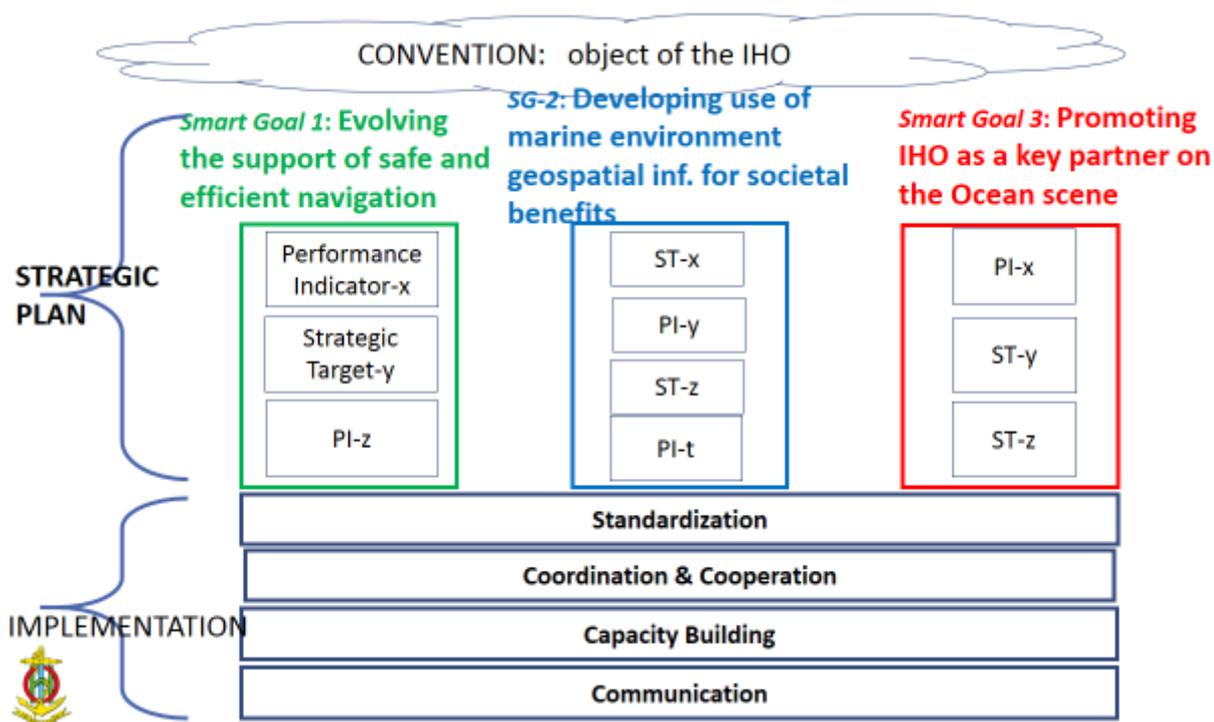


Fig. 1. Revised structure of IHO strategic plan

The revised management plan for the working group includes a two-day drafting meeting in early 2019, feedback on the working group’s proposals from HSSC and IRCC, a second meeting of SPRWG in June and submission of its final proposals to C-3. The Secretary-General will become a member of SPRWG. HSSC and IRCC will conduct regular reviews of the Strategic Plan.

The Secretary-General noted that the Strategic Plan usually covers a rolling six-year period, while the work programme nominally covers three years: a three-year work programme for 2021-2023 (based on the current strategic plan) could therefore be submitted to A-2 for approval while the subsequent work programme (2024-2026) is then to be prepared according to the new strategic plan, if adopted at A-2. SPRWG's chair suggested that nevertheless, the proposed work programme for 2021-2023 submitted to the Assembly should take into account, eventually as options, the targets proposed in the draft strategic plan for their mapping after A-2.

The Council widely welcomed the revised structure of the strategic plan. Netherlands noted that the strategic assumptions will require revision and that the SPRWG should ensure that strategic targets be aligned with the overall strategic object of IHO (see Article II of the Convention). The work programme will need to be aligned with the Strategic Plan. The Assistant Secretary noted that SPRWG maintains a collaborative workspace on the IHO website<sup>3</sup>, where Member States can follow the progress of its work. The Chair of the Council confirmed with the Council that the proposed changes constitute a “complete rewrite” of the Strategic Plan rather than a “revision”. The Council authorized the SPRWG to proceed on that basis.

**Action C2/39:** Noting the importance of the international context (United Nations Decade of Ocean Science for Sustainable Development, Biodiversity Beyond National Jurisdiction Negotiations, ...) and the object of the IHO as stated in the IHO Convention, the **Council** tasked the **SPRWG** to develop the Strategic Plan on the basis of the 3 “smart” goals endorsed at C-2 (deadline: in accordance with management plan).

**Action C2/40:** **SPRWG Chair** to engage with **HSSC and IRCC Chairs** and provide them with draft Strategic Targets and Performance Indicators that could be considered at HSSC-11 and IRCC-11 for their initial feedback on the possible implementation in the future. (deadline: 15 March 2019 (for HSSC); 15 April 2019 (for IRCC))

**Decision C2/41:** The **Council** endorsed the management plan for the drafting phase of a complete revised version of the Strategic Plan, as proposed by the SPRWG, and the inclusion of the Secretary-General as a Member.

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

### 7.1. Preparations for the triennium of IHO centenary celebrations (IHO-100)

*Doc. C2-7.1 - [Preparations for the triennium of IHO centenary celebrations \(IHO-100\) - Presentation](#)*

The Secretary-General outlined the preliminary plans for the celebration of the centenary of the foundation of the IHO. It was noted that outreach was already actively taking place and will emphasize the IHO's global scope. Activities will extend over three years, from the 100<sup>th</sup> anniversary of the 1st International Hydrographic Conference in London, in 2019, to the second session of the IHO Assembly, in 2020, to the anniversary of the foundation of the International Hydrographic Bureau in Monaco, in 2021. The “peak-of-the-peak” will be World Hydrography Day (WHD) on 21 June 2021.

<sup>3</sup> See [www.iho.int](http://www.iho.int) > Council > SPRWG and [One Drive Link](#)

There will also be an opportunity to present IHO's achievements at the United Nations General Assembly in September 2021 and at the IMO Assembly in November 2021.

A set of video interviews have already been recorded with notable figures from IHO's recent history, who also form the editorial board for the planned prestige book publication, provisionally entitled "100 Years of International Cooperation in Hydrography". This will be an entertaining and educational publication aimed at a non-specialist audience. Other scheduled activities include an exhibition of historical charts at the Monaco Yacht Club in April 2019: Member States will be asked to submit historical, paper and electronic charts for a single area in their jurisdiction. Another event will be a Symposium to be held at Monaco Oceanographic Museum on 20-21 June 2019 which coincides the WHD. A high-level symposium/seminar is also planned for World Hydrography Day 2021, attended, it is hoped, by HSH Prince Albert II of Monaco, Secretary-General of the United Nations, Secretary-General of IMO and other high-level dignitaries. An exhibition aimed at the general public is also planned at the Oceanographic Museum of Monaco.

Council Members welcomed the ambitious plans for the centenary celebrations and commended the Secretariat on the work already done. The ongoing efforts should be included in the revised strategic plan. The centenary events could be linked with the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

**Decision C2/42: The Council** welcomed and approved the proposals (incl. the management and associated budget) made by the Secretary-General for the preparation of the triennium of IHO centenary celebrations (IHO-100 Project).

**Action C2/43: IHO Secretariat** to include IHO-100 Project as a standing Council agenda item (deadline: C-3, C-4, C-5).

**Action C2/44:** Noting the level of involvement from the IHO Secretariat and the in-kind support expected from Member States, **Secretary-General and SPRWG Chair** to consider how the IHO-100 Project should be reflected in the Strategic Plan. (deadline: December 2018 and C-3)

## 7.2. Overhaul of all IHO communication means and digital revamp of the International Hydrographic Review

*Doc. C2-7.2 [Overhaul of all IHO communication means and digital revamp of the International Hydrographic Review - Presentation](#)*

The Secretary-General recalled that one of the priorities defined under the Work Programme 2018 had been an overhaul of the IHO website, including GIS-services. An internal workshop had concluded that a comprehensive redesign of corporate communications was required. Advice on social media had been received through the services of an officer on remote secondment from the United States of America and a new website and logo had been developed with a Netherlands publisher, Geomares B.V.. The new website, which would have versions in both English and French, would have a functional but creative design that paid respect to tradition and was fit for modern technology. Member States were invited to give feedback on a repository that was being set up to provide access to documents. The IHO emblem had been slightly modified and the reference to Monaco and the year 1921 had been removed with the agreement of HSH Prince Albert II of Monaco.

Participants welcomed the initiative; responding to questions, the Secretary-General suggested that there would be limited costs associated with the new emblem since it could be introduced gradually by Member States (on paper charts, for instance) with no set completion date. European legislation on

data protection (GDPR) did not appear to affect the IHO since it was a Monaco-based organization although an undertaking was given that any information collected from the website would be on an anonymous basis.

**Decision C2/45: The Council** welcomed and approved the proposals made by the Secretary-General for the overhaul of all IHO communications means, noting that the IHO Member States can implement the branding changes, within their own timescale.

**Decision C2/C46: The Council** endorsed the allocation of additional budget from the Special Projects Fund to cover the costs for the digital IHR revamp.

**Decision and Action C2/47: Secretary-General** to make some investigations and a cost-benefit analysis for classifying the IHR in the “Scientific Journal Ranking”.

**Decision C2/48: The Council** commended the in-kind support provided by the USA (NOAA) and for the nomination of a seconded social media expert.

### 7.3. Establishment and future governance of the Nippon Foundation – General Bathymetric Chart of the Oceans (GEBCO) Seabed 2030 Project

*Doc C2-7.3INF Establishment and future governance of the Nippon Foundation-General Bathymetric Chart of the Oceans (GEBCO) Seabed 2030 Project - [Presentation](#)*

Dr Graham Allen, Acting Director, Seabed 2030, introduced the Seabed 2030 project, which has been operational since February 2018. Its ambitious goal is to bring together all available bathymetric data to map 100% of the topography of the ocean floor by 2030 and make it available to all, thereby contributing to the implementation of United Nation’s SDG14 (Conserve and Sustainably Use the Oceans). The project is a collaboration between IHO-IOC GEBCO and the Nippon Foundation of Japan, which has provided generous funding with the personal involvement of the Chairman, Mr Sasakawa. It will identify gaps in data coverage and prioritize and champion future survey operations to “map the gaps”.

Seabed 2030 is managed from a global centre based at the National Oceanography Centre in the United Kingdom; the global centre compiles the GEBCO Grid, most recently updated in 2014. Four regional centres are responsible for regional mapping in the Atlantic and Indian Oceans (Columbia University, USA), the North Pacific and Arctic Oceans (Stockholm University, Sweden and University of New Hampshire, USA), the south and west of the Pacific Ocean (National Institute of Water and Atmospheric Research, New Zealand) and the southern ocean (Alfred Wegener Institute of Polar and Marine Research, Germany). The Project Team, consisting of the Director and the heads of the regional centres, reports to the GEBCO Guiding Committee.

The depth-dependent variable-resolution GEBCO grid of 2014 is only 6.2% complete (See [Presentation](#) for more detailed figures). In order to improve coverage, the Seabed 2030 Project Team aims to mobilize the global ocean-mapping community to access the vast amounts of data already collected but not yet supplied to GEBCO. The project will build on the regional mapping model promoted by the GEBCO Sub-Committee on Regional Undersea Mapping (SCRUM) and technical advances identified by the GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM). Capacity building will also play an important role. Data contributors will be encouraged to submit their data through the IHO DCDB to the regional centres for the creation of regional gridded products, and then to the global centre for inclusion in the global grid: if the contributor wishes, access to the source data

will be restricted. Contributions via channels other than the DCDB will also be accepted. SCRUM will build stronger relationships with the regional hydrographic commissions and attend their meetings, while TSCOM will concentrate on the improvements to technical systems required to handle the increased volumes of data.

Replying to points raised by members, Dr Allen noted that Seabed 2030 is intended not only to bring together available mapping data, but also to identify the gaps where mapping has not yet taken place. An international forum – potentially IHO – will be needed to encourage Member States to share their available data and indicate where data are still to be collected. Users of the GEBCO grid data are encouraged to identify themselves and indicate the use they intend to make of the data, but many prefer to remain anonymous. There is a similar case for some data contributors. Protocols and quality control procedures are in place to identify overlapping data.

Director Iptes noted that ocean mapping is an important element of IHO's work (sub-programme 3.6 in the IHO Work Programme 2018-2020). He highlighted that Seabed 2030 project needs to be promoted and advertised at all platforms. In this respect, as the IHO representative, he will present the Seabed 2030 project to the international ocean community at the fifth Our Ocean Conference to be held in Bali, Indonesia at the end of October 2018.

In the ensuing discussion, Japan declared it an honour to support the Seabed 2030 project, not only financially but with enthusiasm and commitment, and pledged to supply data from its national hydrographic office for the project. Norway suggested that Member States might provide information about mapping data from their own waters that were already consistent with Seabed 2030 standards, and encourage their data collectors to produce data to those standards in future.

Canada stated it has data which is not in the grid. Canada also announced that the Canadian Hydrographic Service has been working on creating a bathymetric dataset in Canadian waters at 100 meter resolution. This data includes all its active digital bathymetry from digitized archive, single beam, multibeam and Lidar. Most of the data is included except for data from the high Arctic which it hopes may be ready by next year. Last week, this dataset was made public on a Government of Canada open data portal and the next step is to include it in the GEBCO grids over the coming weeks as Canada's first contribution to Seabed 2030.

Replying to a point raised by Pakistan on the legal availability of mapping data, Norway noted that private providers of mapping data, such as Fugro<sup>4</sup>, are supplying data to Seabed 2030 without apparent legal problems. Denmark said that legal restrictions might prevent the provision of data in exactly the form required by Seabed 2030, but other forms of data, e.g. 500-metre resolution, might be available.

Norway noted that, if representatives of Seabed 2030 were unable to attend meetings of regional hydrographic commissions for logistical or financial reasons, they could ask other participants to present the work of the project on their behalf.

Dr Allen invited and welcomed the active support and participation of the Regional Hydrographic Commissions in Seabed 2030. Dr Allen considered the RHCs an important and key resource to achieve the Seabed 2030 vision.

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<sup>4</sup> [https://www.iho.int/mtg\\_docs/com\\_wg/CSBWG/CSBWG6/CSBWG6-INF.1-Hydro\\_Int\\_article-Seabed2030\\_needs\\_your\\_data.pdf](https://www.iho.int/mtg_docs/com_wg/CSBWG/CSBWG6/CSBWG6-INF.1-Hydro_Int_article-Seabed2030_needs_your_data.pdf)

**Decision and Action C2/49: The Council** commended Dr Graham Allen for the presentation given on the Seabed 2030 Project and noted his “call to action” to the IHO. **The Council** tasked the **SPRWG** to consider the Seabed 2030 Project during the revision process of the Strategic Plan. (deadline: C3)

#### 7.4. Annex C of C-1 Summary Report

*Doc. C2-7.4INF* [Annex C of C-1 Summary Report - Presentation](#)

The US outlined their response to a question raised at C-1 concerning a possible conflict between the Convention and the Council Rules of Procedure because Article VI of the Convention did not state explicitly that it was the function of the Council to consider or take any other action on proposals received from Member States or from the Secretary-General. Article VI(g)(vii) required the Council to review proposals from subsidiary organs (one of nine specified functions of the Council) but it in no way prohibited the Council from taking action on other proposals. The Convention and Rules of Procedure could be considered to be in harmony because there was no direct conflict between them. The UK agreed to support proposal to inform Assembly that the Council concurred there was indeed no conflict between the RoP 8(i) of the IHO Council and the Convention article VI(g)(vii).

**Decision and Action C2/50: The Council** agreed to interpret that there is no conflict between the RoP 8(i) of the IHO Council and the Convention article VI(g)(vii) and subsequently confirmed that **the Council** has the authority to consider items proposed by Member States or the Secretary-General. **Council Chair** to report on this to A-2. (deadline: C-3 in preparation of A-2)

#### 7.5. Recent Activities Related to Satellite –derived Bathymetry and Hydrographic Remote Sensing.

*Doc. C2-7.5INF* [Recent Activities Related to Satellite –derived Bathymetry and Hydrographic Remote Sensing](#)

Canada presented a report on behalf of Canada, France, Germany and USA highlighting recent events relating to hydrographic remote sensing (HRS) and satellite-derived bathymetry (SDB). The utility of air-and space-borne remote sensing to hydrography continued to grow with developments in technologies and methodologies. Research and experience had moved those developments more into the day-to-day operations of Hydrographic Offices in the areas of satellite-derived bathymetry, shoal detection, coast line delineation, feature change detection and other applications. Public accessibility to satellite imagery was increasing, which created pressure on the custodians of traditional navigation products. Member States, academia and industry were investing in HRS. An SDB Technology and User Forum was held in Germany on 6-7 June 2018<sup>5</sup> and The International Hydrographic Remote Sensing Workshop was held from 18 to 20 September 2018 in Canada. Topics and highlights from the events included the widely-demonstrated need for and benefits of HRS/SDB, particularly for shallow waters, including relatively easy access to data in remote and ship-inaccessible areas; comparative lower cost; and the ability to repeat surveys more frequently. Multiple sensors and processing techniques could be used to generate SDB. Hydrographic Offices had published charts where SDB was incorporated: in every case, calibration with existing acoustic bathymetry was necessary. There was a need for standardization of HRS/SDB to facilitate its integration into the

<sup>5</sup> See <https://sdbday.org/conference-materials/>

workflow of modern data-centric hydrographic offices, including the use of CATZOC and when incorporating HRS/SDB data on an electronic chart system or ECDIS.

Open source tool kits were being developed following GEBCO SDB principles. The SDB tenders process needed to be more precise so that processing techniques were transparent and traceable. The use of SDB by EMODnet to fill bathymetric data gaps and the EMODnet Data Ingestion Portal was demonstrated. Hydrographic Offices had shared their experiences and their use of SDB to support nautical chart updates.

In conclusion, it was felt that regional hydrographic commissions should encourage the use of SDB and that HRS imagery should be used daily by Hydrographic Offices to improve chart information and assist in making cartographic decisions. Imagery products displayed more up-to-date information which could improve safety to navigation and provide additional support for emergency response. HRS/SDB should be considered for inclusion in initiatives related to capacity building, particularly in poorly charted areas. Despite effective needs and ongoing initiatives, SDB was not yet widely accepted as a trustworthy data source and research and development were encouraged in that area.

The Secretary-General pointed out the interrelationship between SDB and S-44 and the compelling need to open categories beyond nautical charting surveys, using a metrics approach. The Chair of HSSC gave assurance that HSPT was working on the metrics in liaison with other working groups, especially with respect to data quality. Participants welcomed the excellent report and the use of SDB/HRS, highlighting its value for planning purposes and with respect to highly changeable areas, including in areas with high tectonic activity and islands that were not easily accessible. Responding to questions with respect to acoustics, Canada highlighted that acoustic data was needed for validation; given that SDB was a new area of hydrography there was a need for further understanding of the constraints of the data.

The Council noted the report.

## **8. NEXT MEETING**

The Secretary-General expressed the need to hold Council meetings immediately before and after an Assembly at the IHO headquarters in Monaco, in order to receive the support of all Secretariat staff.

**Decision C2/51: The Council** agreed to hold C-3 in Monaco, at the IHO Secretariat, from 15 to 17 October 2019.

## **9. ANY OTHER BUSINESS**

9.1 **Open discussion: from C-2 to C-3 and then A-2 – The way forward, key items or specific focus, timelines, structure, content and during of A-2, decisions expected from A-2.**

### *Presentation*

Director Iptes, from the IHO Secretariat, presented a timeline and provisional programme for A-2, which was proposed to be held in Monaco from 21 to 24 April 2020. A provisional agenda would be

circulated at least six months prior to the meeting, the deadline for submission of proposals was 21 December 2019 and reports and other documents would be circulated two months before the opening of the Assembly (21 February 2020). The draft programme outlined an opening ceremony, report of the Council Chair and Secretary-General, discussion of Work Programmes 1, 2 and 3, a report of the Finance Committee and a special session for IHO-100. Hydrographic industry and Member States exhibitions would open on first day and would close on the final day.

Responding to questions, it was anticipated that the report of the Council Chair would cover the Strategic Plan and the Work Programmes 1, 2 and 3 as well as topical issues.

The Secretary-General stated that many items for debate would be triggered by the report of the Council Chair. There would be no duplication or overlap between the report of the Secretary-General and the report of the Council Chair. Responding to questions, the Chair suggested that the IRCC should begin work with the Chairs of the Regional Hydrographic Commissions to ensure that interesting reports were presented rather than standardised regional hydrographic reports. It was proposed that, in preparing the strategic review, some milestones could be set for communication of the revised strategy to the subsidiary bodies so that they had time to take it into account when preparing for the Assembly. The UK was doubtful that all of the required material could be presented within the new four-day timeframe and questioned whether it might lead to the exclusion of non-Council members whose only opportunity to participate in debates was during the Assembly. Other participants believed that the Assembly should focus on strategic and high-level issues and that the four-day timeframe was plausible, particularly given the new structure in which scientific items had been devolved to the Council.

**Decision C2/52: The Council** endorsed that the duration of 2<sup>nd</sup> Session of the IHO Assembly should be limited to 4 days (rather than 5 days as in the past).

**Decision C2/53: IRCC** to engage with **RHCs Chairs** in order to prepare the arrangements for reporting to A-2 [to avoid duplication with the Council Chair's Report which is planned to include the IRCC Report]. (deadline: November 2018)

**Action C2/54: IHO Secretariat, Member States, HSSC and IRCC** to pursue, in accordance with the Planning Cycle described in IHO Resolution 12/2002 as amended (incl. Strategic Plan), the preparation the 3-year (2021-2023) IHO Programme of Work and Budget, to be submitted to A-2. (deadline: From April 2019 to C-3 in preparation of A-2)

## 9.2 Proposal to amend the General Regulations concerning the Election Process for electing the Secretary-General and Directors

Canada provided a report on a "Proposal to amend the General Regulations concerning the Election Process for electing the Secretary-General and Directors" which had been drafted by Australia, Brazil, Canada and France. Although it was recognized that the possibility for candidates to present themselves to Member States for up to 15 minutes prior to the elections would allow candidates to further express themselves and for Member States to get to know them better, there was a concern that the process would favour native English speakers. Better knowledge of the candidates could also be achieved if nomination packages were made available to Member States a few months ahead of the Assembly and it was proposed that this process should therefore be followed instead. It was proposed that candidates should be requested to commit for a six-year period since that would provide

more stability for the Secretariat. Further, since there had only been one election cycle under the new Convention, it was proposed that some years should pass, with the decision to explore the voting process and benchmark similar organizations, before taking a decision on changing the election process. For these reasons, the above Proposal was withdrawn and the Action C1/49 was closed (See paragraph 3.1).

**Decision C2/09 (former Action C1/49) The Council** thanked Canada supported by Australia, Brazil France, and Norway and any other interested MS, for offering to pursue informal discussions on possible improvements of the General Regulations with regard to the election process (Action C1/49 was closed).

### 9.3 Statement by the Republic of Korea

The Republic of Korea expressed concerns about the correspondence procedure used for final adoption of draft resolutions or decisions. They expressed: Except for IHO technical standards and specifications, correspondence procedures for final adoption of resolutions or decisions should be used on an exceptional basis because of urgent necessity. The general principle should be to refer draft resolutions or decisions to the Assembly for final adoption, so as to provide enough opportunity for discussion among Member States, especially for those Member States that did not have the opportunity to participate in the Council sessions, working groups, etc. that discussed the relevant draft resolutions.

**Decision C2/55: The Council** noted the statement made by the Republic of Korea on the decision making process in the IHO.

### 9.4 Mr Jeff Bryant (UKHO)

The UK hosted an evening reception at Trinity House in celebration of World Hydrographic Day 2018. The Rt Hon Earl Howe, Minister of State for Defence, presented Mr Jeff Bryant, former International Training and Capacity Building Manager at the UKHO, with the 2018 Alexander Dalrymple Award. This event was preceded at the Council meeting, by a gift awarded by the Secretary-General on behalf of all the Member States of the IHO, to Mr Jeff Bryant, in recognition of his long and outstanding contributions to the Capacity Building Programme of the IHO.

## 10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING

The Council Assistant Secretary presented the draft list of decisions and actions approved by the Council during the meeting.

The UK requested clarification of the statement calling for cooperation with IMO with respect to the S-100 framework. It was agreed that wording to the effect that cooperation would take place “on an informal basis as appropriate to update the current status and future development of the S-100 framework” would be inserted in the relevant draft decision.

With respect to communications, the Netherlands asked whether consideration would be given to gaining scientific review ranking for the IHR. The Secretary-General expressed that the editor-in-chief had informed him that it was rarely possible to acquire contributions on a relevant level since

contributors were based in hydrographic services but they were not necessarily engaged in scientific research and peer review was therefore difficult.

UK raised the question of the new IHO emblem and the costs associated with its introduction by Member States which, the UK believed, had not been universally required by the Council. Netherlands, supported by Germany and Norway, underscored an explanation by the Secretary-General that the costs, if indeed there were any, would be mitigated by the gradual introduction of the new emblem during a transition period. The three delegations supported the view that the proposed design was simpler, cleaner and better suited to the 21<sup>st</sup> century. Implied costs, if any, to adopt a new emblem were considered negligible. Subsequently, the new emblem was endorsed.

## **11. CLOSURE OF THE MEETING**

The Secretary-General stated that, during its first meeting last year, the Council had focused on procedural matters, including its mandate and relationship with the Assembly. Now, during its second meeting, the Council had turned to strategy, communications, the work programmes and collaboration with external projects, subjects that were closer to the purpose of the Council as it had been originally envisioned. The Council should demonstrate its potential by defining a strategy for the IHO that would further the themes of technology (through standardization), globalization (through cooperation, coordination and training) and add to those strategic pillars consideration for the Sustainable Development Goals and the oceans and seas facing global warming and climate change; all of these topics that would make the founding fathers of the IHO proud of the achievements since their meeting in 1919 in London.

Appreciation was again offered to the United Kingdom for hosting the C-2 meeting.

The Chair declared the second meeting of the Council closed at 12:40.

## LIST OF PARTICIPANTS

**Name:** Head of delegation**Name:** Registered but absent

No	Member State <i>Etat membre</i>	Selected by <i>sélectionné par</i>	Point(s) of contact – <i>Point(s) de contact</i>	Email address – <i>Adresse courriel</i>
1	Australia - <i>Australie</i>	SWPHC-CHPSO	Jasbir RANDHAWA	jasbir.randhawa@defence.gov.au
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2	Brazil - <i>Brésil</i>	MACHC-CHMAC	<u>Antonio Fernando GARCEZ FARIA</u>	int.rel@marinha.mil.br
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3	Canada	USHC-CHUSC	<u>Geneviève BÉCHARD</u>	genevieve.bechard@dfo-mpo.gc.ca
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7	Germany - <i>Allemagne</i>	NSHC-CHMN	<u>Thomas DEHLING</u>	thomas.dehling@bsh.de
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19	Turkey - <i>Turquie</i>	MBSHC-CHMMN	<u>Hakan KUSLAROGLU</u>	hkuslaroglu@shodb.gov.tr
20	Uruguay	SWAtHC-CHAtSO	<u>Pablo TABAREZ</u>	sohma_jefe@armada.mil.uy

## Annex A to C-2 Report

No	Member State <i>Etat membre</i>	Selected by <i>sélectionné par</i>	Point(s) of contact – <i>Point(s) de contact</i>	Email address – <i>Adresse courriel</i>
21	China - <i>Chine</i>	Hydrographic Interest	<u>Xianghua CHEN</u>	hydro@msa.gov.cn
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			Bing SUN	sunbing@msa.gov.cn
22	Cyprus - <i>Chypre</i>	Hydrographic Interest	<u>Georgios KOKOSIS</u>	gkokosis@dls.moi.gov.cy
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25	Japan - <i>Japon</i>	Hydrographic Interest	<u>Shigeru NAKABAYASHI</u>	ico@jodc.go.jp
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29	United Kingdom – <i>Royaume- Uni</i>	Hydrographic Interest	<u>Tim LOWE</u>	tim.lowe@ukho.gov.uk
			Edward HOSKEN	edward.hosken@ukho.gov.uk
30	United States of America – <i>Etats-Unis d'Amérique</i>	Hydrographic Interest	<u>John NYBERG</u>	john.nyberg@noaa.gov
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<b>IHO Secretariat</b>				
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**2<sup>ND</sup> MEETING OF THE IHO COUNCIL**  
**London, UK, 9-11 October 2018**

**AGENDA**

**Reference:** Rule 8 of the Rules of Procedure of the Council

**1. OPENING**

- 1.1 Opening remarks and introductions
- 1.2 Adoption of the agenda
- 1.3 Administrative arrangements
- 1.4 Red Book (comments to be considered under relevant agenda items)

**2. ITEMS REQUESTED BY THE 1<sup>ST</sup> IHO ASSEMBLY**

- 2.1 Revision of the IHO Strategic Plan (*to be considered under Agenda Item 6*)
- 2.2 Revision of the IHO Resolution 2/2007 (Decision A1/12) (*to be considered under Agenda Item 4, HSSC&IRCC Reports*)
- 2.3 Revision of the IHO Resolution 1/2005 (Decision A1/19) (*to be considered under Agenda Item 4, IRCC Report*)
- 2.4 Revision of the IHO Resolution 2/1997 (Decision A1/05) (*to be considered under Agenda Item 4, IRCC Report*)

**3. ITEMS REQUESTED BY THE 1<sup>ST</sup> IHO COUNCIL**

- 3.1 Review of the status of Decisions and Actions from C-1

**4. ITEMS REQUESTED BY SUBSIDIARY ORGANS**

- 4.1 Report and proposals from HSSC
- 4.2 Report and proposals from IRCC
- 4.3 Development and future provisions of S-100 products

**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 2019
- 5.3 Proposed IHO Budget for 2019

**6. IHO STRATEGIC PLAN REVIEW**

- 6.1 Report and Proposals from SPRWG

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

- 7.1 Preparations for the triennium of IHO centenary celebrations (IHO-100)
- 7.2 Overhaul of all IHO communication means and digital revamp of the International Hydrographic Review
- 7.3 Establishment and future governance of the Nippon Foundation-General Bathymetric Chart of the Oceans (GEBCO) Seabed 2030 Project
- 7.4 Annex C of C-1 Summary Report
- 7.5 Recent Activities Related to Satellite-derived Bathymetry and Hydrographic Remote Sensing

**8. NEXT MEETING**

- 8.1 Dates and venue for the 3<sup>rd</sup> Meeting of the IHO Council (15-17 October 2019, tbc)

**9. ANY OTHER BUSINESS**

**10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING**

**11. CLOSURE OF THE MEETING**

## LIST OF DECISIONS and ACTIONS FROM C-2

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
<b>1. OPENING</b>					
<b>1.1 Opening remarks and introductions</b>					
<b>1.2 Adoption of the Agenda</b>					
	Information Papers	C2/01	<b>The Council</b> agreed to consider the INFORMATION papers available on the C-2 webpage, as part of the agenda of C-2		Decision
	Observers	C2/02	<b>The Council</b> welcomed the proposal to be informed on Day 3 by Dr Graham Allen, about the Seabed 2030 Project		Decision
	Agenda	C2/03	Subsequently, <b>the Council</b> adopted the agenda and the timetable		Decision
<b>1.3 Administrative Arrangements</b>					
	Contact List	C2/04	<b>IHO Member States having a seat at the Council</b> to provide the IHO Sec. with their updates to the IHO Council List of Contacts.	<b>Permanent</b>	
<b>1.4 Red Book</b>					
	Red Book deadlines	C2/05	<b>The Council Chair</b> commended the IHO MS who provided comments in time for the preparation of the Red Book		Decision
<b>2. ITEMS REQUESTED BY THE 1ST IHO ASSEMBLY</b>					
<b>2.1 Revision of the Strategic Plan (considered under Agenda Item 6)</b>					
<b>2.2 Revision of the IHO Resolution 2/2007 (Decision A1/12) (considered under Agenda Item 4)</b>					
<b>2.3 Revision of the IHO Resolution 1/2005 (Decision A1/19) (considered under Agenda Item 4)</b>					
<b>2.4 Revision of the IHO Resolution 2/1997 (Decision A1/05) (considered under Agenda Item 4)</b>					
<b>3. ITEMS REQUESTED BY THE 1<sup>ST</sup> IHO COUNCIL</b>					
<b>3.1 Review of the status of Decisions and Actions from C-1 (pending actions)</b>					
	Election of Chair and Vice-Chair of the Council	C2/06 (former C1/17)	<b>The Council</b> agreed to submit the proposed revised Rule 12 of the Council ROP to A-2 and to seek A-2 for clarification for the identified discrepancy	<b>C-3 in preparation of A-2</b>	Decision

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
	General Regulations, Elections	C2/07 (former C1/46)	<b>The Council</b> endorsed the proposal for amending the General Regulations to address medical fitness of candidates for election and invited the <b>Council Chair</b> to include the proposed amendment in its report and proposals to A-2.	<b>C-3 in preparation of A-2</b>	Decision
	Council Composition	C2/08 (former C1/47)	<b>IHO Sec</b> to raise the issue of the definition of hydrographic interest at A-2 in accordance with Clause (c) of Art. 16 of the General Regulations and request possible guidance on the objectives and ways to reconsider this issue.	<b>C-3 in preparation of A-2</b>	
	General Regulations	C2/09 (former C1/49)	<b>The Council</b> thanked <b>Canada supported by Australia, Brazil France, and Norway</b> and any other interested MS, for offering to pursue informal discussions on possible improvements of the General Regulations with regard to the election process.	<del>C-2</del> ,	Closed
	Side-meetings	C2/10 (former C1/51)	In the Council Circular Letter calling for Council meetings in Monaco, <b>IHO Sec.</b> to remind that MS may use meeting rooms available at the IHO Headquarters, prior and after the Council meetings sessions.	<b>Permanent</b>	
<b>4. ITEMS REQUESTED BY SUBSIDIARY ORGANS</b>					
<b>4.1 Report and proposals from HSSC</b>					
2.2 and 4.1	IHO Resolution 2/2007	C2/11	As part of the revision process of the IHO Resolution 2/2007, <b>the Council</b> endorsed the new revision cycle for the development phase of Product Specifications.		Decision
2.2 and 4.1	IHO Resolution 2/2007	C2/12	As part of the revision process of the IHO Resolution 2/2007, <b>the Council</b> endorsed the guidance on the conduction of an impact study in support of the approval process for new Standards / Publications/Product Specifications.		Decision

## Annex C to C-2 Report

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
2.2 and 4.1	IHO Resolution 2/2007	C2/13	<b>IHO Sec in liaison with HSSC &amp; IRCC Chairs</b> to prepare amendments to IHO Resolution 2/2007 accordingly and seek endorsement of the Council prior to submission at A-2	<b>HSSC-11, IRCC-11<sup>6</sup>, then C-3 in preparation of A-2</b>	
	HSSC TORs and ROPs	C2/14	<b>The Council</b> endorsed the proposed amendments to the HSSC TORs and ROPs  <b>IHO Sec.</b> to issue an IHO CL seeking the approval of Member States on these amendments	<b>November 2018</b>	<u>Decision</u>
	IHO Work Programme 2	C2/15	<b>The Council</b> approved the key priorities of the HSSC/IHO Work Programme 2 for 2019 and the key priority work items. <b>The Council</b> took also note of the top priority work items proposed by the HSSC WGs/PTs for 2019-2020.		<u>Decision</u>
	IHO Work Programme 2	C2/16	<b>The Council</b> endorsed the proposals made for the use of the IHO Fund for Special Projects, as requested by HSSC and invited..  <b>HSSC and IHO Secretariat</b> to implement this decision accordingly, under the IHO Budget for 2019.	<b>HSSC-11</b>	<u>Decision</u>
	HSSC&IRCC Reports and Proposals to C-3	C2/17 (same as former C1/06)	Considering the timelines between HSSC-11 and IRCC-11 meetings in 2019 and the countdown for submission of reports and proposals to C-3, <b>the Council</b> invited <b>HSSC and IRCC Chairs</b> to prepare their 2019 meeting minutes with the view that they will be used/submitted directly as reports and proposals to be considered at C-3.	<b>July 2019</b>	

<sup>6</sup> Due to the Appendix to the IHO Resolution 2/2007 which includes Publications under the remit of IRCC.

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
<b>4.2 Report and proposals from IRCC</b>					
	IRCC TORs and ROPs	C2/18	<p><b>The Council</b> endorsed the proposed amendments to the IRCC TORs and ROPs, as revised during C-2, with full alignment with the paragraph 9 of the ROP of HSSC.</p> <p><b>IHO Sec.</b> to issue an IHO CL seeking the approval of Member States on these amendments</p>	<b>November 2018</b>	Decision
2.4 and 4.2	IHO Resolution 2/1997	C2/19	<p><b>The Council</b> endorsed the proposed amendments to the IHO Resolution 2/1997, with the wording changed in paragraph 1 to read in the last sentence.  <i>“Recognized by the Assembly, the RHCs ...Secretariat.”</i></p> <p><b>IHO Sec</b> to issue an IHO CL seeking the approval of Member States on these amendments</p>	<b>Nov. 2018</b>	Decision
2.4 and 4.2	IHO Resolution 2/1997	C2/20	<p>Noting the work still in progress for more substantive changes, <b>IRCC</b> to submit the consolidated amendments to the IHO Resolution 2/1997 at C-3 for subsequent approval at A-2</p>	<b>C-3 in preparation of A-2</b>	
	CBSC TORs and ROPs	C2/21	<p><b>The Council</b> endorsed the proposed amendments to the CBSC TORs and ROPs.</p> <p><b>IHO Sec.</b> to issue an IHO CL seeking the approval of MS on these amendments</p>	<b>Nov. 2018</b>	Decision
	B-12 – IHO Guidelines on Crowdsourced Bathymetry	C2/22	<p><b>The Council</b> endorsed the proposed Edition 1.0.0 of IHO Publication B-12 - <i>IHO Guidelines on Crowdsourced Bathymetry</i>, - with the inclusion of the caveat agreed at C-2 - but acknowledged that further work was needed for depicting the data flow (sensor, coastal States information, DCDB) before these guidelines can come into force with full effect</p>		Decision

## Annex C to C-2 Report

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
	B-12 – <i>IHO Guidelines on Crowdsourced Bathymetry</i>	C2/23	<b>IRCC</b> to instruct and provide guidance to the <b>CSBWG</b> to further develop a more detailed paragraph on the data flow in preparation for Ed. 2.0.0. of B-12. <b>IRCC</b> to endorse it by correspondence. As soon as endorsed by <b>IRCC</b> , <b>IHO Sec.</b> to issue an IHO CL seeking the approval of MS on Ed. 2.0.0 of B-12, incl. this paragraph	<b>31 Oct 2018</b>  <b>31 Jan 2019</b>  <b>By 31 March 2019</b>  <b>By 15 April 2019</b>	
	IHO Resolution 6/2009	C2/24	<b>The Council</b> endorsed the proposed amendments to the IHO Resolution 6/2009  <b>IHO Sec.</b> to issue an IHO CL seeking the approval of MS on the proposed amendments to IHO CL 6/2009	    <b>Dec. 2018</b>	Decision
	IHO Resolution 6/2009	C2/25	<b>The Council</b> endorsed the proposed IRCC key priorities of the IHO Work Programme for 2009		Decision
	IBSC, RENCs, CSBWG	C2/26	<b>The Council</b> commended the IBSC, the RENCs and the CSBWG for their outstanding respective achievements since C-1		Decision
	Overlapping ENCs	C2/27	<b>IRCC</b> to instruct the <b>WENDWG</b> to include in its next meeting agenda, an initial assessment of the lessons learned from the implementation process of the new IHO Resolution 1/2018 since its entry into force.  Subsequently, <b>WENDWG Chair</b> to report on this initial evaluation to <b>IRCC-11</b>	<b>Feb 2019</b>       <b>End April 2019</b>	
	Overlapping ENCs	C2/28	Following this initial evaluation, <b>IRCC</b> to instruct and provide guidance to the <b>WENDWG</b> on how such an evaluation of the effectiveness of IHO Resolution 1/2018 should be conducted, and on the expected outcomes.  Subsequently, <b>IRCC</b> to submit amendments to this Resolution, if appropriate, and report on the outcome of this process across the charting regions	<b>June 2019</b>       <b>C-3 in preparation of A-2</b>	

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
<b>4.3 Development and future provision of S-100 products</b>					
	S-100 Products	C2/29	<b>HSSC</b> to consider the possibility to organize a demonstration showcase of S-100 based products and test beds as an embedded session of C-3	<b>HSSC-11</b>  <b>C-3</b>	
	S-100 Products	C2/30	<b>IRCC</b> to instruct and provide guidance to the <b>WENDWG</b> in order to investigate the applicability of the WEND-like Principles to the production and dissemination of S-101 ENCs and the first generation of S-100 based products and to report back at C-3	<b>Dec. 2018</b>  <b>C-3</b>	
	S-100 Products	C2/31	<b>Council, HSSC, IRCC Chairs and SecGen</b> to draft an implementation strategy/roadmap for a transition plan aiming to the regular and harmonized production and dissemination of S-100 based products for further discussion at A-2 and for the preparation of the 2021-2023 IHO Work Programme	<b>C-3 in preparation of A-2</b>	
	S-100 Products	C2/32	<b>SecGen</b> to start engaging with the IMO Maritime Safety Division, on an informal basis as appropriate, to update on the current status of the S-100 framework and potential future impact on IMO instruments	--	
<b>5. IHO ANNUAL WORK PROGRAMME AND BUDGET</b>					
<b>5.1 Review of the Current Financial Status of the IHO</b>					
	Financial Status	C2/33	<b>The Council</b> noted the information provided on the current financial status.		Decision
<b>5.2 Proposed IHO Work Programme for 2019</b>					
	Work Programme and Priorities	C2/34	<b>The Council</b> approved the key priorities identified by the IHO Secretary-General and the HSSC and IRCC Chairs and approved the IHO Work Programme for 2019		Decision
	Work Programme Priorities	C2/35	<b>IHO Sec</b> to issue an IHO CL making the IHO Work Programme 2019 as approved by the Council available to the IHO MS [final version to include the key deliverables/targets of the ARHC].	<b>Permanent</b>	

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
	Theme for the World Hydrographic Day 2019	C2/36	<b>The Council</b> noted the theme for the 2019 World Hydrography Day “ <i>Hydrographic information to drive marine knowledge</i> ” that will be circulated to the IHO MS by IHO CL		
	Work Programme Priorities	C2/37 (former C1/35)	<b>The Council</b> invited the <b>Chair/Secretary-General</b> to provide IHO Work Programme key priorities in time with the other supporting documents for Council meetings.	<b>Permanent</b>	
<b>5.3 Proposed IHO Budget for 2019</b>					
	Budget	C2/38	<b>The Council</b> approved the proposed IHO budget for 2019 and, noting the impact of the IHO-100 project, supported the request for an additional allocation to the Special Project Fund for contract support.		Decision
<b>6. IHO STRATEGIC PLAN</b>					
<b>6.1 Review of the Strategic Plan</b>					
	Strategic Plan Review	C2/39	Noting the importance of the international context (United Nations Decade of Ocean Science for Sustainable Development, Biodiversity Beyond National Jurisdiction Negotiations, ...) and the object of the IHO as stated in the IHO Convention, the Council tasked the <b>SPRWG</b> to develop the Strategic Plan on the basis of the 3 smart goals endorsed at C-2	<b>In accordance with the management plan</b>	
	Strategic Plan Review	C2/40	<b>SPRWG Chair</b> to engage with <b>HSSC and IRCC Chairs</b> and provide them with draft Strategic Targets and Performance Indicators that could be considered at HSSC-11 and IRCC-11 for their initial feedback on the possible implementation in the future	<b>15 March 2019 (for HSSC), 15 April (for IRCC)</b>	
	Strategic Plan Review	C2/41	<b>The Council</b> endorsed the management plan for the drafting phase of a complete revised version of the Strategic Plan, as proposed by the SPRWG, and the inclusion of the Secretary-General as a Member		Decision
<b>7. OTHER ITEMS PROPOSED BY A MEMBER STATE OR BY THE SECRETARY-GENERAL</b>					
<b>7.1 Preparations for the triennium of IHO centenary celebrations (IHO-100)</b>					

## Annex C to C-2 Report

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
	IHO-100	C2/42	<b>The Council</b> welcomed and approved the proposals (incl. the management and associated budget) made by the Secretary-General for the preparation of the triennium of IHO centenary celebrations (IHO-100 Project).		Decision
	IHO-100	C2/43	<b>IHO Sec.</b> to include IHO-100 Project as a standing Council agenda item	C-3, C-4, C-5	
	IHO-100	C2/44	Noting the level of involvement from the IHO Secretariat and the in-kind support expected from Member States, <b>Secretary-General and SPRWG Chair</b> to consider how the IHO-100 Project should be reflected in the Strategic Plan	<b>Dec. 2018 and C-3</b>	
<b>7.2 Overhaul of all IHO communication means and digital revamp of the International Hydrographic Review</b>					
	IHO communication	C2/45	<b>The Council</b> welcomed and approved the proposals made by the Secretary-General for the overhaul of all IHO communications means, noting that the IHO MS can implement the branding changes, within their own timescale		Decision
	IHO communication	C2/46	<b>The Council</b> endorsed the allocation of additional budget from the Special Projects Fund to cover the costs for the digital IHR revamp		Decision
	IHO communication	C2/47	<b>Secretary-General</b> to make some investigations and a cost-benefit analysis for classifying the IHR in the “Scientific Journal Ranking”		Decision
	IHO communication	C2/48	<b>The Council</b> commended the in-kind support provided by the USA (NOAA) and for the nomination of a seconded social media expert		Decision

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at 19 Oct 2018)
<b>7.3 Establishment and future governance of the Nippon Foundation-General Bathymetric Chart of the Oceans (GEBCO) Seabed 2030 Project</b>					
	Seabed 2030	C2/49	<p><b>The Council</b> commended Dr Graham Allen for the presentation given on the Seabed 2030 Project and noted his “call to action” to the IHO</p> <p><b>The Council</b> tasked the <b>SPRWG</b> to consider the Seabed 2030 Project project during the revision process of the Strategic Plan</p>	<b>C-3</b>	<u>Decision</u>
<b>7.4 Annex C of C-1 Summary Report</b>					
	Rules of Procedure of the Council	C2/50 (follow-on of C1/14)	<p><b>The Council</b> agreed to interpret that there is no conflict between the RoP 8(i) of the IHO Council and the Convention article VI(g)(vii) and subsequently confirmed that <b>the Council</b> has the authority to consider items proposed by Member States or the Secretary General</p> <p><b>Council Chair</b> to report on this to A-2</p>	<b>C-3 in preparation of A-2</b>	<u>Decision</u>
<b>7.5 Recent Activities Related to Satellite-derived Bathymetry and Hydrographic Remote Sensing</b>					
<b>8. NEXT MEETING</b>					
<b>8.1 Dates and venue for the 3rd Meeting of the IHO Council</b>					
	C-3	C2/51	<b>The Council</b> agreed to hold C-3 in Monaco, at the IHO Secretariat, from 15 to 17 Oct. 2019		<u>Decision</u>
<b>9. ANY OTHER BUSINESS</b>					
	From C-2 to C-3 and then A-2	C2/52	<b>The Council</b> endorsed that the duration of the 2 <sup>nd</sup> Session of the IHO Assembly should be limited to 4 days (rather than 5 days as in the past).		<u>Decision</u>
	From C-2 to C-3 and then A-2	C2/53	<b>IRCC</b> to engage with <b>RHCs Chairs</b> in order to prepare the arrangements for reporting to A-2 [and to avoid duplication with the Council Chair’s Report which is planned to include the IRCC Report]	<b>Nov 2018</b>	

**Annex C to C-2 Report**

AGENDA ITEM	SUBJECT	DECISION or ACTION No.	DECISION or ACTIONS (in bold, action by)	TARGET DATE/EVENT	STATUS (at <b>19 Oct 2018</b> )
	From C-2 to C-3 and then A-2	C2/54	<b>IHO Sec., Member States, HSSC and IRCC</b> to pursue, in accordance <u>with the Planning Cycle described in IHO Resolution 12/2002</u> as amended (incl. Strategic Plan), the preparation the 3-year IHO Programme of Work and Budget, to be submitted to A-2	<b>From April 2019 to C-3 in preparation of A-2</b>	
	Decision Approval Process	C2/55	<b>The Council</b> noted the statement made by KHOA on the decision making process in the IHO		
<b>10. REVIEW OF ACTIONS AND DECISIONS OF THE MEETING</b>					
<b>11. CLOSURE OF THE MEETING</b>					

