

**9th MEETING OF THE IHO-INTER REGIONAL COORDINATION COMMITTEE
IHO IRCC-9**

PARAMARIBO, SURINAME, 12-14 JUNE 2017

Update on the development of the IHO GIS and related web-based services

Submitted by:	IHO Secretariat
Executive Summary:	This paper reports on the progress in developing the IHO GIS and related web-based services.
Related documents:	IRCC8-10 - <i>Update on the development of the IHO GIS</i>

General

1. Work has continued since IRCC-8 on the development of the IHO GIS which is composed of two main parts: a country information database and a regional information database.

Single Interface to IHO GIS applications

2. All IHO GIS applications are now accessible through a single interface of the IHO website at www.iho.int > Home > IHO GIS. Table 1 lists the applications that are available.

*Table 1
List of GIS applications accessible through the IHO web site*

Category	Application	Description
Country Information System	IHO Membership	Status of membership of coastal States and landlocked States
	MSDI National Geoportals	Availability of / links to national SDI/MSDI web portals
Regional Information Systems	Antarctic GIS	Status of surveying and charting in Antarctica
Chart Information Systems	INTernational Chart GIS	INT Chart Web Catalogue (S-11 - Part B)
	IHO ENC Catalogue	IHO ENC Catalogue
	Undersea Feature Name Gazetteer	Web-based Gazetteer of Undersea Feature Names
Capacity Building Information	CHART Project	Geographical distribution of the alumni of the Cartography, Hydrography and Related Training (CHART) Project
World Bathymetry Information	IHO Data Centre for Digital Bathymetry	Access to the IHO Data Centre for Digital Bathymetry to search and download worldwide bathymetric data
	Contribute ENC data to GEBCO	How to contribute shallow water bathymetry to the GEBCO project

IHO Country Information Database

3. The country information database has been enhanced with additional information in order to facilitate the work of the Secretariat and the support provided to IHO organs. This additional information includes the date of signature of the SOLAS Convention, when applicable, the existence of a Nominated Hydrographic Authority, the existence of an MSI Capability and the identification of the Primary Charting Authority.

4. Table 2 provides statistics on the currency of the information provided by IHO Member States.

Table 2
Statistics on the currency of Member State information in the IHO Yearbook (P-5)
Status as of 16 May 2017

Year of last update	Number of IHO Member States	Comments
2012	2	Estonia, Pakistan
2013	3	Cyprus, DPRK, Serbia
2014	4	Cuba, Croatia, Ireland, Monaco
2015	11	Bahrain, Brunei Darussalam, Chile, Ecuador, Finland, Netherlands, Poland, Thailand, Trinidad and Tobago, Venezuela (Bolivarian Republic of), Viet Nam
2016	42	
2017	25	
Total	87	

5. IHO Member States are invited to review their entry in the Yearbook on an annual basis and provide the Secretariat with the appropriate updates or report no change. A template is available on the IHO website to report updates (Home > Standards & Publications > Download > Periodical Publications > P-5).

6. Table 3 provides statistics on the status of hydrographic services as recorded in the IHO Country Information Database.

Table 3
Statistics on the status of hydrographic services
Status as of 16 May 2017

Capability	Number of IHO coastal States*	Number of other UN coastal States	Total
	86	64	150
Signatory to SOLAS	86 (100%)	58 (91%)	144 (96%)
MSI Capability	76 (88%)	14 (22%)	90 (60%)
Nominated Hydrographic Authority	86 (100%)	51 (80%)	137 (91%)
Own Charting Authority	65 (76%)	3 (5%)	68 (45%)

* Serbia not included.

7. The data supporting C-55 - *Status of Hydrographic Surveying and Charting Worldwide* was transferred to the Country Information Database in order to facilitate the maintenance of the information. A new on-line pdf version of C-55 is generated automatically from the database (see www.iho.int > Home > Standards & Publications > Download > C-55).

8. Table 4 provides statistics on the currency of the information available in C-55.

Table 4
Statistics on the currency of C-55 information
Status as of 16 May 2017

Year of last update	Number of Areas (excluding land-locked countries)	Comments
/	16	Bosnia-Herzegovina, Brunei Darussalam, Costa Rica, Democratic People's Republic of Korea, Dominican Republic, Egypt, Georgia, Indonesia, Kuwait, Libya, Nicaragua, Qatar, Sierra Leone, United Kingdom - Turks & Caicos Is, Yemen, Yemen Socotra Island
2003	1	Algeria
2004	18	Albania, Belgium, Cambodia, Chile, Chile - Easter I & Salay-Gomez, Chile - Islas Juan Fernandez, Chile - Islas San Ambrosio & San Felix, Croatia, Democratic Republic of the Congo, Ecuador - Galapagos Islands, Eritrea, Liberia, Russian Federation - Area N, Saint Lucia, Singapore, Slovenia, Vanuatu, Viet Nam
2005	3	China, Honduras, Iraq
2006	/	
2007	17	Antigua and Barbuda, Bahamas, Belize, Dominica, Fiji, Ghana, Grenada, Guyana, Jordan, Kiribati, Maldives, Malta, Montenegro, Nauru, Nigeria, Saint Kitts & Nevis, United States of America - Puerto Rico & US Virgin Islands, & Navassa Island
2008	2	Australia - Heard I, Myanmar
2009	4	Bulgaria, Malaysia, Seychelles, Venezuela
2010	14	Japan, Japan - Minami Tori Shima, United Arab Emirates, United Kingdom - Anguilla, United Kingdom - Bermuda, United Kingdom - British Indian Ocean Territory, United Kingdom - British Virgin Is, United Kingdom - Cayman Islands, United Kingdom - Falkland Islands Dependencies, United Kingdom - Gibraltar, United Kingdom - Montserrat, United Kingdom - Pitcairn Dependencies, United Kingdom - S Georgia and S Sandwich Islands, United Kingdom - S Orkney and S Shetland Islands
2011	5	Philippines, Poland, Russian Federation - Area K, South Africa - Prince Edward Islands, Syria
2012	9	Australia - Cocos (Keeling) I, Estonia, Mexico, Namibia, Norway - Peter I Øy, Palestinian Authority, Republic of Korea, Somalia, United States of America - American Samoa
2013	11	Canada, Cyprus, Denmark - Greenland - NE coast, Denmark - Greenland - NW coast, Ireland, Norway - Area N, Romania, Saint Vincent & the Grenadines, Sudan, Trinidad and Tobago, Turkey
2014	16	Bahrain, Iran, Italy, Kenya, Latvia, New Zealand - Ross Sea Region, New Zealand - Tokelau, Portugal, Portugal - Azores, Portugal - Madeira, South Africa, Spain - Area G, Spain - Canary Islands, Tonga, United Kingdom, United Republic of Tanzania
2015	51	
2016	58	
2017	13	
Total	238	

9. The number of areas with no data or with data provided before 2012 represents 34% of the total number of areas listed in C-55 (excluding areas related to land-locked countries). RHCs are invited to ensure that entries related to their region are updated on an annual basis and that the appropriate updates or reports of no change are provided to the IHB. This can be done through national reports to RHC meetings in accordance with the IHO Resolution 2/1997 as amended - *Establishment of Regional Hydrographic Commissions (RHC)*.

Regional Information Database

10. Work has continued on developing GIS outputs derived from C-55 data. They are available only for the internal use of the Secretariat.

11. Following the investigation of portrayal options for CATZOC data, the RENCs were invited to seek the approval of their members for the IHO Secretariat to brief RHC meetings with composite CATZOC reports. The Chair of the WENDWG was requested to report at IRCC-9 on this issue (see action WENDWG7/09).

12. The IHO HCA GIS information system is currently under review by the HCA Members and Observers. The objectives are:

- to investigate the possibility of adding vessels traffic patterns for improving risk-assessment against the status of surveying and charting in the region (see action HCA14/07).
- to experiment a data discovery mechanism using interoperability with other national geoportals (see action HCA14/12)
- to assess the existing data layers and the associated maintenance procedures (see action HCA14/15).

IHO ENC Catalogue

13. The further enhancement of the IHO ENC Catalogue is in progress with the aim to include all ENCs available and identify how they are distributed in accordance with the actions agreed at the WENDWG6 meeting. It is expected that an enhanced version of the Catalogue will be available for consideration at IRCC-9.

INT Chart Web Catalogue and Associated On-Line Web-based Services (INToGIS)

14. The INToGIS application seems to work well.

On-Line Registration Service for IHO Meetings

15. The on-line registration service for IHO meetings developed with the support of the Republic of Korea (KHOA) was used successfully for the 8th HSSC meeting and for the 1st session of the IHO Assembly. A set of upgrade requirements based on the lessons learned is being developed for further consideration with KHOA.

16. On-line registration is now the preferred mode of registration for the meetings organized by the Secretariat.

Proposals

17. IRCC is invited to:

- a. **Note** this report;
- b. **Request** RHCs to review entries related to their region in IHO C-55 and P-5 (Yearbook) at least annually;
- c. **Provide** guidance on further development of web-based applications that may be required to support its work;
- d. **Take** any other actions as it considers appropriate.