IRCC15-06.1J

MACHC REPORT

15TH MEETING OF THE

IHO INTER-REGIONAL COORDINATING COMMITTEE

(IRCC-15)

Tokyo
12-14 June 2023

1. **Leadership:**

Chair: Vice Admiral Renato Arruda, Brazil, from 3 December 2021 to 3 March 2023

Rear Admiral Rhett Hatcher, United Kingdom, from 3 March 2023 to present

Vice-Chair: Rear Admiral Rhett Hatcher, United Kingdom, from 1 March 2021 to 3 March 2023

Mrs Bernice Mahabier, Suriname, from 3 March 2023 to present

2. **Membership:**

Full Members: Brazil, Colombia, Cuba, Dominican Republic, France, Guatemala, Guyana, Jamaica, Mexico, Netherlands, Suriname, Trinidad and Tobago, UK, USA, Venezuela

Associate Members: Antigua and Barbuda, Barbados, Belize, Costa Rica, El Salvador, Grenada, Haiti, Honduras, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines

Observer Countries: Dominica, Spain

Observer Organizations: AMEXCID, CDEMA, CLIA, COCATRAM, IADB, IALA, IC-ENC, ICG/Caribe EWS, IMarEST, IMO, INEGI, INVEMAR, IOCARIBE, MapAction, Marine Conservation, OECS, THSOA, University of Southern Mississippi, University of the West Indies

Observer Companies: ARGANS, AXYS Technologies, EOMAP, Esri, Fugro, HYPACK, IIC Technologies, iXblue, Kongsberg, OceanWise Ltd, SevenCs, Teledyne CARIS, TCarta

3. **Meetings:**

The 23rd Conference was held 28 November-2 December 2022 in hybrid format, hosted by the US at the National Geospatial-Intelligence Agency Moonshot facility in St Louis (Missouri). The next Conference will be hosted by Suriname 11-15 December 2023.

4. **Current MACHC Working Groups:**

Capacity Building Committee (CBC)

MACHC International Charting Coordination Working Group (MICC)

MACHC Marine Spatial Data Infrastructure Working Group (MMSDIWG)

MACHC Maritime Safety Information Working Group (MSIWG)

5. **Status of IRCC Actions and Recommendations relevant for the MACHC:**

Actions:

No	Action	Status
1	IRCC invited RHCs and Subordinate bodies to provide comments and inputs on the governance document on Dual Fuel Concept for S-100 ECDIS, intersessionally. (Permanent)	Completed

Recommendations:

No	Action	Status
1	RHC are encouraged to increase the collaboration with the Data Quality WG and to try to find candidates for the vacancy of the Chair and Secretary positions	Ongoing
2	RHC to discuss how HO's can assume a geo-coordinating role to help ensure provision of data on a regional level	Ongoing. The MACHC MSDIWG is tasked to lead discussions based on the approved work plan
4	RHC to start or proceed with the debate on how the climate change related activities can be further investigated and what can be the role of the IHO	Ongoing. MACHC members are invited to share experiences with respect to options and opportunities for the greening of hydrographic activities
5	RHC to Encourage relevant Member States to report to the IMO Secretariat and the Chair of the EGC Coordinating Panel on the progress and status of implementation of newly recognized mobile satellite services by MSI providers	MS informed at MACHC23
6	RHCs to establish an S-100 Coordinator role.	The MICC took on the role of the S-100 Implementation Coordinator.
7	RHCs to apply Action WENDWG12/33 (WEND-100 Product Matrix will be made available on the WENDWG Repository webpage when finalised)	Actioned
8	RHC to encourage Member States and submitting institutions to engage with the IHO Secretariat early in the process of them preparing submissions for program recognition	MS encouraged
9	RHC encourage Member States and submitting institutions to consult the Guidelines, the FAQs and the White Paper (IHR-Nov-2017 – Article: Maintaining the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers) early in the process of preparing submissions for program recognition	MS encouraged
10	HC Chairs to bring the IRCC CL 1/2020 to the attention of all coastal states within their respective RHC, encouraging them to offer a positive response, even if qualified, to enable provision of enable provision of CSB data into the public domain collected from ships within waters subject to their national jurisdiction	Ongoing
11	RHC Chairs to bring the IRCC CL 1/2020 to the attention of all coastal states within their respective RHC, encouraging them to offer a positive response, even if qualified, to enable provision of enable provision of CSB data into the public domain collected from ships within waters subject to their national jurisdiction	Ongoing
12	RHC to encourage Member States to release datasets or subsets into the public domain via the IHO DCDB.	MS encouraged

No	Action	Status
13	RHC to encourage Member States to support the CSB initiative with positive actions, such as requiring all research vessels to collect bathymetric data for late uploading, when on passage or when it does not interfere with other research activities	MS encouraged. Some traction
14	Encourage RHCs to actively contribute with new data to GEBCO	MS actively/regularly encouraged via GEBCO/SB20-30 Coordinator (was Mexico until Mar 23, now Jamaica)
15	Encourage RHCs to discuss how nations can share existing data.	MS encouraged
16	RHCs to encourage Member State and stakeholder bathymetric data contributions to the DCDB, regardless of origin.	MS encouraged

6. **Agenda Items:**

CBC:

a. MACHC Members have continued to contribute to the International Hydrographic Review (IHR). Since last years IRCC, there have been 7 contributions from MACHC member states. In Volume 28, the US submitted an article and in Volume 29, 6 regional HOs contributed to the "Interviews" article.

b. As part of the Empowering Women in Hydrography (EWH) initiative, a number of internships have been offered to provide opportunities to engage in international forums and to gain leadership skills and experience. The USA offered space for 2-3 women a year on NOAA hydrographic vessels starting in 2022; a candidate from Suriname was successful in gaining a place in this first cycle. The International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) offered four internships; the USA was successful being selected for one. Additionally candidates from Brazil and Cuba were successfully selected to attend the 3rd Session of the Assembly through the support of the EWH Project.

c. The Ports and Shallow Water Survey Course, hosted by Brazil under the coordination of the South-West Atlantic Hydrographic Commission (SWAtHC), was held in October 2022. From the MACHC region, Guatemala also attended this Course.

d. The Dominican Republic and Mexico attended the Hydrographic Databases Workshop hosted by Ecuador under the coordination of the South East Pacific Regional Hydrographic Commission (SEPRHC) November-December 2022.

e. The candidates from Guyana and Jamaica who were selected for the 2022 Category B Hydrographic Survey Programme, funded via the IHO-Republic of Korea Programme of Technical Cooperation, and hosted by the Korea Hydrographic and Oceanographic Agency (KHOA) have successfully completed the programme.

f. A candidate from Guatemala was selected for the 2022-2023 session of the Category A Master of Science in Hydrographic Science at the University of Southern Mississippi (USM), USA.

g. The "Assessment of Capacity Building Phases of Coastal States" based on IHO CB Procedure 11 is constantly updated. It will be used to better evaluate, prioritise and focus future capacity building training.

h. The importance of keeping the IHO Publication C-55 current remains key, as this is utilised in the IMO audit.

i. An IHO funded Technical Visit to Belize (Jun 23) will have been completed since the last IRCC. Other funded High level and Technical Visits within the CB Plan to Costa Rica, Honduras, Dominican Republic and Jamaica will be planned for delivery where possible within the next 12 months.

MICC:

a. The availability of ENCs and of INT Charts in Region B stands at 1,114 and 54, respectively. There was a considerable increase of Usage Bands 4 and 5 ENC cells in recent years. There are still 30 INT Charts schemed for Region B.

b. MACHC regularly performs Cruise Ship Ports Gap Analysis to identify gaps added anchorage areas to list of ports, identifying 207 ports and anchorage areas with only eight not covered by nautical cartography.

c. The MICC sub-working group developed a MACHC Regular ENC Scheme for Usage Band 1. The UKHO presented the gridded scheme built by the UKHO for GB ENC coverage. NOAA presented the US approach for ENC re-scheme plan. There is still no consensus in the MACHC for the adoption of a regular grid scheme for the MACHC ENC Scheme at Usage Bands 2 to 6.

d. Testbeds for S-100 series products by MACHC Members were reported to be in progress: S-102 (Bathymetric Surface) by France, the Netherlands, the UK and the USA, S-111 (Surface Currents) by the USA, S-122 (Marine Protected Areas) by France, and S-124 (Navigational Warnings) by France.

MMSDIWG:

a. The MMSDIWG section in the MACHC Initiative website is used as a method for sharing meeting materials and useful links with MACHC Members, contributing organizations, industry partners, academia and potential stakeholders.

b. The MACHC is engaging with multiple stakeholders on MSDI use cases / partnerships in the MACHC Region to advance the use and sharing of geospatial information to support improved decision making for sustainable national and regional development. These include: Risk Assessment and Mitigation Measures of Maritime Navigation in the Caribbean Sea; Silver Bank project; Disaster Response Support; Caribbean Marine Atlas (CMA); Caribbean GeoPortal; Caribbean Geospatial Development Initiative (CARIGEO); European Marine Observation and Data Network (EMODnet); and UN-GGIM/WG-MGI.

c. A MSDI Inventory survey has been conducted since 2020 to help the MACHC document the various existing MSDI and SDI web resources within the MACHC Region; the results of these can be found in “MACHC MMSDIWG Inventory Survey Results”. Subsequently, another survey has been carried out on the MSDI Inventory for the Additional Layers for the MACHC Region based on the feedback from potential non-navigation users. These layers will support many use cases found in the Region. The results of this survey can be found in “MACHC MMSDIWG Inventory - Additional Layers Results”.

d. A bathymetric data protocols was completed to ensure users, such as CDEMA and MapAction, can more efficiently support disaster relief efforts within the MACHC Region. The protocols define the process for requesting the data, ensuring that the data is made available in the appropriate formats, and defining the process for sharing the data with the disaster response organizations.

e. MACHC began reaching out other RHC MSDI WG to share best practices and knowledge; representatives from ARHC, SAIHC and SWPHC have been engaged.

f. The MACHC was introduced to the Operational Framework for Integrated Marine Geospatial Information Management (or Integrated Geospatial Information Framework – Hydro "IGIF-H") being developed by the UN-GGIM Working Group on Marine Geospatial Information.

MACHC Coordination to the Seabed 2030 Project and Crowdsourced Bathymetry:

a. The MACHC partnered with the Seabed 2030 Regional Data Assembly and Coordination Centre (RDACC) for the Atlantic and Indian Oceans to develop a gap analysis tool to help focus national efforts to contribute existing data and organize new collaborative surveys. The MACHC Coordinator to the Seabed 2030 Project established close collaboration with this RDACC and with IHO DCDB.

b. The Intergovernmental Oceanographic Commission (IOC) had recognised the MACHC-IOCARIBE Seabed 2030 Strategy as an endorsed Decade Project of the UN Decade of Ocean Science for Sustainable Development (2021-2030) entitled "No 140.2. MACHC-IOCARIBE Seabed 2030 Project" and attached to the Decade Programme "107. The Nippon Foundation-GEBCO Seabed 2030 Project" in June 2022.

c. The MACHC Seabed 2030/CSB Coordinator, in collaboration with IHO Crowdsourced Bathymetry Working Group (CSBWG) Chair, prepared a MACHC proposal to IRCC for the establishment of a Seabed 2030/CSB Coordinator Collaboration Team to discuss the past and current updates on Seabed 2030 Project and/or CSB efforts within the RHCs, to update on Coordinator-led efforts within their RHCs, to establish of a cohesive regional approach, to share challenges, issues, successes and lessons learned experienced by Coordinators. CSBWG will investigate the establishment of a Seabed 2030/CSB Coordinator Collaboration Team within that WG and report back to IRCC.

Maritime Safety Information:

a. The MACHC MSI Status Matrix and MACHC MSI Training Status Details on the MACHC Initiative website provide a color-coded representation that describes the level of MSI support National Coordinators provide to NAVAREA IV, NAVAREA V and NAVAREA XII. This matrix is used to identify and prioritize future MSI training and support within the MACHC.

b. The NAVTEX stations in the MACHC Region enhance the capacity of the coastal warning service. Colombia established two new NAVTEX stations.

c. NAVAREA IV/XII Coordinator informed how the Commission will measure the Strategic Performance Indicator 3.1.1 "Percentage of Coastal States that are capable to provide marine safety information (MSI) according to the joint IMO/IHO/WMO manual on MSI". He reported that in 2021, NAVAREA IV/XII received MSI from 52% of National Coordinators and confirmed satisfactory coordination with 65%, and in 2022, NAVAREA IV/XII received MSI from 56% of National Coordinators and confirmed satisfactory coordination with 86%.

d. A MSI Course was held in Colombia under the coordination of the South East Pacific Regional Hydrographic Commission (SEPRHC) in September 2022 with support from the IHO CB Programme. The Dominican Republic and Guatemala attended this Course from this Commission.

e. The MACHC established a MSI WG in December 2022.

Disaster Response:

a. A Response to Disasters section has been established since 2019 on the MACHC Initiative website. This section is being filled with more information about National Points of Contact, Disaster Contingency Plans, Response Capabilities and Past Event Responses.

b. The USA has a series of navigation response teams that conduct hydrographic surveys on small vessels to update NOAA's suite of charts. These teams are strategically located around USA and remain on call to respond to emergencies in order to restore resumption of shipping after storms and to protect life and property from dangers to navigation. During the pandemic, recreational vehicle rentals were deployed due to the scarcity of available lodging and restricted protocols, such as, virtual planning, personal protective equipment, and social distancing, were applied.

c. The MACHC Disaster Response Framework is now at Annex 3 to the MACHC Statutes.

7. **Difficulties encountered and challenges yet to be addressed:**

a. A key challenge is to get more active participation from most MACHC Members in the Committee/Working Groups.

b. Finding ways to increase alternate sources of funding and partnerships for capacity building, as the demand far outweighs IHO CB funds.

c. Full ENC and INT Chart coverages has not yet been achieved.

d. While a MACHC Seabed 2030 Strategy was established in 2020, there is a challenge to motivate, receive support and sustain the engagement of MACHC Members so as to continue receiving bathymetric data contributions to fill gaps in the MACHC Region.

e. To implement a GIS-based layer for the MACHC Disaster Response Framework that could most effectively support coordination and communication efforts before and after a disaster event with effects on maritime infrastructures.

8. **MACHC cooperation with stakeholders (organisations, industry, academia):**

Several partnerships are already being leveraged to advance MACHC capacity building, MSDI and Seabed 2030 initiative.

9. **Achievements and Lessons Learned:**

a. The Statutes of the MACHC were revised to adapt to the IHO Resolution 2/1997 ("Establishment of Regional Hydrographic Commissions - RHC") as amended.

b. In the past 12 months, the MACHC organised virtual and face-to-face Committee/Working Groups, a webinar on the Seabed 2030 Project, and the MACHC Conference.

c. The dissemination of IHO-funded trainings and opportunities has certainly benefited the selection of candidates from IHO Member States in the MACHC Region.

d. The Seminars on Raising Awareness in Hydrography supported through the IHO CB Programme are fundamental for the greater participation of Associate

Members and Observer States in the Commission events and the sharing of knowledge and experiences across the region.

e. Technical Visits and High-Level Technical Visits to Associate Members are extremely relevant to leverage hydrographic and cartographic activities in these countries, as well as to raise their awareness in these fields.

f. The value of increased collaboration across RHCs and regional partnerships for capacity building training, Seabed 2030/CSB (including the development of a Regional Strategy and an Annual Work Plan), MSDI and other requires concerted effort to identify the specific activities of common interest and sustain those connections.

g. The MACHC, in collaboration with other international, regional and bi-lateral partners, is committed to carrying forward hydrographic, nautical cartography, MSDI and capacity building activities in close alignment with IHO objectives and goals.

h. A Gap Analysis of the IHO Revised Strategic Plan to support the goals of the IHO, similar to that carried out by SWPHC, is being conducted with MACHC Members.

i. The “Initiatives of the MACHC” website, generously hosted by NOAA/USA, is a space where the work of the MACHC is contained and designed to be a centralized resource for all MACHC Members and Observers. Some of the key features include: it is in both English and Spanish; is mobile device friendly; and provides up-to-date information related to the work of the MACHC Committee, Working Groups and other initiatives as described above, complementing the IHO MACHC webpage.

10. Conclusions:

The MACHC, in collaboration with other international, regional and bi-lateral partners, is committed to carrying forward hydrographic, nautical cartography, MSDI and capacity building activities in close alignment with IHO objectives and goals.

11. Actions required of IRCC:

The IRCC is invited to take note of this Report.