

**10<sup>th</sup> MEETING OF THE IHO INTER-REGIONAL COORDINATING COMMITTEE**  
**IHO-IRCC10**  
**India, Goa, 4-6 June 2018**

**REPORT**

**1. Opening Remarks, Introductions and Administrative Arrangements**

*Docs: IRCC10-01A List of Documents (Secretariat)*  
*IRCC10-01B List of Participants (Secretariat) – Rev.2*  
*IRCC10-01C List of IRCC Members (Secretariat)*

The 10<sup>th</sup> Meeting of the IHO Inter-Regional Coordination Committee (IRCC) took place in Goa, India, hosted by the National Hydrographic Office (NHO) of India from 4 to 6 June 2018. The meeting was opened by Vice Admiral A.R. Karve, Flag Officer Commander in Chief of the Southern Naval Command, Indian Navy, and Dr Parry Oei, Chair of the IRCC.

Vice Admiral A.R. Karve welcomed the participants arriving to Goa with the monsoon. He highlighted the major challenges in preparation for disaster responses, working closely with other international organization, closing the gaps on standards for surveys, organizing Maritime Safety Information (MSI), identifying data sources, tides, Marine Spatial Data Infrastructures (MSDI) and ensuring coverage of ENC's in accordance with the WEND principles to support the IMO carriage requirements and e-Navigation, and the importance of the CBSC as a major landmark to achieve the aims of the IHO, to which India is contributing with its own CB Programme. He also punctuated the need to focus on the Polar regions where surveys not adequate and environment is fragile, on the United Nations Sustainable Development Goals (SDG) and the ocean governance, on the blue economy and its sustainable opportunities, on the use of modern technologies and on the important role of Hydrographic Offices in their national spatial data infrastructures (SDI) and the importance of the IHO in the support of its implementation.

Chair thanked the host and highlighted that when Singapore became independent in 1965 the first Hydrographer was from the Indian Navy. He expressed that the IHO has a role in changing Hydrographic Offices in order to allow them to remain relevant by sharing information in a wider use and support the Open Geospatial Consortium (OGC) standards under the guidance of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM). This does not exclude the exiting focus on safety of navigation. The fundamental question to be posed is whether the IRCC is satisfied with the inter-regional coordination, how it can be improved and how to work better in sharing resources. In this scenario he stressed the importance of the Strategic Plan Review Working Group (SPRWG) for the future of the organization.

IHO Director Iptes, IRCC Secretary, thanked the host and pointed to the importance of coordinating the work of the Regional Hydrographic Commissions (RHC) in order to improve cooperation under the umbrella of the IRCC. He noted with satisfaction that almost all subsidiary bodies of the IRCC and RHCs are represented in the meeting. He informed the meeting of the priorities of the IHO Secretariat to focus on outreach and raising awareness, on supporting Capacity Building (CB) as a strategic objective of the IHO, and on increasing the IHO Membership, in particular with the big flag States. He also informed the meeting that Bulgaria became the 89<sup>th</sup> Member State of the IHO and that the goal is to reach 100 Members in the near future. Director Iptes highlighted the importance of the MSDI and provision of geospatial data, the current technical progress and the need to concentrate on the S-100 implementation, on e-Navigation and on data gathering and management.

Chair invited the participants to introduce themselves for the benefit of the meeting. The hosts provided logistics and administrative information. Secretary introduced the relevant documents and explained the administrative arrangements for the meeting that were noted by the meeting.

**2. Approval of Agenda**

*Doc: IRCC10-02 Agenda and Timetable (Secretariat) – Rev. 3*

Chair invited participants to comment on the agenda and the timetable. The agenda was adopted (*doc. IRCC10-02 rev. 3*).

### 3. Matters arising from Minutes of IRCC9 Meeting

*Docs: IRCC10-03A Minutes of IRCC9 (Secretariat)*  
*IRCC10-03B Status of Action List from IRCC9 (Secretariat)*

Chair invited the IRCC Secretary to introduce the IRCC9 Report (*doc. IRCC10-03A*) which was considered and approved without changes and to introduce the pending actions from IRCC9 (*doc. IRCC10-03B*).

Participants considered that the number of actions was too large and that they are difficult to keep track when it comes particularly to the RHCs and that most of the actions are indeed recommendations. The meeting also considered the need to focus on the priorities given by the Council. Chair directed the Secretary to compile the outcomes of the meeting in four different documents to be annexed to the IRCC10 Report: a list of Decisions, a list of Actions, a list of recommendations to RHCs (to be maintained annually) and the IRCC Work Programme for 2017-2018.

Participants updated the action list and agreed on the following decision and action:

**Decision 1:** to approve the IRCC9 Minutes (*doc. IRCC10-03A*) and the updated List of Actions from IRCC9 (*doc. IRCC10-03B*).

### 4. Review of Terms of Reference and Rules of Procedure

*Doc: IRCC10-04 Draft Amended IRCC TOR-ROP (Secretariat)*

The meeting considered the proposed amendments to the Terms of Reference (ToR) and Rules of Procedure (RoP) of IRCC (*doc. IRCC10-04*) and agreed the following decision:

**Decision 2:** to endorse the IRCC ToR and RoP (*doc. IRCC10-04*, retaining the "education and training" in paragraph 1 of the ToR, Annex A) and task the Chair to submit it to the Council.

**Action 1:** Chair to submit the endorsed amendments to the IRCC ToR and RoP (Annex A) to the Council (deadline: C-2).

### 5. Report by the Chair and the Secretariat

*Doc: IRCC10-05 IHO Secretariat Report (Secretariat)*

Given the common items in the reports from the Chair and the IHO Secretariat, the Chair invited the Secretary to provide one single report with the annual activities related to the IRCC.

The IRCC Secretary presented the IHO Secretariat Report (*doc. IRCC10-05*) and highlighted the activities and priorities of the Secretariat, the status of the IHO Membership and the suspended Member States, the IHO outreach (World Hydrography Day and the International Hydrographic Review) and the administration of the Capacity Building Programme. He reported on the GIS developments in the Secretariat, the theme for World Hydrography Day (WHD) 2018 (Bathymetry – the foundation for sustainable seas, oceans and waterways), preparation of the next Council meeting and activities scheduled for the IHO centenary celebrations.

**Decision 3:** to note the IHO Secretariat report (*doc. IRCC10-05*).

Chair invited the participants to promote hydrography for the centenary anniversary of the IHO. Committee considered the need to promote the hydrography to the wider community as a tool to promote welfare, economic development and social benefits. It is indeed key to reach the younger generation, the millennials in an appropriate language.

The IRCC also considered the experience gained with the Forum on the Future of the Ocean Floor Mapping (F-FOFM), held in Monaco in 2016, with a wealth of experiences gathered with engaging with stakeholders that it is much broader than only the ocean community. The key learning is that all stakeholders need to be engaged.

#### Recommendations to RHCs:

1. to encourage Member States to provide material to the IHO Secretariat for the promotion of the centenary of the IHO (deadline: IRCC11).

### 6. Regional Hydrographic Commissions (RHCs)

#### 6.1 RHC Reports

*Docs: IRCC10-06.1A Nordic HC (NHC Chair)*

- IRCC10-06.1B North Sea HC (NSHC Chair)*
- IRCC10-06.1C East Asia HC (EAHC Chair)*
- IRCC10-06.1D US/Canada HC (USCHC Chair)*
- IRCC10-06.1E Mediterranean and Black Seas HC (MBSHC Chair)*
- IRCC10-06.1F Baltic Sea HC (BSHC Chair)*
- IRCC10-06.1G Eastern Atlantic HC (EAtHC Chair)*
- IRCC10-06.1H South-East Pacific Regional HC (SEPRHC Chair)*
- IRCC10-06.1I South-West Pacific HC (SWPHC Chair)*
- IRCC10-06.1J Meso American - Caribbean Sea HC (MACHC Chair)*
- IRCC10-06.1K Southern Africa and Islands HC (SAIHC Chair)*
- IRCC10-06.1L North Indian Ocean HC (NIOHC Chair)*
- IRCC10-06.1M ROPME Sea Area HC (RSAHC Chair)*
- IRCC10-06.1N South West Atlantic HC (SWAtHC Chair)*
- IRCC10-06.1O Arctic Regional HC (ARHC Chair)*

RHC Chairs were invited to briefly summarize their report and to present the key achievements, the challenges faced and lessons learned in each Region. Chair invited the Committee to note the key achievements and discuss how to overcome some of the common challenges faced by the RHCs.

**a) Nordic Hydrographic Commission (NHC)**

The Vice-Chair of the NHC (Finland) reported (*doc. IRCC10-06.1A*) on the new surveys and nautical charts for the new routing system in Skagerrak and Kattegat, the experiences with green laser bathymetry, the status of the MIO/AIO in the region, the process established in Finland and Sweden to update ENC's in real time.

He also presented the development of bathymetric surfaces and automatic contour generation (using the rolling ball method) that was very welcomed by the HSSC which invited Finland to take part of the Project Team under ENCWG. He also invited participants to consider how to get the national requirements for ECDIS backup arrangements and S-66 more visible for the end users.

The meeting was informed on the letter sent to the AIO producer to terminate the MIO/AIO in the region in particular for Sweden and Finland. Norway reported the progress on MIO and this is no longer a matter of concern in its waters.

**b) North Sea Hydrographic Commission (NSHC)**

Netherlands, on behalf of the NSHC Chair, introduced the report (*doc. IRCC10-06.1B*). He informed the meeting that Mr Hilmar Helgason (Iceland) is the representative of the region to the IHR Editorial Board. He pointed to the development of a common vertical reference surface, to the harmonization of resurvey schemes, to the use of Crowd-Source Bathymetry (CSB) on ferries, to the use of new technologies for data gathering, to the increase of sharing information, and to the solution of ENC overlaps, to the use of risk assessment.

Chair suggested Member States to report their best practices on resurvey in particular in views of the IMO Member States Audit Scheme (IMSAS).

**c) East Asia Hydrographic Commission (EAHC)**

Japan, on behalf of the EAHC Chair, introduced the report (*doc. IRCC10-06.1C*) and informed the meeting on the work of the EAHC sub-committees, the engagement with stakeholders during the first Hydro South East Asia (HydroSEA) Conference in Malaysia (to be held in September 2018) and the achievements of the EAHC CB Programme, including the successful Technical Visit to Cambodia.

**d) US/Canada Hydrographic Commission (USCHC)**

The USCHC Chair introduced the report (*doc. IRCC10-06.1D*) and informed on the continued implementation of Canada Ocean Protection Plan with surveys and ENC's, priority for sensitive areas, increase in staff and more training and engagement with contractors. In US side, the release of the National Charting Plan (November 2017), the status of the Seabed 2030 Project and the gap assessment done in US waters, the support to the S-100 + series of standards and the NOAA Precision Navigation Initiative.

He also informed the meeting on the shared lessons learned in development of unmanned systems between the two countries, the nomination of Mr. Calvin Martin (USA) as the representative of the USCHC representative to the CBSC and the CB Coordinator from the region. He pointed to the creation of the Hydrographic

Geospatial Products and Services Committee within USCHC, the rescaling of ENC's with transboundary implications and the expected reduction in ENC's.

**e) Mediterranean and Black Seas Hydrographic Commission (MBSHC)**

The MBSHC Chair introduced the report (*doc. IRCC10-06.1E*) and highlighted the key CB activities conducted in the region and those planned for the 2018-2019 period. He considered that the main challenges in the region are the coordination of the INT chart schemes and ENC coverage, where a significant amount of overlapping still exists at Usage Bands 1, 2 and 3, though some progress was made and bilateral discussions between concerned Member States are ongoing. Another challenge is the ability to participate in IHO meetings faced by some coastal States. Progress was made in the enlargement of the MBSHC membership, with Bulgaria becoming a Member State in May 2018. Albania is considering to become an Associate Member of the MBSHC. MBSHC is also developing liaison with States bordering the Caspian Sea.

The MBSHC Chair spoke on the benefits to establish an IBSC individual recognition scheme to the whole Mediterranean and Black Seas Region, *to monitor and assess individuals at regular intervals and to register them in a formal system so that an individual may gain professional certification or individual recognition at a defined level of competency which may include Category "A" and Category "B"* (Reference: Chapter 6 of the *Guidelines for the implementation of the standards of competence for hydrographic surveyors and nautical cartographers*). MBSHC CL 1/2018 was issued in order to seek Member States' point of view on this regard.

He informed that Italy, as MBSHC Chair and MSDI ambassador of MBSHC, sent out a circular letter in order to seek information about MSDI implementation at a national level, and that the information provided will be used to extract and synthesize the MSDI implementation process at a regional level.

**f) Baltic Sea Hydrographic Commission (BSHC)**

The BSHC Chair introduced the report (*doc. IRCC10-06.1F*) and informed the meeting on the developments of the Baltic Sea Bathymetry Database (BSBD), of the Re-survey Monitoring and coordination and of the Harmonized Chart Datum in the Baltic. The BSHC developed the Baltic Sea Chart Datum 2000 as a joint height reference, which includes specific needs of surface navigation and hydrography, and is monitored and implemented by a working group. Several gravity measurement campaigns are conducted to improve the quality of the vertical reference.

He highlighted that BSHC Member States and Working Groups are involved in the Finalizing Surveys for the Baltic Motorways of the Sea (FAMOS) Project, which includes activities on hydrographic surveying and chart production, improving future navigation, surveying infrastructure and data workflow from sounding to chart. He summarized the achievements and lessons learned in the region stating that cooperation within the region is very productive, that the Baltic Sea can be seen as a test bed for hydrographic developments and that Member States have continued to contribute extensively to the work of the IHO and have been active participants of working groups.

**g) Eastern Atlantic Hydrographic Commission (EAtHC)**

The EAtHC Chair introduced the report (*doc. IRCC10-06.1G*) and spoke on the difficulties encountered and challenges yet to be addressed in the region, with particular emphasis on the CB activities. Despite successful CB activities, it is still necessary to strengthen CB initiatives in the region, identify more efficient strategies that could be shared by the countries themselves and guarantee the commitment and participation of the concerned coastal States. Some Members and Associate Members of the EAtHC do not have a national Hydrographic Service, although some of them have created specific services to address the safety of navigation and committees for hydrographic and navigation safety issues. Awareness and the assessment of needs are still a challenge in the region.

He emphasized the collaboration between Spain and Portugal resulting in the bilateral arrangement on the limits between which included the production of new charts. Spain and Portugal will establish a common Lowest Astronomical Tide (LAT) reference for the whole Iberian Peninsula. Both countries are carrying out joint surveys in common areas or areas of mutual interest, including support of countries in the Gulf of Guinea.

**h) South-East Pacific Regional Hydrographic Commission (SEPRHC)**

The representative from the Chair's office introduced the report (*doc. IRCC10-06.1H*) and presented the progress of the SEPRHC working groups on tides and water levels, on strategic planning and on maritime disasters. He noted the active cooperation in CB in place between SEPRHC, SWAtHC and MACHC, in

particular for the promotion of activities devoted to Spanish speakers. Member States are involved with other intergovernmental organizations related to maritime and navigation safety like IMO, IALA and IOC and the agreements of cooperation among the Navies play an important role for hydrographic activities.

The Antarctic Treaty is another organization that the four Members work together, and Colombia has received advice from Ecuador, Peru and Chile for its Antarctic expeditions. Cooperation in response to natural disasters is in place in the region. The region has also increased the engagement with Panama for the development of its hydrographic services.

#### **i) South-West Pacific Hydrographic Commission (SWPHC)**

The SWPHC Chair introduced the report (*doc. IRCC10-06.1I*) and presented the activities held under the IHO CB Work Programme (CBWP) and the highly beneficial impact for the region. Other major support activities in the region includes: the UK Commonwealth Marine Economies (CME) Programme to support the sustainable growth of Commonwealth Small Island Developing States (SIDS) within the Caribbean, Pacific and Indian Ocean regions; the NZ Pacific Regional Navigation Initiative (PRNI) which includes increasing data discovery, risk assessment, capacity building, mitigation measures and partnerships.

She highlighted the achievements and the considerable progress in hydrographic activities in the region since the last meeting. Fiji conducted new surveys and published charts and plans to expand the hydrographic service to include support of data management and oceanographic operations. Vanuatu obtained Cabinet approval for survey of 10 priority areas. Tonga, Cook Islands, Samoa, Niue and Tokelau engaged in various activities carried out under NZ PRNI. USA developed plans to conduct surveys and charting in the region and recently six ENC were produced covering the waters surrounding the Palau. Australia became Primary Charting Authority (PCA) for Solomon Islands in 2017.

The meeting was informed that Vanuatu became an IHO Member in 2017 and a full Member of the SWPHC and that Solomon Islands is in the process of joining the IHO. Cook Islands, Kiribati, Samoa and Tuvalu indicated their intention to join the IHO and Indonesia became an Associate Member of the SWPHC.

Progress on governance was noted: Vanuatu established a National Hydrographic Committee (NHC) and plans to build a new Hydrographic Survey Unit within the Lands and Survey Department; Kiribati has appointed a National Coordinator for MSI and plans are underway to establish Hydrographic Services; Samoa established a NHC and plans to appoint a National Coordinator for MSI and to establish a National Hydrographic Authority (NHA); Niue plans to establish a NHA and a NHC.

She reported the main challenge with the capacity of the Capacity Builders, as support from the PCAs for CB activities in the SWPHC is under constant strain as the balance is maintained against other national priorities and resource management.

She emphasized the recent recruitment of an additional Staff member at the IHO Secretariat to support CB with administrative work. Increased support from the IHO Secretariat is critical to the ongoing success of the IHO CBWP, not only for implementing the CBWP but also for its effectiveness, governance and due diligence to Member States.

**Decision 4:** to note the value and effectiveness of preceding SWPHC meetings with CB related workshops.

**Decision 5:** to note SWPHC's commitment in carrying forward hydrographic, nautical cartographic and capacity building activities in close alignment with IHO objectives and goals.

#### **j) Meso American - Caribbean Sea Hydrographic Commission (MACHC)**

USA, representing the MACHC Chair, introduced the report (*doc. IRCC10-06.1J*) and presented the activities held under the IHO CB Work Programme (CBWP) and future plans. He reported the work of the Marine Economic Infrastructure Programme (MEIP) WG and the development of the MACHC open ENC Viewer where eight Member States currently contribute their ENCs, accessible from the MACHC website ([www.iho-machc.org](http://www.iho-machc.org)).

He pointed that the MEIPWG conducted a SDI/MSDI research to assess the available portals in the region. Individual countries and GeoSur ([www.geosur.info](http://www.geosur.info)) make data available within the region. He also highlighted the cruise ship port analysis that identified 43 ports lacking large scale ENC coverage (14 of them have ENC coverage planned).

The meeting was informed on the challenges in the region to promote the Spanish language with training courses and translations and the low budget allocated to hydrography which hinders hydrographic capacity development. Coverage of nautical charts in the region had progress but full coverage has yet to be reached and there is also a great interest in the development of a methodology for the evaluation of hydrographic risk of the region by the different countries. He stated that some countries in the region have contributed funding to strengthen the hydrographic capacities in the region like Mexico and UK, and that there is also a renewed interest in MSDI with the involvement of some of the countries of the region in the Working Group on Marine Geospatial Information (WGMGI) of United Nations Committee of Experts in Global Geospatial Information Management (UN-GGIM).

#### **k) Southern Africa and Islands Hydrographic Commission (SAIHC)**

The SAIHC Chair introduced the report (*doc. IRCC10-06.1K*) and expressed that one of the main challenges in the region is improving attendance at meetings being finance probably the greatest single issue preventing attendance and that there is a need to simplify the approval process to attend - timing of invitation, facilitating visas, etc. Another important factor highlighted is to make attendance more attractive by exposing the benefits and that there is a need for educational awareness at government level to be done by the IHO Director responsible for the region.

The Committee was informed on the 3-year CB Plan, on the development of a regional strategy at the next meeting, on the preparation of the SAIHC ENC Scheme and on consideration to be given to ENC requirements of emerging offshore energy sector and cruise industry. The development of in-region MSDI was also noted.

#### **l) North Indian Ocean Hydrographic Commission (NIOHC)**

The NIOHC Chair introduced the report (*doc. IRCC10-06.1L*) and expressed the importance of CB for the region, both with the support from the IHO and using local assets. He presented the support that India is enduring to provide to States in the region by receiving foreign students on Category "A" and "B" courses, by conducting hydrographic surveys in foreign waters and by providing on-the-job training.

He also explained how the Commission is engaging with stakeholders, in particular with the Intergovernmental Oceanographic Commission (IOC) and the hydrographic and maritime industry. Current efforts in the region are focusing on Maritime Safety Information (MSI), disaster mitigation and rescue operations, MSDI, e-Navigation and crowd-sourced bathymetry.

#### **m) ROPME Sea Area Hydrographic Commission (RSAHC)**

Iran, on behalf of the RSAHC Chair, introduced the report (*doc. IRCC10-06.1M*) and explained the changes in the CB Coordination since 2017 and the progress in INT Chart and ENC production. He asked the meeting to consider the significant differences among the RHCs ways to promote measures in line with IHO goals, especially in regard with CB and data gathering and management. He also pointed that the INT Chart web catalog (S11-Part B) needs to become more user-friendly, in order to facilitate access to different pages and modules for the users, and that only two countries in the region have provided information. The other members in the region are still to establish a higher level of cooperation with the coordinator about information sharing.

#### **n) South West Atlantic Hydrographic Commission (SWAtHC)**

The SWAtHC Chair introduced the report (*doc. IRCC10-06.1N*) and informed the meeting that Bolivia, currently an Observer, has requested to be admitted as Associate Member. Participants also noted that a contingency plan was celebrated between NAVAREA V (Brazil) and NAVAREA VI (Argentina) to ensure that broadcast and monitoring of MSI are not interrupted in case of failure of one of these systems.

He highlighted the creation of a regional portal for geospatial data, in particular for ENCs published by the Member States, whose main propose is to facilitate the harmonization of boundaries and risk assessment. He also presented the status of the CB activities and of INT Chart and ENC production against the respective schemes. Of relevance is that there is no ENCs with CATZOC U (unassessed) and no overlap with significant navigational risk.

#### **o) Arctic Regional Hydrographic Commission (ARHC)**

The ARHC Chair introduced the report (*doc. IRCC10-06.1O*) and informed participants on the continued work on an Arctic Voyage Planning Guide for mariners, on the work of the Operational and Technical Working Group with an emphasis on Hydrographic Risk Assessment in the Arctic and on the status of the Arctic

International Charting Coordination Working Group and Arctic Regional Marine Spatial Data Infrastructure Working Group (ARMSDIWG).

She noted that work is in progress to investigate potential of remote sensing and satellite-derived bathymetry (SDB) and of crowd-sourced bathymetry (CSB) for use within the Arctic community. Efforts to outreach to stakeholders was reported in particular to the Arctic Council and to engage with Arctic Marine users including cruise line industry, seismic companies and research vessel operators. ARHC was acknowledged by the Arctic Council WG PAME as the regional hydrographic authority and regularly reports status of charting and survey.

In order to improve access to marine geospatial information for Arctic marine and ocean areas, the ARMSDIWG joined forces with Arctic SDI to improve access to marine geospatial information in the Arctic and anticipated to participate with the Arctic SDI/OGC Arctic Spatial Data pilot project.

The Committee was informed on the Arctic Science Forum during the day preceding the ARHC7 conference with stakeholder participation from local government of Greenland, shipping, cruise ship tourism, scientific institutions and industry. ARHC Member States actively engage and contribute to many of the IHO WGs and especially to those that support two of the IHO strategic pillars: MSDI and CSB.

**Decision 6:** to note all the reports under agenda item 6.1 (docs. *IRCC10-06.1A to O*).

## **6.2 Revision of IHO Resolution 2/1997 Establishment of RHC**

*Doc:* *IRCC10-06.2 Draft revised IHO Resolution 2/1997 (BRA, CAN, USA, Sec)*  
*IRCC10-06.2A Comments from UK to paper to IRCC10-06.2 (UK)*

Chair invited the meeting to review the draft revision of the IHO Resolution 2/1997 and subsequent comments. USA introduced the report (*doc. IRCC10-06.2*) and highlighted the key aspects on the rationale for the proposed changes. UK introduced *doc. IRCC10-06.2A* and expressed concerns on the relationship between the IHO and the RHCs, in particular on the part that infers that the RHCs are part of the IHO. Suggested that this should be taken to the Council and then to the Assembly.

The IRCC was informed that this proposal was done in line with Assembly-1 Decision A-1/50 that tasked the IRCC to include a revision of IHO Resolution 2/1997 as amended (*Establishment of Regional Hydrographic Commissions - RHC*) in its Work Plan and report to the Council. As a consequence, Action IRCC9/30 tasked Brazil, Canada, USA and the Secretariat "to review this IHO Resolution and submit to the IRCC10.

Participants also considered the views from UK that the overhaul was out of scope (e.g. relationship between the IHO and the RHCs and language used prescriptive vs recommendations) and should be limited to changing language only where needed (IHB to IHO Secretariat etc.). There was no agreement with the limited scope interpretation and the meeting focused then on preparing two versions of the proposed amendments to the IHO Resolution 2/1997:

- a) One with minor edits on language to be sent to C-2; and
- b) A more elaborated version consistent with the amended IHO Convention and General Regulations, reflecting the relationship between the IHO and the RHCs and modernizing some parts of the Resolution 2/1997.

Regarding the first version, the IRCC agreed to:

**Decision 7:** to endorse the draft IHO Resolution 2/1997 as amended (original with small amendments, Annex B) and to submit it to the IHO Council (C-2).

**Action 2:** Chair to submit the IHO Resolution 2/1997 as amended (original with small amendments, Annex B) to the Council (deadline: C-2).

For a more complex revision of the IHO Resolution 2/1997, the meeting agreed to:

**Decision 8:** to refer the draft IHO Resolution 2/1997 as amended (*doc. IRCC10-06.2 as amended by the IRCC10, Annex C*) to RHCs and reconsider the document during IRCC11.

**Action 3:** RHC Chairs to submit draft IHO Resolution 2/1997 as amended (Annex C) to the RHC Members for comments and report back to IRCC (deadline: October 2018).

**Action 4:** Chair and IHO Secretariat to compile the inputs from RHC Chairs to the draft IHO Resolution 2/1997 as amended and distribute to IRCC Members (deadline: November 2018).

**Action 5:** IRCC Members to provide comments to the revised draft IHO Resolution 2/1997 as amended

(deadline: January 2019).

**Action 6:** IHO Secretariat to submit the updated revised draft IHO Resolution 2/1997 as amended to the next IRCC meeting (deadline: IRCC11).

### 6.3 Enhancing Regional Coordination and Cooperation

Chair invited the Committee to discuss how to enhance regional coordination and cooperation, in particular to improve ENC quality and coverage, to narrow the knowledge gap among Hydrographic Offices, to promote the wider use of hydrographic information and outreach stakeholders and to focus on better availability of data for the blue economy and the United Nations Sustainable Development Goals (SDG).

The CBSC Chair highlighted that many of these issues are related to CB and that it is important to have resources to support new Member States in the form of a welcome package. Participants considered that resources are available via funding agencies like the World Bank that could support new members, but there is a lengthy procedure on how to apply for capacity development. There was a consensus that for many of the developing nations the membership fee is an issue but there are ways to move forward. In the case of Vanuatu for example, risk assessment raised the problem faced by the cruise industry and a senior official in the Ministry of Foreign Affairs was able to identify the importance of hydrography for the economic infrastructure of Vanuatu.

The preparation for the IMO/IMSAS can also be used as example of the importance of hydrography in order to raise awareness in developing States as this was the case for Cabo Verde. This coastal State requested support to the IHO and received the support by means of a technical visit organized by the EAthC.

The meeting agreed that it is important to focus on CB, MSI, CSB and MSDI as the key areas to be improved and to be reported by the RHC Chairs.

## 7. Reports from IRCC Subordinate Bodies

<i>IRCC10-07A</i>	<i>Hydrographic Commission on Antarctica (HCA Chair) (no Report)</i>
<i>IRCC10-07B</i>	<i>World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC Chair)</i>
<i>IRCC10-07C</i>	<i>Capacity Building Sub-Committee (CBSC Chair)</i>
<i>IRCC10-07D1</i>	<i>WEND Working Group (WENDWG Chair)</i>
<i>IRCC10-07D2</i>	<i>Proposal on WEND ToR (BRA, DEN, FIN, FRA, GER, NZ, NOR, SWE, USA)</i>
<i>IRCC10-07E</i>	<i>MSDI Working Group (MSDIWG Chair)</i>
<i>IRCC10-07E1</i>	<i>Draft TOR of Principles Project Team (USA)</i>
<i>IRCC10-07F</i>	<i>IHO-EU Network Working Group (IENWG Chair)</i>
<i>IRCC10-07G</i>	<i>CSB Working Group (CSBWG Chair)</i>
<i>IRCC10-07H</i>	<i>FIG-IHO-ICA IBSC (IBSC Chair)</i>
<i>IRCC10-07I</i>	<i>IHO-IOC GEBCO Guiding Committee (GGC Chair)</i>

Chairs of the IRCC bodies were invited to present the main achievements, challenges faced, lessons learned and work programs and the Committee was invited to consider the inputs and to provide guidance of each body's work programme.

#### a) HCA

No report was presented as there was no activity in the reporting period. Next meeting of the HCA was scheduled in June 2018.

#### b) WWNWS-SC

USA, on behalf of the WWNWS-SC Chair, introduced the report (*doc. IRCC10-07B*) and reported the work of the Document Review Working Group (DRWG), in particular due to the recent changes to the Inmarsat satellite constellation and services that affected some IMO Resolutions and the IHO publication S-53 *Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)*.

He reported that a significant number of unannounced missile firings happened in Korean Peninsula which posed grave concern over maritime operations with a serious threat to maritime safety.

The meeting was informed that the continued success of the WWNWS MSI Capacity Building Course depends on having qualified trainers and that the only French instructor retired in 2017 and that there is no Spanish speaking qualified instructor. Therefore, the course can only be offered in English. The WWNWS-SC



suggested that a course could be developed to train new trainers, who had a suitable background and the necessary operational experience.

He informed the meeting that the key work items are the continuation of the process of editorial amendments to the IHO publication S-53 *Joint IMO/IHO/WMO Manual on Maritime Safety Information (MSI)*, the monitoring of developments in IMO regarding E-Navigation, AIS Aids to Navigation and GMDSS Modernization and their impact on the provision of navigational warnings to mariners at sea and the development of appropriate advice and guidance to IMO through IHO Member States' national delegations and, when appropriate, at the relevant IMO committees and sub-committees attended by IHO delegates.

The report raised good reaction from Spanish speaking countries and Argentina proposed Cdr Lopez to be trained as MSI Instructor and Spain volunteered to translate the MSI training material to Spanish. The meeting agreed the following actions and recommendations to RHCs:

- Action 7: Spain to investigate the possibility to translate the MSI training material developed with resources from the CB Fund from French to Spanish and report back to IRCC (deadline: IRCC11).
- Action 8: WWNWS-SC Chair to report the status of MSI in coastal States to the next IRCC meeting (deadline: IRCC11)

Recommendations to RHCs:

2. Request National Coordinators review the contents of the relevant Annexes of the GMDSS Master Plan and IHO Publication C-55 – Status of Hydrographic Surveying and Nautical Charting Worldwide – to ensure consistency for their national entries.
3. Encourage the use of the Joint Manual on MSI to ensure correct terminology and formats are used in MSI messages.
4. Encourage closer engagement of the National MSI Coordinators of Member States with the relevant NAVAREA Coordinator(s).
5. Encourage close liaison between regional CB Coordinators and the Chair of the WWNWS-SC on programming and candidate selection for MSI training.
6. Encourage the attendance of Member States and Observers at WWNWS-SC meetings.

#### c) CBSC

The CBSC Chair introduced the report (*doc. IRCC10-07C*) and the proposed amendments to the CBSC ToR and RoP (*doc. CBSC16-01D*), whose changes are either editorial or reflect the development in the IHO CB Strategy. He presented the status of the CB Fund, the updated 2018 CBWP, the adopted 2019 CBWP and the in-kind contribution of the Republic of Korea and of the Nippon Foundation of Japan.

He expressed the acknowledgement of the CBSC for the establishment of a full time Staff as the CB Assistant, a long-time waited solution to support the implementation of the IHO CB Strategy. Ms Sandrine Brunel had been supporting the CB activities execution as a part time Assistant and she had already been very helpful in the last five month since her new role was established on 1 January 2018. However he expressed concerns that there are no resources available for resource mobilization in Capacity Building to allow for comprehensive projects, as established in the IHO CB Strategy.

The Committee was informed on the IHO/IMO/IOC/WMO/IALA/FIG/IAEA annual joint CB meeting, now joined by the International Maritime Pilot Association (IMPA). The annual meeting aims at coordinating the respective CB programmes, organizing joint technical visits (e.g. the visit to Sudan conducted in 2018 by IMO, IHO and IALA, with resources from the IMO). One of the goals is to develop a comprehensive project involving all the organizations under the umbrella of the IMO. Next meeting will take place at IMPA Headquarters in London. The problems in the cooperating with the IMO Technical Cooperation Committee remain unsolved and engagement of national delegations in the IMO is deemed necessary,

He noted that CB in Hydrography is an issue for almost all countries and that direct funds are limited and less than needed to support countries in need. He acknowledged the effective in-kind direct contribution from Member States to CB worldwide that is currently not visible to the IHO, this could be made visible in the

CBWP. The need to attract donors to support joint comprehensive projects was pointed to the meeting, and this could also be done on a governmental level by Member States.

CBSC Chair also stressed the importance of the IHO Publication *C-55 Status of Hydrographic Surveying and Nautical Charting Worldwide* as essential for the work of the CBSC. Inputs to the current C-55 is derived on a subjective basis and is not sufficiently provided. As a result the CBSC established a C-55 Review Project Team (C-55RPT) to: evaluate the current limitations; seek input from Member States on their methods to derive data to C-55; and to prepare a proposal to address the current limitations. The C-55RPT is led by Norway (Chair, Mr Evert Flier), UK (Vice-Chair, Jeff Bryant) and France (Secretary, Vincent Lamarre).

The Committee was informed that the CBSC also considers the use of CATZOC information as an indicator for survey adequacy, as interim solution, and invited to support the use of CATZOC information as an interim solution and to encourage Member States, via RHCs, to provide CATZOC information for C-55, directly or via RENCs. The Committee also took into account the current development of IHO GIS and especially CIS, and considered a great advantage for the CB Assessment in making the IHO GIS and CIS available to Member States (ref. Action IRCC9/45).

He highlighted that MSDI is important in CB but due to limited resources, there is no basic MSDI training material to deliver trainings by RHCs to provide short introductions during other workshops. He also expressed concern with the situation in the RSAHC, where there is currently no CB Coordinator. CB Coordinators are essential for CB and the participation in the CB Programme is difficult without a responsible person to provide decent submissions annually and to implement the approved activities in the region.

The meeting endorsed the revised CBSC ToR and RoP (doc. CBSC16-01D) with the addition of "and review" in Paragraph 1 of the ToR. The following was subsequently agreed:

**Decision 9:** to endorse the revised CBSC ToR and RoP (doc. *CBSC16-01D*, adding "and review" in paragraph 1 of the ToR).

**Action 9:** Chair to submit the revised CBSC ToR and RoP (doc. *CBSC16-01D* as amended by Decision 8) as amended by the meeting to the Council (deadline: C-2).

The Committee also discussed how to mitigate the impact of changing the method of calculation of indicators by CATZOC that may show a more negative representation and the need for the C-55RPT to address the impact. The following was agreed by the meeting:

**Decision 10:** to support the establishment of a C-55RPT and the use of CATZOC information as basis for an interim solution as an indicator for survey adequacy and to encourage Member States, via RHCs, to provide CATZOC information for C-55, directly or via RENCs as basis for an interim solution introducing CATZOC information.

**Action 10:** MSDI WG to develop basic MSDI training material in order to allow RHCs to deliver trainings with their own personnel (deadline: IRCC11).

**Action 11:** RSAHC Chair to install a permanent CB Coordinator and to ensure the participation in the CBSC meetings and to report back to IRCC (deadline: IRCC11).

**Recommendations to RHCs:**

7. Encourage MSs to engage with their IMO delegations to provide support to the IMO Member States that are not IHO Members to comply with SOLAS Chapter V.

8. Encourage Member States to provide CATZOC information for C-55, directly or via RENCs as an interim solution introducing CATZOC information.

#### **d) WENDWG**

The WENDWG Chair introduced the report (doc. *IRCC10-07D1*) and highlighted the key issues of the WG as elimination of overlapping ENCs, the IHO ENC Catalogue, the Performance Indicators and RENC harmonization and distribution. He introduced the WENDWG Work Programme for 2018/2019 that was amended by the IRCC before approval.

He stressed the feedback from VARs and Distributors on overlapping ENCs that create confusion onboard ships as little source data criteria means mariners are forced to decide which ENC to display, this is exacerbated by different ECDIS manufacturers having different rules for displaying overlapping data, all causing a very

unsatisfactory situation. He expressed the need for the IHO community to do much more to manage, and wherever possible eliminate, overlapping data, for which the IHO Resolution 1/2018 *Elimination of overlapping ENC data in areas of demonstrable risk to the safety of navigation* is crucial. However, he highlighted that RHCs should make their own assessment of level of navigational risk for ENC overlaps using IC-ENC Policy on Risk Assessment as a first step where applicable.

He also pointed that the full implementation of the WEND Principles still requires a better understanding, at IHO level, of coverage and overlaps across the regions. At regional level, it requires the RHCs to report on the implementation of ENC Schemes as a crucial management information, using the existing IHO ENC Coverage catalogue as initial mechanism to build ENC Schemes within INTogIS II.

The meeting was informed on the outcome of the stakeholders' meeting held in conjunction with the WENDWG8, with suggestion that RENCs might consider offering S-57 license management service to support safety of navigation for all classes of vessels, and that the IHO could explore options to support GEBCO Seabed 2030 initiative. As a consequence, *doc. IRCC10-07D2* was submitted seeking to expand the WENDWG ToRs to accommodate the intent within the IHO Convention that notes the mission of the IHO to create global environment in which States provide adequate and timely hydrographic data, products and services, and to ensure their widest possible use.

Chair invited the USA to introduce the proposed amendments to the WENDWG ToR (*doc. IRCC10-07D2*).

The Committee considered the following aspects of the submission: SOLAS applies to all ships at all voyages, which is different from the regulated SOLAS with ECDIS and carriage requirements. Changes in the WENDWG ToR may require the amendment to the IHO Resolution 1/997 *WEND Principles* in order to make ENC data available to a wider usage while still looking to safety of navigation. It is key to make data available instead of products (charts, publications).

Worth of note was that the RENCs do not own data and can't be mandated to take action that rather should be taken by ENC producing nations. There is a need to investigate how to make the RENCs fit for the wider use of hydrographic information and eventually for the WENDWG to develop principles for this realignment. Widening the availability of data may also require the RENCs to be prepared for the management of S-100 Standards and its wide range of product specifications.

Participants also considered the fact that official ENC is produced by an official Hydrographic Office and be required to be used by mariners. However, the leisure market is not regulated in many parts of the world. In both cases, the proposal is to address how all mariners, including the non-regulated SOLAS boats, can have access to the most updated data. There is a need to get the data out but not necessarily the WENDWG is the right place to start, in particular if data is to be made available to a wider user community and not only to mariners.

Chair summarized the key points of the discussion, recognizing that there is:

- a) the need to address the wider use of data beyond safety of navigation for SOLAS market; and
- b) an increasing complexity in the global set of data managed by the RENCs and open the RENCs to opportunities may provide data to the wider range of mariners beyond SOLAS market

The following decisions, actions and recommendations were agreed:

**Decision 11:** to note with concern that overlapping ENCs create confusion onboard ships and that IHO community should work to eliminate overlapping data; and note that this issue is worthy of further discussion at IRCC10 and C2.

**Action 12:** Chair to report the Decision 11 to the Council (deadline: C-2).

**Decision 12:** to commend the RENCs on their high-quality support to Hydrographic Offices and end-user service providers and for their contribution to Joint-RENC technical meetings to which the EAHC RECC is invited to participate.

**Decision 13:** to note the WENDWG conviction that all ENC data should be made available to the RENCs not only for ensuring Quality Control in general but also importantly for risk assessment of overlapping ENCs.

**Decision 14:** to approve the proposed updated WENDWG 2018-19 Work Programme as given at Annex A of *doc. IRCC10-07D1* (amended by the IRCC10) and the continuity of WENDWG activities.

Decision 15: to approve the following amendments to the WENDWG Terms of Reference:

The purpose of the WEND Working Group is to advise IRCC to enable the highest societal value of Member State effort by :

1. Facilitating a world-wide consistent level of high-quality, updated official ENC's through integrated services that support chart carriage requirements of SOLAS Chapter V, and the requirements of the IMO Performance Standards for ECDIS and
2. Review options, and recommend actions, that expand the value of the Worldwide ENC Database to all marine data users applying data management principles.

Recommendations to RHCs:

9. Reinforce the fact that the one-year "clock" to resolve overlaps should begin once the overlapping issues have been reported to ENC producers, in any case where the elimination of overlapping ENC data cannot be resolved and its continued existence presents a demonstrable risk to safety of navigation (as stated in paragraph 5 of the new adopted IHO Resolution 1/2018 – IHO CL 19/2018 refers).
10. Endorse that the management of overlap cases should be implemented by RHCs.
11. Note that RHCs should make their own assessment of the level of navigational risk for ENC overlaps using one of the RENCs' Policy on Risk Assessment as a first step where applicable.
12. Encourage RHCs to provide updated reports on the implementation of ENC Schemes to the WENDWG in advance of the yearly WG meeting.
13. Note the recommendation that RENCs might consider offering a S-57 license management service to support safety of navigation for all classes of vessels.

#### e) MSDIWG

The MSDIWG Chair introduced the report (*doc. IRCC10-07E*) and reported the successful meeting held in conjunction with an Open MSDI Forum organized by Brazil and the OGC Marine Domain Working Group (Marine DWG). He informed the meeting on the key current topics as: information on MSDI implementation, contribution to the IHO strategic plan and establishing a draft IHO MSDI vision 2025/2030, development of MSDI e-learning courses, improving the availability of bathymetric data worldwide, the guiding principles of the UN-GGIM, the focus on security within MSDI frameworks, the update and upgrade of the IHO Publication C-17 Spatial Data Infrastructures: "The Marine Dimension" - Guidance for Hydrographic Offices, the assessment of special data quality, relationship with S-100 framework and the cooperation with the International Cable Protection Committee (ICPC). He informed the meeting on the cooperation with OGC and the development of an IHO/OGC conceptual study, with funding from USA (NGA).

Denmark and Germany jointly provided a presentation on the value of Marine Spatial Planning (MSP) with a recommendation to add a task in the MSDIWG Work Plan. This plan was considered by the meeting and the following was agreed:

Decision 16: to approve the MSDIWG Work Plan 2018-2020.

Decision 17: to task the MSDIWG to:

- follow the development in MSP implementation worldwide,
- establish a list of relevant MS National MSP Data Contact Points and contact persons,
- establish a list of additional relevant institutions, contact person/data experts,
- study the most relevant MSP issues in a cross-border / trans-boundary context in relation to data and information seen from a MS perspective,
- compile minimum requirements for Hydrographic data for Maritime Spatial Plan Data and recommendations of distribution/sharing of this data,
- provide an overview on (national / regional) MSP best practice,
- establish MSP page on the IHO website under the MSDIWG body of knowledge.

Chair invited USA to introduce the proposal to create a Project Team (PT) on the UN-GGIM Shared Guiding Principles (*doc. IRCC10-07E1*) which includes the draft ToR. The meeting agreed on the relevance to embrace these Guiding Principles and the importance of the Principles PT (PPT):

Decision 18: to establish the IHO Project Team on the implementation of the UN-GGIM Shared Guiding

Principles for Geospatial Information Management (PPT) under the ToR and RoP in *doc. IRCC10-07E1*.

Action 13: task the IHO Project Team on the implementation of the UN-GGIM Shared Guiding Principles for Geospatial Information Management (PPT) work under its ToR and RoP and to report back to IRCC (deadline: IRCC11).

Action 14: Secretariat to create a web page to present the work of the IHO Project Team on the implementation of the UN-GGIM Shared Guiding Principles for Geospatial Information Management (PPT) (deadline: July 2018).

#### **f) IENWG**

France, on behalf of the IENWG Chair, introduced the report (*doc. IRCC10-07F*) and highlighted the matters considered during IENWG8 meeting: the future work and structure of the IENWG, MSP, European Union (EU) projects, the broader use of S-102 Standard (not limited to safety of navigation) and rescue of data and historical documents.

The Committee was informed that the meeting was held in conjunction with the EC-IHO9 meeting under the headline "Protecting our coasts: how to anticipate and monitor coastal risks". Important topics were the visibility of hydrography, future perspectives of cooperation and the participation of IHO representatives in EuroGOOS General Assembly and the forthcoming EOOS Conference (November 2018).

**Decision 19:** to approve the IENWG Work Plan (Annex to *doc. IRCC10-07F*).

#### **g) CSBWG**

The CSBWG Chair introduced the report (*doc. IRCC10-07G*) and informed the Committee on the development of the Guidance Document on CSB to provide guidelines on the collection and assessment of CSB data for inclusion in the global bathymetric data set which is maintained in the IHO Data Centre for Digital Bathymetry (DCDB).

She informed the meeting on the outreach strategy and the engagement with the broad maritime community, and presented use cases at the Canadian Hydrographic Service (CHS) with 6 potential Notice to Mariners (NtoM) were identified.

She stressed that there continues to be a need to overcome a degree of skepticism on the CSB concept amid the maritime community and hydrographic organizations, especially an overly cautious focus on potential, although untested, legal issues. The increased awareness and information as well as stakeholder engagement/involvement should all help to overcome these reservations.

The Committee considered this key elements of the presentation and agreed on the following:

**Decision 20:** to endorse the CSB Guidance Document.

Action 15: Chair to submit the CSB Guidance Document to the Council for endorsement and subsequent approval by Member States (deadline: C-2).

Action 16: USA to share lessons learned with Rose Points engagement (deadline: IRCC11).

Decision 21: to approve the proposed revisions to the CSBWG ToRs and RoPs (Annex C of *doc. IRCC10-07H*) and to reappoint the WG to continue its work under the proposed revised ToRs.

Decision 22: to acknowledge the work of the CSBWG and its Chair, Ms Jennifer Jencks.

Recommendations to RHCs:

14. Encourage IHO Member States to release datasets or subsets into the public domain via the IHO DCDB.
15. Request IHO Member States to state their policy on data gathering restrictions within their maritime areas of jurisdiction to enable CSB activities to be undertaken.
16. Request IHO Member States to support the CSB initiative with positive actions, such as requiring all research vessels collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities.
17. Request the IHO Member States to promote a scaled trial of CSB data collection as a follow on to earlier pilot programs.

## **h) IBSC**

The IBSC Chair introduced the report (*doc. IRCC10-07H*) and presented the status of the IBSC Recognized Programmes worldwide and the fruitful relationship maintained between the IHO and the other partner organizations, the International Federation of Surveyors (FIG) and the International Cartographic Association (ICA).

He informed the meeting on the completion of the new Standards framework to separate competency requirements for Category "A" and Category "B" (Task 3.8.4 of the 3-year IHO Work Programme 2018-2020) and the companion document *Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers*, the engagement with the SEPRHC13 meeting and the visits to both Colombian academies for Officers and for Petty Officers and the article published in the International Hydrographic Review (IHR), November 2017 Edition, on *Maintaining the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers: A Modern Approach*.

Participants were informed on the successful outcome of the last IBSC annual meeting that lasted 10 days with 16 submissions from 10 countries, 14 Hydrographic and two Cartographic programmes, from Argentina (2), China (2), Colombia (2), Malaysia, Peru, Portugal, Sweden, Turkey, UK (2) and USA (3). Five new programmes were submitted and 14 recognitions were awarded. The IBSC and Indonesian Hydrographer hosted a parallel event with stakeholders from the region

He informed the meeting of the main challenges of the Board: the resignation of Prof. Nicolas SEUBE, Canada (IHO), managing the IBSC workload with large number of submissions and a recognition period of six years, new programmes and schemes being submitted, the quality of submissions and the need to implement the "Right First Time" principle, the engagement with stakeholders and outreach, promoting the work of the IBSC and the Standards and the provision of guidance and assistance to institutions.

The meeting was presented with the minor clarifications to the standards S-5A and S-8A following careful review of contributions received from India and from Chile.

The following was agreed:

**Decision 23:** to acknowledge the work done by the IBSC in the delivery of the new framework for the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers.

**Decision 24:** to approve the clarifications/minor amendments made in IHO Publications S-5A Ed. 1.0.1 and S-8A Ed. 1.0.0 (Annex C of doc. IRCC10-07H).

**Action 17:** Secretariat to amend IHO Publications S-5A Ed 1.0.1 and S-8A Ed 1.0.0 in accordance with Annex C of doc. IRCC10-07H and publish in the IHO website (deadline: July 2018).

**Decision 25:** to note the IBSC goal of *Right First Time*.

**Decision 26:** to approve the IBSC Work Plan – Q2/2018 to Q2/2019 (Annex B of doc. IRCC10-07H).

## **i) GEBCO GUIDING COMMITTEE (GGC):**

The GGC Chair introduced the report (*doc. IRCC10-07I*) and started by presenting an insightful look into the quality and density of the underlying GEBCO data, considered insufficient for most uses. In the sequence he explained the objectives and the status of the GEBCO Seabed 2030 Project sponsored by the Nippon Foundation of Japan.

The meeting was exposed with the recent activities related to the Seabed 2030 since its roots were planted during the Forum for Future Ocean Floor Mapping (F-FOFM), held in Monaco in 2016. It was formally announced by Mr Sasakawa, the Chairman of the Nippon Foundation on the occasion of Ocean Conference at the UN in 2017. GGC approved the project at its 34<sup>th</sup> Session held in Busan, ROK, after which Mr. Satinder Bindra was appointed as Project Director in 2018. Seabed 2030 project started on 20 February 2018.

Seabed 2030 is a global program with the goal of compiling Digital Bathymetric Model (DBM) from openly available data at the highest resolution possible, from the coast to the deepest trenches by the year 2030 with the ultimate goal to leave no features of the World Ocean floor larger than 100 m unmapped. This will empower

the world to make policy decisions, to use the ocean sustainably and undertake scientific research for the sustainable development, based on the detailed bathymetric information of the Earth's seabed.

The Committee agreed the following:

**Decision 27:** to approve the GEBCO Work Plan 2018-2019 (Annex B of doc. *IRCC10-07I*).

**Recommendations to RHC:**

18. Continue to encourage RHCs to organize contribution of bathymetric data in shallower coastal areas from their member states to GEBCO in order to support the production of higher resolution gridded data products of GEBCO.

19. Encourage RHCs to invite and communicate with GEBCO members to their meetings.

**Decision 28:** to note the reports under agenda item 7 (docs. *IRCC10-07A* to *I*).

## **8. Outcomes of the 1<sup>st</sup> Meeting of the IHO Council (C-1)**

*Docs: IRCC10-08A List of Decisions and Actions of C-1 (Secretariat)*  
*IRCC10-08B Draft Revised IHO Resolution 1/2005 (EAHC)*

Council Chair presented the key outcomes of the 1<sup>st</sup> Meeting of the IHO Council, including the decisions and actions, related to the IRCC activities that were considered by the meeting. With regards to revision of IHO Resolution 1/2005 – IHO Response to Disasters (IRCC9/Action 31: EAHC Chair to liaise with Japan to consult with Member States to review the IHO Resolution 1/2005 IHO Responses to Disaster and coordinate with the SWPHC Chair and submit a draft amended version to IRCC), no progress was reported to the meeting, by the Japan on behalf the EAHC Chair, due to personnel problems that prevented the intended work during the inter sessional period. Japan expressed that this task will be completed by IRCC11.

## **9. Inputs from Member States and other bodies affecting IRCC**

*Docs: IRCC10-09A Input from HSSC9 and HSSC10 (HSSC Chair)*  
*IRCC10-09B Relations with IGOs, NGOs and IHO Stakeholders (Secretariat)*  
*IRCC10-09C Development of tides, water level and currents capacity (Secretariat)*

Chair invited the HSSC Chair to provide highlights from the recent HSSC meetings and how they impact the RHCs and the IRCC bodies.

### **a) HSSC**

HSSC Chair introduced the report (*doc. IRCC10-09A*) and commented on the revision of the IHO Resolution 2/2007 in accordance with Decision A1/12 and Action C1/05 which involves two steps: the creation of "Guidance on conduction of an Impact Study" and identification of a new Review Cycle for WG/PT development phase of Product Specifications (endorsed at HSSC10), and the development of the endorsement/approval procedure of the relevant standards taking into account the role of the Council in the approval process (Target HSSC11).

He also presented the key priorities of HSSC: the development of an S-100 Interoperability Specification; the development of S-121 Product Spec for Maritime Limits and Boundaries, the development of all the components needed to make S-101 a reality, the consolidation and clarification of standards in relation to ECDIS/ENC, the preparation of Ed. 6.0.0 of S-44, the consideration on data quality aspects in an appropriate and harmonized way for all S-100 based product spec and the development of initial guidance on definition and harmonization of Maritime Service Portfolios. The meeting agreed the following:

**Recommendations to RHC:**

20. RHC to share their internal guidelines and Best Practices on the population of CATZOC values through the DQWG.

### **b) Stakeholders Events**

Chair invited the Secretary to introduce the report (*doc. IRCC10-09B*) on the representation of the IHO at international and regional events. The following was agreed:

**Decision 29:** to consider the list of Potential Stakeholders' Events planned in 2018 relevant and its continued existence.

Decision 30: to note the list of events in Annex A of *doc. IRCC10-09B*.

Recommendations to RHC:

21. Consider how the IHO might be represented in events in Annex A of *doc. IRCC10-09B*.

**c) Presentation of the tides paper:**

Chair invited the Assistant Secretary to introduce the report (*doc. IRCC10-09C*) on the development of tides, water level and currents capacity. The following recommendations were agreed:

Recommendations to RHC:

22. encourage RHCs to use the tides, water level and currents training material developed and the training resource offered by the TWCWG in their capacity building work programmes.

23. invite RHCs to encourage States in the region to contribute to the inventory of tide gauges and current meters.

**10. Data gathering and Management, Maximizing the use of Hydrographic Data**

*Docs: IRCC10-10A Update on Data Gathering and Management, Maximizing the use of Hydrographic Data (Secretariat)*

Chair invited the Secretary to introduce the report (*doc. IRCC10-10A*). Secretary updated the meeting on data gathering and management, crowd-sourced bathymetry, satellite derived bathymetry, the relationship with the GEBCO Seabed-2030 Project and maximizing the use of hydrographic data. Participants discussed the necessary actions to improve data gathering and also MSDI/NSDI at national and regional levels and agreed that no further action is necessary at this stage.

Decision 31: to note the report under agenda item 10 (*doc. IRCC10-10A*).

**11. Developments on the Infrastructure of the IHO Secretariat**

*Docs: IRCC10-11A Infrastructure of the IHO Secretariat (Secretariat)*  
*IRCC10-11B Draft revised IHO Resolution 6/2009 IHR (Secretariat)*

Chair invited the Assistant Secretary to present of the developments on the IHO GIS, databases, online registration system and how they impact the RHCs and the Member States' activities and the proposed draft amendments to the IHO Resolution 6/2009 *International Hydrographic Review*. The meeting agreed on the following:

Decision 32: to endorse the draft revised IHO Resolution 6/2009 IHR (Annex to *doc. IRCC10-11B*).

Action 18: Chair to submit the draft revised IHO Resolution 6/2009 IHR (Annex to *doc. IRCC10-11B*) to the Council (deadline: C-2).

**12. Other information papers**

No other information paper from the IRCC Members, Observers and invited Organizations was provided.

**13. Next IRCC Meetings (Venue and Date)**

Chair invited participants to review and update the dates and venue for IRCC11 and IRCC12 and to offer to host IRCC13 as indicated in *doc. IRCC10-02* and taking into consideration the countdown for the 2019 and 2020 meetings (IRCC, Council and Assembly). The following decision was agreed:

Decision 33: to approve the venues and dates for the next IRCC meetings, back to back with CBSC:

IRCC11: 3-5 June 2019 – Italy (Genoa)

IRCC12: May / June 2020 – Poland (exact venue to be decided)

IRCC13: May / June 2021 – Ecuador (Galapagos, TBC)

IRCC14: May / June 2022 – Japan, (TBC) (exact venue to be decided)

**14. Any other business**

Chair invited participants to present other business items. Norway expressed concerns with the implementation of the new IHO ENC Catalog and the meeting agreed the following action:

Action 19: Chair and Secretary to follow up on Decision WENDWG8/10 to commission the new IHO ENC Catalog and report back to IRCC (deadline: IRCC11).



## **15. IRCC Administration (Draft Report from the IRCC to the C-2)**

*Doc: IRCC10-15A Draft Report and Proposals of IRCC to Council-2 (Secretariat)*

Chair invited the Secretary to present the draft report (*doc. IRCC10-15*, prepared during the meeting). Meeting reviewed the priorities of the IRCC and highlights of the draft IRCC report and proposals to the 2<sup>nd</sup> Meeting of the IHO Council. IRCC endorsed its key priorities for 2019 which are *Capacity Building Provision, INT and ENC schemes, Crowd-sourced Bathymetry, Project Seabed 2030, and Marine Spatial Data Infrastructures (MSDI)*.

**Decision 34:** to approve the draft Report and Proposals of IRCC to Council-2.

Chair to submit the IRCC report to the Council (WP 2018-2019 task 9).

## **16. Review of the Actions and Decisions**

*Doc: IRCC10-16 Draft List of Actions, Decisions and Recommendations to RHCs from IRCC10 (Secretariat)*

Chair invited the Assistant Secretary to present the draft list of actions, decisions and recommendations agreed during the meeting (*doc. IRCC10-16*) that was reviewed and agreed by the Committee.

**Decision 35:** to approve the draft List of Actions, Decisions and Recommendations to RHCs.

The final List of Actions, List of Decisions and List of Recommendations to RHCs, with comments received during the review of the IRCC10 Report are available in **Annex D**, **Annex E** and **Annex F**, respectively.

## **17. IRCC Work Programme Management**

*Docs: IRCC10-17A IHO Work Programme for 2018-2020 (Secretariat)*  
*IRCC10-17B Draft IRCC Work Programme (Secretariat)*

Chair invited the Assistant Secretary to introduce docs. *IRCC10-17A* and *IRCC10-17B* (drafted during the meeting). The meeting review the document and agreed on:

**Decision 36:** to approve the draft IRCC Work Programme for 2018-2019.

The final IRCC Work Programme 2018-2019 with comments received during the review of the IRCC10 Report is available in **Annex G**.

## **18. Closure**

Chair ends the meeting at 14:00

**END OF THE MEETING**

## **ANNEXES:**

Annex A: Draft amendments to the IRCC ToRs and RoPs.

Annex B: Draft IHO Resolution 2/1997 as amended (original with small amendments)

Annex C: Draft IHO Resolution 2/1997 as amended (elaborated version for inter sessional period)

Annex D: List of Actions

Annex E: List of Decisions

Annex F: List of Recommendations

Annex G: IRCC Work Programme for 2018-2019