

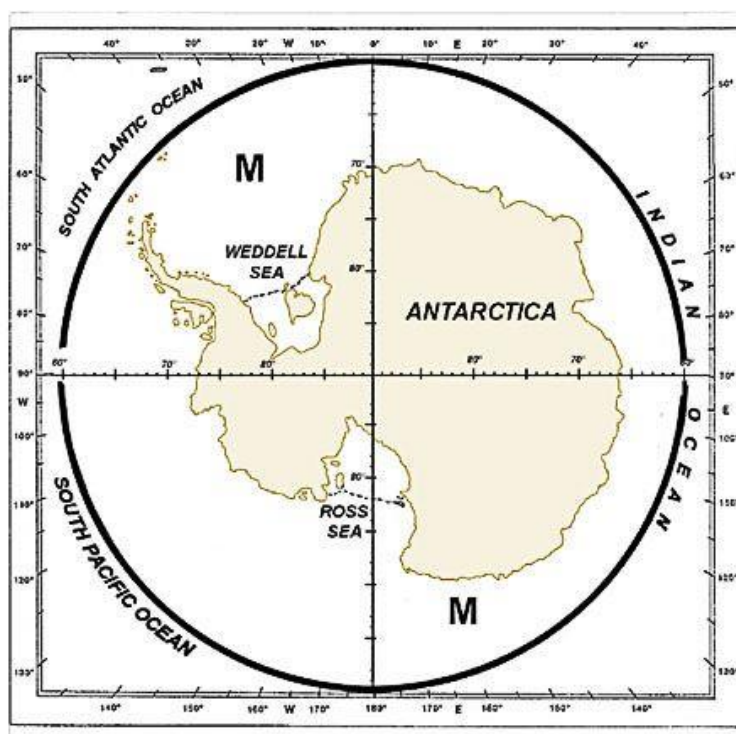
6TH MEETING OF THE IHO-INTER REGIONAL COORDINATION COMMITTEE
IHO IRCC6

PARIS, FRANCE, 19-20 MAY 2014

Report of The Hydrographic Commission on Antarctica (HCA)

Submitted by: Chair, HCA

Executive Summary: This paper provides a summary report of the work and achievements of the Hydrographic Commission on Antarctica since the last meeting of IRCC.



General

1. The HCA Members comprise Argentina, Australia, Brazil, Chile, China, Ecuador, France, Germany, Greece, India, Italy, Japan, Korea (Rep. of), New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, United Kingdom, United States, Uruguay and Venezuela. The IHB has been informed that Colombia is in the process of joining the Antarctic Treaty and is therefore expected to become an HCA Member shortly thereafter. The Council of Managers of National Antarctic Programmes (COMNAP) and the International Association of Antarctic Tour Operators (IAATO) actively participate in the work of HCA as Observer Organisations.
2. IHO President Robert Ward assumed the Chair of HCA on 1 September 2012. The Vice-Chair is Mr. John J. Hautmann Jr. (USA) who took office in October 2012 and was re-elected as HCA Vice-Chair in December 2013.
3. The 13th and most recent HCA Conference was hosted by the *Instituto Hidrográfico de la Marina* (IHM) of Spain, in Cadiz from 3 to 5 December 2013. There were 34 delegates in attendance, representing fifteen HCA Members (Argentina, Australia, Brazil, Chile, Colombia (as observer), France, Germany, New Zealand, Norway, Peru, Republic of Korea, South Africa, Spain, United Kingdom and United States), three observer organizations (COMNAP, IAATO and IALA), two international projects (GEBCO and IBCSO), one observer from the MSDIWG and three expert contributors from Caris, Fugro-Pelagos and Kongsberg Maritime.

4. Significant items discussed at HCA13 were:
 - considering ways to increase surveying activity in Antarctic waters,
 - continuing the campaign to raise awareness at the Antarctic Treaty Consultative Meeting (ATCM), and
 - reviewing progress in INT chart and ENC scheming and production in the HCA Region.
5. The 14th HCA Conference has been scheduled for March or April 2015 in Ecuador.

Hydrographic Surveying

6. The waters surrounding Antarctica are over 95% unsurveyed. Discussion at the meeting centred on the need to obtain more bathymetric data in the region, both through collecting new data and by identifying existing data. Better coordination of surveys is required as well as the introduction of programmes using *ships of opportunity*. A document entitled "*IHO guidelines for the collection and rendering of hydrographic data by Ships of Opportunity operating in the Antarctic Region*", developed by a sub-group led by New Zealand, was adopted by the Commission.

7. Details of a pilot project to use the concept of crowd-sourcing to address the lack of hydrographic data in all regions of the world, including Antarctica, were presented. The pilot project, led by the IHO secretariat as a proof of concept study, will involve the collection of basic hydrographic data from a small number of vessels equipped with a simple, very low-cost data logger (costing about 200USD). The data will then be uploaded to the IHO Data Center for Digital Bathymetry (DCDB) where it will be made publicly available for subsequent viewing and use.

8. A concept proposal described by the expert contributor from Fugro-Pelagos to undertake LIDAR bathymetric surveys in selected areas of the Antarctic Peninsula, using a combination of government and commercial resources was favourably received by the meeting. In this context, the Commission adopted the following declaration:

"In considering how to achieve its agreed survey and charting priorities for the Antarctic region, HCA encourages multi-party multi-disciplinary collaborative projects that involve government, IGO's, NGO's, industry and donor organisations. Such projects should, wherever possible:

- *maximise the benefits for all parties*
- *minimise costs by harnessing existing infrastructure*
- *incorporate multi-parameter data collection programmes from the same platform.*

In this context, the outline proposal paper (HCA13-07.2A) presented at HCA-13 is an example that might fulfill such requirements."

Raising Awareness at the ATCM

9. The Antarctic Treaty Consultative Meeting (ATCM) meets annually and is the primary forum in which the representatives of Parties to the Antarctic Treaty exchange information, formulate measures, and make decisions and resolutions in order to promote the principles and objectives of the Treaty. The IHO is an Invited Expert to the ATCM. The reports and contribution from the IHO primarily describe the activities and achievements of the HCA. They seek to inform and influence the ATCM with regard to the very amounts of hydrographic data available and the consequent limitations in charting in the Antarctic region.

10. At the 37th meeting of ATCM that was held most recently in Brazil in late April, and as a result of work that commenced in the HCA in 2012, the ATCM adopted a Resolution on Strengthening Cooperation in Hydrographic Surveying and Charting of Antarctic Waters. This Resolution replaces an earlier ATCM Resolution and several other ATCM recommendations on hydrography. The new Resolution provides a clear acknowledgment from ATCM to the IHO representatives in the HCA that all States and Organizations involved in the ATCM process acknowledge the currently less than acceptable situation regarding hydrography and nautical charting and appreciate that coordination, collaboration and the sharing of resources is key to improving the situation in Antarctica. The Resolution also nominates the HCA as the coordinating body for nautical charting and surveying in Antarctica.

Status of INT Chart and ENC Production

11. Revised schemes for small and medium scale ENCs (usage bands 1, 2 and 3) have been agreed, as well as new schemes for large scale ENCs (usage bands 4 and 5).
12. Three new charts were published in 2013. This means a total of 71 INT charts out of an anticipated total of 111 have been published, as follows:
Argentina (6), Australia (11), Brazil (1), Chile (5), Ecuador (1) France (4), Germany (2), Italy (2), Japan (3), New Zealand (9), Norway (1), Russian Federation (14), South Africa (1), Spain (1), UK (10), USA (2). Note: two charts have been jointly produced by UK and Argentina.
13. In addition, 87 ENCs have now been published, including 17 created in 2013. A further 23 ENCs are planned for production in 2014-15. About 150 ENCs will be required to correspond to the IHO INT chart schema.
14. Production of Antarctic ENCs is severely hampered by the poor state of the paper charts and the production and financial priorities of those States that have volunteered to make the ENCs.

HCA cooperation with other organisations

15. HCA cooperates with the following organisations or projects:
- Council of Managers of National Antarctic Programmes (COMNAP)
 - International Association of Antarctic Tour Operators (IAATO)
 - International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)
 - Scientific Committee on Antarctic Research (SCAR)
 - General Bathymetric Chart of the Ocean (GEBCO)
 - International Bathymetric Chart of the Southern Ocean (IBCSO)

Status of IRCC5 actions (relevant for the HCA)

16. The following table provides a status report of IRCC actions relating to HCA:

IRCC Action	ACTION	DEADLINE	STATUS – HCA
5/01	Encourage the approval of pending applications for IHO membership.	Permanent. Report to IRCC Chair Dec 2013	Not progressed. No HCA MS has a seat of government in the region. All HCA MS represented in other RHCs.
5/04	Comply with the CBSC Procedures and ensure the timely provision of the appropriate documentation that justify expenses associated to CB projects, and to demand refund, if needed, not later than one month after the event has finalized.	Permanent	Not required. To date, no CB project has been identified within HCA
5/06	Invite GEBCO Guiding Committee / Bathymetric Regional Project Chairs to attend corresponding RHCs meetings, aiming at strengthening collaboration with a priority on improving high resolution shallow water bathymetry at the regional level.	Permanent	Ongoing. GEBCO and IBCSO are recognised observers to HCA, and are represented from time to time at HCA conferences.
5/07	Consider the participation of the stakeholders at the RHC conferences.	Permanent	Ongoing Three observer organizations and three expert contributors attended the 2013 HCA conference.

5/16	Provide the IRCC Chair with their report on the progress of the relevant tasks of the IHO 2013 Work Programme.	by the end of Jan 2014	Report not submitted. Task 3.1.16 (HCA Meeting) was completed. Task 3.1.16.1 (risk assessment): ???
5/19	Provide to the IRCC Chair the estimated values of SPIs and agreed WPIs as of 31 December 2013 and target values for 31 December 2017, complemented by the comments on the difficulties encountered and suggestions for the way forward.	by the end of Jan 2014	see Annex A for 2010-2013 statistics. No targets set for 2017
5/21	Consider proposing agenda items to the next EIHC5.	Jan 2014	EIHC5's proposals 4 (crowd-sourcing) and 6 (satellite-derived bathymetry) are of direct relevance to HCA work.
5/28	Encourage RHCs to support GEBCO regional mapping projects and report back to IRCC	IRCC6	IBCSO progress reports are regularly provided and discussed at HCA conferences.
5/34	Encourage Member States and representatives of industry and academia to promote and to work together to ensure that the best possible use is made of Satellite Derived Bathymetry.	Permanent	???
5/35	Encourage discussions on how Crowd Source Bathymetry can be used in official navigational products and report back to IRCC6	IRCC6	The IHB-led CSB project was presented and discussed at the 2013 HCA conference.

Proposals

17. IRCC is invited to
- a. **Note** this report.
 - b. **Propose** any other actions as it considers appropriate.

HCA input to IHO Strategic Performance Indicators and IRCC Working Level Indicators

(see IRCC Action 5/19)

Strategic Level Performance Indicators (SPI)

SPI	Description	HCA input																				
SPI 1	Number and percentage of Coastal States providing ENC coverage directly or through an agreement with a third party. (Previous year figures in brackets)	Not relevant to HCA due to the special status of Antarctica.																				
SPI 2	Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008.	2010: 44 (26%) out of ~170 required 2011: 52 (31%) out of ~170 required 2012: 70 (41%) out of ~170 required 2013: 87 (58%) out of ~150 required																				
SPI 3	Percentage of Coastal States which provide hydrographic services, directly or through an agreement with a third party, categorized by CB phases, as defined by the IHO Capacity Building Strategy.	Not relevant to HCA due to the special status of Antarctica.																				
SPI 4 SPI 4bis	Percentage of "acceptable" CB requests which are planned. Percentage of planned CB requests which are subsequently delivered.	Not relevant to HCA due to the special status of Antarctica.																				
SPI 5	Number of standards issued (including new editions), per category: - hydrographic standards to enhance safety of navigation at sea, - protection of the marine environment, - maritime security, - economic development.	Not relevant to HCA.																				
SPI 6	Number of potential new IHO MS (indicated by the start of the application process) relative to the number of "non-IHO" IMO MS.	Not relevant to HCA.																				
SPI 7	Increase in participation / membership in RHCs.	Participation rates are as follows: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>MS</th> <th>Observer s</th> <th>Expert contributors</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>16</td> <td>5</td> <td>N/A</td> </tr> <tr> <td>2011</td> <td>15</td> <td>5</td> <td>1</td> </tr> <tr> <td>2012</td> <td>10</td> <td>2</td> <td>1</td> </tr> <tr> <td>2013</td> <td>15</td> <td>3</td> <td>3</td> </tr> </tbody> </table>		MS	Observer s	Expert contributors	2010	16	5	N/A	2011	15	5	1	2012	10	2	1	2013	15	3	3
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2010	16	5	N/A																			
2011	15	5	1																			
2012	10	2	1																			
2013	15	3	3																			
SPI 8	Percentage of available / agreed ENC schemes.	ENC Schemas agreed for Navigation Purpose Codes 1, 2, 3, 4 and 5.																				

Working Level Performance Indicators (WPI)

WPI	Description	ARHC input
WPI 15	Growth in ENC coverage worldwide, as reported in the IHO on-line catalogue, relative to the existing gap in adequate coverage (as defined by IMO/NAV) from the benchmark 01 Aug. 2008.	2010: 44 (26%) out of ~170 required 2011: 52 (31%) out of ~170 required 2012: 70 (41%) out of ~170 required 2013: 87 (58%) out of ~150 required
WPI 16	Number of additional IHO MS starting to produce & maintain (with/without support) relevant ENCs (contributing to 'adequate coverage') in the reporting period relative to those already producing at 01 Aug. 2008.	No change in 2013
WPI 17	Percentage of Coastal States delivering hydrographic services - categorized by CB phases (MSI services, surveying capabilities, charting capabilities), directly or through an agreement with a third party, at the end of the reporting period.	Not applicable to HCA
WPI 18	Percentage of IHO MS updating their C-55 entry data regarding hydrography survey, INT charts, ENC, and MSI in the reporting period.	Not applicable to HCA
WPI 19	Status of hydrographic surveys in each region.	Information available in C-55. In general, a very small part (<10%) of the Antarctic waters is surveyed.
WPI 20	Percentage of agreed INT chart schemes, percentage of INT charts available.	2010: 64 (63%) out of 102 planned 2011: 65 (60%) out of 108 planned 2012: 71 (65%) out of 110 planned 2013: 71 (65%) out of 111 planned
WPI 21	Percentage of agreed ENC schemes, percentage of ENC available.	2010: 44 (26%) out of ~170 required 2011: 52 (31%) out of ~170 required 2012: 70 (41%) out of ~170 required 2013: 87 (58%) out of ~150 required
WPI 22	Increase in effective MS participation in RHC activities.	2010: 16 MS 2011: 15 MS 2012: 10 MS 2013: 15 MS
WPI 23	Percentage of Coastal States which are IHO Member States.	Not applicable to HCA
WPI 24	Number of new Coastal States joining the IHO during the reporting period.	Not applicable to HCA
WPI 25	Number of potential new IHO MS (indicated by the start of the application process) relative to the number of "non-IHO" IMO MS.	Not applicable to HCA
WPI 26	Percentage of Coastal States which have achieved phase 1, 2 or 3 and established a National Hydrographic Office.	Not applicable to HCA
WPI 27	Number of States which have achieved phase 1, 2 or 3 and established a National Hydrographic Office in the reporting period.	Not applicable to HCA
WPI 28	Percentage of Coastal States which provide ENC coverage directly or through an agreement with a third party.	Not applicable to HCA

WPI	Description	ARHC input
WPI 29	Percentage of Coastal States which have set up a national geospatial infrastructure.	Not applicable to HCA
WPI 40	Number of agreements signed in the reporting period, including bilaterals and RENC membership, etc.	Not applicable to HCA
WPI 41	Percentage of planned CB events that are achieved.	Not applicable to HCA
WPI 42	Number of acceptable CB requests received.	Not applicable to HCA
WPI 43	Percentage of "acceptable" CB requests which are planned.	Not applicable to HCA