

**13TH MEETING OF THE IHO INTER-REGIONAL COORDINATING COMMITTEE
IHO-IRCC13
VTC, 23-25 JUNE 2021**

Report of the IHO Secretariat

Submitted by: IHO Secretariat

Executive Summary: This paper provides a summary report of matters of interest related to the work of the IHO Secretariat.

Status of Membership of the IHO

1. Lebanon became the 94th IHO Member State end of 2020. Unfortunately, there are four Member States - Democratic Republic of the Congo, Serbia, Syria and Vanuatu - suspended from Member States rights.

Outcomes of the Second IHO Assembly

2. The second session of the IHO Assembly (A-2) took place from 16 to 18 November 2020 as remote event (VTC). The ACLs related to A-2, as well as the list of Decisions and the publication P6 – Proceedings of the 2nd Session of the IHO Assembly 2020 are available on the IHO website for consultation.

3. At the A-2 the IHO Member States approved the new IHO Strategic Plan which lays out the organization's priorities for the coming years (2021-2026). The inclusion of Goal 3 related to participation in international initiatives on the sustainable use of the oceans, confirms that the IHO is now, also, clearly committed to reconciling the use and the preservation of the marine environment, in line with the global initiatives, such as UN Decade for Ocean Science and Seabed2030. Assembly participants approved the Roadmap for the implementation of the IHO Universal Data Model (S-100) which can be utilized by all users of ocean data including navigation, marine energy, oceanography etc. The IMO e-navigation Strategy Implementation Plan requires that all Maritime Services be S-100 conformant, as it specifies the method for data modelling and developing product specifications. A-2 also approved the establishment of the joint IHO-Singapore Innovation and Technology Laboratory in Singapore to coordinate and testbed initiatives under the proposed composition, governance structure and terms of reference for the governing board and the management team.

4. Member States also approved the new project proposed by Canada on Empowering Women in Hydrography - EWH, which aims to increase gender equity and the number of women in leadership positions. The project will include training and communication on different hydrographic careers. Finally, as clear example of how the Hydrographic Community is evolving and dealing with extraordinary circumstances, the Assembly approved the establishment of a new IHO e-learning centre hosted by the Republic of Korea at the Korea Hydrographic and Oceanographic Agency (KHOA). The organization had been wanting to increase the offering in terms of distance training for some time and the current pandemic highlighted the need for this.

Outcomes of the 4th Meeting of the IHO Council

5. The Council had been tasked by A-2 with making the Strategic Plan real, a task that must be accomplished quickly to ensure that the IHO reaches its goals. The A-2 had also tasked the Council with implementation of the S-100 Roadmap, which included S-100 standards and offered increasing safety of navigation by ensuring that the most up-to-date information was available with the vision of its delivery to mariners seamlessly integrated with other data such as navigational aid information and weather. Following that, the Council decided to set up a repository webpage to facilitate its accessibility and maintenance (Action C4/19 refers). The A-2 had then also tasked the Council to work through the technical, operation and regulatory challenges associated with the transition from paper-based products and S-57 ENC's to the S-100 suite of standards and services.

6. The fifth meeting of the IHO Council is scheduled to take place in Monaco, from 19 to 21 October 2021. The preparation of this meeting has already started (See CCL 01/2021). It can be noted that in accordance with the Rules of Procedures of the Council, the deadline for submission of proposals by IHO Member States is 19 July 2021, while a revised provisional agenda together with supporting documents and timetable will be provided to Member States at least two months before the opening day of the meeting (19 August 2021).

IHO Outreach

7. Considering the impact of digital outreach, the new IHO website totaled 258,363 page views in 2020. The substantial increase in online communication, including social media, resulted in a 191% increase in followers on the IHO LinkedIn page with a new record of 30,000 total views for June 2020. On Twitter, the account was created at the end of 2019, and recorded 17,200 total views in April 2020. The video on World Hydrography Day had over 16,000 views on the YouTube channel. These initiatives have contributed to raising awareness about the IHO's activities among hydrographers, but also among a wider audience.

World Hydrography Day

8. Taking into account the IHO Centenary (to be described later on) and the A-2 decisions, the theme of the World Hydrography Day for 2021, as announced by IHO CL 01/2021, is:

“One hundred years of international cooperation in hydrography”

The theme is designed to showcase progress in knowledge and technology over the past 100 years, while celebrating the ground-breaking work which was done during this period. The goal is to highlight the past, present, and future of hydrography by showing the important work of early hydrographers, progress in technology, and state of the art in technology.

IHO Centenary Celebrations (IHO-100)

9. The IHO Centenary celebrations ranging from 2019 to 2021, are important milestones of the IHO. In this respect, a Prestige Book was issued in 2020, and a commemorative stamp was issued by the Principality of Monaco on 26 February 2021 for the IHO Centenary. With the IHO CL 16/2021, it was established that the major focus of the IHO Secretariat's outreach activities for 2021, as reported at the 2nd IHO Assembly, will be the celebration of the 100th anniversary of the creation of the International Hydrographic Bureau on 21 June 1921 – later to become the Secretariat of the International Hydrographic Organization. According to Decision A2/15, the **“Peak-of-the-peak”** event was originally planned for World Hydrography

Day (WHD 2021) on 21 June 2021 with Member State representatives coming to participate in person. But, in consideration of the continued travel and physical meeting limitations induced by the COVID19 pandemic, the IHO Secretariat has decided to reformat the celebrations. The "Peak-of-the-peak" event was planned as a hybrid event (cfr. IHO CL 21/2021) and consisted in an initial part at the IHO Secretariat with four speeches, then an exhibition of modern survey technology in Monaco harbour, a visit to the Italian Navy tall ship Amerigo Vespucci, and a panel discussion. The entire event is available in digital format, for the benefit of all the IHO Member States.

International Hydrographic Review (IHR)

11. The IHR is a pdf publication, with peer-reviewed articles, with two editions a year and an annual printed copy consisting of a compilation of the articles. Access to this publication is free via the IHO website and without restriction. Member States are strongly urged to contribute to the Review as an important means of sharing information on their activities and developments within the hydrographic community. Other organizations or individuals working in related hydrographic fields, are also invited to contribute to this publication. Through its 98 years of existence, the IHR has counted on the important collaboration of the worldwide Hydrographers, most from the Member States Hydrographic Offices, and from the members of the IHR Editorial Board that have contributed to the maintenance of this important publication.

12. Capt (ret) Brian Connon (USA) was appointed as new IHR Editor with effect from January 2020 and coordinated already the two editions of 2020. In his first editorial he expressed the intention to continue the evolution of the IHR to "best serve the need of the IHO and the hydrographic community" and be "the journal of choice for hydrographic content". As a sign of the changes that were implemented in 2020, the cover page of the IHR was aligned with the most recent branding image of the IHO. The IHR provides an ideal opportunity for Regional Hydrographic Commissions and Member States to publicise technical and other achievements in the region. An editorial board comprising a representative from each region has been established.

13. At the IHO Secretariat, a dedicated team composed by some IHO staff and the IHR Editor worked on the IHR Website, that was launched in association with the celebrations of the IHO 100th Anniversary. This new website aims to modernize the issue of the IHR contents in a more attractive and functional way. One important aspect is the classification of the articles by collections, to allow the users to better find the articles by the respective main topics (collections).

Capacity Building Programme

14. The level of activity of the IHO Capacity Building (CB) Programme was clearly affected in 2020 by the COVID 19 Pandemic. Expenditure in the IHO 2020 CB Work Programme (CBWP) was 42,125.00 Euros, a value that cannot be compared with the previous years. It is also expected that the current year is significantly affected by the by the COVID 19 Pandemic and that most of the 2021 CBWP needs to be moved to the 2022CBWP. In the CBSC19 Intersessional Meeting, Decision 5 approved that "Only the 2021CBWP funded activities will be moved to the 2022CBWP...".

Empowering Women in Hydrography (EWH).

15. The 2nd Session of the IHO Assembly (A-2) approved the adoption of a new work item of Empowering Women in Hydrography (EWH) to the Work Programme of the IHO CBSC (A-2 Decision 35), and tasked the Secretariat to secure funding through allocation of IHO budget resources available and negotiation of suitable cooperation agreements with interested Member States.

16. CANADA and IHO signed the Agreement in reference B, now available at the following link: <https://iho.int/en/mou-agreements>. The Agreement secures the funds for the next three years, provides – at Annex A – a Project work-plan for the period 2021-2024, and finally describes a series of activities and initiatives which will enable more women to participate equitably in the field of hydrography and to assume more leadership roles within the hydrographic community.

17. With IHO CL 20/2021, the Secretariat encouraged the Member States to consider the recommendation of the 2nd Session of the Assembly (A-2 Decision 36) to take part in the Project, which intends to contribute to reduce the imbalance in the participation of women in Hydrography.

Crowdsourced Bathymetry

18. In accordance with Decision 8 of the EIHC5, IRCC7 established the Crowdsourced Bathymetry Working Group (CSBWG) to develop guidelines on the collection and use of crowdsourced bathymetry (CSB). The CSBWG generated the draft IHO publication B-12 – IHO Guideline on Crowdsourced Bathymetry. Edition 2.0.0 was circulated under IHO CL 11/2019 and its approval as Edition 2.0.3 was announced in IHO CL 28/2019. Replies to Annex B of IHO CL11/2019 and to CL 21/2020 have been analysed and a table of coastal States indicating positive support for the activity and the provision of data into the public domain within all or parts of their waters of national jurisdiction has been generated and published on the IHO website for the guidance of the wider maritime community (IHO CL 47/2019 refers). Member States may advise the Secretary - General at any time of any change to their originally stated position.

19. The web-based interface portal to the IHO Data Centre for Digital Bathymetry (DCDB), hosted by the USA in Boulder, Colorado, as part of its commitment to the system of World Data Centres, is being upgraded to be compatible with the crowdsourced bathymetry initiative. This will enable an IHO-led CSB infrastructure to be established and promoted across the wider maritime community. The DCDB has developed a geographic filter application, which suppresses embargoed data from public availability and places this data in a separate data store until such time as approval is given for its release into the public domain. The DCDB has also commenced initial discussions with the International Seabed Authority (ISA) on suitable methods for making its data available, either into the DCDB or directly into the GEBCO grid. The DCDB is also in advanced discussion with a number of commercial shipping companies to extract bathymetric data from their voyage data recorder systems.

GEBCO Project

20. The General Bathymetric Chart of the Oceans (GEBCO) Project is a joint programme that is executed under the governance of the IHO and the IOC and directed by a Guiding

Committee. GEBCO is the only long-term international project with a mandate to map the ocean floor. Through the work of its organs (Technical Sub-Committee on Ocean Mapping (TSCOM), a Sub-Committee on Undersea Feature Names (SCUFN), a Sub-Committee on Regional Undersea Mapping (SCRUM), a Sub-Committee on Communications, Outreach and Public Engagement (SCOPE)), GEBCO produces and makes available a range of bathymetric data sets and products, including gridded bathymetric data sets, the GEBCO Digital Atlas, the GEBCO world map, the GEBCO Gazetteer of Undersea Feature Names. GEBCO maintains a comprehensive website at <http://www.gebco.net>. Regional Hydrographic Commissions are encouraged to support GEBCO activities and also nominate suitable candidates to the GEBCO Training Programme leading to a Graduate Certificate in Ocean Bathymetry at the University of New Hampshire, USA. (Additional details available in document IRCC11-I1).

21. At the IRCC12 a submission has been made in coordination with GEBCO and Seabed 2030, for RHC to identify regional coordinators to act as a point of contact and to raise the profile of data gather and provision within their respective Region, all with the view of increasing awareness and highlighting the link between gaining a complete picture of the ocean floor with the UN Decade and the SDGs. The regional coordinators would have a key role in assisting the RHC in gathering the evidence and reporting annually on the percentage coverage achieved within their Region. They would also be in a position to assist individual coastal states.

22. GEBCO plans to release the updated GEBCO on annual basis now. The 2020 grid was published in April 2020. Based on the variable resolution coverage, which was recently calculated and takes into account current technology capabilities, the cover has increased from 6% in the 2014 grid to 19% in the 2020 grid. Most of this increase has been achieved through the release of previous survey data, which had not been placed in the public domain and was not available to GEBCO. The 2019 grid included the data gathered by the two contracts in the search for MH370, which have been released by the Australian authorities. The 2020 included data from the five deeps project. There remains a considerable quantity of data still held by governments, academic institutes and industry embargoed for a variety of reasons. To avoid wasting scarce resources re-surveying these areas, authorities and organizations are invited to consider whether lower resolution (100m or 200m grid) datasets of these data can be made available rather than the simple 'Yes/No' approach.

Seabed 2030 Project

23. The Nippon Foundation (NF)-GEBCO Seabed 2030 project builds on more than 100 years of GEBCO history; the project has established regional connections to all corners of the World and benefits from the human network of ocean mapping capacity built over 15 years through The Nippon Foundation – University of New Hampshire (UNH) training project. Through Seabed 2030, GEBCO's role will be recognized and reinforced as the authoritative international initiative for mapping the World Ocean, from the coasts to the deepest trenches. The project will champion, develop and nurture the technical and human capacity to complete this task by 2030.

24. Seabed 2030 has established a network of 4 regional centres. Each centre focuses on discovering, gathering and assembling all available bathymetric data from their region to produce regional datasets and resulting products. The Atlantic and Indian Oceans Regional Center located at the Lamont-Doherty Earth Observatory, Columbia University, USA; the

Arctic and North Pacific Oceans Regional Center co-located at Stockholm University, Sweden, and University of New Hampshire, Durham, USA and the South and West Pacific Ocean located at the National Institute of Water and Atmospheric Research (NIWA), New Zealand are the Regional Centers. A global centre, established at the National Oceanographic Centre (NOC), UK, merges the regional datasets to generate the annual GEBCO grid as well as other products. Within this structure, the IHO-DCDB will remain the central GEBCO repository for all raw bathymetric data.

Action Requested of IRCC

25. IRCC is invited to:

- **Note** this report,
- **Take any actions** as considered appropriate.