

5TH MEETING OF THE IHO/ROK PROGRAMME MANAGEMENT BOARD (PMB5) Busan, Republic of Korea, 25 - 26 February

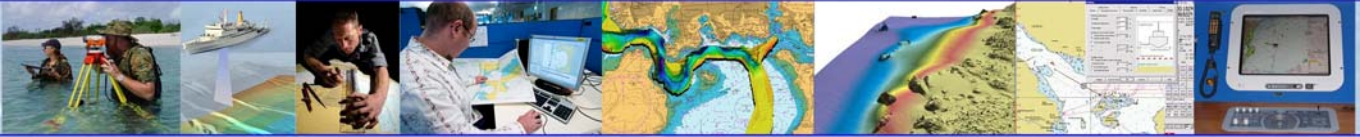
The 5th meeting of the IHO/ROK Programme Management Board (PMB5) was held in Busan, Republic of Korea (ROK), from 25 to 26 February, hosted by the Korea Hydrographic and Oceanographic Administration (KHOA). The meeting was co-chaired by Mr. Joon Ho Jin (KHOA) and Mr. Thomas Dehling (IHO) and attended by representatives from the contributing partners. The IHO was represented by Mr. Dehling (Germany, Chair of the IHO Capacity Building Sub-Committee), Director Mustafa Iptes and Assistant Director Alberto Costa Neves (Secretary).

The PMB was established under the IHO/ROK Memorandum of Understanding (MoU) to identify ways of improving hydrography and nautical cartography worldwide through the capacity building activities funded by the ROK and to manage the IHO/ROK programme of technical cooperation.

The meeting reviewed the significant achievements and the various training and education activities sponsored by the ROK. The annual contribution from the ROK plays a significant part in the Capacity Building (CB) Fund used to support the annual CB Work Programme (CBWP). Since its inception the ROK contribution has supported education programmes in hydrography and cartography, training for trainers courses, seminars, and short courses on marine spatial data infrastructures, law of the sea, tides and water levels, amongst others. The meeting considered the management aspects of supporting trainees on the Category "A" Programme at the University of Southern Mississippi (USM)/USA and the Category "B" Nautical Cartography Programme at KHOA in order to effectively deliver high level education to participants from developing countries. During the meeting the selection board for the 2015-2016 edition of the Category "A" Programme was established and selected four candidates from Bahrain, Nigeria, Oman and Romania, subject to final acceptance by the USM. During the meeting the ROK confirmed its intention to continue supporting CB activities at the same level of contribution as this year.



Participants at the PMB5 Meeting

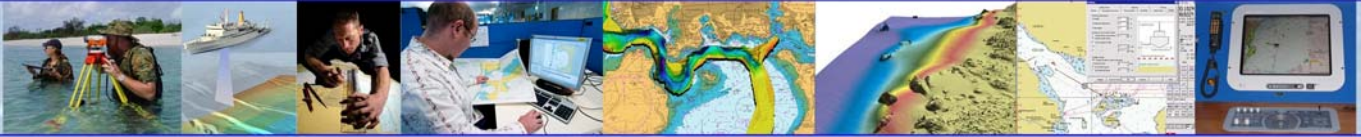


The meeting also identified training needs related to S-100-based Standards and e-Navigation in order to help developing regions to prepare for the practical implementation of these developments and for the expected impacts.

The meeting was preceded by a half-day workshop on capacity building, focusing on new challenges and opportunities. This was attended by 21 participants from relevant ROK institutions and invited guests. The workshop was co-chaired by Mr. Gi-jun Han (KHOA/ROK) and Director Iptes and aimed at further developing the cooperation between the IHO and the ROK for the benefit of worldwide hydrographic capacity.



The Director General of the Korea Hydrographic and Oceanographic Administration, Mr. Gi-jun Han, addresses the participants of the Capacity Building Workshop



NEW HYDROGRAPHER OF PERU



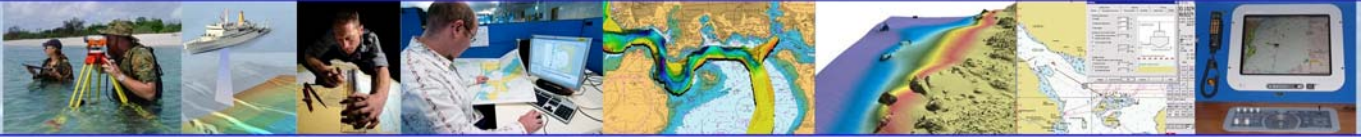
Rear Admiral Rodolfo SABLICH LUNA VICTORIA was born in Callao, on 24 March 1966. He joined the Navy on 22 February 1983, and graduated on 1st January 1988 as Ensign.

He is qualified in Hydrography and Navigation and has followed major courses such as: Navigational Course in Antarctic Waters, the Basic Staff Course, Command and Staff Course and a Master of Science in Coastal Engineering.

He also holds a Master in Management, a Master in Hydraulic Engineering with a specialisation in Coastal Morphology, a Master in National Defence and a national diploma in Defence and National Security.

Amongst the main positions held by the above-mentioned officer, the following can be highlighted: Head of the B.A.P. Logistics Department "Velarde"; Head of the Security Department of the General Command Headquarters of the Navy; Deputy-Commander of B.A.P. "Unanue", Deputy-Commander of BIC "Humboldt", Head of of B.A.P. cover "Bayovar"; Head of the Logistics Department of B.A.P. "Admiral Grau"; Head of the Logistics Section of Fourth Naval Zone's General Staff, Commander of B.I.C. "Humboldt"; Captain of the Port of Callao; Naval and Defence Attaché in the Republic of Brazil and Head of the Institutional Policy Department of the Navy General Staff.

Furthermore, he has held a number of posts at the Directorate of Hydrography and Navigation, including : Head of the Surveying Division of the Department of Hydrography; Head of the Department of Nautical Lights; Head of Materials and Services;; Head of Antarctic Affairs; Chief Technical Officer and Deputy Director of Hydrography and Navigation, having participated in five Campaigns in Antarctica.



13TH CONFERENCE OF THE SOUTH WEST PACIFIC HYDROGRAPHIC COMMISSION AND IHO WORKSHOP ON HYDROGRAPHIC GOVERNANCE Rarotonga, Cook Islands, 23-27 February

The Government of the Cook Islands hosted the 13th Conference of the South West Pacific Hydrographic Commission (SWPHC) from 25 to 27 February in Rarotonga, Cook Islands. Representatives from all eight Member States of the Commission, and all seven Associate Members attended the meeting. Three Observer States, three international organisations and six representatives from industry also participated. The IHO was represented by President Robert Ward .

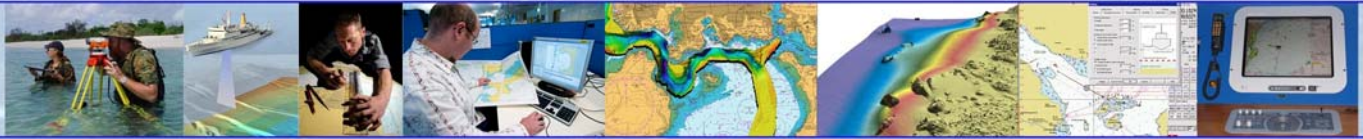
The meeting was opened by the Deputy Prime Minister of the Cook Islands, the Honourable Teariki Heather, and chaired by Commodore Brett Brace (Australia).

Each of the States present provided an update on their activities since the last meeting 18 months previously. Among the Pacific Island States and Territories (PICTs) all indicated that progress had been made, albeit only marginal in some cases. However, Papua New Guinea, The Solomon Islands, Tonga and Vanuatu all indicated significant progress. Personnel from Papua New Guinea have received internationally recognised training, Solomon Islands personnel are currently implementing new hydrographic survey equipment, and Tonga has re-organised its internal hydrographic responsibilities by designating the Department of Infrastructure, Marine & Ports Division as the national hydrographic authority while the Navy retains responsibility for the conduct of hydrographic surveying and will shortly refurbish its dedicated hydrographic survey vessel.



The Deputy Prime Minister of the Cook Islands, the Honourable Teariki Heather opens the meeting

Vanuatu reported on the very successful collaborative effort between its government, the Secretariat of the Pacific Community (SPC) Geoscience Division, New Zealand, through the Ministry of Foreign Affairs and Land Information New Zealand and the UK Hydrographic Office. This resulted in urgent surveys being carried out and electronic navigational charts being published in direct support of a rapidly growing cruise ship requirement.



New Zealand reported on its ground-breaking work in developing and using a GIS-based risk assessment and cost benefit methodology to determine surveying and charting priorities. The work in Vanuatu and subsequent work in Tonga and the Cook Islands were used to illustrate how the methodology is being used.

During the meeting the New Zealand government announced a five million dollar, five-year hydrographic assistance programme (Pacific Regional Navigation Initiative (PRNI)) which will focus on navigation-related aspects of maritime safety that will see hydrographic risk assessments and chart remediation programmes take place for the Cook Islands, Niue, Samoa, Tonga and Tokelau, where New Zealand is the Primary Charting Authority.

The activities of the SPC Geoscience Division and its improved capability to conduct hydrographic surveys that can be used to improve charts were presented and discussed. Highlights of these included its work as part of the surveying efforts in Vanuatu and the decision at the 2nd meeting of the Pacific Regional Energy and Transport Ministers in April 2014 to endorse the establishment of a hydrographic unit at SPC to develop and further enhance regional hydrographic services to members.

The Commission members reviewed their requirements for further capacity building and agreed on priorities to be submitted to the forthcoming meeting of the IHO Capacity Building Sub Committee in May.

The 13th meeting of the Commission was preceded by a workshop on hydrographic governance sponsored by the IHO Capacity Building Fund and delivered by representatives from the Primary Charting Authorities in the region and industry. The workshop was intended to provide the representatives of the PICTs with information on the responsibilities and obligations of coastal States with regard to the provision of hydrographic and nautical charting services and ways in which these obligations can be met. 22 people attended the workshop to hear from seven presenters over two days.



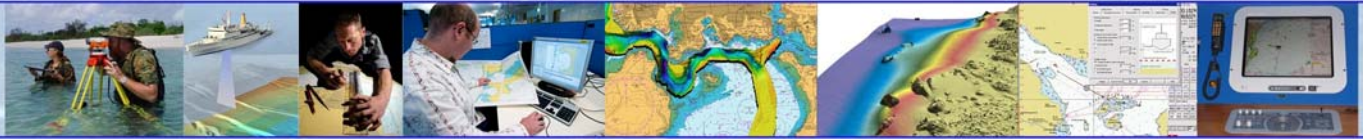
Captain Tafaigata Toilolo, representative of Samoa signs the Statutes, witnessed by the Chair, Commodore Brett Brace

Vanuatu, currently an Associate Member of the SWPHC, submitted its application to become a Member State of the IHO during the period of the meeting. Meanwhile, Samoa became an Associate Member of the SWPHC, through the signing of the Statutes during the closing ceremony. Several other Pacific Island States indicated that they expect to become either



Associate Members of the Commission or to apply for membership of the IHO in the near future.

At the end of the meeting, the members agreed that Australia would continue to occupy the Chair and Papua New Guinea will continue to occupy the Vice Chair position. Subject to final confirmation, the next meeting will be held in Noumea, New Caledonia in late 2016.



2ND STAKEHOLDER MEETING ON THE IMPLEMENTATION OF THE GALWAY STATEMENT

**European Union Covent Garden Building
Brussels, Belgium, 23-24 February**

The Galway Statement was an outcome of the Conference on “The Atlantic – A Shared Resource” held in Galway, Ireland, from 23 to 24 May 2013. Representatives of the European Union, the United States and Canada agreed to join forces on Atlantic Ocean Research. The goal is to better understand the Atlantic Ocean and promote the sustainable management of its resources. The Galway Statement aims to connect the ocean observation efforts of the three partners. The work will also study the interplay of the Atlantic Ocean with the Arctic Ocean, particularly in relation to climate change. The actual sea area covered by the Statement is not precisely defined.

The Galway Conference was followed by two plenary meetings in Washington DC and in Ottawa (November 2014) and a number of thematic meetings.

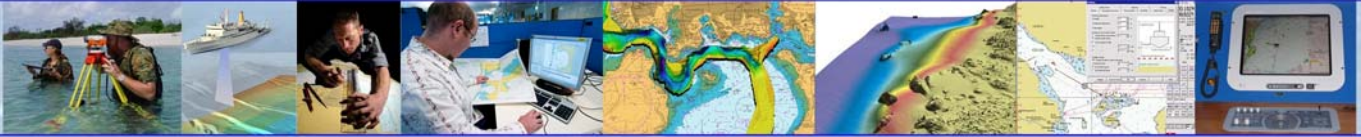
The 2nd stakeholder meeting on the Implementation of the Galway Statement, combined with a Seabed Mapping Workshop, took place in the European Union (EU) Covent Garden Building in Brussels, Belgium, from 23 to 24 February 2015. Representatives from the EU, Canada and USA as well as numerous representatives from the EU Commission and Non-Governmental Organizations were welcomed by Mr John Bell, Director of the Research, Technology and Development (RTD) Directorate, Mr Terry Schaefer, Office of Oceanic and Atmospheric Research (NOAA/OOAR) and Mr João Fonseca Ribeiro, Director-General of Maritime Policy (Portugal). Assistant Director David Wyatt represented the IHO and the IHO-IOC GEBCO Project.

The opening plenary session, chaired by Ms Sieglinde Gruber, Head of Unit in RTD, received reports on progress since the meetings in Washington DC and Ottawa. Presentations were given on Seabed Mapping, Ocean Literacy, Aquaculture and Galway Statement follow-up Horizon 2020 projects (The EU Framework Programme for Research and Innovation). Briefs were provided on updates and new initiatives from various stakeholders and a discussion on creating synergies with the EU Member States, particularly the Strategic Forum for International Science and Technology Cooperation (SFIC).



Galway Statement Stakeholder Plenary session

IHO-IOC GEBCO Outreach and Education Working Group (OEWG) activities and initiatives were highlighted during the initial Ocean Literacy discussion. The importance of engaging with the wider public rather than academia and already involved organizations and institutions was identified and the necessity of focusing material and efforts for use in secondary education was emphasised.



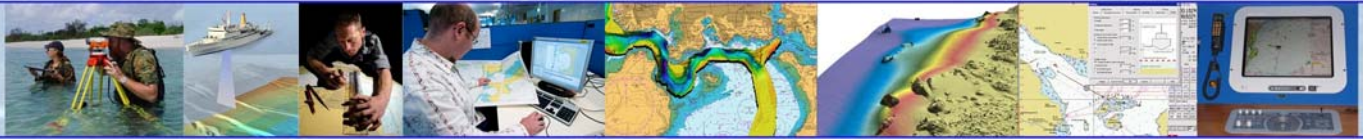
The Seabed Mapping Workshop, convened after the plenary session, was chaired by Mr Alan Stevenson, British Geological Survey (BGS)/EuroGeoSurvey Marine Geology Expert Group (EGS MGEG). It had been preceded by a workshop held in Dublin, Ireland on 2 December 2014 where marine scientists and policy makers from the USA, Canada, Europe and Brazil met to address a number of key issues relating to the role of seabed and seabed habitat mapping raised at the Galway Conference. In particular the Dublin Workshop sought to establish the status of Atlantic seabed mapping initiatives, and identify priority scientific challenges related to seabed and seabed habitat mapping, which need to be addressed in order to deliver an improved Atlantic Ocean observation capacity. It was considered that such a capacity would provide better predictive and forecasting models for sustainable resource development and improved risk management, including climate change, as outlined in the Galway Statement.

The Workshop first day covered general discussions of ideas and challenges for Seabed Mapping. Short presentations were given covering NOAA's National Geophysical Data Center, Natural Oil and Gas Seeps and the need for Water Column Data; Assistant Director Wyatt demonstrated the IHO and GEBCO websites, particularly highlighting the IHO Data Centre for Digital Bathymetry (DCDB) section. Considerable discussion took place on bathymetric data quality and accuracy requirements, which it was noted are driven by intended use and the resultant products.

The Workshop second day focused on improving linkages across programmes and leveraging existing ocean exploration knowledge and infrastructure. It was agreed a target pilot area in the North Atlantic should be identified along with the minimum data required. It was also agreed there was requirement to raise awareness of the need for mapping the Atlantic. There was general consensus that utilizing the IHO-IOC GEBCO brand, together with the IHO DCDB, to encourage the increased availability of bathymetry and the release of national, academic and research data into the public domain under the IHO umbrella had significant advantages and should be further investigated. It was agreed engagement with IHO-IOC GEBCO should be encouraged and attendance at the GEBCO meetings should be considered.

The next seabed mapping meeting is tentatively planned for June or July 2015 in Brussels with the final dates to be de-conflicted with the IMO Maritime Safety Committee and IOC Assembly. It was also noted that further informal discussions could take place during the Horizon 2020 conference in Brussels from 16 to 17 April, where it was intended to include associated activities outside the Horizon 2020 project and engagement with Southern Atlantic coastal states.

The meeting report and all papers are available from the EU web site at <http://ec.europa.eu/research/iscp/index.cfm?lg=en&pg=transatlantic-alliance> .



2ND MEETING OF THE STEERING COMMITTEE OF THE EAST ASIA HYDROGRAPHIC COMMISSION Singapore, 10-12 February



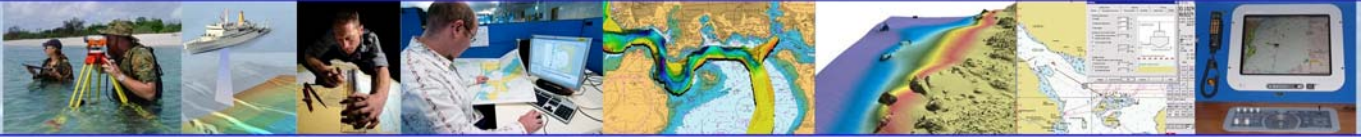
EAST ASIA HYDROGRAPHIC COMMISSION

The 2nd meeting of the Steering Committee of the East Asia Hydrographic Commission (EAHC) was held in Singapore from 10 to 12 February, hosted by the Hydrographic Department of the Maritime and Port Authority of Singapore and chaired by Commodore Jacinto M. Cablayan, Director of the Hydrography Branch of the Philippines' National Mapping and Resource Information Authority and Chairman of the EAHC. The EAHC Steering Committee meets annually between the triennial meetings of the EAHC to monitor progress in the region and provide an annual forum for the region's Hydrographers to meet.

Representatives from all, but one, EAHC Member States attended the meeting: China, Indonesia, Japan, Republic of Korea (RoK), Malaysia, Philippines, Singapore and Thailand attended the meeting. The Democratic People's Republic of Korea was not represented. Associate Members Brunei Darussalam and Viet Nam attended the meeting together with the Chair of the GEBCO Guiding Committee (GC). President Ward attended as an invited observer from the secretariat of the IHO.



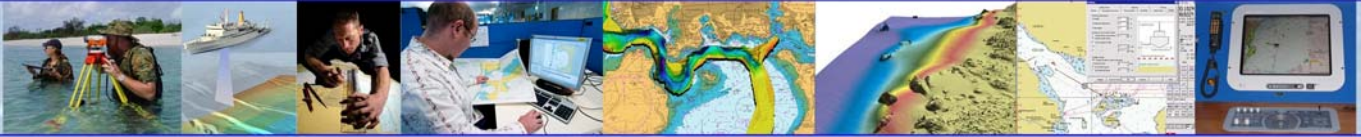
The meeting received progress reports on the Training and Research Development Center (TRDC) (see: <http://trdc.eahc.asia/>), based at the KHOA, in Busan, RoK, established by the Commission to deliver its Capacity Building Programme and endorsed the 5-year Capacity Building requirements plan 2015-20. President Ward provided a report of IHO activities of relevance to the Commission and the Chair of the GEBCO GC provided a briefing on the IHO-IOC GEBCO project and its involvement with crowd-sourcing for data.



Details of regional Electronic Navigational Chart (ENC) coverage were discussed, and in particular the production, pricing and distribution arrangements for the eight co-produced ENCs in usage bands 1 and 2 covering the central areas of the EAHC region centred around the South China Sea were agreed.

During the meeting, the participants shared their experience on the implementation of common chart production and database systems. Indonesia provided a briefing on the combined efforts of hydrographers to locate the Air Asia aircraft that was recently lost at sea en route from Surabaya to Singapore. Hydrographers from Singapore joined their Indonesian counterparts in the search efforts. It was acknowledged that the close professional relationships developed through the EAHC were key to the ease with which practical cooperation was marshalled in a very short time span to conduct the search operations.

The next meeting of the EAHC Steering Committee will be held in the first part of 2016 in either Brunei Darussalam, Indonesia or Viet Nam.



6TH MEETING OF THE ROPME SEA AREA HYDROGRAPHIC COMMISSION Abu Dhabi, UAE, 9-11 February

The 6th Meeting of the ROPME Sea Area Hydrographic Commission (RSAHC) was held in Abu Dhabi, United Arab Emirates (UAE), from 9 to 11 February. The meeting was opened by Dr Colonel Adel al Shamsi, Military Survey Department in the UAE and Chairman of RSAHC. Representatives from RSAHC Member States - Bahrain, Oman, Pakistan, Qatar, Saudi Arabia and UAE - attended the meeting with Associate Members attending from France, Iraq, UK and USA and Observers from a number of Emirati organizations and authorities, together with several representatives from industry. Director Iptes and Assistant Director Wyatt represented the IHB.



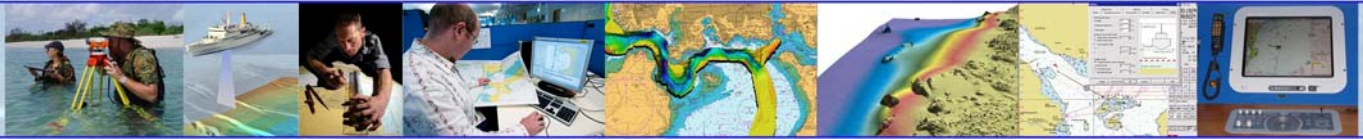
Director Iptes addresses delegates at the opening ceremony



Members of RSAHC 6

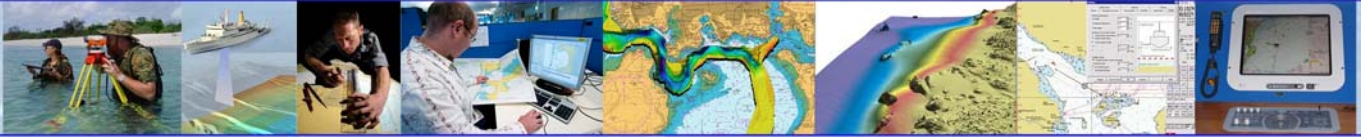
Chart (ENC) coverage were discussed; however, in the absence of the Regional Coordinator it was decided to refer the issues to a meeting of the INT Chart Coordination Working Group to be held in Abu Dhabi in April 2015, as well as continuing to progress them through correspondence. The NAVAREA IX Coordinator provided an update on issues relating to the Worldwide Navigation Warning Service (WWNWS) and outcomes from related IMO meeting were reviewed. Director Iptes briefed the Commission on current IHO issues and IHB activities and provided an update on the outcomes of the 5th Extraordinary International Hydrographic Conference (EIHC-5).

The meeting received national reports from Member and Associate States and the IHB following which the meeting received reports on the IHO-IOC GEBCO Project and on Worldwide ENC Data Base (WEND) issues. Delegates were encouraged to provide regular updates for the IHO Yearbook and IHO publication C-55 - *Status of Hydrographic Surveying and Nautical Charting Worldwide*. Details of regional INT Chart and Electronic Navigational



The meeting included presentations from industry representatives. The presentations were incorporated in the agenda to provide introductions to the various topics for discussion and to highlight technologies and training opportunities available to the region. Industry representatives were keen to emphasise their willingness to engage with the RSAHC and its members to assist the development of hydrographic and cartographic capability within the region. These presentations were followed by presentations from the regional Capacity Building (CB) Coordinator. The presentations generated considerable debate on CB issues and regional requirements. A comprehensive plan of proposals was developed for submission to the IHO Capacity Building Sub-Committee (CBSC) that will meet later in the year. Presentations were also given on Satellite Derived Bathymetry and Crowd-Sourced Bathymetry, both of which supported the request for Member States to contribute to the IHO-IOC GEBCO Programme through the provision of shallow water bathymetric data to the IHO Data Centre for Digital Bathymetry (DCDB).

The UAE (Dr Colonel Adel al Shamsi) was re-elected as Chair of the Commission with the Islamic Republic of Iran being re-elected as Vice-Chair. Saudi Arabia offered to investigate hosting the 7th Meeting of the RSAHC, with a view to holding it in Jeddah in late January 2017 and preceded by a one-day meeting of the INT Chart Coordination Working Group.



JOINT 29TH MEETING OF THE TRANSFER STANDARD MAINTENANCE AND APPLICATIONS DEVELOPMENT WORKING GROUP AND 7TH MEETING OF THE DIGITAL INFORMATION PORTRAYAL WORKING GROUP

Ottawa, Canada, 2 -6 February

The Transfer Standard Maintenance and Applications Development Working Group (TSMAD) and the Digital Information Portrayal Working Group Meeting (DIPWG) held jointly their respective 29th and 7th meetings (TSMAD29/DIPWG7) in Ottawa, Canada from 2 to 6 February. Forty seven participants from 12 Member States and 12 stakeholder organizations attended the joint meeting. The IHB was represented by Assistant Director Anthony Pharaoh.

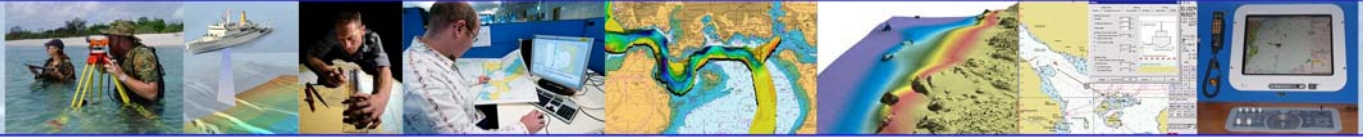


Meeting Participants

Mr. Denis Hains, Director General of the Canadian Hydrographic Service and Oceanographic Services, Hydrographer General of Canada, opened the meeting and welcomed the participants to Ottawa.

In accordance with the decisions of the Hydrographic Services and Standards Committee (HSSC) on the implementation of the reorganized structure of its working groups, this was the last meeting of TSMAD and DIPWG. Both working groups were disbanded at the end of the meeting. Their work items were reorganized and assigned to two new working groups: the S-100 Working Group (S-100WG) and the ENC Standards Maintenance Working Group (ENCWG).

The main focus of the meeting was the continuing development of S-101 - *ENC Product Specification*, and the associated Feature Catalogue and Data Capture and Encoding Guide. This agenda item included a review of the comments received from various stakeholders, on the latest documents that had been sent out for comment. The Republic of Korea (Korea Hydrographic and Oceanographic Administration - KHOA, and Korea Institute of Ocean Science and Technology - KIOST) provided a presentation on the S-100 feature catalogue builder that is being developed by them.



There were also discussions on the development of a new edition of S-102 - *Bathymetric Surface Product Specification*. The purpose of this new edition would be to include a chapter on the portrayal of bathymetric coverage and address issues and enhancements identified by stakeholder organizations.

The meeting carried out a review of the new edition 5.0.0 of S-58 - *ENC Validation Checks*, to address a number of potential anomalies which had been referred to TSMAD.

A number of other important issues were also discussed, such as the resources required to operate the S-100 GI Registry, the development of S-100/S-101 viewer applications, the status of the S-100/S-101 test bed projects and the interoperability of S-100-based product specifications.

At the end of the meeting, an election was held for office bearers of the new S-100WG and ENCWG. Ms. Julia Powell (USA) and Mr. Yong Baek (Rep. of Korea) were elected as Chair and Vice-Chair of the S-100WG. Mr. Eivind Mong (Jeppesen) was appointed as Secretary. Mr. Thomas Mellor (UK) was elected as Chair of the ENCWG. There were no nominations for Vice-Chair and Secretary. Mr. Anthony Pharaoh (IHB) was appointed as Secretary.

The Chairs of the new working groups acknowledged the outstanding contributions made by the outgoing Chairs of the TSMADWG and the DIPWG. Mr. Barrie Greenslade had been a member of the TSMADWG for 16 years and had been Chair for the past eight years. He was acknowledged as driving force behind the development of S-100, and the maintenance of other important ENC related standards. Mr. Colby Harmon was the Chair of the DIPWG for five years and was instrumental in guiding the revision of S-52 - *Chart Content and Display Aspects of ECDIS* and its associated Annex A - *Presentation Library for ECDIS*, together with the development of the portrayal component of S-100.