



**30th Session of the Assembly of the Intergovernmental
Oceanographic Commission (IOC)**
Paris, France, 26 June-4 July

Contribution to the IHO Work Programme 2019

Task 1.1.9.1	Maintain relationship with the Intergovernmental Oceanographic Commission (IOC) of UNESCO, including attendance of Assembly
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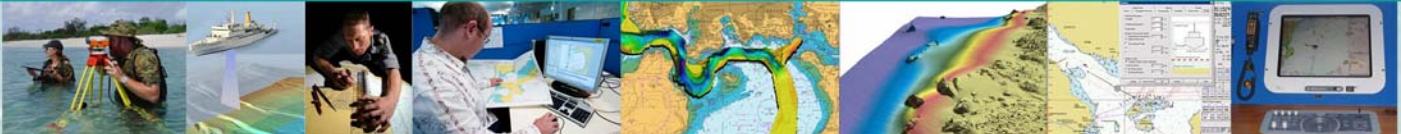
The Assembly is the highest governing body of the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The functions of the Assembly are to consider matters related to managing the regional subsidiary bodies and their programmes, overseeing the ocean research programmes, the ocean observing systems and data management, the regional tsunami warning systems, the coordination of warning and mitigation systems for ocean hazards, the capacity building programme and strategy, sustainable development and governance, administration and management of the IOC and governance of the IHO-IOC GEBCO Project in cooperation with the IHO.



The 30th session of the IOC Assembly was held at the UNESCO Headquarters in Paris, France from 26 June to 4 July, preceded by the 52nd Session of the IOC Executive Council held on 25 June. Ocean Science Day was also celebrated by special panel sessions on 27 June. The delegations included representatives of the Hydrographic Offices of the following IHO Member States: Argentina, Brazil, Chile, Colombia, France, Germany, Peru, Portugal, Republic of Korea, Russian Federation, Singapore, Sweden, Thailand, Turkey, USA and Viet Nam. Director Mustafa Iptes and Assistant Director David Wyatt represented the IHO. The Assembly was opened by the Deputy Director-General of UNESCO, Mr Qu Xing, on behalf of the Director-General, Ms Audrey Azoulay, and Dr Vladimir Ryabinin, the Executive Secretary of the IOC.



30th IOC Assembly in plenary session



General

The Assembly received reports from the Executive Secretary, on the activities of the IOC regional subsidiary bodies – *the sub-commissions for the Western Pacific, the Caribbean and adjacent regions, and Africa and adjacent island States* - the status of the IOC global ocean science report, the world climate research programme and the 2nd International Indian Ocean expedition. Introducing the discussions on the UN Decade of Ocean Science for Sustainable Development (the Decade), the Executive Secretary highlighted that there were less than two years to work with Members States, the UN, all partners and stakeholders to develop an implementation plan. He noted that this was a once-in-a-life-time opportunity for all to achieve a breakthrough in the capacity of oceanography to serve people and the planet. The Executive Secretary identified as the main challenge for the Commission's small Secretariat the dual tasks of raising, not only extra budgetary resources necessary to maintain its core operational programmes, but also significant additional resources to lead and coordinate the Decade preparation phase. He noted a new approach to fund-raising and outreach, based on highlighting the societal benefits of the IOC's work and demonstrating the return on investment in ocean science and observation were being developed. The Executive Secretary highlighted that the Global Planning Meeting in Copenhagen last May represented a first step in bringing together experts and stakeholders to discuss and identify the science questions to be addressed during the Decade. He introduced the six societal outcomes of the Decade, the expected science breakthroughs, the research and development priority areas as well as the four potential pillars of the Decade (a georeferenced Atlas, observations and data system, the science-policy interface and societal applications). He stressed the need for technological innovations as well as an economic valuation of the ocean to drive the development of transformative partnerships under the Decade.

The Assembly identified that the IOC has a critical role to play in the development of UN Sustainable Development Goal (SDG) 14 indicators. In the context of biodiversity beyond national jurisdiction (BBNJ), the Commission's contribution on capacity development and transfer of marine technology was noted as particularly important. The Assembly stressed the need for more operational services and exchange of data, with a particular focus on real-time data exchange. The Assembly welcomed the continuation of the 2nd International Indian Ocean Expedition (IIOE-2) until 2025 as an important contribution to the first half of the Decade. The potential role of Maritime Spatial Planning in addressing many issues related to economic development of coastal nations was highlighted. The Assembly discussed the UN world ocean assessment and the progress with the Global Ocean Observing System (GOOS), the Global Climate Observing System and the restructuring of the World Meteorological Organization (WMO), which will result in the establishment of a Joint WMO-IOC Collaborative Board to which the new WMO-IOC Joint technical committee for oceanography and meteorology (JCOM) will report. Two GOOS-related projects - the European Commission (EC) Horizon 2020 funded AtlantOS project and the Tropical Pacific Observing System in 2020 (TPOS 2020) project – were highlighted. It was noted that the AtlantOS has contributed to the development of a vision for an All-Atlantic Ocean Observing System as a contribution to GOOS, and is seeking to develop mechanisms to engage with Member State agencies and organizations around the Atlantic Basin.



Two resolutions adopted by the 18th World Meteorological Congress, which impact across citizen science and observation activities, were highlighted. The first resolution reaffirmed the importance of marine meteorological observations, including those in Exclusive Economic Zones (EEZs), used operationally by WMO Members to provide services in support of safety of navigation and the protection of life and property in coastal and offshore areas; it also clarifies the legal regime under which the Voluntary Operating Ship Scheme and surface observing platforms operate. The second resolution noted the 20-year history of work by the IOC to develop a cooperative framework regarding the sharing of ocean data in EEZs, recognizing that WMO's operational forecast models and services increasingly rely on sustained global data streams of subsurface observations, and decided to identify the requirements for subsurface ocean variables to improve the quality of these forecasts and services, working closely with IOC in order to explore mechanisms that make the highest-impact subsurface ocean data freely available, and build the capacity of all WMO Members to use the resulting forecast systems and services. It was also noted work by the JCOMM Observations Coordination Group and GOOS that surveyed ocean observing networks on the impediments they faced in taking observations within EEZs in full compliance with the provisions of UNCLOS (The United Nations Convention on the Law of the Sea).

The Assembly also discussed the regional tsunami warning and mitigation systems – *the Pacific (PTWS), the Indian Ocean (IOTWMS) and the North-Eastern Atlantic, the Mediterranean and connected seas (NEAMTWS)* – the tsunami and other coastal hazards warning system for the *Caribbean and adjacent regions (CARIBEEWS)* as well as the global coordination of warning and mitigation systems for ocean hazards and harmful algal blooms. During the presentation of the reports and subsequent discussions covering the Tsunami and Other Hazards Warning System Working Group (TOWS-WG), the IHO was highlighted as one of the significant partner organizations, particularly with respect to the transmission of warning information. The adoption of the TOWS-WG report and recommendations, means that the World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC) and the TOWS-WG can move forward on the implementation of the operational processes for the dissemination of tsunami warnings and structured messages via the International Maritime Organization/IHO WWNWS. The Chair of the IHO-IOC GEBCO Guiding Committee (GGC) highlighted the importance of comprehensive bathymetric datasets to model tsunami impacts and the speed of propagation of the energy wave.

The Assembly received a briefing on the proposed development of the IOC Ocean Data and Information System (ODIS), that will be a framework in which existing ocean data and information systems, products and services will be promoted and where connections between these systems will be promoted and possibly developed by relevant stakeholders. It was noted that the International Oceanographic Data and Information Exchange (IODE) will work with existing stakeholders, linked and not linked to the IOC, to improve the accessibility and interoperability of existing data and information, and to contribute to the development of a global ocean data and information system, leveraging established solutions where possible. The IOC ODIS will target scientists, government agencies/policy-makers, IOC global and regional programmes, IODE National Oceanographic Data Centres, Associate Data Units, Associate Information Units, UN agencies, IGOSS, and Industrial and commercial enterprises. The Assembly stressed the need to develop ODIS with involvement



from the widest possible range of stakeholders, ensuring active participation from IOC Member States but also from other UN agencies, NGOs, national and regional programmes and projects, as well as the private sector.

Ocean Bathymetry and Capacity Building

The Assembly considered the biennial report of the Chair of the GGC and expressed its support for the increased IOC engagement in the work of GEBCO activities. The Chair of the GGC highlighted the various activities undertaken in the recent biennium, in particular highlighting the commencement, in February 2018, of the operational phase of the Nippon Foundation-GEBCO Seabed 2030 project and the progress achieved to increase the global bathymetric coverage. He noted that more details had been provided in the Seabed 2030 side event the previous day. The proposed revisions, as amended by IRCC11, to the Guiding Committee terms of reference and rules of procedure were endorsed. During the GEBCO discussions the IHO representative noted that the wide spread verbal support needs to be supported by real actions to gather bathymetry and make data available. He also urged all IOC Member States, that owned or operated research vessels, to ensure that their vessels were collecting and storing bathymetric data whenever they were at sea and that the data was provided to the IHO Data Center for Digital Bathymetry so as to be freely and openly available to all who may wish to make use of it, sentiments reiterated by the Executive Secretary of the IOC.

The Assembly discussed the IOC Capacity Development Strategy, including its regional programmes and proposals for the IOC Capacity Development Fund. The IOC Ocean Literacy activities, including contributions to the Ocean Literacy in 2018-2021 Action Plan, which had been undertaken in the last intersessional period, were highlighted including progress on global and regional cooperation.

Side Event and Discussion Panel on the Nippon Foundation - GEBCO Seabed 2030 Project

A side event and discussion panel on the Nippon Foundation – GEBCO Seabed 2030 project was held during the lunch time break of the Assembly on 2 July, moderated by Mr Shin Tani, GEBCO Guiding Committee Chair. Assistant Director David Wyatt, representing the IHO, was invited as a panellist. During the introductions to the discussions he stressed the long association of the IHO with the GEBCO Project and its governance. He highlighted the importance of completing the picture of the ocean floor to support the numerous UN initiatives, which needed a comprehensive bathymetric dataset to achieve their goals.



The panel participants at the Seabed 2030 side event

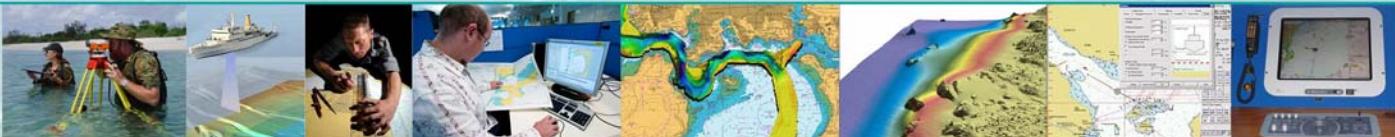


Office Bearers

The Assembly elected Mr Ariel Hernán Troisi of Argentina as new President of the IOC for 2019 to 2020.

Next Sessions

The next session of the IOC Assembly (Assembly-31) is scheduled from 14-25 June 2021 with the 53rd and 54th Executive Councils to be held 29 June-3 July 2020 and 13 June 2021 respectively. All documents of the 30th session of the IOC Assembly will be available from the IOC of UNESCO website. It was also highlighted that the Ocean Conference was programmed 2-6 June 2020.



69th Session of the IMO Technical Cooperation Committee

London, United Kingdom, 25-27 June

Contribution to the IHO Work Programme 2019

Task 1.1.8.5	Maintain relationship with the International Maritime Organization (IMO), including attendance of Technical Cooperation meetings
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The Technical Cooperation Committee (TC) is the IMO body that considers matters within the scope of the implementation of technical cooperation projects for which the IMO acts as the executing or cooperating agency and any other matters related to the IMO's activities in the field of technical cooperation. The 69th session of the TC (TC 69) was held at the IMO Headquarters in London, UK, from 25 to 27 June 2019. Mr. Zulkurnain Ayub (Malaysia) chaired the meeting. Assistant Director Alberto Costa Neves represented the IHO.

In his opening remarks, the Secretary-General of IMO, Mr Kitack Lim, highlighted this year's World Maritime theme, "Empowering women in the maritime community", in line with SDG 5 (*Achieve gender equality and empower all women and girls*), to highlight the important contribution of women all over the world to the maritime sector. IMO, through its "Women in Maritime" Programme, conducted under the auspices of the Technical Cooperation Division, has worked over the past 31 years to enhance the contribution of women as key maritime stakeholders. He stressed the role of the IMO's Integrated Technical Cooperation Programme (ITCP) to help all Member States to develop and formulate innovative policies and strategies to respond to the needs of countries to achieve the SDGs.



Chair, Mr. Zulkurnain Ayub (Malaysia), addressing the meeting.



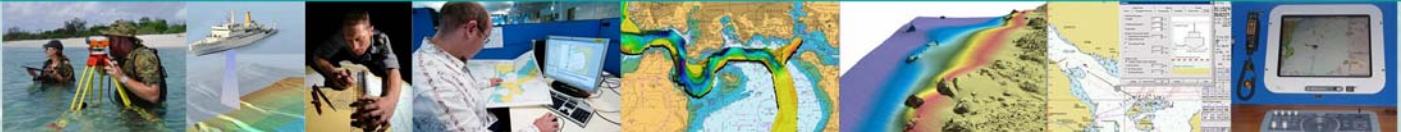
The meeting considered the ITCP delivery during 2018 and approved the ITCP for the biennium 2020-2021 and the TC Fund allocation of circa 14.6 million US dollars to support the programme's core activities. The TC Fund receives contributions from Member States and donor agencies. The Committee endorsed the long-term resource mobilization strategy to support Capacity Building and maritime development projects. The 2020-2021 ITCP envisions regional workshops and training courses for safety of navigation in West Central Africa, Asia, Pacific Islands, Eastern Europe, Latin America and Caribbean and Arab States/Mediterranean region, which will involve the IHO and IALA.

The Committee considered the implementation of the 2030 Agenda for Sustainable Development, especially SDGs 5 and 14, and the strengthening partnerships with the World Maritime University (WMU), International Maritime Law Institute (IMLI) and other global maritime training institutions. It also approved the new and improved Country Maritime Profile module, which has the potential to provide knowledge in support of the IMO-IHO-IALA joint needs assessment visits to coastal States.

The meeting took note of the first joint needs assessment mission in Sudan by the IMO, IHO and IALA, conducted on matters related to hydrography, hydrographic surveys, nautical charts, ships' routing and aids to navigation. The collaboration between the three organizations, which is expected to be sustained, was aimed at enhancing and supporting safety of navigation. Also noted was the participation of the IMO regional presence in IHO and IALA related activities under the UN "Delivering as One" and the contribution from the IHO to the capacity building activities in the Asia-Pacific region.

The Committee noted the status of implementation of the global technical cooperation programme of the IMO Member State Audit Scheme (IMSAS). The IHO representative made an intervention to indicate that, with respect to the implementation of relevant aspects of SOLAS Chapter V, the IHO stands ready to contribute to the Corrective Action Plans (CAP) following IMSAS visits and to the preparation of auditors and audit visits.

Countries in the Caribbean Sea reported on the Regional Senior Maritime Administrators (SMA)' Workshop held on 28 February and 1 March 2019 in Jamaica. Among other matters, the Jamaica SMA Resolution 2019 invited Caribbean States to consider inviting the IHO to assist in the establishment of a national framework for hydrographic services in order to meet the mandatory obligations of SOLAS Chapter V - Regulation 9, researching the feasibility of the establishment of a regional hydrographic office, and becoming members of the IHO and of the Meso America - Caribbean Sea Hydrographic Commission (MACHC). The SMA Workshop became an annual event which includes Hydrography as a permanent agenda item.



Prime Minister of Malta, the Honorable Dr Joseph Muscat and IMO Secretary-General, Mr Kitack Lim with IMLI's Faculty and Alumni during the 30th anniversary celebration session.

Side activities included a session to celebrate IMLI's 30th anniversary, with the participation of the Prime Minister of Malta, the Honorable Dr Joseph Muscat, a ceremony where Malaysia handed financial contributions to WMU and IMLI, with the participation of the Minister of Transport of Malaysia and the launching of the Secretary-General Emeritus Koji Sekimizu's PhD Fellowship on Maritime Governance at WMU. During the meeting other Members announced donations to the TC Fund. The meeting held a small session of appreciation to Mr Juvenal Shiundu, Acting Director of the Technical Cooperation Division, who will retire after more than 22 years of sterling service to the IMO.

During the meeting the IHO representative had numerous fruitful informal discussions with the IMO Secretariat Staff and with delegates. The cooperation between the IMO and the IHO for developing and eventually sharing their respective country maritime profiles was discussed and will be further considered. Coordination was progressed with the Executive Director of the *Comisión Centroamericana de Transporte Marítimo* (COCATRAM) on the implementation of joint capacity building activities in the Meso America and Caribbean Sea region. A joint needs assessment visit to Iraq was discussed and is under consideration by IMO, IHO and IALA.

The TC elected Mr Laurent Parenté, Vanuatu, as Chair and Mrs Mandana Mansoorian, Iran (Islamic Republic of), as Vice-Chair of the Committee for 2020. The next session of the TC (TC 70) is tentatively scheduled from 15 to 17 June 2020.



MONACOLOGY 2019

The 2019 edition of Monacology took place from 11 to 14 June 2019 below the International Hydrographic Organization's Headquarters. Monacology is an annual event that aims to raise children's awareness about the environment and sustainable development.

The underlying theme of *Monacology 2019* was "*Monaco, my substainable town*". In accordance with the theme the IHO presented a chart of the "Marine protected area from Toulon to Orbetello", courtesy of the French Hydrographic Office (SHOM), showing the protected area for marine mammals, subject to an agreement between Italy, Monaco and France.

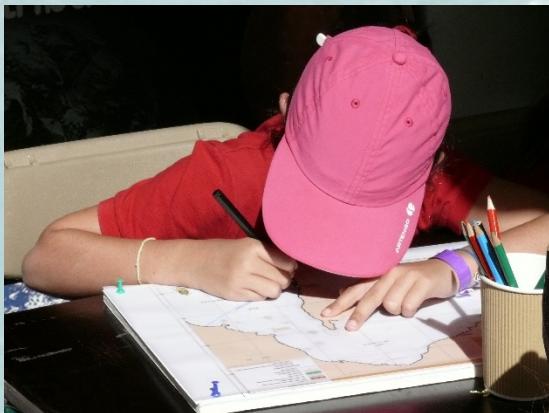


IHO stand at the Monacology 2019

With inquisitive eyes, the children were curious to learn the name of "their" sea and with great attentiveness and precision (like a true cartographer, editor's note) they reproduced the chart with the coastline and protected areas.

Learning to read and grasp the geography of our Blue Planet is allowing our youngsters to address the question of hydrography and marine science and to create awareness of their importance.

In this instance all the participating youngsters from local schools, were able to produce their own chart which they could take home or back to school.



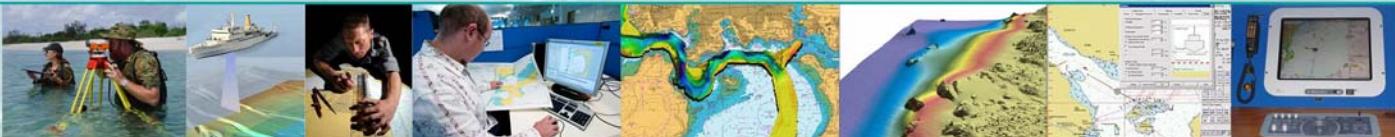
A young hydrographer and the struggle for a chart puzzle

Each budding hydrographer was given an IHO badge “Junior Hydrographer” in recognition of their efforts.

The IHO stand was honored by the visit of HSH Prince Albert II of Monaco, on Wednesday 13 June. He was welcomed by Secretary-General Dr Mathias Jonas who presented the IHO Stand which focused on creating awareness for the new generation on the importance of hydrography for sustainable development of seas and oceans especially the Mediterranean which is their playground.



HSH Prince Albert II of Monaco on the IHO stand with IHO Secretary-General Dr Mathias Jonas



101st Session of the IMO Maritime Safety Committee

London, United Kingdom, 5-14 June

Contribution to the IHO Work Programme 2019

Task 1.1.8.3	Maintain relationship with the International Maritime Organization (IMO), including Attendance of MSC meeting
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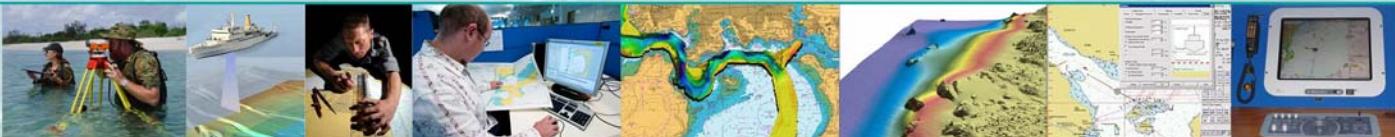
The Maritime Safety Committee (MSC) is the highest technical body of the International Maritime Organization (IMO). The functions of the MSC are to consider matters related to aids to navigation, construction and equipment of vessels, rules for the prevention of collisions, handling of dangerous cargoes, maritime safety procedures, hydrographic information, salvage and rescue and any other issues directly affecting maritime safety. The 101st session of the MSC (MSC 101) was held at the IMO Headquarters in London, UK, from 5 to 14 June 2019. Director Abri



IMO MSC 101 in plenary session

Kampfer and Assistant Director David Wyatt represented the IHO. In addressing the agenda of the session in his opening statement, the Secretary-General of IMO, Mr Kitack Lim, highlighted completing the high-level review of IMO instruments and performing an overarching analysis to ensure that MASS operations are addressed in the most efficient manner in future, keeping in mind the need to maintain or, if possible, enhance safe navigation and operations. With regard to piracy and armed robbery against ships, 223 incidents occurred worldwide in 2018 as compared to 204 incidents reported in 2017; so far in 2019, incidents in West and Central African waters have accounted for about half of all reported incidents. He highlighted that Sub-Committee on Navigation, Communications and Search and Rescue (NCSR)-6 had produced many draft circulars and resolutions for approval and adoption; of special importance were the instruments related to the provision of maritime safety information through Inmarsat Fleet Safety and Iridium Safety Cast. He noted it was imperative that the guidance material needed to implement those new services was made available as soon as possible.

Dr Graham Allen, acting Director of the Nippon Foundation (NF)-GEBCO Seabed 2030 project, gave a presentation during one of the post plenary events, which was supported by an information document submitted to the MSC 101. He provided background to GEBCO and the Seabed 2030 project as well as highlighting the progress achieved by the Seabed 2030 to date and the next steps to increase the current global bathymetric coverage. He highlighted the recent success of the NF-GEBCO Alumni team in winning the Shell Ocean Discovery XPrize competition. He concluded with the actions that maritime administrations



could take to support the project and thus contribute to achieving the goals of UN Sustainable Development Goal (SDG) 14 and the UN Decade of Ocean Science for Sustainable Development.

Maritime Autonomous Surface Ships (MASS)

The Committee noted the progress of the regulatory scoping exercise. The MSC encouraged IMO Member States to contribute to the first step of the regulatory scoping exercise and invited Member States to submit the results of the first step to the intersessional Working Group. The Committee approved the terms of reference for the intersessional Working Group and approved the draft interim guidelines for MASS trials and the associated MSC circular (MSC.1/Circ.1604). A number of IMO Member States highlighted the need to have prior permission from coastal state for vessels in level 3 and 4 of autonomy to operate in their waters.

Polar Code for non-SOLAS Ships

In considering safety measures for non-SOLAS ships operating in Polar waters, the Committee approved the draft Assembly resolution urging the implementation of recommendatory measures for non-SOLAS ships operating in polar waters as well supporting measures aimed at reducing operational risks. The MSC agreed to task NSCR 7 to consider further on making the application of chapter 9 and 11 of the Polar Code mandatory for non-SOLAS ships, whilst considering the consequences and feasibility of applying these chapters before commencing the development of amendments to mandatory instruments.

Hydrography, Navigation and Charting

The traffic separation schemes and routeing measures approved at NSCR 6 were adopted. The MSC approved the MSC Circular (MSC.1/Circ.1609) on *Guidelines for the standardization of user interface design for navigation equipment, S-Mode*. The Committee also adopted the resolution MSC.466(101) on *Amendments to the Performance standards for the presentation of navigation-related information on shipborne navigational displays and approved SN.1/Circ.243/Rev.2 on Guidelines for the presentation of navigation related symbols, terms and abbreviations*. Directions given by all three documents will affect the design of ECDIS user interface from 2024 onwards. The Committee adopted resolution MSC.467(101) on *Guidance on the definition and harmonization of the format and structure of Maritime Services in the context of e-navigation* and approved MSC.1/Circ.1610 on *Initial descriptions of Maritime Services in the context of e-navigation*.



Acting Director Seabed 2030 Project, Dr Graham Allen, addressing a post plenary session at MSC 101



Maritime Safety Information

The Committee approved MSC.1/Circ.1364/Rev.1/Corr.1 on *Amendments to the Revised International SafetyNET Manual* and MSC.1/Circ.1611 on *Interim guidance on technical requirements for Fleet Safety*. The MSC adopted, with modifications submitted by IMSO, resolution MSC.468(101) on *Amendments to Promulgation of Maritime Safety Information* (resolution A.705(17), as amended); the Committee also adopted resolutions MSC.469(101) on *Amendments to World-Wide Navigational Warning Service* (resolution A.706(17), as amended) and MSC.470(101) on *Amendments to IMO/WMO Worldwide Met-Ocean Information and Warning Service – Guidance Document* (resolution 1051(27)). The MSC agreed to circulate the interim Iridium SafetyCast service manual by means of an MSC circular until such time as the full and mature document is finalized, consequently the Committee approved MSC.1/Circ.1613 on *Interim Iridium SafetyCast service manual*.

Maritime Security

The Committee agreed that aspects of cyber risk management, including physical security aspects of cyber security, should be addressed in Ship Security Plans under the International Ship and Port Facility Security (ISPS) Code. The MSC also confirmed that resolution MSC.428(98) on *Maritime cyber risk management in Safety Management Systems (SMS)* sets out the Organization's requirements for Administrations to ensure cyber risks were appropriately addressed in existing SMS, verified by an endorsed Document of Compliance and Safety Management Certificate, and that in the Ship Security Plan, reference should be made to cyber risk management procedures found in the SMS.

Piracy and Armed Robbery

The Committee requested Member States to continue to report incidents of piracy and armed robbery to the Secretariat using the reporting form in MSC.1/Circ.1333/Rev.1 on *Recommendations to Governments for preventing and suppressing piracy and armed robbery against ships*. Member States were also reminded to provide and keep updated the information related to their National Point(s) of Contact for communication of information on piracy and armed robbery in the Contact Points module of the Global Integrated Shipping Information System (GISIS). The MSC noted the decision by the industry group related to the review and revision of the High Risk Area (HRA) to amend the geographic boundaries and to reduce the area for piracy in the Indian Ocean, so as to better reflect the threat of piracy in the region whilst retaining the primary objective to ensure the safety and security of seafarers.

Unsafe Mixed Migration

The MSC received reports on progress made with the Global Compact for Safe, Orderly and Regular Migration and the Global Compact on Responsibility-sharing for Refugees. The MSC received a number of reports from member States directly involved in operations, particularly those involved in the central Mediterranean Sea, and the efforts being undertaken to better facilitate multilateral cooperation and seek solutions to common problems by sharing expertise and best practices. The Committee noted that since the launch of the Inter-agency platform for information-sharing on migrant smuggling by in GISIS,



only seven incidents had been reported. Member States were encouraged to provide and update the information included in the appendix to MSC.1/Circ.896/Rev.2 on *Interim measures for combating unsafe practices associated with the trafficking, smuggling or transport of migrants by sea*.

Ship Voluntary Observing Scheme

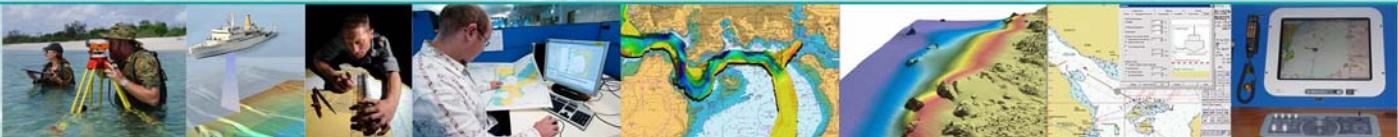
During the discussions on the ship voluntary observing scheme (VOS), the World Meteorological Organization made a strong intervention supporting the current mode of operation. The IHO made an intervention in support of the position of the WMO, highlighting the negative impact on IHO initiatives, such as Crowdsourced Bathymetry and GEBCO, if the proposed amendments were adopted and approved. There was considerable support from Member States and other organizations for the position of the WMO and the future of the VOS in its current form. Some Member States questioned the assertion that VOS activities did not come under the UNCLOS restrictions with respect to scientific research.

Office Bearers

The MSC unanimously re-elected Mr Bradley Groves, Australia, as Chair and Mr Juan Carlos Cubisino, Argentina, as Vice-Chair of the Committee for 2020.

Next Sessions

The next session of the MSC is scheduled from 13 to 22 May 2020 (MSC102).



21st Conference of the Mediterranean and Black Seas Hydrographic Commission Cádiz, Spain, 11-13 June

Contribution to the IHO Work Programme 2019

Task 3.2.1.6	Prepare for and report meetings of the Regional Hydrographic Commission: MBSHC
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The 21st Conference of the Mediterranean and Black Seas Hydrographic Commission (MBSHC) was held in Cádiz, Spain from 11 to 13 June, hosted by the Instituto Hidrográfico de la Marina (IHM), the Spanish Hydrographic Office. The Conference was chaired by Rear-Admiral Luigi Sinapi, Director of the Italian Hydrographic Service (IIM). A total of 47 representatives from 18 Member States of the MBSHC (Algeria, Bulgaria, Croatia, Cyprus, Egypt, France, Georgia, Greece, Italy, Malta, Montenegro, Morocco, Romania, Russian Federation, Slovenia, Spain, Turkey and Ukraine) and two Associate Member States (United Kingdom and United States of America) participated in the Conference. Albania, the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the Intergovernmental Oceanographic Commission (IOC) of UNESCO, the Mediterranean Science Commission (CIESM), IC-ENC and PRIMAR, as the two Regional ENC Coordinating Centres (RENC), were represented as observers. Seven stakeholders from industry participated as invited expert contributors. The IHO Secretariat was represented by Director Mustafa İptes, Assistant Director Yves Guillam and Spanish Translator Mary Paz Muro. A total of sixty-seven participants attended the Conference.



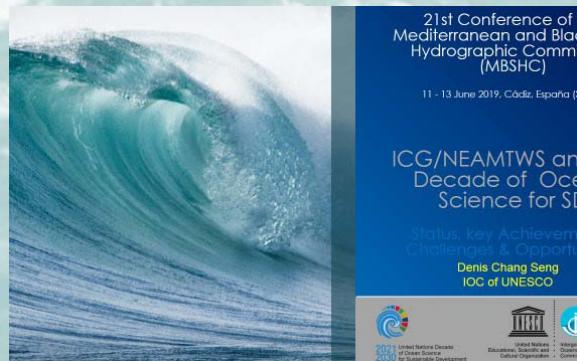
Participants of the 21st Conference of the MBSHC.



The Conference was opened by Vice-Admiral Juan Luis Sobrino Pérez-Crespo, Commander of the Maritime Action in Spain, who highlighted the importance of hydrography not only in support of safety of navigation but also as a geospatial data foundation for the planning and management of maritime affairs.

The MBSHC received about 20 national reports from Member States. Some of them, like the one from Croatia, were supported by very efficient presentations as they provided not only highlights but also conclusions, strategic priorities and high priority topics suggested for discussion at the Conference. Director Iptes reported on the IHO corporate matters and the work programme in general and on the main outcome of the last IRCC meeting (IRCC-11). The Members were informed on the programme and the main deadlines for the preparation of the 2nd session of the Assembly, which include the selection process of the Council Members. They were also invited to use the new online formstack service as far as possible to update their entries (C-55, P-5) and respond to IHO Circular Letters. Members were also invited to provide their input to update the MBSHC Statutes in accordance with the final amendments to the IHO Resolution 2/1997 that were endorsed at IRCC-11.

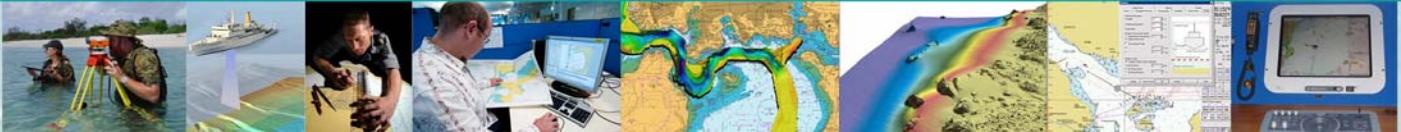
All the presentations made either by observers or industry participants and stakeholders were very educative, in particular for those who participated in the Conference for the first time. The IOC representative provided a clear status report of the tsunami warning systems in the region and the current challenges and gaps faced by the coastal States of the Mediterranean Sea. The NAVAREA Coordinator was invited to participate in the NEAMWave 20 exercise.



The endorsement of the IALA Risk Management Toolbox by the IMO through the SN.1/Circ.296 was noted as well as the capacity building opportunities for the development and the maintenance of Aids to Navigation (AtoN) provided by IALA.

The MBSHC Chair, reporting also as HSSC Chair, provided a clear picture of the technical developments made under the S-100 framework as well as on the implementation strategy of S-100 based products, which is under preparation for being reviewed at the next Council meeting. It was noted that very few MBSHC Member States had actually started to get involved in S-100 based products developments. What should be done to get prepared in the near future is a general expectation implicitly raised by the MBSHC Members.

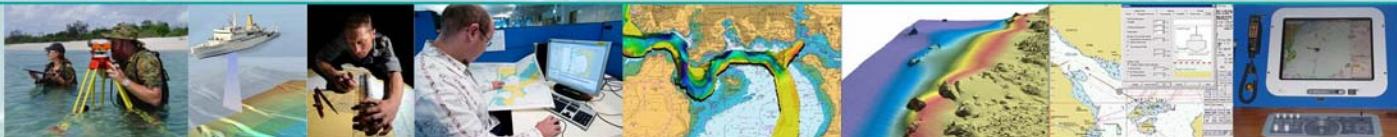
One of the remaining and core activities of the Commission is the establishment of agreed ENC and INT chart schemes. The MBSHC was firstly informed that a survey on the *Future of the Nautical Paper Chart*, prepared by the Nautical Cartography Working Group and endorsed by HSSC, was about to be launched (IHO CL 29/2019 refers). The preliminary



report attached to this survey shows implicitly that from now, priority had to be given to ENC schemes. Noting this warning and notwithstanding the difficulties to reach consensus in the design of these schemes, some proposals were made by the Region F Chart Coordinator (France) to move forward. In application of the IHO Resolution 1/2018 on overlapping ENC cells, the MBSHC noted the risk assessment reports provided by interested parties and the associated political statements. At the end of the Conference, Shom (France) resigned from the role of Chart Coordinator and was commended for its commitment and achievements for more than 40 years as Region F Chart Coordinator. The Chart Coordinator role was taken over by the IIM (Italy).

A report on Maritime Safety Information (MSI) activities in NAVAREA III was presented by Spain and reviewed by the Commission. The recent activities of the Working Group for the Safety of Navigation in the Black and Azov Seas (BASWG) were also presented by the Chair of BASWG (Turkey).

At the end of the Conference, Captain (Dir) José Daniel Gonzalez-Aller Lacalle took over as Chair of the MBSHC and the Commission welcomed the offer made by Slovenia to host the 22nd Conference of the MBSHC in 2021.



11th Meeting of the IHO Inter-Regional Coordination Committee (IRCC11)

Genoa, Italy, 3-5 June

Contribution to the IHO Work Programme 2019

Task 3.1.1	Organize, prepare and report annual meetings of the Inter-Regional Coordination Committee (IRCC)
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The 11th meeting of the IHO Inter-Regional Coordination Committee (IRCC11) was held in Genoa, Italy, from 3 to 5 June, hosted by the Italian Hydrographic Institute. The meeting was chaired by Mr Parry Oei (Singapore) and attended by 47 participants from 23 Member States and two observing Organizations. All but one of the Regional Hydrographic Commissions (RHCs) and all subordinate bodies of IRCC were represented. The ROPME Sea Area Hydrographic Commission (RSAHC) was not represented. The opening address was delivered by the Deputy Chief of the Italian Navy, Vice Admiral Paolo TREU. The IHO Secretariat was represented by Secretary-General, Dr Mathias Jonas (HCA Chair), Director Mustafa Iptes (IRCC Secretary) and Assistant Director Alberto Costa Neves (IRCC Assistant Secretary).

The IRCC reviewed the reports and activities of the RHCs and of its subordinate bodies. It also received reports and input from other IHO bodies and from external stakeholders. The meeting was informed of the difficulties in ensuring Maritime Safety Information (MSI) infrastructures in the West and Central Africa region, where there are only three Member States and 18 Associate Members, with only two hydrographic services in place. The Committee urged close liaison between regional CB Coordinators and the WWNWS-SC on the programming of and candidate selection for MSI training.

Participants acknowledged the significant effort of CB Coordinators to assess the needs in the regions, to identify national and regional projects that may contribute to the Capacity Building Work Plan (CBWP) and to coordinate the support for countries in need. The IRCC acknowledged the concerns of the Capacity Building Sub-Committee (CBSC) due to the lack of funding to cover all projects identified within the CBWP. The Committee recognized the work done by the IBSC in the delivery of Edition 2.1.0 of the companion document *Guidelines for the Implementation of the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers* (May 2019). The meeting acknowledged the generous financial support from the Republic of Korea and the Nippon Foundation of Japan and the in-kind support from Member States and industry stakeholders.

The meeting identified the need for a regional engagement to encourage Member States to use CATZOC to generate the input to C-55 (*Status of Hydrographic Surveying and Nautical Charting Worldwide*) in a consistent and harmonized way. For this to be effective, there is the need to encode meaningful values of CATZOC in ENCs. Reports were received on the status of populating CATZOCs in ENCs, paper charts generated automatically from ENCs,



high resolution ENCs and on possibilities to support and/or regulate the chart production for leisure boats.

The importance of data quality and consistency was considered and the Committee invited RHCs to encourage Member States to distribute their ENCs via the RENCs and to provide their agreement for making CATZOC values available in the additional layers of INTogIS II (Manager Mode, available to MS only). Participants noted that work continues by stakeholders to improve coverage and to manage overlaps and the Committee approved a revision to the WENDWG Terms of Reference that support an implementation strategy for S-100 based products, including S-101 ENCs. Participants noted the early draft of the provision of S-100 services roadmap. These developments will eventually lead to the establishment of a global coordination of navigation services principles in cooperation with IMO and IALA.

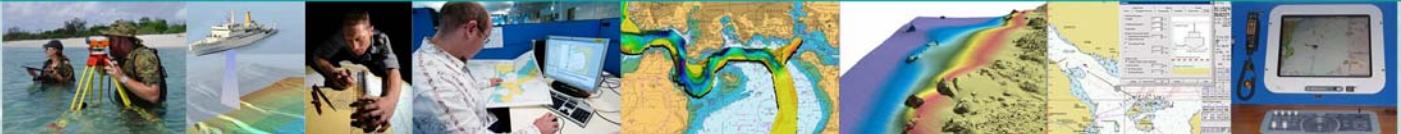
The meeting noted the improvements to the IHO ENC Catalogue and commended IC-ENC and PRIMAR for the ongoing support to ENC producers and user communities and the EAHC Regional ENC Coordination Centre (RECC) for its progress in establishing its operations. It also commended Republic of Korea and other stakeholders for their hard work in developing INTogIS Phase II.

Progress was reported on surveying aspects, with the developments on the vertical Common Reference Surfaces, risk assessments and resurvey plans, Satellite Derived-Bathymetry (SDB), depth contouring algorithms, autonomous surveys with emphasis to very shallow waters and on new hydrographic vessels reported in Fiji, Morocco and Nigeria. Progress was noted in Crowdsourced Bathymetry (CSB), the new IHO Publication B-12 (*Guidance on Crowdsourced Bathymetry*) and the need for RHCs to engage and encourage Member States to release datasets or subsets into the public domain via the IHO Data Center for Digital Bathymetry (DCDB). Reports were received on increased data contributions to the DCDB and for GEBCO, highlighting the positive impact of GEBCO Seabed 2030 Project.

The Committee endorsed the draft amended IHO Resolutions 2/1997 *Establishment of Regional Hydrographic Commissions* and 1/2005 *IHO Response to Disasters*. MapAction, a humanitarian mapping charity, presented its work and the potential synergies in responding to disasters by working with the IHO and with RHCs. Disaster response plans are under development in some RHCs and experiences were shared during the meeting.



Participants of the 11th meeting of IRCC



The meeting reviewed the progress on global Marine Spatial Data Infrastructure (MSDI) activities and the outcome of the MSDI Concept Development Study jointly conducted by the Open Geospatial Consortium (OGC) and the IHO, funded by USA-NGA. A joint report is under preparation. It also acknowledged the work of the IHO Project Team on the implementation of the UN-GGIM Shared Guiding Principles for Geospatial Information within the IHO. The co-Chair of the UN-GGIM Working Group on Marine Geospatial Information (WGMGI) updated the meeting on its programme of work. Participants were informed on the development of training material for MSDI, funded by Denmark that will be publicly available soon.

The IRCC endorsed the amendments to the IHO Publication B-6 (*Standardization of Undersea Feature Names*) and the amendments to the IHO Resolution 2/2007 *Principles and Procedures for making changes to IHO Technical Standards and Specifications* as amended. The meeting was informed on the progress made by the Strategic Plan Review Working Group (SPRWG) and on the possible impact on the implementation of the IRCC work programme.

The Committee was informed of the tragic passing of Mr Ian Halls (Australia), editor of the International Hydrographic Review (IHR) from 2013 to 2019 and acknowledged his excellent work. IHO Assistant Director Alberto Costa Neves was appointed as acting Editor for the November 2019 Edition of the Review. RHC Chairs were invited to search proactively for articles on good science and/or research level for publication in the Review and to support their representatives in the IHR Editorial Board. Developments in the infrastructure of the IHO Secretariat were reported, including on the IHO GIS, databases, online registration system and on-line form system and how they impact the RHCs and the Member States' activities.

The International Cable Protection Committee (ICPC) reported its activities and the Committee noted the growing threat to submarine cable infrastructure from uncoordinated deep seabed mining activity and the need to chart cables to full ocean depth in these areas, recognizing the need for ICPC members to provide as-laid cable data in a timely manner. It also noted the dialogue of ICPC with OGC with respect to commissioning an Interoperability Experiment and future Pilot project with the objective to develop a S-4xx submarine cable product specification.

The next meeting of the IRCC is planned to be held in Gdansk, Poland, from 1 to 3 June 2020, hosted by the Hydrographic Office of the Polish Navy. Following meetings will be held in Monaco (2021), Ecuador (2022, to be confirmed) and Japan (2023, to be confirmed). The IRCC meeting in 2021 will follow the CBSC18, a two-day CB Stakeholders' Seminar and the celebration of the World Hydrography Day of the Centenary.