

Paper for Consideration by MACHC

IHB Report

Submitted by:	Secretariat of the IHO
Executive Summary:	This paper reports on the activities of the IHO that may impact the work of the MACHC.

Status of Approval of Amendments to the IHO Convention

1. Amendments to the Convention on the IHO were approved by the 3rd Extraordinary International Hydrographic Conference in May 2005. As of December 2015, 43 of the required 48 approvals of the Protocol of Amendments to the IHO Convention had been reported by the Government of Monaco. The IHB has been informed of several additional approvals which should be communicated to the Government of Monaco in the near future.

2. The following IHO Member States of the MACHC have not yet indicated their approval of the Protocol of Amendments to the Convention on the IHO:

- Colombia
- Guatemala
- Jamaica
- Trinidad and Tobago
- Venezuela

3. The amendments to the Convention will enter force three months after the necessary majority of approvals is received by the Government of Monaco. If the required number of approvals is received by the end of 2016, then the first Assembly of the IHO will be held in April 2017 instead of the XIXth Conference.

4. The Directing Committee, in cooperation with the Department of External Relations of the Government of Monaco, stands ready to assist, through diplomatic or other channels, those States' representatives that may be encountering difficulties in progressing the outstanding approvals of the Amendments to the Convention.

Status of Membership of the IHO

5. Following the admission of Brunei Darussalam, Georgia and Viet Nam in March 2015, IHO membership stands at 85. With Democratic Republic of the Congo, Dominican Republic and Serbia remaining suspended, the current thresholds for IHO decisions are 42 when a simple majority is required and 55 when a two-third majority is needed. The Directing Committee reminds Member States that not responding to a Circular Letter which requires a vote is equivalent to voting NO.

6. The following table shows the response rate to IHO postal voting during 2015 from IHO Member States represented at MACHC-16.

Country	Number of CL's answered (to Nov 2015)
Brazil	6/6
Colombia	2/6
Cuba	5/6
France	6/6
Guatemala	0/6
Jamaica	0/6
Mexico	1/6
Netherlands	6/6
Suriname	3/6
UK	6/6
USA	6/6

7. The Government of Monaco has notified IHO Member States of the application by four coastal States to join the IHO: Malta, Congo, Solomon Islands and Vanuatu. IHO Member States' representatives are asked to expedite the approval process wherever possible.

8. Haiti has also been approved to become Member of the IHO, but has not yet deposited its instruments of accession with the government of Monaco.

9. The following States in the MACHC region have yet to apply to become members of the IHO:

- Antigua and Barbuda
- Barbados
- Costa Rica
- El Salvador
- Guyana
- Nicaragua
- Saint Kitts and Nevis
- Saint Vincent and the Grenadines
- Bahamas
- Belize
- Dominica
- Grenada
- Honduras
- Panama
- Saint Lucia

IHO GIS and Databases

10. 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.

11. 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.

12. 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 various sophisticated cloud-based on-line GIS options. The IHO ENC Catalogue has been transferred to this new environment and the transfer of the GIS coverage for Antarctica will follow next.

13. **C-55 Database.** 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 addition to the current composite indicators (percentage of areas adequately surveyed / requiring re-survey / not surveyed), the inclusion of CATZOC polygons would provide an initial geo-referenced quality layer as discussed at IRCC-4.

14. The following table shows some information currently in the C-55 database in relation to the state of surveys in coastal States represented in the MACHC.

Country	0-200m Requires re-survey	0-200m Unsurveyed
Antigua and Barbuda	52%	0
Bahamas	99%	0
Barbados	55%	0
Belize	85%	0
Bermuda	34%	65%
Brazil	30%	0
Colombia	0	16%
Costa Rica	90%	0
Cuba	30%	0
Dominica	20%	65%
Dominican Republic	no information available	
France - Antilles Fr.	29%	0
France - Clipperton Is.	26%	0
France - Guyane	70%	0
Grenada	50%	0
Guatemala	no information available	
Guyana	30%	0
Haiti	60%	0
Honduras	80%	15%
Jamaica	60%	0

Country	0-200m Requires re-survey	0-200m Unsurveyed
Mexico	77%	0
Netherlands - Leeward Is.	86%	0
Netherlands - Windward Is.	10%	0
Nicaragua	95%	0
Panama	75%	0
St Kitts & Nevis	85%	0
St Lucia	85%	0
St Vincent and the Grenadines	90%	0
Suriname	60%	0
Trinidad and Tobago	65%	0
UK - Anguilla	70%	0
UK - BVI	60%	0
UK - Cayman Is.	80%	0
UK - Montserrat	15%	0
UK - Turks & Caicos Is.	5%	90%
USA	specific regional information not yet available	
USA - Puerto Rico, Virgin Is., Navassa Is.	1%	0
Venezuela	55%	10%

15. Member States are encouraged to continue to provide updates at least annually to C-55. An input form is available on the IHO website, associated with the C-55 download page.

16. **INToGIS - INT Chart Management and Catalogue.** Following the development of the regional database for Antarctica, the IHB, with support provided by the Republic of Korea, has initiated an "INToGIS" project that will 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 coverage is also envisaged in due course. The "INToGIS" project is now in the final stages of development with several Regional International Charting Coordinators (BSHC, MBSHC, USCHC, and HCA) acting as beta testers. The target date for transferring to the on-line system is 1 January 2016.

INT Chart and ENC Production Coordination - Region B

17. USA, as Chair of the MACHC Integrated Charting Committee (MICC) for Region B, has continued to provide regular updates to S-11 Part B - Region B. Member States are

encouraged to continue to provide updates to S-11, through USA as coordinator for INT Region B. The point of contact is: John Nyberg.

18. The status of the INT chart scheme for region B is contained in Edition 2.0.4 of S-11 Part B which was published in November 2013. There are 82 charts in the scheme, of which 44 have been published (~ 54 %).

19. In this reporting period, it seems that there have been no new charts nor any new editions published.

20. IRCC7 (Decision IRCC7/3 and Actions IRCC7/27 and 28) agreed on a revised procedure for the review of new INT charts. In future, only charts from new INT producers will be reviewed. The principle purpose being to ensure that any new Producer Nation is following the relevant IHO standards and guidelines regarding INT charts. Information on the new experimental process for INT chart review. CL 64/2015 has been issued announcing the revised procedure.

21. CL 64/2015 also provides information on a workshop being organised in conjunction with NCWG2 in Monaco in April 2016. The workshop will provide International Charting Coordinators with the latest information on the practical implementation of the INT chart scheme and will introduce the *INToGIS* tools, best practices, and lessons learned.

22. Links have been provided to Member States' on-line chart catalogues from the IHO ENC coverage catalogue (www.iho.int > ENC&ECDIS > ENC Availability > on-line catalogue).

Capacity Building Programme

23. The IHO capacity building programme reached a new level of achievement in 2014 with double the funds available for 2014 compared to 2013. 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. The Directing Committee is continuing its campaign to find additional donor States and funding organizations.

24. 11 technical visits and 31 different training activities were planned last year with a rate of execution of over 80%. The remainder of the planned activities were unavoidably cancelled or postponed due to difficulties arising in host countries and no suitable alternative arrangements being possible in time.

25. **MACHC Capacity Building.** The MACHC benefited from three activities under the IHO CB Work Programme since the last meeting:

- Phase 1 Skills Course for Spanish Speakers in Veracruz (Mexico), from 25 November to 1 December 2015
- Seminar on Raising Awareness of Hydrography in St. John's (Antigua and Barbuda), 7 and 8 December 2015, preceding the MACHC16 meeting
- Technical Aspects of Maritime Boundaries in Paramaribo (Suriname), from 10 to 14 August 2015

26. **Technical visit to Haiti.** A Technical Visit to Haiti was planned for 2015 but has not yet been executed. It is likely that the visit will take place in the near future.

27. **CB activities for 2015.** Lower levels of funding will be available for the 2016 CBWP. Nevertheless, another edition of the Seminar on Raising Awareness of Hydrography was approved for the MACHC. This is a recognition that there are still a large number of coastal

States that are not yet considered to be providing an appropriate level of hydrographic services in accordance with their international obligations nor in the best interests of their national development.

28. **CAT A Course in Hydrographic Surveying.** CL 72/2015 called for applications for the 2016-2017 session of the Master of Science Programme in Hydrographic Surveying at the University of Southern Mississippi sponsored by the Republic of Korea. Hydrographic Offices are invited to invest in the preparation of candidates especially with respect to English proficiency for future sessions of this programme.

Crowd Sourced Bathymetry Programme

29. 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 and other interested parties have been invited to nominate representatives to participate in the CSBWG (see IHO CL 42/2015).

30. Meanwhile, 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.

IHO Outreach

World Hydrography Day

31. The theme for World hydrography Day 2015 concentrated on the fact that much of the world's seas, oceans and navigable waters remain unsurveyed. The tag-line for WHD-2015 is: "*Our seas and waterways - yet to be fully charted and explored*". The theme is intended to raise public awareness that, for example, there are higher resolution maps of the Moon, Mars and Venus than for many parts of our seas and coastal waters. The theme provides the opportunity to promote and encourage innovative supplementary data gathering initiatives to address the current shortfall in useful bathymetric data, including crowd-sourcing and satellite derived bathymetry that were discussed at EIHC-5.

32. A theme for the WHD 2016 was proposed by the Directing Committee in the CL 71/2015. As a result of positive feedback from Member States, the theme for 2016 will be: "***Hydrography – the key to well-managed seas and waterways***". This theme will enable 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.

Memorandum of Understanding with the OECS

33. CL 36/2015 announced the approval of a Memorandum of Understanding (MoU) between the IHO and the Organisation of Eastern Caribbean States (OECS). As a result the MoU was signed in June. The MoU aims at establishing closer ties with the OECS to consolidate and strengthen the process of regional cooperation and integration and ensure the efficient and effective development and coordination of hydrographic and nautical charting programmes in accordance with the obligations of international treaties.

THSOA granted observer status by the IHO

34. CL 68/2015 announced in September that the IHO had granted Observer Status to the Hydrographic Society of America (THSOA) as it meets the requirements for recognition as an NGIO as described in IHO Resolution 5/1957 as amended.

Action Requested of MACHC Member States

1. **Note** this report;
2. **Colombia, Guatemala, Jamaica, Trinidad and Tobago and Venezuela** to **progress** ratification of the Protocol of Amendments to the IHO Convention and report any difficulties being encountered or assistance required;
3. **Expedite** wherever possible, the approval process for the applications of Congo, Malta, Solomon Islands and Vanuatu to join the IHO;
4. **Provide** continuous updates to S-11 Part B, through USA as Chair of the MICC to Region B;
5. **Review** entries in IHO Publications C-55 and P-5 (Yearbook) at least annually.
6. **Consider** submitting papers for publication in the IH Review.
7. **Take any other actions** as considered appropriate.