



19th NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION CONFERENCE



Muscat, Oman
26-28 March 2019

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. One of the main changes resulting from the entry into force of the revised IHO Convention is that, for States wishing to join the IHO that are already Member States of the United Nations, there is no requirement to seek the approval of existing Member States of the IHO. In 2018 **Bulgaria** acceded to the IHO Convention and became the 89th Member States of the IHO. On 1 January 2018 Dominican Republic was reinstated as Member State, suspended since 1983. Unfortunately there are still three Member States remaining suspended, Democratic Republic of the Congo, Serbia and regrettably Syria was recently suspended from Member States rights, being in arrears in its contributions now for two consecutive years.

Regional Applications for Membership of the IHO

2. The non-IHO Member States of the NIOHC region need to be encouraged to become IHO member. Jordan, Maldives, Somalia, Sudan and Yemen are considered as potential member states of the IHO in the future.

3. The IHO Secretariat, in cooperation with the Department of External Relations of the Government of Monaco, stands ready to assist, through diplomatic or other channels, for membership of the IHO of non-member States in the North Indian Ocean region.

Preparation of the Second IHO Assembly

4. The second IHO Assembly (A-2) is scheduled to take place from 21 to 24 April 2020. The announcement and draft agenda of the A-2 will be issued in April 2019. The IHO Work Programme and budget for the next 3 year (2021-2023) will be prepared for approval of the Assembly.

INT Chart and ENC Production Coordination - Region J

5. India, as Chair of the North Indian International Charting Committee Working Group (NICCWG) for Region J, is responsible to provide regular updates to S-11 Part B - Catalogue of INT Charts. The status of the INT chart scheme for region J is contained in Edition 3.0.0 of S-11 Part B which was made available in January 2019. According to the S-11 Part B Web Catalogue, there are 170 INT charts (and/or plans) in the scheme, of which 154 have been published (91%). NIOHC members and associates are invited to check their individual entries and provide updated information as appropriate. Adoption of Ed. 3.1.0 of IHO Publication S-11 Part A requires new arrangements for the monitoring of INT charts ([CL 11/2018](#) refers).

6. The report of the NIOHC ENC Scheme was not received by the WENDWG9 meeting held in February 2019. There is a need, at the IHO level, to know what the plans are in this charting region, so appropriate recommendations to fix the issues (including those affecting adjacent areas).

7. Early January 2018, the IHO Secretariat informed the Chart Coordinators that the project INTToGIS Phase II was underway, thanks to the outstanding support provided by KHOA (Republic of Korea). For more information, see Doc. [HSSC9-11A-INF1](#). INTToGIS Phase II aims to provide a very useful scheming tool, putting together ENC and INT charts, new base maps and some useful tools for a more efficient and consistent INT chart and ENC scheming (AIS data base, overlap checker, etc.). As agreed at the last WENDWG meeting, some Chart Coordinators are now experimenting INTToGIS II before it is commissioned and made available to all, hopefully early next year.

8. All NIOHC region Member States are also invited to provide the IHO Secretariat with regular updates to C-55 on at least an annual basis. The IHO Secretariat would be grateful for delegates to forward up-dated information to the Secretariat at info@iho.int or via mail.

9. **Recommendations.** NIOHC to consider:

- a) the results of the 9th WENDWG meeting held in February 2019;
- b) the maintenance of ENC Schemes when the INTToGIS Phase II is commissioned;

Capacity Building Programme

10. The level of activity of the IHO Capacity Building (CB) Programme increased in 2018. Expenditure in the IHO 2018 CB Work Programme (861 000 Euros) was 37% bigger than the budget for the previous year. Ongoing financial support is provided by the Nippon Foundation of Japan, the Republic of Korea and by a contribution from the IHO budget with in-kind support from Member States and from industry. The Secretariat is continuing its campaign to find additional donor States and funding organizations. In 2018, 81% of the budgeted work program was executed and paid for.

11. The NIOHC MS have benefited from CB activities under the IHO CB Work Programme (CBWP) in the last year. (Phase 1 Skills Course held in Goa India in from 28 January to 1 February 2019) February. Currently, Ms Lucy Fieldhouse (UK) is the NIOHC CB Coordinator for planning and implementing the regional CB activities.

12. Mr Heru KURNIAWAN from Indonesia and Mr Tajammal ABBASI from Pakistan attended the Nippon Foundation funded CB Category B course in Marine Cartography and Data Assessment which took place at the UKHO from 3 September to 14 December 2018.

13. A call for applications was issued in CL 04/2019 for the 2019 session of the UKHO Category "B" programme (IHO - Nippon Foundation CHART Project). Hydrographic Offices are invited to provide their nominations, if any, by 29 March 2019.

14. A call for applications was issued in CL 18/2019 for Category "B" Marine Geospatial Information Capacity Building Programme sponsored by the Republic of Korea (29 July - 13 December 2019). Member States are invited to provide their nominations, if any, by 20 May 2019.

15. **Recommendation.** NIOHC members are invited to continue being active for CB activities for short technical courses and also long term trainings.

Crowdsourced Bathymetry

16. In accordance with Decision 8 of the EIHC5, IRCC7 established the Crowdsourced Bathymetry Working Group (CSBWG) to provide guidelines on the collection and use of crowdsourced bathymetry. Member States and other interested parties were invited to nominate representatives to participate in the CSBWG (see IHO CL 42/2015). The CSBWG has developed the draft IHO publication B-12 – IHO Guideline on Crowdsourced Bathymetry, which has completed extensive stakeholder and IHO Member State consultation. Edition 1.0.0 was presented to IRCC10 for endorsement and subsequently endorsed by the IHO Council-2 with the caveat that "This document provides technical guidelines only that in no way supersede or override national or

international laws and regulations". Work has commenced on the draft of Edition 2.0.0 (Action C2/23 refers); additionally as a result of Decision C-1/31 IRCC10 endorsed to enlarge the scope of the tasking of the CSBWG, the CSBWG drafted revised ToRs.

17. The web-based interface portal to the IHO Data Center for Digital Bathymetry, 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 concept. This will enable an IHO-led CSB infrastructure to be established and promoted in the IMO and across the wider maritime community.

18. **Recommendation.** NIOHC members are invited to identify further potential sources of bathymetric measurements and survey data providers to be facilitate the further completion of the DCDB data holdings.

GEBCO support through Seabed 2030

19. 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.

20. 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 are covered by the center located at the Lamont Doherty Earth Observatory (LDEO). A global centre will merge the regional datasets to generate the production of 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 and all Seabed 2030 project data will be data based there.

21. **Recommendations.** NIOHC members are invited to consider the future invitation of Seabed 2030 project representatives to NIOHC meetings to discuss options for deepened cooperation and support.

IHO GIS and Databases

22. Work has continued on the development of the IHO GIS which is composed of two main parts:

- a country information database, and
- a regional information database.

23. The country information database has been progressively upgraded to include additional administrative information and facilitate the maintenance of the IHO Yearbook (IHO Publication P-5) and related lists posted on the IHO website. Countries in the NIOHC Region are invited to review their entry in the Yearbook on an annual basis and provide the IHO Secretariat with the appropriate updates or report no change.

24. An Esri-based GIS solution is being implemented to develop further the regional information database. This will enable access to various layers of information through the IHO website and through cloud-based on-line GIS options. The IHO ENC Catalogue and the IHO GIS for Antarctica have been transferred to this new environment.

25. Work has continued on developing a GIS database application to support C-55 - Status of Hydrographic Surveying and Charting Worldwide and the work of the IHO. In response to the request to complement C-55 composite data (percentage of areas adequately surveyed / requiring re-survey / not surveyed) with CATZOC information (see IHO CL 52/2015), CATZOC data was

provided by PRIMAR - on behalf of IC-ENC, PRIMAR and Canada, Singapore, Sweden and Thailand. Useful options for visualizing the data in the IHO C-55 GIS are being investigated.

26. The IHO Secretariat is developing an online form to allow Member States to input data to the Yearbook and to C-55. A CL will shortly be issued to provide instructions on its use.

27. **Recommendations.** Countries in the NIOHC Region are invited to review their entry in the IHO Yearbook and C-55 and to provide the IHO Secretariat with the appropriate updates or to report no change.

IHO Outreach

World Hydrography Day:

28. The theme for World Hydrography Day 2018 was "Bathymetry - "The foundation for sustainable seas, oceans and waterways". Bangladesh, Indonesia, Mauritius, Pakistan Sri Lanka, UK, USA and from the NIOHC reported hosting events in connection with World Hydrography Day 2018 and those reports were displayed on IHO website.

29. Taking into account the discussions at the first IHO Council meeting held in London in October 2018, the theme of the World Hydrography Day for 2019, as announced by IHO CL 01/2019, is:

"Hydrographic information driving Marine knowledge"

30. As part of the report on the proposed Work Programme 2019 at the 2nd Council, the Secretary-General introduced the priorities, which he had defined with the associated issues and risks, for Work Programme 1 (Corporate Affairs). One of the priorities was to plan and start a complete overhaul of the IHO website including incorporation of GIS-services.

31. Taking into account that IHO communication strategy is lacking the provision of social media, the Secretariat accepted the temporary secondment of the social media expert through NOAA (USA) to assist the future set up and maintenance of such a component.

International Hydrographic Review

32. Twice a year, the IHR provides an opportunity for Member States to publicize technical and other achievements in their region. An editorial board comprising a representative from each region has been established. Cdr. Peush Pawsey is member of IHR Board from NIOHC.

33. Papers for consideration for publication in the IHR should be forwarded directly to the editor (ihreview@iho.int, copy to ian.halls1@defence.gov.au). The deadlines are:

- end of January for the May Edition
- end of July for the November Edition

34. The IHO Secretariat worked with the University of New Brunswick (UNB), Canada, in a project to develop a digital repository of the complete library of the IHR. As a result, volumes from the entire collections (1923 to 2018) are available online at: <https://journals.lib.unb.ca/index.php/ihr>.

35. The Secretariat also works on a digital revamp of the International Hydrographic Review (IHR). First consultations were held with the Editor in Chief of the IHR, Mr Ian Halls. The following principal changes are proposed jointly:

- Design and building new separate website www.ihr.iho.int using the new corporate design.
- Design the International Hydrographic Review as online publication and printable version (PoD).
- Facilitate technical options to create customized topical compilations from the digital repository of IHR articles for pdf-download and print.

36. Further and more detailed information was presented at and endorsed by the second IHO Council meeting in London in October (Decision C2/46 refers).

37. **Recommendations.** NIOHC Members are invited to submit papers for publication in the IHR.

IHO Centenary Celebrations (IHO-100)

38. The years 2019 and 2021 will be important in the history of the International Hydrographic Organization. 2019 will mark the centenary of the 1st International Hydrographic Conference, which was held in London in 1919 and 2021 will be the centenary of the establishment of the International Hydrographic Bureau (IHB) in 1921 in Monaco as precursor of the modern IHO.

39. The IHO Secretariat has already undertaken the preparations for the centenary celebrations of the International Hydrographic Organization ranging from 2019 to 2021 as important milestones of the IHO. In this respect, it is planned to organize workshops, exhibitions, outreach events and similar activities from 2019 to 2021, either independently or jointly with sister institutions and agencies. **The” peak-of-the-peak” will be World Hydrography Day (WHD) on 21 June 2021.** 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.

40. The main activities scheduled for the IHO centenary celebrations, coordinated by the IHO Secretariat are as follows (CL 32/2017 refers):

- To hold an exhibition on "*Historical Nautical Charts and Mediterranean*" which will be displayed at the Monaco Yacht Club from 1 to 13 April 2019,
- To organize an international Symposium on “*A Historical Approach for Measurements and Protection of Oceans and World Waters*” is scheduled to be held at the Oceanographic Museum of Monaco from 20 to 21 June 2019 (in conjunction with the World Hydrography Day), Call for Papers of this Symposium has already been circulated.
- To highlight the centenary celebrations as part of the media and press-campaign associated the Council meetings in 2019 and 2021.
- To organize a half day special session on IHO-100 at the 2nd Session of the IHO Assembly (A-2) in April 2020.
- To prepare, publish and distribute an IHO Prestige Book on “*100 Years of International Cooperation in Hydrography*”.

41. The centenary events could also be linked with the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) which has been coordinated by the IOC of UNESCO.

Action Requested of NIOHC:

- a) **Note** this report
- b) **Consider** the recommendations on Charting as presented in **Paragraph 9**
- c) **Consider** the recommendations on Capacity Building in **Paragraph 15**
- d) **Consider** the recommendations on Crowd Sourced Bathymetry in **Paragraph 18**
- e) **Consider** the recommendations on Seabed 2030 collaboration in **Paragraph 21**
- f) **Review** entries related to IHO C-55 and P-5 (Yearbook) at least annually (**Paragraph 27**)
- g) **Consider** submitting papers for publication in the International Hydrographic Review (**Paragraph 37**)
- h) **Take any other actions** as considered appropriate.

