

IHB REPORT TO GGC XXXII, 8-9 OCTOBER 2015

Guiding Committee Membership

1. The IHB would like to congratulate and welcome the new members of the Guiding Committee; we believe 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. Amendments to the Convention on the IHO were approved by the 3rd Extraordinary International Hydrographic Conference in May 2005. As of September 2015, 44 of the required 48 approvals of the Protocol of Amendments to the IHO Convention had been reported by the Government of Monaco. Four more approvals are therefore required before the amendments can enter into force.
3. The principal effects of the amendments to the IHO Convention are:
 - 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.
 - Changing the 5-year programme cycle of the Organisation to three years between Conferences (to be known as Assemblies).
 - The establishment of a Council. The Council will meet annually.
 - 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.

The amendments will result in an organisational structure similar to most other inter-governmental organisations.

Status of Approval of New Member States of the IHO

4. Brunei Darussalam, Georgia Viet Nam became the newest member states of the IHO when the government of Monaco received their instruments of accession to the Convention. IHO membership now stands at 85.
5. Bulgaria, Haiti, Mauritania and Sierra Leone have all received the required number of votes to be accepted as a Member State of the IHO. However, the Government of Monaco has yet to receive their instruments of accession from these countries which will formalise their membership.
6. Congo (Republic of the), Malta, Solomon Islands and Vanuatu have applied for membership of the IHO. By October 2015, the status of approvals was as follows:

State Voting Status

Congo (Republic of) 2 of 55 required

Malta 9 of 53 required
Solomon Islands 2 of 55 required
Vanuatu 8 of 54 required

Suspended Member States

7. Congo (Democratic Republic of the), the Dominican Republic and Serbia remain suspended. IHB is working with these States to expedite their return to full membership as soon as possible, as is the case for a number of other Member States who have fallen behind on payments of their annual subscription.

IHO GIS Data Base

8. Work has continued on the development of an IHO GIS data base. The GIS database has two main parts: a country database and a regional database. The country database contains all relevant information about the coastal States in the world - similar to the information contained in the IHO Year Book. The regional database contains geospatial information about the coverage and location of charts, surveys and related information. It is anticipated there will be an upload capability that will allow States to keep the relevant information up to date. The regional data base is expected to provide the principal resource for managing international chart coordination, ENC coverage, as well as the identification of survey or charting "hotspots". The countries data base and a beta version of the regional database for Antarctica are now under evaluation.
9. A programme to scan passed copies of GEBCO sheets has been initiated at the IHB, more details will be provided under Action Items.

IHO Publicity

10. World Hydrography Day 2015. The theme for World Hydrography Day 2015 was "Our seas and waterways - yet to be fully charted and explored". It concentrated on the fact that much of the world's seas, oceans and navigable waters remain unsurveyed and it was intended to raise public awareness that, for example, there are higher resolution maps of the Moon and Mars than for many parts of our seas and coastal waters. The theme also provided the opportunity to encourage innovative supplementary data gathering initiatives to help obtain more useful depth data. This includes crowd-sourcing using existing ships and ship's equipment, and developments in the analysis of satellite imagery in areas where the water is clear enough. These methods cannot replace highly accurate and thorough hydrographic surveys using specialist ships and equipment, but they can provide useful depth information where otherwise we have none. WHD-2015 was celebrated in Monaco on 30 June in the presence of SAS Prince Albert II and was enhanced by the visit of the Japan Coast Guard Training Ship KOJIMA and by the hosting of the first meeting of the Nautical Information Provision Working Group (NIPWG) at the IHB during the week.
11. World Hydrography Day 2016. IHO CL71/2015 proposes the WHD theme for 2016: Hydrography - the key to well-managed seas. This theme is intended to take advantage of the recently agreed UN Strategic Development Goals (SDG)- especially SDG 14 - on the use of the ocean and also the continuing UN priority on disaster risk reduction.

UN Post 2015 Development Agenda

12. The UN General Assembly has most recently adopted its post 2015 Development Agenda. This is underpinned by 17 Strategic Development Goals.. SDG 14 is particularly relevant to the GEBCO project:

SDG14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development

International Hydrographic Review

13. The International Hydrographic Review (IHR) provides an ideal opportunity to publicise technical and other achievements. An editorial board comprising a representative from each Regional Hydrographic Commission has been established. GEBCO members are encouraged to submit articles for publication.
14. Papers for consideration for publication in the IHR should be forwarded directly to the IHB (ihreview@iho.int) with a copy to the Editor (ian.halls1@defence.au.gov).

Capacity Building Programme

15. Notwithstanding the contributions and support from Japan (Nippon Foundation) and the Republic of Korea, funding for the IHO Capacity Building programme remains limited and the IHO and the RHCs need to continue to explore alternative mechanisms to fulfil their requirements. In many RHCs, the involvement of the commercial sector has provided mutual benefits.
16. The IHB 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 IHB notes the efforts being made by GEBCO members to attend RHC meetings.

IHO/IOC Coordination

17. The revised ToRs and RoPs of the GGC were presented and endorsed by the 28th session of the IOC Assembly in Paris in June 2015; they were subsequently circulated to IHO Member States for approval under IHO Circular Letter 49/2015 dated 9 July 2015. The IHO Member States endorsed the new ToRs and RoPs on 10 September 2015; the Executive Secretary of the IOC and the Chair of the GGC were informed of this final approval and IHO Member States were informed via IHO Circular Letter 70/2015/Rev.1 dated 21 September 2015. Throughout the process the Secretariats of the IHO and IOC worked closely to deliver a successful outcome, whilst ensuring amendments were appropriate and acceptable to both organizations and their Member States.
18. IHO Secretariat has contributed comments to the year long IOC study into its future relation with GEBCO, the report of its findings is expected to be presented at the next IOC Executive Council meeting in June 2016. This was discussed at IRCC7, initiated via an information document submitted by the IHB Directing Committee, IRCC7-INF13C.
19. Work on IHO Publication B-7, GEBCO Guidelines, has not progressed as quickly as planned. The IHB seeks advice on the future of this publication and how it should be

taken forward, noting that a draft was passed to the Secretary in 2012. In this respect, it is for the GGC to recommend to IRCC the future for this publication.

20. IHO Publication B-11, GEBCO Cookbook, is considered a valuable and useful reference. The IHB 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

21. The IHB received the transferred IHO-IOC GEBCO funds from the University of Stockholm in April 2015. The IHB is the custodian of the funds, in a similar manner for the inter-organizational body ABLOS, and the multi-donor IHO Capacity Building programme. The GGC is expected to continue to exercise its long-standing role of deciding on how funds will be spent, in conformance with the GGC developed spending rules for each fund, its established procedures and work programme.

Crowd-Sourced Bathymetry (CSB)

22. 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 is already working by correspondence. The first meeting of the CSBWG is being held in Kuala Lumpur during the week 5 to 9 October.
23. Separately, the web-based interface portal to the IHO Data Centre for Digital Bathymetry, hosted by the USA in Boulder, Colorado, as part of its support of the system of World Data Centres, is being upgraded to be compatible with the crowd-sourced bathymetry concept and also to provide a data discovery portal for worldwide bathymetry and to store data as appropriate and agreed with the data owners.
24. The IHB has continued a proof of concept data gathering trial with the support of the NGIO - Professional Yachting Association (PYA). CSB has been highlighted at a number of conferences and seminars, including Shallow Survey 2015 in Plymouth in mid-September, and PYA Sea Changes Seminar in Monaco in September; it will also be presented at Ocean Innovation 2015 in St John's at the end of October and at HSSC7 in Busan, Republic of Korea, in November.
25. 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, a North Atlantic Seabed Mapping Work Group has been established. They have met twice in 2015, Brussels in February and Cork in July; the next meeting is in St John's later in October. CSB and the IHO DCDB have also been highlighted at the two meetings held earlier this year and it will again be discussed at the third meeting in St John's.
26. A presentation on the project was given to the joint TSCOM/SCRUM meeting, in which the developments of the IHO DCDB were highlighted as key to making it the repository of choice for data collected during the project. The IHB and the IHO DCDB will continue to

be represented at future meetings, and it is strongly recommended that the GGC engage directly with the WG to bring the ocean mapping expertise and capability into the project as well as collaborating with the outreach aspects of the wider Galway Statement process.

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

27. 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.
28. 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 IHB is not aware of any formal connection between GOOS and GEBCO.
29. 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.
30. The IHB 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

31. The GGC is invited to:
 - **Note** this report;
 - **Consider** submitting articles to the IHR;
 - **Continue** to attend and support the RHC meetings;
 - **Progress** the revision of B-7, GEBCO Guidelines, or recommend it withdrawal;
 - **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 process;
 - **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
 - **Take any other actions** as considered appropriate.