

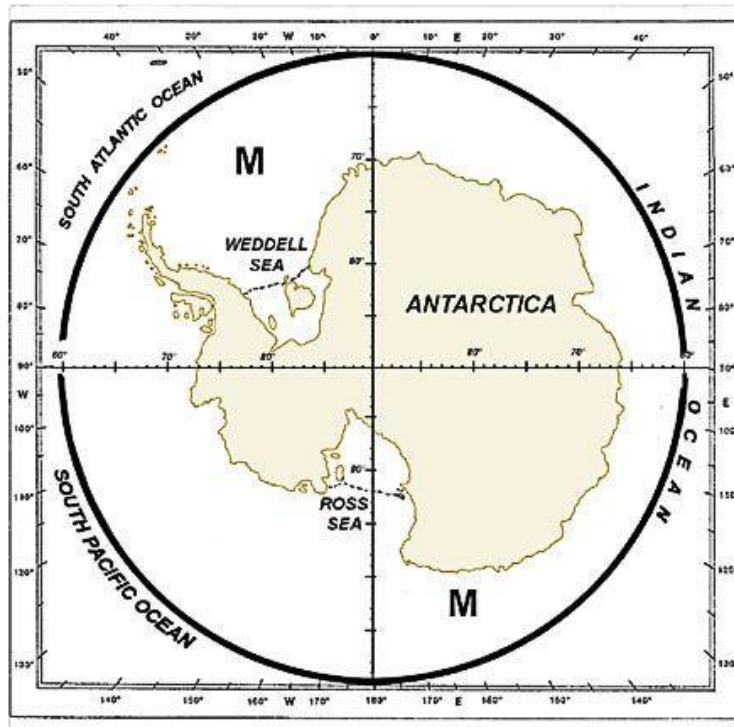
5TH MEETING OF THE IHO-INTER REGIONAL COORDINATION COMMITTEE
IHO IRCC5

WOLLONGONG, AUSTRALIA, 3-4 JUNE 2013

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 HCA work as Observer Organisations.
2. IHO President Robert Ward assumed the Chair of HCA from 1 September 2012, replacing IHO Director Hugo Gorziglia. The current Vice-Chair is Mr. John J. Hautmann Jr. (USA) who took office in October 2012, replacing Commodore Rod Nairn (Australia).
3. The 12th and most recent HCA Conference was hosted by the Servicio de Oceanografía, Hidrografía y Meteorología de la Armada (SOHMA) of Uruguay, in Montevideo from 10 to 12 October 2012. There were 21 delegates in attendance, representing ten HCA Members (Australia, Brazil, Chile, Ecuador, New Zealand, Peru, Spain, United Kingdom, United States and Uruguay), two observer organizations (COMNAP and IAATO) and one expert contributor from Fugro-Pelagos.
4. The main agenda items at HCA12 were:
 - Reviewing the status of actions arising from HCA11.
 - Considering ways to increase surveying activity in Antarctic waters.

Continuing the campaign to raise awareness at the Antarctic Treaty Consultative Meeting (ATCM).

Reviewing progress in INT chart and ENC scheming and production in the HCA Region.

Reviewing progress in the development of an IHO GIS database for Antarctica.

5. The 13th HCA Conference will be hosted by Spain and held in Cadiz from 3-5 December 2013.

Hydrographic Surveying

6. Discussion at HCA12 centred on the need to increase surveying activity in the region noting that the waters surrounding Antarctica are over 95% unsurveyed. To this end, better coordination of surveys is required as well as the introduction of programmes using ships of opportunity. Representatives of the United Kingdom Hydrographic Office (UKHO) reported that the UKHO had successfully conducted trials using cruise ships fitted with relatively inexpensive equipment that automatically records depth soundings during voyages. This method of collecting bathymetric data is being described as *Crowd Sourced Bathymetry* (CSB). Plans are now underway to extend this programme and to find ways to ensure that the data from the ships is quickly reflected in charts available to mariners.

7. In clear water, such as Antarctica, the following two techniques were discussed and considered worthy of further consideration as ways to improve survey coverage:

- Lidar Surveying from Aircraft, whereby depths down to 70 metres or more are determined using laser echo sounders mounted in light aircraft. This established technique is used in many other parts of the world but not yet in Antarctica.
- Satellite Derived Bathymetry (SDB), whereby depth and other parameters in the water column down to about 20 metres are determined by analysing imagery from multi-spectral satellite sensors. France has been using this technique to improve charts for many years. This technique does not require significant ground infrastructure and is much less expensive than traditional surveying.

8. The HCA Hydrography Priorities Working Group, with input from COMNAP and IAATO, maintains a long-term survey plan and a survey short list to reflect new survey requirements. The survey requirements plan is based on identified maritime shipping routes, essentially around the Antarctic Peninsula - it does not consider other areas of Antarctica, where there is also little or no survey data but shipping movements are less frequent.

9. An ad hoc working group was set up and tasked to work intersessionally to develop a set of guidelines for ships of opportunity collecting hydrographic data.

Raising awareness at the ATCM

10. HCA12 agreed that continuing its campaign to raise awareness at the Antarctic Treaty Consultative Meeting (ATCM) was important. It was also agreed that establishing a liaison protocol with COMNAP would be beneficial, since COMNAP is an implementing body of the ATCM. In this way, the IHO/HCA could be recognised as the competent authority to ATCM for hydrography and nautical charting. This would then be a similar arrangement to the agreement already in place between the IHO and the UN and the IMO.

Status of INT Chart and ENC Production

11. Five new charts were published in 2012. To date, 71 of an anticipated 110 planned INT charts 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.

12. In addition, 70 ENCs have been published, including ten created in 2012. A further 51 ENCs are planned for production in the next year. About 170 ENCs will be required to correspond to the IHO paper chart schema. It should be noted that the 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.

13. The Commission decided to task the coordination of the INT paper chart scheme and ENC scheming to the Hydrography Priorities Working Group (HPWG), chaired by the UK (this task was previously undertaken by the secretary (IHB)). The HPWG was tasked to develop a schema for ENC production at the larger scales and for

a maritime shipping route scheme for the South Orkney Islands. Inclusion of two new INT charts in the scheme, in the Antarctic Peninsula, was also agreed following a proposal by UK.

Antarctic GIS Database

14. An Antarctic GIS database, under development by the IHB, was demonstrated. It was agreed that information from members of HCA on their planned surveys in Antarctic waters should be included in this database, together with details of existing surveys, and planned and completed chart coverage. Completion of the database is planned for mid-2013.

HCA cooperation with other organisations

15. HCA cooperates with at least the following organisations/projects:

Council of Managers of National Antarctic Programmes (COMNAP)

International Association of Antarctic Tour Operators (IAATO)

Scientific Committee on Antarctic Research (SCAR)

General Bathymetric Chart of the Ocean (GEBCO)

International Bathymetric Chart of the Southern Ocean (IBCSO)

Status of IRCC4 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
4/01	Encourage the approval of pending applications for IHO membership.	Permanent. Report to IRCC Chair Dec 2012	Not progressed. No HCA MS has a seat of government in the region. All HCA MS represented in other RHCs.
4/06	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
4/07	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, however, participation at HCA Conferences is sporadic.
4/08	a) Circulate draft C-55 framework developed by Australia. b) RHCs to provide comments to Chair. c) Chair to provide final version to IHB	a) 15 June b) end June c) 15 July	Done. HCA requirements and observations are being included in the HCA GIS database that will eventually support C-55.
4/13	Provide written feedback on Annexes B and C of WEND Principles (CONF.18/WP3) according to 18 th IHC Decision 13.	?	No action taken. As no HCA MS are headquartered in the region, it is assumed that their views are being incorporated in input through other RHC inputs.

4/18	Provide the IRCC Chair with their report on the progress of the relevant tasks of the IHO 2012 Work Programme.	by the end of Jan 2013	Report not submitted. Task 3.1.10 (HCA Meeting) was completed. No other tasks specifically related to HCA in 2012 WP.
4/20	Review the relevant tasks of the IHO 2013 Work Programme in their respective work plans and report on suggested updates, if any, to the IRCC Chair.	by the end of Oct 2012	No action required. HCA programme is satisfactorily reflected in the existing programme.
4/27	Inform MS of the IMO's transition to and the implication of the mandatory IMO Member States Audit Scheme from 2015.	As soon as possible	Not applicable to the HCA region since there are no coastal or port State control arrangements in place.
4/30	Consider the participation of the stakeholders at the RHC Conferences.	?	Done. Stakeholders already attend HCA conferences.
4/32	Provide to the IRCC Chair the estimated values of SPIs and agreed WPIs as of 31 December 2012 and target values for 31 December 2017	by the end of Jan 2013	see Annex A for 2010-2012 statistics. No targets set for 2017

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 4/32)

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																
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>Observers</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> </tbody> </table>		MS	Observers	Expert contributors	2010	16	5	N/A	2011	15	5	1	2012	10	2	1
	MS	Observers	Expert contributors															
2010	16	5	N/A															
2011	15	5	1															
2012	10	2	1															
SPI 8	Percentage of available / agreed ENC schemes.	ENC Schemas agreed for Navigation Purpose Codes 1, 2 and 3. Schemas under development for larger scales (navigational purposes 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
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 2012
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 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
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
WPI 22	Increase in effective MS participation in RHC activities.	2010: 16 MS 2011: 15 MS 2012: 10 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 29	Percentage of Coastal States which have set up a national geospatial infrastructure.	Not applicable to HCA

WPI	Description	ARHC input
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