

14th Conference of the IHO Hydrographic Commission on Antarctica (HCA)

Tromsø, Norway, 28 – 30 June 2016

MINUTES

- Notes:**
- 1) The actions are listed in the Annex only. When reading the text in the main part of the minutes, you may click on the hyperlink to view the associated action(s) if any. When in the Annex, pressing **ALT+ left arrow** on your keyboard will return you to the original section in the main part of the minutes.
 - 2) All documents referred to in these minutes are available and hyperlinked to the HCA page of the IHO website (www.iho.int > Committees & WGs > IRCC > ... > HCA-14).

Annex: [List of Decisions and Actions arising from HCA-14.](#)

As the 14th Conference of the HCA could not be held in Ecuador as planned because of the earthquake that struck that country in April, it took place at the Fram Centre and the Sommarøy Arctic Hotel, in Tromsø, Norway, from 28 to 30 June, thanks to a generous offer from the Norwegian Hydrographic Service (NHS) to arrange an alternative venue at short notice.

The Conference was chaired by IHB President Robert Ward. 21 delegates from 14 Member States (Argentina, Australia, Brazil, Chile, China, Colombia, France, India, Italy, Korea (Rep. of), Norway, United Kingdom, USA, Venezuela), four stakeholder organizations (COMNAP¹, GEBCO/IBCSO², IAATO³, IALA⁴), three expert contributors (Kongsberg Marine, Norwegian Polar Institute, Teledyne-Caris), attended the meeting. Apologies were received from Japan, New Zealand, Peru, the Russian Federation, South Africa and Spain, who were unable to attend.

1. Opening

Docs:

HCA14-01A	List of Documents (IHB)
HCA14-01B	List of Participants (IHB)
HCA14-01C	HCA Chair Report – Presentation (Chair)

Opening remarks were provided by the HCA Chair who firstly thanked Mr Evert Flier, Director of the Norwegian Hydrographic Service of the Norwegian Mapping Authority and his staff, for the support and arrangements made to hold the meeting in Tromsø. It provided a good opportunity to develop closer relationships and understanding between participants and other polar stakeholders such as the Norwegian Polar Institute (NPI).

He noted that the venue appeared to have assisted in increasing the level of participation compared to previous HCA conferences and thanked the stakeholder organizations that were represented, while expressing his regrets for the absence of SCAR⁵.

The HCA Chair welcomed the participants and their supporting organizations and again, expressed his thoughts on behalf of the IHO and HCA Members, to the hydrographic service of Ecuador (INOCAR).

¹ COMNAP: The Council of Managers of National Antarctic Programs.

² GEBCO/IBCSO: The General Bathymetric Chart of the Oceans / The International Bathymetric Chart of the Southern Ocean.

³ IAATO: The International Association of Antarctica Tour Operators.

⁴ IALA: The International Association of Marine Aids to Navigation and Lighthouse Authorities.

⁵ SCAR : Scientific Committee on Antarctic Research.

He paid tribute to Dr Kim Crosbie (IAATO) informing the participants that she had recently been awarded the Queen's Polar Medal which she received from Prince William at Buckingham Palace in April 2016.

The HCA Chair then delivered an IHO introduction report to the HCA Conference, displaying among other topics, stark maps of the very poor soundings density in Antarctica. He concluded the presentation stressing the importance of identifying the priorities in order to facilitate the coordination process across the different communities. The main objectives that were highlighted during the presentation were to improve outreach, gain access to existing data and encourage trusted crowd-sourced observations at sea. He also stated that the Commission should not forget that there are, even in Antarctica, more potential bathymetry users than mariners using nautical charts.

Outcome:

- The Conference noted the administrative arrangements and the Conference documents.

2. Approval of Agenda and Timetable

Doc: HCA14-02A Rev1 [Agenda and Timetable](#) (IHB)

The agenda and timetable were approved as presented, providing room for stakeholders and expert contributors to deliver their presentations at the relevant times as part of standard agenda items. It was also agreed to arrange an ad hoc session of the Hydrographic Priorities Working Group (HPWG) at the end of the first day of the Conference. All participants accepted the proposal made by the Chairs of HCA and its HPWG to consider the possibility of attending this ad hoc session.

Outcome:

- The Conference approved the agenda and timetable.

3. Confirmation of Vice-Chair

Outcome:

- The Conference welcomed the candidature of Mr John Haumann (NGA, USA) as HCA Vice-Chair and confirmed his position.

→Decision [HCA14/01](#)

4. HCA Membership and Statutes

4.1 Membership and Statutes

Docs: HCA14-04A [HCA Membership and Observers List](#)
HCA14-04B [Current HCA Statutes](#)

Outcome:

- The Conference was invited to review the HCA Membership List.

→Action [HCA14/02](#)

4.2 Periodicity of HCA Conferences and Level of Participation

Doc: HCA14-04C [Proposal for amending the Statutes](#) (FR)

FR presented a proposal to slightly amend the HCA Statutes; the main reason being to adjust the periodicity of the HCA Conferences, for a better alignment with the cycle of the IHO Assembly when the revised Convention enters into force.

Making reference to the opening address by the HCA Chair, CL, IT and UK indicated that there would be some risk of bringing the impetus of the Commission to a halt if HCA Conferences were held only every three years (in other words between two sessions of the IHO Assembly). The Chair clarified that the proposed text indicated the minimum requirement for meeting and that meeting could still be held annually if it was desired.

CL also recommended to add, in Appendix to the Statutes, the new relevant ATCM Resolutions (2014) in addition to the existing one (2008).

Outcome:

- The Conference approved the proposals made by FR and CL and the final wording for Art. 4.1 of the HCA Statutes covering the HCA Conferences was agreed.

→Action [HCA14/03](#)

Post-meeting note: HCA Members are invited to note that Art. 3.2 was also subsequently revised (in accordance with Art. 10.3) to include the new ATCM Resolution (5/2014).

4.3 Signature of the current Statutes by Colombia

Doc: HCA14-04D [Application by Colombia to become HCA Member \(CO\)](#)

The application by Colombia to become HCA Member was agreed unanimously.

Outcome:

- Colombia became the 24th Member of the IHO HCA.

→Decision&Action [HCA14/04](#)

5. Review of Status of List of Actions resulting from HCA-13

Docs: HCA14-05A [Status of Actions List from the 13th HCA Conference](#)
HCA14-05B [Minutes of the 13th HCA Conference \(Cádiz, Spain, 2013\)](#)

The HCA Sec. reported that most of the important actions resulting from HCA-13 had been completed since the last Conference. It was agreed that the pending actions would be reported during the meeting, as appropriate, or cancelled if overtaken by events.

6. Reports from International Organizations

6.1 Antarctic Treaty Consultative Meeting (ATCM)

Docs: HCA14-06.1A *IHO Report submitted to ATCM-39 ([English version](#)) and Outcomes ([Bulletin Report](#)) (Chile)*

The HCA Chair thanked CL and Captain Hugo Gorziglia in particular, former Hydrographer of Chile and former IHB Director with specific responsibility for the Antarctic region, for having represented the IHO at the 39th Antarctic Treaty Consultative Meeting (ATCM-39) in Santiago, Chile from 23 to 27 May 2016. The IHO is an invited expert organization at these meetings. It was noted that Captain Gorziglia had received informal support at ATCM-39 to his proposal that the IHO be invited to present an awareness raising seminar at ATCM-41 in 2018, similar to the seminar presented to ATCM-31 in Ukraine in 2008.

CL and IAATO provided a summary reports of their participation in ATCM-39, informing that AR had supported the recommendations made by the IHO in its report. The HCA Chair explained that he had tried since HCA-13 to engage with the ATCM Executive Secretary who, unfortunately, has no authority to speak on behalf of the ATCM Members.

Discussions took place on the ways and steps to create support between ATCM Members, HCA Members and stakeholders for the inclusion of a hydrographic seminar/workshop as part of ATCM-41 (2018), the objective being to raise the profile of the IHO HCA at the broad and high ATCM level and in particular to raise awareness of the status of hydrography, mapping and charting. Such a proposal must be presented to ATCM-40 so that it will be included in the programme for ATCM-41 in 2018. Such a proposal should be made by ATCM Member States, rather than the IHO as an Observer. Provided there is a sufficient level of support, arrangements and options for the workshop will be addressed at HCA-15 (2017). It was noted that the proposed seminar/workshop and HCA-16 could then be considered as an all-in-one event.

Outcome:

- HCA Members, IAATO, COMNAP will be invited to indicate their intentions on their participation, involvement and support for an IHO seminar/workshop on hydrographic and mapping/charting issues back-to-back with ATCM-41 (2018).
- A preliminary proposal will be drawn up by the Chair and HCA Members will be invited to seek Country support to sponsor a proposal at ATCM-40 (2017).

→ Actions [HCA14/05](#)

6.2 The Council of Managers of National Antarctic Programs (COMNAP)

Doc: HCA14-06.2A [COMNAP Activities affecting HCA](#)

COMNAP was represented by Mr John Guldahl, Head of Operations & Logistics Section of the Norwegian Polar Institute. Mr Guldahl briefed the participants about COMNAP being the international association, which brings together its members, who are the National Antarctic Programs. COMNAP is a multilateral association and recommendations, guidelines and projects for the members would be based on consensus. Consequently - COMNAP as a body cannot task the members with projects i.e. He informed the meeting that the national programs in COMNAP overall priority would be to support the national program itself saying that the majority of the vessels and marine operations would be dedicated to logistical support for stations in Antarctica, science and conservation/monitoring i.e. - Consequently bathymetric work could for a number of reasons (expertise on-board, equipment, coordination, etc.) could be hard to incorporate in the ordinary marine activity. However – since the national programs are operating vessels the need for updated charts are a concern. He agreed to inform COMNAP members of the situation and advised IHO-HCA to contact COMNAP in terms of investigate how this could be communicated between IHO-HCA and COMNAP.

Outcome:

- COMNAP and HCA Members got a better understanding of each other areas of responsibilities and agreed that any initiative on the development of recommended policy for bathymetric data collection and management should be addressed together.
- COMNAP noted the goals pursued by the HCA, notably through the IHO's crowd-sourced bathymetry initiative.

→ Action [HCA14/06](#)

6.3 International Association of Antarctica Tour Operators (IAATO)

Docs: HCA14-06.3A [IAATO Activities affecting HCA \(Report to ATCM-39\) - Presentation](#)
HCA14-INF1 [Plumbing the Depths: Hydrographic Concerns for Modern-Day Large Vessels](#)

IAATO gave a presentation on its activities and on the implementation by IAATO vessels of The International Code for Ships Operating in Polar Waters, the “Polar Code”, recently adopted by the IMO. Statistics were provided following a 20-year analysis of maritime traffic patterns around the Antarctic Peninsula. IAATO also reported on its support to the IHO crowd-sourced bathymetry project, while addressing some remaining concerns (historical data to be shared, automatic data sharing is the per-default mode but possibility of locking data should exist, etc.).

CO and NO commended the report made by IAATO, NO noting that it was also of great interest since it could be compared with similar issues in the Arctic region. All HCA participants agreed that vessels traffic patterns, as long as they are not commercial-in-confidence, should be available on the IHO HCA GIS portal, for improving risk-assessment and subsequently prioritize surveys and charting activities. The HCA Chair reported that vessel operators sometimes indicate that they do not collect data because they are unable to meet IHO requirements. The HCA Chair stressed that this misconception should be corrected whenever possible - it is obviously up to the hydrographic offices to qualify the data they get. There is no particular requirements that data collected by non-survey qualified observers meets the higher orders of S-44.

Outcome:

- HCA Members were invited to consider positively any crowd-sourced contribution for hydrographic data collection rather than giving the impression that, when data will likely not meet high level S-44 standards, they should be rejected.
- IAATO was commended for the documents provided prior to the Conference, its report and its presentation.

→Action [HCA14/07](#)

6.4 The Scientific Committee on Antarctic Research (SCAR)

The HCA Chair informed the Conference that the IHB had tried several times, since HCA-13, to engage with SCAR officers but had been unable to get a response so far. However, his intention was to pay a visit, later in July, to Dr Jenny Baeseman at the Scott Polar Institute, in her position as SCAR's Executive Director. He also indicated that the forthcoming presentations to be given under agenda items 10.1 & 10.5 by Mr Stein Tronstad, Head of Environmental Section at the NPI, would cover some SCAR's issues in relation to HCA activities.

Post-meeting note: SCAR Executive Director and HCA Chair met in July 2016 and HCA Chair will participate in several SCAR events in Kuala Lumpur in August 2016.

6.5 International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA)

Doc: HCA14-06.5A IALA activities affecting HCA - [Presentation](#)

The Secretary-General of IALA gave an introduction to IALA and its possible evolution to become an intergovernmental organization. The main focus of the presentation was on activities related to aids to navigation (AtoN) in polar regions: an IALA-IHO seminar/workshop in 2017, provision of guidelines and recommendations, IALA-Net, and the IALA Risk Management Tool.

Outcome:

- The Conference noted the IALA report and agreed that traffic monitoring in polar regions was a key issue ; this monitoring should be improved using existing collaborative tools.
- The Conference noted the consistent approach of IALA and IHO to address safety of navigation issues in polar regions.

→Action [HCA14/23](#)

7. Ocean Mapping

7.1 The IHO-IOC GEBCO Project, outcome of the GEBCO Forum for Future of Ocean Mapping, outcome of the GEBCO Arctic-Antarctic Mapping Meeting, IBCSO

Doc: HCA14-07.1A GEBCO/IBCSO Project - [Presentation](#)

Thanks to the participation of Dr Boris Dorschel⁶, Project Leader of the GEBCO International Bathymetric Chart of the Southern Ocean (IBCSO), a fruitful discussion took place following his presentation in which he highlighted, among other things, the bathymetric data distribution around Antarctica. He also confirmed the urgent need for a more efficient interaction between scientists and hydrographers for the production of IBCSO version 2.0 that might extend up to 50°S.

The HCA Chair together with Dr Boris Dorschel reported on the main outcomes of the GEBCO Arctic-Antarctic Mapping Workshop that took place at the IHO headquarters in Monaco two weeks before the 14th HCA Conference. At this workshop, the best ways to compile a new edition of polar International Bathymetric Charts were addressed by about 40 scientists, cartographers and hydrographers. It was identified that additional data has been gathered over the years by many scientific cruises, but it has not been made available yet.

Outcome:

- The Conference agreed to take the lead for harvesting the possible existing survey coverage in Antarctica for the development of IBCSO version 2.0 and to establish a data source potential holders inventory.

→ Actions [HCA14/08](#), [HCA14/09](#), [HCA14/10](#)

8. National Reports

Docs: HCA14-08.1A National Reports – Presentations from [AR](#), [AU](#), [BR](#), [CO](#), [CL](#), [CN](#), [ES](#), [FR](#), [IN](#), [IT](#), [JP](#)⁷, [KR](#), [NZ](#), [NO](#), [PE](#), [RU](#)⁷, [UK](#), [US](#), [ZA](#).

As an experiment for the 14th HCA Conference, HCA Members were invited by [HCA Letter 02/2016](#), to present their national reports as key points only, through a ppt template provided by the HCA Secretariat. This appeared to be a successful and welcome procedural development.

Following a suggestion made by the US, all participants agreed to highlight, in their presentations, the possible existence or development of national marine spatial data infrastructures, and the subsequent availability of data through geospatial portals.

The following were highlighted in the presentations. CN confirmed its intention to make all data collected in Antarctica available to charting authorities and GEBCO. CL highlighted the cooperation with BR, and noted the national policy set up by NZ for naming undersea features. CO was commended for its multilateral approach in Antarctica, the development of a geospatial portal and its willingness to share the data that they have collected. FR was questioned about the bathymetric surveying capabilities of its new polar logistic vessel which will be commissioned in 2017.

Outcome:

- The Conference noted the national reports and agreed to experiment a data discovery mechanism using the IHO HCA GIS interconnected to national geospatial portals.

- The Conference noted a few charting issues to be considered.

- The HCA Chair thanked all the HCA Members for their reports and the UKHO Chief Executive for his sustainable commitment in providing efficient support to the HCA, through the expertise and availability of Mr Andy Willet, Chair of the HPWG.

→ Actions [HCA14/11](#), [HCA14/12](#), [HCA14/13](#), [HCA14/17](#), [HCA14/18](#)

9. Hydrographic Surveying, Nautical Charting, Nautical Publications and Information

9.1 INT Chart and ENC Scheming and Production

⁶ From the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI).

⁷ No ppt presentation available.

Thanks to the submission of most of the national reports about a month prior to the Conference, the HCA Secretary and the Chair of the Hydrographic Priorities Working Group (HPWG) was able to prepare the supporting documents without difficulty.

The Chair of the HPWG provided a status report including a comprehensive analysis of the charting coverage (INT paper charts and ENCs) in the region. Statistics and illustrations of recent vessel traffic patterns, provided by IAATO, and through access to AIS data were very useful in verifying the existing maritime shipping routes (MSR) used to set survey and charting priorities in the HCA and resulted in the identification of two new MSRs. The Chair of the HPWG also recommended INT chart producers to make their submission changes using the web-services associated with the new IHO INTERNATIONAL Chart Web Catalogue.

Outcome:

- The Conference acknowledged the analysis and agreed with the proposals made by the Chair of the HPWG for new INT charts and equivalent ENCs covering Mikkelsen Harbour, Wilhelmina Bay-Foyn Harbour.
- The Conference acknowledged the need for a coordinated and consistent charting (INT and ENC) of Deception Island.

→ Actions [HCA14/11](#), [HCA14/17](#), [HCA14/18](#)
Decision [HCA14/19](#)

9.2 Status Report on C-55 Database and HCA GIS for Antarctica

Doc: HCA14-09.2A [Status Report on C-55 Database and HCA GIS for Antarctica](#)

The HCA Secretary gave an update on the status of the C-55 database for Antarctica and the IHO HCA Geographic Information System (IHO HCA GIS): <http://www.iho.int/gis/antarctic.gis.html>.

Following the presentation made by IAATO and the Chair of the HPWG, the HCA Chair suggested that Maritime Shipping Routes (and anchorages) could be considered in the future as part of the C-55 metric.

Outcome:

- The Conference noted the status report on C-55 for Antarctica and agreed to make an assessment of the existing IHO HCA GIS layers in order to design subsequent and reliable data update procedures.

→ Actions [HCA14/14](#), [HCA14/15](#), [HCA14/24](#)

9.3 HCA Hydrography Priorities Working Group

Docs: HCA14-09.3A [HPWG Report](#)

HCA14-09.3B Revised Survey Plan: [Short List](#) and [Long Term](#)

The Chair of the HPWG provided a comprehensive report of the work achieved since HCA-13. He highlighted the fact that his task was becoming much easier and relevant to assess the adequacy of surveys and charts against user requirements thanks to the use of AIS vessels tracks data ...provided these AIS data are available and easily accessible for all categories of ships. He also reported that he was aware that some areas had been surveyed and re-surveyed up to three times without any coordination or consistent planning that may have avoided a duplication in effort and resources, while some other areas were completely unsurveyed. The availability of a GIS webservice depicting the existing coverage would assist in preventing such duplicating efforts.

The Chair of the HPWG also noted the increasing lack of involvement of mariners, in general, for reporting discrepancies between nautical publications/charts and the reality on the ground (existence and status of aids to navigation in particular). This trend needs to change, especially in Antarctica.

Finally, he reminded the participants on the existing HPWG forms to be used, as appropriate:

- IHO Collection and Rendering of Hydrographic Data
- Planned Surveys
- Request for Bathymetric Data.

The IHO webpage ([link](#)) from which these forms can be downloaded will be updated.

The HCA Chair indicated that, since its creation in 2004, the HPWG has proven to be very useful, thanks to its very active Chair. He proposed that, because of its key coordinating role in the HCA, all HCA Members and Observers should be considered as participants in the HPWG in future.

Outcome:

- The Conference commended the Chair of the HPWG for his report.

→ Actions [HCA14/20](#), [HCA14/21](#), [HCA14/22](#)
[HCA14/23](#), [HCA14/25](#)
Decisions [HCA14/16](#), [HCA14/19](#)

10. Research Institutes, Stakeholders and Industry Presentations

10.1 Norwegian Polar Institute

Doc: HCA14-10.1A [Presentation 1: Science Platforms and Scientific Activities in Antarctica and the Southern Ocean](#)

Mr Stein Tronstad (NPI) covered a large number of issues related to HCA activities. He confirmed that maintaining existing observations series and systems and improving data coverage, for instance by opening access to new and legacy data, were among the top scientific priorities. He made reference to the collection of CTD dataset within the MEOP project (Marine Mammals Exploring the Oceans Pole to Pole) and the possible interest for the IHO to liaise with the CCAMLR (Convention for the Conservation of Antarctic Marine Living Resources). One of the most impressive examples he gave on the importance of bathymetry for scientists was the research about the ice flux (around Dronning Maud Land), the relatively short path length from the ice-shelf to abyssal plains with some stationary icebergs that might be good indicators for pinnacles or shoal waters.

It was good to learn that a new RV named *Kronprins Haakon*, fitted with the “most comprehensive acoustic sensor suite” and multibeam echo sounders (Simrad EM710 and EM302) was planned to be commissioned in 2017.

Echoing the presentation made on the IHO HCA GIS, Mr Tronstad introduced Quantarctica (<http://quantarctica.npolar.no/>), a GIS on Antarctica, initially developed by the NPI for internal purposes, which is now available to all.

Outcome:

- The Conference welcomed the NPI’s presentation.

→ Action [HCA14/22](#)

10.2 Fugro-Pelagos (*participation cancelled*)

10.3 Kongsberg Maritime

Doc: HCA14-10.3A [Current Icebreaker Projects](#)

The presentation made by Kongsberg Maritime provided an interesting update on on-going projects for vessels that will operate soon in polar regions. Mr Jan Haug Kristensen drew the attention of participants to the specific design requirements and high expertise needed for fitting subsea equipment and sensors on vessels intended to operate in ice-prone waters.

Outcome:

- The Conference welcomed the Kongsberg Maritime's presentation.

10.4 Teledyne-Caris

Doc: HCA14-10.4A Variable Resolution Surfaces

The technical presentation given by Teledyne-Caris on variable resolution surfaces for digital terrain elevation modelling was very appropriate for addressing Antarctica issues due to the availability of very heterogeneous density of bathymetric data in this region.

This new technique which is planned to be commercially available in the second semester of 2016 looks very promising for the hydrographic community.

Dr Boris Dorschel noted that the scientific community would appreciate, for obvious reasons, to have a data exchange format between Esri (which is the most popular environment used by the scientific community) and Caris (which is mainly designed for hydrographers).

Outcome:

- The Conference welcomed the Teledyne-Caris's presentation.

10.5 Norwegian Polar Institute

Doc: HCA14-10.5A [Presentation 2: Collection, management and distribution of scientific data and sea ice data from Antarctica](#)

Mr Stein Tronstad (NPI) provided a second presentation in which he introduced the Norwegian Polar Data Centre (<https://data.npolar.no/>), and two Standing Committees of the SCAR:

- The Standing Committee on Antarctic Geographic Information (SCAGI);
- The Standing Committee on Antarctic Data Management (SCADM).

This presentation echoed many concerns that were raised since the beginning of the 14th HCA Conference. He reported that a query on "bathymetry" made on the Antarctic Master Directory had provided some results which is not totally surprising as so many projects rely on bathymetric data as a foundation layer. He mentioned the Southern Ocean Observing System, the SOOS project, one of its objectives being to facilitate linking of sustained long-term observations to provide a system of enhanced data discovery and delivery, utilising existing data centres and programmatic efforts.

The HCA Chair thanked Mr Stein Tronstad for this right-on-the-mark presentation, giving another evidence that raising the IHO and the DCDB profiles across the scientific polar community was needed.

Outcome:

- The Conference welcomed the NPI's presentation.

→ Action [HCA14/26](#)

11. Approval of Action List

A review of the decisions and actions captured during the sessions was led by the HCA Chair at the end of the Conference.

Post-meeting note: the draft list of decisions and actions list was distributed to all participants for comments on 30 June evening (deadline 18 July 2016). The final list was posted on the HCA-14 webpage on 22 July 2016.

12. Any Other Business

During the Conference, NO took the opportunity to introduce the MAREANO Project (<http://www.mareano.no/en>) which was presented as a good example for “gaining absolute and multidisciplinary knowledge” of our seabeds, whatever the survey drivers are.

Making reference to the [IHO CL 89/2015](#), the HCA Secretary offered an introduction to the INTogIS web-services in the margins of the HCA Conference.

TV Norway interviewed the HCA Chair and Norwegian participants at the end of the Conference.

13. Time and Place of Next Conferences – List of Polar Events

Outcome:

- The Conference thanked New Zealand for its offer to host HCA-15 in 2017.
- Subject to the outcome of action [HCA14/05](#), HCA-16 might take place back-to-back with ATCM41 in Ecuador in 2018.

→ Action [HCA14/27](#)

Post-meeting note: NZ confirmed its offer to host HCA-15 in Wellington, NZ, from 20 to 22 June 2017.

14. Closure – End of meeting

The HCA Chair concluded that the meeting had been very productive. Holding the meeting in Tromsø ensured that fruitful liaison was established with experts from the Norwegian Polar Institute involved in both Arctic and Antarctic research as well as a renewed relationship with SCAR and COMNAP. All agreed that discussions at the Conference had addressed both the need to obtain additional bathymetric data from all sources and observers in the region, but also the need to establish a recognized and interoperable GIS-based data and metadata repository so that all existing data may be identified. Lastly, the Chair expressed, on behalf of all participants, his sincere gratitude to the staff of the Norwegian Hydrographic Service for the outstanding logistics and most professional support provided to the Conference participants.

LIST OF DECISIONS and ACTIONS FROM HCA-14

Decision/Action	Agenda Item	Details	Target Date	Status (Sept. 2016)
	3.	Confirmation of Vice-Chair		
HCA14/01		Mr John Haumann (NGA, USA) was confirmed as HCA Vice-Chair.		
	4.	HCA Membership and Statutes		
HCA14/02	4.1	HCA Members and Observers to provide their updates on the HCA Membership to the HCA Sec. as appropriate.	Permanent	Done for IAATO
HCA14/03	4.2	HCA Sec. to upload an updated version of the HCA Statutes on the IHO website incorporating the amendments discussed and agreed at HCA-14 (incl. ATCM latest Resolutions).	August 2016	Complete
HCA14/04	4.3	Colombia's application for HCA Membership was approved. HCA Sec. to update the IHO HCA webpage.	August 2016	Complete
	6.	Reports from International Organizations		
	6.1	From ATCM		
HCA14/05		<p>HCA Chair to draft and circulate for comment a proposal to HCA Members, IAATO, COMNAP representatives inviting ATCM40 by 30 Aug 2016 to consider including a hydrographic seminar/workshop and discussion of hydrographic issues as part of the ATCM41 programme in 2018</p> <p>HCA Members, IAATO, COMNAP representatives to provide input/comments by 30 Oct.</p> <p>HCA Chair to incorporate input and comments and to invite HCA Members, IAATO, COMNAP representatives to seek support to formally sponsor the proposal at the ATCM by 1 February 2017.</p>	<p>30 Aug 2016</p> <p>30 Oct. 2016</p> <p>1 Feb. 2017</p>	Done.
	6.2	From COMNAP		
HCA14/06		COMNAP representative (John Guldahl) invited to bring the matter of collecting hydrographic data as a matter of routine to the attention of the COMNAP membership and for COMNAP to report progress to HCA15.	HCA-15	
	6.3	From IAATO		

Decision/Action	Agenda Item	Details	Target Date	Status (Sept. 2016)
HCA14/07		IAATO to consider the possibility of providing metadata of vessels traffic patterns to the IHO for inclusion as a layer into the IHO HCA GIS.	HCA-15	
	7.	Ocean Mapping		
	7.1	The IHO-IOC GEBCO Project, outcome of the GEBCO Forum for Future of Ocean Mapping, outcome of the GEBCO Arctic-Antarctic Mapping Meeting, IBCSO		
HCA14/08		HCA Members to provide existing survey coverage metadata in Antarctica (south of 50°S, - as shp files if possible - , and point of contact) to IHB and to the GEBCO IBCSO Project Leader (Dr Boris Dorschel, AWI)	30 Sept. 2016	
HCA14/09		Dr Boris Dorschel invited to provide the bathymetry of the 15 m shoal in the SE of the Antarctic Sound to UKHO (Mr Andy Willett).	Asap ⁸	
HCA14/10		HCA Members and Observers to submit contact details of all likely holders of bathymetric data for Antarctica in their country/membership to the IHB and to confirm that they have briefed those contacts on the relevance of making their data discoverable.	30 Sept. 2016	
	8.	National Reports		
HCA14/11		Region M Coordinator to liaise with AU, RU and the Region L Coordinator (Ms Hilary Thompson, AU) to resolve the ENC overlaps between RU1B0PF0 and RU1A2K00 and AU cells.	By HCA-15	
HCA14/12		HCA Sec. to consider how to provide an example of a data discovery portal by implementing the offer made by CO to display relevant wms, wfs data on the IHO Antarctica GIS, and to liaise with France and Korea (Rep. of) for the same purpose.	Dec. 2016	
HCA14/13		HCA Chair to liaise with the French National Hydrographer on the best way to raise awareness with the relevant French authorities on the benefits of fitting suitable equipment in the Polar Logistic Vessel to be commissioned in 2017, so as to enable the collection of bathymetric data in Antarctic and other waters.	Asap	Done
	9.	Hydrographic Surveying, Nautical Charting, Nautical Publications and Information		
	9.2	Status Report on C-55 Database and HCA GIS for Antarctica		

⁸ Asap: As soon as possible.

Decision/Action	Agenda Item	Details	Target Date	Status (Sept. 2016)
HCA14/14		HCA Members to provide updated statistics for C-55 for Antarctica to the IHB	30 Sept. 2016, and on a yearly basis	
HCA14/15		HCA Members and Observers to evaluate the existing data layers available in the IHO HCA GIS database and to propose: <ul style="list-style-type: none"> - additional layers (and the sources) - any duplicate layers that could be linked from other databases rather than maintained by IHO - any other comments 	30 Sept. 2016	
	9.3	HCA Hydrography Priorities Working Group		
HCA14/16		HCA Sec. to amend the ToRs of HPWG to reflect that all HCA Membership are considered as members of the HPWG.	Dec. 2016	Complete, on the HCA HPWG webpage
HCA14/17		AR, CL, ES, GB to coordinate the production of charting of Deception Island to ensure the consistency of ENC, INT paper, and to avoid duplication of effort.	HCA-15	
HCA14/18		KR to liaise with Region M INT chart producers as appropriate before submitting a consolidated proposal for a possible new INT chart covering Jang Bogo Approaches to the Region M Coordinator (Andy Willett, UKHO).	HCA-15	
HCA14/19		New proposals made at HCA-14 by HPWG Chair for Maritime Shipping Routes (MSR) were approved.		Done
HCA14/20		HCA Members to provide the IHB and HPWG Chair (Mr Andy Willett) with their national AIS data in Antarctica and requirements for improving Maritime Shipping Routes (MSR) analysis, and defining survey and charting priorities	Permanent, normally after the end of the austral summer season, and at least 3 months prior to HCA-15	
HCA14/21		HPWG Chair to obtain statistics from HCA Membership on status of surveys and charting of the MSR and present to HCA-15.	HCA-15	
HCA14/22		HCA Chair to engage with CCAMLR ⁹ and other relevant organizations for equivalent action for fishing and other vessels than commercial ships.	Dec. 2016	

⁹ Commission for the Conservation of Antarctic Marine Living Resources.

Decision/Action	Agenda Item	Details	Target Date	Status (Sept. 2016)
HCA14/23		HCA Members to invite their Maritime Administrations and Flag vessels to locate and confirm the existence and status of all aids to navigation in Antarctica and report accordingly.	30 Sept. 2016	
HCA14/24		IHB to consider the possibility of supplementing C-55 with survey and charting statistics in relation to agreed MSR, and find a way of posting the relevant information within the IHO GIS environment	Dec. 2016	
HCA14/25		HCA Members are reminded to use the HCA/HPWG forms in force for planned surveys, planned charting and request for data.	Permanent	Guidelines and Forms updated in the HCA HPWG webpage
	10.	Research Institutes, Stakeholders and Industry Presentations		
	10.5	Norwegian Polar Institute		
HCA14/26		IHO Sec to consider the offer made by SCAR/SCADM to participate in their meeting in Kuala Lumpur in August 2016, together with Dr Boris Dorschel (GEBCO/IBCSO) for identifying the ways and means to improve data discovery.	Asap	Complete
	13.	Time and Place of Next Conferences – List of Polar Events		
HCA14/27		Offer from New Zealand to host HCA15 in 2017 was accepted (if possible week starting 19 June, or starting 26 June)	To be confirmed by NZ, 30 Sept. 2016	Confirmed for 20-22 June 2017