

IHB Report

Entry into force of the Amendments to the IHO Convention and its supporting Basic Documents

1. In order for the Amendments to the IHO Convention to enter into force, the approvals of at least 48 existing Member States, being two-thirds of the Member States entitled to vote at the time of the 3rd Extraordinary International Hydrographic Conference, are required.
2. The Directing Committee was formally notified by the Government of Monaco of the approval on 8 August 2016 of the Protocol of Amendments to the Convention on the IHO by Mozambique. This was the 48th approval.
3. The Amendments to the IHO Convention and its supporting Basic Documents will therefore enter into force on 8 November 2016. The most significant changes to the organization of the IHO are listed in IHO CL 41/2016.

Status of Membership of the IHO

4. Bulgaria, Haiti, Mauritania and Sierra Leone all received the required number of votes to be accepted as a Member State of the IHO several years ago. However, the Government of Monaco has yet to receive the required instruments of accession from these countries which will formalise their membership. The Directing Committee has continued to be in communication with the authorities of these States to encourage them to complete this final formality.
5. 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 will be no requirement to seek the approval of existing Member States of the IHO. From 8 November the following States : Congo, Malta, Solomon Islands and Vanuatu, that have already applied for membership of the IHO, may submit their instruments of accession to the Convention on the IHO and thereby become members.

INT Chart and ENC Production Coordination - Region N

6. The current web-based version of S-11 Part B for Region N is edition 3.0.0 dated January 2016. This new edition indicates that 8 INT charts are available to date, out of 12 charts in the scheme. The limits of three charts (INT 9315, 9316, 9317) are currently under revision. It is expected that a new edition of the chart scheme for Region N will be released, in liaison with the regional INT Chart Coordinator, after ARHC-6.
7. Region N of the INT chart scheme, represented by Canada, participated in the 6th meeting of the WENDWG in March 2016. The WENDWG invited:
 - Regional Hydrographic Commissions to define and adopt ENC Schemes (as is done for INT Charts Schemes) and to provide basic metadata to the IHB, and
 - the IHB to consider including a layer of "Approved" ENC Schemes in the IHO ENC Catalogue or as an extension of the INT Web Chart Catalogue.
8. IHO CL 61/2015 dated 24 August 2015 informed Member States of the promulgation of Circular MSC.1/Circ.1503 of 24 July 2015 on *ECDIS - Guidance for Good Practice* by the Secretariat of the International Maritime Organization (IMO). Noting that the Circular refers to the IHO online ENC Catalogue and that the mention includes a reference to the provision of coastal State information on any requirements for ECDIS backup arrangements using paper charts, the Directing Committee reiterated its earlier request (see IHO CL 41/2014) that Member States ensure that the relevant information which has been posted on the IHO website since 2008 (see IHO CL 10/2008) is kept current and to provide the IHB with updates as appropriate. Member States were invited to consider the provision of pending updates before the end of 2015 and the provision of subsequent updates, or confirmation of no change, at least once a year. Where relevant information has been provided by Member States, it is located at: *Home > ENCs & ECDIS > ENC Availability > Backup Paper Charts*, and *-Home > ENCs & ECDIS > ENC*

Availability > Online Chart Catalogues. The latest information received from ARHC Member States is as follows:

Country	Date of requirements for ECDIS back-up arrangements using paper charts	Link to on-line chart catalogue
Canada	No information provided to IHB	Yes
Denmark	April 2007	Yes
Norway	June 2016	No
Russian Federation	2007	No
United States of America	2007	Yes
Finland	April 2007	No
Iceland	May 2016	Yes

IHO GIS and Databases (including C-55)

9. 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.

10. 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. The status of the data from the ARHC Member States in the IHO Country Information Database is as follows:

Country	P-5 - Yearbook Last update received	Comment
Canada	May 2014	
Denmark	August 2016	
Norway	November 2015	Update in progress
Russian Federation	August 2016	
United States of America	March 2013 (NOAA), February 2014 (NGA), March 2016 (CNMOC)	CNMOC POCs' email addresses to be checked
Finland	August 2015	
Iceland	March 2016	

Countries in the ARHC Region are invited to review their entry in the Yearbook on an annual basis and provide the IHB with the appropriate updates or report no change.

11. The IHO GIS will underpin the regional information database. It 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 already been transferred to this new environment.

12. 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. Portrayal options in the IHB C-55 GIS are being investigated.

13. The latest updated information from ARHC Member States in C-55 is as follows:

Country	C-55 Last update received	Comment
Canada - Arctic	September 2013	
Denmark – Faeroe Is.	April 2015	
Denmark – Greenland	October 2013	
Norway Area N	October 2013	
Russian Federation – Area N	July 2004	
United States of America – Alaska and Arctic (incl. Aleutian Is.)	April 2012	

Countries in the ARHC Region are invited to review their entry on an annual basis and provide the IHB with the appropriate updates or report no change.

14. Following the development of the regional database for Antarctica, the IHB, with support provided by the Republic of Korea, initiated an “INToGIS” project in order to move S-11 part B into an interactive GIS/S-100 compliant environment. The objective of the project is to provide the Regional International Charting Coordination WGs with relevant on-line updated information and the necessary tools to review and maintain INT chart schemes and monitor the implementation of the INT chart schemes. Extending the capability to include ENC scheming and polar projections is also envisaged. As announced in IHO CL 89/2015, the new INT Chart Web Catalogue and the associated INT Chart on-line Web Manager services were made available in January 2016 through the IHO website at: www.iho.int > Standards & Publications > S-11 > Part B (link). The following ARHC countries have not yet requested an ID and password for the maintenance of the S-11 database: Denmark, Iceland and Russian Federation. They are invited to do so as indicated in IHO CL 89/2015, as the IHB discontinued the maintenance of the pdf version of the S-11 Part B - *Catalogue of INT Charts* on 1 April 2016.

15. Feedback and lessons learned from the initial use of the services and from the implementation of the experimental procedure for the review and monitoring of INT charts decided at IRCC-7 (IHO CL 64/2015 refers) were addressed during the workshop for Regional INT Chart / ENC Coordinators that was held at the IHB on 25 April 2016, just before the second meeting of the Nautical Cartography Working Group. The INT Chart / ENC Coordinators of 14 out of 15 charting regions were present or represented. A comprehensive demonstration of the INTOGIS web-based INT chart scheme management tool was provided. The regional INT Chart Coordinator of Region N (NO) participated in the workshop and provided a self-assessment report. The workshop confirmed the need to maintain the INT chart concept for the foreseeable future, at least for small scale charts.

Crowd-Sourced Bathymetry

16. In accordance with Decision 8 of the EIHC-5, IRCC7 established the Crowd-Sourced Bathymetry Working Group (CSBWG) to provide guidelines on the collection and use of crowd-sourced bathymetry. Member States and other interested parties were invited to nominate representatives to participate in the CSBWG (see IHO CL 42/2015).

17. 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 to be compatible with the crowd-sourced bathymetry concept. This will enable an IHO-led CSB infrastructure to be established and promoted in the IMO and across the wider maritime community. It is intended to include a comprehensive presentation on the work and aspirations of the CSBWG at Assembly-1.

Preparation of the 1st Session of the IHO Assembly

18. The first IHO Assembly (A-1) is scheduled to take place from 24 to 28 April 2017.

19. As indicated in IHO CCL 1 dated 21 April 2016, registration for the Assembly is available on-line via the IHO website. Because of IT security issues, the on-line registration facility will, in the first instance, be self-contained, with no connection to the IHO Country Information System (CIS). The initial registration of the identity of applicants will be validated by the IHO Secretariat. After this initial approval, legitimate applicants will be able to recall their details and register for further IHO meetings without having to re-enter their details. On-line registration will first be available for HSSC8.

20. In accordance with the General Regulations of the IHO that will enter into force following the adoption of the Protocol of Amendments, the first Assembly will establish the IHO Council. The selection process for the establishment of the Council will be initiated by the Secretary-General not later than October 2016. Therefore it is expected that the ARHC will have agreed before that date on the process by which it will assign Members to occupy the seat(s) in the Council allocated to the Commission.

21. 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 cycle. In accordance with IHO Resolution 12/2002 as amended the relevant documents will be prepared by the IHB in consultation with the HSSC, the IRCC and the Member States.

IHO Outreach

World Hydrography Day (WHD)

22. The theme for 2016 was: “*Hydrography – the key to well-managed seas and waterways*”. This theme was intended to highlight the fundamental importance of hydrography and our knowledge of the shape, nature and depth of the seafloor as a fundamental enabler of the proper, safe, sustainable and cost effective use of the world’s seas, oceans and waterways. Canada and USA have reported hosting events in connection with WHD 2016. Reports are available on the IHO web site.

23. Taking into account the discussions at the GEBCO Forum for Future Ocean Floor Mapping held in Monaco in June (see IHO CL 34/2016) and the fact that the depth has not been directly measured in about 50% of the World’s coastal waters and about 90% of the oceans, the proposed theme for 2017 is: “*Mapping our seas and oceans - more important than ever.*”

Arctic-Antarctic Polar Mapping Workshop and 14th Conference of the IHO Hydrographic Commission on Antarctica (HCA)

24. A Polar Mapping Workshop was held in Monaco on 12 and 13 June, at which around 40 ocean mappers, scientists, cartographers and hydrographic surveyors gathered to discuss ways to progress new editions of the International Bathymetric Chart of the Southern Ocean (IBCSO) and the International Bathymetric Chart of the Arctic (IBCA), what additional data has been gathered but is not reflected in the maps and how to obtain this additional and very useful data. The Chair of the ARHC and the IHB President gave presentations on the current state of charting and the problems that the lack of bathymetric data is causing.

25. The 14th Conference of the HCA hosted in Tromsø in June 2016 by the Norwegian Hydrographic Service of the Norwegian Mapping Authority, provided the opportunity to engage with other scientific institutes that collect bathymetric data in the polar regions and resolved to renew or establish in-country contact between the HOs and the national institutes that may also hold bathymetric data. The ARHC may wish to consider following a similar approach to the one raised at HCA-14.

International Hydrographic Review

26. Twice a year, the IHR provides an opportunity for Member States to publicise technical and other achievements in their region. An editorial board comprising a representative from each region has been established. The representative for the ARHC is Mr Mike Hecimovich (CHS, Canada).

27. 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

28. The IHB 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>.

Status of application for accredited observer status to the Arctic Council

29. In the lead-up to the 14th Conference of the IHO Hydrographic Commission on Antarctica (HCA), President Robert Ward took the opportunity to call on the Director of the Permanent Secretariat of the Arctic Council, which is located in Tromsø, Norway. The President introduced the IHO and the Arctic Regional Hydrographic Commission (ARHC) to Mr Magnús Jóhannesson, Director. Mr. Jóhannesson confirmed that the application of the IHO to be recognised as an Observer organization in the Arctic Council will be considered when the Council next meets in 2017. He encouraged HCA representatives to ensure that the national delegations to the Arctic Councils were appropriately briefed to support the application by the IHO.

Action Requested of ARHC Member States

Note this report

Review entries related to IHO C-55, P-5 (Yearbook) and ECDIS back up arrangements at least annually

Provide updates to S-11 Part B for INT Region N through the INTtoGIS tool

Report to the IHB on the status and description of the ENC schemes in Region N

Consider appropriate actions to adopt a consistent approach with HCA in:

- establishing a recognized and interoperable GIS-based repository that will enable existing data coverage to be identified
- conducting risk assessment analysis using AIS data against existing ENC and INT chart coverage

Consider appropriate arrangements to prepare for the IHO Assembly to be held in April 2017

Take any other actions as considered appropriate