



17TH MEETING OF THE IHO CAPACITY BUILDING SUB-COMMITTEE (CBSC17)

29 - 31 May, Genoa, Italy

Contribution to the IHO Work Programme 2019	
Task 3.3.1	Organize, prepare and report annual meetings of the Capacity Building Sub-Committee (CBSC)

The 17th meeting of the IHO Capacity Building Sub-Committee (CBSC17) was held in Genoa, Italy, from 29 to 31 May, hosted by the Italian Hydrographic Institute. The meeting was chaired by Mr Thomas Dehling (Germany) and attended by 29 participants representing 14 Regional Hydrographic Commissions (RHCs) and 20 Member States. The South West Atlantic Hydrographic Commission (SWAtHC) was not represented. The welcome address was provided by RAdm Luigi Sinapi, National Hydrographer of Italy. The IHO Secretariat was represented by Director Mustafa Iptes, Assistant Director Alberto Costa Neves (CBSC Secretary) and Sandrine Brunel (CB Assistant).

The Sub-Committee considered that the IHO Capacity Building Strategy still proves to be very efficient and the implementation of the CB Procedures is very helpful in the execution of the CB Work Programme (CBWP). The meeting also agreed to prepare an input paper to the IHO Strategic Plan Review Working Group (SPRWG) in order to contribute to its development before submission to the next meeting of the IHO Council (C-3). CB is a crucial tool supporting all the targets envisioned in the draft IHO Strategic Plan.

Participants considered that Capacity Building is also key for the development of hydrographic services in developing countries that otherwise couldn't achieve the targets envisioned in the draft IHO Strategic Plan. In order to provide this support, regular and sustainable resources from Member States, stakeholders and the CB Fund is critical. The meeting considered ways to increase resources, including those contributions beyond the CB Fund and agreed that in order to attract donor organizations there is a need to take part in comprehensive projects with other international and regional organizations. In this regard the meeting was informed on the IHO-IMO-WMO-IOC-IALA-IAEA-FIG-IMPA Joint CB Group's initiative to organize a joint project to support Bangladesh, under the leadership of the IMO, under the UN "Delivering as One".

The meeting acknowledged the generous financial contributions of the Republic of Korea and of the Nippon Foundation of Japan, that has a major impact in the CBWP. These contributions jointly creates a number of opportunities for developing Member States in education programmes in Hydrography (Categories "A" and "B") and in Nautical Cartography (Category "B") that have been contributing to the increase in survey and charting worldwide. The contribution from Member States and Industry that provide in-kind support (provision of facilities, trainers, advice, etc.) was also acknowledged.



The draft CB Procedure 9 on Technical Visits was considered and approved by the Sub-Committee. The drafting group was tasked to create a template for the follow-on Implementation Visits to be considered at the next meeting. The meeting was also briefed by the C-55 Review Project Team (C-55RPT) on the limitations and recommendations for the use of CATZOC derived information to update the IHO Publication C-55 as a short-term solution. This will allow the input to be consistent and in a harmonized way. A longer-term solution was envisioned as part of modern MSDI and GIS environments. C-55RPT was tasked to define the scope for future work using a GIS approach.

Participants acknowledged the progress in the IHO Secretariat with the IT-based CB Management System (CBMS), essential to support the work of the CB Coordinators in the RHCs. The system is being developed with the generous and intensive support from ROK in cooperation with the IHO Secretariat. The submissions to CBSC18 will be made online using the CBMS that will also contain the database for recording trainees, trainers, consultants, events and other elements for an efficient CB management. It is also envisioned to provide the figures for the CB-related performance indicators.

Reports received from the RHCs and from the IHO Secretariat showed progress in several areas with Guyana becoming the 90th Member State of the IHO, the development of new IBSC recognized programmes at both Category "A" and "B", the positive impact of the Maritime Safety Information (MSI) courses coordinated between the CBSC and the WWNWS-SC, the improved coordination with regional organizations and the impact of aid-programmes from foreign affairs of several Member States. The meeting acknowledged the assignment of a CB Coordinator in the RSAHC.

National and regional reports were received from the New Zealand Pacific Region Navigation Initiative (PRNI), the Risk Assessment Project in the Greater Caribbean Region (GCR), the United Kingdom Commonwealth Marine Economies (CME) Programme, the EAHC Training, Research and Development Center (TRDC), the Mexico FOCAHIMECA Project, the CB activities provided by Italy, the Japan International Cooperation Agency (JICA) training course and the training opportunities in Industry.



Participants of the 17th meeting of CBSC



The meeting updated and adjusted the 2019 CB Work Programme, considered the priorities identified by the Sub-Committee, the available and potential additional resources and approved the 2020 CB Management Plan and the 2020 CBWP.

The next meeting of the CBSC is planned to be held in Gdansk, Poland, from 27 to 29 May 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 CBSC meeting in 2021 will be held in conjunction with a two-day CB Stakeholders' Seminar.



VISIT OF DELEGATION OF VIET NAM TO THE IHO SECRETARIAT

Monaco, 16 May

A delegation from Viet Nam led by Rear Admiral Pham Manh Hung, Vice Chairman and Director General of Viet Nam Hydrographic Office (VHO) visited the IHO Secretariat on 16 May, and was received by IHO Director Mustafa Iptes, accompanied by Assistant Directors Alberto Costa Neves and Yves Guillam.

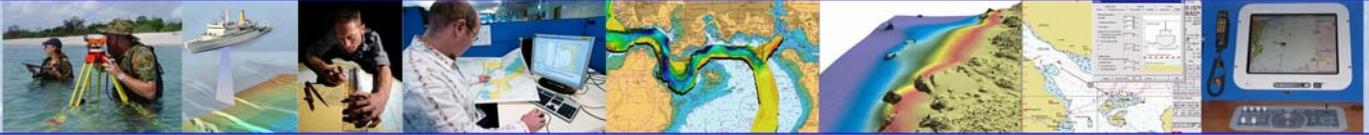


Viet Nam became a Member State of the IHO in 2015 and the visit aimed at familiarizing the VHO Staff with the overall IHO work programme, improving the ties between the VHO and the IHO Secretariat and identifying opportunities for Viet Nam to contribute to the work and objectives of the IHO.

The visit included a thorough presentation of the IHO, highlighting the various opportunities for the active engagement of Viet Nam, including corporate affairs, technical work, cooperation with other Member States and participation in Capacity Building.

During the visit the Hydrographer of Viet Nam highlighted the interest of his country in pursuing a fast development in Hydrography and Nautical Cartography to support safety of navigation and economic development in the more than 3,000 islands and 3,200 km of coastline. He also briefed the IHO Secretariat on the current status of surveying and charting and the bilateral agreements with France, India, Norway and United Kingdom.

It was reported that Viet Nam is aiming to become a more active Member by hosting IHO meetings and Capacity Building activities. By developing the country's Marine Spatial Data



Infrastructure, it will improve the quality of the national chart portfolio and the national economic infrastructure. Viet Nam, as a Member of the IHO, also expressed their desire to become a full Member of the East Asia Hydrographic Commission (EAHC).



Rear Admiral Pham Manh Hung and IHO Director Mustafa Iptes during the Visit of Viet Nam del



**1ST GLOBAL PLANNING MEETING OF THE UNITED NATIONS
DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT
Copenhagen – Denmark, 13 - 15 May**

Contribution to the IHO Work Programme 2019	
Task 1.1.9	Maintain relationship with the Intergovernmental Oceanographic Commission (IOC) of UNESCO

The 1st Global Planning Meeting ended after three days of lively discussions with over 200 participants from science, academia, policy, communication and private sector organisations brainstorming on how to achieve the six key Decade outcomes by 2030: a clean ocean, a healthy and resilient ocean, a safe ocean, a sustainable and productive ocean, a predicted ocean and a transparent and accessible ocean. Dr Mathias Jonas, Secretary-General of the IHO, represented the IHO Secretariat.

Human and society questions were at the fore and core of debates: What kind of science and infrastructures are needed to understand and inform decision makers and citizens alike about the present and future changes in the ocean? How can we align on-going research investments in order to produce major breakthroughs such as a global map of the seafloor or a deep-sea observing system? How can science define pathways for ocean sustainability, providing solutions to feed a growing world population without harm to marine biodiversity?

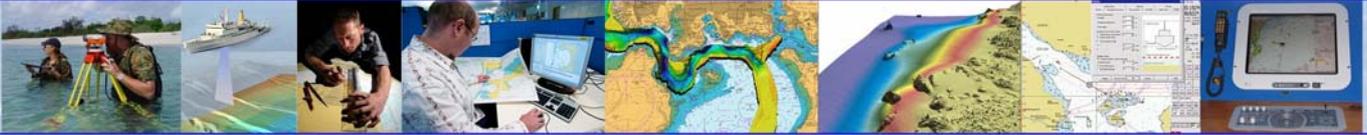
“The Decade takes on a critical role in critical times, as we are facing challenges our species has never faced before. As we know so little, we need this Decade to fill the gaps in scientific knowledge to enhance ocean health. But it must do so within a precautionary approach applied with vigor” said Peter Thomson, UN Secretary-General’s Special Envoy for the Ocean, opening the meeting at the Assembly Hall of Denmark’s National Museum.

By video message, H.S.H. Prince Albert II of Monaco urged all to go further in the transformation of society. He insisted that we must act urgently to provide solutions to society’s major current challenges, responding to the climate change and biodiversity crisis and plastic pollution.

Peter Haugan, Chair of the Intergovernmental Oceanographic Commission (IOC) of UNESCO expressed the Decade is a once in a lifetime opportunity, that it needs to be about the people, leaving no one behind, and enabling individuals to make a difference. He highlighted the need for an ambitious top-down and bottom-up movement to meet the Sustainable Development Goals.

Vladimir Ryabinin, Executive Secretary of IOC called on young professionals and social scientists to work together in an interdisciplinary effort. It should be an ambitious, team work undertaking across all sectors.

Dr Mathias Jonas, Secretary-General of IHO, underpinned the vital importance of the digital mapping of the oceans presenting seabed topography as the basic information. He explained the GEBCO concept and the interrelation to the Seabed 2030 project. For data contributions



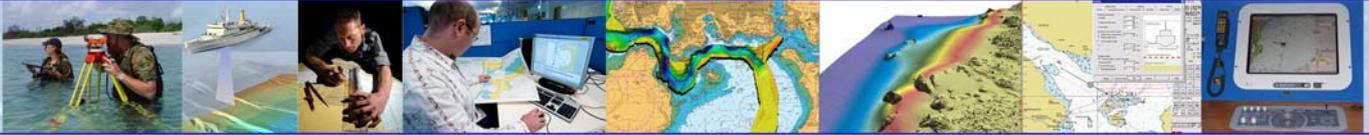
gathered by commercial surveys he coined the term “digital philanthropy”. He went on to advertise for IHO’s S-100 approach to be potentially applicable to all sorts of marine information including chemistry and biology of the oceans resulting in interoperable datasets to form “the digital aquarium”.



Official group picture of the 1st Global Planning Meeting of the UN Decade of Ocean Science for Sustainable Development © Leif Bolding

In order to succeed, participants concluded that the Decade needs to promote ocean literacy across the world to anchor mind-sets around the fundamental relationship humanity has with the ocean. The Decade needs to be inclusive, participative, and interdisciplinary. It will require a powerful marketing and communication strategy, advancing stakeholder partnerships across different disciplines.

Capacity development and technology transfer are required to smaller economies who are in need of ocean science, such as the Small Island Developing States. The importance of traditional knowledge should be emphasized, because the current way of life is destructive. Ultimately, the Decade needs to start a global movement and should change the current ‘domination’ narrative over the ocean and turn it into something positive. In the end, as summed up by Margaret Leinen, Director of the SCRIPPS Institution of Oceanography, “it is about what can we do together that we cannot do separately” as no single nation can deliver on its own the science we need for the ocean we want.



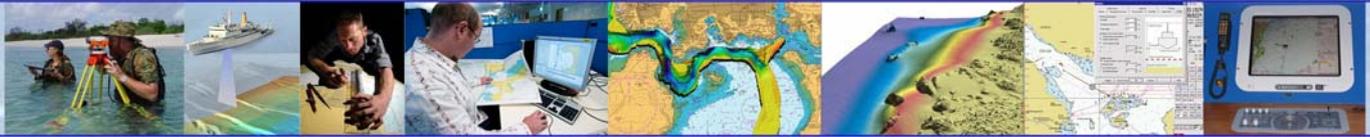
The next months of planning will include regional workshops to identify further priorities and identify existing initiatives, experts and potential partnerships. The first regional workshop covering the Pacific Community is set to take place in Nouméa, New Caledonia (23-25 July 2019), and a second workshop in Tokyo, Japan (31 July – 2 August 2019) will consult stakeholders in the North Pacific region. Many more workshops and consultations are planned from August 2019 to the first quarter of 2020, covering every ocean basin, including the Polar Regions and marginal seas.

The 2nd Global Planning Meeting scheduled for May 2020 will then integrate knowledge and regional priorities into a global implementation plan that will include a science plan, a communication strategy as well as a resources mobilisation plan to be presented to the various Decade partners at a kick-off meeting in Germany during the first quarter of 2021.



Live stream: #OceanDecade First Global Planning Meeting (Monday, 13th May 2019)

Dr Mathias Jonas, Secretary-General IHO explains the role of hydrography in relation to the Ocean Decade



11TH MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE (HSSC-II)

Cape Town - South Africa, 6-9 May

Contribution to the IHO Work Programme 2019

Task 2.1.1	Organize, prepare, and report annual meetings of HSSC
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The 11th meeting of the Hydrographic Services and Standards Committee (HSSC) took place in Cape Town, South Africa from 6 to 9 May 2019. The meeting was hosted by the South African Navy Hydrographic Office (SANHO). The HSSC Chair, RAdm Luigi Sinapi (Italy) opened the meeting and invited Captain Theo Stokes, National Hydrographer of South Africa to provide the opening address. After welcoming delegates to the Mother City in all eleven official languages spoken in South Africa, Captain Stokes emphasized South Africa’s commitment to providing standards based on hydrographic products and services. He reported on the new rejuvenation programme being undertaken by the SANHO which will include the acquisition of a new hydrographic survey vessel, 3 organic survey motor boats and major upgrades to the production and training facilities within SANHO.

Sixty-three participants representing twenty-four IHO Member States and eleven stakeholder organizations participated in the meeting. The IHO Secretariat was represented by Director Abri Kampfer, Assistant Directors Yves Guillam and Anthony Pharaoh.



The participants of the 11th Hydrographic Services and Standards Meeting.

Following the resignation of the HSSC Vice-Chair, Mr. Michael Prince (Australia), the Committee elected Mr. Magnus Wallhagen (Sweden) as his replacement. The HSSC Chair congratulated Mr Wallhagen and expressed his appreciation to Mr. Prince for the significant contribution he had made during his term in office.



The Chair of the Strategic Plan Review Working Group (SPRWG) of the IHO Council, Ingénieur général Bruno Frachon (France), reported on the draft Revised IHO Strategic Plan currently under development and the links to be established with the IHO Work Programme of the HSSC through Performance Indicators. Subsequent suggestions were made by the HSSC Chair. The meeting also discussed the format and content of a showcase presentation on S-100 based products and test bed systems to be presented at the 3rd session of the IHO Council.

Reports were provided by the Chairs of the HSSC Working Groups and Project Teams. The S-100WG Chair reported on new documents under development which include a guidebook for product specification developers (S-97), the “Interoperability Specification” for S-100 based navigation systems (S-98) and a proposal to implement an “S-100 Technical Readiness Levels” concept for controlling and monitoring the development of S-100 based products. Reports were also provided on the status of the S-101, S-102, S-121 and S-129 Product Specifications. PRIMAR reported on their implementation of the S-100 based security system for the distribution of S-102 and other product data.

The Chair of the ENCWG reported on the S-58 test datasets (available on Github), progress with developing guidance on producing high density bathymetric ENC's and extensions to the S-63 (IHO Data Protection Scheme) required to address cyber security concerns.

The NIPWG Chair reported on the product specifications that have recently been completed, and those still under development. He reported on the outcomes of the joint IMO/IHO Harmonization Group on Data Modelling (HGDM) meeting (IMO, London – October 2018) and the discussions on the IMO e-Navigation Maritime Service descriptions that fall under the IHO responsibility.

The NCWG Chair reported on the status of IHO publications under its remit, and highlighted issues and options reported in a paper entitled “Future of the Paper Chart”. A survey is proposed to Member States and its outcome will be incorporated into the final version of the report on the future of the paper chart.

The Chair of the DQWG reported on the new data quality indicators under development and highlighted a data quality “decision tree” that is intended to provide guidance on achieving a harmonized implementation of quality parameters for hydrographic data under the S-100 framework. The DQWG was also commended for the development of a new conditional visualization methodology of quality of bathymetric data which now needs to be experimented.

Canada reported on an “S-100 cloud distribution pilot project” which has demonstrated the ability to store S-102 data on a cloud repository, combine it with S-57 data and make it available for use as a web services.

Following a proposal made by the USA, the meeting had fruitful discussions on the possible implementation of MARPOL regulations into a new S-100 based product, still to be developed. A two-step process was agreed to speed up the service to mariners, firstly a revision of the S-57 catalogue of objects and then to consider at a later stage, whether it is appropriate to move forward with a new S-100 based products covering IMO-type regulations.



Reports were also provided on the activities of the Hydrographic Survey Project Team (HSPT), the Tides - Water Level and Current Working Group (TWCWG), the Hydrographic Dictionary Working Group (HDWG) and Advisory Board on Law of the Sea (ABLOS) activities. The HDWG provided a demonstration of the prototype online hydrographic dictionary applications which includes English, French, Spanish and Chinese terms and definitions.

alarm	In ECDIS a device or system which alerts by audible means, or audible and visual means, a condition requiring attention.
جرس إنذار	في نظام عرض الخرائط الإلكترونية (أكسس) هو جهاز أو نظام تحذيري مسموع أو مسموع ومرئي، حالة تمتدعي الإنتباه.
all other information	In ECDIS used to describe information additional to the STANDARD DISPLAY. Also called "ON-DEMAND INFORMATION".
جميع المعلومات الأخرى	في نظام عرض الخرائط الإلكترونية (أكسس) تستعمل لوصف معلومات إضافية إلى تلك المعلومات القياسية المعروضة، وأيضا يدعى «

التهوية	تهوية	Transformation of 通风器 通风器 into forced, mechanical, electrical, etc., for protection with atmospheric contamination.
التهوية	通风器	Belonging to the lower portion of the ocean, generally below 5,700 meters (30,000 fathoms).
التهوية	通风器	A layer of small simonides on the deep-sea floor.
التهوية	通风器	An extension, flap, overhang or overhang level from an object.
التهوية	通风器	The rate of change of DECLIVITY.
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Towards a multilingual IHO Hydrographic Dictionary using unique reference number for definitions

All reports and presentations given by the Working Groups are planned to be used in preparation of a strategic paper covering the S-100 Implementation Strategy aiming to provide some guidance to Member States on their transition plans to prepare the future production of S-100 based products.

Presentation on the activities of the following relevant external liaison organizations were provided by the International Maritime Organization (IMO), Comité International Radio-Maritime (CIRM), International Organization for Standardization (ISO/TC211), International Association of Light house Authorities (IALA), Open Geospatial Consortium (OGC), International Cable Protection Committee (ICPC) and Defense Geospatial Information Working Group (DGIWG). There were information papers presented on the phase II of the INTogIS project, the NOAA surface currents reporting facility and increases in the shifting of the magnetic north pole.

The 12th HSSC meeting will take place in Bristol, United Kingdom from 11-15 May 2020.