



# INTERNATIONAL HYDROGRAPHIC BULLETIN



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January - December 2014

# JANUARY

## e-NAVIGATION UNDERWAY 2014 CONFERENCE

Oslo, Norway, 28 to 30 January

The DFDS ferry M/S PEARL SEAWAYS was the venue for the fourth e-Navigation Underway Conference which was held from 28 to 30 January 2014. The Conference took place during a return voyage from Copenhagen to Oslo and attracted more than 170 delegates from 31 countries.

In his opening address, Mr Andreas Nordseth (Director General of the Danish Maritime Authority (DMA)) welcomed the participants and noted that the focus of the Conference would be on *“waypoints beyond the e-Navigation strategy implementation plan (SIP)”*. Noting the record attendance, he emphasized the importance of the Conference to the global e-Navigation community as it transitioned from an abstract conceptual phase to a more practical one.

The meeting commenced with the signing of a Memorandum of Understanding (MoU) between the Danish Maritime Authority, the Swedish Maritime Administration and the Ministry of Oceans and Fisheries of the Republic of Korea with a focus on *“sharing a common interest in the establishment of a global e-navigation test bed and wishing to use this e-navigation test bed for purposes related to the testing and demonstration of e-navigation related services and infrastructure ...”*

The signing of the MoU is an important milestone in the establishment of global test beds which will facilitate long term benefits for maritime safety, the protection of the marine environment and more efficient maritime operations on-board vessels and ashore.

Twenty-nine presentations were given during the Conference and these were grouped under the following topics: *“strategic views”*, *“diving into the details”*, *“advanced contemporary solutions”*, *“e-Navigation at large”*, *“regional efforts and issues”*, *“tomorrow’s possibilities”* and *“the way forward”*. Further information on the Conference is available from the e-navigation website at <http://www.e-navigation.net/>



*e-Navigation underway Conference Participants*

The Conference ended with a panel discussion and an invitation to attend the e-Navigation Underway – North America Conference which is scheduled to take place in April 2014.

The Conference was preceded by the *2nd International Workshop on Global e-Navigation Test Beds* which took place on 27 January at the Danish Maritime Authority. The theme of the workshop was: *“A Global Test Bed to prepare to ‘e-Navigate’ in Foreign Waters,”* and presentations on projects such as EfficienSea, MonaLisa and ACCSEAS were provided.

## Arctic Regional Hydrographic Commission Arctic Science Forum and 4<sup>th</sup> Meeting Portsmouth, New Hampshire, USA, 29 - 30 January

The 4th Meeting of the Arctic Regional Hydrographic Commission (ARHC) was held in Portsmouth, New Hampshire, USA on 29 and 30 January. All five Member States - Canada, Denmark, Norway, Russian Federation and the USA - were represented together with representatives of Finland and the International Bathymetric Chart of the Arctic Ocean (IBCAO) attending as Observers. President Robert Ward represented the IHB. The meeting was chaired by Mr Evert Flier, the Hydrographer of Norway. Captain Leonid Shalnov, Russian Federation, was Deputy Chair.

Each Member State presented a briefing on the status of hydrography, progress and charting priorities in their areas of responsibility. The members of the Commission discussed the development of a strategic directions document for the ARHC and initiatives to raise awareness of the shortcomings of hydrography and charting in the region so as to gain greater levels of national and regional support. Participants exchanged views on best practices and new technologies for surveying in the Arctic. Discussion also centred on the preparation of input to the Arctic Council Working Group on the Protection of the Marine Environment (PAME).



*Vice Chair, Chair and President seated in front of the other ARHC participants*

At the end of the meeting the position of Chair was handed over to the Russian Federation.

The next meeting of the ARHC will take place in October 2015 in St Petersburg, Russian Federation. A short ad hoc meeting of the Commission is planned in Monaco in October during the 5<sup>th</sup> Extraordinary International Hydrographic Conference.

### **Arctic Science Forum**

The meeting of the ARHC was preceded by an Arctic Science Forum with the theme: *Science in Support of Hydrography in the Arctic*. The Forum was hosted by the University of New Hampshire Joint Hydrographic Centre in nearby Durham. The Forum gave researchers, scientists and industry speakers the opportunity to inform ARHC delegates about emerging technical and scientific developments and opportunities for improving hydrography in the Arctic region.

## 10<sup>th</sup> IHO Chart Standardization and Paper Chart Working Group (CSPCWG) Meeting Wellington, New Zealand, 21 – 24 January

The 10th meeting of the IHO Chart Standardization and Paper Chart Working Group (CSPCWG) was hosted by Land Information New Zealand (LINZ) in Wellington, from 21 to 24 January 2014. The CSPCWG provides a core of expertise on the concepts of charting and is mainly tasked to develop and maintain the IHO Chart Specifications, as contained in publication S-4. The eighteen attendees included representatives from the Hydrographic Offices of Australia, Denmark, Finland, France, Germany, New Zealand, The Netherlands, Norway, Spain, Sweden, United Kingdom, United States and the IHB, plus two expert contributors from Jeppesen and Esri. The meeting was chaired by Dr. Peter JONES (UK).



The meeting reviewed and discussed a number of issues relating to chart content / specifications, and agreed on a way forward for each topic. Based on this, the issues addressed by the meeting will be further elaborated by the CSPCWG Chair and Secretary, then circulated to members for comments. After final agreement by the WG, proposed new or revised chart specifications will be directly submitted to IHO Member States for approval. Topics addressed by the meeting included: minimum depth versus maximum authorized draught; wind farms under construction; interrupted and ultra-quick lights; Existence Doubtful (ED) versus “Rep”; AIS proliferation; use of non-Member State seals on INT charts; definitions for elevation, height and altitude; guidance for the development of ENC schemes; reorganisation of INT 1 with a new section on data quality indicators; and INT 3 in Spanish.

The comprehensive revision of S-4 Part B, which started in 2004, is now in its final phase, with section B-500 currently under consideration by Member States, and is planned for completion in 2014. Then, the CSPCWG work on S-4 will come under IHO Resolution 2/2007, as amended, and will therefore need HSSC’s endorsement prior to the submission to IHO Member States for final approval.

A discussion on the “future of the paper chart” took place at the initiative of the Chair. Issues such as the need for and use of paper charts in 10 years from now; production of paper charts and ENCs in parallel from a common database or paper charts derived from ENCs; etc. were addressed. A sub-group will prepare a paper on this topic for submission to HSSC6 in November 2014. Members were also informed of the planned restructuring of the HSSC Working Groups, and the likely merging of CSPCWG and SNPWG which caused some concern among attendees.

Due to the retirement of Dr Peter JONES (UK), on 31 March 2014, the current Vice-Chair, Mr Jeff WOOTTON (Australia) will become Chair of CSPCWG from that date. The meeting elected Mr Chris THORNE (UK) as the new Vice-Chair, to take effect on the same date.

The 11<sup>th</sup> CSPCWG meeting has tentatively been planned to be held in Rostock, Germany, in April 2015.

## 1<sup>ST</sup> SESSION OF THE IMO SUB-COMMITTEE ON SHIP DESIGN AND CONSTRUCTION

**London, UK, 20-24 January**

The Sub-Committee on Ship Design and Construction (SDC) is a subordinate body of the Maritime Safety Committee (MSC) of the International Maritime Organization (IMO). The functions of the SDC are to consider technical and operational matters related to: design, construction, subdivision and stability, buoyancy, sea-keeping and arrangements, including evacuation matters, of all types of ships, vessels, craft and mobile units covered by IMO instruments; testing and approval of construction and materials; load line matters; tonnage measurement matters; safety of fishing vessels and fishermen; and survey and certification. The SDC has also been tasked with

coordinating the development of a mandatory code for ships operating in Polar waters, including inputs and submissions from other IMO committees and sub-committees. The 1<sup>st</sup> session of the IMO Sub-Committee on Ship Design and Construction (SDC 1) was held at the IMO Headquarters in London from 20-24 January 2014. Assistant Director Wyatt represented the IHO.



***IMO SDC 1 in session***



***IMO SDC 1 Polar Code Working Group in session***

Of particular interest to the IHO, the SDC considered one submission by the IHO, SDC 1/3/13, the contents of which previously had been circulated to Member States under IHO CL 07/2013 dated 21 January. The IHO document was introduced in plenary and received broad support from IMO Member States and non-Governmental Organizations. The document was passed to the Working Group on Development of a Mandatory Code for Ships Operating in Polar Waters, where the proposed contents for the Sources of Hazards in Part 1-A were considered for inclusion and were agreed without alteration. Time did not allow for consideration of the proposed wording in the Preamble and Part

1-B covering additional guidance for Chapter 10 – Safety of

Navigation, which it was agreed should be forwarded, along with all other relevant chapters, for consideration at MSC 93 and the first session of the Sub-Committee on Navigation, Communications and Search and Rescue. It is anticipated the Polar Code will be approved at MSC 93 with adoption at MSC 94.

The Sub-Committee unanimously elected Dipl-Ing Anneliese Jost (Germany), as Chair, and Captain Nigel Campbell (Republic of South Africa), as Vice-Chair for the period 2014-2015.

## **geo-X Plenary AND 3<sup>RD</sup> MINISTERIAL SUMMIT**

### **Geneva, Switzerland, 15-17 January**

GEO, the “Group on Earth Observations”, is a voluntary partnership of governments and international organizations. It was launched in 2003 in response to calls for action by the 2002 World Summit on Sustainable Development and by the G8 (Group of Eight) leading industrialized countries. GEO is coordinating efforts to build a Global Earth Observation System of Systems (GEOSS) in order to exploit the growing potential of Earth observations to support decision-making in an increasingly complex and environmentally stressed world. GEO’s Members include 90 Governments and the European Commission. In addition, 77 intergovernmental, international, and regional organizations with a mandate in Earth observation or related issues have been recognized as Participating Organizations. The IHO was recognized as a Participating Organization in 2006. GEO meets annually in plenary session. The strategic guidance is provided by a Ministerial Summit which takes place about every three years.

GEO has been constructing GEOSS on the basis of an initial ten-year Implementation Plan for the period 2005 to 2015. The main objective of the GEO-X Plenary Meeting and third Ministerial Summit was to renew the mandate for GEO through to 2025 and to adopt high-level recommendations to guide the development of a second GEOSS Implementation Plan for the decade 2015-2025. The meetings were hosted by the Government of Switzerland at the International Convention Centre of Geneva from 15 to 17 January 2014. The meetings were combined with an exhibition illustrating contributions to GEOSS from Member States, Participating Organizations and industry. More than 500 representatives from some 60 Members and 80 Participating Organizations and Observers took part in the proceedings. Director Gilles Bessero represented the IHO.

The meeting met in plenary session on 15 and 16 January. It examined and approved the documents prepared for the Ministerial Summit, particularly the draft vision to 2025, a proposal for the process to develop a new implementation plan, and the draft Geneva Declaration. It considered reports on an assessment of progress, monitoring and evaluation, and implementation of recommendations from GEOSS evaluations and adopted the proposed update of the 2012-2015 Work Plan. Specific presentations on the Global Network for Observations and Information in Mountain Environments (GEO-GNOME), the AfriGEOSS initiative, and the GEOSS Common Infrastructure highlighted the progress made in developing GEOSS. The statutory documents on the finances of the organization and amendments to GEO rules of procedure were reviewed and approved.

Finally, the Plenary heard a series of short formal statements from Members and Participating Organizations on key events and activities related to GEO. Director Bessero highlighted the achievements of the IHO-IOC GEBCO Project, the contribution of the IHO and HOs to spatial data infrastructures and the development of the S-100 Universal Hydrographic Data Model and related standards.



***The Ministerial Summit in session***

The Ministerial Summit met on 17 January. It was chaired by Bruno Oberlé, State Secretary, Swiss Federal Office for the Environment, assisted by the four GEO Ministerial Co-Chairs: Janez Potočnik, European Commissioner for Environment, Jianlin Cao, Vice Minister for Science and Technology, China, Derek Hannekom, Minister of Science and Technology, South Africa, and Patrick Gallagher, Acting Deputy Secretary of Commerce, USA. The Summit was informed of the progress of GEO through short films explaining GEO and GEOSS rationale and achievements and a visit of the exhibition.

The Summit considered the draft Geneva Declaration which was supported by formal statements from twenty-nine Members and fifteen Participating Organizations. The IHO statement supported the objective of improving global coverage and availability of earth observation data, products and services as a foundation for sustainable growth. It supported the concept of a more active role by GEO in coordinating and bridging the various programmes and initiatives dealing with the observation of the Earth at the national, regional and international levels, in order to make better use of existing arrangements, avoid duplication, address gaps and improve overall efficiency. The IHO statement also noted that the proposed strengthening of engagement with developing countries is in line with the development of the IHO Capacity Building Programme. The Declaration was adopted unanimously.



***The Chair Group of the Ministerial Summit***

The session on guidance for the future of GEO was informed by statements from six Members and three Participating Organizations. The IHO intervention focused on the concerns related to the inadequate status of hydrographic surveys and nautical charting in many parts of the world's coastal waters, and most of the world's seas and oceans.

The development of the GEOSS Implementation Plan for the next decade will be steered by the GEO Co-Chairs (four Members: China, European Commission, South Africa, and USA) and the Executive Committee (thirteen Members selected on a geographical basis). A dedicated working group, the Implementation Plan Working Group (IPWG), will be tasked by the Executive

Committee to prepare a draft. This group will be composed of up to three experts nominated by each of GEO's five regional caucuses (Africa, Commonwealth of Independent States, Europe, Americas, and Asia/Oceania). A preliminary draft should be produced for review by the GEO-XI Plenary which will be hosted by Gabon in November 2014. The GEO-XI Plenary will provide further guidance to the IPWG on additional work to be carried out in 2015 in order to complete the draft and to prepare an Implementation Plan for acceptance at GEO-XII and for subsequent endorsement at the fourth GEO Ministerial Summit in late 2015 or early 2016.



*The participants at the Ministerial Summit*

# FEBRUARY

## 14<sup>th</sup> Meeting of the North Indian Ocean Hydrographic Commission Bangkok, Thailand, 26-28 February

The 14<sup>th</sup> Meeting of the North Indian Ocean Hydrographic Commission (NIOHC) was held in Bangkok, Thailand, from 26 to 28 February, under the chairmanship of Vice Admiral Witoon Tantigun, Hydrographer of Thailand. NIOHC Member State representatives from Bangladesh, Egypt, India, Myanmar, Pakistan, Sri Lanka, Thailand and the UK attended the meeting together with Associate Member representatives from Australia, Mauritius, Oman, Seychelles and the USA. The Russian Federation was represented as an Observer State. Representatives of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the IHO-IOC GEBCO Project and several commercial companies also attended as invited observers. Director Iptes and Assistant Director Wyatt represented the IHB.

The NIOHC received national reports from Member States, Associate States and the IHB as well as presentations by IALA and GEBCO. The meeting also received reports on WEND and RENC issues, an up-date on the work of the IHO Marine Spatial Data Infrastructure Working Group (MSDIWG) and brief overviews on crowd-sourced bathymetry and relevant IMO activities. Director Iptes reported on the IHO Work Programme and the Organization's activities during the previous year. The preparations for the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5) to be held in October were also considered. Delegates were encouraged to provide regular updates to the IHO Yearbook and to C-55 - *Status of Hydrographic Surveying and Nautical Charting Worldwide*. Regional INT Chart and ENC coverage were briefly covered. Considerable time was devoted to Capacity Building and regional requirements. A comprehensive plan was developed for submission to the 12<sup>th</sup> meeting of the IHO Capacity Building Sub-Committee (CBSC-12) later in the year. Some minor amendments were made to the NIOHC Statutes to improve consistency throughout.



***Director Iptes addressing the opening ceremony***



***NIOHC14 in session***

The meeting concluded with a number of presentations from industry representatives. These highlighted technologies and training opportunities available to the region. Industry representatives were keen to emphasise their willingness to engage with NIOHC and its members to assist the development of hydrographic and cartographic capability within the region.

The current Vice-Chair of NIOHC, Rear Admiral Tom Karsten, the National Hydrographer of the UK, will assume the Chair of the NIOHC within the next four months in accordance with the Statutes of the Commission. The NIOHC voted Bangladesh to assume the Vice-Chair position for the next period. The Sultanate of Oman volunteered to host the 15<sup>th</sup> Meeting in Muscat from 16 to 18 March 2015 and it was proposed to hold an INT Chart Coordination Working Group meeting on 15 March, prior to NIOHC-15.

## 1<sup>st</sup> Meeting of the Steering Committee of the East Asia Hydrographic Commission Kuala Lumpur, Malaysia, 26-27 February

At its last meeting in 2013, the East Asia Hydrographic Commission (EAHC) decided to re-configure its organisation by establishing a Steering Committee that would meet to review and coordinate Commission activities on an annual basis. The 1<sup>st</sup> Meeting of the newly-established Coordinating Committee was held in Kuala Lumpur, Malaysia on 26 and 27 February 2014 with 35 representatives from nine Member States (China, Indonesia, Japan, Democratic People's Republic of Korea (DPRK), Republic of Korea (ROK), Malaysia, Philippines, Singapore and Thailand), eight representatives from three Observer States (Brunei Darussalam, Cambodia and Vietnam), and the Chair of the IHO Transfer Standard Maintenance and Application Development Working Group (TSMAD). IHO President Robert Ward was unable to attend and represent the IHB because of last minute travel disruptions. The meeting was chaired by the Deputy Chief Hydrographer of the Philippines, Commander Jacinto M. Cablayan who represented the current Chair of the EAHC, Commodore Romeo Ho (Philippines).



The meeting of the Steering Committee was preceded by meetings on 23 February of the Board of Directors to review the development of an East Asia Training, Research and Development Centre (TRDC) and a meeting on 24 and 25 February of the Charting and Hydrography Committee (CHC) to review and coordinate chart and ENC coverage across the region.

The Steering Committee considered the results of the TRDC and the CHC meetings and was then provided with a brief on S-100 and S-101 by the Chair of TSMAD. This led to discussions about the mutual benefits to be gained by using the dynamic tides project to be undertaken in the Straits of Malacca and Singapore as part of the marine electronic highway as an S-100 development and test-bed activity.

The representatives of the ROK expressed their willingness to continue their efforts to create an S-100 feature catalogue builder on behalf of the IHO.

The EAHC capacity building training programme was reviewed, including the development of an on-line training programme by the ROK.

The most notable outcomes of the meeting were the approval of the TRDC Rules of Procedure and Terms of Reference, presentation of the TRDC's five-year work plan, approval of the CHC Terms of Reference, the Member States' interest in monitoring the development of the potential use of Satellite Derived Bathymetry (SDB), demonstration of the S-57 Use of Object Catalogue by

ROK, updates on the development of e-MIO by ROK, sharing of experience with regards to response to disasters by the Philippines (Typhoon Haiyan in 2013) and Japan (eruption of Nishinoshima volcano), preparations for the EAHC's 50th year celebrations, and the possible hosting of an EAHC meeting and Capacity Building Programme by Brunei Darussalam, that is currently an Observer State but expects to achieve IHO membership very shortly. The next meeting of the EAHC Steering Committee will take place in January or February 2015 in Singapore.



*Left to right: Rear Admiral Zaaim Bin Hasan (Malaysia), EAHC Vice Chair, Commander Jacinto M. Cablayan (Philippines), EAHC Chair, and Commander Rosalino C. Delos Reyes (Philippines).*

**5<sup>th</sup> Meeting between the IHO  
and the European Commission  
21<sup>st</sup> Meeting of the Marine Observation  
and Data Expert Group  
Inauguration of the EMODnet Secretariat Office  
Ostend, Belgium, 19-20 February 2014**



***5<sup>th</sup> Meeting between the IHO and the European Commission***

Under the Memorandum of Understanding between the European Commission (EC) and the IHO on establishing co-operation on maritime affairs, the 5<sup>th</sup> EC-IHO meeting was hosted by the Secretariat Office of the European Marine Observation Data Network (EMODnet) at the Maritime Flanders Institute (VLIZ) in Ostend, Belgium, on 19 February 2014. The meeting was chaired by France, as Chair of the North Sea Hydrographic Commission Working Group on European Union Marine and Maritime Policies (NSHC/EU2MPWG). The meeting was attended by three representatives from the European Commission (DG Mare) and nine representatives from IHO Member States (France, Belgium, Germany, Greece, Netherlands, Norway, Sweden, and United Kingdom). Director Gilles Bessero represented the IHO.

The plenary meeting discussed how the IHO could support the 3<sup>rd</sup> phase of the EMODnet initiative to be launched early in 2015 and reviewed progress in developing a future joint European coastal mapping project, taking into account the feedback from DG Mare. The benefits and perspectives of developing an accurate vertical reference framework and taking into account sea-floor dynamics on re-survey strategy were reviewed also. The meeting was informed on the political agreement reached between the European Parliament and the Council on the 2014-2020 European Maritime and Fisheries Fund (EMFF). For the first time this year, the Fund will contribute to boost the EU Integrated Maritime Policy. This includes the possibility of supporting high resolution mapping of the European seabed and the wider availability of marine data to contribute to “blue growth”. As part of the preparation of a communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on “Innovation in the Blue Economy”, a draft accompanying document on “Marine Knowledge 2020: roadmap” was presented for comments. An overview of the “Blue Growth Focus Area” within the new “Horizon 2020” EU research framework was provided together with the timeline of the calls for proposals.

***21<sup>st</sup> Meeting of the Marine Observation and Data Expert Group\****

The EC-IHO meeting was followed by the 21<sup>st</sup> meeting of the European Marine Observation and Data Expert Group (MODEG) which was hosted also by the EMODnet Secretariat. The MODEG had been established in 2008 by the European Commission to provide scientific, technical and operational advice on the implementation of EMODnet. The meeting was attended by more than 40 participants, including MODEG experts, members of the EMODnet Steering Committee, staff of the EMODnet Secretariat, representatives of DG Mare, and representatives of the European

Joint Research Centre. Five representatives from IHO Member States (Belgium, France, Greece, and Norway) and Director Bessero attended as observers. The meeting reviewed the progress of the seven thematic “lots” of EMODnet (bathymetry, geology, habitats, chemistry, biology, physics, and human activity) and of associated activities (sea basin checkpoints, IT infrastructure, communication strategy, etc.). The representative of DG Mare reported on the positive feedback from the EC Impact Assessment Board and the meeting discussed the draft roadmap on Marine Knowledge 2020. Director Bessero reported on the development of the EC-IHO cooperation and outlined the significant support that the IHO and its EU Member States could provide to the next phase of EMODnet. The MODEG welcomed the IHO presentation and the establishment of a formal partnership between the IHO and EMODnet.

### ***Inauguration of the EMODnet Secretariat Office***

The facilities made available to the EMODnet Secretariat Office by the Flemish Government were officially inaugurated in the evening of 19 February. The inauguration was hosted by Professor Jan Mees, Director of the Flanders Marine Institute, where the EMODnet Secretariat Office is located. It included four statements respectively by:

- Mr Dirk Van Melkebeke, Secretary General of the Department of Economy, Science and Innovation (EWI) of the Flemish Government: Flemish Government support to EMODnet;
- Ms Lowri Evans, Director General of the European Commission Directorate General for Maritime Affairs and Fisheries: Marine Knowledge 2020 and the importance of EMODnet;
- Director Bessero: Perspectives from the hydrographic community;
- Dr. Wendy Watson-Wright, Assistant Director General and Executive Secretary, UNESCO, Intergovernmental Oceanographic Commission (IOC): Importance and international dimensions of marine observation and data acquisition, processing and management;
- Dr. Niall McDonough, Executive Scientific Secretary, European Marine Board: Towards a European Ocean Observing System (EOOS);
- Prof. Phil Weaver, EMODnet Secretariat, Managing Director of Seascope Consultants: The European Marine Observation and Data Network (EMODnet) and its Secretariat.

The EMODnet Secretariat Office inaugural plaque was unveiled by Ms Evans and Mr Van Melkebeke.



### ***IHO-IOC Cooperation***

In the margins of the MODEG Meeting, Director Bessero held informal discussions with Dr Watson-Wright and Mr Peter Pissierssens, Head - IOC Project Office for IODE (International Oceanographic Data and Information Exchange), which is also hosted by the Maritime Flanders Institute in Ostend. Potential opportunities for closer cooperation between IOC and IHO on technical issues were considered, including promoting the use of S-100, the IHO Universal Hydrographic Data Model, by IOC. Director Bessero also invited feedback on any use of GEBCO products by IODE. The IOC offered sharing its "OceanTeacher Global Academy" platform to develop joint training material for capacity building purposes.

The EC-IHO meeting report, together with the presentations and the IHO presentation at the MODEG meeting, will be posted on the IHO website (Home > Committees & WG > IRCC > EC - IHO Cooperation) when available.

## Meeting of the ad hoc Steering Group on an International Polar Cooperative Initiative

**UNESCO, Paris, France, 10 - 11 February**

A meeting of the ad hoc Steering Group on an International Polar Cooperation Initiative was held at the headquarters of the Intergovernmental Oceanographic Commission (IOC) at UNESCO in Paris on 10 and 11 February. The meeting was chaired by Prof. David Hik, Department of Biological Sciences, University of Alberta, previously Executive Director of the Canadian International Polar Year secretariat and currently the President of the International Arctic Science Committee.

The first meeting on this topic was held in April 2011 in Saint-Petersburg, Russia, to discuss what initiatives might follow on from the activities and progress that was made in polar science and research as a result of the International Polar Year. At that meeting it was agreed that any follow-on activity should not propose specific scientific campaigns but should provide the platform or mechanism that would encourage and facilitate cooperation and coordination between the major organisations undertaking science in the regions through collaborative, cooperative, multi-disciplinary actions primarily using existing resources. The IHO was not represented at the first meeting but was invited to the meeting in Paris. President Ward represented the IHO, both as the Chair of the IHO Hydrographic Commission on Antarctica and as the IHB Observer to the Arctic Regional Hydrographic Commission. The World Meteorological Organization (WMO) and the IOC were both represented at the meeting together with the heads of a number of scientific organizations active in the polar and high altitude regions of the world.



***Prof. Hik (4<sup>th</sup> from right) and the other members  
of the ad hoc Group on an International Polar Cooperative Initiative***

The participants took note of a number of other international coordination and cooperative forums with similar aims to the group when it developed its outline concept for an international polar partnership. The partnership approach is being proposed by the ad hoc group as a way of providing a setting where activities can be coordinated by participants with common interests rather than operating as another high level administrative body. The Alliance would be the uniting arrangement under which the diverse scientific sectors working in the regions would identify common ground and objectives and work more closely together for their mutual benefit by sharing resources, physical, financial and intellectual, to gain efficiencies and benefits for the common good. The Alliance would be open to all organizations including those representing industry that are actively involved in scientific and data gathering activities in the polar regions and in other high altitude areas where many of the underlying conditions and issues are similar. IHO Member States' principal interest in supporting such an International Polar Alliance would lie in the opportunity to engage a much wider community in the collection of hydrographic information including bathymetry and water movement observations and in return making the existing hydrographic information as widely accessible as possible to the scientific community.

Prof. Hik, assisted by the WMO representative, will continue to develop the proposal as a concept paper. This concept paper will be presented in a draft form to the 5<sup>th</sup> session of the WMO Executive Council Panel of Experts on Polar Observations, Research and Services in New Zealand in late February. This will provide initial feedback from an Intergovernmental Organization that has a particularly active interest in the polar regions. It is proposed that the paper will then be further developed during the year in order that it may be presented to all prospective members of an International Polar Alliance in due course.

# 1<sup>st</sup> Extraordinary Meeting of the ROPME Sea Area Hydrographic Commission

Abu Dhabi, 9-11 February



***Director Iptes addresses delegates at the opening ceremony***

The 1st Extraordinary 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 His Excellency Salim al Zaabi, Director of the National Transport Authority in the UAE. Representatives from RSAHC Member States - Bahrain, Oman, Qatar, Saudi Arabia and UAE - attended the meeting with Associate Members attending from France, the UK and the USA and observers from Iraq and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), together with various representatives from industry. Director Iptes and Assistant Director Wyatt represented the IHB.

The Chairman particularly welcomed the attendance of a number of representatives from Iraq and he requested the Member States to consider inviting Iraq to become an Associate Member of the RSAHC. The meeting unanimously agreed to elect Iraq to Associate Member status.

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 to the IHO Yearbook and IHO publication C-55 - *Status of Hydrographic Surveying and Nautical Charting Worldwide*. Details of regional INT Chart and electronic navigational 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 the day before the next RSAHC meeting, as well as continuing to progress them through correspondence. In the absence of the NAVAREA IX Coordinator, a short up-date on issues relating to the Worldwide Navigation Warning Service (WWNWS) and outcomes from the related IMO meeting was provided.



***ERSAHC 1 in session***

The meeting included presentations by industry representatives. The presentations highlighted 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. A presentation was given by IALA followed by presentations by 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.

The UAE, as Chair of the Commission, volunteered to host the 6<sup>th</sup> meeting of the RSAHC which will take place from 9 to 11 February 2015 and will be preceded by a one-day INT Chart Coordination WG meeting on 8 February 2015.

# MARINE SPATIAL DATA INFRASTRUCTURES

## 5<sup>th</sup> MSDIWG Meeting - 5-7 February / MSDI Forum - 4 February

### Silver Spring, Maryland, USA

The 5<sup>th</sup> meeting of the IHO Marine Spatial Data Infrastructure Working Group (MSDIWG-5) was held in Silver Spring, Maryland, USA from 5 to 7 February. It was preceded on 4 February by an MSDI Open Forum. Both events were hosted by the US Office of Coast Survey (OCS). The Working Group aims to support the objectives of the IHO related to Spatial Data Infrastructures (SDI) and Marine Spatial Data Infrastructures (MSDI). According to the *Global Spatial Data Infrastructure Cookbook - 2009*, SDI addresses “the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data”. The key interest for the IHO is that MSDI provides a framework for the provision of hydrographic information for uses that lie beyond the traditional field of surface navigation.

#### 5<sup>th</sup> MSDI Working Group Meeting

Fifteen people attended MSDIWG-5, and another five participated via webcast and email communications. The IHO participants represented Australia (web), Brazil (web), France (web), Denmark, Japan, Netherlands, Norway, Spain (web), United Kingdom and USA. The meeting was chaired by Mr. Jens Peter Hartmann, Denmark. There was also a very good level of participation by experts from industry. Assistant Director Michel Huet attended from the IHB.

A survey of MSDIWG members on MSDI issues, conducted in advance of the meeting, had revealed that the datasets considered the most important for use in MSDI/SDI were “Maritime and Administrative Boundaries”, “Bathymetry & Coastline” and “Regulated Areas”. The meeting heard reports on national status and plans regarding MSDI-related activities. Of particular note was the completion, under the leadership of the Japan Hydrographic and Oceanographic Department (JHOD), of the Japan Marine Cadastre which, in concept, is close to an MSDI. Developments within the European HOs are progressing in line with the mandatory implementation of the Infrastructure for Spatial Information in the European Community (INSPIRE) Directive. Several Hydrographic Offices have set up, or are contributing to, geospatial data portals.



Reports were provided on initiatives being undertaken in the Caribbean and Baltic Sea regions. Possible cooperation with the Open Geospatial Consortium (OGC) on MSDI standardization was discussed. Other subjects addressed included Marine Spatial Planning (MSP) and e-navigation, MSDI being seen as a facilitator for the furtherance of these developments.

Industry representatives expressed regret that useful data from HOs is often available only in an encrypted form.

The meeting split into six ad hoc sub-groups to consider how best to progress the various items of the MSDIWG work plan. This exercise resulted in a number of actions for WG members to be addressed intersessionally. Also, a sub-group, led by Australia, will look into identifying core geospatial standards of IHO, OGC and the International Standardization Organization (ISO). In order to ensure steady progress of the actions agreed, it was decided that, between formal meetings, intermediate teleconferences or webinars will be held at three or four-monthly intervals.

### **MSDI Open Forum**

The MSDI Forum followed the theme: *MSDI: More than Hydrography, Better Decisions from Better Data*. It was co-chaired by Ms. Maureen Kenny (OCS) and Mr. Paul Cooper (Caris). There were 30 people in attendance plus about another 20 via webcast. Various presentations, all of them given by external stakeholders, illustrated MSDI-related developments and achievements, mainly across the USA. The presentations covered data collection, data management, data discovery, data interoperability and data portals. All presentations are now available from the IHO website at:

[http://www.iho.int/mtg\\_docs/com\\_wg/MSDIWG/MSDIWG5/MsdiOpenForum/MsdiOpenForum Programme.pdf](http://www.iho.int/mtg_docs/com_wg/MSDIWG/MSDIWG5/MsdiOpenForum/MsdiOpenForum Programme.pdf).

The next meeting of the MSDIWG, to be associated with another MSDI Forum, is planned to be held in February 2015 at the IHB in Monaco.

## Coordination meeting between IHO Member States of the European Economic Area

**Saint-Mandé, France, 03-04 February**

A coordination meeting between IHO Member States of the European Economic Area<sup>1</sup> was hosted by the French Hydrographic Office (SHOM) in Saint-Mandé, France, on 3 and 4 February 2014. The meeting was chaired by France, as chair of the Working Group on European Union Marine and Maritime Policies of the North Sea Hydrographic Commission (NSHC EUM2P WG). It was attended by representatives from Belgium, France, Germany, Norway and Sweden. Director Gilles Bessero represented the IHB. Apologies had been received from Denmark and the United Kingdom.

The meeting was organized in two half-day sessions. The first session dealt with the participation of the IHO in the “Hydrography” theme of the European Marine Observation and Data Network (EMODnet - [www.emodnet-hydrography.eu](http://www.emodnet-hydrography.eu)). The meeting reviewed the lessons learned from the first two phases of EMODnet and discussed options to further consolidate the contribution of the IHO both through national HOs of EEA Member States and through the relevant Regional Hydrographic Commissions (RHC). The meeting agreed that HOs are best placed to provide operational solutions with appropriate accuracy and updating mechanisms through the current IHO regional structures and approaches. The meeting also agreed to promote the use of the relevant IHO standards within EMODnet.

The second session was devoted to the preparation of the forthcoming 5<sup>th</sup> meeting between the European Commission (EC) and the IHO that takes place under the EC-IHO Memorandum of Understanding on establishing co-operation on maritime affairs. The main item on the agenda was the development of a “Joint European Coastal Mapping Programme” (JECMaP) in anticipation of a possible call for tenders by the European Commission under the EU Marine Knowledge 2020 initiative. The meeting discussed how such a programme could be specified and managed.

The meeting reviewed the status of approval of the terms of reference of the future IRCC Working Group on the IHO-EU Network which will replace the NSHC EUM2P WG. Arrangements were agreed to ensure that the relevant RHCs designate their representative and consider nominating a candidate for the chairmanship of the new Working Group.

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<sup>1</sup> The European Economic Area (EEA) is composed of the Member States of the European Union and three of the four Member States of the European Free Trade Association (EFTA): Iceland, Liechtenstein, and Norway.

# MARCH

## Joint 28th Transfer Standard Maintenance, Applications Development Working Group (TSMADWG) and 6th Digital Information Portrayal Working Group (DIPWG) Meeting **Sydney, Australia, 31 March – 4 April**

A joint meeting of the TSMADWG and DIPWG was held in Sydney, Australia from 31 March to 4 April. The meeting, which was co-chaired by Barrie Greenslade (UKHO) and Colby Harmon (US-NOAA), was attended by 40 members from 12 Members States and 10 stakeholder organizations. The IHB was represented by Assistant Director Tony Pharaoh.



*Joint TSMAD / DIPWG Participants*

Some of the important items that were discussed during the meeting included the continuing work on the S-101 product specification, the production of a new edition of the S-100 (Edition 2.0) standard, the status of the IHO GII Registry, the status of the next edition of the S-52 standard and its associated S-52 Presentation Library and the status of the portrayal work that is being undertaken for S-100 and S-101.

Presentations on the Feature Catalogue builder application, being developed by the Korea Hydrographic and Oceanographic Administration (KHOA), and the Portrayal Catalogue builder being developed under the guidance of the DIPWG were provided. The presentations provided an opportunity for the meeting to discuss several issues related with their integration and how they will interact with the IHO GII Registry.

Other issues discussed at the meeting included encoding problems arising from ENC's containing very long edges, holes in ENC data coverage, a proposed extension to the S-102 metadata, a proposal for a new edition of the S-58 standard, full machine readability for S-101, S-101 auxiliary files and cyber security and service issues that should be considered for future S-100 based products.

## 8<sup>th</sup> meeting of the DATA QUALITY WORKING GROUP (DQWG)

**Wollongong, Australia, 25-27 March**

The 8<sup>th</sup> meeting of the IHO Data Quality Working Group (DQWG) was hosted by the Australian Hydrographic Service (AHS) in Wollongong from 25 to 27 March 2014. The meeting was chaired by Mr. Chris Howlett of the UKHO. DQWG is a subsidiary of the Hydrographic Services and Standards Committee (HSSC) and its objective is to develop appropriate methods of classifying and depicting the quality of digital hydrographic data.

Thirteen persons attended, representing the Hydrographic Offices of Australia, Finland, France, Indonesia, Netherlands, Sweden, United Kingdom and United States, as well as Industry. Assistant Director Michel Huet attended for the IHB.



The meeting principally reviewed the work of the DQWG HICUP sub-group (Hierarchical Indication of Composite Uncertainty Propagation). HICUP had developed case scenarios for a revised way of displaying data quality in a more intuitive manner than the current “star” system displayed within the current generation ENC. The suggested display methodology was a three-tiered traffic light scheme (Red, Amber and Green) which takes into account depth, data quality and the user-defined Safety Depth of a vessel, and represents three risk levels. The hierarchy needed to drive portrayal from the S-101 data quality model was discussed and a draft data quality decision tree was agreed as forming a good start which will be finalised by correspondence.

During the week, DQWG met with TWLWG for a half-day joint session to discuss matters of common interest, such as uncertainty of tidal predictions which impacts on data quality since phase uncertainty equates to a height difference. On this occasion, a presentation on Dynamic Under Keel Clearance (DUKC) was given by OMC International. The company reported on their long-standing experience in using their DUCK system in several ports to assess and predict what depth of water will be available for projected ship passages.

The DQWG and TSMAD DCEG sub-group (Data Capture and Encoding Guide) met on Friday 28 March to review progress on the data quality model and hierarchy, based on the outcomes from DQWG-8, with a view to allowing TSMAD to bring S-101 to a testing stage.

Mr. Antti Castren, Finland, was elected the new Vice-Chair of DQWG, following the stepping down of Leendert Dorst, The Netherlands, the outgoing Vice-Chair.

The next DQWG meeting is scheduled to be held on 22-25 October 2014 in Aberdeen, UK, in conjunction with Hydro 2014.

## Visit of the French Maritime Academy at the IHB

**Monaco, 26 March**

The French Maritime Academy, a scholarly society established to promote high level studies related to maritime activities, visited the Principality of Monaco on 25 and 26 March 2014 on the occasion of one of its two annual field trips. The programme for the visit included a presentation from the International Hydrographic Organization (IHO) and a presentation from the Institute of the economic law of the sea of Monaco (INDEMER). Both presentations were delivered on 26 March at the IHB.



The delegation, composed of twenty one members of the Academy and twenty five guests, was welcomed by President Robert Ward and by the President of INDEMER, Mr Jean-Charles Sacotte. Director Gilles Bessero delivered a presentation on the IHO highlighting its history, its objectives and challenges, its organization and its activities.

President Ward and Director Bessero, member of the Academy, attended a public session of the Academy hosted by the oceanographic museum of Monaco on the previous day. The theme was “The Princes of Monaco and the maritime tradition of the Principality”. The session was closed by HSH Prince Albert II, who holds the position of foreign associate member of the Academy.



## 6<sup>th</sup> Meeting of the IHO Tidal and Water Level Working Group

Wollongong, Australia, 25-28 March



***TWLWG 6 outside the Australian Hydrographic Office***

The Tidal and Water Level Working Group (TWLWG), which is tasked by the IHO Hydrographic Services and Standards Committee to monitor and develop the use of tidal and water level information as well as to advise on tidal and water level observation, analysis and prediction, held its 6<sup>th</sup> meeting at the Australian Hydrographic Office, Wollongong, Australia from 25 to 28 March 2014. Representatives from Australia, Finland, France, Netherlands, New Zealand, Norway, Republic of Korea, USA, UK, and the IHB attended the meeting. David Wyatt, IHB Assistant Director, represented the IHB and IOC-GLOSS Group of Experts.

Topics discussed at the meeting included a standard for digital tide tables; a revised definition of Mean Sea Level (MSL) and Lowest Astronomical Tide (LAT) for tidal and non-tidal areas, and the establishment and maintenance of vertical reference frameworks for high resolution bathymetric surfaces.

A full day was set aside to work on the dynamic application of tides in ECDIS as well as a standard for the transmission of real-time tidal data. It was noted that considerable independent progress had been made on standards for the transmission of data and it was agreed that the next step should be to focus on ensuring consistency and compatibility of the data sets. The main effort was directed towards determining metadata requirements from a user perspective and the format of the user interface for the display of dynamic tides.

The opportunity was taken to hold a joint afternoon session with the Data Quality Working Group (DQWG), that was also meeting in Wollongong at the time, to discuss Dynamic Underkeel Clearance (DUKC), taking guidance and input from an Australian-based expert contributor from industry - OMC International, who gave a presentation on products and models that the company has provided for a number of critical straits and port areas around the world.



***TWLWG in joint session with DQWG***

Revised wording for the definitions MSL and LAT were discussed taking into account the approved revisions to IHO Resolution 3/1919, as amended. Final draft versions were agreed and these will be submitted to the Hydrographic Dictionary Working Group (HDWG) for presentation to the 6<sup>th</sup> meeting of the Hydrographic Services and Standards Committee (HSSC) for endorsement in November prior to seeking the formal approval of IHO Member States.

The meeting report and all papers are available from the TWLWG section of the IHO web site.

The USA offered to investigate hosting the next meeting, TWLWG 7, at the NOAA offices in Silver Spring, Maryland, in late April or early May 2015.

## 8<sup>TH</sup> CONFERENCE OF THE SOUTH-WEST ATLANTIC HYDROGRAPHIC COMMISSION (SWATHC)

**Arraiial do Cabo, Rio de Janeiro, Brazil, 20-21 March**

The 8<sup>th</sup> Conference of the South-West Atlantic Hydrographic Commission (SWAtHC) was hosted and chaired by the Hydrographic Office of Brazil (*Diretoria de Hidrografia e Navegação - DHN*) on 20-21 March 2014. The Conference took place in the hotel of the Naval Sea Research Institute (*Instituto de Estudos do Mar Almirante Paulo Moreira - IEAPM*) in Arraiial do Cabo, near Rio de Janeiro. Twelve delegates and two observers from industry attended the Conference. The three IHO Member States of the Region (Argentina, Brazil and Uruguay) and the Associate Member (Paraguay) were represented. The IHB Directing Committee was represented by Gilles Bessero who provided a briefing on current IHO issues and the work of the IHB.



The approval of the report of the 7<sup>th</sup> Conference was confirmed and the status of the list of actions was reviewed. Some progress was noted in the on-going investigation of the possibilities to establish a Regional Inland Electronic Navigational Chart (ENC) Coordinating Centre covering South and Central America.

The members reported on their national activities since the 7<sup>th</sup> Conference. Brazil, as Chair of the SWAtHC Planning Committee (*Comité de Planeamiento*), then reported on the progress of the Committee's work, addressing notably the maintenance and implementation of the regional INT and ENC schemes. The Commission approved the Committee's work plan for the next intersessional period: this includes the development of a prioritized capacity building plan, and the provision of an annual update of C-55 - *Status of Hydrographic Surveying and Nautical Charting Worldwide*. Paraguay was invited to join the Committee. The Committee Chair also reported on the work of the Inter-Regional Coordination Committee, Capacity Building Sub-Committee, Worldwide ENC Database Working Group and the Hydrographic Services and Standards Committee. Brazil, as one of the co-Chairs of the Inland ENC Harmonization Group, gave a technical presentation on inland ENCs.



The industry representatives briefed the Conference on current developments related to survey equipment, data processing and the transition to products based on S-100 - *Universal Hydrographic Data Model*.

It was agreed that the next Conference will take place in March 2015 in Uruguay, the exact date and venue to be decided by 1 September 2014.

## 4<sup>rd</sup> Meeting of the Worldwide ENC Database (WEND) Working Group Niterói, Brazil, 18-19 March

The 4<sup>th</sup> meeting of the Worldwide ENC Database Working Group (WENDWG) was held at the Directorate of Hydrography and Navigation (DHN) in Niterói, Brazil, on 18 and 19 March 2014, under the Chairmanship of Captain Jamie McMichael-Phillips (UK). Twenty-six representatives from 15 Member States (Argentina, Brazil, Chile, Colombia, Ecuador, Finland, France, Japan, Mexico, Norway, Singapore, Russian Federation, Suriname, UK, Uruguay), 7 Regional Hydrographic Commissions (NHC, BSHC, NSHC, MBSHC, EAHC, EAHC, SWAtHC), and the Regional ENC Coordinating Centers (IC-ENC, PRIMAR) attended the meeting. Three members of the WG (Canada, China-Hong Kong and USA) joined the meeting via teleconference. The IHB was represented by Director Mustafa Iptes and Assistant Director Alberto Costa Neves (Secretary).



### ***Participants at the WENDWG4 meeting***

The meeting acknowledged the status of approval of the revised guidelines for the implementation of the WEND Principles and of the definition of *cartographic boundary* to help the production of ENCs in areas where conflicting territorial claims exist. The meeting analyzed the potential impact of ENC overlaps and how to resolve the conflicts in Electronic Chart Display & Information System (ECDIS) when overlaps occur. The meeting agreed to develop a proposal for a pilot project to use ECDIS software tools to resolve overlapping data issues.

The Working Group reviewed the progress on the development of an IHO WENC concept and the aspects related to the WEND Principles and governance. The meeting tasked the RENC Harmonization Sub-Group (RHSG) to develop intersessionally the minimum standards for RENC operation and to produce a paper amplifying the benefits for ENC producer nations to join a RENC.

WENDWG4 reviewed the status of global ENC coverage which was reported as:

Small-scale ENCs:	100%
Medium-scale ENCs:	90%
Large-scale ENCs :	97%

The meeting invited the RENCs to report global ENC coverage and ENC distribution statistics, including for non-RENC members, to all WENDWG meetings in future. The IHB reported the

developments on its ENC coverage catalogue and the expected benefits for the WENDWG to achieve its main objective (*Monitor and advise IRCC on the development of adequate ENC coverage to meet the SOLAS V/19 carriage requirements for ECDIS*).

The next meeting will be held in Singapore from 3 to 5 March 2015 (subject to final confirmation).

Details of the WENDWG and the minutes and documents for meetings are available on the IHO website.

# APRIL

## 37th Antarctic Treaty Consultative Meeting

**Brasilia, Brazil, 28 April to 7 May**



The 37<sup>th</sup> Antarctic Treaty Consultative Meeting (ATCM37) was held in Brasilia starting at the end of April. The Antarctic Treaty Consultative Meeting is the primary forum for the representatives of Parties to the Antarctic Treaty to exchange information and formulate measures, decisions and resolutions to further the principles and objectives of the Treaty. Delegates from more than 35 countries and

eight scientific, intergovernmental and non-governmental organizations participated over ten days. The IHO is an Invited Expert to ATCM and was represented at the meeting by President Robert Ward.

President Ward, as Chair of the IHO Hydrographic Commission on Antarctica (HCA), introduced a report from the IHO at the opening plenary session. The report described the state of hydrographic surveying and nautical charting in Antarctica and highlighted the fact that very little of the waters of Antarctica have been surveyed, which poses serious risks of maritime incidents and impedes the conduct of maritime and related activities. Where nautical charts do exist, many have limited usefulness because of the lack of reliable depth or hazard information.

In order to obtain more information to improve hydrographic knowledge and the nautical charts of the region, the IHO recommended that the ATCM encourage and even oblige all vessels operating in Antarctica to be collecting depth data at all times using existing shipboard equipment supplemented by low-cost data recording systems. The President reported that the International Association of Antarctic Tour Operators (IAATO) is actively cooperating with the IHO to make tourist ships available for this - but there is a need to involve all other vessels - not just tourist vessels.



Dr Kim Crosbie, Executive Director of the International Association of Antarctica Tour Operators (IAATO) and the President at ATCM37

In addition, the President informed the ATCM that all depth data, no matter what quality, no matter how old, that has already been collected as part of scientific and other studies, should be identified, declared and forwarded to the IHO Data Centre for Digital Bathymetry (IHO DCDB).

This data will be useful in all those areas where no other data exists - which, in the case of Antarctica, is over 90% of the sea area.



***President and Chief of Navy  
Admiral Julio Soares de Moura Neto***

The IHO report was considered further during the meeting as part of a proposal to adopt a new ATCM Resolution on Strengthening Cooperation in Hydrographic Surveying and Charting of Antarctic Waters. This Resolution was subsequently adopted by the ATCM. It replaces a number of separate Resolutions and Recommendations covering various aspects of hydrography and nautical charting and provides a clear message that all States and Organizations involved in the ATCM process acknowledge the currently less than acceptable situation regarding hydrography and nautical charting and appreciate that coordination, collaboration and the sharing of resources are key to improving the situation in Antarctica. The Resolution also recognises that the HCA is the coordinating authority for nautical charting and hydrographic surveying in the region.

Whilst in Brasilia, the President took the opportunity to call on the Chief of the Navy, Admiral Julio Soares de Moura Neto at Navy Headquarters. The expanding role of the Brazilian Navy Hydrographic Service was the principal topic for discussion.

The 38<sup>th</sup> meeting of ATCM will take place in Bulgaria in May 2015.

## CIRM Annual Meeting

### Annapolis, Maryland, USA, 28-30 April

The “Comité International Radio-Maritime” (CIRM) held its 2014 annual meeting in Annapolis, Maryland, USA, from 28 to 30 April 2014. CIRM is a non-governmental international organization (NGIO) representing the maritime electronics industry in the development of relevant international regulations and standards and is accredited by the IHO as an observer organization. CIRM maintains an active role in the IHO Hydrographic Services and Standards Committee (HSSC), with a number of its members also participating as Expert Contributors in many HSSC Working Groups.



The meeting was combined with the annual meeting of the “Radio Technical Commission for Maritime Services” (RTCM). Started in 1947 as a United States (US) government advisory committee, RTCM now has a worldwide membership and is also recognized as an NGIO by the IHO. RTCM develops technical standards and consensus recommendations for maritime radionavigation and radiocommunication systems which are intended to complement international standards. Some of the RTCM standards and recommendations are incorporated by reference into the regulations of the US Federal Communications Commission and the US Coast Guard and have been used as the basis for standards adopted by the

International Electrotechnical Commission (IEC). RTCM, like CIRM, contributes to the work of the HSSC.

The joint meeting was attended by about 180 participants representing more than seventy companies, governmental and non-governmental bodies from France, Republic of Korea, Netherlands, UK and USA, as well as governmental and non-governmental international organizations such as Cospas-Sarsat, the European Commission (EC), the International Maritime Organization (IMO), the International Mobile Satellite Organization (IMSO) and RTCM. Director Gilles Bessero represented the IHO. The UK Hydrographic Office (UKHO), the US Office of Coast Survey (OCS) and the US National Geospatial-Intelligence Agency (NGA) were also represented. The Secretary-General of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) sent a message of apology as he was unable to attend.

Four working groups were formed to discuss the way forward on current issues related with e-navigation, type approval processes for navigation equipment, and the provision of services. The working group on e-navigation focused on the contribution of CIRM to the e-navigation strategy implementation plan being developed by the IMO. The outcome of the working group meetings was reviewed in the plenary sessions. About twenty presentations delivered in the plenary sessions addressed recent technological developments and reported on the activities of international organizations of interest to CIRM members. It is worth noting that issues of concern were reported on the operation of voyage data recorders (VDR) and the automatic identification system (AIS) which may be of greater concern than the so-called “ECDIS anomalies problem”. Julia Powell, the Vice-Chair of the IHO Working Group on Transfer Standard Maintenance and Applications Development (TSMAD), reported on progress with the development of the S-101 Product Specification for the next generation Electronic Navigational Chart (ENC) based on the S-100 Universal Hydrographic Data Model. The important role of S-100 in the wider implementation of e-navigation was acknowledged by several other speakers.

Director Bessero took the opportunity of his stay in Annapolis to visit the OCS headquarters in Silver Spring, Maryland, where he was welcomed by Rear Admiral Gerd Glang, OCS Director, and Kathryn Ries, Deputy Director. Director Bessero was briefed on the latest technological developments at OCS in data collection, chart production, nautical publications and spatial data infrastructures and on the activities of the Joint Hydrographic Center - the ongoing partnership between OCS and the University of New Hampshire. Discussions with the OCS staff addressed also the status and prospects of e-navigation developments, the proposals submitted to the 5<sup>th</sup> Extraordinary International Hydrographic Conference and the proposed restructuring of HSSC.

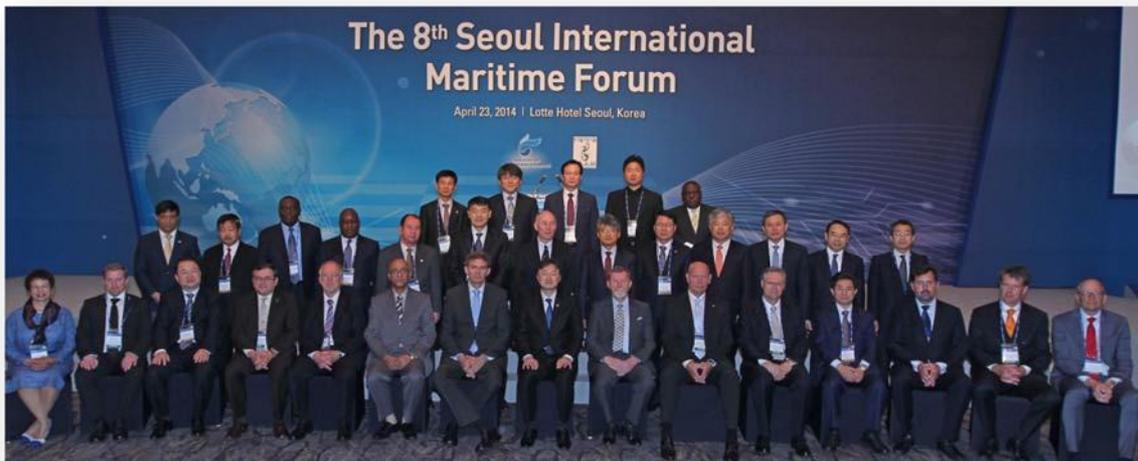
## 8<sup>th</sup> Seoul International Maritime Forum Seoul, Republic of Korea, 23 April

At the invitation of the Republic of Korea Ministry of Oceans and Fisheries, President Ward participated in the 8<sup>th</sup> Seoul International Maritime Forum (SIMF-8) in Seoul, Republic of Korea. The theme of the Forum was e-Navigation. The forum was organised by the Ministry of Oceans and Fisheries in conjunction with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). Twelve invited speakers representing intergovernmental and international organisations, together with international and Korean experts, addressed the audience in three sessions, that included extensive panel discussions.

The President provided an opening address in which he described e-Navigation as the most significant development of the 21<sup>st</sup> century for mariners, for ship operators and for those providing the various shore-based services upon which ships rely. He went on to compare the e-Navigation concept directly with the internet and described it as *the maritime intranet*, where mariners and shipping authorities will, in future, exchange and transfer all their relevant information digitally. He also moderated one of the three panel discussions, the others being moderated by Mr Gary Prosser, IALA Secretary-General and Mr Ashok Mahapatra, Senior Deputy Director at the International Maritime Organization (IMO).

Of particular interest to the IHO, was the number of references speakers made about using the IHO S-100 standard in their various developments of e-Navigation functions.

At the Forum, the Department of Transport and Maritime Affairs of the Republic of Korea announced a major 3-year initiative commencing in 2015 - *Smart Navigation*. *Smart Navigation* will provide an e-Navigation environment for the use of all local vessels operating on the Korean coast. The developers of many aspects of *smart navigation* will be liaising with the relevant IHO working groups and will contribute directly to the validation, maintenance and extension of the increasingly important S-100 standard.



***International speakers and Korean experts at SIMF-8***

After the Forum, the President called on the Vice Minister of the Korea Department of Transport and Maritime Affairs, Mr Choi Jang-Hyun.

## *37<sup>th</sup> Meeting of the US-Canada Hydrographic Commission*

**St. John's, Newfoundland, Canada, 16 April**

The 37<sup>th</sup> Meeting of the US-Canada Hydrographic Commission (USCHC) was held in St. John's, on 16 April, hosted by Canada. The meeting took place in conjunction with the Canadian Hydrographic Conference 2014. The meeting was co-chaired by the Hydrographer-General of Canada and the Director of the US Office of Coast Survey, Mr Denis Hains and Rear Admiral Gerd Glang respectively. Director Iptes represented the IHB.

The USCHC received national reports from Canada and the USA. The meeting reviewed the report of the Charting Advisors Committee (CAC) which is the technical committee of the USCHC. The USCHC discussed and agreed various positions on issues that would be discussed at the forthcoming meeting of the Inter-Regional Coordination Committee (IRCC6), particularly relating to the Worldwide ENC Database (WEND) concept as well as Arctic Regional Hydrographic Commission (ARHC4) issues relevant to the USCHC. Director Iptes reported on the IHO Work Programme and the Organization's activities during the previous year. The preparations and proposals for the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5) were also considered by the USCHC.

The meeting concluded with a number of presentations on informational items and status reports including: ship survey plans for 2014-15, e-navigation update, NOAA paper chart production update, developments in bathymetric radar/satellite-derived bathymetry and LIDAR, strategic plans for paper chart production in light of the requirements for ECDIS as a carriage requirement in an increasing number of ships.

The 38<sup>th</sup> meeting of the Commission will be hosted by the USA in Washington, DC in March 2015 and will coincide with the next US Hydrographic Conference to be held at the same venue. It was decided that Mr Denis Hains, Hydrographer-General of Canada, will represent the USCHC in IRCC activities in the intersessional period.



*The participants at the 37<sup>th</sup> meeting of the USCHC.*

## 17<sup>th</sup> Standardization of Nautical Publications Working Group (SNPWG) Meeting Rostock, Germany, 7 – 10 April

The 17<sup>th</sup> SNPWG Meeting was hosted by the Federal Maritime and Hydrographic Agency of Germany (BSH) in Rostock, Germany from 7 to 10 April. The Meeting was chaired by Mr Jens SCHROEDER-FUERSTENBERG (Germany) and was attended by 18 WG members from 10 Members States and 4 stakeholder organizations. The IIB was represented by Tony Pharaoh.



*Joint TSMAD / DIPWG Participants*

Some of the important items that were discussed during the meeting included the ongoing work on the Marine Protected Areas Product Specification (PS). This PS will use a Geography Mark-up Language (GML) encoding format which will be included in the next edition (2.0) of the S-100 standard. Work continued on the Product Specification for radio services. Ole Borup from the Danish Maritime Authority provided a presentation on the Maritime Cloud concept and noted that the goal was to build a communication framework which will connect all actors in the maritime environment.

A presentation was provided on the MONALISA Project. One of the work items is to develop methods for exchanging route and voyage plan information between marine stakeholders. There was also a presentation and discussion on the Marine Information Overlay (MIO) work that is taking place within the East Asia Hydrographic Commission.

Other issues discussed during the meeting included the modelling lights information, being undertaken by IALA and the TSMAD Working Group, metadata requirements and the development of test cases for testing the Radio Services/MPA Product Specifications.

## IMO/IHO/IALA Regional Awareness Seminar on Safety of Navigation

**Accra, Ghana, 7 to 9 April**

A Regional Seminar on Safety of Navigation was held in Accra, Ghana, from 7 to 9 April 2014. The Seminar was organized by the International Maritime Organization (IMO), in cooperation with the International Hydrographic Organization (IHO) and the World Wide Academy (WWA) of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), as part of the United Nations' capacity-building initiative "Delivering as One". The Seminar was hosted by the Ghana Maritime Authority. The IHO was represented by Director Gilles Bessero who provided briefings on current hydrographic and charting issues, including the provision of hydrographic services, the collection and promulgation of marine safety information and ECDIS matters, and on the development of e-navigation. He also presented the role and organization of the IHO and its Capacity Building Programme.

The Seminar was intended to raise awareness among regional authorities in charge of maritime safety by providing an overview of methods to improve safety of navigation and the efficiency of maritime traffic in the area. The Seminar focused on the obligations placed on coastal States following the entry into force in 2002 of the revised Chapter V of the International Convention for the Safety of Life at Sea (SOLAS) and on tools which have been recently developed to assess risks and improve safety of navigation and traffic monitoring.



***Hon. Dzifa Ativor, Minister for Transport of Ghana,  
greets Director Bessero at the Opening Ceremony***

The Seminar was aimed at English-speaking countries bordering the Eastern Atlantic. It was opened by the Minister of Transport of Ghana. It was attended fully or partially by thirty-eight senior management and technical administrators in charge of safety of navigation in Cape Verde, Equatorial Guinea, Gambia, Ghana, Liberia, Nigeria, Sierra Leone and the IMO Regional Coordinator for West and Central Africa (Anglophone). The delegation from the host country was by far the largest with twenty-eight participants. The hydrographic dimension was represented by four participants from Cape Verde, Ghana and Nigeria.



***Some of the participants***



***Director Bessero briefing the participants***

As part of the closing session chaired by the Director General of the Ghana Maritime Authority, the Seminar adopted a series of recommendations including encouragements to participate more actively in IHO endeavours and to develop hydrographic services, starting with improving the collection and distribution of nautical information and becoming Associate Members of the Eastern Atlantic Hydrographic Commission.

# MAY

## 2<sup>ND</sup> MEETING OF THE IHO SURFACE CURRENT WORKING GROUP DEPARTMENT OF OCEANS AND FISHERIES

**Québec City, Canada, 28-30 May**

The Surface Current Working Group (SCWG), which is tasked by the IHO Hydrographic Services and Standards Committee (HSSC) to develop standards for the delivery and presentation of navigationally significant surface current information on an ENC in an ECDIS, held its 2<sup>nd</sup> meeting (SCWG 2) at the Office of the Department of Oceans and Fisheries (DOF), Québec City, Canada from 28 to 30 May 2014. Representatives from Canada, France, Netherlands, USA, and the IHB attended the meeting along with expert contributors from the Centre for Coastal and Ocean Mapping at the University of New Hampshire (UNH), SAPWAR Atlantic, Jeppesen and Caris. Assistant Director David Wyatt represented the IHB.



*SCWG 2 in session at Office of DOF*

The SCWG received presentations covering the analysis of a Surface Currents design survey and results from UNH, CO-OPS current data telemetry and formatting from NOAA, Raster Surface Currents from Caris and a prototype model for Surface Currents from the Canadian Hydrographic Service (CHS) respectively. The SCWG then received an analysis of the responses to the User Survey questionnaire prepared by the Netherlands and Spain. A potential list of Feature Catalogue and Attributes was presented and revised; it was agreed test data sets would be reviewed by SAPWAR Atlantic in preparation for the creation of a S-111 test portrayal model.

The SCWG devoted time to undertake a thorough review of the draft S-111 Product Specification, achieving significant progress towards the development of an initial complete first version. The SCWG revised their Work Plan for the period 2015-2016, which will be submitted to HSSC 6 for endorsement.

It was agreed a meeting would be beneficial once the initial complete version of the S-111 Product Specification had been circulated and the test portrayal model had been developed. SCWG 3 is tentatively planned for the period 12-14 May 2015 in Tokyo, Japan.



*SCWG 2 in Québec City*

The meeting report and all papers are available from the SCWG section of the IHO web site.

## 93<sup>rd</sup> Session of the IMO Maritime Safety Committee London, UK, 14-23 May



***HH Princess Lalla Jumlala, Ambassador of HM the King of Morocco to the Court of St James, presents the IMO Secretary General, Mr Koji Sekimizu, with a handcrafted Fantasia ornamental saddle.***

The Maritime Safety Committee (MSC) is the highest technical body of the International Maritime Organization. The functions of the MSC are to consider matters concerned with aids to navigation, construction and equipment of vessels, manning from a safety standpoint, rules for the prevention of collisions, handling of dangerous cargoes, maritime safety procedures and requirements, hydrographic information, log-books and navigational records, marine casualty investigations, salvage and rescue and any other matters directly affecting maritime safety. The 93<sup>rd</sup> session of the IMO Maritime Safety Committee (MSC 93) was held at the IMO Headquarters in London from 14 – 23 May. The President and Assistant Director Wyatt represented the IHO.

Of particular interest to the IHO, the MSC approved in principle the proposed text of the mandatory Code for Ships Operating in Polar Waters (the Polar Code) prepared by the Polar Code Working Group (PCWG). In particular the text in document MSC 93/10/11, submitted by the IHO and co-sponsored by Australia and New Zealand, was accepted with minor amendments. The submission made reference to the poor state of charting in the Polar Regions and the additional precautions necessary to mitigate some of the risks. The text was inserted into the Polar Code Preamble and Part 1-B chapter 10 additional guidance.

The MSC also addressed various matters related to hydrography and nautical charting including those resulting from the 59<sup>th</sup> session of its Sub-Committee on Safety of Navigation (NAV 59) that met in September last year. The main items included adopting and amending a number of new and existing routing measures, traffic separation schemes and mandatory ship reporting systems. The MSC noted the progress which had been made in the development of an e-Navigation strategy implementation plan.

Moreover, the MSC noted the progress that had been made on e-Navigation matters, the endorsement by NAV 59 of the preliminary draft of the e-Navigation Strategy Implementation Plan and the re-establishment of the correspondence group to progress the work intersessionally. Additionally the MSC approved an MSC.1/Circ on the Policy on the use of AIS Aids to navigation. The Committee also agreed to include in the 2014-2015 biennial agenda of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) an unplanned output on 'Recognition of Galileo as a component of the WWRNS' with a target completion date of 2016.

The MSC unanimously re-elected Captain Christian BREINHOLT of Denmark as Chair and Captain Muhamad SEGAR of Singapore as Vice-Chair of the Committee for 2014.

The next session of MSC will take place at IMO Headquarters in November 2014.

## 6<sup>th</sup> Meeting of the Inter-Regional Coordination Committee (IRCC6)

**Paris, France, 19-20 May**

The sixth meeting of the Inter-Regional Coordination Committee (IRCC6) took place in Paris, France, hosted by SHOM (French Naval Hydrographic Service) on 19 and 20 May 2014. The meeting was attended by the Chairs / Representatives of the 15 Regional Hydrographic Commissions (RHCs), the IRCC subordinate bodies and 26 observers. A total of 49 participants from 21 countries were present. The IHB was represented by President Robert Ward, Director Mustafa Iptes (Secretary) and Assistant Director Alberto Costa Neves.

### *The Participants at the IRCC6 Meeting*

The meeting was chaired by Rear Admiral Tom Karsten (UK), who, as previous Vice Chair, assumed the Chair upon the departure of Dr Savithri Narayanan (Canada), who stepped down upon her retirement in November 2013.

The IRCC examined the reports and activities of the RHCs and its subordinate bodies, the current status of hydrographic surveys and nautical charts, the progress of ENC schemes and the IHO ENC catalogue, the Capacity Building programme, Worldwide ENC Database (WEND) related issues and the decisions of other bodies and organizations affecting its work.



The Committee endorsed a revision of its Terms of Reference (ToR) and Rules of Procedure (RoP) that provides clarity on the role of the Vice-Chair and the inclusion of the Chairs of the WENDWG and IHO-EU Network WG as members of the committee. The revised ToR and RoP will be submitted to Member States for approval.

The IRCC acknowledged the progress made with Capacity Building (CB) activities and endorsed a draft revised IHO Capacity Building Strategy that will be submitted to the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5) by CBSC for adoption.

The Committee reviewed the WEND Working Group (WENDWG) activities and the continuing progress towards the full implementation of the WEND Principles and the Guidelines. ENC coverage, the quality and reliability of the information in ENCs and the harmonization of current ENCs with the corresponding paper charts, overlapping ENCs and developments of an IHO WENC (or RENC) were extensively discussed by the Committee. The WENDWG was tasked to assess the impact and consistency of updates for ENCs and paper chart (coverage and quality) and to report on the potential for implementing an IHO WENC Concept. The Committee also approved the WENDWG Work Programme for its future activities.

IRCC endorsed draft revisions to IHO publications S-5 - *Standards of Competence for Hydrographic Surveyors* (Ed. 11.1.0) and S-8 - *Standards of Competence for Nautical Cartographers* (Ed. 3.1.0) and invited the IHB to circulate a CL seeking the approval of Member States. The Committee approved the IBSC Work Programme on the development of the next editions of the Standards.

The Committee also endorsed revised ToR and RoP for the GEBCO Guiding Committee that will be submitted to Member States and to the Intergovernmental Oceanographic Commission (IOC) for approval. The IHO performance monitoring system was reviewed and the impacts for RHC and Member States were assessed. IRCC agreed on the best practices for reporting the performance indicators and the Chairs of the RHCs were encouraged to provide the IRCC Chair and the IHB with updated reports.

The Committee discussed the use of a risk assessment methodology developed by New Zealand as a tool for Capacity Building assessment. RHC Chairs were invited to encourage Member States in their respective regions to use the risk assessment methodology to prioritize hydrographic surveys. A proposal on the best practices for and benefits of maximizing the use of hydrographic data proposed by MACHC was also reviewed and acknowledged by the Committee.

In reviewing the work of the Working Group on Maritime Spatial Data Infrastructure (MSDIWG), the Committee supported a proposal to transfer the MSDIWG from HSSC to IRCC. This is because the work of the MSDIWG is clearly in line with the regional coordination and capacity building aims of the Committee. IHB was invited to facilitate the transfer.

The Committee elected Dr Parry S.L. Oei, the Hydrographer of Singapore, to fill the vacancy of Vice Chair and decided to hold its next meeting in Mexico from 1 to 3 June 2015.

The final report of the meeting will be published on the IHO website.

## 12<sup>th</sup> Meeting of the Capacity Building Sub-Committee (CBSC) Brest, France, 14 - 16 May

The 12<sup>th</sup> meeting of the Capacity Building Sub-Committee (CBSC12) was held in Brest, France from 14 to 16 May, hosted by the *Service Hydrographique et Océanographique de la Marine* (SHOM). The meeting was chaired by Mr Thomas Dehling (Germany) and attended by 12 members and 18 observers from 11 Regional Hydrographic Commissions (RHCs), 18 Member States and the IBSC Chair. The IHB was represented by Director Mustafa Iptes and Assistant Director Alberto Costa Neves (CBSC Secretary).



***Participants at the CBSC12 Meeting.***

The CBSC approved the draft revised IHO Capacity Building (CB) Strategy that will be submitted for consideration by the 5<sup>th</sup> Extraordinary International Hydrographic Conference. The draft revised version of the CB Strategy provides a clearer overview to guide the IHO Capacity Building activities.

Major aspects of the revised IHO CB Strategy include: specific guidance on the funding of equipment in comprehensive projects that include other funding streams and a sustainable process for using the equipment; limiting the funding of non-Member States to Phase 1 projects only; promoting comprehensive / regional projects; allowing the use of consultants; developing C-55 as a “country profile” database; the use of funds for administrative issues on a limited basis; the development of a broader basis for co-operation with stakeholders; and the inclusion of the development of Marine Spatial Data Infrastructures (MSDI) within the CB phases. The CBSC also formed a drafting group to develop a Public Relations Paper to publicize the revised IHO CB Strategy.

The CBSC recognized the increasing importance of the CB Coordinators in all the Regional Hydrographic Commissions (RHC). The CBSC developed and adopted new Terms of Reference (ToR) for CB Coordinators, whose goals are: to assist the Chair of the RHC; to assure continuity; and to closely cooperate with the CBSC, preferably as a CBSC member.

The CBSC considered that the improvement of C-55 (Status of Hydrographic Surveying and Nautical Charting Worldwide) is essential in order to provide a comprehensive basis for the assessment of CB requirements in each country. The CBSC welcomed the related work currently being done by the IHB to develop a Geospatial Information System (GIS) that will support assessing the need for CB support in coastal States in accordance with the IHO CB Strategy. The meeting also approved the revised CB Procedure 3 - *Reviewing process and the preparation of the Management Plan* and 8 - *Finance Management*. A working group was formed to develop a new Procedure 9 covering Technical Visits. This new procedure will replace some parts of Procedure 5 and the former Annex to the CB Strategy.

The CBSC acknowledged the significant contributions made by the Republic of Korea and Japan, through the Nippon Foundation (NF), to the IHO Capacity Building Programme. CBSC also recognized the contribution made by industry to Capacity Building and the need to get further engagement with industry partners.

The meeting acknowledged the significant contribution of the International Maritime Organization (IMO) in supporting the development of hydrographic services in Developing States through its Integrated Technical Co-operation Programme (ITCP). The meeting commended the risk assessment methodology developed by New Zealand as a significant and beneficial tool for establishing priorities for surveys and charting, which in turn supports the identification and justification for CB activities and projects.

The CB Management Plan (CBMP) was reviewed and approved by the meeting. The meeting also updated the 2014 CB Work Programme (CBWP) and agreed on the 2015 CBWP based on the approved CBMP.

The next CBSC meeting will be held in Mexico from 27 to 29 May 2015. The full report of the meeting will be posted on the IHO website.

## 10<sup>th</sup> IHO Data Protection Scheme Working Group (DPSWG) Meeting IHB, Monaco, 13-15 May

The 10th DPSWG Meeting took place at the International Hydrographic Bureau, Monaco. Five participants from the following 4 Member States participated in the meeting: Australia<sup>2</sup>, France, Norway and the United Kingdom. Members from 3 stakeholder organizations participated in the meeting and the IHB was represented by Assistant Directors Michel HUET, Anthony PHARAOH and Yves GUILLAM.



*Participants at the 10<sup>th</sup> DPSWG Meeting.*

The meeting conducted a review of the migration from S-63 Edition 1.0 to Edition 1.1. This has resulted in a small number of users (mainly with very old ECDIS systems) still having to use S-63 1.0. Due to the intensive efforts by the data servers within the scheme however, these are gradually being migrated to S-63 Edition 1.1.

Additional tests for completeness of S-63 testing were added to the test datasets. In order to support the new requirement for an ENC status report (as defined by the new edition of IEC61174 standard), the DPSWG has created a draft new edition of S-63 (1.2) containing an annex defining the report content and definitions.

The meeting also discussed the future structure of S-63 and new enhancements to support the S-100 standard and associated product specifications. These include implementing digital signatures within the S-101 (ENC Product Specification).

The DPSWG continues to provide expert assistance and guidance to IHB staff in their administration of the Data Protection Scheme. The next meeting is scheduled to take place in May 2015 – dates to be confirmed.

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<sup>2</sup> Participation via remote conference connection.

# JUNE

## 31<sup>ST</sup> CONFERENCE OF THE NORTH SEA HYDROGRAPHIC COMMISSION Amsterdam, The Netherlands, 25-27 June

The 31<sup>st</sup> Conference of the North Sea Hydrographic Commission (NSHC) was hosted by the Royal Netherlands Navy Hydrographic Office from 25 to 27 June 2014. The Conference was held in the Naval Barracks in Amsterdam and was chaired by Evert Flier, the Hydrographer of Norway. Twenty-five delegates, the Manager of the GEBCO Digital Atlas and three Observers from industry attended the Conference. The ten IHO Member States of the Region (Belgium, Denmark, France, Germany, Iceland, Ireland, Netherlands, Norway, Sweden and United Kingdom) were represented as well as Italy. The IHB Directing Committee was represented by Gilles Bessero.



The Conference reviewed topical issues related to the three Programmes of the IHO.

Under Programme 1, “Corporate Affairs”, Director Bessero reported on the status of the ratification of the Protocol of Amendments to the IHO Convention and on the preparation of the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5). The Conference reviewed the latest developments and perspectives with regard to the European Union (EU). The Commission tasked the Chair of the NSHC Working Group on EU Marine and Maritime Policies with transferring the on-going activities of the Working Group to the IHO-EU Network Working Group formed under the Inter-Regional Coordination Committee.

Concerning Programme 2, “Hydrographic Services and Standards”, the participants shared views and experience on crowd-sourcing, airborne and satellite-derived bathymetry and marine spatial data infrastructures. The Chair of the Commission was tasked with proposing to the Chair of the Baltic Sea Hydrographic Commission (BSHC) to extend the BSHC MSDI Working Group to the North Sea Region.

The discussions in relation with Programme 3, “Inter-Regional Coordination and Support”, focused on the implementation of the principles for the Worldwide ENC Database (WEND), noting the progress since the XVIII<sup>th</sup> International Hydrographic Conference and the remaining shortcomings as well as the concerns expressed by the representatives of industry in relation to the limited commercial availability of ENCs in certain areas and locations. The Commission invited the Chairs of the Primar Advisory Committee and the IC-ENC Steering Committee to submit a joint progress report on harmonizing the two Regional ENC Coordinating Centres to the EIHC-5. The Conference also reviewed the status of international charts in the Region, the development of ENC schemes, the development of C-55 and the activities of the NSHC Tidal Working Group, Dover Strait Survey Strategy Working Group and Re-survey Working Group.

The manager of the GEBCO Digital Atlas provided an update on the GEBCO Project and invited further contribution from NSHC Member States. The industry representatives shared their views on recent technological developments.

The Commission decided to establish a web site similar to the BSHC web site, with Germany as the administrator.

At the end of the Conference, Captain Peter Kortenoeven, The Netherlands, took over the chairmanship and Mr. Michael Purcell, Ireland, became Vice-Chair. The next Conference is planned for June 2015 in Dublin, Ireland.

## 6<sup>th</sup> meeting between the IHO and the European Commission

**Amsterdam, The Netherlands, 25 June**



Under the Memorandum of Understanding between the European Commission (EC) and the IHO on establishing co-operation on maritime affairs, the 6<sup>th</sup> EC-IHO meeting was hosted by the Royal Netherlands Navy Hydrographic Office at the Naval Barracks in Amsterdam on 25 June 2014. The meeting was chaired by France, as chair of the North Sea Hydrographic Commission Working Group on European Union Marine and Maritime Policies (NSHC/EU2MPWG). The meeting was attended by two representatives from the European Commission (DG Mare) and seventeen representatives from IHO Member States (France, Belgium, Germany, Greece, Ireland, Italy, Netherlands, Norway and Sweden). Director Gilles Bessero represented the IHB.

The meeting reviewed the development of a design study on a future joint European coastal mapping project in the perspective of a call for tender that should be issued by the European Commission in the second half of July. The meeting was informed about the consultation on seabed mining undertaken by DG Mare, the opportunities related to maritime issues in Horizon 2020 - the EU Framework Programme for Research and Innovation 2014-2020, and the objectives, contents and impact of the EU directive on maritime spatial planning which has been adopted by the European Parliament and is expected to come into force in September. The Vice-Chair of the IHO Maritime Spatial Data Infrastructure Working Group, Ellen Vos, The Netherlands, reported on the significant contribution of the maritime community, including representatives from HOs, industry and academia, to the annual Conference on INSPIRE - the framework of the European Spatial Data Infrastructure, which was held in Aalborg, Denmark, on 16-17 June 2014.

# Celebration of World Hydrography Day at the International Hydrographic Organization Headquarters Monaco, 18 June

World Hydrography Day was celebrated in Monaco with a reception at the headquarters of the IHO on 18 June. The theme for this year's celebration is "*Hydrography - much more than just nautical charts*" - highlighting the significant value of hydrography to all human activities that take place in, on or under the sea.

Local dignitaries, government and diplomatic representatives, and other invited guests were graced with the presence of HSH Prince Albert of Monaco. The celebration also received a significant boost from the French Navy whose surveying vessel *La Pérouse* (Commanding Officer Christophe Thomassin) was berthed in Monaco's main harbour, Port Hercule.



***President Ward addresses HSH Prince Albert and guests at the WHD celebration***

The Hydrographer of France, Ingénieur général Bruno Frachon, also attended the celebration. In addition, the IHO was hosting a meeting of the IHO-IOC Sub Committee on Undersea Feature Names (SCUFN), which enabled the immediate past Hydrographer of Japan, Mr Shin Tani, and the Deputy Hydrographer-General of Canada, Dr Kian Fadiae, to be present, together with the other members and observers of the Sub Committee.



***HSH Prince Albert meets Dr Hans Werner-Schenke (Germany),  
Chair and Ms Lisa Taylor (USA), Vice chair of SCUFN***

The welcoming speech delivered by IHO President Robert Ward presented the theme of this year's celebration and was concluded with a toast to all the world's hydrographers and their professional colleagues.

# 25<sup>TH</sup> CONGRESS OF THE INTERNATIONAL FEDERATION OF SURVEYORS (FIG)

**Kuala Lumpur, Malaysia, 16-21 June**

The 25<sup>th</sup> Congress of the International Federation of Surveyors (FIG) was held in Kuala Lumpur, Malaysia from 16 to 21 June. The Congress attracted more than 2 500 participants from almost 100 countries. The Congress offered more than 170 technical sessions over the four conference days with around 550 presentations, 3-day exhibition, technical and social tours. Among the participants, the Hydrographers of Australia and Chile were present. The IHO was represented by Director Mustafa Iptes.

The theme of the 25<sup>th</sup> FIG Congress was “*Engaging the Challenges, Enhancing the Relevance*”. The Congress was opened by the Prime Minister of Malaysia, the Honourable Dato’ Sri Mohd Najib bin Tun Haji Abdul Razak. In his opening speech, he highlighted the importance of geo-spatial information by stating that “We should work to improve the existing information infrastructure, including the spatial data infrastructure; and implement policies that ensure that spatial data is reliable, accessible for re-use, and can be easily integrated into collaborative environments”. The details of the Congress are available on the FIG web site ([www.fig.net](http://www.fig.net)).



***Prime Minister of Malaysia, the Honourable Dato’ Sri Mohd Najib bin Tun Haji Abdul Razak delivering his welcoming address at the Opening Ceremony of the 25<sup>th</sup> FIG Congress***

Director Iptes made a presentation on “*Hydrography, Nautical Charts, Marine Spatial Data Infrastructure and Blue Economy for the World We Want*” as one of the keynote speakers at the plenary session of the Congress. He mainly attended the FIG Commission 4 (Hydrography) programme which was chaired by Dr. Michael Sutherland (Canada, and Trinidad and Tobago) and provided briefings on “*Hydrographic Education, Training and Professional Development*” and “*Sustaining the Role of Hydrography in Support of the Blue Economy*”. It was confirmed that Ms. Angela Etuonovbe (Nigeria) will begin her term as Chair of Commission 4 in 2015 for the subsequent four years.



***Key Commission 4 participants at the FIG Congress 2014***

Director Iptes participated in the Young Surveyors Conference and gave the young surveyors a presentation on the “*Importance of Hydrography, the IHO and its roles and the Blue Economy*”.

The FIG General Assembly elected Prof. Chryssy Potsiou (Greece) as the new President of FIG for the term of 2015-2018 as successor of Mr. CheeHai Teo. The next FIG Event will be the FIG Working Week 2015 in Sofia, Bulgaria from 17 to 20 May 2015.



***Rear Admiral Zaaim Bin Hasan, Hydrographer of Malaysia and guests at the WHD celebration held at the National Hydrographic Centre of Malaysia in Port Klang.***

Taking advantage of their stay in Kuala Lumpur, Director Mustafa Iptes, the Hydrographer of Chile, Rear Admiral Patricio Carrasco, the Hydrographer of Australia, Commodore Brett Brace, and his Deputy Director, Mr Jasbir Randhawa, visited the National Hydrographic Centre (NHC) of Malaysia on 22 June in Port Klang and attended a celebration of World Hydrography Day (WHD). Local dignitaries, government representatives and some retired staff also participated in the WHD event. A welcoming speech delivered by Rear Admiral Zaaim Bin Hasan, Hydrographer of Malaysia was followed by an address on the theme of this year's celebration and highlights of the IHO activities by Director Iptes. The WHD celebration concluded with a reception.

## Visit of the French Hydrographic Ship "*La Pérouse*" on the occasion of the celebration of World Hydrography Day Monaco, 18-20 June

The French hydrographic ship, *La Pérouse*, currently surveying in the Mediterranean off the coasts of Tunisia and Corsica stopped off in the Port of Monaco from 18 to 20 June on the occasion of the celebration of World Hydrography Day. This ship was commissioned on 15 November 1986 and is the oldest of the French Navy's coastal hydrographic ships. Placed at SHOM's disposal for surveying work in France or abroad, the ship is equipped with high quality measuring equipment such as, for example, a Kongsberg EM710 multibeam echosounder with a range of approximately 1500 metres and a high resolution.



A group of staff from the IHB, accompanied by Admiral Giuseppe Angrisano, a former President of the Directing Committee, was welcomed aboard for a visit of the ship and a presentation describing the equipment used for hydrographic work (multibeam echosounder, lateral echosounder, magnetometer, a grab sampler, etc.) The delegation was able to observe the quality of the work carried out by *La Pérouse* during its deployment.



The ship's crew counts about thirty sailors, four of whom are women, under the command of Lt. Cdr. Christophe Thomassin. SHOM's qualified personnel onboard is exclusively in charge of the preparation and the execution of the hydro-oceanographic work under the technical orders of an engineer. The Hydrographers onboard had the pleasure of explaining the objectives of their work in the Mediterranean to HSH Prince Albert II of Monaco at the Reception given by the IHB.

They also presented the Prince with a souvenir from SHOM. The following day they were received at the IHB for a short visit.



## 27<sup>th</sup> Meeting of the GEBCO Sub-Committee on Undersea Feature Names

IHB, Monaco, 16-20 June

The 27<sup>th</sup> meeting of the GEBCO Sub-Committee on Undersea Feature Names (SCUFN) was hosted at the International Hydrographic Bureau (IHB) in Monaco, from 16 to 20 June 2014. SCUFN is tasked with selecting the names to appear in the products of the IHO-IOC General Bathymetric Chart of the Oceans (GEBCO) project and on international nautical charts. The meeting, chaired by Dr Hans Werner Schenke (IOC representative) from the Alfred Wegener Institute for Polar and Marine Research (AWI – Germany), was attended by 27 participants, including nine (four IOC and five IHO representatives) of the 12 SCUFN members, and 15 observers including Mr Shin Tani, Chair of the GEBCO Guiding Committee.

The meeting was opened by IHO President Robert Ward. He stressed the increasing importance of the tasks undertaken by SCUFN and its key role in progressively unveiling the mysteries of oceans and seas. He also took the opportunity in his welcoming address to thank the SCUFN members' and observers' supporting organizations.



*Attendees at SCUFN-27, IHB, Monaco*

SCUFN considered 74 new undersea feature names submitted by various bodies and supporting organizations: Brazil (3), China (19), Denmark (1), France (1), United Kingdom (3), Georgia (2), Japan (23), Republic of Korea (2), Malaysia (4), New Zealand (12) and Russian Federation (4). Thanks to the new on-line GEBCO Gazetteer of Undersea Feature Names, developed by the IHO Data Centre for Digital Bathymetry (co-located at the US National Geophysical Data Center) and maintained by the IHB, and the provision of GIS files in advance, it was easier to review the proposals this year.

The new on-line Gazetteer ([www.gebco.net](http://www.gebco.net) → Data and products → Undersea feature names → view and download) is now fully operational and was used as part of evaluating the various proposals.



Most of the proposed names were accepted and will be included in the Gazetteer in the near future. Some others names remain undecided, awaiting additional information.

The meeting agreed to consider ways to more efficiently address the increasing list of pending names for which information, required in accordance with SCUFN standards, is generally missing. New interfaces for reviewing and submitting proposals were presented by Dr Hyun-Chul Han, SCUFN Member. The Sub Committee also decided to seek further information and guidance from the IHB and the GEBCO Guiding

Committee before pursuing the possible development of a future product specification for undersea feature names based on the IHO S-100 geospatial data transfer standard.

Harmonization issues between procedures and definitions used by SCUFN and national/international organizations such as the NZGB<sup>3</sup> Undersea Names Committee, the ACUF<sup>4</sup> and the Marine Regions project managed by the Flanders Marine Institute were discussed, in order to avoid duplication, and improve efficiency and interoperability in the future.

The meeting was closed with a vibrant tribute from the Chair of SCUFN and from the Members to Mr Michel Huet, IHB Assistant Director and SCUFN Secretary, who would be retiring shortly after the meeting, and who has been a cornerstone of SCUFN for some 24 years. Assistant Director Yves Guillam has now assumed the duties of Mr Huet.

The next SCUFN meeting is scheduled to take place in late 2015 and will be hosted by the DHN<sup>5</sup> in Niteroi, Brazil.

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<sup>3</sup> New Zealand Geographical Board.

<sup>4</sup> US Board on Geographical Names, Advisory Committee on Undersea Features.

<sup>5</sup> Diretoria de Hidrografia e Navegação.

## 31<sup>st</sup> Meeting of the IHO-IOC GEBCO Guiding Committee (GGC XXXI)

**IHB, Monaco, 13 – 15 June**

The IHO-IOC GEBCO (General Bathymetric Chart of the Oceans) Project is a joint project of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The main objective of the GEBCO Project is to prepare and disseminate maps, grids, data files and other depictions of the ocean floor using all available bathymetric data by providing the most authoritative global dataset. The GEBCO Guiding Committee (GGC) has been appointed by the IHO and the IOC to manage and develop the Project within the framework of the IHO and IOC, to which it is responsible. The GGC supervises and guides its subordinate bodies, at present the Technical Sub-Committee on Ocean Mapping (TSCOM) and the Sub-Committee on Undersea Feature Names (SCUFN) and the Sub-Committee on Regional Undersea Mapping (SCRUM). The 31<sup>st</sup> session of the IHO-IOC GEBCO Guiding Committee (GGC XXI) was held at the IHB in Monaco from 13 – 15 June. The President, Director Iptes and Assistant Director Wyatt represented the IHO Secretariat.



*31<sup>st</sup> meeting of the IHO-IOC GEBCO Guiding Committee (GGC XXXI)*

Three of the five appointed IHO representatives on the Guiding Committee were present. The Chair, Mr Shin Tani (IHO - Japan), reported the immediate retirement of Commander Paolo Lusiani (IHO - Italy) and the recent appointment of Ms Marzia Rovere (IOC - Italy) to an IOC vacancy. The Chair also noted the non-attendance of Mr Ngouanet Chrétien (IOC – Cameroon) and Commander Peush Pawsey (IHO - India), and both whose memberships would be reviewed.

The Chair and the President set the scene for the remainder of the meeting, asking members to focus on three key areas – awareness and profile of the Project, data and finances – so as to take the GEBCO Project forward and to maintain its role as the authoritative source and first place of search for ocean bathymetry. The growth in demand for data to support the ever-expanding development of the *Blue Economy* in the ocean domain was a repeated theme throughout the meeting. There was a clear understanding that data quality and coverage was the underpinning foundation on which the many uses and products would be developed and that the GEBCO Project should be focused on obtaining and making bathymetric data available, and that it was for others to develop products and services from that data.

The GGC received brief reports from its Sub-Committees and endorsed the work which they had undertaken. The GGC also received reports from key personnel performing functions on behalf of GEBCO as well as reports from its parent bodies, IHO and IOC, on activities since the previous meeting. A detailed report was received covering education and outreach activities, the results of a year-long focused study.

The GGC devoted significant time considering its future direction and associated 10-year plan. It was agreed that the goals and vision should be guided by four main underpinning themes: human capacity, science and technology, outreach and education, and resources (human and financial), which in turn supported the three key areas of focus highlighted by the Chair and the President at the beginning of the meeting.

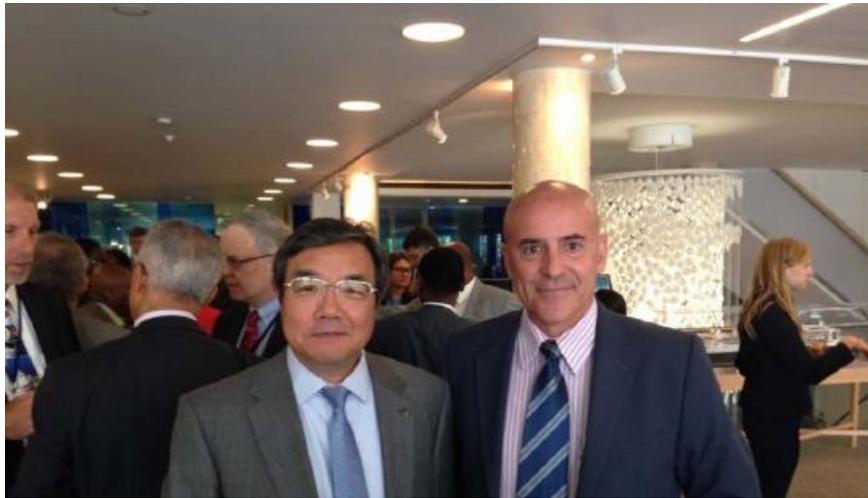
The Committee reviewed its work programme for the period 2013 – 2017 which had been approved by the IHO's Inter-Regional Coordination Committee (IRCC) and commenced development of its Work Plan for 2015-2016. The Committee also reviewed its proposals to revise its Terms of Reference and Rules of Procedure for submission to IHO and IOC Member States for approval.

The 32<sup>nd</sup> meeting of the Committee will take place, together with meetings of TSCOM, SCRUM and the GEBCO Science Day, in Kuala Lumpur, Malaysia, during the week 5 to 9 October 2015. Additionally Chile offered to host the 2016 meetings in Valparaiso with the dates to be advised.

## 64<sup>th</sup> Session of the IMO Technical Cooperation Committee (TC64)

**London, 11 - 13 June**

The 64<sup>th</sup> session of the IMO Technical Cooperation Committee (TC64) was held at the IMO headquarters from 11 to 13 June 2014. The IHO was represented by Assistant Director Alberto Costa Neves.



***Mr Koji Sekimizu (left), IMO Secretary-General and Assistant Director Alberto Costa Neves during IMO TC64.***

The IHO had submitted document TC64/INF.8 informing the Committee of the IHO Capacity Building Work Programme, including the training courses and technical visits made since TC63. The IHO had the opportunity to introduce the document during the discussion on Partnership for Progress. The IHO highlighted the activities jointly carried out by the IMO and the IHO, including training and a sub-regional seminar organized by the Maritime Organization of West and Central Africa (MOWCA), in cooperation with the Eastern Atlantic Hydrographic Commission (EAtHC) and the IHB. The IHO acknowledged the in-kind contribution from IMO and also from the Republic of Korea and Japan (through the Nippon Foundation) to the IHO Capacity Building Work Programme.

During the opening ceremony the IMO Secretary-General highlighted the need to take further action to improve the safety of domestic passenger ferries, following the tragic accident of the Sewol ship. The development of recommendations and guidelines for these domestic vessels should cover surveys, amongst other things. The Secretary-General also noted the progress made in the development of the Maritime Country Profile and the coming Mandatory Audit Scheme as key information to determine future allocation of technical assistance resources.

During the introduction of the Integrated Technical Cooperation Programme Annual Report on 2013, the Committee acknowledged the in-kind support of the IHO in providing experts, logistical arrangements, administrative support and co-organization. The meeting was also informed on the cooperation agreement signed between the IMO and the IHO to provide a framework for the identification of common technical cooperation activities in Capacity Building.

TC64 provided the opportunity for the IHO delegate to meet and progress the planned joint activities with representatives of maritime administrations, regional organizations and members of the IMO Technical Cooperation Division.

Mrs Nancy Karigithu (Kenya) and Mr Zulkarnain Ayub (Malaysia) were re-elected as the Chair and Vice-Chair of the Technical Cooperation Committee for 2015. The next session of the Technical Cooperation Committee is scheduled to take place from 23 to 25 June 2015.

# 19<sup>th</sup> CONFERENCE OF THE BALTIC SEA HYDROGRAPHIC COMMISSION

**Riga, Latvia, 10-12 June**

The 19<sup>th</sup> Conference of the Baltic Sea Hydrographic Commission (BSHC19) was held in Riga, Latvia, from 10 to 12 June, under the Chairmanship of Mr. Taivo KIVIMAE (Estonia). All full members of the Commission (Denmark, Estonia, Finland, Germany, Latvia, Poland, Sweden and Russian Federation) attended the conference. The United Kingdom also attended as an Observer and the IHB was represented by Director Mustafa IPTES.



***The Participants at the 19<sup>th</sup> Conference of the Baltic Sea Hydrographic Commission***

The BSHC19 covered a wide range of regional topics including the developments in each of the Member States, the latest status of hydrographic surveying and nautical charting including INT Charts, ENC production and BSHC cooperative projects. Following the opening of the conference by the Chair, and the review of the status of the list of actions from the previous meeting, Director Iptes briefed the Commission on current IHO issues and IHB activities and provided detailed information concerning the preparation of the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5). The members of the BSHC reported on their national activities since the 18<sup>th</sup> Meeting and reviewed on-going regional initiatives and projects such as the BSHC Working Group for Monitoring the Implementation of the Harmonized Re-survey Scheme (MWG), Baltic Sea Bathymetric Database Working Group (BSBDWG) and the Chart Datum Working Group (CDWG). The Commission also reviewed the outcome of the 6<sup>th</sup> meeting of the Inter-Regional Coordination Committee (IRCC) and the 4<sup>th</sup> meeting of World Wide ENC Database Working Group (WEND-WG).

The BSHC members agreed to finalize articles describing hydrographic developments in the Baltic Region for the next International Hydrographic Review (IHR) which will be a special Baltic-themed edition of IHR that will be published just before the EIHC-5.

At the end of the conference, Mr. Janis KRASTINS (Latvia) was elected as the new Chair of the BSHC and Captain Sergei Travin (Russian Federation), as the Vice Chair. It was agreed that the next conference of the BSHC will be hosted by the Russian Federation, in St. Petersburg, in September 2015. All the meeting documents are posted on the BSHC page of the IHO website.

## Monacology-2014

### Monaco, Principality of Monaco, 9-13 June

Monacology is an annual event held in Monaco and is aimed at raising school children's awareness about the environment and sustainable development. Monacology 2014 was held under the patronage of HSH Prince Albert II and HSH Princess Charlene of Monaco, and the Monaco Education Department, on Quai Antoine 1er, from 9 to 13 June, directly in front of the IHO Headquarters building.

The IHO Secretariat participated in Monacology for the second year running with an interactive display and stand. More than 340 pupils from local schools in Monaco and neighbouring France visited the IHO display and took part in activities guided by the IHB staff. Each visitor was able to discover the nautical charting dimension of one of the Adventures of Tintin, "The Shooting Star", or try their hand at completing a magnetic puzzle chart of the Mediterranean Sea. Each child received an IHO badge indicating they were a "Junior Hydrographer" in recognition of their efforts.

The IHO was honoured by a visit to its stand by HSH Prince Albert II on Monday, 9 June during the inauguration of the "Monacology Week" and Director Iptes explained the exhibits and activities related to Monacology. Monacology 2014 provided a good opportunity to raise public awareness of hydrography, to explain the role of the IHO to the local community and particularly to the younger generation. H.E. Michel Roger, Minister of State of Monaco, also visited the IHO stand on 13 June.



*HSH Prince Albert II of Monaco visits the IHO stand*

## 12<sup>th</sup> Meeting of the Black and Azov Seas Working Group (BASWG12)

**Batumi, Georgia, 3-4 June**

The 12<sup>th</sup> meeting of the Black and Azov Seas Working Group (BASWG12), which is a Working Group of the Mediterranean and Black Seas Hydrographic Commission (MBSHC), was held in Batumi, Georgia, on 3 and 4 June under the chairmanship of Captain (PhD) Erhan Gezgin, Hydrographer of Turkey. Twelve delegates attended the meeting. Five Black Sea States were represented: Bulgaria, Georgia, Romania, Turkey and Ukraine. The IHB was represented by Director Mustafa Iptes. Director Iptes provided a briefing on current IHO issues and the work of the IHB, and also reported on the outcome of the 6<sup>th</sup> IRCC meeting held in Paris in May.



***The participants at the 12<sup>th</sup> meeting of the Black and Azov Seas Working Group***

The Member States reported on their national activities since the last meeting. The WG examined the INT chart and ENC schemes of the Black Sea and Azov Sea. New INT chart proposals and a draft ENC scheme proposed by Turkey were reviewed by the WG. The status of Maritime Safety Information coverage in the Black Sea was also discussed at the meeting. Georgia announced that it was considering the establishment of a new NAVTEX station in the region.

The WG reviewed the Capacity Building requirements of the Black Sea States for forwarding to the IHO Capacity Building Programme. World Hydrography Day activities and preparations for the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5) in October were also discussed at the meeting and Director Iptes provided the WG with detailed information.

The activities and the new developments of the BASWG will be reported to the next meeting of the MBSHC in Batumi, in June 2015.

Captain Gezgin was re-elected as Chair of the BASWG. The next BASWG meeting will be held in 2016. The venue and dates of the meeting will be determined later.

## 38th ISO/TC 211 Working Group and Plenary Meeting Berlin, Germany, 2-6 June

The International Organization for Standardization's Technical Committee 211 (ISO/TC 211) is responsible for the development of the 1900 series of standards for geospatial information. The IHO is a liaison member of the ISO/TC211 Committee and participates in its standards development activities. These standards have been used for the development of the IHO S-100 framework standard and the IHO GII Registry. They are also relevant to the development activities of other HSSC technical working groups such as SNPWG and DIPWG.

The 38<sup>th</sup> ISO/TC211 Meeting was hosted by the German Institute for Standardization (DIN) and was sponsored by the Federal Agency for Cartography and Geodesy and the Bavarian Administration for Surveying and Mapping. The IHO was represented by Barrie Greenslade (TSMADWG Chairman), Sue Marks (UKHO) and Anthony Pharaoh (IHB).



### *Participants at the 38<sup>th</sup> ISO/TC211 Meeting*

The following two new projects of relevance to IHO standards development activities were approved and added to the programme of work:

- A new edition of the 19107 standard, dealing with spatial schemas is to be produced. The target date for the publication of this document as an International Standard (IS) is May 2018.
- A new standard (19157-2) which will include an XML schema implementation of ISO 19157 standard dealing with data quality will be produced. The target date for publication is May 2016.

The following documents were approved for publication as Draft International Standards (DIS):

19162 Well Known Text representation of coordinate reference systems;  
and 19160-1 Addressing – Part 1: Resolution Conceptual model.

The IHO members participated in the work item activities dealing with the 19107 standard development, the work on imagery and coverage types, the development and implementation of a registry for geodetic codes and parameters, and the "Standards in Action" workshop that took place on the afternoon of 4 June and included presentations on the following topics:

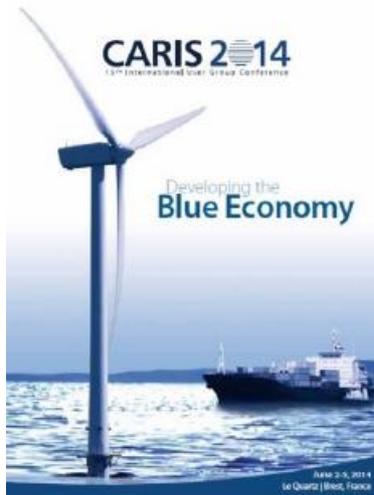
- Implementation of guidelines for African Mapping agencies (provided by Prof. Serena Coetzee - University of Pretoria).
- INSPIRE in practice: Experiences with INSPIRE data and services (Peter Parslow - Ordnance Survey).
- An Open-Source Registry Management Tool for the ISO Registry of Geodetic Codes & Parameters (Dr. René Thiele - Frankfurt Main University of Applied Sciences).
- Overview of ISO 19115-1 and what new (Dave Danko - ESRI).
- Service modelling with ISO 19119 – (Arne-Jorgen Berre - SINTEF).

All presentations and associated documents are available from the ISO/TC211 web site at [www.isotc211.org](http://www.isotc211.org).

The 39th Plenary and Working Group Meetings are scheduled to take place from 24 to 28 November in Shenzhen, China.

## CARIS 2014 - 15<sup>th</sup> International User Group Conference

**Brest, France, 2-5 June**



CARIS, a company well known in the hydrographic community for developing specialized geospatial software solutions, organizes a biennial User Conference to share experience and exchange on the latest technological trends and developments in data acquisition, processing and management with a variety of professionals from industry, academia and the public sector.

The 2014 edition of the User Conference took place in Brest, France, from 2 to 5 June 2014 and attracted more than 150 participants, including representatives of the following IHO Member States: Belgium, Brazil, Canada, France, Iceland, Netherlands, New Zealand, Norway, Portugal and United Kingdom. CARIS 2014 consisted of three components, a series of boot camps and user group meetings during the first two days, a plenary conference focusing on “developing the blue economy” during the last two days, in conjunction with an industry exhibition and a poster session. Director Gilles Bessero attended the plenary conference as one of the three keynote speakers.

The conference listened to about 25 presentations reviewing current issues related to the collection, processing and distribution of bathymetric and related data. Ingénieur général Bruno Frachon, the Hydrographer of France, opened the conference with a review of the current challenges facing Hydrographic Offices. Dr Wendy Watson-Wright, Executive Secretary of the Intergovernmental Oceanographic Commission, opened the second day with a keynote address on the contribution of global ocean science to sustainable blue growth. In his closing keynote address, Director Bessero explained the role of the IHO in support of the blue economy and then reviewed the progress reported during the conference in relation to the issues relevant to the IHO. He concluded with an invitation for all participants to celebrate World Hydrography Day later in the month.

# JULY

## Graduation Recognition Ceremony for Master of Science Degree in Hydrographic Science University of Southern Mississippi, USA – 31st July

The first three students sponsored by the Republic of Korea through the IHO Capacity Building Programme successfully completed a Master's Degree in hydrographic science at the University of Southern Mississippi (USM), USA, in July. The three successful students, who all obtained high marks on the course, were part of the 15<sup>th</sup> graduating class. They bring the total number of successful students taking the course at USM to 158. Formal graduation will take place at the end of the year; however, a recognition ceremony was held shortly after the completion of the course to mark the achievements of all the graduands before they return to their host organizations to take up operational roles in hydrography.

The Master's Degree meets the Category A recognition requirements of the International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) operated jointly by the Fédération Internationale des Géomètres (FIG), the International Hydrographic Organization (IHO) and the International Cartographic Association (ICA).

The recognition ceremony was opened by Dr Rodney D Bennett, President of the University of Southern Mississippi. This was followed by a keynote address from President Robert Ward and concluded with the presentation of certificates and prizes by Rear Admiral Tim Gallaudet, USN, Commander, Meteorology and Oceanography Command and Hydrographer of the US Navy.

### ***Graduands receive their certificates of recognition***



Left to Right :

President Robert Ward  
Mr Hembal Teckmun, Senior Surveyor, Ministry of Housing and Lands, Mauritius  
Lt.Cdr Mohammad Minhaz Uddin, Bangladesh Navy  
Mr Antonio Aitherando Kamau Williams, Senior Surveyor, National Land Agency, Jamaica  
Mr Joon-ho Jin, Director of Charting, Korea Hydrographic and Oceanographic Administration

As well as the three IHO Capacity Building Programme alumni from the national hydrographic services of Bangladesh, Jamaica and Mauritius, there were ten successful fellow students from the navies of Egypt, Peru, UK, USA, and the US Navy Oceanographic Office, and from the commercial hydrographic surveying sector.

It is expected that the Republic of Korea and the IHO will be able to offer further sponsored places on the course in future years. Prospective applicants should make early preparations to ensure that they have the necessary qualifying credentials, particularly English language proficiency and academic recognition well in advance of the next call for applications, which is likely to occur in September.

## First Session of the Preparatory Committee for the Third World Conference on Disaster Risk Reduction Geneva, Switzerland, 14-15 July

The reduction of vulnerabilities and risks to hazards has been an explicit item on the agenda of the international community for almost a quarter of a century. At the initiative of the United Nations (UN) General Assembly, an International Decade for Natural Disaster Reduction was launched on 1 January 1990. The 1<sup>st</sup> World Conference on Natural Disaster Reduction met in Yokohama, Japan, in 1994 and adopted the Yokohama Strategy and Plan of Action for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation. In 2005, the 2<sup>nd</sup> World Conference on Disaster Reduction met in Kobe, Japan, and adopted the Hyogo Framework for Action 2005-2015 (HFA): Building the Resilience of Countries and Communities to Disasters. The UN General Assembly, in its Resolution 66/199 of 22 December 2011, initiated, via the UN Secretariat of the International Strategy for Disaster Reduction (UNISDR), the development of a post-2015 framework for disaster risk reduction. The Assembly, in its Resolution 67/209 of 21 December 2012, decided to convene the 3<sup>rd</sup> World Conference on Disaster Risk Reduction in 2015 to review the



implementation of the Hyogo Framework for Action and to adopt a post-2015 framework for disaster risk reduction. By Resolution 68/211 of 20 December 2013, the Assembly decided to hold the Conference in Sendai, Japan, from 14 to 18 March 2015, at the invitation of the Government of Japan, and established “the Open-ended Intergovernmental Preparatory Committee for the Third World Conference to review the organizational and substantive preparations for the Conference, approve the programme of work of the Conference and propose rules of procedure for adoption by the Conference”. The Assembly further decided that the Preparatory Committee would meet in Geneva, Switzerland, in July and November 2014, for two days each time. Considering the recognition by the Assembly of the importance of the contributions and participation of all relevant stakeholders, including intergovernmental organizations, and the opportunity to highlight the role and importance of surveying and charting the world oceans, seas and coastal waters in the prevention and mitigation of maritime disasters, and in line with the theme of this year’s World Hydrography Day “Hydrography - much more than just nautical charts”, the Directing Committee registered the IHO as a contributor to the preparatory process as an intergovernmental organization that has a standing invitation to participate as an Observer in the sessions and the work of the General Assembly”.



Director Gilles Bessero represented the IHO at the 1<sup>st</sup> session of the Preparatory Committee for the 3<sup>rd</sup> World Conference on Disaster Risk Reduction which was hosted by the UN Office in Geneva on 14 and 15 July 2014. The session attracted over 600 registered participants representing more than 130 UN Member States, 20 intergovernmental organizations, UN programmes, funds and agencies, and the civil society.

The session was opened by Ms. Margareta Wahlström, Special Representative of the UN Secretary-General for Disaster Risk Reduction. The Committee elected Ms. Päivi Kairamo and Mr. Thani Thongphakdi, respectively Permanent Representatives of Finland and Thailand, to the United Nations Office and other international organizations in Geneva, as co-chairs. Eight vice-chairs were also elected on a regional basis (Africa: Egypt and South Sudan, Asia-Pacific: Bangladesh, Eastern Europe: Czech Republic and Russian Federation, Western Europe: Switzerland, Latin America and the Caribbean: Ecuador and Jamaica).



The session was composed of plenary meetings and two sets of parallel meetings: three “dialogues” of the co-chairs with the so-called “major groups” (Non-Governmental Organizations, Women, Local Authorities, Children and Youth, Indigenous Peoples, Farmers, Business and Industry, Scientific and Technological Community, Workers and Trade Unions) and three “technical workshops” on:

- Indicators, monitoring and review process for the post-2015 framework;
- Investing in disaster risk reduction;
- Mutual reinforcement of disaster risk reduction (DRR), sustainable development goals (SDGs) and climate change.

The main agenda item of the plenary meetings was devoted to considerations on the post-2015 framework for disaster risk reduction. Under this agenda item, the Committee heard, without any debate, 73 statements from Member States, 14 statements from regional groups and organizations, 9 statements from the major groups and 7 statements from international organizations. In his statement on behalf of the IHO, Director Bessero recalled that the reduction of risks related to marine disasters is a major component of disaster risk reduction and highlighted the fundamental role of hydrography in predicting the impact of marine disasters and supporting early warning systems. He noted the decreasing level of government sponsored surveying activities and advised that the very significant lack of reliable, high resolution bathymetric data for many parts of the world’s coastal waters should be a cause of particular concern and should be taken into account in the international strategy for disaster reduction. The importance of earth observations as an enabling component of disaster risk reduction was underlined in the statement made by the Group on Earth Observations (GEO), but very few other delegations referred to the need to collect and make available the appropriate geospatial data to support informed decisions on disaster risk reduction.



The co-chairs informed the Committee that the statements would be considered in their future work on the drafting of the post-2015 framework for disaster risk reduction (HFA2). They announced the timeline for further consultations in preparation of the second session of the Preparatory Committee where Member States will negotiate the “zero draft” of the HFA2 and decide upon future negotiating modalities.

The 2<sup>nd</sup> session of the Preparatory Committee will be held in Geneva on 17 and 18 November 2014.



## Planet Ocean for Planet Solar Monaco, 8-9 July



**Visit to the IHB by the Planet Solar crew, Monaco**

laboratory. Her captain, Gérard d'Aboville, who became famous since he rowed solo across the Atlantic Ocean in 1980 and the Pacific Ocean in 1991, is also the President of the French Higher Council for Recreational Boating and Nautical Sports. He kindly invited the IHB staff to visit *Planet Solar* on 8 July when berthed in Monaco on the occasion of the Solar1 Monte-Carlo Cup 2014, a solar-powered boat race.

Director Gilles Bessero welcomed the captain and his crew at the IHB on 9 July and presented the IHO history and its *raison-d'être*.

It was also interesting to share with the crew some experience and advice on the use of side scan sonar and multibeam echosounder in shallow waters, and to speak about the other geophysical and hydrographic sensors that will be used during the TerraSubmersea expedition.

*Planet Solar* expeditions can be monitored on [www.planetsolar.org](http://www.planetsolar.org).

After the success of the DeepWater Marine Data scientific cruise carried out in 2013 along the Gulf Stream, *Planet Solar*, the largest solar-powered catamaran in the world, stopped over in Monaco on her way to Greece to survey prehistoric submerged sites that were dry land around 20 000 years ago.

The new TerraSubmersea expedition is led by the University of Geneva, Switzerland, with the cooperation of the Greek Ephorate of Underwater Antiquities, the Swiss School of Archaeology in Greece and the Hellenic Centre for Marine Research together who will deploy its vessel *Alkyon*. *Planet Solar* is used as a scientific seaborne



**Antoine Simon, the electrical engineer, explaining the principles of the solar-powered Planet Solar (max. speed 14 knots, cruise speed 5-6 knots) to Director Mustafa Iptes**

## 12<sup>th</sup> Meeting of the IHO Document Review Working Group of the Sub-Committee on the World-Wide Navigation Warning Service (DRWG 12)

London, UK, 8-10 July

The Document Review Working Group (DRWG) of the Sub-Committee on the World-Wide Navigation Warning Service (WWNWS-SC), which is continuing the review of the WWNWS documentation, met at the Headquarters of the International Maritime Organization (IMO) in London. The meeting was held in the week following the first session of the Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 1), to take advantage of the presence of WG Members who had previously attended NCSR 1 (France, Mexico, Norway, UK, USA, IMO, World Meteorological Organization [WMO] and IHB). The WG undertook an editorial review of the IMO SafetyNET Manual against IMO Resolutions A.705(17), as amended "*Promulgation of Maritime Safety Information*"; and A.706(17), as amended, "*World-Wide Navigational Warning Service*", and the draft new edition of the Joint IMO/IHO/WMO Manual of Maritime Safety Information (IHO Publication S-53). The outcome will be considered by the next (sixth) meeting of the WWNWS-SC (WWNWS 6).



*DRWG participants on the terrace at IMO Headquarters*

The NAVAREA and National entries in Annexes 7 and 8 of the Master Plan of the Global Maritime Distress and Safety System (GMDSS) were reviewed and elements identified for action by the relevant NAVAREA, Sub-Area and National Coordinators. The results of the WWNWS customer feedback survey questionnaire were reviewed and common items were identified for consideration at WWNWS 6. NAVAREA and Sub-area Coordinators will be tasked to individually review the data and comments for their areas and be prepared to discuss follow-on actions resulting from this analysis.

The WG undertook an editorial review of the relevant sections of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual, the results of which were passed to the IMO Secretariat and will be considered at the next meeting of the Expert Group of the IMO and the International Telecommunication Union (ITU) in September 2014.

The WG also reviewed the draft agenda for WWNWS 6, including the programme and items for the joint NAVAREA and METAREA session, generating a draft agenda for the joint session. These documents are available on the WWNWS page of the IHO web site.

# 47<sup>th</sup> Session of the Executive Council of the Intergovernmental Oceanographic Commission (IOC) Paris, France 1–4 July

The 47<sup>th</sup> Session of the Executive Council of the Intergovernmental Oceanographic Commission (IOC) of UNESCO met in Paris, France from 1 to 4 July under the Chairmanship of Dr. Sang-Kyung BYUN (ROK). The 40 Member States of the IOC which are members of the Executive Council were represented, plus 12 other States and several international organizations. Among the delegations, the Hydrographers of the following IHO Member States were present: Brazil, Canada, Germany and Russian Federation. The IHO was represented by Director Mustafa IPTES.



## ***The opening of the 47<sup>th</sup> Session of the Executive Council of the IOC***

Dr. Wendy Watson-Wright, the Executive Secretary of the IOC, reported on the progress of the programme implementation since the previous session as well as on the budget situation. She emphasized that IOC had undergone another difficult year with a decrease in the budget accompanied by a restructuring of the Secretariat. The Sub-Groups and Working Groups of the IOC reported their annual activities to the Executive Council. The future of the IOC and strategic developments including an “International Polar Partnership Initiative” were also examined at the meeting.

The Executive Council reviewed several proposals and adopted decisions relevant to the IOC Programmes. A proposal to revise the Terms of Reference and Rules of Procedure for the Joint IHO-IOC GEBCO Guiding Committee was submitted to the IOC Council. The revisions are intended to improve governance of the GEBCO Project and engagement by the IHO and the IOC, as co-owners and parent organizations of the GEBCO Project. Director Iptes confirmed IHO’s support for the proposed revision in addition to positive comments from several IOC Member States. However, some IOC Member States felt that insufficient time had been available to review the document in advance and they requested more time. Despite the establishment of an ad hoc Working Group and further discussion in plenary, a consensus for the revised text was not reached. As a result, the Council decided that the IOC Secretariat would follow the normal IOC procedure and circulate the proposed text by Circular Letter, seek comments from Member States and present them at the 28<sup>th</sup> Session of the IOC Assembly for approval next year in June 2015.

The Executive Council decided to hold the 28<sup>th</sup> Session of the IOC Assembly from 18 to 25 June 2015 preceded by the 48<sup>th</sup> Session of the Executive Council on 17 June 2015, at the UNESCO Headquarters in Paris.

**1<sup>st</sup> session of the IMO Sub-Committee on Navigation,  
Communications and Search and Rescue  
London, United Kingdom, 30 June-4 July**

The Sub-Committee on Navigation, Communications and Search and Rescue (NCSR) is a subordinate body of the Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) under a new committee structure established on 1<sup>st</sup> January 2014. NCSR is the result of the merger of the former Sub-Committees on Safety of Navigation (NAV) and Radiocommunications and Search and Rescue (COMSAR). Its functions are to consider technical and operational matters related to the obligations of Governments and operational measures related to safety of navigation. These include: hydrographic and meteorological services, ships' routing, ship reporting systems, aids to navigation, radio-navigation systems, vessel traffic services, and pilotage; operational requirements and guidelines relating to navigational safety and associated issues, such as regulations for the prevention of collisions and groundings, bridge procedures, voyage planning, avoidance of dangerous situations, places of refuge (including maritime assistance services and relevant aspects of maritime security), carriage requirements, performance standards and operational guidelines for the use of shipborne navigational equipment and other navigational requirements; obligations of Governments and operational measures related to the Global Maritime Distress and Safety System (GMDSS), development and maintenance of the global Search and Rescue (SAR) Plan and the Long Range Identification and Tracking (LRIT) system; operational requirements and guidelines relating to radiocommunications and search and rescue, and, in co-operation with the International Civil Aviation Organization (ICAO), the harmonization of aeronautical and maritime search and rescue procedures; carriage requirements, performance standards and operational guidelines for the use of shipborne radiocommunications and search and rescue equipment; and liaison with the International Telecommunication Union (ITU) on maritime radiocommunication matters.

The 1<sup>st</sup> session of the Sub-Committee (NCSR 1) was held at the IMO Headquarters in London from 30 June to 4 July 2014. The IHO was represented by Director Gilles Bessero and Assistant Directors Anthony Pharaoh and David Wyatt, Mr Peter Doherty, the Chair of the World-Wide Navigational Warning Service Sub-Committee (WWNWS-SC), and Mr Chris Janus, Branch Chief, NGA Maritime Watch - NAVAREA IV/XII. Several heads and representatives of Hydrographic Offices also attended the meeting as part of their national delegation.



***A packed IMO NCSR 1 Plenary in session***

The Sub-Committee unanimously elected Captain Carlos Salgado (Chile), former Chair of COMSAR, as Chair.

NCSR 1 approved seven new or amended Traffic Separation Schemes (TSS) and Routing Measures which will be forwarded to the MSC for adoption at its 94<sup>th</sup> session in November 2014. The IHO made a statement noting that not all submissions followed the guidance laid out in MSC.1/Circ.1060, as amended, and requested the Sub-Committee to remind IMO Member States to properly consider the state of hydrographic surveys and nautical charts in areas covered by proposed new or amended routing measures.

NCSR 1 endorsed the draft e-navigation strategy implementation plan prepared by a Correspondence Group for submission to the MSC. It noted the progress in the development of associated guidelines and tasked a new Correspondence Group to finalize and consolidate the draft guidelines for the next session.

The Sub-Committee approved the draft amendments to the Joint IMO/IHO/WMO Maritime Safety Information (MSI) Manual prepared by the WWNWS-SC.

The NCSR completed its review, as directed by MSC 93, of the outstanding parts of the draft international Code for ships operating in Polar Waters (the Polar Code) covering Safety of Navigation and Communications. These will now be passed to MSC 94 for final endorsement and approval.

The NCSR considered the consolidation of ECDIS-related IMO Circulars and ECDIS matters related to the implementation of the carriage requirements in SOLAS Regulations. The Sub-Committee endorsed the draft MSC Circular on *ECDIS - Guidance for good practice* and agreed to forward it to the Sub-Committee on Human Element, Training and Watchkeeping (HTW) for review prior to consideration and approval by the MSC. The Sub-Committee considered that no additional work was required on ECDIS related matters beyond that which was already underway and reported in IHO submissions.

The NCSR endorsed the draft outline of the detailed review of the GMDSS for further work by an intersessional Correspondence Group on the review and modernization of the GMDSS. The Sub-Committee considered a proposal submitted by the USA for the Iridium mobile-satellite system to be evaluated as a GMDSS mobile-satellite service provider. It supported the application and invited the MSC to consider and decide which independent body should produce a technical and operational assessment for further evaluation. The process should include requesting advice from other international organizations, particularly the IHO and the World Meteorological Organization (WMO).

Captain Salgado was re-elected as Chair of the Sub-Committee for its 2<sup>nd</sup> session scheduled to be held at the IMO Headquarters in London, United Kingdom, from 9 to 13 March 2015.

# AUGUST

## 6<sup>th</sup> Meeting of the IHO World-Wide Navigational Warning Service Sub-Committee Wellington, New Zealand, 18-22 August



**WWNWS 6 in session**

The 6<sup>th</sup> meeting of the WWNWS Sub-Committee (WWNWS-6) was held at the Amora Hotel in Wellington, New Zealand, from 18 to 22 August under the chairmanship of Mr Peter Doherty of the United States of America. The meeting was attended by 27 delegates from 14 IHO Member States, the International Hydrographic Bureau (IHB), the Secretariat of the International Maritime Organization (IMO), the Secretariat of the World Meteorological Organization (WMO), the Chairs of IMO NAVTEX and IMO SafetyNET Coordinating Panels, Inmarsat and Iridium. The delegates included representatives of 11 NAVAREA Coordinators, one Sub-Area *Coordinator and four National Coordinators*.

The collocation of the WMO 2<sup>nd</sup> Maritime Safety Services Enhancement Workshop over the same period, allowed it and the WWNWS-SC to meet in joint session for one and half days. These joint sessions meant the NAVAREA and METAREA Coordinators could discuss topics of mutual interest and receive briefings and background presentations on the IHO, WMO and IMO structures and work programmes. The delegates also received briefings from Inmarsat and Iridium on the provision of mobile satellite Global Maritime Distress and Safety System (GMDSS) service. The current state of Maritime Safety Information (MSI) documentation was discussed and the next publications to be reviewed were highlighted. The joint session received progress reports on the developments of the S-124 (Navigational warnings), S-411 (Sea ice) and S-412 (Met-ocean forecasts) Product Specifications. The IMO provided background presentations on the GMDSS modernization and e-Navigation projects.



**Joint NAVAREA and METAREA session**

During the separate meeting of the WWNWS 6, the Sub-Committee received MSI self-assessment reports from all 21 NAVAREAs and from the Baltic Sea Sub-Area. The outcomes from the meeting of the Document Review Working Group were discussed; in particular the proposed editorial amendments to the IMO SafetyNET Manual and sections of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual were reviewed and approved by the sub-committee. The meeting received updated information on the delivery of MSI training courses and the need for the NAVAREA Coordinators to work closely with the Regional Capacity Building (CB) Coordinators to help developing nations to achieve Phase 1 (the collection and circulation of nautical information, necessary to maintain existing charts and publications up to date) of the IHO CB Strategy. The yearlong WWNWS customer survey questionnaire results were reviewed and various issues identified for individual NAVAREAs to address. Inmarsat gave a

general brief on issues identified for the SafetyNET service, which were relevant to both NAVAREA and METAREA Coordinators.

The next meeting of WWNWS will be held at the IHB in Monaco in August 2015.

When finalized the report of WWNWS-6 will be posted in the IHO website, where all the meeting documents are already available ([www.iho.int](http://www.iho.int) > Committees & WG > WWNWS-SC > WWNWS6)

# 58<sup>TH</sup> MEETING OF THE NORDIC HYDROGRAPHIC COMMISSION (NHC)

**Helsinki, Finland, 18-20 August**

The 58<sup>th</sup> Meeting of the Nordic Hydrographic Commission (NHC) was hosted by Finland, as Chair of the Commission, from 18 to 20 August 2014 in Helsinki. Fifteen delegates attended the Meeting. The five Nordic States (Denmark, Finland, Iceland, Norway and Sweden) were represented. The IHB Directing Committee was represented by Gilles Bessero.

Following the opening of the meeting by the Chair, Mr Rainer Mustaniemi, and the review of the status of the list of actions from the previous meeting, Director Bessero briefed the Commission on current IHO issues and IHB activities and provided an update on the preparation of the 5<sup>th</sup> Extraordinary International Hydrographic Conference (EIHC-5). The members reported on their national activities since the 57<sup>th</sup> Meeting and reviewed on-going initiatives and projects of common interest related to surveys, nautical charting, nautical publications and the provision of official services to the leisure market. The Commission reviewed the outcome of the 6<sup>th</sup> meeting of the Inter-Regional Coordination Committee (IRCC) and considered further some issues related to the implementation of the Worldwide ENC Database (WEND). The Commission supported unanimously the view that the WEND should be composed of the ENCs available via RENCs. Several members expressed concern about the Admiralty Overlay Information service affecting the status of their ENCs.



The Commission decided to include an item on Capacity Building (CB) in its standing agenda, to consider in particular CB activities which could benefit from cooperation among its members and agreed that Norway will continue as its representative in the CB Sub-Committee.

The Commission considered the outcome of the revision of its Statutes initiated at the previous meeting and agreed to finalize the revision, together with the adoption of a logo, so as to enable the new Statutes to be signed at EIHC-5.

In accordance with the current Nordic Cooperation Agreement, Iceland took over the chairmanship at the end of the meeting. The next meeting will be hosted by Iceland and is tentatively scheduled for 13-15 April 2015 in Reykjavik.

All the documents of the meeting are posted on the NHC page of the IHO website.

Publication of INT Chart 3208 co-produced  
by Algeria and Tunisia  
IHB, Monaco, 14 August



On the occasion of the commemorative ceremonies for the 70<sup>th</sup> Anniversary of the Allied landings in the South of France, Colonel Abdelhak Benayed, Naval Attaché to the Embassy of Algeria in France, visited the IHB on 14 August to provide a copy of the recently published INT Chart 3208.

INT 3208 belongs to the 1/250,000 international chart scheme covering the coast of North Africa as agreed by the Mediterranean and Black Seas Hydrographic Commission. As it represents the coastal area from Ras El Hdid in Algeria to Cape Zebib in Tunisia, it is co-produced by Algeria and Tunisia, based on the recent hydrographic surveys conducted by the Hydrographic Offices of both countries. It is an excellent example of cooperation between two IHO Member States in supporting safety of navigation and the protection of the marine environment.



***Colonel Abdelhak Benayed, Naval Attaché to the Embassy of Algeria in France, presents INT chart 3208 to IHB Director Gilles Bessero***

## Southern Africa and Islands Hydrographic Commission (SAIHC) Meeting, Maputo, Mozambique, 11 - 13 August

The Mozambique Hydrographic Institute (INAHINA) hosted the 11th Meeting of the Southern Africa and Islands Hydrographic Commission (SAIHC) in Maputo, from 11 to 13 August 2014. Five out of six Member States - Mauritius, Mozambique, Norway, South Africa and the United Kingdom - were represented at the meeting. The following Associate Member States -Madagascar, Malawi, Namibia, Portugal and Tanzania - were also represented together with delegates from the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the General Bathymetric Charts of the Ocean project (GEBCO) and the South African Maritime Safety Authority (SAMSA). Industry participants included representatives from CARIS, Jeppesen, FUGRO, Horizon Geosciences, QPS, Kongsberg and Underwater Surveys. President Robert Ward and Assistant Director Anthony Pharaoh represented the IHB. The meeting was chaired by Captain Abri Kampfer (South African Hydrographer).

Dr Manuela Rebelo, the Vice Minister of Communications and Transport of Mozambique, opened the meeting and welcomed all delegates to Maputo. She noted that safe and efficient maritime transportation was a key enabler to the future economic development of the Southern African region and expressed great satisfaction that Mozambique was able to host the Meeting.



***Dr Manuela Ribelo, Mozambique Vice Minister of Communications and Transport  
(centre) and participants at the 11th SAIHC Meeting***

Each Member and Associate Member State presented a briefing on the status of hydrography and charting priorities in their areas of responsibility. There were reports, presentations and discussions on the collection of Crowd Sourced Bathymetry, Satellite Derived Bathymetry, GEBCO and North Indian Ocean Mapping projects, the IHO capacity building plan for the region, Marine Spatial Data Infrastructures (MSDI), the status of IHO publication C-55 and proposals for the 5<sup>th</sup> Extraordinary International Hydrographic Conference.

South Africa (Captain Abri Kampfer) was re-elected as Chair for the next term and Mauritius was elected to hold the position of Vice Chair, with the incumbent to be announced when known. The next meeting will take place from 23 to 25 September 2015, possibly in Tanzania (venue to be announced later).

## 4<sup>th</sup> Session of the UN Committee of Experts on Global Geospatial Information Management New York, USA, 6 - 8 August



The fourth session of the *UN Committee of Experts on Global Geospatial Information Management* (UN-GGIM) took place at the UN Headquarters in New York, USA from 6 to 8 August. It was preceded by several associated meetings including the 21<sup>st</sup> meeting of the International Steering Committee for Global Mapping (ISCGM).

The UN-GGIM reports to the UN Assembly via the UN Economic and Social Council (ECOSOC). ECOSOC has instructed UN-GGIM to work according to a five-year programme and to provide its first report in 2016. The principal purpose of the UN-GGIM is to play a leading role in setting the agenda for the development of global geospatial information management and to promote the use of geospatial information in addressing key global challenges.

Over 80 UN Member States were represented at the fourth session of UN-GGIM together with representatives from nearly 20 international organizations, including the IHO. President Robert Ward represented the IHO.

A number of the agenda items included topics of direct relevance to IHO Member States, particularly in relation to the contribution of hydrographic data and services to national and regional spatial data infrastructures.



**Dr Vanessa Lawrence (UK), one of the three Co-Chairs of UN-GGIM, introduces the 4th session**

The GGIM agreed to further work by its appointed working group on establishing a global geodetic reference frame. This work is being done in close association with the International Association of Geodesy. The Committee noted that the vertical component of a global geodetic reference frame was particularly relevant to hydrography and the Committee of Experts welcomed input from the IHO.

The GGIM accepted the combined report on the implementation and adoption of standards for the global geospatial information community prepared by the Open Geospatial Consortium (OGC), the International Organization for Standardization (ISO) and the IHO. The IHO input to the report was provided by the IHB and the Marine Spatial Data Infrastructure Working Group (MSDIWG). The Committee agreed that the report will be adopted as a UN-GGIM reference document.

The Committee endorsed the work done so far on establishing a shared statement of principles on the management of geospatial information. The current draft declares thirteen principles grouped under three broad themes: *innovation*, *governance* and *compliance*.

Copies of all the papers and report of the meeting are available on the GGIM website at: <http://ggim.un.org>.

The 4<sup>th</sup> session of UN-GGIM was attended by the greatest number of UN Member States so far, though very few delegations included representatives of hydrographic offices. Of particular importance for IHO Member States is the growing acknowledgement and awareness by UN-GGIM delegates of the relevance and the potential contribution of hydrographic information in the context of global geospatial data infrastructures. This places even greater relevance on the continuing work of the IHO Marine Spatial Data Infrastructure Working Group (MSDIWG) and its task in assisting Member States in their role as custodians of national hydrographic data sets and their obvious part in national and global spatial data infrastructures. It also emphasises the importance of the IHO-IOC GEBCO project as a fundamental part of the global geospatial information infrastructure.

The fifth session of UN-GGIM will take place at the UN Headquarters from 5 to 7 August 2015.

## 21<sup>st</sup> Meeting of the International Steering Committee for Global Mapping

New York, USA, 5 August



The 21<sup>st</sup> Meeting of the International Steering Committee for Global Mapping took place at the UN Headquarters in New York, USA on 5 August immediately prior to the fourth session of the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM).

The ISCGM was established in February 1996 to spearhead 'global mapping' in response to the call for urgent actions at the 1992 Earth Summit in Rio de Janeiro. Twenty years later, in 2012, the same call was repeated at the United Nations Conference on Sustainable Development (Rio+20). In its Outcome Document, '*The Future We Want*', the Rio+20 Conference made specific references to '*the relevance of global mapping*', and called for reliable geospatial information for sustainable development policy-making, programming and project operations, and disaster prevention and mitigation.



**Participants at the 21<sup>st</sup> meeting of the ISCGM**

The ISCGM has two key roles. It serves as the platform to advocate the importance of global mapping, to foster the exchange of views, facilitate coordination, and provide recommendations. The ISCGM strives to develop a 'Global Map', which it defines as a group of geographical data sets of known and verified quality which will be openly available for the use of governments, organizations and the public. The data currently available as part of Global Map can be found at: [www.iscgm.org](http://www.iscgm.org).

So far, the Global Mapping Project comprises various land-based datasets provided by national geospatial information authorities. The IHO has indicated the availability of data in the IHO Data Centre for Digital Bathymetry and the various bathymetric datasets available through the IHO-IOC GEBCO Project.

Nearly 50 participants representing States, international organizations and industry attended the meeting. President Robert Ward represented the IHO and was the only hydrographer in attendance. He provided a presentation on the lack of appropriate bathymetric data for many parts of the world's seas, oceans and coastal areas and the need to ensure a linkage between land and marine data in many national spatial data infrastructures.

The 22<sup>nd</sup> meeting of the ISCGM will take place in August 2015 in New York, USA in tandem with the 5<sup>th</sup> session of the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM).

# SEPTEMBER

## 13<sup>TH</sup> CONFERENCE OF THE EASTERN ATLANTIC HYDROGRAPHIC COMMISSION Casablanca, Morocco, 16-18 September

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The 13<sup>th</sup> Conference of the Eastern Atlantic Hydrographic Commission (EAthC) was hosted from 16 to 18 September 2014, at the Royal Naval Academy in Casablanca, Morocco, by the Department of Surveying, Oceanography and Charting of the Royal Navy of Morocco. The Conference was chaired by Bruno Frachon, Director General of SHOM (France), and attended by 45 delegates. Five IHO Member States of the Region (out of six), five Associate Member States (out of nine) and three Observer States (out of eleven) were represented. The Intergovernmental Oceanographic Commission (IOC), the IHO-IOC GEBCO Project, the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), the Maritime Organization of West and Central Africa (MOWCA), three partners from industry, two Regional ENC Coordinating Centres (RENC) and the Directors of the Regional Maritime Universities of Abidjan (Côte d'Ivoire) et Accra (Ghana) were also represented as observers. Director Gilles Bessero and Assistant Director Yves Guillam represented the IHB.



The delegation from the Republic of the Congo was represented by Mr. Martin Coussoud-Mavoungou, Minister of the Merchant Navy, who confirmed the active participation of Congo as an associate member of the Commission and reported on the on-going preparation of Congo's application for IHO membership.

The Chair reported on EAthC achievements since the previous Conference in 2012 through a remarkable report which put the regional issues in the perspective of the role and responsibilities of Regional Hydrographic Commissions in furthering the objectives of the IHO.

Director Bessero provided a briefing on current IHO corporate, technical and cooperation issues and an overview of the preparation of the 5<sup>th</sup> Extraordinary International Hydrographic Conference. He also provided a brief on the Audit Scheme of the International Maritime Organization (IMO) and the implications of the transition from a voluntary to a mandatory scheme in relation to the status of hydrographic services in coastal States.

All the coastal States represented reported on their activities, progress, achievements and difficulties. A few coastal States expressed concerns about the delays between the completion of surveys covering important maritime traffic areas and the publication of new editions of the relevant nautical charts. Others indicated that, in the absence of a national hydrographic authority and appropriate hydrographic expertise, they were not always in a position to coordinate surveys in their waters and ensure that hydrographic data is made available to the relevant primary charting authorities.

The status and implementation of the regional INT and ENC charting schemes were reviewed by the regional coordinator.

Following presentations by the Chair on the outcomes of the IRCC-6 meeting and by the IOC representative on the North East Atlantic Tsunami Warning System, it was decided to consider the holding of a future stakeholder workshop on the risks of maritime disasters in the region to highlight the importance of hydrography and to identify the shortfalls. Following the sub-regional Seminar hosted by MOWCA in November 2013 in Pointe-Noire, Congo, the Commission welcomed the reinforcement of the co-operation between the IHO and MOWCA through a formal agreement. A draft of the agreement will be circulated first to the EAtHC Members and Associate Members and then submitted to the IHB Directing Committee to seek the subsequent approval of the IHO Member States.



Capacity Building (CB) issues were given particular attention and the implementation of a design study for a sub-regional CB project, included in the IHO CB Work Programme and led by the CB regional co-ordinator, was reviewed. Discussions benefited significantly from the inputs of the MOWCA delegation which included the Directors of the two Regional Maritime Academies based in Côte d'Ivoire and Ghana. Training issues in the region will be addressed through the CB design study.

Noting the positive outcomes of the IMO-IHO-IALA Seminars conducted in Mauritania (Nouakchott, Sept. 2013) and in Ghana (Accra, April 2014), the IALA representative confirmed IALA's support in joint capacity building initiatives with IHO and MOWCA in the African sub-region (technical visits, seminars, training, etc.).

The outstanding hospitality and facilities kindly offered by the Royal Navy of Morocco, including a very efficient simultaneous translation in the two official languages of the IHO, greatly facilitated lively and constructive exchanges.

In accordance with the Statutes of the Commission, Morocco took over the chairmanship at the end of the Conference. The next Conference will take place in Cadiz, Spain, in 2016. The exact date will be proposed by the end of 2014.

## 27<sup>TH</sup> MEETING OF THE INTERNATIONAL RESEARCH SHIP OPERATORS, IFREMER ATLANTIC CENTRE

Nantes, France, 9-12 September

The International Research Ship Operators (IRSO), which was founded in 1986, is an annual meeting of fleet managers of ocean research ships. The purpose of the meeting is to discuss topics and share information of mutual interest. This includes discussion on new research vessels, marine scientific and ship operational equipment, changing scientific requirements, scheduling, manning, training, classifications and certifications, liabilities and insurance, and the exchange of equipment and the sharing of vessel and resources between members. The meeting is held annually in one of the participating countries. The 27<sup>th</sup> meeting was held at the Ifremer Atlantic Centre in Nantes, France, from 9 to 12 September. The 55 participants represented the majority of the 100 research vessels, shore-based support companies, training organizations and administrative authorities that are part of IRSO. Assistant Director David Wyatt represented the IHO, as part of the IHO outreach activities.

The meeting discussed various topics, including the development of a code of conduct for marine scientific research vessels, a proposed code of conduct towards marine mammals and the IMO mandatory code for ships operating in Polar Waters (the Polar Code).

Assistant Director Wyatt gave a presentation on the IHO and its relevance to the IRSO. In particular he provided details of the trials and feasibility studies on Crowd-Sourced Bathymetry (CSB). He stressed the importance of gathering bathymetric data at every opportunity whether it be as part of a ship's passage or during on-station research projects. He urged that all bathymetric data collected should be submitted to national Hydrographic Offices, the IHO Data Centre for Digital Bathymetry (DCDB) or the British Oceanographic Data Centre to enable viewing and downloading. He explained that the IHO will not be reviewing the CSB data that is rendered but will make all the data collected available to users, who will be left to decide on its worth and utility for their purpose. In this way, the fundamental, unprocessed data layer of observations in the DCDB will be the world reference bathymetric data store with the potential for refined and processed layers to be derived from this fundamental data layer. He went on to emphasise that contributions from vessels coordinated by IRSO will improve the current absence of authoritative depth data in many places in the world. The presentation generated considerable discussion on how IRSO could provide data that has already been collected by its ships as well as how to contribute with new data in the future.



# 1<sup>ST</sup> MEETING OF THE IHO-EU NETWORK WORKING GROUP

Saint-Mandé, France, 2 September

Noting that significant new directives and programmes on marine and maritime matters had been launched or were developing under the aegis of the European Union (EU), in 2006 the North Sea Hydrographic Commission (NSHC) set up under the chairmanship of France, the NSHC Working Group on EU Marine and Maritime Policies (EUM2PWG) to monitor the impact of EU policies on Hydrographic Offices (HO). Following the signature in April 2012, during the opening session of the XVIII<sup>th</sup> International Hydrographic Conference, of a Memorandum of Understanding (MOU) on establishing a cooperation on maritime affairs between the IHO and the European Commission (EC), the WG was tasked to pursue the development of the IHO-EU relationship and to encourage the participation of other Regional Hydrographic Commissions (RHC) affected by EU policies. In April 2013, the 57<sup>th</sup> meeting of the Nordic Hydrographic Commission (NHC) recognised the need to extend the group beyond the NSHC countries to include other IHO Member States within the European Economic Area (EEA) and invited the Inter-Regional Coordination Committee (IRCC) to consider creating a subordinate body to liaise with the EC. At its 5<sup>th</sup> meeting in June 2013, the IRCC created a dedicated Working Group to deal with EU/EC matters and manage the IHO/EC MOU. France, on behalf of the NSHC, was tasked to prepare draft Terms of Reference (TOR) for review and adoption by correspondence. The TOR of the IHO-EU Network Working Group (IENWG) were approved in March 2014 and, accordingly, each RHC in which at least one EU/EEA Member State (MS) is a member was invited to designate its representative in the WG.

The current membership is as follows:

- Arctic Regional Hydrographic Commission: to be decided
- Baltic Sea Hydrographic Commission: Sweden
- Eastern Atlantic Hydrographic Commission: France
- Meso American & Caribbean Sea Hydrographic Commission: France
- Mediterranean and Black Seas Hydrographic Commission: Greece
- Nordic Hydrographic Commission: Norway
- North Indian Ocean Hydrographic Commission: United Kingdom
- North Sea Hydrographic Commission: Germany
- Southern Africa and Islands Hydrographic Commission: France
- South West Pacific Hydrographic Commission: to be decided

All other RHCs and any IHO Member State may be represented as associate members.

The first meeting of the Working Group was convened and hosted by the French Hydrographic Office (SHOM) in Saint-Mandé, France, on 2 September 2014. It was attended by representatives from Belgium, France, Germany (by video-conference), Italy, Netherlands, Norway, Sweden and the United Kingdom. Director Gilles Bessero represented the IHB. Apologies had been received from Denmark, Greece and Spain. The meeting was preceded by a separate session, with the additional participation of Ireland and Slovenia, to consider a call for tenders on coastal mapping issued by the European Commission (Directorate-General for Maritime Affairs and Fisheries - DG Mare).



France, as Chair of the NSHC EUM2PWG, explained the background of the establishment of the IENWG. Michel Even, France, was unanimously elected Chairman. As agreed by the NSHC, the election marked the end of the EUM2PWG which was formally disbanded.

The meeting reviewed three main issues : the IHO policy towards the European Marine Observation and Data Network (EMODnet), the role of HOs in supporting the EU directive on Maritime Spatial Planning and the HOs' input to the contribution of the EU "Marine Knowledge 2020" initiative to blue growth.

The Working Group agreed to focus on developing further the relations with EMODnet and sharing experiences and best practices in supporting Maritime Spatial Planning. The next IENWG meeting will be scheduled in accordance with the opportunities to liaise with the EMODnet Secretariat.

# OCTOBER

## Hydro14 - *Energy & Enterprise* Conference of the International Federation of Hydrographic Societies Aberdeen, United Kingdom, 28-30 October

Hydro14 was the latest in the series of international events organized since 1976 by the International Federation of Hydrographic Societies (IFHS), a non-governmental partnership of learned national and regional hydrographic societies dedicated to the promotion of hydrography and related sciences. Liaison between the IFHS and the IHO is governed by a Memorandum of Understanding signed in 2006 at Hydro 06 in Antwerp, Belgium.

The three-day event took place at the Aberdeen Exhibition & Convention Centre from 28 to 30 October. The theme of Hydro 14, "Energy and Enterprise", reflected the dominance of the offshore oil, gas and renewable energy sectors in the region. It attracted about 280 registered participants from over twenty countries, two-thirds of them from the UK. 75% of the registered participants came from the private sector, with the remainder being split between national hydrographic offices, port authorities and academia. Six IHO Member States were represented: Canada, Denmark, Finland, Germany, Netherlands and UK. Director Gilles Bessero represented the IHB.

The Conference was organized in ten themed sessions. Eight sessions featured presentations dealing respectively with data management and integration, future developments, tidal and sea level monitoring, offshore exploration, standards, data quality and resilience, education and training, and subsea engineering surveying. One session was devoted to parallel workshops, demonstrations and visits and another one to an IHO-led stakeholder forum - "The IHO & Us". An industry exhibition ran in parallel to the sessions. The exhibition featured about 50 companies and organizations involved in hydrographic equipment, surveying, data management and training.



Director Bessero spoke at the opening ceremony and chaired the IHO stakeholder forum which attracted about sixty participants. The discussions were facilitated by a panel of five experts, including Dr. Mathias Jonas, Chair of the IHO Hydrographic Services and Standards Committee and Prof. Nicolas Seube, Chair of the FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC). The forum addressed the role of the IHO and its relations with industry. Training issues were discussed in the forum as well as during a dedicated IBSC workshop led by Nicolas Seube (IHO) and Gordon Johnston (FIG).

The next Hydro Conference will be held in Cape Town, South Africa, from 23 to 25 November 2015 and will focus on "Developing Sustainable Hydrography in Africa".

# Third High Level Forum on UN Global Geospatial Information Management

Beijing, China, 22 - 24 October



The **Third High Level Forum on UN Global Geospatial Information Management** took place in Beijing, China, from 22-24 October 2014. The forum was organised by the Secretariat of the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), in collaboration with the National Administration of Surveying, Mapping and Geoinformation of China (NASG) at NASG's Headquarters in Beijing.

The Forum was organised under the mandate from the United Nations Economic and Social Council (ECOSOC) to convene global forums to promote comprehensive dialogue on global geospatial information management with all relevant governments, non-governmental organizations and the private sector. The event followed on from the Second High Level Forum conducted in Qatar in 2013.



The overarching theme of the Third High Level Forum was “**Sustainable Development with Geospatial Information**”. The forum concentrated on the critical roles of geospatial information science, and technology and innovation, as tools that support the UN's three pillars of sustainable development - *economic, social and environmental*.

The High Level Forum opened with a Ministerial Segment, followed by five technical sessions. The Forum addressed the role of geospatial information in the UN's post-2015 development agenda, as well as current critical sustainable development issues such as: mitigating and managing climate change and disasters; sustainable cities and human settlements; science, technology, and innovation to measure and monitor progress; and working together across borders and regions.

44 UN Member States were represented at the forum, of which 30 are also IHO Member States. Regrettably only one representative from a national Hydrographic Service was present, in this case only because hydrography is also part of that country's land geodata organization. It appeared that other national delegations had not been briefed on hydrography and the role that hydrography should play in spatial data infrastructures. Representatives from eight other UN bodies, 15 international organizations including the IHO and 12 private sector organizations or companies were also present. President Robert Ward represented the IHO.

In addition to receiving very informative briefs on the current and future requirements for and potential of geospatial information, the UN-GGIM forum was shown that crowd-sourced or volunteer geospatial information can be both valid and authoritative if collected and managed properly and that it was a vital resource that cannot be ignored. The fundamental role that spatial data infrastructures must play in global spatial data management was once again confirmed by all those present.



President Ward provided the forum with a description of the work of the IHO during the session on “*working together across borders and regions*”. He drew attention to the successes of the IHO and its Member States in the worldwide adoption of standards both for service delivery and for data exchange, and the benefits of regional coordination and capacity building through the establishment of the Regional Hydrographic Commissions. It is notable that the UN-GGIM has only recently embarked upon a regional approach for the coordination of land based geospatial information management.

President Ward finished his presentation by highlighting that in many countries there is only limited contact and coordination between the national hydrographic service and the land-based government geodata organization and that this is an impediment to working together to ensure that both land and sea data are part of any national spatial data infrastructure. He encouraged the UN delegates to involve their national Hydrographers in future UN-GGIM considerations and activities.

## 21<sup>st</sup> Business Meeting of the Advisory Board on the Technical Aspects of the Law of the Sea Copenhagen, Denmark, 21-22 October

The Advisory Board on the Technical Aspects of the Law of the Sea (ABLOS) is a joint board of experts from the International Hydrographic Organization (IHO) and the International Association of Geodesy (IAG). The ABLOS comprises four representatives from IHO Member States and four representatives from the IAG. The UN Division for Ocean Affairs and Law of the Sea (UN-DOALOS) and the secretariat of the IHO (IHB) provide one ex-officio member each. The ABLOS provides advice, guidance and, where applicable, offers expert interpretation of the hydrographic, geodetic and marine geo-scientific aspects of the Law of the Sea to the parent Organizations, their Member States or to other organizations upon request. It also reviews State practice and jurisprudence on Law of the Sea matters which are relevant to the work of the Board to enable it to provide expert advice when needed. The ABLOS also studies, promotes and encourages the development of appropriate techniques in the application of the technical provisions contained within the UN Convention on the Law of the Sea (UNCLOS).

The 21<sup>st</sup> Business Meeting of ABLOS was hosted by the Technical University of Denmark (DTU), and held at the First Hotel King Frederik in Copenhagen, Denmark from 21 – 22 October 2014. It was followed by a seminar titled '*UNCLOS and the Arctic – Changes Now and in the Near Future*' on 23 October held at the DTU.

ABLOS members and IHO appointed observers from Australia, Brazil, Canada, Denmark, Japan, Republic of Korea and the United Kingdom were present. The Chair, Professor Sunil Bisnath (IAG – Canada), welcomed all Board members and observers to the meeting.



The meeting continued preparations for the 8<sup>th</sup> ABLOS Conference, which is planned to be held in Monaco, 20 – 22 October 2015. Detailed information on the Conference will be announced by IHO Circular Letter and on the ABLOS page of the IHO web site.

The meeting discussed the next round of revisions identified during the final stages of review of Edition 5.0.0 of the Manual on Technical Aspects of the United Nations Convention on the Law of the Sea - 1982 (TALOS Manual - C-51). An Editorial Board was appointed, under the leadership of Mr Chris Carleton, to progress this work.

ABLOS members and observers discussed notable topics from the various conferences, seminars and workshops that they had attended and undertaken since the previous Business Meeting. The meeting also discussed the material for the ABLOS capacity building training course and reviewed ways to develop it further.

The meeting reviewed the Terms of Reference and Rules of Procedure for the ABLOS, noting there was no requirement for amendments at present. The status of current Board members was reviewed: the Chair was directed to contact one IAG Board member, whose term is due to end in July 2015, to confirm his willingness and ability to server a further 4 year term, which the Board unanimously supported and recommended that the IAG approve the additional term.



*ABLOS 21 “UNCLOS and the Arctic Changes Now and in the Near Future” Seminar*

The ABLOS meeting was followed by a Law of the Sea seminar, which was attended by approximately 65 delegates from across the region, including United Kingdom, Faroe Islands and Greenland, as well as representatives from a wide selection of Danish government ministries, technical authorities and universities. The seminar covered presentations on: What is ABLOS; The demonstration of entitlement to the Northern Continental Shelf of the Faroe Islands; Submission of the Kingdom of Denmark regarding Greenland, including the Arctic Ocean; UNCLOS extended continental shelf and ridges; Korean Arctic policy; Overview of the challenges in the Arctic; Contrasting arenas for conflict and cooperation: considerations the Arctic and the South China Sea; and Necessary Arctic space infrastructure for a sustainable Arctic development. The presentations were followed by a question and answer session for the ABLOS members.

## Liaison Visit to the IHO-Nippon Foundation CHART Project Course for Nautical Cartographers at the United Kingdom Hydrographic Office Taunton, UK, 16 October

IHB Director Mustafa Iptes and Mr Satoshi Yamao (Project Officer seconded to the IHB from Japan) visited the United Kingdom Hydrographic Office (UKHO) on 16 October to meet and brief the trainees attending the 6th Category B Nautical Cartography Training Programme funded by the Nippon Foundation. The IHO - Nippon Foundation CHART (Cartography, Hydrography and Related Training) Project provides training in marine cartography and data assessment which is recognized at the Category B level by the FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers. The course is composed of five modules, each module varying from two to five weeks in length. The 6<sup>th</sup> course started on 1 September 2013? 2014?? and will end on 12 December.

Director Iptes discussed various topics with the students from Greece, Malaysia, Peru, Spain, Suriname, Uruguay and Viet Nam. The students described their experiences and thanked the Nippon Foundation, UKHO, and IHO for the opportunity to improve their knowledge in the field of nautical cartography. Director Iptes then provided a presentation highlighting the areas of influence of hydrography and the responsibilities of Governments with regard to the provision of hydrographic data, information, products and services. The vital coordination and standardization role of the IHO and its Capacity Building programme were also described. The students were encouraged to keep in touch with each other and maintain an alumni relationship following their return home.



*The Trainees of the CHART Course and the UKHO Trainers together  
with the IHO Visiting Team*

# NOVEMBER

## 8<sup>th</sup> Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG Capacity Building Coordination Meeting Copenhagen, 27-28 November

The 8<sup>th</sup> Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG Capacity Building (CB) Coordination Meeting was held on 27 and 28 November 2014, at the FIG Headquarters in Copenhagen (Denmark). The annual meeting brought together ten representatives from the IHO, IMO, WMO, IOC, IALA and FIG. The IAEA was not represented at the meeting on this occasion. The IHO was represented by Mr. Thomas Dehling (Germany), Chair of the CB Sub-Committee (CBSC), Director Mustafa Iptes and Assistant Director Alberto Costa Neves from the IHB.

Participants presented the CB strategies of their organizations, gave an update on their CB activities in the last year and shared lessons learned, best practices, standardization procedures and experience in dealing with funding agencies. The CBSC Chair reported on IHO developments including the changes in the CB Strategy, the work flow of the CBSC, the status of joint projects and global achievements. Director Iptes presented the relevant statistics covering CB assessment and provision and their evolution over time, the way the CB programme benefits from additional support from individual Member States, namely the Republic of Korea and Japan, and the planned assessment and training activities for 2015.



*The Participants at the 8<sup>th</sup> Joint IHO/IMO/WMO/IOC/IALA/IAEA/FIG Capacity Building Coordination Meeting*

Each organization presented its CB programme for 2014 followed by a panel session to assess the priorities and joint policies that could reinforce each CB programme. Participants committed to offer mutual assistance in obtaining high level contacts in countries where the member organizations need to improve awareness and to work as much as possible under the United Nations policy of "Deliver as one".

The meeting considered aspects of capacity building including strategies to protect the marine environment through safety of navigation initiatives and regulation, in particular: environmental risk assessment initiatives, toolboxes and methodologies; Particularly Sensitive Sea Areas (PSSAs); the implications of climate change; the direct link between safety of navigation and protection of the marine environment; and the incorporation of a wider group of stakeholders that can affect or be affected by

changes to the marine environment. The meeting recommended that these stakeholders, opinion formers and the wider public should be informed or educated on matters relating to capacity building activities so as to improve safety of navigation and the protection of the marine environment through proactive public relations initiatives.

The meeting agreed that information should be shared on the establishment of regional training hubs and advances in distance/e-learning. Furthermore, the meeting saw benefits in information exchange between member organizations including: a calendar of activities; country maritime profile information; joint high level visits to common target States and regional organizations; CB impact assessments and gender and youth programmes.

Representatives agreed to present a joint paper to the next session of the IMO Technical Co-operation Committee (TC 65) covering the above items.

The next Joint CB Coordination Meeting will take place on 19 and 20 November 2015 in Geneva, Switzerland, and will be hosted by the WMO.

## 39<sup>th</sup> ISO/TC 211 Plenary and Working Group Meetings Shenzhen, China, 24-28 November

The International Organization for Standardization's Technical Committee 211 (ISO/TC 211) is responsible for the development of the 19000 series of standards for geospatial information. The IHO is a liaison member of ISO/TC211 and participates in its standards development activities. These standards have been used for the development of the IHO S-100 framework standard and the IHO Registry of Geographical Information Items. They are also relevant to the development of Product Specifications based on the S-100 Universal Hydrographic Data Model.



***Participants to the 39<sup>th</sup> ISO/TC211 Meeting.***

The Standardization Administration of China (SAC) and the National Administration of Surveying, Mapping and Geoinformation of China (NASG) hosted the 39<sup>th</sup> ISO/TC211 meeting which took place in Shenzhen, China from 24 to 28 November 2014. The IHO representative to the meeting was Assistant Director Anthony Pharaoh (IHB).

Each ISO document undergoes a systematic review after three or five year intervals (post publishing). Based on the results of a systematic review, a document is either confirmed (retention without technical change), amended or revised (retention, with change(s)), or withdrawn. The 39<sup>th</sup> plenary meeting agreed that the standards related to "Web Feature Service" (19142:2010) and "Filter Encoding" (19143:2010) should be registered for revision and that the standards related to "Spatial referencing by coordinates" (19111-2:2009), "Classification systems" (19144-1:2009), "Reference model (Part 2) for Imagery" (19101-2:2008) and "Feature concept dictionaries and registers" (19126:2009) should undergo systematic review.

A new project on the preservation of digital data and metadata (NP19165) was approved and added to the programme of work. The plenary meeting also agreed that a revision of the standards guide and companion document produced jointly by ISO/TC 211, the Open Geospatial Consortium (OGC) and the IHO under the aegis of the United Nations Committee of Experts on Global Geospatial Management (UN-GGIM) should be undertaken.

A "Standards in Action Workshop" took place during the meeting. The workshop included presentations on the following subjects: Standardization requirements for address and their labels on maps at different scales; Global land cover information service - Status and Directions; Web maps in practice; the OGC in Action; Update and New Trends in Standards Development and The Status of Imagery Standards.

Additional information on ISO/TC211 activities and the 19100 standards/specifications development work is available from the ISO/TC211 web site ([www.isotc211.org](http://www.isotc211.org)).

## GEO-XI Plenary Geneva, Switzerland, 13 & 14 November 2014

GEO, the “Group on Earth Observations”, is a voluntary partnership of governments and international organizations. It was launched in 2003 in response to calls for action by the 2002 World Summit on Sustainable Development and by the G8 (Group of Eight) leading industrialized countries. GEO is coordinating efforts to build a Global Earth Observation System of Systems (GEOSS) in order to exploit the growing potential of Earth observations to support decision-making in an increasingly complex and environmentally stressed world.

Following the admission of Senegal, Bulgaria, Seychelles, Armenia and Poland in 2014, GEO’s Members now include 95 Governments and the European Commission. In addition, 89 intergovernmental, international, and regional organizations with a mandate in Earth observation or related issues have been recognized as Participating Organizations. The IHO was recognized as a Participating Organization in 2006. The GEO Plenary, composed of representatives of the Members and Participating Organizations, is the primary decision-making body. The GEO Plenary meets at least once annually.

The 11<sup>th</sup> Plenary Session (GEO-XI) was initially planned in Libreville, Gabon. After consulting the Chairs of the Regional Hydrographic Commissions with African members, the IHB had accepted the offer of the then Chair of the Eastern Atlantic Hydrographic Commission, Ingénieur Général Bruno Frachon, the Hydrographer of France, to represent the IHO at the meeting. Due to the low number of registered participants, the venue for the meeting was transferred to Geneva (Switzerland) at short notice.

The meeting was chaired by Dr. Philemon Mjwara from South Africa, representing the regional caucus of Africa, assisted, in accordance with the management structure of GEO, by the Co-Chairs from China, the European Commission and the USA, representing respectively the regional caucuses of Asia-Oceania, Europe and the Americas.

The highlight of the meeting was the examination of GEO’s draft strategic plan 2016-2025 which, in principle, will be submitted for formal approval at GEO-XII in 2015. Two other items gave rise to several interventions: GEO’s data policy and AfriGEOSS, the African component of GEOSS.

### GEO Strategic Plan 2016-2025



A draft “*GEO Strategic Plan 2016-2025: Implementing GEOSS*” was presented. The IHB had been requested at very short notice to contribute to this draft through a questionnaire. The Plenary agreed three major action areas: “*Advocate*”, “*Engage*”, “*Deliver*” and the relevant objectives.

The Plenary requested further work to make the desired goals more visible and to distinguish, on the one hand, between a vision on GEO’s place in its environment, which may include some options, and, on the other hand, a professional operating strategy which may require modifying GEO’s legal status.

The Plenary approved the principle of revising the set of societal benefit areas identified in the plan. The United Kingdom, supported by the IHO representative, pointed out that significant economic activities such as transport were currently not included and should be taken into account. It was agreed that the set of societal benefit areas would be reviewed to better account for the communities of practice and the private sector.

Several countries, and the IHO representative, called for a more precise connection (in the strategic plan) with ongoing United Nations’ initiatives and the work of agencies in the field of sustainable development, climate change and disaster risk reduction. With regard to governance, it was agreed to give greater prominence to participating organizations in the governance of the GEO in recognition of the importance

of their roles, which may go as far as allowing them to participate in some way in the Executive Committee, provided that the intergovernmental status of GEO was not compromised. Finally, the voluntary nature of the Member States' contributions to GEO was reaffirmed. The need for a prioritisation scheme was confirmed.

### **Data policy**

The report on data sharing principles prepared by the GEO Data Sharing Working Group was considered by the Plenary, but its adoption was postponed to GEO-XII so as to take into account the observations received from external organizations (the IHO among others had not been consulted). However, it was obvious that many in the Plenary favoured open data and this was indicated to the working group. All Member States who commented in the session supported the principle of open data, but it appeared that the level of content may vary; certain States wishing, for example, to maintain restrictions on use (pre-registration, limiting to non-commercial use, for example).

### **Assessment of progress in implementing GEOSS**

The difficulty to maintain in-situ observing networks was underlined, noting the negative consequences for example on natural risk management. The need to define the specific role of GEO in relation to other specialized organizations or communities was mentioned several times.

### **AfriGEOSS**

The structure of AfriGEOSS and its activities were presented in detail. AfriGEOSS relies on national activities, coordinated along five themes: "Data & Infrastructure", "Capacity Building", "Resource Contributors coordination", "User needs & Apps", "Communication & Outreach". The Steering Committee of AfriGEOSS is composed of representatives from Egypt, Senegal, South Africa and representatives from Central and Eastern Africa who remain to be nominated.

Several activities were illustrated, in particular, the contributions of AfriGEOSS to the World Conference on Disaster Risk Reduction, a project to process the data made available by the Spot World Heritage Programme, and work on pooling infrastructures with other activities.

Seychelles and Senegal have recently joined AfriGEOSS which is also supported by the European Union and other non-African Member States. Some African Member States noted that the language barrier was hindering capacity building.

### **Executive Committee 2015**

The Plenary acknowledged the composition of GEO Executive Committee for 2015:

- Africa: South Africa (Co-Chair), Egypt;
- Commonwealth of Independent States (CIS): Russian Federation;
- Europe: European Commission (Co-Chair), Germany and Italy;
- Americas: The United States (Co-Chair), Colombia and Mexico;
- Asia Oceania: China (Co-Chair), Australia, Japan, Republic of Korea.

### **Next Meetings**

The dates and venue of the GEO Ministerial Summit and GEO-XII Plenary to be held in 2015 are yet to be determined.

### **Documents**

All the documents considered at the meeting are available at:  
<http://www.earthobservations.org/documents.php>.

## 6<sup>th</sup> MEETING OF THE IHO HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE (HSSC)

Viña del Mar, Chile, 10-14 November

The sixth meeting of the Hydrographic Services and Standards Committee (HSSC) took place in Viña del Mar, Chile, hosted by the Hydrographic Office of Chile (*Servicio Hidrográfico y Oceanográfico de la Armada* - SHOA), from 10 to 14 November 2014. Rear Admiral Patricio Carrasco, Hydrographer of Chile and Director of SHOA, welcomed delegates to the meeting which was chaired by Dr Mathias Jonas, Hydrographer of Germany. Forty-four representatives - from 18 Member States, the IHB, and 6 international organizations accredited as observers - were present. Director Gilles Bessero and Assistant Directors Yves Guillam and Tony Pharaoh represented the IHB.



**HSSC-6 participants**

The Committee reviewed the activities, proposals, and work plans of its subordinate bodies and the decisions of other agencies and organizations affecting its work and decided on a number of outcomes. A summary of the main outcomes is given below:

### **ECDIS**

The Committee:

- endorsed the draft new edition 2.0.0 of IHO publication S-100 - *Universal Hydrographic Data Model* and invited the IHB to circulate it to Member States for approval;
- reviewed the outcome of the consultation of Member States seeking approval of the draft edition 6.1.0 of S-52 - *Specifications for Chart Content and Display Aspects of ECDIS*, draft edition 4.0.0 of the Presentation Library [Annex A to S-52], and draft edition 3.0.0 of S-64 - *IHO Test Data Sets for ECDIS* and endorsed the publication of the new editions, subject to final checks in liaison with the International Electrotechnical Committee (IEC);
- noted that further information from ENC Producers and Regional ENC Coordinating Centres (RENC) was required prior to deciding the implementation scheme of edition 5.0.0 of S-58 - *ENC Validation Checks*;
- endorsed the new Annex C - *ENC Update Status Report* to be introduced in the future new edition 1.2.0 of IHO Publication S-63 - *IHO Data Protection Scheme* and tasked the IHB to finalize the draft new edition in liaison with the Data Protection Scheme Working Group (DPSWG) and then seek the approval of Member States. This activity, conducted in close liaison with the IEC, will complete the process aimed at enhancing IHO and IEC ECDIS-related publications to address various issues related to ECDIS operational anomalies. It is expected that the new editions will come into force in October 2015 for new ECDIS and that the current editions will cease to be valid

for all ECDIS one year later, as reported to the International Maritime Organization. The update of ECDIS-related documentation will be reflected in the future new edition of IHO publication S-66 - *Facts about electronic charts and carriage requirements*; and

- approved the timescale and stages of the revision of S-66 which will be conducted by a dedicated project team chaired by a representative of IC-ENC.

In conclusion of its review of ECDIS matters, the Committee paid tribute to the memory of Michael Eaton (Canada), hailed as the “father of the electronic chart” and acknowledged his major contribution to the development and standardization of ECDIS.



**HSSC in session**

## **S-100**

The Committee reviewed the progress in developing the next generation of standards for digital hydrographic products and services, the S-100 Universal Hydrographic Data Model and associated Product Specifications. The Committee noted with satisfaction the advances in developing the draft edition 1.0.0 of S-101 - *ENC Product Specification*, the S-100 Feature Catalogue Builder, the S-100 Portrayal Catalogue Builder, and an S-100/S-101 Viewer. The Committee commended the efforts of all contributors from IHO Member States and from industry and expressed its appreciation to the Republic of Korea for its specific support. The Committee endorsed the procedure for registering new S-100 based product specifications and agreed on the way forward to ensure the continuity of the administration of the S-100 Registry and Registers under IHO responsibility in the perspective of the retirement of the current Registry Manager planned at the end of February 2015. The Committee approved the consideration of the preparation of a new edition of S-102 - *Bathymetric Surface Product Specification* in accordance with IHO Resolution 2/2007 as amended.

## **e-Navigation**

The Committee reviewed IMO activities affecting its work, e-navigation developments in particular, and reflected them in the work plans of the relevant HSSC WG.

## **Restructuring of HSSC Working Groups**

At its previous meeting in 2014, the Committee had agreed the principles for re-structuring its working groups in order to reflect the changing focus from paper to digital data based products and services, best use of limited resources, to improve its efficiency and facilitate inputs from industry and other stakeholders. The Chair Group reviewed the report of the Correspondence Group on HSSC Working Groups' Restructuring (CGHR) and the comment papers submitted to the Committee and presented consolidated proposals to the Committee which agreed on the implementation of a new structure including four new working groups (WG): S-100WG, ENC Standards Maintenance WG, Nautical Information Provision WG and Tides, Water Level and Currents WG. The terms of reference of the new WG, the generic terms of reference for "project teams" and the arrangements for the transition from the current to the new structure were agreed.

The Committee agreed to maintain, under their current terms of reference, the Chart Standardization and Paper Chart WG, renamed the Nautical Cartography WG, the Data Protection Scheme WG and the Data Quality WG, subject to annual review and further consideration of their interactions with the new WG.

## **Hydrographic Dictionary Working Group**

The Committee noted the recurring difficulties of the Hydrographic Dictionary WG (HDWG) in progressing its work items, due to the lack of participation. The Committee welcomed the offer made by Australia to liaise with the chair and members of the WG in order to draft new business rules addressing relations with the S-100 Registry on the one hand, and with HSSC WG and other IHO and inter-organizational bodies on the other hand.

## **Marine Spatial Data Infrastructures Working Group**

The Committee approved the transfer of the WG on Marine Spatial Data Infrastructures from the HSSC to the Inter-Regional Coordination Committee (IRCC) and decided to further investigate the possible establishment of a Hydrographic Surveys WG.

## **Miscellaneous Reports**

The reports presented by industry representatives and information papers from Australia, France, Korea (the Republic of) on current developments and topical issues within the scope of the Committee generated significant interest from the participants.

## **Technical Visit and Hosting**

A tour of the SHOA facilities in Valparaiso, including a presentation of the National Tsunami Warning System, was organized in the margins of the meeting. The Chair of HSSC, Director Bessero, and the Hydrographer of Chile met the local press on this occasion.



***Presentation of the National Tsunami Warning System operated by SHOA***

The Committee warmly thanked Chile for the excellent meeting arrangements and the support provided to the participants and acknowledged that this support contributed significantly to the success of the meeting.

#### **Future Meetings**

The next meeting of the HSSC, HSSC-7, will take place in early November 2015, in Busan, Republic of Korea. HSSC-8 will take place in Monaco in November 2016 and HSSC-9 will take place in Canada in 2017, location and dates to be determined later.

#### **More Information**

Further information is available on the IHO web site at [Home > Committees & WG > HSSC](#).

## 94<sup>th</sup> Session of the IMO Maritime Safety Committee London, UK, 17-21 November



**Mr Koji Sekimizu presents Captain Andreas Kristensen with the certificate for Exceptional Bravery at Sea on behalf of his crew of the Britannia Seaways, for their courage and determination in fighting explosions and fire on board the vessel, at great risk.**

The Maritime Safety Committee (MSC) is the highest technical body of the International Maritime Organization. The functions of the MSC are to consider such things as 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 matters directly affecting maritime safety. The 94<sup>th</sup> Session of the IMO Maritime Safety Committee (MSC 94) was held at the IMO Headquarters in London, UK, from 17

- 21 November. In addition to addressing the formal agenda in his opening speech, the Secretary General of IMO, Mr Koji Sekimizu, hosted the annual awards ceremony for Exceptional Bravery at Sea.

The President and Assistant Director Wyatt represented the IHO.

### **The Polar Code**

Of particular interest to the IHO, the MSC approved and adopted the text of the mandatory International Code for Ships Operating in Polar Waters (the Polar Code) and a new chapter XIV to SOLAS. The IHO input reported in IHO CL 42/2014 dated 11 June - *Report on the 93<sup>rd</sup> Session of the IMO Maritime Safety Committee* was accepted without change or comment. The Polar Code and Chapter XIV of SOLAS will come into force on 1 January 2017. The MSC also approved MSC.1/Circ.1310/Rev.1, that will announce the revised Joint IMO/IHO/WMO Manual on Maritime Safety Information (IHO publication S-53), which will come into force on 1 January 2016.

### **Hydrography and Charting**

The MSC addressed various matters related to hydrography and nautical charting including those resulting from the 1<sup>st</sup> session of its Sub-Committee on Navigation, Communications, and Search and Rescue (NCSR 1) which met in July this year. The main items included adopting and amending a number of new and existing routing measures, traffic separation schemes and mandatory ship reporting systems. It was agreed that the International Mobile Satellite Organization (IMSO) would undertake a technical assessment and system evaluation of the Iridium mobile satellite system as part of the process for Iridium to be recognised as a mobile-satellite service provider of the Global Maritime Distress and Safety System (GMDSS).

### **e-Navigation**

MSC 94 approved an IMO e-navigation Strategy Implementation Plan (SIP). The MSC supported the proposals contained in paper MSC 94/18/8 that sought the continuing monitoring of the implementation of e-navigation by the IMO. The paper was co-sponsored by a number of IMO Member States, the IHO and a number of non-governmental international organizations. It received widespread support and was in line with the comments on e-navigation made by the IMO Secretary General during his opening address. The discussions on e-Navigation highlighted the existing heavy workload of the NCSR and the requirement to prioritise the tasks identified in the SIP. Norway volunteered to coordinate discussions so that the solutions and tasks from the SIP will be properly presented to the next session of MSC as proposed outputs in accordance with the relevant IMO planning principles.



**IMO MSC94 in plenary session**

**Office Bearers**

The MSC unanimously re-elected Captain Christian BREINHOLT of Denmark as Chair and Captain Muhamad SEGAR of Singapore as Vice-Chair of the Committee for 2015.

**Next Session**

The next session of MSC will take place at IMO Headquarters in June 2015.

## Visit to British Oceanographic Data Centre Liverpool, UK, 17 November



Mr. Robert Ward, President of the Directing Committee, visited the British Oceanographic Data Centre (BODC) in Liverpool on 17 November prior to attending the 94<sup>th</sup> session of the IMO Maritime Safety Committee in London.

BODC (<http://www.bodc.ac.uk>) is the UK's national facility for managing and distributing data concerning the marine environment, including oceanographic data and tides and sea level information. BODC is one of over 60 national oceanographic data centres that form part of the data centre network of the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

The BODC also plays an important role in the IHO-IOC GEBCO Project by providing staff and technical expertise in the compilation and revision of the GEBCO gridded data sets that provide the best available digital bathymetry data covering the World's seas and oceans. BODC also manages and hosts the GEBCO website.

President Ward met the recently appointed Head of BODC, Dr Graham Allen, and received confirmation that BODC is close to completing the latest and much improved edition of the GEBCO\_08 Grid - a global 30 arc-second grid. This grid is created by combining ship depth soundings with interpolation between sounding points guided by satellite-derived gravity data. A 'source identifier' (SID) grid is also available to download to accompany the GEBCO\_08 Grid. This shows which grid cells have been constrained by bathymetry data during the gridding process.



**Dr Graham Allen**  
**Head, BODC**

More details on GEBCO can be obtained from the IHO website: [www.iho.int](http://www.iho.int) > *world bathymetry* and from the GEBCO website at: [www.gebco.net](http://www.gebco.net)

## High Level Capacity Building Visit to Jordan 10-13 November

IHB Director Mustafa Iptes paid a high level Capacity Building visit to Jordan from 10 to 13 November 2014 to invite and encourage Jordan to apply to become a Member State of the IHO.

In the first part of his programme, Director Iptes visited Amman where he met Brigadier General Eng. Awni Mohd Kasawneh, Director General of the Royal Jordanian Geographic Centre on 10 November and called on H.E. Dr. Lina Shbeeb, Minister of Transport on 11 November. He presented the activities of the IHO and underlined the importance of hydrography and hydrographic services and the benefits of becoming a Member State of the IHO.

In the second part of the programme, Director Iptes visited Aqaba where he met Mr Salah Ali Abu Afifeh, Director General of the Jordan Maritime Authority (JMA) on 12 November and Brigadier General Ibrahim Salman Alnaimat, Deputy Commander of the Royal Jordanian Naval Force on 13 November.

Director Iptes was informed that Jordan, as a coastal State, is keen to join the IHO in the future and that the relevant governmental agencies are expected to hold a coordination meeting in the near future to consider the membership process.



***Director Iptes and H.E. Dr. Lina Shbeeb, Minister of Transport, accompanied by Mr. Salah Ali Abu Afifeh, Director General of the Jordan Maritime Authority.***

# DECEMBER

## Joint Meeting of the GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) and Sub-Committee on Regional Undersea Mapping (SCRUM)

**Google Headquarters – Mountain View, California, USA, 11 – 13 December**

The Technical Sub-Committee on Ocean Mapping (TSCOM) and the Sub-Committee on Regional Undersea Mapping (SCRUM) are two of the three sub-committees contributing to the technical work of the IHO/IOC GEBCO<sup>6</sup> programme. A joint meeting of the two sub-committees took place at the Google Headquarters in Mountain View, California, USA, from 11 to 13 December. The meeting was attended by 25 members from the IHO, the IOC, academic institutions and stakeholder organizations.

The quality and completeness of ocean mapping products are dependent on the availability of good bathymetric data and to this end, GEBCO has established a “Bathymetric Data Store.” The aim of the Data Store is to hold or identify (and create metadata for) publically-accessible data sets that have been, or could be, used to build ocean mapping products such as the GEBCO grid. The Data Store includes grid datasets, point soundings and single beam / multi-beam data sets. It is anticipated that the data store will be used by a broad community of users who will also be encouraged to submit their data to the Data Store. Guidelines on submitting data will be included in the IHO-IOC GEBCO Cook Book (currently available from the GEBCO web site). It is also planned to provide a facility to view and download data sets (via a web map interface) and to input metadata, either for data sets submitted to the Data Store or for data sets stored at other locations.

A presentation on the new GEBCO\_2014 global grid (released in December 2014) was provided. The GEBCO\_2014 grid includes significant contributions from numerous data providers and regional mapping programmes. The grid is accompanied by a new Source Identifier (SID) grid which provides an indication of which grid cells are based on soundings and which are based on depth interpolations. Currently these grids are only available in netCDF format, however it is planned to make them available in other (more commonly used) formats such as geoTiff. Further information on the GEBCO\_2014 grid and its associated SID grid are available from the GEBCO web site (<http://www.gebco.net>).

Other important items discussed during the meeting included: the GEBCO outreach program; metadata developments and improvement to the metadata of the IHO Data Centre for Digital Bathymetry; regional grid compilations; crowd sourced bathymetry; the global Digital Elevation Model (DEM) project and future high resolution grid products.

The GEBCO Science Day event, which includes presentations on ocean mapping initiatives and usually takes place during the joint TSCOM/SCRUM meeting, took place as a session of the American Geophysical Union (AGU) Fall Meeting hosted in San Francisco from 15 to 19 December. The session was titled: New Perspectives on Seafloor Morphology from High-Resolution Ocean Mapping. See <https://agu.confex.com/agu/fm14/meetingapp.cgi%23Session/1700#Session/1700> for further information.

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<sup>6</sup> GEBCO – General Bathymetric Charts of the Ocean

**18<sup>th</sup> Meeting of the Standardization  
of Nautical Publications Working Group (SNPWG)  
Cadiz, Spain, 1 - 4 December**

The 18<sup>th</sup> SNPWG meeting which was hosted by the Spanish Hydrographic Institute (Instituto Hidrografico De La Marina (IHM)) took place in Cadiz, Spain. Thirteen participants from nine hydrographic offices and three stakeholder organizations attended the meeting. The IHB was represented by Anthony Pharaoh.



***SNPWG18 Visit to the Instituto Hidrografico De La Marina.***

Captain Jose Ramon FERNANDEZ DE MESA TEMBOURY welcomed the members to Spain and commended the activities of the WG noting that they should have a positive impact on the world-wide maritime community.

Some of the SNPWG work items discussed during the meeting included: changes to the application schema of the Marine Protected Areas Product Specification (S-122); the progress in developing the Radio Services Product Specification (S-123) (including portrayal issues), the status of work on the Traffic Management Product Specification (S-127); the status of work on the Physical Environment Product Specification (S-126) and updates to the draft feature catalogues maintained on the SNPWG WIKI site.

Other issues discussed during the meeting included; quality metadata; the need to consider the interaction between different product specifications within an ECDIS and the need to develop test cases for the product specifications under development. A presentation on encoding the “World Port Index” using SNPWG features and attributes in a database-centric product was provided.

According to the new structure of working groups agreed by the Hydrographic Services and Standards Committee (HSSC), the work items of the SNPWG will now be transferred to the new Nautical Information Provision Working Group (NIPWG) in liaison with the S-100 Working Group with broader objectives. These include supporting the development and maintenance of related specifications in liaison with the relevant IHO bodies and non-IHO entities, monitoring the evolution of the requirements and regulations of marine navigation and developing and maintaining the relevant IHO publications for which the WG is responsible.

# NEW HYDROGRAPHERS

<b>NAMES</b>	<b>COUNTRY</b>	<b>DATE</b>
<u>Rear Admiral Hugo Ricardo VERÁN Moreno</u>	PERU	January 2014
<u>Captain Andrzej KOWALSKI</u>	POLAND	January 2014
<u>Mr. Denis HAINS</u>	CANADA	March 2014
<u>Captain Dimitrios EVANGELIDIS</u>	GREECE	March 2014
<u>Mr. Siamak SAHRAEI</u>	IRAN	April 2014
<u>Mr. Shigeru KASUGA</u>	JAPAN	April 2014
<u>Captain Marc C.J. VAN DER DONCK</u>	NETHERLANDS	September 2014
<u>Vice Admiral Supote KLANGVICHIT</u>	THAILAND	October 2014
<u>Captain Monjed ZITOUNA</u>	TUNISIA	October 2014
<u>Mr. Gijun HAN</u>	REPUBLIC OF KOREA	November 2014
<u>Rear Admiral Pablo Emilio ROMERO Rojas</u>	COLOMBIA	December 2014

## NEW HYDROGRAPHER OF PERÚ



Nació el 24 de abril de 1964 en Lima. Ingresó a la Escuela Naval del Perú el 23 de febrero de 1981, egresando con el grado de Alférez de Fragata el 1 de enero de 1986.

Es calificado en Submarinos y ha seguido diferentes estudios, entre ellos: Curso de Electrónica, Curso de Inteligencia por correspondencia, Curso Básico de Estado Mayor, Curso de Comando y Estado Mayor, Curso de Calidad e Inglés Nivel Avanzado.

Ostenta una Maestría de Gestión Integrada de Prevención Medio Ambiente Calidad y Maestría en Defensa Nacional.

Se ha desempeñado como Jefe del Departamento de Administración del B.A.P. Ferre; Jefe de la División de Comunicaciones del B.A.P. Chipana; Jefe de la División de Comunicaciones Electrónica del B.A.P.

Dos de Mayo; Oficial de la División Electrónica del B.A.P. Islay; Jefe del Departamento de Ingeniería del B.A.P. Antofagasta; Jefe del Departamento de Ingeniería del B.A.P. Chipana; Jefe del Departamento de Ingeniería del B.A.P. Antofagasta, Gerente - Centro Naval - Sede Ancón; Segundo Comandante del B.A.P. Antofagasta; Jefe del Departamento de Adquisiciones de la Dirección General de Capitanías y Guardacostas.

Asimismo, ha sido Capitán de Puerto de Iquitos; Jefe de la Sección de Operaciones de la Comandancia de Submarinos; Comandante del B.A.P. Angamos; Jefe de la 3ra. Sección de la Comandancia de Submarinos; Jefe de la 2da. Sección de la Secretaria de la Comandancia General de la Marina; Agregado Naval - Agregaduría de Defensa a la Embajada del Perú en Panamá; Sub-Secretario de la Comandancia General de la Marina; Jefe de la División de Política Estrategia - Estado Mayor General de la Marina y Comandancia de la Fuerza de Submarinos.

El 1° de enero del 2013 el gobierno le confiere el ascenso al grado de Contralmirante y lo nombra Comandante de la Cuarta Zona Naval y FT-100. El 2 de enero del 2014, es designado como Director de Hidrografía y Navegación.

## NEW HYDROGRAPHER OF POLAND



**Born 7 October 1961** in Gdańsk, Captain Andrzej KOWALSKI commenced his naval career in 1980 as an Officer Cadet at the Department of Navigation and Naval Weapon Systems, Naval Academy in Gdynia. In 1985, having earned the Master of Science Degree in Navigation and having been commissioned, the newly promoted Sub-lieutenant, Navy, reported to the 11 ASW Squadron at the Hel Naval Base. Following this tour of duty, in 1986, he reported to the 45 Auxiliary Ships Squadron and, until 1990, assumed the following positions: a tanker CO, a port service group CO, the Squadron Chief Navigation Officer, and finally the Squadron Chief of Staff. Between 1990 and 1995, the Senior Specialist at the Naval Board of Hydrography, PN Headquarters, became Captain KOWALSKI's new assignment followed, from 1995 to 2002, by the position of the Head of Nautical Information Department, Hydrographic Office of the Polish Navy (HOPN/BHMW). He

represented the Polish Navy in the NATO Standardization Groups with regard to shipping safety and he was responsible for the Polish component operated as a part of the World-Wide Navigational Warning System and nautical publications (NtM, List of Lights etc.) promulgated by the HOPN. He was also the co-author of the 2001 edition of the Polish Pilot.

**For five years, from 2002 to 2007**, he was the Commanding Officer of the Hydrographic Squadron and reported to the C-in-C of, Polish Navy. The period between 2007 and 2013 was very significant for Captain KOWALSKI in terms of his carrier ladder as he was assuming successively higher decision-making positions in the Polish Navy. The positions were Chief of Training and Deputy Commanding Officer, 8th Coastal Defence Flotilla, stationed in the Świnoujście Naval Base, Deputy Chief, HOPN, and Chief of Sea Training, Polish Navy, at the Naval Headquarters. Finally, with Captain Henryk NITNER stepping down, on 1 January 2014, Captain Kowalski took over as the Polish Hydrographer and the next Chief, HOPN.

**In 1992**, Captain KOWALSKI took up the International Hydrographic Course Cat.B at the International Maritime Academy, Trieste, Italy; in 1998, the Safety of Shipping Course, Istanbul, Turkey; in 1999, the Defence Languages Academy, San Antonio, USA and the International Maritime Officers Course, US Coast Guard RTC, Yorktown, USA; in 2001, the NATO International Awnis Course, Norfolk, USA.

Participant of many national and international forums, Captain KOWALSKI represented the Polish Hydrographic Service at the Baltic Sea Hydrographic Commission Conferences (1995, 1997, 2001, 2010, and 2011) and Poland itself at the International Maritime Organization Conferences in Monaco, (1997, 2000, 2002, and 2012).

Decorated with numerous military and civilian medals, Captain Andrzej Kowalski is married with a two children.

His passions are sports, tourism, and photography.

## NEW HYDROGRAPHER OF CANADA



Mr. Denis Hains has been appointed to the position of Director General, Canadian Hydrographic Service and Oceanographic Services (CHS&OS) effective March 10<sup>th</sup>, 2014. The position also carries the title of Hydrographer General of Canada.

Mr. Hains began his career at CHS in the Québec Region office serving as a Tide, Currents, and Water Levels Officer, and the Section Head of Hydrographic Surveys. He became the Regional Director of CHS's Québec office and served in that position for 9 years.

After spending over 5 years at Natural Resources Canada (NRCan) as Director, Canadian Geodetic Survey, and Director General, Audit and Evaluation Branch, he returned to the Canadian Hydrographic Service (CHS) to serve as acting Director General and Dominion Hydrographer for two years.

This assignment was followed by the Director General, Integrated Business Management Services position at the Canadian Coast Guard before returning to NRCan, first, as Director, Earth Observation and GeoSolution Division, then as Director, Canadian Geodetic Survey, until he accepted this most recent post of Director General, CHS&OS.

Mr. Hains holds a Bachelor of Science Degree in Geodesy from Laval University in Québec City, Canada and he is a member of the Québec Land Surveyor Corporation as well as the Canadian Hydrographic Association.

## NEW HYDROGRAPHER OF GREECE

Captain Dimitrios EVANGELIDIS was appointed as the Director of the Hellenic Navy Hydrographic Service on 28 March 2014. He was formerly the Deputy Director, a post he had held since August 2011. He was born in Thessaloniki – Macedonia in 1965 and is a 1987 graduate of the Hellenic Naval Academy.



Following graduation he served on various navy warships and became a navigational officer.

During his career he attended various Navy and Joint Military Schools and Seminars.

In 1991 he was appointed for the first time to the Hellenic Navy Hydrographic Service. He has served in the HNHS in different posts and was the HN representative in various national and international forums related to Oceanography, Electronic Nautical Charts and NATO Geospatial Policy.

He holds a Masters Degree in Physical Oceanography from the Naval Postgraduate School (NPS) Monterey (1996).

During his service in the Allied Maritime Command Naples (MCC Naples - NOIC), he participated in Operations Active Endeavor, Ocean Shield and Unified Protector.

He is married to Niovi and the proud father of two children.

### Medals and awards:

Golden Cross of the Order of Honour

Golden Cross of the Order of Phoenix

Medal of High Command C class

Medal of Military Excellence B and C class

## NEW HYDROGRAPHER OF IRAN



Mr Siamak SAHRAEI has been appointed Director General of the Marine Operation and Maritime Safety Division of the Ports & Maritime Organization (PMO) of I.R. of IRAN

Mr Sahraei has a master degree in Maritime Affairs from the World Maritime University (SWE) and also a Bachelor degree in Nautical Engineering.

Before his position as Director General of Marine Operation and Maritime Safety of PMO, he held the position of Harbour Master of – Shahid Rajaei Port Complex Bandar Abbas – Iran from 2011 – 2013 and prior to this post Mr Sahraei was Head of Maritime Casualty investigation in Shahid Rajaei Port from 2005-2008.

He speaks Persian and English

## NEW HYDROGRAPHER OF JAPAN

Mr. Shigeru KASUGA was appointed as the Chief Hydrographer of Japan and as Director-General of the Hydrographic and Oceanographic Department, Japan Coast Guard in April 2014, succeeding Mr. Shin TANI who retired in March 2014 after 36 years' service in the JHOD.

Mr. Kasuga was born in 1955 and joined the Hydrographic Department of Japan Maritime Safety Agency (former JHOD) in 1983 after having studied geophysics at the postgraduate school of Kyoto University.

He worked for many years in the JHOD on continental shelf survey issues under the framework of UNCLOS. Just before his appointment as the Chief Hydrographer, he worked in the 11<sup>th</sup> Regional Coast Guard Headquarters, which covers the seas around Okinawa Islands, and was in charge of local activities in hydrography, oceanography and safety of navigation as the Deputy Commander of the 11<sup>th</sup> RCGHqs.



## NEW HYDROGRAPHER OF THE NETHERLANDS



**Captain Marc van der Donck** was born in 1961 in Stein (Limburg). He completed the Gymnasium Bèta in Den Bosch and joined the Navy in 1979 as midshipman at the Royal Netherlands Navy Academy. He was commissioned as a naval officer in 1982, followed by an apprenticeship on board HNLMS de Ruyter. In 1984, after a final year of study in nautical technology at the Delft University of Polytechnics, he was posted on board the Standard frigate HNLMS Pieter Florisz as a bridge watch keeping officer. From mid 1986 to mid 1987 he followed the Warfare-Officer course and specialised in airdefence and gunnery.

After promotion to Lieutenant in 1987 he served for three years on board the Airdefence frigate HNLMS Jacob van Heemskerck: initially as Principle Warfare-Officer above water warfare and later as Advanced Warfare-Officer above water warfare. A period of shore postings followed: at the Navy staff college for the Middle Management course, followed by a term as head of the Section Above Water Warfare systems at the Operational School in Den Helder.

In April 1993 he was promoted to Lieutenant-Commander and was again posted on board HNLMS Jacob van Heemskerck, this time as the head of the Operations Department. During this posting HNLMS Heemskerck participated in embargo operations against former Yugoslavia. In the year 1995 he enjoyed the Advanced Naval Command and Staff course at the Netherlands Defence College. In march 1996 he assumed command of the Minecountermeasure vessel HNLMS Willemstad. End 1997 followed a shore posting at the Centre for Automation of Weapons and Command systems. Here he actively participated in the design and development of the new Combat Management System for the LC-frigates.

With promotion to Commander in July 2000, he was transferred to the Strategic policy section of NATO's Supreme Headquarter Allied Forces Europe (SHAPE) in Mons, Belgium. Following this he assumed command of the Multi-purpose frigate HNLMS van Speijk in July 2003. During his command tour HNLMS van Speijk took part in the NATO article V operation *Active Endeavour* en operated as West Indian Guard ship. Subsequently he was posted at the MOD Defence staff within the requirements department.

In June 2008 he was promoted to Captain (navy) and continued working at the MOD Defence staff, but now within the Integral plans department. First he was branch head plan project, later he became branch head Plan integration. In this capacity he was intensely involved with the budget cuts of 2011. On 5 July 2011 he assumed command of the Netherlands Defense College and was amongst others responsible for the various command and staff courses. With the handover of the hydrographic light on 12 September 2014, he assumed the post of Chief Hydrographer of the Navy.

Captain van der Donck married in 1986 and has a daughter (1991) and a son (1996). He lives with his wife Ilse in Voorburg, near The Hague.

## NEW HYDROGRAPHER OF THAILAND

**Vadm** Supote Klangvichit **R.T.N.**

**1. Date / Place of Birth** January 26, 1955, Chon Buri, Thailand

### 2. Address

222 Rintangrodfaikao  
Rd, Bangna, Bangkok 10260  
Tel. (66) 2361 4822 Fax. (66) 2173 6570



### 3. Education

- 1974 – 1980 B.S., Hydrography, Royal Thai Naval Academy, Royal Thai Navy
- 1981 Hydrographic Survey Course, Japan
- 1984 – 1986 M.S., Hydrography, Naval Post Graduate School, California, USA
- 1993 Naval Staff College, Royal Thai Navy
- 2002 Naval War College, Royal Thai Navy

### 4. Career Positions

- 1989 Commanding officer, H.T.M.S.Chandhara, Surveying Vessels Division, Hydrographic Department, Royal Thai Navy
- 1990 Head of Surveying Documents Section, Surveying Division, Hydrographic Department, Royal Thai Navy
- 1991 - 1992 Head of Hydrographic Surveying Section, Hydrographic Surveying Division, Hydrographic Department Royal Thai Navy
- 1993 Head of Nautical Charting Section Cartographic Division, Hydrographic Department Royal Thai Navy
- 1994 - 1995 Deputy Director, Surveying Division, Hydrographic Department, Royal Thai Navy
- 1996 - 1997 Deputy Director, Cartographic Division, Hydrographic Department, Royal Thai Navy
- 1998 - 1999 Director, Hydrographic Engineering Division Naval Academy, Royal Thai Navy
- 1999 Commander Surveying Vessels Division Hydrographic Department, Royal Thai Navy
- 2001 Director of Cartographic Division, Hydrographic Department, Royal Thai Navy
- 2002 Technical Officer, Hydrographic Department
- 2003 - 2005 Director of Naval Institute, Naval Education Department, Royal Thai Navy
- 2006 Director of Naval Printing Division, Naval Administration Department, Royal Thai Navy
- 2010 Deputy Director, Navigational Supporting Center, Hydrographic Department, Royal Thai Navy
- 2011 Deputy Director General, Naval Research and Development Office, Royal Thai Navy
- 2012 Senior Advisor, Royal Thai Navy
- 2013 Deputy Director General, Hydrographic Department, Royal Thai Navy
- 2014 Director General, Hydrographic Department, Royal Thai Navy

## NEW HYDROGRAPHER OF REPUBLIC OF KOREA

Mr **Gijun HAN** took office as the 38<sup>th</sup> Director General of the Korea Hydrographic and Oceanographic Administration, Ministry of Oceans and Fisheries on 10 November 2014.

Mr HAN studied at the School of Marine Science and Policy, the University of Delaware. Since 2006, he has held a number of senior positions in the Ministry of Oceans and Fisheries and the Ministry of Land, Transport and Maritime Affairs.

### ACADEMIC BACKGROUND

**School of Marine Science and Policy**, University of Delaware, USA

**College of Law**, Kyung Hee University, ROK

### PROFESSIONAL CAREER

**November 2014:** Director General, Korea Hydrographic and Oceanographic Administration, Ministry of Oceans and Fisheries

**March 2013:** Audit and Inspection Officer, Audit and Inspection Division, Ministry of Oceans and Fisheries

**April 2011:** Director, Marine Ecology Division & Director, Coastal Planning and Management Division, Ministry of Land, Transport and Maritime Affairs

**March 2006:** Director, Marine Environment Division, Ministry of Maritime Affairs and Fisheries

**December 2000:** Officer, Civil Affairs, Office of the President

## NEW HYDROGRAPHER OF REPUBLIC OF COLOMBIA



Rear Admiral Pablo Emilio ROMERO ROJAS was born on 24<sup>th</sup> June 1963, in Villavicencio, Meta, and he joined the Naval Cadets Academy "Almirante Padilla", in Cartagena, on 10<sup>th</sup> July 1980, graduating as Lieutenant Commander on 1<sup>st</sup> June 1983.

During his career, he has held the following posts:

- Head of the Propulsion, Electricity and Breakdown Management Divisions in Patrol boats, High Sea Tugs and Missile Launcher Frigates;
- Head of the Engineering Department of the Missile Launcher Frigate ARC "ALMIRANTE PADILLA";
- Head of the Armament and Operations Departments of the Missile Launcher Frigate ARC "ANTIOQUIA";
- Second-in-Command of the Missile Launcher Frigate ARC "ANTIOQUIA";
- Commander of the Missile Launcher Frigate ARC "ALMIRANTE PADILLA";
- Commander of the Surface Fleet of the Caribbean Naval Force;
- Naval Attaché at the Colombian Embassy in the United States of America;
- Chief of Staff of the Caribbean Naval Force and Director of the Naval Cadets Academy "Almirante Padilla", Head of Training, Instruction and Naval Education.

He has also held other posts such as for example Project Superintendent at the Boatyard "Conastil", Production Manager at the Naval Boatyard, Naval Base,, and Division Officer at the National Armed Forces Directorate of Special Projects.

He has attended all the required courses to be promoted in his military career, qualifying in a General Staff course in 1998. He also qualified in the Senior Management Programme of Inalde, Sabana University and in Naval Science.

He has been awarded national and foreign distinctions, amongst which the Order of Naval Merit "Almirante Padilla", the Order of Military Merit "Antonio Nariño", the medals of Academic Merit "Francisco José de Caldas", for having obtained the first place in the promotion and General staff courses and the Medal of the "Legion of Honour" awarded by the President of the United States of America for outstanding services to the Military Forces of the United States of America.