SEVENTH MEETING OF THE IHO INTER-REGIONAL COORDINATION COMMITTEE
IHO-IRCC7
Mexico City, Mexico, 1-3 June 2015

REPORT

1. Opening and Administrative Arrangements

Docs: *IRCC7-01A*   *List of Documents (IHB)*
         IRCC7-01B rev 7   *List of Participants (IHB)*
         IRCC7-01C   *List of IRCC Members (IHB)*

The meeting started at 09h00 with the opening address by the Mexican Hydrographer, Rear Admiral Carlos Abascal Andrade, wishing the best possible cooperation and a wonderful stay in Mexico. Vice Admiral Rene White Herrera, Deputy Director-General for Development, addressed the meeting and highlighted the importance of the work done at IRCC, the development of standards and the cooperation to achieve the high-level goals of the IHO and to increase the safety of the navigation.

The Chair, Rear Admiral Tom Karsten (UK), thanked the Mexican Navy for the organization of the meeting and the hospitality. He highlighted that the combination of research and development and hydrography is a good match for the benefit Hydrographic community and invited the Committee to identify the challenges and the way ahead to address them.

The IHO President Robert Ward addressed the meeting and thanked the Mexican Navy on behalf of the IHO Member States for the organization of both CBSC and IRCC meetings. He highlighted that the growing maturity of the IRCC as the governing body of the IHO is reflected in the large number of paper received and that one of the challenges of IRCC is to develop a global non-partisan environment for the development of hydrography and to ensure that IHO Work Programme 3 activities are accomplished in the best possible way.

President Ward also highlighted the outcomes of the EIHC5, stressed the important role of the IRCC with regard to its actions, the consequences of the actions, the required resources, that should be carefully considered by the participants. He also mentioned the excellent opportunity posed by the IRCC meeting to discuss common problems across regions and to establish a venue to identify problems that others may have already solved.

Following the provision of the logistics information given by the hosts, the Chair addressed the meeting on the numerous events that happened since the last meeting and the momentum that can lead to actions from IRCC7. He thanked the secretarial support received from the IHB and stressed the need to coordinate the work in the Regional Hydrographic Commissions for the benefit of worldwide hydrography.

Participants (Annex A) introduced themselves for the benefit of the meeting and the Secretary, IHB Director Mustafa Iptes who was assisted by Assistant Director Alberto Costa Neves, introduced documents *IRCC7-01A, IRCC7-01B and IRCC7-01C*.

2. Approval of Agenda

Doc: IRCC7-02 Agenda and Timetable (IHB) rev 6

Chair introduced the agenda. Participants were invited to comment on the agenda and timetable. The Agenda was amended and adopted (*doc. IRCC7-02 rev 6*).

3. Matters arising from Minutes of IRCC6 Meeting

Docs: IRCC7-03A Minutes of IRCC6 (IHB)

IRCC7-03B Status of Action List from IRCC6 (IHB)

The Chair introduced the minutes of the IRCC6 Meeting and invited the participants to provide comments. There was no additional input and the minutes were approved.

The Chair invited the Secretary to introduce the List of Actions from IRCC6 and the participants to provide comments. The following actions received comments and clarifications:

a) IRCC6/14 (Chair and IHB to investigate mechanisms for raising external funds)

Latvia commented on the project from BSHC for EU funding, that will be covered during the IENWG Report later in the agenda. The CBSC Chair called for the urgent need for funds in the Capacity Building (CB) Fund in order to finance the execution of the IHO Capacity Building Work Programme (CBWP). The Vice-Chair highlighted the example of the SWPHC and the need for a more holistic approach in a coordinated way in order to attract more funds.

The IHO President stressed that the IHO has a good reception at funding agencies. The coordination is in place but the level of workload does not allow the IHB Directing Committee to find time to go for funding agencies to seek resources. He noted that the CBSC already produces a list of endorsed projects (the Management Plan) that can be used to raise funds.

The IENWG Chair expressed the need to establish projects combining Hydrography in larger projects with Maritime and/or Geospatial goals and the CBSC Chair mentioned the ongoing joint approach with other international organizations and the importance of the CB Coordinators to help the development of larger projects in the RHCs.

The Vice-Chair gave the example of the Marine Electronic Highway Project in the Straits of Malacca and Singapore and the importance of consultants to complement the work done by the IHB. Funds are currently available and to have access to them it is necessary to prepare the projects in the proper format and in partnership with other beneficiaries.

The SWPHC Chair mentioned that large projects require hard work of a dedicated team in order to convince funding agencies with a solid priority plan for investment. The meeting then agreed on the following actions (note: Actions 1 to 19 are permanent actions):

Action 20: IRCC Members to provide input to CBSC on how to identify possible sources of funding to support capacity building efforts and programmes across the regions (deadline: CBSC14).

Action 21: CBSC to identify principles on how to gain access to funding across the regions, compile the input from the IRCC Members and report to IRCC8 (deadline: IRCC8).

b) IRCC6/29 (France and UK to address the Admiralty Information Overlay (AIO) issue bilaterally and report back to IRCC7)

. France and UK reported that the AIO issue will be addressed jointly with WENDWG and HSSC (Actions WENDWG5/01 and 02 refer) and provided the following joint statement reporting the current situation while still working on the subject:

"UK and France have discussed the AIO Bilaterally. UK Hydrographic Office (UKHO) has explained the features of the AIO and its benefits to users. It is willing to consider developments to the AIO to meet ENC

producer concerns such as the completeness and timeliness of Temporary & Preliminary Notices to Mariners (T&P NMs) and has worked up a proposal on how this might be achieved.

SHOM (French Hydrographic Office) acknowledged the value of the work carried out by UKHO on detecting differences between ENCs and British Admiralty paper charts but considers that ENC is the only official electronic navigation cartographic information for safety of navigation and should contain all necessary information for safety of navigation and that AIO may introduce some confusion. SHOM considers that if complementary information to ENC is found to be necessary for the safety of navigation in some areas, this information should be available for all ENC users in these areas. SHOM considers that AIO are not necessary for the safety of navigation in waters for which it is primary charting authority, and that mariners should rely in these waters on SHOM official products.

UKHO view is that as a responsible Hydrographic Office and as a service provider it must make its customers aware of difference information, particularly where discrepancies may show doubt in the mind of the mariner.

UK and France recommend that potential shortcomings of ENC and ECDIS and the relevance of overlay services continue to be addressed under the auspices of the WEND WG and of the HSSC and subordinate bodies."

The updated List of Actions is available as document *IRCC7-03B rev 1*.

4.   Review of Terms of Reference and Rules of Procedure

Doc: IRCC7-04 TOR-ROP (IHB)

The participants reviewed the IRCC Terms of Reference and Rules of Procedure to include the recently approved Working Groups. UK suggested incorporating the word of "wider" instead of "widen" to introduction part of the text when referring to the use of marine data. The meeting agreed on the following decision and actions:

Decision 1: the IRCC endorsed the revised IRCC ToR. (Annex B).

Action 22: IHB to include the Crowd-Sourced Bathymetry Working Group (CSBWG) in the revised IRCC ToR approved in Decision 1 (deadline: June 2015) (see also Decision 38).

Action 23: IHB to issue a CL seeking Member States approval for the revised IRCC ToR (deadline: July 2015) (see also Action 63) .

5.   Report by the Chair and the IHB

Docs: IRCC7-05A IRCC Annual Report (Chair)

   IRCC7-05B Report of IHB (IHB)

The Chair introduced his report (*doc IRCC7-05A*) highlighting the activities held since IRCC6. He highlighted the achievements of the RHCs with increased participation of non-Member States and industry to the RHC meetings, the work done by the subordinated bodies, the achievements of the Capacity Building Work Programme, the work with other organizations and funding agencies, the coordination of global surveying and charting, including ENC and INT Chart schemes, consistency and quality, provision of Maritime Safety Information (MSI), the ocean mapping and the transfer of the Marine Spatial Data Infrastructures Working Group (MSDIWG).

IHB Director Iptes presented the IHB report (*IRCC7-05B*). He reported the status of the ratification of the Protocol of Amendments to the IHO Convention, the accession of three new Member States (Brunei Darussalam,

Georgia and Viet Nam), the new applications (Malta, Solomon Islands and Vanuatu), the developments of the IHO Geographic Information System (GIS) and the ENC Catalogue, the celebration of the World Hydrography Day (WHD), the outcomes of the 5th Extraordinary International Hydrographic Conference, the key issues of the Capacity Building Work Programme and the status of the IHO Work Programme. He also highlighted the on-going activities on developing a GIS database application to support C-55 (*Status of Hydrographic Surveying and Charting Worldwide*) and the work of the IHO. In that perspective, the IHB requested the IRCC to invite the RENCs to seek the consent of their members to provide CATZOC information to the IHB for inclusion in C-55. Then, this request was agreed by the Committee.

President Ward called upon themes for the WHD 2016 and invited participants to comment on the continuation of the current theme on data gathering and mapping or move the theme to the fact that there are no hydrographers enough. The IRCC then agreed on the following decision and actions:

Decision 2: the IRCC noted the reports of the Chair and the IHB.

Action 24: RENCs to seek the consent of member HOs and others that distribute their ENCs through a RENC, to provide CATZOC information to the IHB on their behalf for inclusion in the IHO Publication C-55 (deadline: July 2015).

Action 25: RENCs to report the results of their consultations with their members to provide CATZOC information to the IHB as soon as permission is received (deadline: IRCC8).

6. Outcome From the 5th Extraordinary International Hydrographic Conference (EIHC5) affecting IRCC

Docs: IRCC7-06A Outcome from EIHC-5 affecting IRCC (IHB)

IRCC7-06B Management and monitoring of INT chart production (IHB)

The Secretary introduced document *IRCC7-06A* on the outcome from 5th Extraordinary International Hydrographic Conference (EIHC5) affecting IRCC and the Chair invited participants to comment on the main issues.

President Ward addressed the RHC Chairs on the outcome of (EIHC5) and recalled that is likely that the IHO Council will be established in April 2017 subject to approval of the amendments to the IHO Convention. This will require the RHCs to establish a mechanism to implement the selection of the representatives for Council membership.

MBSHC and SWPHC Chairs reported the status of development for the implementation of the mechanism for nominating the RHC Representatives to the Council. The meeting then agreed on the following action:

Action 26: RHC Chairs to report to IRCC on the status of the RHC procedures for selecting their respective representatives to the Council (deadline: IRCC8).

The Secretary then introduced document *IRCC7-06B* on the monitoring the INT Charts. UK highlighted the risk of spreading the checking to RHCs instead of having one only body to check the INT Chart worldwide for uniformity and consistency.

President Ward presented the reasoning behind the proposal in document *IRCC7-06B*. The IHB has not reviewed the INT Charts in the past eight years and this paper presents an opportunity to keep this useful process going

with the help of the INT Chart Coordinators (ICCs). If this is to be done by the IHB then the IRCC is invited to identify the tasks that will NOT be done in order to allow the verification to be done by the IHB.

The NHC Chair asked whether there are cases of hazards that justify the work to be done by the IHB or by the RHCs. President Ward replied that there have been cases of INT Charts not consistent with the Standards. NSHC Chair suggested testing the procedure for the next two year and SAIHC Chair suggested applying the procedure to new INT Chart producers only.

France, as the IENWG Chair, fully supported the proposal made by the IHB with a clear benefit also for the work of the chart coordinator, who could in such a process get the information regarding chart limits, scale etc. This information, the chart metadata, is currently not easily collected. In that perspective, he recommended to keep the proposal as submitted by the IHB and to not restrict the process to INT charts prepared by new producers.

Turkey expressed that the HSSC/Nautical Cartography Working Group (NCWG-Formerly CSPCWG) is the right place to access the content of the charts and not the ICCWGs or INT/ENC Chart Coordinators. The IRCC then agreed the following decision and actions:

Decision 3: the IRCC agreed to the following procedures for Regional INT Chart Coordinators to monitor and validate of the INT Chart production as an experimental phase for two years before final approval:

a. New INT Chart Producer Nations to provide first edition INT charts to Regional INT Chart Coordinator (or ICCWG);.

b. INT Chart Coordinators/ICCWGs to manage the review of the first edition INT charts produced by new INT Chart Producer Nations to check their compliance with IHO standards, provide feedback to the Producer and to report progress to the next RHC meeting;

c. All INT Chart Producer Nations to provide first edition and new edition INT charts to Regional INT Chart Coordinator (or ICCWG) 3 months prior to every RHC meeting to enable Regional INT Chart Coordinator (or ICCWG) to validate current INT chart Scheme;

d. All editions of INT charts submitted under paragraphs a and b, to be subsequently transferred to the IHB to be included in the IHB reference collection for internal use; and

e. IHO Member States to provide an update of the list of on-line chart catalogues, either directly or when updating the Yearbook.

Action 27: RHC Chairs to task:
a) New INT Chart Producer Nations to provide first edition INT chart to Regional INT Chart Coordinator (or ICCWG) for review as soon as convenient during the production cycle;

b) INT Chart Coordinators/ICCWGs to manage the review of the first edition INT charts produced by new INT Chart Producer Nations to check their compliance with IHO standards, provide feedback to the Producer and to report progress to the next RHC meeting;

c) All INT Chart Producer Nations to provide first edition and new edition INT charts to Regional INT Chart Coordinator (or ICCWG) 3 months prior to every RHC meeting to enable Regional INT Chart Coordinator (or ICCWG) to validate current INT chart Scheme;

d) All editions of INT charts submitted under action 27 a) and b) to be subsequently transferred to the IHB to be included in the IHB reference collection for internal use; and

e) Member States to provide an update of the list of on-line chart catalogues, either directly or systematically when updating the Yearbook.
(deadline: October 2015)

Action 28: RHCs to implement procedures approved by Decision 3 and to report their processes for the review of first edition INT Charts produced by new Producer Nations to IRCC (deadline: IRCC8).

7. RHC Reports

Docs: IRCC7-07A Nordic HC (NHC Chair)
IRCC7-07B North Sea HC (NSHC Chair)
IRCC7-07C East Asia HC (EAHC Chair)
IRCC7-07D US/Canada HC (USCHC Co-Chair)
IRCC7-07E Mediterranean and Black Seas HC (MBSHC Chair)
IRCC7-07F Baltic Sea HC (BSHC Chair)
IRCC7-07G Eastern Atlantic HC (EAtHC Chair)
IRCC7-07H South-East Pacific Regional HC (SEPRHC Chair)
IRCC7-07I   South-West Pacific HC (SWPHC Chair)
IRCC7-07J Meso American - Caribbean Sea HC (MACHC Chair)
IRCC7-07K Southern Africa and Islands HC (SAIHC Chair)
IRCC7-07L North Indian Ocean HC (NIOHC Chair)
IRCC7-07M ROPME Sea Area HC (RSAHC Chair)
IRCC7-07N South West Atlantic HC (SWAtHC Chair)
IRCC7-07O Arctic Regional HC (ARHC Chair)

The Chair invited the RHC Chairs to summarize their report and present the key achievements, the challenges faced and lessons learned in each Region. He then invited the IRCC to discuss the approaches to face the common challenges faced by the RHCs.

NHC (doc. *IRCC7-07A*)
The NHC Chair stated that one of the challenges now is how to make ENCs better available to leisure boats in order to improve safety of navigation. He also reported also on the ongoing projects to renew nautical chart production in the region and the cooperation with EU and the Joint European Coastal Mapping Program.

NSHC (doc. *IRCC7-07B*)
The NSHC Chair reported the discussions related to the future of the Hydrographic Services, in special the data centric approach, the use of S-100 and the promotion of wider use of data. He also presented the challenges of the resurvey and tidal working groups, the North Sea Bathymetry Database and the use of Lidar in the coastal zones.

EAHC (doc. *IRCC7-07C*)
Japan, on behalf of the EAHC Chair, reported the Capacity Building activities in the region, in particular the development of the Trainer for Trainers (TFT) course to increase the dissemination of knowledge in the region, using local languages. He stressed that cooperation of the EAHC members is of great value and this is key for the response to disasters in the region.

USCHC (doc. *IRCC7-07D*)
The USCHC Chair reported the organizational changes to reflect the "ENC-First" alignment, the developments in using crowd-sources bathymetry and satellite derived bathymetry, the establishment of print-on-demand, communication and sharing data strategies, the use of magenta lines to identify historical successful transits and the upcoming workshop on Chart Adequacy Evaluation with MACHC countries. Regarding the proposal concerning with satellite-derived bathymetry activities, the IRCC agreed on the following:

Decision 4: the IRCC decided to add the topic of satellite-derived bathymetry as a standing agenda item at all future IRCC meeting.

Action 29: IHB to include the topic of satellite-derived bathymetry as a standing agenda item for future IRCC meetings (deadline: IRCC8) (Permanent).

MBSHC (doc. *IRCC7-07E*)
The MBSHC Chair informed the IRCC on the preparation of the disaster action plan for the region, the approval of the "Rules for Designation of MBSHC Representatives to the IHO Council" to be included in the statutes, the Capacity Building activities in the region and the activities related to safety of navigation in the Caspian Sea.

BSHC (doc. *IRCC7-07F*)
The BSHC Chair reported the activities of the BSHC working groups (Monitoring the Implementation of the Harmonized Re-survey Scheme, Chart Datum, Bathymetric Database, MSDI and the INT Chart Coordination), the cooperation with other international organizations, in particular the Finalising the Baltic Motorways of the Sea (FAMOS) project to speed up surveys and chart production in the region.

EAtHC (doc. *IRCC7-07G*)
The EAtHC Chair reported on the efforts to encourage coastal States in the region to apply for membership, the development of the regional definition study for long term CB project funded by the 2015 CBWP (P-01), the cooperation with regional organizations like the Maritime Organisation for West and Central Africa (MOWCA), the good participation of Members, Associate Members, Observers and Industry in the last meeting of the (EAtHC) and the development related to marine disasters with the Intergovernmental Oceanographic Commission (IOC).

SEPRHC (doc. *IRCC7-07H*)
The SEPRHC Chair reported the developments related to the IRCC6 actions, the status of INT charts and ENC schemes, the outcomes of the SEPRHC working groups and the support from the Capacity Building Programme for the development of the region.

SWPHC (doc. *IRCC7-07I*)
The SWPHC Chair informed the participants on the importance of the CB support for the technical workshop on Hydrographic Governance held back-to-back with the last SWPHC conference, the outcomes of the IHO CB activities and the other non-IHO support from the IMO, Australian Aid Programme (AusAID), Japan International Cooperation Agency (JICA) and New Zealand Aid Programme (NZAid). He also reported on the support provided to Vanuatu following the tropical cyclone Pam damages as part of the IHO Response to Disasters and suggested the need to update the IHO Publication C-16 (National Hydrographic Regulations). The meeting then agreed on the following decisions and actions:

Decision 5: the IRCC noted the high level of engagement for the implementation of capacity building activities being undertaken in the SWPHC region.

Decision 6: the IRCC noted the SWPHC's significant collaborative and cooperative association with IMO, IALA, Secretariat of the Pacific Community (SPC) and development agencies in moving forward with combined initiatives to raise awareness of hydrography and deliver practical improvements in the region.

Decision 7: the IRCC noted New Zealand's commitment to conduct additional hydrographic risk assessments and chart remediation programmes for a number of SW Pacific nations.

Decision 8: the IRCC noted Vanuatu's recent application for IHO membership.

Decision 9: the IRCC agreed on the need to update IHO publication C-16 - National Hydrographic Regulations, and for the IRCC Chair to seek input from RHC Chairs, to allow a subsequent new edition of C-16 to be published by IHB.

Action 30: IHB to issue a CL seeking Member States input to the update of C-16 - National Hydrographic Regulations, including any regulations covering government rights of access to bathymetric data collected for commercial or scientific purposes (deadline: July 2015).

Action 31: IHB to update IHO Publication C-16 - National Hydrographic Regulations based on the inputs provided by Member States (deadline: December 2015).

Action 32: SWPHC to invite NZ to report to IRCC on the economic value case for the SW Pacific Risk Assessment project (deadline: IRCC8).

MACHC (doc. *IRCC7-07J*)
The MACHC Chair informed the Committee on the progresses made on the membership and the success of the provision of English-Spanish interpreters during the meetings to overcome the language barrier. He reported the very good attendance during the meetings and outcomes of the MACHC Integrated Charting Committee in coordinating efficiently the solution of overlaps and gaps, the views for the Marine Economic Infrastructure Program Committee to act as a catalyst for the wider use of Hydrography, and the very active Capacity Building Committee and its structured plan for the region. He also reported the cooperation with regional organizations and the development of the Mexican CB project named "Strengthen the hydrographic abilities in Mesoamerican and the Caribbean sea" (FOCAHIMECA in Spanish) for improving the hydrographic capacity in the region.

SAIHC (doc. *IRCC7-07K*)
The SAIHC Chair reported the work done by the region contributing to the IHO Work Programme, the progresses made in the INT and ENC charting, the support of the Capacity Building Programme and the future plans in the region.

NIOHC (doc. *IRCC7-07L*)
The NIOHC Chair reported the challenges related to the lack of communication between Regional Chart Coordinators to solve issues and the Capacity Building activities held in the region. The last meeting discussed how to maximize hydrographic data, how to move towards data centricity, the uses of AIS and marine disaster coordination. He also reported the cooperation done with other international and regional organizations and the experience of Bangladesh in data collection and product generation within a dynamic river environment. The Committee agreed on the following decisions and action:

Decision 10: the IRCC noted the NIOHC support for an IHO resolution on Maximising Hydrographic Data.

Decision 11: the IRCC agreed to encourage greater communication between ICCWG coordinators.

Action 33: RHC Chairs to instruct the ICCWG Coordinators to investigate ways to improve communication across the regions and report back to IRCC (deadline: IRCC8).

RSAHC (doc. *IRCC7-07M*)

The UAE representative, on behalf of the RSAHC Chair, reported the agenda items discussed in the last RSAHC meeting, the status of execution of the IRCC6 actions, the outcomes of the Capacity Building activities in the region and the cooperation with other international and regional organizations.

SWAtHC (doc. *IRCC7-07N*)
The SWAtHC Chair reported the development of the ENC Scheme with 76% achieved from a total of 226 ENCs planned for the region and of the INT Charts with 70% of the planned 33. He informed the meeting on the Capacity Building activities and outcomes and the effective cooperation and coordination in the region.

ARHC (doc. *IRCC7-07O*)
Canada, as the Vice-Chair of the ARHC Chair, highlighted the assessment of chart adequacy and the concept of Arctic Voyage Planning Guide as key elements for the safety of navigation and protection of the marine environment in the region. He also expressed the importance of the cooperation with the Protection of the Arctic Marine Environment (PAME) in support of hydrography and nautical cartography for the Arctic region.
The Committee then agreed on the following decision:

Decision 12: the IRCC noted the reports under agenda item 7 (docs IRCC7-07A, IRCC7-07B, IRCC7-07C, IRCC7-07D, IRCC7-07E, IRCC7-07F, IRCC7-07G, IRCC7-07H, IRCC7-07I, IRCC7-07J, IRCC7-07K, IRCC7-07L, IRCC7-07M, IRCC7-07N, IRCC7-07O).

8. Reports from IRCC Bodies

Docs: IRCC7-08A   *Hydrographic Commission on Antarctica (HCA Chair)*
          IRCC7-08B1 *World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC Chair)*
          IRCC7-08B2 *Revision of the Approval Process by IHO Member States for Maritime Safety Information (MSI) Documents (WWNWS-SC Chair)*
          IRCC7-08C   *Capacity Building Sub-Committee (CBSC Chair)*
          IRCC7-08D   *WEND Working Group (WENDWG Chair)* (WENDWG report to be taken under agenda item 9)
          IRCC7-08E   *MSDI Working Group (MSDIWG Chair)*
          IRCC7-08F   *IHO-EU Network Working Group (IENWG Chair)*
          IRCC7-08G1 *FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC Chair)*
          IRCC7-08G2 *S-5B Standards development and feedback from Member States and Stakeholders (IBSC Chair)*
          IRCC7-08H   *GEBCO Guiding Committee (GGC Chair)*

The Chair invited the Chairs of the IRCC bodies to present the main achievements, challenges faced and lessons learned in the IRCC bodies. He also invited the IRCC members to discuss the inputs and to provide guidance of each body's work programme.

HCA (doc. *IRCC7-08A*)
President Ward, as HCA Chair, highlighted the fact that 95% of the Antarctic waters remain unsurveyed and that it is difficult to engage the Stakeholders in the region, with the exception of the active contribution from the International Association of Antarctica Tour Operators (IAATO). President Ward stressed that the state of hydrographic surveying and nautical charting in Antarctica continues to pose serious risks for the safety of navigation. He also reported the recent engagement of Colombia that conducted the first survey in 2014 and emphasized the opportunities with the development of crowd-sourced surveys in Antarctica.

The meeting discussed that there are other regions around the world that lack surveys like Africa and the South West Pacific and that there is a need for raising awareness of hydrography and for better coordination. China

called for the need for Maritime Safety Information (MSI) and for campaigns for a vertical reference system. The Chair commended the efforts of China in Antarctica.

WWNWS-SC (docs. *IRCC7-08B1* and *IRCC7-08B2*)
The USA representative, on behalf of the WWNWS-SC Chair, reported the work done jointly with the International Maritime Organization (IMO) and the World Meteorological Organization (WMO) for monitoring and enhancing the Worldwide Navigation Warning System (WWNWS). He informed the Committee on the first time joint session of the NAVAREA and METAREA Coordinators and the development of Product Specifications based on the IHO S-100 which are relevant to WWNWS: S-124 (Navigational warnings), S-411 (Sea ice) and S-412 (Met-ocean forecasts). He also reported the WWNWS documentation review, the provision of MSI training courses supported by the Capacity Building Programme, the need for enhanced participation in the meetings and the possibilities with Iridium for the GMDSS. He also submitted a proposal for the approval process for the IHO Publication S-53.

The Chair requested more information on the concerns over the participation of Iridium at the GMDSS. President Ward explained that the key issue is the harmonization of two service providers at GMDSS. The Committee considered the proposals from the WWNWS-SC Chair and agreed on the following decisions and actions:

Decision 13: the IRCC endorsed the proposed procedure for the maintenance of the IHO Publication S-53 which is to place the relevant annex to MSC.1/Circ.1310/Rev.1 under the cover of IHO S-53 and its Preface.

Action 34: WWNWS-SC to implement the process described in Decision 13 (deadline: December 2015).

Decision 14: the IRCC endorsed the proposal described in doc IRCC7-08B2, to submit proposed revised texts to MSI documents directly to IMO through the IHB due to the tight timeline for submission to the IMO.

Action 35: IHB to issue a CL to inform Member States of the intention that WWNWS-SC would, in future, submit proposed revised texts to MSI documents directly to IMO through the IHB, and invite any adverse comments from Member States (deadline: July 2015).

Action 36: IHB and WWNWS-SC Chair to report to IRCC on the implementation of the procedures described under Decision 14 (deadline: IRCC8).

Action 37: IHB to inform the IMO Secretariat of the revised procedure to maintain MSI-related documents described under Decision 14 (deadline: following Action 36).

Action 38: IRCC to review the procedures described under Decision 14 (deadline: IRCC8).

CBSC (doc. *IRCC7-08C*)
The CBSC Chair reported his report and informed the Committee on the positive impact of the revised IHO CB Strategy which guides the broad work related to CB, on the importance of the work done by the CB Coordinators, on the need to further develop the IHO Publication C-55 with an online update capability and on the continued development of the CB Procedures and performance indicators. He also highlighted the contribution of the Republic of Korea and the Nippon Foundation of Japan to the CB Programme, the cooperation and coordination with IMO, IOC, WMO, IAEA, IALA and FIG and the growing of the administrative workload due to the growing activities of the CB Programme, which may lead to a shortage of support from the IHO Secretariat and impact negatively the execution of the CB Work Programme (CBWP).
The CBSC Chair also stressed that although the planned budget for the 2015 CBWP is nearly 900 000 Euros and the requests for the 2016 CBWP are nearly 1 million Euros, only the regular contribution from the IHO Budget (45 000 Euros) can be used for the general programme other than the earmarked contributions and most of the

regular submissions from the RHC will have to wait the allocation of additional funds. The Committee considered the proposals made by the CBSC Chair and agreed on the following decisions and actions:

Decision 15: the IRCC noted the potential impact caused by the existing resource limitations of the IHB secretariat to support the administration of the CB programme.

Action 39: IRCC to review the potential impact of the resource limitations on IHB secretariat support available to the CB activities (deadline: IRCC8).

Decision 16: the IRCC invited its members and the IHB to allocate additional contributions to the CB Fund.

Action 40: IHB to consider proposing an increased contribution from the IHO budget to the CB Fund (deadline: November 2015).

Action 41: RHCs to consider incorporating hydrography in more comprehensive maritime projects as a way of raising awareness and funds from Donor agencies and to report progress to IRCC (deadline: IRCC8).

Action 42: RHCs to invite Member States to update C-55 annually including reports of "no changes") (deadline: July 2015).

Action 43: RHCs to provide access to the IHB to any of their relevant promotional material on CB and to consider using the posters displayed at the EIHC 5 CB exhibition (deadline: August 2015).

Action 44: RHC Chairs and CB Coordinators to provide: a) an initial summary report on Technical Visits (TV) within two weeks of the visit; and b) full reports are expected within three months of completion of a TV (deadline: a) Two weeks after the TV; b) Three months after the TV) (permanent).

Action 44bis: RHC Chairs and CB Coordinators to provide full reports for those TVs undertaken in 2014 that have not yet been submitted to the IHB. (deadline: July 2015).

Action 45: MSDIWG to a) develop syllabi for different levels of training courses (Done, see doc. IRCC7-08E), and b) support the CBSC to increase the number of trainers for MSDI through Training for Trainers (TFT) courses (deadline: IRCC8).

MSDIWG (doc. *IRCC7-08E*)
The representative of Canada, on behalf of the MSDIWG Chair, reported the activities related to the transfer of the body from HSSC to the IRCC, including the proposal of the Terms of Reference and the Work Plan 2015-2020.She also reported on the development of syllabi of MSDI training courses at different levels, the contribution to the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Guide to the Role of Standards and Geospatial Information Management, the liaison with the CBSC to deliver MSDI courses, the challenges to raise awareness of the MSDI, the cooperation with European directives, the promotion of best practices and communication and the development of the IHO Publication C-17-Spatial Data Infrastructures: "*The Marine Dimension" - Guidance for Hydrographic Offices*.

The participants of the IRCC7 discussed the fundamental role of MSDI for the development of Hydrography, the need for a cultural change and the communication challenge to sell hydrography as a basic building block of national and regional infrastructures. The Committee then agreed on the following decisions and actions:

Decision 17: the IRCC approved the proposed amended ToR for the MSDIWG.

Action 46: IHB to upload the amended MSDIWG ToR to the website (deadline: June 2015).

Decision 18: the IRCC confirmed the MSDIWG to continue its work under its revised ToR.

Decision 19: the IRCC approved the proposed MSDIWG Work Programme.

Decision 20: the IRCC noted the establishment of the MSDI training syllabus by the MSDIWG.

Action 47: IRCC Chair to request HSSC to consider the technical issues raised in the MSDIWG Report, doc. IRCC7-08E (deadline: HSSC7).

Action 48: RHCs to consider nominating regional representatives on the MSDIWG (deadline: December 2015).

Action 49: MSDIWG to present examples of best practice MSDI at IRCC8 (Task A of the MSDIWG WP) (deadline: IRCC8).

IENWG (doc. *IRCC7-08F*)
The representative of Norway, on behalf of the IENWG Chair, reported the outcomes of the first two meetings and the establishment of the work programme, which main items are the coastal mapping project, the EMODnet initiative, the maritime spatial planning framework and other EU initiatives and directives aiming at providing funds for the blue growth.

UK commended the work done by France in steering the work of the IENWG. The USCHC Chair expressed that the region is trying to align with EMODnet especially for the North Atlantic under the Horizon 2020 Research Programme.

IBSC (docs. *IRCC7-08G1* and *IRCC7-08G2*)
The IBSC Chair reported the outcomes of the previous IBSC meeting held in Brazil where 10 Programmes in Hydrography and Nautical Cartography were reviewed by the Board. He also reported the significant increase in the activities with additional workload associated to the Secretarial support and highlighted that the lack of appropriate support has the potential to adversely affect the work programme.

The IBSC Chair also reported the development of the new Standards with the separation of the Category A and the Category B levels for both S-5 and S-8, that will be called respectively S-5A, S-5B, S-8A and S-8B, whose work was approved by the 18th International Hydrographic Conference in 2012. He also informed the meeting on the outcomes of Circular Letter 31/2015 that requested Member States' input to the revision process of S-5B, submitted the draft S-5B for endorsement and presented the timeframe for the next steps of the Standards. The IRCC considered both reports from the IBSC and agreed on the following decisions and actions:

Decision 21: the IRCC noted the potential impact caused by the existing resource limitations of the IHO secretariat to support the administration of IBSC activities.

Action 50: IRCC to review the impact caused by the resource limitations of the IHO secretariat to support the administration of IBSC activities during IRCC8 (deadline: IRCC8).

Decision 22: the IRCC endorsed the new edition of S-5B.

Decision 23: the IRCC endorsed the IBSC work plan for the development of new edition of the standards S-5A, S-5B, S-8A, S-8B).

Action 51: IHB to issue a circular letter seeking Member States approval of IHO Publication S-5B (deadline: July 2015).

GEBCO (doc. *IRCC7-08H*)
The Chair of the GEBCO Guiding Committee (GGC) informed the meeting on the evolution of the GEBCO World Maps from 1905 until the current edition (2014). He also reported the work of the three Sub-Committees (SCUFN, TSCOM and SCRUM), the update of the GEBCO Cook Book and the execution of the 11th Nippon Foundation-GEBCO Training Course. He highlighted the challenges related to the lack of bathymetric data, the revision of the ToR/RoP of the GGC and the lack of involvement from the IOC.

Participants expressed concern that the increase in the amount of data would pose a problem for the storage but were informed that the current developments in the IHO Data Center for Digital Bathymetry (DCDB) would be sufficient to receive data from Crowd-sourced Bathymetry.

The Chair then suggested and the Committee approved to discussion on the document *IRCC7-13C* submitted by the IHB that also relates to GEBCO activities. President Ward introduced the information paper highlighting the historic evolution of GEBCO and the involvement of the IHO and the IOC, the financial aspects of the GEBCO funds and some governance issues that should be brought to the attention of the IRCC.

Following the discussion on the report by the GEBCO Chair (doc. *IRCC7-08H*) and the further governance issues (doc. *IRCC7-13C*), the IRCC agreed on the following actions and decision:

Action 52: RHCs to continue supporting GEBCO regional projects and report back to IRCC (deadline: IRCC8) (Permanent).

Action 53: RHC Chairs to remind HOs of the standing request to provide GEBCO with access to existing shallow water bathymetric data, at whatever resolution is permissible by the country and to report progress to IRCC (deadline: IRCC8).

Action 54: IHB and the GGC to report on further developments in the Governance and administration of GEBCO to IRCC (deadline: IRCC8).
Decision 24: the IRCC noted the reports / papers under agenda item 8 (docs IRCC7-08A, IRCC7-08B1, IRCC7-08B2, IRCC7-08C, IRCC7-08E, IRCC7-08F, IRCC7-08G1, IRCC7-08G2, IRCC7-08H, IRCC7-13C).

9. WEND Principles, ENC Coverage and Proposals arising from the WENDWG Report

Docs: IRCC7-08D WEND WG Report (WENDWG Chair) (from agenda item 8)
IRCC7-09A Revised Guidelines for the implementation of the WEND Principles, as amended (IHB)
IRCC7-09B   The IHO ENC Catalogue (IHB)
IRCC7-09C   Resolving ENC Overlaps within the USCHC (USCHC Rep.)
IRCC7-09D   Discussion on the proposals arising from the WENDWG Report (WENDWG Chair)

The WENDWG Chair introduced documents *IRCC7-08D* and *IRCC7-09D* and highlighted the discussions on the overlay services, including the Admiralty Information Overlay (AIO), the study for overlapping ENCs leaded by Singapore, the analysis of the ENC gaps, overlaps and quality assurance, the ENC distribution and RENC reports, the development of the IHO ENC Catalogue, the impact of the implementation of S-101, the assessment of the performance indicators and the progress of the IRCC6 actions.

The WENDWG Chair reported the revision of the WEND Principles and governance and that the working group considers the Guidelines fit for purpose. He also presented the ENC coverage status review related to small (100%), medium (90%) and large (97%) scales. The WENDWG Chair noted that cruise liners are expect to use 1000 new and exotic locations and this shows the need for charting in those locations and invited the RHCs to update ports and anchorages list and to conduct risk assessment. The IRCC agreed the following decisions:

Decision 25: the IRCC approved the WENDWG Work Programme for 2015-2016.

Decision 26: the IRCC approved the continuation of the WENDWG under its current ToR.

Decision 27: the IRCC noted the work items K.1 and K.2 in the proposed WENDWG 2015-16 work programme (as given in Annex) for addressing information overlay issues.

Norway as the Chair of the NHC acknowledged that the Admiralty Information Overlay can produce valuable information for mariners for certain areas of the world. The AIO user guide states that: The AIO "contains all Admiralty Temporary & Preliminary Notices to Mariners (T&P NMs) and provides additional preliminary information that is specific to ENCs, such as reported navigational hazards that have been incorporated on paper charts but have not yet been included in ENCs".

The NHC Chair stated that as such, the AIO service challenges the quality of the official ENCs produced by the ENC-producing nation as well as being in contradiction with IHO and IMO resolutions for the following reasons:

1) AIOs are in contradiction with IHO resolution 7/1919 as amended, paragraph 1.d) which stipulates that: "Hydrographic Offices should avoid creating products where another Hydrographic Office has charting responsibility for the waters concerned and already offers up-to-date products adequate for customers' requirements".
2) AIOs are in contradiction with IMO Resolution MSC.232(82), "Adoption of the Revised Performance Standards for Electronic Chart Display and Information Systems (ECDIS)" adopted in December 2006, that states in paragraph 3.2: "Electronic Navigational Chart (ENC) means the database, standardized as to content, structure and format, issued for use with ECDIS by or on the authority of a Government, authorized Hydrographic Office or other relevant government institution, and conform to IHO standards. The ENC contains all the chart information necessary for safe navigation and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions) which may be considered necessary for safe navigation.".
3) The AIOs challenge the quality and jurisdiction of the official Norwegian, Swedish, Finnish and Icelandic navigational charts. These ENCs contain all T & P messages issued for these waters. Norwegian paper charts and ENCs are produced from the same database and contain the same information. Any product meant to display information that is already contained in the ENCs is unnecessary and only causes confusion amongst the navigators.

The NHC Chair also stated that the AIO-paper submitted by UKHO as a follow up on action WENDWG5/02 of the WENDWG5 meeting contains the AIO workflow in Annex C of that same document. Based on the fact that Hydrographic Offices are the sole authoritative government agencies to issue official nautical charts and publications and information on the quality of those official products, the Nordic countries request that the AIO workflow is adapted to include an additional step. In this step UKHO is to seek permission from the ENC-producing nation, and, if permission is not granted, shall not issue AIOs for these waters. Norway acknowledges that this case is further pursued within the WENDWG.

France, as the IENWG Chair, acknowledged the excellent work made by the WENDWG since the last IRCC meeting and especially at the last meeting of the group and thanked its Chair for this work. The challenges for the next years as exposed by the WENDWG Chair are a clear indication of the importance of this WG for the IRCC. He also supported the suggestion from the IC-ENC for a common presentation by the RENCs to the RHCs rather than separate ones.

The IRCC debated the participants' views and agreed on the following actions:

Action 55: UK to provide a more detailed description of the purpose and impact of Admiralty Information Overlays (AIO) (Action WENDWG5/02) to IRCC (deadline: IRCC8).

Action 56: RHCs to provide comments on doc. WENDWG5-04B (Relevance of information overlay services and their status in the global IHO ENC programme) to IRCC (deadline: IRCC8).

Post-meeting note: RHC comments on Action IRCC7/56 are expected via Action WENDWG5/01

Decision 28: the IRCC commended the work of the RENCs in their support to the WENDWG and the IHB and accepted their offer for the RHCs/ICCWG/ENC Chart Coordinators and IHB to use the RENC Coverage and Overlap Checker on-line tool [designed by PRIMAR].

Action 57: IHB to issue a CL announcing the use of the RENC Coverage and Overlap Checker on-line tool (deadline: September 2015).

Decision 29: the IRCC decided to accept the offer made by the RENCs (on the RENC coverage and overlap checker on-line tool), and agrees to invite the IHB to issue a CL announcing the availability of this tool for RHCs/ ICCWG Coordinator, IHB (password protected for every charting Region).

Decision 30: the IRCC noted work items J1 to J.4 in the proposed WENDWG work programme for 2015-16 (as given in Annex) are intended to address EIHC5 Decision No 12 on the implementation of the WEND Principles.

Decision 31: the IRCC agreed that no further action should be taken for the moment for amending the WEND Principles and Guidelines.

Action 58: IRCC Chair to report to HSSC that there is a need to align IHO S-65 with the WEND Principles and some sections of the WEND Guidelines and that this work might be undertaken by the ENCWG (deadline: HSSC7).

The IHB introduced document *IRCC7-09B* and informed the Committee that the IHO ENC Catalogue has been upgraded with a view to provide the most complete and authoritative display of available ENC coverage. The IHB representative showed an overview of the functionalities and proposed the way ahead for further developing the catalogue. The Committee then agreed on the following action:

Action 59: IHB to continue the progressive development of the IHO ENC Catalogue within the IHO GIS Environment and report progress to IRCC (deadline: IRCC8).

The USCHC Chair introduced document *IRCC7-09C* on resolving ENC overlaps within the region. The main challenges faced in the USCHC following the identification of 94 ENCs affected by overlaps and the establishment of a formal nonbinding agreement were the scale differences in the usage bands, the language differences, the establishment of cartographic boundaries, the reduction of the ENC coverage for the benefit of the mariner, the differences in the copyright and commercial rights, and the updates of coastal pilot and sailing directions. He noted that following the ENC harmonization there are cases were Canada is responsible for producing charts for USA waters and vice-versa.

The Chair commended the USCHC for the excellent piece of work done by the two countries in solving the overlaps. The IENWG Chair also thanked to Canada and the USA for sharing their experience on ENCs overlaps that might be useful for other regions. The IRCC then agreed on the following action:

Decision 32: the IRCC noted the reports under agenda item 9 (docs IRCC7-08D, IRCC7-09A, IRCC7-09B, IRCC7-09C and IRCC7-09D).

10. Inputs from Member States and other bodies affecting IRCC

Docs: IRCC7-10A   Input from HSSC6 (HSSC)
*   IRCC7-10B   Relations with other International Organizations and IHO Stakeholders (IHB)*
*   IRCC7-10C   Proposal for Spanish as an Official Language (withdrawn)*

The Secretary introduced the document *IRCC7-10A,* on behalf of the HSSC, and highlighted the establishment of four new WGs on S-100, ENC Standards Maintenance, Nautical Information Provision and Tides, Water Level and Currents and the continuation of four WGs on Nautical Cartography, Data Protection Scheme, Data Quality and Hydrographic Dictionary. He also informed the Committee on the transfer of the MSDIWG to IRCC, the welcomed instruction given to the WENDWG to assess the impact and consistency of updates for ENCs and paper charts as a permanent agenda item, the expected feedback from the WENDWG on action IRCC6/35 on the representativeness of the performance indicators based solely on the inputs from Primar and IC-ENC in time for HSSC7. The Committee then agreed on the following decisions and actions:

Decision 33: the IRCC noted the report of the HSSC (doc. IRCC7-10A).

Decision 34: the IRCC noted the potential impact of the development of an IHO policy for trusted crowd-sourced bathymetry on the possible establishment of a Hydrographic Surveys WG.

Action 60: WWNWS-SC to instruct the S-124 Correspondence Group to liaise with the S-100WG for the development of IHO Publication S-124 - Navigational Warnings (deadline: August 2015).

Action 61: WENDWG to report on action IRCC6/35 (Assess how representative are the performance indicators based solely on the inputs from PRIMAR and IC-ENC, and propose alternatives, if appropriate) in time for consideration at HSSC7 (deadline: 22 September 2015).

The Secretary introduced the document *IRCC7-10B* on the relations with other International Organizations and IHO Stakeholders highlighting the background of the known opportunities for interacting with stakeholders and inviting the participants to review the list of relevant events in the Annexes 1-4 of the document and considering how the IHO might be represented in those events. He also invited the participants to consider the impact of the Sendai Framework for Disaster Risk Reduction 2015-2030 at the relevant IHO Resolutions and activities. The Committee then agreed on the following decisions and action:

Decision 35: the IRCC noted the report on relations with other international organizations and IHO stakeholders (doc. IRCC-10B).

Decision 36: the IRCC noted the list of events in Annexes 1 to 4 of the report on relations with other international organizations and IHO stakeholders and how the IHO might be represented in those events considered relevant.

Decision 37: the IRCC noted the relevance of the Sendai Framework for Disaster Risk Reduction 2015-2030 on the applicable IHO Resolutions and activities.

Action 62: RHCs to consider providing representatives of the IHO at the international meetings listed in doc. IRCC-10B on relations with stakeholders and to inform the IHB (deadline: as soon as volunteers are identified).

The Chair informed the Committee that Mexico had withdrawn the document *IRCC7-10C*.

11. Data gathering and Management, Maximizing the use of Hydrographic Data

Docs: IRCC7-11A   ToR for Crowd-sourced Bathymetry WG (IHB)

IRCC7-11B Guidance on Access to Bathymetric Data Collected for Commercial or Scientific Purposes (IHB)
IRCC7-11C Update on Risk Assessment Methodology (NZ)
IRCC7-11D Considerations on the development of GEBCO (IHB)
IRCC7-11E Maximising Access to Hydrographic Information (UK)
IRCC7-11F Proposal to add the topic of satellite-derived bathymetry as a standing agenda item at all future IRCC meetings (USA and Canada)
IRCC7-11G A Risk-based Methodology of Assessing the Adequacy of Charting Products in the Arctic Region: Identifying the Survey Priorities of the Future (ARHC)
IRCC7-11H Chart Adequacy Evaluation International Workshop (USA)

The IHB introduced document IRCC7-11A proposing the ToR for a Crowd-sourced Bathymetry (CSB) Working Group (CSBWG) and presented the concept of the CSB to facilitate the collection of data into the IHO DCDB (hosted by the USA on behalf of the IHO) and how users can then decide the use of the data. This new data will eventually trigger the action of the respective hydrographic service. Data or metadata will be available via a web portal to users with different requirements.

The IHB informed the Committee that DCDB is under a 3-year review programme and highlighted the potential participation from Member States, maritime industry, established commercial CSB programmes. He also stressed that some questions are not yet answered and will need to be addressed by the CSBWG: metadata requirements, determination of uncertainty, common data exchange format, DCDB maintenance costs, privacy, liability and security issues, commercial use of public data amongst others. The meeting agreed on the following decisions and actions:

Decision 38: the IRCC established a Crowd-Sourced Bathymetry Working Group (CSBWG) under the Terms of Reference contained in Annex A to doc. IRCC7-11A.

Action 63: IHB to issue a Circular Letter announcing the establishment of the CSBWG and seeking nominations from Member States (deadline: July 2015).

Action 64: IHB to liaise with the IHO DCDB Director to facilitate the establishment of the CSBWG (deadline: November 2015) – (Post meeting note: a liaison meeting took place on 5 June 2015 at the DCDB in the USA).

Action 65: IHB to update the IRCC section on the IHO website to include the CSBWG (deadline: June 2015).

Action 66: IRCC to review the progress of the CSBWG and its ToR (deadline: IRCC8).

Decision 39: the IRCC appointed the Director of the IHO DCDB as the Chair of the CSBWG.

The IHB then introduced document *IRCC7-11B* on guidance on access to bathymetric data collected for commercial or scientific purposes and proposed a way forward to help the broad hydrographic community to access available data.

In line with the previous paper UK introduced document *IRCC7-11E* on maximizing access to hydrographic information and highlighted the insufficient knowledge of the seabed, the wider uses of hydrographic data, the fact that less than 20% of data collected are made available to hydrographic services, the cost of bathymetric surveys and the increasing engagement of hydrographic services and stakeholders.

Brazil informed the Committee that there are two national regulations to cope with the surveys done by companies and those by government institutions. The IRCC considered the proposals and following a debate agreed on the following actions:

Decision 40: the IRCC noted the papers concerning access to bathymetric data (docs. IRCC7-11B and 11E) and decided to prepare a relevant supplement or additional chapter, as appropriate, to C-17-Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices and to seek examples of national legislation that enable government access to bathymetric data collected for commercial or scientific purposes for inclusion in IHO publication C-16 - National Hydrographic Regulations (see also Action IRCC7-30).

Action 67: MSDIWG to prepare a supplement or additional chapter, as appropriate, to C-17-Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices to provide guidance on mechanisms that can be established to improve national access to bathymetric and related hydrographic data originally collected for commercial or scientific purposes. This work should take into account docs. IRCC7-11B and IRCC7-11E (deadline: IRCC8).

Action 68: MSDIWG to submit the draft revision to C-17 resulting from the work under Action 67 to IRCC for review and endorsement prior to any formal adoption by Member States (deadline: IRCC8).

The IHB introduced document IRCC7-11D with considerations on the GEBCO development and the GEBCO store concept and highlighted the potential impact of GEBCO to face the growing acknowledgement and awareness of the relevance and the potential contribution of hydrographic information for the global geospatial data infrastructures. He stressed that in order to make GEBCO effective is necessary a coordinated work with the DCDB for this data store. The IRCC then agreed on the following decision and action:

Decision 41: the IRCC noted the recommendations outlined in paragraphs 15 to 18 of the paper on Considerations on the development of the General Bathymetric Chart of the Oceans (GEBCO) (doc. IRCC7-11D.) and agreed that:

1.   the development of the GEBCO Data Store should be coordinated with the current upgrade of the IHO DCDB that is intended to improve support for CSB and ocean mapping data discovery;

2.   mechanisms should be developed to promote the collection of bathymetric data from scientific and crowd- sourced cruises and to ensure that the data is made available to GEBCO, accompanied by appropriate metadata, through the IHO DCDB;

3.   methods and initiatives to improve the recognition of GEBCO as the "the most authoritative publicly available bathymetry of the world's oceans" in support of global and regional programmes related with Earth observation and monitoring should be identified; and

4.   affordable methods to produce geo-referenced raster copies of the repository of GEBCO ocean maps and plotting sheets that are held at the IHB should be further identified and, if appropriate, the relevant specifications should be developed.

Action 69: GEBCO Guiding Committee (GGC) to take into consideration the recommendations in doc. IRCC7-11D in implementing the GEBCO work plan and report progress on those recommendations to IRCC (deadline: IRCC8).

The SWPHC Chair introduced document *IRCC7-11C* on risk assessment on behalf of New Zealand and informed the Committee on the development of the risk assessment methodology developed by the Land Information New Zealand (LINZ) for the Minister of Foreign Affairs and Trading (MFAT) in support of the South West Pacific Region Hydrographic Programme (SWPRHP) and the Pacific Region Navigation Initiative (PRNI). This methodology was validated and used in Vanuatu, Tonga and Cook Islands and will be also in Samoa, Tokelau and

Niue. This will be expanded in the future for the New Zealand Exclusive Economic Zone and the Ross Sea Region in Antarctica.

USA introduced document *IRCC7-11F* proposing to include satellite-derived bathymetry (SDB) as a standing agenda item in all future IRCC meetings and stressed the growing importance of SDB as an assessment tool and a non-traditional source of hydrographic data. The Chair informed the Committee that SDB is already a permanent agenda item for IRCC meetings.

The ARHC Vice-Chair introduced document *IRCC7-11G* on a risk-based methodology for assessing the adequacy of charting in the Arctic region and informed the Committee on the preliminary results and benefits of such a methodology. He also stressed that this work is helping the respective hydrographic services in directing their hydrographic assets in the region.

USA introduced document *IRCC7-11H* on a workshop on chart adequacy aimed at providing an overview of the chart adequacy assessment procedure that was developed by NOAA, based on depth, main traffic routes, the last available hydrographic survey in the area, and known discrepancies identified using SDB and other methods. He informed the meeting that the results of the workshop will be reported to IRCC8.

Decision 42: the IRCC noted the other reports under agenda item 11 (docs IRCC7-11A, IRCC7-11C, IRCC7-11D, IRCC7-11F, IRCC7-11G, IRCC7-11H).

12. Developments on GIS

Doc: IRCC7-12A Update on the INToGIS Project (IHB)

The IHB introduced document *IRCC7-12A* with the developments on the IHO GIS and INToGIS Projects and informed the Committee on how they impact the RHCs and the Member States' activities.

USA commended the IHB and the Republic of Korea (ROK) for the development of the INToGIS. The IHB noted that this project is indeed linked to the infrastructure being developed in the Secretariat and this is supported also by Japan, the RENCs and ESRI). The IRCC then agreed the following decision:

Decision 43: the IRCC noted the report on GIS developments at the IHB (doc IRCC7-12A).

13. Other information papers

Docs: IRCC7-13A Responses to disasters (Japan)
*   IRCC7-13B Responses to disasters (Philippines)*

Japan introduced documents *IRCC7-13A* and *IRCC7-13B* on responses to disasters, submitted by Japan and Philippines respectively. These reports provided useful views on the experiences gained in disaster preparation management. The IRCC then agreed on the following action:

Decision 44: the IRCC noted the reports from Japan and The Philippines on responses to natural disasters (docs IRCC7-13A and IRCC7-13B).

14. Implementation of Performance Monitoring

Docs: IRCC7-14A IRCC SPIs and WPIs (IHB)

The Secretary introduced the document IRCC7-14A on Strategic and Working-level Performance Indicators and provided the summary information and highlighted the shortfalls for implementation of the SPIs and WPIs. The

Chair noted the difficulties in the regions due to the complexity and number of the performance indicators and also invited the RHC Chairs to be more active on reporting the SPIs and WPIs (which is also a Permanent Action Item-IRCC7/07).

Decision 45: the IRCC noted the report on SPIs and WPIs (docs IRCC7-14A).

15. IRCC Work Programme Management

The Chair invited the IRCC to discussion and to build the IRCC Work Programme for 2015-2016. The meeting then agreed on the following decision and action:

Decision 46: the IRCC invited the IHB to revise the IRCC Work Programme based on the decisions and discussions that took place in the meeting and circulate the resultant programme for comment together with the draft record of the meeting.

Action 70: IHB to revise the IRCC Work Programme for 2015-2016 based on the decisions and discussions agreed at IRCC7 and circulate the resultant programme (Annex E) for comment together with the draft record of the 7th meeting (deadline: July 2015).

16. Next IRCC Meetings (Venue and Date)

The Chair invited participants to agree on the dates and venue for IRCC8 and IRCC9. He also invited participants to offer hosting the IRCC10 meeting. The Committee also discussed the duration of the IRCC meetings and the impact of the establishment of the IHO Council. Then the IRCC agreed the following decisions and actions:

Decision 47: the IRCC decided to continue holding its meetings over three days.

Action 71: Chair and IHB to organize IRCC8 over a three-day period (deadline: IRCC8).

Decision 48: the IRCC decided that consideration of the potential impact of the new structure that will be established with the approval of the amendments to the IHO Convention on the roles and functions of the IRCC should be included as an agenda item at IRCC8.

Action 72: Chair and IHB to include the potential impact of the Council meetings on the roles and functions of the IRCC as an agenda item at IRCC8 (deadline: IRCC8).

Decision 49: the IRCC accepted the offer of the UAE to host IRCC8 in UAE (Abu Dhabi) from 29 to 31 May 2016 back to back with CBSC14.

Decision 50: the IRCC accepted the tentative offer of Suriname to hold IRCC9 in Suriname (Paramaribo) in 2017.

Decision 51: the IRCC accepted the tentative offer of India to hold IRCC10 in India (Goa) in 2018.

17. Any other business

The Chair invited participants to present other business items (if any). No other business was raised.

18. Election of the new Vice-Chair

The Chair informed the meeting of his future retirement envisaged for August 2015 and that according to the IRCC ToR the Vice-Chair will assume as the Chair with the same powers and duties. He then invited

participants to elect the Vice-Chair that will take office following the retirement of the Chair and his replacement by the Vice-Chair.

Canada nominated RAdm Gerd Glang (USA) for Vice-Chair of the IRCC and was seconded by the NHC Chair, Brazil, UK and GEBCO Chair. RAdm Gerd Glang was then elected by acclamation as Vice-Chair of the IRCC.

19. Review of the Actions

The IHB presentation of the draft list of actions and decisions agreed during the meeting for adoption. The draft list will be reviewed by the Chair and the Vice-Chair and then uploaded to the IRCC7 web page until the full report reviewed by the participants and upload to the same page. The List of Actions, List of Decisions and the List of Tasks are attached to this report as Annexes B, C and D, respectively.

CLOSURE

The Chair thanked to the host (Mexico) for excellent hospitality and the participants of the IRCC7 for their valuable contributions and closed the meeting at 13h00 on 3 June 2015.

<u>**ANNEXES:**</u>

A) List of Participants

B) Revised IRCC Terms of Reference and Rules of Procedures

C) List of Actions

D) List of Decisions

E) List of Tasks (IRCC Work Programme)