

## IHO REPORT

Submitted by the IHO Secretariat

### SUMMARY

Executive Summary: The document contains updates of IHO activities relevant to  
GEBCO Project (2015-2016)

Action to be taken: Paragraph 27

Related documents: None

### Guiding Committee Membership

1. The IHO Secretariat would like to congratulate and welcome the new members of the Guiding Committee. It is considered that their active contribution will be of great benefit to GEBCO and ocean mapping community.

### Status of Approval of Amendments to the IHO Convention

2. The Government of Monaco has informed the Directing Committee that it was formally notified of the approval of the 48<sup>th</sup> Member State on 8 August 2016. In accordance with the terms of the Protocol, this means that the Amended Convention on the IHO and its supporting Basic Documents will enter into force three months later, this being on 8 November 2016.

3. The principal effects of the amendments to the IHO Convention are:

- a. Removal of the requirement for States applying for membership of the IHO to await the approval of two thirds of the existing Member States. This will remove an average wait of two to three years before the required majority is achieved.
- b. Changing the 5-year programme cycle of the Organization to three years between Conferences (to be known as Assemblies).
- c. The establishment of an IHO Council. The Council will meet annually.
- d. Changing the elected position of President of the Directing Committee to that of Secretary-General with the elected Directors being subordinate to the Secretary-General.

4. The amendments will result in an organizational structure similar to most other inter-governmental organizations. Once the Council is established, likely to be meeting annually in October, all decisions and outputs from HSSC and IRCC for Member States approval will be required to first go to the Council, thus reducing the flexibility of the organization to make quick decisions on matters through postal voting via IHO CL as has been the case in the past.

## **Status of Membership of the IHO**

5. The IHO membership stands at 85. Bulgaria, Haiti, Mauritania and Sierra Leone have also been approved to become Members of the IHO, but have not yet deposited their instruments of accession with the Government of Monaco.

6. The Government of Monaco has notified IHO Member States of the application by four coastal States to join the IHO: Malta, Vanuatu, the Solomon Islands and the Republic of the Congo. Those States are invited to consider depositing their letter of accession with the Depositary (Government of Monaco) at their earliest convenience. In accordance with the Revised IHO Convention, their accession will take effect on 8 November 2016 or on the date on which the letter of accession is received by the Depositary, if this is later than 8 November 2016.

## **Preparation of the next IHO Assembly**

7. The first meeting of the IHO Assembly is scheduled to take place from 24 to 28 April 2017. As indicated in IHO CCL 1 dated 21 April 2016, the on-line registration for the Assembly has been started via the IHO website from 1 September 2016. The agenda of the Assembly will include a review of the IHO Strategic Plan and consideration of the IHO Work Programme for the next 3-year including the GEBCO Work Programme. The Chair of the GGC is invited to submit his report on GEBCO activities, which will be a part of the IRRC report, covering the period between the XVIII<sup>th</sup> International Hydrographic Conference and the 1<sup>st</sup> Session of the IHO Assembly (April 2012 - April 2017) to the IRCC Secretariat by 1 November 2016.

## **IHO GIS and Databases**

8. 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. The country information database has been progressively upgraded to include additional administrative information and facilitate the maintenance of the Yearbook (IHO Publication P-5) and related lists posted on the IHO website.

9. 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.

10. A programme to scan passed copies of GEBCO sheets has been initiated at the IHO Secretariat. The IHO Secretariat provided the IRCC8 with the current status of the scanning of the GEBCO charts, and requested Member States to provide scanned versions of any of the missing sheets that they may have in their archives for inclusion in the online digital archive.

## Capacity Building Programme

11. The level of activity of the IHO Capacity Building (CB) Programme continued to increase. Expenditure in the IHO 2015 CB Work Programme (930 907 Euros) was 118% larger than the budget for the previous year. This was a result of the ongoing financial support provided by the Nippon Foundation of Japan and the Republic of Korea, supplemented by a contribution from the IHO budget and in-kind support from Member States and from industry.

12. In 2015, the IHO CB programme also reached a new level of achievement with the highest rate of completion of planned CB activities (93%) compared to the last decade. The Directing Committee is continuing its campaign to find additional donor States and funding organizations.

## IHO Outreach

### World Hydrography Day

13. The theme for 2016 is "**Hydrography – the key to well-managed seas and waterways**" which was announced by CL 81/2015. This theme enables all stakeholders involved in hydrography to highlight the significance and importance of their particular activities which could include, but is not limited to, the support of safety of navigation, protection of the marine environment, coastal zone management, marine spatial data infrastructures, defence, resource exploration, and all other components of the blue economy. Reports on events hosted in connection with WHD 2016 are available at:

[www.iho.int](http://www.iho.int) > Home > About IHO > World Hydrography Day > WHD 2016 Celebrations around the world

14. A theme for the WHD 2017 was also proposed by the Directing Committee in the CL 40/2016. The Directing Committee has invited Member States to consider the proposed theme for WHD 2017 "**Mapping our seas and oceans - more important than ever**" - and to provide their comments to the IHO Secretariat by 1 November 2016. In addition to raising awareness of the wide potential uses of hydrographic data in general, this theme may be used in particular to raise awareness of the current lack of comprehensive data to underpin many maps and charts of the seas and oceans. It may help promote and encourage innovative supplementary data gathering and data maximizing initiatives already under investigation in the IHO, including crowd-sourced bathymetry (volunteered geographic data) and satellite-derived bathymetry. This, in turn, will help to promote the increasing role of those involved in hydrography in maritime spatial data infrastructures and the benefits of making hydrographic data accessible to the widest possible audience for uses that go well beyond the safety of navigation.

### International Hydrographic Review

15. The International Hydrographic Review (IHR) provides an opportunity for Regional Hydrographic Commissions, Member States and IHO Subordinate Organs to publicize technical and other achievements. Papers for consideration for publication

in the IHR should be forwarded directly to the IHO Secretariat (*ihreview@iho.int*) with a copy to the Editor (*ian.halls1@defence.au.gov*). The deadlines are:

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

16. The IHO Secretariat has been working 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, the first phase of the project now provides access to volumes from 1963 to 2015. They can be found at: <https://journals.lib.unb.ca/index.php/ihr>.

17. The IHO Secretariat would like to re-emphasise the importance of GEBCO representation at RHC meetings in order to raise awareness of the programme and to assist in obtaining additional data. The IHO Secretariat notes and appreciates the efforts being made by GEBCO members to attend RHC meetings.

### **IHO/IOC Coordination**

18. The Secretariats of the IHO and IOC has continued working closely on GEBCO related activities. The IHO was represented at the 49<sup>th</sup> Session of the Executive Council of the Intergovernmental Oceanographic Commission (IOC) held in Paris, France, from 7 to 10 June 2016 and actively participated in the discussions about the role and involvement of IOC in the GEBCO Project.

19. IHO Publication B-11, GEBCO Cookbook, is considered a valuable and useful reference. The IHO Secretariat particularly acknowledges the considerable contribution and on-going efforts of Dr Karen Marks and other contributors, who continue to edit and maintain this publication.

### **Funding**

20. The IHO Secretariat received the transferred IHO-IOC GEBCO funds from the University of Stockholm in April 2015. The IHO Secretariat is the administrator of the funds, in a similar manner for the IHO-IAG ABLOS, and the multi-donor IHO Capacity Building programme. It is intended the GGC will continue to exercise its long-standing role of managing these funds and deciding how they will be spent, in conformance with the GGC developed spending rules for each fund, its established procedures and work programme budget allocations.

### **Crowd-Sourced Bathymetry Programme**

21. In accordance with Decision 8 of the EIHC-5, the IRCC has established the Crowd-Sourced Bathymetry Working Group (CSBWG) to provide guidelines on the collection and use of crowd-sourced bathymetry. Member States are invited to nominate representatives to participate in the CSBWG (see IHO CL 42/2015). The CSBWG has continued preparing a Guidance document on Crowd-Sourced Bathymetry.

22. The web-based interface portal to the IHO Data Centre 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, which includes developments to received and make available crowd-sourced bathymetry data. This will enable an IHO-led CSB infrastructure to be established and promoted in the IMO and across the wider maritime community.

23. A major high resolution seabed mapping project has been initiated as a result of the Galway Statement; on 2nd December 2014, marine scientists and policy makers from the United States of America, Canada, Europe and Brazil gathered in Dublin, Ireland, to address a number of key issues relating to the role of seabed and seabed habitat mapping raised at “The Atlantic – A Shared Resource” Conference in Galway, Ireland, May 23-24 2013. As a result, an Atlantic Seabed Mapping International Work Group (ASMIWG) has been established on the Implementation of the Galway Statement. They met three times in 2015, Brussels, Belgium in February, Cork in Ireland in July and St John’s, Newfoundland, Canada, in October 2015. At the 4<sup>th</sup> meeting in New Orleans, USA, on 24 February 2016, and the 5<sup>th</sup> meeting in Galway, Ireland, 29 June 2016, further progress was made on refining the pilot project areas as well as formalizing the role and responsibilities of a Research Vessel Coordinator, who will liaise with the various research institutions and organizations to place volunteers to operate the systems during the numerous Atlantic transits to collect high quality multibeam data which will be made publicly available through the newly developed North Atlantic data portal of the DCDB.

### **Role of GEBCO in global programmes related with Earth observation and monitoring**

24. Through international initiatives, such as the Group on Earth Observation (GEO) and the United Nations initiative on Global Geospatial Information Management (UN-GGIM), there is a growing acknowledgement and awareness of the relevance and the potential contribution of hydrographic information in the context of global geospatial data infrastructures. This emphasises the importance of GEBCO as a fundamental part of the global geospatial information infrastructure.

25. In particular, GEO is coordinating efforts to build a Global Earth Observation System of Systems (GEOSS) in order to exploit the growing potential of Earth observations to support decision making in an increasingly complex and environmentally stressed world. The Global Ocean Observing System (GOOS) developed under the auspices of the IOC is meant to be the oceanographic component of GEOSS. Many functions of GOOS depend on the availability of accurate bathymetry. Yet, the IHO Secretariat is not aware of any formal connection between GOOS and GEBCO.

26. Moreover, there are a number of alternative bathymetric products or services from academia and from the private sector (e.g. ESRI Ocean Base Map, Google Ocean) which may be seen as “competing” with GEBCO.

27. The IHO Secretariat invites the GGC to consider ways and means to improve the recognition of GEBCO as the “the most authoritative publicly-available bathymetry of the world’s oceans” in particular in relation with other global programmes related with Earth observation and monitoring.

## Action Requested of the GGC

28. The GGC is invited to:

- a. **Note** this report;
- b. Consider **submitting** articles to the IHR;
- c. Continue to **attend and support** the RHC meetings;
- d. Consider ways and means to **engage directly** with the CSBWG to bring the ocean mapping expertise and capability into the project as well as **collaborating with** the outreach aspects of the wider Galway Statement implementation process;
- e. Consider ways and means to **improve** the recognition of GEBCO as “the most authoritative publicly-available bathymetry of the world’s oceans” in particular in relation with other global programmes related with Earth observation and monitoring; and
- f. **Take** any other **actions** as considered appropriate.