

# **INTERNATIONAL HYDROGRAPHIC ORGANIZATION**



## **ANNUAL REPORT 2011**

### **PART 1 – GENERAL**

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**ANNUAL REPORT**  
**OF THE**  
**INTERNATIONAL HYDROGRAPHIC**  
**ORGANIZATION**  
**2011**

**PART I - GENERAL**

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Monaco

**MEMBER STATES OF THE  
INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)**

ALGERIA	MOROCCO
ARGENTINA	MOZAMBIQUE
AUSTRALIA	MYANMAR
BAHRAIN	NETHERLANDS
BANGLADESH	NEW ZEALAND
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BRAZIL	NORWAY
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CHINA	PAPUA NEW GUINEA
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DEMOCRATIC REPUBLIC OF THE CONGO	REPUBLIC OF KOREA
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DIRECTING COMMITTEE**

*President:* Vice Admiral Alexandros MARATOS, Greece

*Directors:* Captain Hugo GORZIGLIA, Chile

Captain Robert WARD, Australia

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## INTRODUCTION

The Directing Committee is pleased to present the Annual Report of the activities of the Organization for 2011. This report provides an account of the technical and administrative developments of the IHO during 2011 and indicates the participation and contribution of Member States, other international organizations and stakeholders in the execution of the Work Programme on issues affecting safety at sea, the protection of the marine environment, economic development through marine and maritime activities and security.

The Directing Committee with the support of the Staff of the Bureau, monitored and assisted in the execution of the IHO WP for 2011. The needs and requirements of the Organization and especially those coming from Member States were considered and acted upon by the Directing Committee. In addition to the other requirements of the Work Programme, an issue of importance for 2011 was the planning and preparations for the XVIII<sup>th</sup> International Hydrographic Conference held in April 2012.

The 2011 Report consists of two parts;

Part 1 – General. Part 1 describes the execution of the IHO WP in 2011. It covers the technical and administrative developments of the Organization, as reflected through the reports and documents of the meetings of Committees, Sub-Committees, Working Groups, Regional Hydrographic Commissions and other bodies of the Organization.

Part 2 – Finance. Part 2 presents the status of the finances of the Organization for 2011 at the close of the financial period, in accordance with Article 11 of the Financial Regulations. It also includes the External Auditor's Annual Report as required by Article 20 of the Financial Regulations.

Part 1 of the IHO Annual Report has been structured based on the three Work Programmes as reflected in the revised Strategic Plan of the Organization; namely Corporate Affairs, Hydrographic Services and Standards and Inter-Regional Coordination and support. In this way the Report is directly related to the technical structure of the Organization which is based on the Secretariat (Corporate Affairs) and two principal Committees, the Hydrographic Services and Standards Committee and the Inter-Regional Coordination Committee.

The section reporting on the Corporate Affairs programme covers topics related to cooperation and relations with other international organizations such as: UN, IMO, IALA, IOC and others, providing details on the way that the various activities and projects have been supported; information management in the IHB; issues related to membership of the Organization; new Hydrographers; and administration of the IHB. It also covers the developments of the Working Groups tasked to review the Staff Regulations and the revision of IHO publication S-23 - *Limits of Oceans and Seas*. The section also refers to Public Relations and in particular the excellent relationship that exists between the Organization and the Government of Monaco and the celebration of World Hydrography Day in the presence of Ministers, Consuls and other dignitaries. The following points should be highlighted:

- The high-standing and recognition by IMO of IHO as a significant contributor to its work and especially to COMSAR, NAV, TACC and MSC, to the development of its e-Navigation Strategy and to the implementation of ECDIS;
- The need for those Member States that have not yet approved the Protocol of Amendments to the Convention on the IHO to seek to accelerate the process, so as to bring into force the remainder of the new Constitutional arrangements, thereby improving the efficiency and effectiveness of the Organization;
- The continuing benefits to the Organization of the renovation programme of the premises of the Bureau funded by the Government of Monaco; and
- The excellent relationship with the International Tribunal on the Law of the Sea (ITLOS) and the support that the Bureau provides to its students on hydrographic and cartographic issues.

The section covering the Hydrographic Services and Standards Programme reports on the technical issues and activities of the Organization, primarily governed, monitored and directed through the Hydrographic Services and Standards Committee (HSSC). During the third meeting of the HSSC in 2011 the work of its

ten subordinate Working Groups was examined with special emphasis placed on the various issues relating to ENC developments and operational issues with some older ECDIS equipment in use at sea. Of particular note:

- The work and progress on the implementation of S-100 – The Universal Hydrographic Data Model
- The leadership and action taken by the Organization to address problems related to the proper presentation and display of ENCs in ECDIS in use at sea; and
- The vital contribution provided to the work of the Committee and its Working Groups by the representatives of industry and interested stakeholders.

The Inter-Regional Coordination Work Programme section reports on the range of activities of the Organization that require significant regional and global coordination, effected through the Inter-Regional Coordination Committee (IRCC) and its subordinate bodies. These activities cover the work of the Regional Hydrographic Commissions, the Capacity Building Sub-Committee, the WNWNS Sub-Committee and other bodies represented in the IRCC. Capacity Building is included in the report. Capacity Building activities continued to provide important support especially to developing States, in order to enhance their hydrographic capabilities and enable them to fulfill their obligations under Regulation 9 of Chapter V of the Convention on the Safety of Life at Sea (SOLAS). Seminars and workshops were organized on a variety of topics and technical visits were made to various States. Eleven Regional Hydrographic Commissions and the Hydrographic Commission on Antarctica met in 2011 and examined various topics of interest to the specific regions. The following should be noted:

- The achievement of providing at least a minimum level of ENC coverage for most Member States, in accordance with the undertaking given to the IMO;
- The increasing levels of practical support being provided by industry participating in the meetings of the Regional Hydrographic Commissions;
- The increasing level and success in coordinating capacity building efforts between IHO, IMO, IALA, WMO, IOC and IAEA; and
- The significant financial contributions made by Japan and the Republic of Korea in support of the IHO Capacity Building Programme.

# WORK PROGRAMME 1

## CORPORATE AFFAIRS

### Introduction

Work Programme 1 covers the Corporate Affairs of the Organization. It includes: cooperation with international and other relevant organizations; information management within the Bureau; Public Relations including celebration of World Hydrography Day; and, importantly, the relationship between the Organization, the Palace and the Government of Monaco. Work Programme 1 also covers the progress of approval of the Protocol of Amendments to the Convention on the IHO and the acceptance of new Member States. Various WGs considering issues of special interest, such as the Staff Regulations Working Group, also fall under Work Programme 1.

### Element 1.1 COOPERATION WITH INTERNATIONAL ORGANIZATIONS

#### **ANTARCTIC TREATY CONSULTATIVE MEETING (ATCM)** **(Task 1.1.1)**

XXXIV<sup>th</sup> ANTARCTIC TREATY CONSULTATIVE MEETING (ATCM)  
20 June – 01 July, Buenos Aires, Argentina.

The XXXIV<sup>th</sup> Antarctic Treaty Consultative Meeting took place in Buenos Aires, Argentina, from 20 June to 01 July, coinciding with the 50<sup>th</sup> Anniversary of the entry into force of the Treaty. Parties and related Antarctic international bodies met, as they do every year, to discuss matters concerning the management of the Antarctic Treaty area and to further develop the Antarctic Treaty System.

Participants allocated time for discussion of the 61 Working Papers (WP), 137 Information Papers (IP) and seven Secretarial Papers (SP) submitted by various countries, international organizations concerned by the Antarctic and the AT Secretariat. Over 300 people representing the Consultative Parties, the non Consultative Parties and international organizations were present, including the IHO. Captain Hugo GORZIGLIA represented the IHO during the first five days.

The Meeting was formally opened by the Minister of Foreign Affairs, Mr. Hector TIMERMAN, who welcomed the participants and highlighted the importance of the Antarctic. He emphasized how successful the Antarctic Treaty System (that had entered into force 50 years previously) had been, particularly in keeping the area free of conflicts, collectively well-managed and environmentally protected. Mr. Ariel MANZI from Argentina was elected Chairman of the meeting.

During the first plenary session, Captain GORZIGLIA introduced the IHO report on “*Cooperation in Hydrographic Surveying and Charting of Antarctic Waters*”. In his presentation Captain GORZIGLIA highlighted the encouraging results of the discussions held at governmental, manager, operator and scientific levels, where the message “*Antarctic development needs reliable knowledge of hydrography*” appeared to have been well understood. He stated that the IHO felt that the sensitive cartographic situation in Antarctica had been, and is being, faced and treated very seriously by the various sectors, who are enthusiastically cooperating to overcome the shortcomings. The contribution made by several Hydrographic Offices was also highlighted where resources have been allocated to the production of ENC's of Antarctic waters, greatly contributing to the improvement to safety of navigation. Finally, a call to increase the level of hydrographic survey operations was made, as the only means to gather new data to support the production of the remaining INT Charts not yet available.

Of the numerous papers presented and discussed, the following had particular relevance to the IHO:

**Early Warning System for Antarctica of the arrival of waves generated by earthquakes.**

This paper highlighted the need to set up a tsunami warning system for the Antarctic and the fact that shallow water bathymetry will be required for any preparedness measures that might be adopted. This situation confirmed and reinforced the need to increase hydrographic surveys in the Antarctic region.

**Yacht guidelines to complement safety standards of ship traffic around Antarctica.**

This paper referred to many elements contributing to safety, but omitted any direct reference to the need for nautical charting and publications. This highlighted the need for IHO input to the development of such guidelines. The point was made and acknowledged.

**Antarctic Discussion Forum of Competent Authorities (DFCA) – Impacts of underwater sound to Antarctic waters – Potential of Technical Measures to Reduce the Acoustical Effects of Airguns.**

The two papers referred to the impact of introduced sound on the marine environment. The first referred specifically to the organization of the 2<sup>nd</sup> Workshop of the DFCA in Berlin, Germany, in autumn 2011 to better consider Parties' individual opinions on the impact of anthropogenic underwater sound on the assets to be protected under the Environmental Plan of the Antarctic Treaty. The second paper referred particularly to airguns used in seismic surveys. These papers are relevant in relation to hydrography because of the potential for limitations on conducting hydrographic surveys using acoustic sensors which in turn may impact on the progress of hydrographic data gathering.

**Report on IAATO operator use of Antarctic Peninsula Landing Sites and ATCM Visitor Site Guidelines, 2009-10 & 2010-11 Season.**

Information in this paper may be useful as source material for the definition of priority survey areas, as it indicates areas of potential high tourism interest.

**Report of the International Association of Antarctica Tour Operators 2010-11**

This report confirmed the excellent working relationship between IHO and IAATO. IAATO's participation in the meeting of the Hydrographic Commission on Antarctica (HCA) in the UK was particularly mentioned as was IHO's participation in IAATO's 22<sup>nd</sup> Annual Meeting, May 9-12, 2011, in Hobart, Australia.

During the meeting several very productive and informative discussions were held with the Executive Secretaries of IAATO and COMNAP, as well as with delegations that included hydrographic advisors. These valuable contacts offered the opportunity to enhance coordination of future and current actions.

It is worth noting an important World Meteorological Organization (WMO) initiative under consideration: the "International Polar Decade". The main goal of this initiative is to launch a process of sustained and coordinated research and observations in the polar regions to meet the requirements of long-term climate change studies and improve prediction to benefit societal needs. This could provide further interest and support for hydrography in Antarctica.

The next ATCM Meeting will take place in Hobart, Australia, 04 to 13 June 2012.

**INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION**  
**AND LIGHTHOUSE AUTHORITIES**  
**(Task 1.1.5)**

**LIAISON WITH IALA E-NAVIGATION COMMITTEE CONCERNING S-100**  
Brussels, Belgium, 12 January

Captain WARD and the Chairman of TSMAD, Mr. Barrie GREENSLADE (UK), attended a meeting with the Secretary-General of the International Association of Lighthouse and Aids to Navigation authorities (IALA), Mr. Gary PROSSER and the Chair and Vice-chair of the IALA e-Navigation Committee and the Chair of the committee's data infrastructure working group in Brussels on 12 January. The meeting was the first liaison meeting between IALA and the IHO concerning IALA's interest in using the IHO S-100

data framework standard and the associated Geospatial Information Registry to fulfill its emerging data transfer requirements.

As a result of the meeting, the IALA officers confirmed that their organization would be evaluating S-100 and the use of the S-100 GI Registry for Automatic Identification of Ships (AIS) messaging, inter Vessel Traffic Systems (VTS) exchange format (IVEF) and Aids to Navigation (AtoN) information and will report back to the IHO on the results.

### **E-NAVIGATION UNDERWAY CONFERENCE** MV *Crown of Scandinavia*, at Sea, 31 January to 2 February

As part of the European Union EfficienSea Project, an international conference to consider how e-Navigation test-beds are assisting in the development of the e-Navigation concept was organized on the Baltic Sea ferry *Crown of Scandinavia* by the Danish Maritime Safety Administration.

The conference was attended by over 130 attendees from many parts of the world. Mr. Gary PROSSER, Secretary-General of IALA and Captain WARD from the IHB provided opening addresses to the conference. Mr. John-Erik HAGEN (Norway), Chairman of the IMO Correspondence Group on e-Navigation also participated. Speakers representing different stakeholder groups provided their different perspectives on e-Navigation. The second day of the conference, during which the venue ferry continued to sail on its route between Copenhagen and Oslo, a number of planned and operational test-beds were described. A test-bed installed on the bridge of *Crown of Scandinavia* was examined by the conference attendees. This test-bed demonstrated the use of real-time broadcast information including vessel traffic and weather information.



*Ingénieur général de l'Armement Yves DESNOËS, retired Hydrographer of France, expressing his view at the e-Navigation Underway Conference*

Discussions on the third day of the conference resulted in a number of conclusions being reached on how test-beds should be coordinated and used to help test and improve e-Navigation concepts as they are developed. Notably for the IHO, the conference agreed that existing standards and data structures should be used in such test beds, and in particular S-100, in order to explore their suitability for use on a global scale.

The conference also agreed that the IMO specification for Integrated Navigation System (INS) is the most appropriate building block for the implementation of e-Navigation capabilities in ships rather than by making adjustments or adding further requirements to the current ECDIS capabilities.

**9<sup>th</sup> MEETING OF THE IALA COMMITTEE ON e-NAVIGATION**  
Copenhagen, Denmark, 14 - 18 March

The 9<sup>th</sup> meeting of the Committee on e-navigation of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) took place at the National Museum of Denmark in Copenhagen from 14 to 18 March. Over one hundred delegates were in attendance. Captain WARD represented the IHO.

The IALA Committee on e-Navigation was formed to develop IALA policy and technical proposals on various aspects of e-Navigation, both for the benefit of its own members but also to forward proposals and comments to the IMO, the organization that is developing the e-Navigation concept. In accordance with the Memorandum of Cooperation between IHO and IALA, the IHO has been providing advice and assistance to IALA in relation to relevant hydrographic and nautical charting aspects of e-Navigation.

Captain WARD contributed, in particular, to the work of the committee's subordinate Working Group 5 that is studying data architecture. In this context, the IHO's S-100 is likely to become an underpinning data structure standard for IALA in the future.



*IALA e-Navigation Committee meeting at the National Museum of Denmark*

**10<sup>th</sup> MEETING OF THE IALA COMMITTEE ON e-NAVIGATION**  
Paris, France, 26-30 September

Captain Robert WARD represented the IHO as an Observer at the 10<sup>th</sup> meeting of the IALA e-Navigation Committee at the IALA Headquarters. The IALA e-Navigation Committee was established to address various relevant aspects of the e-Navigation concept being developed by the International Maritime Organization (IMO) and to provide appropriate input to the IMO for consideration. The meeting comprised 104 attendees, from 24 countries and nine sister organizations.



The principal topics of interest to the IHO that were discussed by the Committee were work on describing an e-Navigation data architecture framework and the Association's increasing interest in using IHO S-100 as the basis for its data modelling requirements. In this regard, the 10<sup>th</sup> meeting of the e-Nav Committee endorsed a proposal for an IALA delegation to hold a workshop at the IHB in March as part of establishing the internal IALA procedures required to fulfil the obligations of a submitting organization and a domain owner, as set out in IHO S-99 - *Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry*. This workshop would also take advice from IHB staff and begin investigations for using S-100 for an IALA Inter VTS (Vessel Traffic Service) Exchange format (IVEF) and an Aids to Navigation metadata exchange standard.

### **IALA WORKSHOP ON GLOBAL SHARING OF MARITIME DATA AND INFORMATION**

Paris, France, 12-15 September

In September Captain WARD represented the IHO at a workshop on the global sharing of maritime data and information organised by the International Association of Aids to Navigation and Lighthouse Authorities (IALA). The workshop, attended by nearly 50 participants representing a wide range of government authorities and service providers from both the government and private sector, was the first meeting to be held in IALA's new and refurbished headquarters in St-Germain-en-Laye.

The first part of the workshop enabled participants to present current developments in digital data services in the maritime domain. Captain Ward described the extensive experience of the IHO and its Member States in the delivery of digital data and information, including issues related to standards, copyright, government policy and data security. The workshop concluded with the drafting of an IALA guideline on the global sharing of maritime data and information.



### **INTERNATIONAL CARTOGRAPHIC ASSOCIATION** **(Task 1.1.8)**

#### **MEETING OF THE ICA COMMISSION ON GEOINFORMATION INFRASTRUCTURES AND STANDARDS** Monaco, 27-29 June

The IHB hosted the 2011 meeting of the ICA Commission on Geoinformation Infrastructures and Standards. The meeting was chaired by Mr. Antony COOPER (South Africa). The IHB was represented by Ing. en chef Michel HUET and Capt. Alberto COSTA NEVES. Topics addressed by the meeting included:

- Finalisation of a paper entitled "An initial formal model of a spatial data infrastructure from the computational viewpoint", which will be submitted to the International Journal of Geographical Science;
- Extensive discussion on how the paper "Extending the formal model of a spatial data infrastructure to include volunteered geographical information", could be taken further after its initial presentation at the 2011 International Cartographic Conference held in Paris, France from 4 to 8 July.

**XXV<sup>th</sup> INTERNATIONAL CARTOGRAPHIC CONFERENCE AND  
XV<sup>th</sup> INTERNATIONAL CARTOGRAPHIC ASSOCIATION GENERAL ASSEMBLY  
Paris, France, 3 to 8 July**

The XXV<sup>th</sup> International Cartographic Conference and the XV<sup>th</sup> International Cartographic Association (ICA) General Assembly took place in Paris, France. The Hydrographer of Chile and Chair of the Marine Cartography Commission of ICA, Captain Patricio Carrasco, represented the IHO.

The Conference was opened by Mr. William Cartwright, President of the ICA. Over 500 presentations were provided covering more than 25 different topics, including: standards, data quality, Spatial Data Infrastructures (SDI), projections, Geographic Information Systems (GIS), history, thematic maps, atlases, education, cartographic profession. 200 poster sessions were divided by themes, one of which covered the work that had been considered by the Marine Cartography Commission in the last four years. The cartographic exhibition comprised over 120 different maps; nautical charts; aeronautical charts, and special thematic charts. Also a children's cartographic competition was held with more than 100 entries. Finally, a technical exhibition including software, hardware, technological development in cartographic analysis, production and edition was provided.

The Conference which was held at the *Palais des Congrès* in Paris was organized by the French Committee of Cartography in partnership with SHOM, IGN, IRD, the BRGM and BNF.

Some of the participants travelled to Brest on 1 July to visit the Service Hydrographique et Océanographique de la Marine (SHOM). Several presentations were made during this event by SHOM staff members on the following subjects: «Updating of the nautical cartography on the coasts of Africa: a new dynamic», “Two centuries of cartography in marine sedimentology”, as well as a presentation by Ingénieur Général de l'Armement (IGA) Gilles Bessero, as Chairman of the IHO Inter-Regional Coordination Committee, on the subject: “Nautical cartography in the digital era: from standardization to co-production”.

The Croatian Hydrographic Service described nautical cartography in the Adriatic Sea.

SHOM's exhibition stand highlighted the use of hydrographic survey data in nautical charts, electronic navigational charts and the Litto3D® project.

The first prize for the international chart exhibition in the category «Hydrography or maritime navigational charts» was awarded to Norway for a chart of Oslo Havn (Port of Oslo). The second prize was awarded to SHOM for nautical chart n° 7546 INT 7120 of the Port of Djibouti published in 2010, and one of the 220 original charts produced by SHOM on the coasts of Africa.

The XV<sup>th</sup> International Cartographic Association General Assembly elected a new Executive Committee for the period 2011-2015. Prof. Georg Gartner (Austria) was elected to be the new President. Uruguay was accepted as a member of ICA.

One outcome of the Assembly was the decision of the Executive Committee to disestablish the Marine Cartographic Commission and to transfer some responsibilities, such as education and standards, to other commissions. This meant that the IHO/IHB relationship with ICA would in future be exercised directly between the ICA President and the IHB. Amendments to the IHO/ICA Memorandum of Understanding between the IHO and ICA were subsequently amended to reflect this.

**INTERNATIONAL MARITIME ORGANIZATION (IMO)**  
**(Task 1.1.10)**

**IMO e-NAVIGATION CORRESPONDENCE GROUP CHAIRMAN'S FORUM**  
Brussels, Belgium, 11 January

The Chairman of the IMO Correspondence Group on e-Navigation, Mr John Erik Hagen (Norway), held a small, informal meeting of invited representatives in Brussels on 11 January. Captain Ward represented the IHO at this meeting. The purpose of the meeting was to assist Mr Hagen in developing his next round

of proposals for consideration by the IMO Correspondence Group – and in particular, to define and focus the scope of the work of the Correspondence Group in preparation for various reports to be submitted to the IMO during 2011.

The discussions at the meeting covered how best to identify the key tasks and benefits that will be addressed by e-Navigation when it is implemented. There were no new or significant issues raised during the meeting related to hydrography or nautical charting services.

**15<sup>th</sup> SESSION OF THE IMO SUB COMMITTEE  
ON COMMUNICATIONS AND SEARCH AND RESCUE  
IMO Headquarters, London, 7 – 11 March**

The 15<sup>th</sup> session of the IMO Sub Committee on Communications and Search and Rescue (COMSAR15) was held at the IMO headquarters in London, from 7 – 11 March. VICE ADMIRAL MARATOS, Lieutenant Commander SHIPMAN and Mr Peter DOHERTY (USA), Chairman of IHO World-Wide Navigation Warning System Sub Committee (WWNWS) represented the IHO. The Coordinators from: NAVAREA 1 (UK); NAVAREA II (France); NAVAREAs IV and XII (USA); NAVAREAs XVII and XVIII (Canada) and NAVAREA XIX (Norway) were represented.

The Sub-Committee considered submissions by the IHO and approved a draft revised NAVTEX Manual, which was passed to the 89<sup>th</sup> session of the IMO Maritime Safety Committee (MSC) for adoption. The Sub-Committee also approved the issue of a revised COMSAR Circular regarding the details of NAVAREA coordinators and noted the IHO report on the outcome of the 2<sup>nd</sup> meeting of the WWNWS. The Sub-Committee also approved a draft IMO Assembly Resolution on the World-Wide Met-Ocean Information and Warning Service, intended to complement IMO Resolution A.706(17), as amended, on the World-Wide Navigational Warning Service. This was forwarded to MSC89 for approval and subsequent adoption by the IMO Assembly in November.

COMSAR 15 agreed that IHO's S-100 data model should be used as a baseline for creating a framework for data access and information services under the scope of e-Navigation and that the IMO, in consultation with other organizations, should consider the establishment of a Harmonization Group on creating a framework for data access and information services under the scope of the Convention on the Safety of Life at Sea (SOLAS), based on the example of the IMO/IHO Harmonization Group on ECDIS.

Members of the WWNWS Working Group (France, UK, USA, Inmarsat, WMO and IHB) met in the week following COMSAR to continue an ongoing review of relevant WWNWS documentation: IMO Resolutions A.705(17), as amended; A.706(17), as amended; the joint IMO/IHO/WMO MSI Manual and IHO publication S-53; the International SafetyNET Manual; and the NAVTEX Manual, to ensure consistency of terminology.

**89<sup>th</sup> SESSION OF THE IMO MARITIME SAFETY COMMITTEE  
IMO Headquarters, London, 11-20 May**

The 89<sup>th</sup> session of the IMO Maritime Safety Committee (MSC89) was held at the IMO Headquarters in London from 11 – 20 May. Vice Admiral MARATOS and Lieutenant Commander SHIPMAN represented the IHO.

MSC89 considered the report of COMSAR and took the following actions of relevance to the IHO: it approved the draft revised NAVTEX Manual; approved the issue of a revised COMSAR Circular on NAVAREA Co-ordinators' operational contact information; authorised the IMO Secretariat to issue further revisions to the COMSAR Circular upon receipt of updated information from a NAVAREA Co-ordinator or the IHO; and agreed the draft text of the Assembly Resolution on the World-Wide Met-Ocean Information and Warning Service for adoption at the 27<sup>th</sup> session of the IMO Assembly in November.

MSC89 considered the submission from the IHO highlighting the cooperative efforts between IMO and IHO for improving Safety of Navigation and the information provided by the IHO on its Workshop on

“Operating Anomalies in ECDIS”. As a result, MSC instructed that the matter be considered further at the 57<sup>th</sup> session of the Sub-Committee on Safety of Navigation (NAV57).

**61<sup>st</sup> SESSION OF THE IMO TECHNICAL COOPERATION COMMITTEE MEETING**  
IMO Headquarters, London, 21-23 June

The 61<sup>st</sup> session of IMO’s Technical Cooperation Committee (TC61) was held at IMO headquarters from 21 – 23 June . The IHO was represented by Captain NEVES and Lieutenant Commander SHIPMAN. The IHO informed the Committee of the IHO’s capacity building activities during discussion on IMO’s Integrated Technical Cooperation Programme (ITCP). The IHO emphasized the cooperation between IMO and IHO in the delivery of the elements of the ITCP within the IHO’s area of competence.

A verbal report on World Hydrography Day was made. During the subsequent discussion the Secretary General of IMO reminded all delegates of the great synergy between the goals of IMO and IHO. He urged the numerous IMO Member States that were not members of the IHO to consider joining the IHO and also stated that he would address this matter again at the next meeting of the IMO Council.

TC61 provided the opportunity for the IHO representatives to meet and discuss capacity building matters with representatives of many maritime administrations and members of IMO’s Technical Cooperation Division.

**57<sup>th</sup> SESSION OF THE IMO SUB-COMMITTEE ON SAFETY OF NAVIGATION**  
IMO Headquarters, London, 6-10 June

The 57<sup>th</sup> session of the IMO Sub-Committee on Safety of Navigation (NAV57) was held at IMO Headquarters in London, from 6-10 June. The IHO was represented by Vice Admiral MARATOS, Captain WARD, and Lieutenant Commander SHIPMAN. Several heads and representatives of hydrographic offices also attended the meeting as part of national delegations.



*IHB and HO delegates attending IMO-NAV57*

NAV57 continued its work on the development of an implementation plan for e-navigation focusing attention on the report of the intercessional Correspondence Group. NAV57 decided to recommend to the MSC the adoption of IHO’s S-100 standard as the baseline for data access and services under the scope of SOLAS. NAV57 also proposed that the MSC establish an IMO/IHO Harmonization Group on Data Modelling. The continuation of the Correspondence Group on e-Navigation was agreed. NAV57 also agreed to seek an extension from MSC on extending the completion date for developing an e-Navigation strategy until 2014.

On the topic of AIS Aids to Navigation, NAV57 concluded that it was necessary to establish a policy on usage before any consideration could be given to symbology. This was in harmony with the view expressed by the IHO to NAV57.

Following direction from MSC89, held two weeks previously, NAV57 briefly discussed “Operating anomalies identified within ECDIS” and invited further reports to be submitted to MSC90.

The IHO informed the Sub-Committee on the establishment of the Arctic Regional Hydrographic Commission.

## **27<sup>th</sup> SESSION OF THE IMO ASSEMBLY** IMO Headquarters, London, 21-30 November

The 27<sup>th</sup> session of the IMO Assembly was held at the IMO Headquarters in London from 21 to 30 November. The IHO was represented by VICE ADMIRAL MARATOS and Lieutenant Commander SHIPMAN.

The Assembly adopted resolution A.1051(27) on the IMO/WMO Worldwide Met-Ocean Information and Warning Service Guidance Document. This resolution complemented resolution A.706(17) on the IMO/IHO World-Wide Navigational Warning Service Guidance Document.

The IMO Secretary-General, in a report on IMO membership, once again recommended that IMO Member States, who were not members of the IHO, should give favourable consideration to joining the IHO. The Assembly endorsed this recommendation.

The Assembly endorsed the Council’s decision to appoint Mr Koji Sekimizu of Japan, currently Director of the IMO Maritime Safety Division, as the next Secretary-General for a period of four years from 1 January 2012. The Assembly also unanimously adopted a resolution thanking the outgoing Secretary-General, Mr. Efthimios E. Mitropoulos of Greece for his longstanding service to the IMO, the last eight years of which was as Secretary-General, and appointing him Secretary-General Emeritus from 1 January 2012.



*The outgoing and incoming Secretaries-General of IMO addressing the 27<sup>th</sup> Regular Session of the IMO Assembly*

### ECDIS Revolution Conference

The second Annual ECDIS Revolution Conference and Exhibition was held in London on 23 and 24 November. Lieutenant Commander SHIPMAN, who was in London for the 27<sup>th</sup> Session of the IMO Assembly, attended the Conference and gave a presentation on ENC availability.

The Conference brought together a wide range of participants from Hydrographic Offices, ECDIS manufacturers, Maritime Safety Agencies, Shipping Companies and ECDIS Training providers. The greatest concern expressed during the Conference related to the adequacy, cost and availability of ECDIS training for mariners. With the start of mandatory ECDIS carriage requirements from July 2012 there was a genuine concern regarding the potential for shipping accidents caused by a lack of understanding of the correct use of ECDIS and an undue reliance on the technology.

**INTERGOVERNMENTAL OCEANOGRAPHIC**  
**COMMISSION (IOC)**  
**(Task 1.1.11)**

**XXVI<sup>th</sup> SESSION OF THE IOC ASSEMBLY**  
Paris, France, 22 June – 05 July

**General aspects:**

The XXVI<sup>th</sup> session of the Intergovernmental Oceanographic Commission (IOC) Assembly took place from 22 June to 5 July in Paris. Almost all of the 140 Member States of the IOC were represented. The Heads of the following Hydrographic Offices participated: Brazil, Canada, Chile, France, Germany and Turkey. The IHO was represented by Captain GORZIGLIA, who attended from 27 to 30 June.

The Chair, Lic. Javier VALLADARES, opened the Assembly and delivered a report on the most recent work of the Commission.

The Executive Secretary reported on the implementation of the Commission's Biennial Strategy and Programme and Budget for 2010–2011. She summarized the main achievements that were the establishment and harmonization of core infrastructure for sea level and seismic monitoring and regional warning systems for tsunamis and other sea-level hazards; the implementation of the climate module of Global Ocean Observing system (GOOS), the ocean's role in climate variability and climate change, and coastal change adaptation in Africa and Small Island Developing States (SIDS); the developments within the UN Regular Process for the Reporting and Assessment of the State of the Oceans, including Socio-Economic Aspects, and IOC ocean science programmes and the contributions to area-based management initiatives including integrated coastal area management and marine spatial planning. She also reported on IOC and United Nations Educational, Scientific and Cultural Organization (UNESCO) involvement in the Rio+20 process under the leadership of the Director-General.

The IOC Assembly discussed a range of topics including a regional strategy for organizational improvement aimed at strengthening its regional subsidiary bodies. Another topic considered by the Assembly was the IOC contribution to the United Nations Conference on Sustainable Development (UNCSD Rio+20) in June 2012.

The Intergovernmental Tsunami Coordination Groups of the Caribbean and Adjacent Regions, the Indian Ocean, the North-eastern Atlantic, Mediterranean and Connected Seas and the Pacific presented their reports. The Assembly encouraged Member States to carry out actions to improve risk assessment and reduction, detection, warning and dissemination, and awareness and response. Captain GORZIGLIA informed the Assembly that the IHO gives high priority to helping address tsunami threats and other coastal hazards. He also emphasized that ocean bathymetry, coastal hydrographic surveys and particularly the detailed knowledge of coastal bathymetry constitutes vital information in support of tsunami preparedness. He indicated that the IHO makes data available through the IHO Data Center for Digital Bathymetry. He also informed the Assembly that the GEBSCO Guiding Committee and the Bathymetric Regional Project Chairs have been invited to strengthen collaboration with a priority on improving high resolution shallow water bathymetry at the regional level, particularly to support tsunami projects.

Captain GORZIGLIA also referred to the work jointly conducted with the IOC in the project known as COAST-MAP IO, sponsored by the Government of Italy. COAST-MAP IO assists participant countries with the capacity to gather and process bathymetric data to use it in predictive inundation models.

Captain GORZIGLIA reported that the IHO Capacity Building Sub Committee had agreed to include a Workshop on Standardization of Parameters and methodologies for the production of inundation charts in support of Tsunami preparedness in its 2012 capacity building programme.

Dr. Savi NARAYANAN, Dominion Hydrographer of Canada and Captain Hugo GORZIGLIA, were among 43 recipients of IOC 50<sup>th</sup> anniversary medals. These were presented during the closing ceremony.

Dr. NARAYANAN's association with the IOC started more than 15 years ago when she became the Director of Marine Environmental Data Service in Ottawa. At the time of the ceremony she was Chair of the Arctic Ocean Science Board, and the Arctic Regional Hydrographic Commission, and has been past co-president of the WMO-IOC Technical Commission for Oceanography and Marine Meteorology and vice-chairperson of the IOC. Captain Hugo GORZIGLIA was the Chairman of the International Coordination Group for the Tsunami Warning System in the Pacific from 1993 until 1999. During his chairmanship, text books for children were published to bring knowledge of earthquakes and tsunamis to schools, and projects were formulated to extend the Pacific Tsunami warning system to the Indian Ocean and Caribbean basin. As Director of the International Hydrographic Bureau since 2002, he has been the principal coordinator between IHO and IOC, participating actively in GEBCO and in the International Bathymetric Charts projects.

## **INTERNATIONAL ORGANIZATION FOR STANDARDIZATION**

### **(Task 1.1.12)**

#### **ISO/TC 211 WORKING GROUP AND PLENARY MEETINGS**

**32nd Meeting, Delft, Netherlands, 23-27 May and**

**33rd Meeting, Pretoria, South Africa, 14 - 18 November**

Mr. Pharaoh represented the IHO and participated in the 32<sup>nd</sup> and 33<sup>rd</sup> meetings of Technical Committee 211 of the International Organization for Standardization (ISO/TC 211) that took place in Delft, Netherlands and Pretoria, South Africa during 2011. ISO/TC 211 is responsible for the development of the 19100 series of standards for geospatial information. The IHO is a liaison member of ISOTC211 and participates in its standards development activities. The ISO 19100 standards are being used for the development of the IHO S-100 framework standard and the IHO GII registry. They are also relevant to the development of other HSSC technical working groups such as SNPWG and DIPWG.

## **PORT MANAGEMENT ASSOCIATION OF WEST AND CENTRAL AFRICA**

### **(Task 1.1.14)**

The IHO was invited to attend the 34<sup>th</sup> Annual Council Meeting of the Port Management Association of West and Central Africa (PMAWCA) that took place in Accra, Ghana, from 27 April to 06 May. Unfortunately due to other commitments, the Chair of the Eastern Atlantic Hydrographic Commission was not able to participate and represent the IHO. Nevertheless a goodwill address was provided for the opening ceremony of the event, highlighting the importance of developing hydrographic capabilities in the region.

## **UNITED NATIONS**

### **(Task 1.1.16)**

#### **3<sup>rd</sup> PREPARATORY MEETING FOR THE PROPOSED UN COMMITTEE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT**

UN Headquarters, New York, 4-6 April



The UN Committee of Experts on Global Geospatial Information Management (GGIM) is intended play a leadership role in

setting the agenda for the development of global geospatial information and to promote its use to address key global challenges; to liaise and coordinate among Member States, and between Member States and international organizations.

A third preparatory meeting for the establishment of the GGIM, comprising representatives from nearly 30 UN Member States together with representatives from the principal non-governmental international organizations concerned with global geospatial information management was held at the UN Headquarters in April.

The meeting reviewed the UN Secretary-General's report and its recommendations intended for consideration by the ECOSOC and the proposed Terms of Reference and Vision Statement for the GGIM. The meeting went on to discuss and provide input to the agenda and arrangements for the first UN World Forum on Global Geospatial Information Management to be hosted in Seoul, Korea from October 24 to 28.

Captain WARD represented the IHO at the meeting. He informed the meeting about the IHO's role and relationship with the UN as the recognised competent authority on hydrography and nautical charting services and the well established IHO mechanisms and standards that are already in place to assist in the exchange and availability of hydrographic information in standardised forms across the globe.

**UN GLOBAL FORUM ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT  
AND 1<sup>st</sup> MEETING OF THE UN COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL  
INFORMATION MANAGEMENT (GGIM)  
Seoul, Republic of Korea, 24-26 October**



In July, the UN Economic and Social Council (ECOSOC) established the GGIM. The GGIM held its first meeting in Seoul immediately after a three-day forum on global geospatial information management. UN delegations at the forum included a number of ministers responsible for geospatial services in their respective countries. 350 participants from 90 countries and 37 representatives from international organizations, attended the forum. The

IHO has been recognised as an Observer organisation at the GGIM. Captain WARD represented the IHO at the first meeting.



*Representatives of the JB-GIS (L to R):  
The Presidents of FIG, IGU, GSDI, ICA, ISPRS, ISGCGM, JB-GIS, Director IHO, IMTA*

The forum and GGIM was the first time such a high level of representation had gathered anywhere in the world to discuss geospatial information management. At the heart of the discussions were the advantages to be gained by society and by governments of establishing spatial data infrastructures. Although the discussion and examples given were centred exclusively on land-based initiatives, several of the delegations acknowledged that the maritime domain is an integral part of GGIM. The role of the IHO and its Member State HO's was acknowledged in this respect. The role of the IHO was described in a joint submission presented by the Chair of the Joint Board of Geospatial Information Societies (JB-GIS), in which the IHB represents the IHO. During the discussion on geospatial data standards, the development of IHO S-100 was mentioned specifically by the observer representing the International Organization for Standardization (ISO).

## **OTHER INTERNATIONAL ORGANIZATIONS**

### **(Task 1.1.17)**

#### **INTERNATIONAL CONFERENCE ON MARINE DATA AND INFORMATION SYSTEMS**

Paris, France, 29-31 March

In March Captain WARD attended the International Conference on Marine Data and Information Systems (IMDIS) representing the IHO and presented information on the recently adopted IHO Standard S-100.

The IMDIS Conference was co-organised by France's *Institut français de recherche pour l'exploitation de la mer (IFREMER)*, the EU SeaDataNet Project, and the Intergovernmental Oceanographic Commission (IOC) and the International Oceanographic Data and Information Exchange (IODE).

The conference covered a wide range of oceanographic data issues from the specific application of data and data sets to the need for better coordination and availability of data in common and accessible formats. In this context, the work of the IHO and its recent adoption of S-100 as an international standard and the establishment of an underpinning, open and dynamic Registry was most relevant and attracted a number of questions from the participants.

#### **CIRM ANNUAL MEETING**

The Hague, Netherlands, 11-12 April

The Comité International Radio-Maritime (CIRM) held its annual Conference in Scheveningen, Netherlands, on 11 and 12 April. CIRM is the body that represents the maritime electronics industry in the development of relevant international regulations and standards and is recognised by the IHO as a Non- Governmental International 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 various HSSC Working Groups.

Captain WARD represented the IHO at the Annual Meeting of CIRM and provided an update on issues and activities of interest to CIRM members, and in particular the relevance of the IHO S-100 geospatial data standard to the e-Navigation concept currently under development by the IMO. He also highlighted various ECDIS equipment and software kernel issues that are beyond the control of the IHO and will require action from ECDIS manufacturers to rectify.

Alongside Captain WARD, the Secretary-General of the International Maritime Pilots' Association (IMPA), the Head of the Operational Safety Section of the IMO, and representatives of the International Harbourmasters' Association (IHMA), and the International Electro-technical Commission (IEC) also attended the meeting as observers.

After the meeting, Captain WARD visited the Netherlands Hydrographic Office, where he was greeted by Captain FLOOR DE HAAN, Hydrographer of the Netherlands. Captain WARD was given a tour of the facilities and discussed topical IHO issues with senior members of the staff.

## **Element 1.2 INFORMATION MANAGEMENT**

### **Development and Maintenance of the IHO Web Site**

#### **(Task 1.2.1)**

The IHB continued to improve its internal and external Information Technology (IT) infrastructure. Improvements were also made to the IHB conference room IT infrastructure to include a dual-screen projection capability and improved internet access for delegates.

The maintenance of the IHO web site, which is an important resource for the Organization, is an ongoing task that is undertaken by several members of the IHB staff. It is an essential reference for coordinating the work of IHO Committees and Working Groups and Regional Hydrographic Commissions. It also

provides an online repository for meeting documents, IHO publications, circular letters and other important reference documents. Mrs. BELMONTE is the primary point of contact for general updates to the web site, while the Assistant Directors maintain the Committee, Commission and Working Group sections for which they are responsible.

An officer was seconded to the IHB for the whole year by the Korean Hydrographic and Oceanographic Administration (KHOA) under the terms of IHO Resolution T4.2. He provided valuable assistance with maintaining and expanding the IHO website. Dr. Sung Ho CHOI (KHOA) also carried out an open source software development project during his term at the IHB.

Mr. Shigeru NAKABAYASHI, an officer seconded from the Japan Hydrographic and Oceanographic Department (JHOD) under the terms of IHO Resolution T4.2, provided assistance with internal IT maintenance and the development of various database applications including the IHO on-line dictionary between November 2008 and March 2011. He was replaced by Mr. Satoshi YAMAOKA, also from the JHOD who has continued the work of Mr NAKABAYASHI with the development of a metadata database and web map server for the Hydrographic Commission on Antarctica with multiple applications.

### **Communication between the IHB and Member States through Circular Letters.** **(Task 1.2.2)**

During 2011 the IHB issued 83 IHO Circular Letters; two Finance Committee Circular Letters and 25 Circular Letters associated with preparations for the XVIII<sup>th</sup> International Hydrographic Conference that took place in April 2012.

### **IHO Publications - production, editing.** **(Task 1.2.3)**

A list of new or revised IHO publications completed in 2011 is provided at Appendix I. More information about specific technical publications is given in the relevant sections of this Annual Report.

### **Hydrographic Publications for which there is no specific body in charge – S-12, S-23, S-60, etc** **(Task 1.2.4)**

No publications, including S-12 and S-60 have required any changes to be made during the period of this report.

### **IHO Working Group on S-23**

The S-23 Working Group was tasked to “Produce a revised edition of Special Publication S-23, Limits of Oceans and Seas, and submit a report of its work together with a draft 4th edition of the publication to the IHB no later than June 2011, for the subsequent approval of Member States”. The work during the year was conducted by correspondence. In August the Chair of the S-23 Working Group reported that the group had been unable to complete its task in the allotted time and intended to delay the completion date till early 2012.

### **IHB Technical Library** **(Task 1.2.5)**

The IHB Library continued to receive publications from various international organizations as well as from IHO Member States and research institutions. About 400 new magazines, CD-ROMs, digital publications and books on hydrography, oceanography, cartography and related matters (including the regular subscriptions) as well as various technical brochures were added to the IHB Library in 2011. The library is mainly consulted by the IHB Directors and Staff, but occasionally is visited by researchers. More than 35 requests of information were provided to external researchers.

## Element 1.3 PUBLIC RELATIONS

### **RELATIONSHIP WITH THE GOVERNMENT OF MONACO AND OTHER AUTHORITIES** **(Task 1.3.1)**

#### **WEDDING OF HIS SERENE HIGHNESS PRINCE ALBERT II OF MONACO & MISS CHARLENE WITTSTOCK** Monaco, 2 July



On 2 July Vice Admiral MARATOS, accompanied by Mrs. MARATOS, represented the IHO at the wedding of His Serene Highness Prince ALBERT II of Monaco and Miss Charlene WITTSTOCK. Captain GORZIGLIA and Captain WARD also attended the ceremony.



A framed print of an original survey of Monaco conducted by *Ingénieur Hydrographe* A. MION in 1898 was sent to the couple as a wedding gift on behalf of the Member States of the IHO. The survey is part of the collection of archived documents held by the French Hydrographic Office (*Service Hydrographique et Océanographique de la Marine*).

#### **NATIONAL DAY OF MONACO** **19 November**



An important part of the festivities organized for the National Day of Monaco is the conferring of honours and decorations by His Serene Highness Prince Albert II of Monaco. This year Ms Mireille MOLLET (France) was awarded a long service medal in recognition of her years of loyal service at the IHB as registrar. She received a bronze medal for 20 years' service at a ceremony held at the Oceanographic Museum of Monaco.

(left to right) Mr. Paul MASSERON, Government Minister for the Interior, Ms Mireille MOLLET (IHB), H.E. Mr. Michel ROGER, Minister of State of Monaco, Mr. Stéphane VALERI, Government Minister for Social Affairs and Health.

## **WORLD HYDROGRAPHY DAY**

### **(Task 1.3.2)**

Monaco, 21 June

#### **Human Resources – The important element to the success of hydrography**

World Hydrography Day in 2011 was also the 90th anniversary of the establishment of the IHO. The theme - *Human Resources – The important element to the success of hydrography* focused on the importance of people in hydrography. The Prime Minister, Ministers, Diplomats and other local dignitaries were invited to a reception hosted by the IHB in Monaco. Articles in newspapers and magazines, visits of students and a small exhibition were also organized by the Bureau. A Media Release was prepared and made available on the IHO web site together with various other materials for use by Member States in their own celebrations.



*Vice-Adm. MARATOS greeting the Town Councillor of Monaco, M. Jacques PASTOR, at the start of the IHB reception*

## **PUBLIC RELATIONS SUPPORT**

### **(Task 1.3.4)**

#### **VISIT BY STUDENTS FROM THE INTERNATIONAL TRIBUNAL ON THE LAW OF THE SEA (ITLOS)**

IHB, Monaco, 21 February and 15 November

A course leader and six students attending a nine-month course, funded by the Nippon Foundation, at the International Tribunal on the Law of the Sea (ITLOS) in Hamburg, Germany, visited the IHB on 21 February. They were given a briefing on “Hydrography and UNCLOS” followed by a Question and Answer Session. The visit was part of the International Liaison section of their course. In addition to the IHB they visited the IMO in London, the International Court of Justice (ICJ) in The Hague and the European Union (EU) in Brussels.



The course leader was from Germany and the students were from: Argentina, Brazil, Greece, Mozambique, South Africa and Togo.

A second course comprising the group leader and seven students visited the IHB on 15 November. The course leader came from Chile and the students were from: Angola; France, Jamaica, Panama, Senegal, Tonga and Vietnam.



### **JOURNAL ARTICLES AND THE INTERNATIONAL HYDROGRAPHIC REVIEW** **(Task 1.3.5)**

Informative articles on topical subjects were published quarterly on the dedicated IHO page in the journal Hydro International.

The International Hydrographic Review (IHR) continued to be produced at the IHB in digital form and the two scheduled editions were published on the IHO web site. The IHB received excellent support from Mr. Ian HALLS (Australia) as the IHR Editor. The IHR Editorial Board now comprises representatives of almost all Regional Hydrographic Commissions, thereby widening the potential for contributors as well as the expert volunteers required to peer review the IHR's articles. At the end of the year the IHB provided a printed compilation of the two published editions all Member States.

## **Element 1.4 IHO**

### **New IHO Structure** **(Task 1.4.1)**

#### **Ratification of the Protocol of Amendments to the IHO Convention**

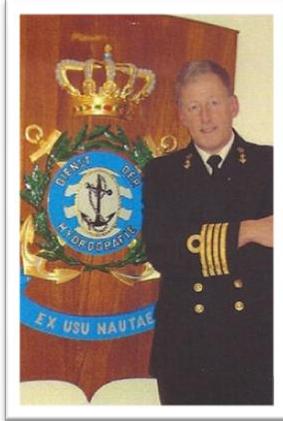
As at 31 December, 34 Member States Governments had formally notified the Government of Monaco of their approval of the Protocol of Amendments to the Convention of the IHO, as approved at the 3<sup>rd</sup> Extraordinary International Hydrographic Conference in April 2005.

In accordance with paragraph 3 of Article XXI of the Convention, the Protocol of Amendments to the IHO Convention shall enter in force after having received two-thirds approval of the Contracting Parties entitled to vote at the time of the approval of the Protocol by the Conference in 2005.

## New Hydrographers of IHO Member States

### **NEW HYDROGRAPHER OF THE ROYAL NETHERLANDS NAVY**

From September 2011



Captain Peter Kortenoeven was born in the village of Zwammerdam on 1<sup>st</sup> of July 1958. After finishing grammar school, he joined the Royal Netherlands Navy as a midshipman at the Royal Netherlands Naval College between 1976 and 1979.

After being commissioned as an officer in the Royal Netherlands Navy he started as Watch Officer on board several frigates and conducted a personnel exchange programme which led him to take on a position aboard the British Frigate HMS Berwick during 1982 and 1983.

After completing the Principal Warfare Officer course, he specialized in Navigation and was subsequently appointed on the frigate HNLMS Piet Heyn for 3.5 year tour. After this he became an instructor at the Naval Operations training facility.

After completing the Advanced Military Staff Course in 1993 he became the Staff Officer Operations for the Netherlands Destroyer squadron.

During 1996 – 1997 he was appointed to the Royal Netherlands Navy Material Directorate in the Hague.

Between 1997 and 2000 Peter Kortenoeven was the Dutch-Belgian Liaison officer at FOST (Flag Officer Sea Training) in Plymouth.

After his return to the Netherlands he took command of the frigate HNLMS Bloys van Treslong and subsequently commanded HNLMS Van Nes which took part in the operation “Active Endeavour” following the attacks on New York in 2001.

Between 2002 and 2004 Peter Kortenoeven returned to the United Kingdom once again to be the ACOS N5/N7 of the Commander UK Maritime Forces in Portsmouth. Late 2004 he returned to the Netherlands to become the last Military Assistant to the Commander In Chief Royal Netherlands Navy. During 2005 – 2009 Kortenoeven was appointed to the defence staff as head of the department of military diplomacy and relations management. This was followed by a 2 year appointment to the International Military Staff at the NATO headquarters in Brussels as maritime planner where he focused on NATO’s Counter Piracy Operations. As of 1<sup>st</sup> September 2011 he became the Hydrographer for the Royal Netherlands Navy.

Peter Kortenoeven lives together with his partner, Henrikje Klasen, a German children’s psychiatrist. They are the proud parents of daughter Jana (born in November 2005). As of 2006, Peter, Henrikje and Jana live in Haarlem. Peter’s hobbies include sailing, general history, classical music and travelling.

## NEW HYDROGRAPHER OF BRAZIL

From November 2011

Vice-Admiral Marcos Nunes de MIRANDA was born in Rio de Janeiro, RJ, Brazil, on 11 April 1957. In 1974 he joined the Brazilian Naval Academy on Villegagnon Island, Rio de Janeiro. Upon graduation, in 1977, he was commissioned an Ensign and assigned to the Brazilian Fleet. He specialized in Naval Communication.

He attended numerous military courses, including the Command and Staff Course at the Brazilian Naval War College and the Naval Command College at the United States of America.

He served on VARIOUS the Brazilian Navy ships, being Commanding Officer of Auxiliar Ship GASTÃO MOUTINHO and Frigate DODSWORTH. His shore billets include the Head of South East Naval Ships Group, Port Authority of São Paulo, the Sea Studies Institute ALMIRANTE PAULO MOREIRA, and the Directorate of Civil Works.



Among the numerous decorations he received are the following medals: Naval Order of Merit, Military Order of Merit, Gold Military Service, Air Force Order Merit, and Seaman Merit.

## NEW DIRECTOR OF THE ITALIAN HYDROGRAPHIC INSTITUTE



Rear Admiral Andrea LIACI was born in Lecce on 17th August 1955.

- After High School, he joined the Livorno Naval Academy of the Italian Navy in 1974 and graduated in 1978. Following graduation from the Naval Academy, he served as an Artillery and Missile Officer and then as Chief Artillery Officer on board warships.
- After completing the Naval Staff College for Senior Officers and the 149<sup>th</sup> Session of the Naval Command School, LIACI became the Commanding Officer of Hydrofoil ASTORE. Having been promoted to Lieutenant Commander, LIACI was an instructor at the Italian Navy's Training Centre in Taranto from 1989 to 1992.
- From 1992 to 1995, LIACI worked at the Combat Systems Department of the Italian Navy General Staff.
- From 1995 to 1996, he was the commanding officer of the anti-submarine Frigate Alpino and from 1996 to 1999, he was at the Liaison Office in Paris and worked on the French-Italian joint program FSAF (family of future air defence missiles).
- He was promoted captain and worked at the Navy General Staff as Deputy Director of the Combat Systems Department.
- In 2002, he was appointed Commanding Officer of the Destroyer ARDITO and then Chief of Staff at the Navy High Sea Forces (COMFORAL) (2003 – 2006).
- From 2006 to 2009, he served as Defence and Naval Attaché at the Italian Embassy in Paris, with the rank of Rear Admiral and then as Executive Officer at the Italian Naval Academy of Livorno until July 2011.

Admiral LIACI graduated from the University of Pisa in Naval and Maritime Science. He is married to Antonella ANTONUCCI and has a daughter, Maria.

## **REAR ADMIRAL SAROJ KUMAR JHA (NM), CHIEF HYDROGRAPHER TO THE GOVERNMENT OF INDIA**

Rear Admiral SK JHA was commissioned in the Indian Navy on 01 Jan 1978. He specialized in Hydrography and is also a qualified ship's diver. He is an alumnus of the Defence Services Staff College, Wellington and the College of Naval Warfare, Mumbai. Rear Admiral SK Jha has been awarded the Nau Sena Medal (Gallantry) for act of Bravery, whilst serving onboard INS Investigator as the Executive Officer. He has held several important appointments both afloat and ashore during his illustrious career in the Navy.

His appointments include the commissioning Executive Officer of INS Investigator and the Command of INS Nirupak and Nirdeshak. He has to his credit very challenging surveys including that of the first Project Survey undertaken by the Indian Naval Hydrographic Department and the pioneering hydrographic survey of Seychelles as part of defence cooperation.



He also headed the premier training establishment, National Institute of Hydrography, Goa. It was under his stewardship, the Long Hydrographic course was recognized by the University of Goa for the award of a Post Graduate degree. He also had a stint with the Government of Maharashtra, on deputation, where he served as Chief Ports Officer and Hydrographer to the Government of Maharashtra. He was instrumental in drawing up and formulating the Port policy as well as the Passenger Water Transport policy during his tenure with the Government of Maharashtra.

The Admiral served as the Principal Director of Hydrography at the Integrated Headquarters of the Ministry of Defence (Navy) where he played a major role in the Indo-Pakistan boundary talks which led to the historic joint survey of the Sir Creeks waters. During this tenure he was also the co-chair of the Indo-Mauritius Joint Hydrographic Committee. He later took over the command of INS Venduruthy, a premier Naval Establishment of the Navy. Whilst holding this appointment, he was in addition holding the appointment as the Naval Officer-in-charge Kerala. He was instrumental in setting up of the Joint Operation Centre at Kochi.

Later on attaining the Flag Rank, Admiral SK JHA took the reins of the National Hydrographic Office as the Joint Chief Hydrographer, the first officer of the flag rank to do so. He always evinced a keen interest in the activities of various professional bodies related to surveying and cartography. He was elected President of the Institution of Surveyors from 2008 to 2009 and later, in 2011, was elected as President of the Indian National Cartographic Association. Rear Admiral SK Jha was appointed the Chief Hydrographer to the Government of India in October 2011.

He is married to Sandhya, a dedicated homemaker and an active member of the Navy Wives Welfare Association. He has two sons, Kanishk and Kartik, both pursuing their careers as Engineering Management professionals.

## **NEW DIRECTOR OF THE GEORGIAN STATE HYDROGRAPHIC SERVICE**

Mr. Revaz BABILUA has assumed the position of Director of the State Hydrographic Service of Georgia. Mr. BABILUA was born in the city of Gagra, in May 1972, and studied in the Faculty of Law at the Tbilisi Javakhishvili University.

## NEW HYDROGRAPHER OF THE REPUBLIC OF KOREA



Mr. Joo Bin IM was appointed General Director of the Korea Hydrographic and Oceanographic Administration on 2 March 2011.

Mr. IM was born in March 1960 in Hongsung, Republic of Korea. In 1983, he graduated from the Yonsei University and in 1985 he obtained a Master's Degree in Science of Public Administration at the Seoul National University.

He began his career at the National Railroad Administration in 1985. Thereafter, he acquired experience in various divisions, including - amongst others - the Railroad Operation Division, the Civil Aviation Team, the Central Land Tribunal of Ministry of Land, Transport and Maritime Affairs.

### ACADEMIC BACKGROUND

- Feb. 1983 - Bachelor Degree in Science of Public Administration, Yonsei University ;
- July 1985 - Master's Degree in Science of Public Administration, Seoul National University.

### PROFESSIONAL CAREER

- March 2011 - General Director, Korea Hydrographic and Oceanographic Administration, MLTM ;
- Aug. '09 - Mar. '11 - Secretary General, Central Land Tribunal, MLTM ;
- Mar. '08 - Aug. '09 - Head of Air Traffic Office, Aviation Safety Authority, MLTM ;
- Mar. '07 - Mar. '08 - Head of Railroad Operation Team, Ministry of Construction and Transportation ;
- Sep. '05 - Mar. '07 - Head of Civil Aviation Team, MOCT ;
- Jul. '03 - Sep. '05 - Director of the Oversea Construction Cooperation Division, MOCT ;
- Dec. '01 - Jul. '03 - Director, Logistics Facility Division, Transportation Policy Office, MOCT.

### IHO Membership

The IHB continues to be supported very effectively by the Government of Monaco, through its Department of External Relations, in all matters relating to membership of the IHO.

### NEW IHO MEMBER STATES

No new Member States joined the Organization during 2011.

### PENDING MEMBER STATES

**(Applications for admission to the IHO having been approved).**

The following countries have received the approval of a two-thirds majority in the year indicated: Bulgaria (1992), Cameroon (2009), Mauritania (1991) and Sierra Leone (2010). These four countries now only need to deposit their Instruments of Accession to complete the IHO membership formalities.

## **PENDING MEMBER STATES**

(Applications for admission to the IHO awaiting approval).

The following countries applied to become IHO members on the dates indicated: Haiti (March 2008), Montenegro (July 2007) and Vietnam (March 2011-Announced December). By the end of 2011, the status of approvals was as follows: Haïti = 44; Montenegro = 51; Vietnam = 0.

## **SUSPENDED MEMBER STATES.**

In accordance with Article XV of the Convention and Articles 16 and 17 of the Financial Regulations all rights and benefits continued to be suspended (since July 1983) for the Democratic Republic of the Congo and the Dominican Republic.

## **Work Programme and Budget (Task 1.4.2)**

The IHO Work Programme and Budget for 2011 was approved by Member States in 2010. The execution of the budget was managed by the Finance Section and reviewed at least on a monthly basis by the Directing Committee. Progress of the Work Programme was assessed at least quarterly as part of the regular management meetings comprising the Directing Committee and the Assistant Directors.

The 2012 IHO WP and Budget was approved in November 2011.

## **IHO Strategic Plan and Performance Monitoring (Task 1.4.3)**

Limited progress was made on developing a practical framework for programme performance monitoring based on the strategic planning and reporting mechanisms proposed by the IHO Strategic Planning Working Group (ISPWG) and agreed by the 4<sup>th</sup> Extraordinary International Hydrographic Conference in 2009. Norway offered to support this development by providing expert assistance but, unfortunately, the assigned expert was unable to progress the task because of an unanticipated transfer to another agency in Norway. This had the effect of delaying the progress of further study. Work recommenced after the arrival in May of a new Assistant Director and the assignment by the Norwegian Hydrographic Service of its Quality Manager.

The development of the IHO Work Programmes including input and review by the Chairs of HSSC and IRCC in accordance with the process proposed by the ISPWG.

## **S-63 Scheme Administrator and S-63 support (Task 1.4.4)**

The IHB administers the generation, control and issuing software keys and licences for the S-63 security scheme to ECDIS Original Equipment Manufacturers (OEMs). It also manages and controls the generation and issuing of “Data Server Certificates” that are required by ENC data distributors.

In 2011 the IHB issued S-63 security keys to 46 OEMs. By the end of 2011, 214 S-63 keys had been issued. One application to generate and issue a “Data Server Certificate” was processed in 2011. The IHB continued to host the S-63 security server that supports the scheme.

## **Element 1.5 IHB MANAGEMENT**

### **IHB ADMINISTRATION**

#### **(Task 1.5.1)**

#### **IHB Directing Committee**

The Directing Committee, comprising the three Directors elected by the Member States at each five-yearly International Hydrographic Conference, is responsible for representing the IHO and for providing the secretariat function of the IHO. The various roles and responsibilities were divided between the President and the other two Directors as set out in Appendix II.

#### **IHB Staff**

The Staff of the International Hydrographic Bureau (IHB) comprises 19 full-time positions. The Directors and four out of the five Assistant Director positions are drawn from international candidates. The remainder of the IHB positions are recruited locally. A list of the staff and their responsibilities during the year are set out in Appendix III.

Mrs Ghislaine FAUCHOIS who joined the IHB in June 2010 as the Administrative and Accounting Officer was selected to replace Mr. Christian VELARD at the end of 2011 after he had reached retirement age. Ms. Sandrine BRUNEL was recruited to replace Mrs. FAUCHOIS in her former position.

Mr Dan COSTIN joined the IHB in January as the Information Technology Assistant (ITA). This new position was created using the vacant Office Manager position that was disestablished on the death of Mr SEMLALI in 2010. The ITA position is also the S-63 Scheme Administrator.

Captain Federico BERMEJO retired in May after 23 years at the IHB. The Directing Committee selected Captain Alberto COSTA NEVES (Brazil) as his replacement. The retirement of Lieutenant Commander SHIPMAN coming up in 2012 caused the Directing Committee to call for nominations for his replacement in August. The selection process took place in November and Commander David WYATT (UK) was selected to join the IHB in May 2012.

#### **Secondment of personnel**

Two officers were seconded to the IHB Staff during 2011 under the terms of IHO Resolution 54/2008. Dr. Sung Ho CHOI from the Korea Hydrographic and Oceanographic Administration arrived in January 2011 and was replaced by Mr. Baek-Soo KIM in December 2011. Mr. Shigeru NAKABAYASHI from the Hydrographic Department of the Japan Coastguard, who came to the IHB on secondments in October 2008 was replaced by Mr Satoshi YAMAOKA in March.

#### **Technical missions**

A list of travel conducted by the IHB staff in support of the IHO Work Programme is contained in Appendix IV.

## **IHB STAFF REGULATIONS**

### **(Task 1.5.2)**

#### **Staff Regulations Working Group**

The Staff Regulations Working Group (SRWG) that was established by Decision 18 of the XVII<sup>th</sup> International Hydrographic Conference to study and propose changes to the Staff Regulations, continued its work during 2011, with one meeting held at the UK Hydrographic Office in January 2011. The progress and preliminary recommendations of the SRWG were presented to the Finance Committee Officers (FCOs) by the President of the Directing Committee at the regular meeting in April. Due to various circumstances, including extremely low participation by Member States in the SRWG and the redeployment of the Chair to other duties within her country such that continuing to act as the Chair was problematic, no further progress was made. Work is expected to be resumed after consideration by the XVIII<sup>th</sup> IHC in April 2012.

## **TRANSLATION SERVICES**

### **(Task 1.5.3)**

The IHB continued to translate key documents into French and in Spanish through the use of its translation staff.

As has been the practice for many years, the IHO benefited from the assistance of some French and Spanish-speaking Member States for the translation of several publications that were beyond the resources of the IHB.

To enhance the French translation capability and to address the steadily increasing French translation load, a second French translator position was incorporated into the staff structure through the redeployment of existing staff.

## **IHB FINANCE PROCEDURES AND IHB PROCEDURAL MANUAL FOR PERMANENT ACTIVITIES**

### **(Task 1.5.4 and 1.5.5)**

Acting on the recommendations of the Auditor, the Directing Committee implemented additional procedures to better manage travel, mobile phone and medical expenses, as well as the disbursement of expenses associated with Capacity Building Fund operations.

## **STAFF TRAINING**

### **(Task 1.5.6)**

In 2011, one category B staff received advanced training in computer graphics. All staff undertook first-aid firefighting training.

## **MAINTENANCE OF THE IHB PREMISES**

### **(Task 1.5.7)**

The Government of Monaco continued its very generous support towards renovation and ongoing maintenance of the IHB premises including improvements to the male toilet facilities to cope with the larger meetings now being held at the IHB.

## **EQUIPMENT** **(Task 1.5.8)**

Significant equipment improvements centred around IT infrastructure. Cables and intranet network points were installed in the new offices constructed within the IHB Chart Room in the previous year. This provided the opportunity to expand the WIFI coverage into the Chart Room and to move the network backup server out of the main computer server room to a more suitable and remote location at the other end of the building. The main network switches were also upgraded in order to increase internal bandwidth capacity. A second telephone line and ADSL account were implemented in order to improve external bandwidth connectivity

### **Element 1.6 INTERNATIONAL HYDROGRAPHIC CONFERENCE**

In March, the IHB began its internal processes of preparation for the XVIII<sup>th</sup> IHC due to be held in April 2012, conducting the first coordination meeting with all the IHB personnel. This was followed by five other coordination meetings held during the rest of the year.

## **WORK PROGRAMME 2** **HYDROGRAPHIC SERVICES AND STANDARDS**

### **Introduction**

The majority of Programme 2 – *Hydrographic Services and Standards* is overseen by the Hydrographic Services and Standards Committee (HSSC). The HSSC was established in 2009 within the new structure of the Organization.

In general terms the principal objectives of the HSSC are to:

- monitor the requirements of mariners and other users of hydrographic information concerning the use of hydrographic products and information systems that may require data and information provided by national hydrographic authorities;
- monitor the work of specified IHO Inter-Organizational Bodies engaged in hydrographic services and standards;
- study and propose methods and standards for the acquisition, assessment and provision of official hydrographic data and nautical products;

The following sections are organized according to the elements of Programme 2.

## Element 2.1 HSSC

### **HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE** **(TASK 2.1.1)**

**3rd MEETING OF THE IHO HYDROGRAPHIC SERVICES  
AND STANDARDS COMMITTEE (HSSC)**  
IHB, Monaco, 8-10 November



The third meeting of the Hydrographic Services and Standards Committee was held at the IHB in Monaco from 8 to 10 November. The meeting was attended by 47 delegates representing 23 Member States and 12 delegates representing seven Non-Governmental International Organizations (NGIO's) and sister intergovernmental organizations.

The work of the HSSC's ten subordinate Working Groups was examined. The Committee was brought up to date on the development of S-100 - *The Universal Hydrographic Data Model* and the significant interest being shown in the S-100 standard by non Member State organisations. The Transfer Standard Maintenance and Applications Development Working Group (TSMAD) reported good progress on developing the S-100 based ENC Product Specification S-101, and the completion of S-102, a data exchange standard for bathymetric data.

Other notable topics included the approval of programmes of revision for various ECDIS-related standards to address recently identified operating and implementation anomalies in ECDIS being used at sea.

### **DEVELOP S-100 AND MSDI STANDARDS** **TASK 2.1.2**

The S-100 IHO Universal Hydrographic Data Model (UHDM), published in January 2010, provides the framework for the development of the next generation hydrographic products and services. Although this publication remained static during 2011, work on several S-100 based product specifications was progressed. These include product specifications for S-100 based ENCs, Marine Protected Areas and for Bathymetric Surface data.

A few extensions were made to the associated IHO on-line registry which was established to support the S-100 UHDM and S-100 based products. S-100 has since been recommended by the IMO as a baseline standard for the Common Maritime Data Structure required for e-Navigation.

## **Element 2.2 ABLOS**

### **ADVISORY BOARD ON THE LAW OF THE SEA** **(TASK 2.2.1)**

#### **18th MEETING OF THE ADVISORY BOARD ON THE TECHNICAL ASPECTS OF THE LAW OF THE SEA Chile, 9-10 November**

The 18th Meeting of the Advisory Board on the Law of the Sea (ABLOS) was held at the offices of the Servicio Hidrográfico y Oceanográfico de la Armada de Chile (SHOA) on 9 and 10 November. The ABLOS working group preparing the draft 5<sup>th</sup> Edition of the TALOS Manual (C-51) met on 8 November and a Law of the Sea seminar was held on 11 November.

The Chairman welcomed Dr Neils ANDERSEN (Denmark) and Dr Sobar SUTISNA (Indonesia) who were to become members of ABLOS representing the International Association of Geodesy (IAG) on 1 January 2012 as successors to Prof. Lars SJÖBERG (Sweden) and Prof. Chris RIZOS (Australia) who were stepping down after long service within ABLOS. Additionally, members from the UK, Canada, and Japan, the Secretary and nine Observers from Brazil, Canada, Chile, Indonesia and Japan were present.



The meeting received a report from the Chairman of the TALOS (C-51) WG which had met the day before and welcomed the progress that had been made. A work plan was agreed that aimed at having a 5<sup>th</sup> Edition of the Manual completed and adopted by IHO and IAG in time for publication at the 7<sup>th</sup> ABLOS Conference in 2012.

Much of the meeting was devoted to reviewing the feedback from the 6<sup>th</sup> ABLOS Conference in 2010 and preparing for the 2012 Conference. The title of the 7<sup>th</sup> Conference will be “UNCLOS in a Changing World” and several potential session themes were identified. The Conference will be held in Monaco in October.

## **Element 2.3 CSPCWG**

### **CHART STANDARDIZATION AND PAPER** **CHART WORKING GROUP** **(TASK 2.3.1)**

#### **8<sup>th</sup> MEETING OF THE IHO CHART STANDARDIZATION AND PAPER CHART WORKING GROUP (CSPCWG) Turku, Finland, 29 November – 2 December**

The 8<sup>th</sup> meeting of the IHO Chart Standardization and Paper Chart Working Group (CSPCWG) was hosted by the Finnish Maritime Administration in Turku, the ancient capital of Finland on its southwest coast, from 29 November to 2 December. 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 26 attendees included representatives from Australia, Brazil, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea (Rep. of), Latvia, The Netherlands, Norway, Spain, Sweden, UK, USA and IHB, plus expert contributors from ESRI and Jeppesen. The meeting was chaired by Dr. Peter JONES (UK).



The meeting reviewed and discussed a number of proposals relating to chart content and specifications, that included the following topics for which new or amended specifications would be prepared as part of the next work programme:

- depiction of marine farm areas;
- maintained / dredged areas;
- safe clearance heights;
- depiction of limits of newly surveyed areas;
- coloured light flares;
- printing plans on back of charts;
- and arc-pointers to aids to navigations.

The meeting was told that the comprehensive revision of S-4 which started in 2004 was now in its last phase and should be completed in 2012 or 2013. An update on progress with the current revision of S-4 - Section B-300 *Topography* was provided and discussed. Similarly, an update was provided on the development of a US Combined Paper Chart and ECDIS Chart No.1, and a UK INT1-like publication that described S-52 (ECDIS) symbols. Finally, presentations were made by the expert contributors on projects relating to an “Ocean Basemap” (ESRI) and an “NHS Print-on-Demand Service” (Jeppesen).

## **Element 2.4 DIPWG**

### **DIGITAL INFORMATION PORTRAYAL WORKING GROUP** **(TASK 2.4.1)**

The Digital Information Portrayal Working Group (DIPWG) meeting was held jointly with the 22<sup>nd</sup> TSMAD meeting and took place at the Sejong Hotel in Seoul, Korea (Rep. of), from 11 to 15 April. (See report on TSMAD – Element 2.11)

## **Element 2.5 DPSWG**

### **DATA PROTECTION SCHEME WORKING GROUP** **(TASK 2.5.1)**

#### **S-63 WORKSHOP & 8<sup>th</sup> MEETING OF THE DATA PROTECTION SCHEME WORKING GROUP (DPSWG)** Monaco, 17-18 February

Following the IHO meeting to discuss ECDIS anomalies (15-16 February), an S-63 Workshop and 8<sup>th</sup> DPSWG Meeting was held on 17-18 February at the IHB in Monaco. This event was attended by a variety of working group members and stakeholders, including ECDIS manufacturers, data servers, Member States and IHB, under the chairmanship of Mr. Jonathan PRITCHARD, UK. In total 16 people were in attendance, plus two via telephone. The main purpose of this meeting was to discuss issues concerning the implementation of the current edition 1.1 of S-63 and gather input and feedback to guide the compilation of a new edition.

The extent to which the current edition of S-63 has been implemented was not clear. Although inclusion of S-63 in the IEC 61174 standard (ECDIS testing) had led to a good level of compliance since 2009, there was still a significant number of older systems which may not fulfil the full requirements of S-63 edition 1.1. A survey of all accredited data servers and ECDIS manufacturers was conducted with the aim of assessing the level of S-63 compliance across all implementers. However, early results of the survey were disappointing.

A list of requirements for a future version of S-63 was compiled. This included ENC authentication and distribution and was intended to provide guidance when a new version of S-63 is drafted.

## **Element 2.6 DQWG**

### **DATA QUALITY WORKING GROUP** **(TASK 2.6.1)**

#### **4<sup>th</sup> MEETING OF THE IHO DATA QUALITY WORKING GROUP (DQWG)** Helsinki, Finland, 14-17 June

The 4<sup>th</sup> meeting of the IHO Data Quality Working Group (DQWG) was hosted by the Finnish Transportation Agency (FTA) in Helsinki, Finland, on 14-17 June. DQWG, one of the ten working groups of the Hydrographic Services and Standards Committee (HSSC), is tasked to develop appropriate methods of classifying and depicting the quality of digital hydrographic data. Twelve persons, representing the Hydrographic Offices of Canada, Finland, The Netherlands, Norway, Slovenia, Sweden and the United Kingdom, plus the IHB and an expert contributor from Jeppesen Marine, attended the meeting which was chaired by Mr. Chris HOWLETT (UK). The main points discussed included:



## **S-57 and S-52**

A recently conducted survey had revealed that many ENC users do not make use of the attribute CATZOC. The existing method of portraying data quality (CATZOC and its “stars”) therefore appears to be inadequate. ENC users in the survey expressed a strong preference for an on-demand (via toggle function) data quality colour or pattern fill. As a result, the DQWG will propose, for example, that one colour be used to show areas of poor data quality, another colour to show areas of average data quality and no colour fill for areas of sufficient data quality.

The DQWG agreed that a set of guidelines on how to populate CATZOC (and also M\_QUAL) should be included in the “Use of the Object Catalogue” (S-57 Appendix B.1). Noting the lack of consistency in the way CATZOC is populated for legacy data but also taking into account the effort that many HO’s have already put into populating CATZOC, this guidance would be mindful of limiting the amount of reassessment that any new data quality methods would require.

## **S-101**

The DQWG considered that the following quality indicators are important for mariners: horizontal uncertainty, vertical uncertainty, uncertainty of existence, and temporal variation. There should be one attribute to capture the uncertainty of horizontal positional measurements, vertical positional measurements and distances, at the 95% confidence level.

The DQWG considered that CATZOC should not be used in S-101 – the Product Specification for the next generation ENC. However, the supporting attributes, i.e. position and depth uncertainties, and seafloor coverage, should be retained, to allow S-101 systems to use the combined attribute values to drive other methods of portraying data quality. The S-101 feature catalogue would need to be extended with attributes for capturing each of seafloor coverage and size of feature detected. Based on the above, the DQWG would prepare and forward a data quality component for S-101 to the relevant TSMAD sub-working group, to be completed before the end of 2011.

The meeting elected Mr. Rob HARE (Canada) and Mr. Eivind MONG (Jeppesen) as DQWG Vice-Chair and Secretary, respectively.

## **Element 2.7 EUWG**

### **ENC UPDATING WORKING GROUP** **(TASK 2.7.1)**

The ENC Updating Working Group (EUWG) conducted all its work by correspondence. During 2011 a survey of all ENC Producer States was conducted to determine how quickly HO’s were implementing the recommendations drawn up by the EUWG regarding the inclusion of Temporary and Preliminary Notices to Mariners in the standard ENC update process and which HO’s were still including updates to ENCs only in paper Notices to Mariners. The EUWG analysed the results, which was subsequently reported to Member States by Circular Letter.

## **Element 2.8 HDWG**

### **HYDROGRAPHIC DICTIONARY WORKING GROUP** **(TASK 2.8.1)**

The Hydrographic Dictionary Working Group (HDWG) did not meet in 2011. The work of the HDWG, with its limited number of active participants, was conducted mainly using a discussion forum on the internet. The HDWG considered a number of proposals from different IHO bodies, with the aim of achieving standardization across different IHO publications and the adoption of new and reviewed terms.

## Element 2.9 MSDIWG

### **MARINE SPATIAL DATA INFRASTRUCTURE** **WORKING GROUP** **(TASK 2.9.1)**

The Marine Spatial Data Infrastructure Working Group (MSDIWG) did not meet during 2011 and had no significant items on its work programme. The MSDIWG Chairman, Mr John PEPPER (UK) was unable to continue in 2011 and Mrs Maureen KENNY (USA) took over the Chair.

## Element 2.10 SNPWG

### **STANDARDIZATION OF NAUTICAL PUBLICATIONS** **WORKING GROUP** **(TASK 2.10.1)**

The Norwegian Hydrographic Service hosted the 13<sup>th</sup> SNPWG meeting at the Victoria Hotel (Stavanger) from 4 to 8 April. The meeting was chaired by Mr. David ACLAND (UK). Delegates from the following Member States participated in the meeting: Denmark, Estonia, Finland, France, Germany, Japan, Norway, UK, and USA. Expert Contributors from Interschalt, Jeppesen and NOVACO also participated in the meeting.

Some of the important issues discussed during the meeting included: a proposed revision of the S-100 General Feature Model to facilitate the modelling of nautical publications information, the development of a product specification for marine protected areas, relevant activities being undertaken within the Bringing Land and Sea Together (BLAST) project and improved definitions for “underkeel clearance” and “underkeel allowance.”

Other important events that took place during the meeting included interesting presentations on Surveying the Norwegian Coast and Arctic Waters, the MAREANO seabed mapping program and high resolution tidal models. An excursion on the school ship M/S Gann followed by a visit to the Kvitsoy Island Vessel Traffic Management Centre was also organized. This provided members with a unique opportunity to see the Norwegian scenery, as well as gaining an insight into the complexities of monitoring and directing maritime traffic in the region.



*Participants of the 13<sup>th</sup> SNPWG*

## Element 2.11 TSMAD

### **TRANSFER STANDARD MAINTENANCE AND APPLICATION DEVELOPMENT WORKING GROUP** **(TASK 2.11.1 and 2.4.1)**

**JOINT MEETING OF THE TRANSFER STANDARD MAINTENANCE AND  
APPLICATION DEVELOPMENT WORKING GROUP &  
THE DIGITAL INFORMATION PORTRAYAL WORKING GROUP**  
Seoul, Republic of Korea, 11-15 April

The 22<sup>nd</sup> TSMAD and 3<sup>rd</sup> DIPWG meetings took place as a joint meeting at the Sejong Hotel in Seoul, Korea (Rep. of), from 11 to 15 April. The meeting was attended by 40 representatives from the following IHO Member States: Australia, Denmark, Finland, France, Germany, Japan, Netherlands, Norway, Republic of Korea, South Africa, Sweden, UK and USA; the following expert contributors: CARIS, ESRI, Jeppesen Marine, Furuno Finland, ECC (Norway), IC-ENC, IIC Technologies, KESTI, SevenCs, T-Kartor and Transas; and the IHB.



*Participants in the joint TSMAD-22 & DIPWG-3 Meeting*

The meeting was opened by the KHOA Director General of the Korea Hydrographic and Oceanographic Administration (KHOA), Mr. IM Joo Bin. He welcomed the delegates to Korea and thanked the TSMAD and DIPWG participants for their hard work in developing standards for ENC and for the contribution that these standards make in ensuring safety of navigation.

Unfortunately, the DIPWG Chair (Mr. Colby HARMON, USA) was not able to attend the meeting due to unforeseen events and the joint meeting was consequently co-chaired by Mr. Barrie GREENSLADE (TSMAD Chair, UK), for TSMAD matters, and Mrs. Julia POWELL (DIPWG Vice Chair, USA), for DIPWG matters.

Some of the important topics discussed during the meeting included: the S-101 ENC Product Specification; the S-102 proposed Bathymetric Surface Product Specification; the status of work on a new edition of the S-57 Use of the Object Catalogue (UOC – S-57 Appendix B.1); the S-57 to S-101 open source ENC conversion application; proposed changes to the S-100 General Feature Model; the production of a new version of S-52; how to improve ECDIS cursor enquiry & pick reports; the status of the portrayal register and portrayal catalogue development work; the revised version of ECDIS Chart 1; and the planned production of an ECDIS Check data set.

## Element 2.12 TWLWG

### **TIDAL AND WATER LEVEL WORKING GROUP** **(TASK 2.12.1)**

#### **3<sup>rd</sup> MEETING OF THE TIDAL AND WATER LEVEL WORKING GROUP (TWLWG)**

Jeju Island, Republic of Korea, 5-7 April

The 3<sup>rd</sup> meeting of the TWLWG was held at the Hanwa Resort, Jeju Island, Republic of Korea, from 5 to 7 April. Representatives from Australia, Canada, Chile, Finland, France, Japan, Norway, Peru, Republic of Korea, South Africa, UK, and the IHB attended the meeting. Lieutenant Commander SHIPMAN represented the IOC-GLOSS Group of Experts.

Mr. Ok-Soo KIM, Director of the Oceanographic Division of KHOA, welcomed all participants to the island of Jeju.

Topics discussed included: a standard for digital tide tables; the dynamic application of tides in ECDIS; a standard for the transmission of real-time tidal data; a revised definition of Mean Sea Level and the revision of IHO resolutions on tides and water level topics.



*TWLWG3 on a visit to the Jeju Port Tide Gauge*

## Element 2.13 ENC QUALITY – TECHNICAL SUPPORT

### **(TASK 2.13.1)** **PRIMAR/IC-ENC JTWG**

The Joint Technical Experts Working group (JTEWG) is a joint subsidiary of the Primar Stavanger Advisory Committee (PSAC) and the IC-ENC Steering Committee (IC-ENC SC). Its primary objective is to agree, develop and maintain common ENC technical and quality standards between the Regional ENC Coordination Centres (RENCs) for the delivery of high quality and consistent ENC services to mariners. The Working Group did not hold a formal meeting in 2011, however there was an exchange of technical visits between members of the RENC organizations.

# WORK PROGRAMME 3

## INTER-REGIONAL COORDINATION AND SUPPORT

### Introduction

The Inter Regional Coordination Committee (IRCC) was established in 2009 within the new structure of the organization to promote and coordinate those activities that might benefit from a regional approach. In general terms the principal objectives of the IRCC are to:

- establish, coordinate and enhance cooperation in hydrographic activities amongst States on a regional basis, and between regions;
- establish co-operation to enhance the delivery of capacity building programs;
- monitor the work of specified IHO Inter-Organizational Bodies engaged in activities that require inter-regional cooperation and coordination;
- promote co-operation between pertinent regional organizations and review and implement the IHO Capacity Building Strategy, promoting Capacity Building initiatives.

This report provides an overview of IRCC related activities as mandated by Programme 3 of the IHO Work Programme 2011. The following sections are organized according to the elements of the Programme.

### Element 3.0 INTER REGIONAL COORDINATION COMMITTEE (IRCC)

#### TASK 3.1.16

#### 3<sup>rd</sup> MEETING OF THE IHO INTER REGIONAL COORDINATION COMMITTEE IHO-IRCC3

Niteroi, Brazil, 26-27 May

The 3<sup>rd</sup> meeting of the Inter Regional Coordination Committee (IRCC3) was held in Niteroi (Brazil) on 26-27 May, hosted by the Diretoria de Hidrografia e Navegação (Directorate of Hydrography and Navigation) of Brazil. The meeting was attended by the Chairs or Representatives from all the Regional Hydrographic Commissions (RHCs), the relevant Committees, Sub Committees except the International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) and the Subcommittee on Worldwide Navigational Warning Service (WWNWS), and other bodies as well as delegates from eight individual IHO Member States and one Non-Governmental International Organisation (NGIO).



The main items on the agenda of the meeting were:

- the status of approval of the Protocol of Amendments to the IHO Convention,
- the development of the Worldwide Electronic Navigational chart Database (WEND),
- the implementation of the IHO strategic planning mechanism,
- the preparation of the IRCC contribution to the XVIII<sup>th</sup> International Hydrographic Conference.

The most significant points discussed at the meeting were as follows:

#### ***Status of approval of the Protocol of Amendments to the IHO Convention***

The Committee noted that 30 notifications of approval had been registered by the External Relations Department of the Government of Monaco as of 8 February 2011 and that positive indications from 20 other Member States had been reported through the RHCs. The Committee agreed that it was worthwhile pressing for reaching final approval in time for the 2012 IHO Conference to be the first Assembly (in other words obtaining the minimum of 48 notifications before 23 January 2012) and decided to invite the IHB to produce a reminder to Member States and also to request the Monaco Government to pursue this matter via diplomatic channels.

#### ***Development of WEND***

In the light of the modest progress in carrying out the work plan of the WEND Working Group, the Committee agreed on ways and means to prepare a comprehensive report on the implementation of the WEND Principles for consideration by the IHO Conference in 2012.

#### ***Implementation of the IHO Strategic Planning Mechanism***

The Committee had an extensive discussion on the implementation of the IHO Strategic Plan and Planning Cycle. It agreed to recommend to the IHO Conference in 2012 to postpone any revision of the IHO Strategic Plan to the next Conference or Assembly and to concentrate on the implementation issues. In that perspective, the Committee agreed a procedure to assess its contribution to the implementation of the preceding year's Work Programme and to collate its input for the preparation of the next year's Work Programme. The Committee also invited the IHB Directing Committee to start implementing the strategic level performance indicators (SPIs) approved by the 4<sup>th</sup> EIHC and discussed the working level performance indicators which are appropriate for monitoring the IRCC Work Programme and feeding into the SPIs.

#### ***Preparation of the IRCC contribution to the XVIII<sup>th</sup> International Hydrographic Conference***

The Committee tasked its Chair to prepare the IRCC report to the Conference based on the reports and proposals prepared by individual IRCC bodies and in accordance with the guidelines provided by the IHB.

#### ***Other topics***

The Baltic Sea Hydrographic Commission (BSHC) presented a report on displaying survey status which led the Committee into agreeing an action to design a suitable framework for the development of IHO Publication C-55 - *Status of Hydrographic Surveying and Nautical Cartography World-wide*.

In relation to the IHO Stakeholders' Forum, the Committee recognized the importance of ECDIS related issues and recommended to focus discussions with stakeholders on that topic. It agreed that it was problematic to organize a forum prior to or in connection with the IHO Conference in 2012 and tasked the IRCC Chair to liaise with the HSSC Chair on the way forward, aiming at submitting a report to the IHO Conference.

The Committee agreed to request the IHB to submit to Member States an amendment to IHO Resolution 2/2007 to accommodate standards under the purview of IRCC.

## Element 3.1 CO-OPERATION WITH MEMBER STATES

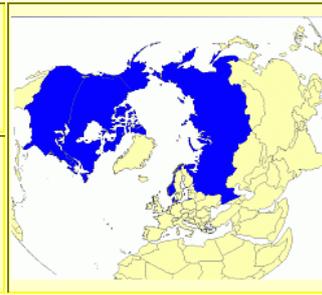
The 12 meetings of the Regional Hydrographic Commissions (RHCs) planned in the Work Programme took place. The complete reports of the meetings and the links to more detailed information are available from the IHO web site.

### TASKS 3.1.1

#### 2<sup>nd</sup> MEETING OF THE ARCTIC REGIONAL HYDROGRAPHIC COMMISSION (ARHC) Copenhagen, Denmark, 28-29 September

**Chairperson:** Mr. Sigvard STAMPE VILLADSEN (Denmark)  
**Vice-Chairperson:** Mr. Evert FLIER (Norway)

**Members:** Canada, Denmark, Norway, Russia, USA.  
**Observers:** Finland, Iceland  
**IHB Representatives:** Vice Admiral MARATOS , Ingénieur en chef HUET



The 2<sup>nd</sup> meeting of the ARHC took place in Copenhagen, Denmark on 28-29 September, under the Chairmanship of Dr NARAYANAN, the Dominion Hydrographer of Canada. Twenty-eight delegates participated representing Canada, Denmark, Finland, Iceland, Norway, Russia Federation and USA. Vice Admiral MARATOS represented the IHB. A one-day Conference was organized on 27 September where the navigational issues concerning the Arctic region and the state of hydrography in the Arctic region were considered.



The importance of the Arctic region was recognized by all participants in view of the growing number of ships visiting the region and the amount of traffic crossing the northern sea route and Northwest passage. Various papers were presented concerning the marine traffic in the Arctic, the paper and ENC coverage, the establishment of a marine routeing guide, the status of nautical publications, the Arctic projection and the establishment of an Arctic SDI. Denmark has been named the coordinator for the cartographic region of the Arctic that has been developed and for the INT charts and ENCs. It is important to emphasize that the ARHC and NSHC have agreed that the parallel 69° North is to be the boundary between the two Commissions.

Mr Svend ESKILDSEN, the Director of the Danish Maritime Safety Administration (DaMSA), was elected as the next Chair.

## TASKS 3.1.2

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

#### (TASK 3.1.6)

Norrköping, Sweden, 20-21 September

<b>Chairperson:</b> Mr Patrik WIBERG (Sweden) <b>Vice-Chairperson:</b> Mr J. VARONEN (Finland)	
<b>Members:</b> Denmark, Estonia, Finland, Germany, Latvia, Poland, Russian Federation, Sweden.	
<b>Associate Members:</b> Lithuania.	
<b>IHB representatives:</b> Vice Admiral MARATOS, Mr. SHIPMAN	

The 16th Conference of the Baltic Sea Hydrographic Commission (BSHC) took place in September in Norrköping. All BSHC Members - except the Russian Federation - were able to participate. Lithuania, an Observer nation, was also unable to attend. The IHB was represented by Captain Robert Ward. The UK took part as an invited observer. The Swedish hosts provided excellent support for a successful meeting, including flying the flags of all Member States on the town bridge throughout the meeting.



Under the chairmanship of Captain Henryk NITNER, Poland, and with the very active contribution of all the delegates, the Conference dealt with a wide range of topics, including:

- Cooperation within the IRCC and with other RHCs
- WEND-WG related issues
- C-55 status in BSHC Member States
- Members States' activities and Reports of the BSHC Working Groups
- Hydrographic input of the Maritime Spatial Data Infrastructure and the implementation of the INSPIRE project
- ENCs for leisure craft and fishery
- Information regarding projects envisaged or implemented by BSHC Member States like the MonaLisa project - Motorways & Electronic Navigation by Intelligence at Sea

It was decided that a number of successful initiatives underway in the Baltic region should continue to be offered to the relevant IHO bodies as models for possible adoption worldwide. These include ENC and chart harmonization, and various Maritime Spatial Data Infrastructure (MSDI) activities.



*Centre: Capt. Henryk Nitner, Chair; Left: Mr Patric Wiberg, Chair-elect; and the Secretary of the 16<sup>th</sup> NSHC*

At the end of the Conference, Mr Patric WIBERG, Sweden, was elected as the new Chair and Mr Jukka VARONEN, Finland, was elected as Vice-Chair.

### **BALTIC SEA INTERNATIONAL CHARTING COORDINATION WORKING GROUP**

Norrköping, Sweden, 9-10 June

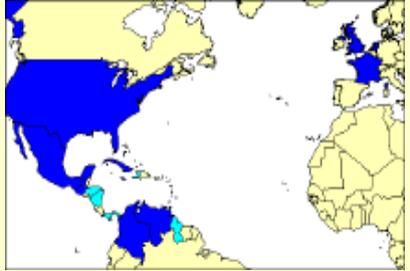
Although the Baltic Sea International Charting coordination Working Group (BSICCWG) had been working by correspondence for many years, it held its first meeting in Norrköping, Sweden, on 9-10 June. The meeting was chaired by Mr. Jarmo MÄKINEN. Mr. Juha KORHONEN acted as Secretary. Members from Denmark, Finland, Germany, Latvia, Sweden and the IHB participated in the meeting, and discussed issues related to international chart coordination in the Baltic Region. Some of these issues included: proposed new routeing measures, the use of national languages in chart titles, the exchange of ENC data in Nordic countries for paper chart production, a proposal for revising the section of the S-23 publication for the Baltic Sea area, exchange of information and updates for adopted charts and the development of an online catalogue showing INT chart coverage in the Baltic Sea region.



## TASKS 3.1.4

### 12<sup>th</sup> MEETING OF THE MESO-AMERICAN AND CARIBBEAN SEA HYDROGRAPHIC COMMISSION (TASK 3.1.10)

Basseterre, St. Kitts and Nevis, 5-9 December

<p><b>Chairperson:</b> Rear Admiral Nick LAMBERT (UK) <b>Vice-Chairperson:</b> Mr. Michel AMAFO (Suriname)</p>	
<p><b>Members:</b> Brazil, Colombia, Cuba, France, Guatemala, Jamaica, Mexico, The Netherlands, Trinidad &amp; Tobago, UK, USA, Venezuela.</p>	
<p><b>Associate Members:</b> Antigua &amp; Barbuda, Barbados, El Salvador, Guyana, Haiti, Honduras, Nicaragua, Panama, St. Lucia, St. Kitts &amp; Nevis</p>	
<p><b>IHB Representatives:</b> Captain GORZIGLIA, Captain COSTA NEVES</p>	

The 12<sup>th</sup> Meeting of the Meso-American and Caribbean Sea Hydrographic Commission (MACHC) was held at the Marriott Hotel in Basseterre, hosted by the Department of Maritime Affairs of St. Kitts and Nevis and the United Kingdom Hydrographic Office (UKHO). The keynote speech was given by the Prime Minister of St. Kitts and Nevis, the Honorable Dr. Denzil DOUGLAS. The IHB was represented by Captain Alberto COSTA NEVES.

Twelve Members of the MACHC (Brazil, Colombia, Cuba, France, Guatemala, Jamaica, Mexico, Netherlands, Suriname, UK, USA and Venezuela) were represented at the meeting. The following Associate Members were also represented at the meeting: Antigua and Barbuda, Barbados, El Salvador, Haiti, and St. Kitts and Nevis.

Also present at the event were a number of observers from Belize, British Virgin Islands, Costa Rica, Dominica, Grenada, Montserrat, the following organisations: Cruise Line Industry Association (CLIA), the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (IBCCA), the IMO, the Pan American Institute of Geography and History (PAIGH), the Radio Technical Commission for Maritime Services (RTCM) and the following commercial companies: Caris, Celebrity Cruises, ESRI, Fugro, Hypack, Jeppesen, Kongsberg and Pelydryn.

More than 60 participants discussed the main issues of the region, including capacity building actions and plans, the coordination of ENCs and INT charts and the establishment of a Maritime Economic Infrastructure Programme (MEIP). The success of the technical workshop in Haiti was particularly highlighted; this was a joint effort of Hydrographic Offices, NGIOs and companies, with support from the IHO Capacity Building Fund.

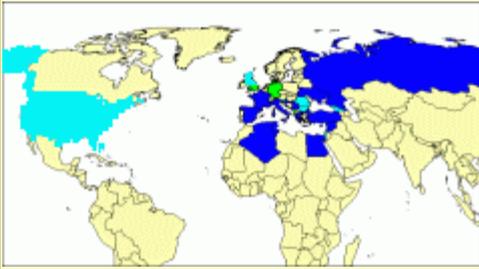
An Industry Day and a Stakeholders Day gave the participants the opportunity to interact and to discuss possibilities of cooperation and further development in the region.

## TASKS 3.1.5

### MEDITERRANEAN AND BLACK SEAS HYDROGRAPHIC COMMISSION

#### 17<sup>th</sup> MEETING OF THE MEDITERRANEAN AND BLACK SEAS HYDROGRAPHIC COMMISSION (MBSHC)

Athens, Greece, 1 – 03 June

<p><b>Chairperson:</b> Cdre A. THEODOSIOU (Greece). <b>Vice-Chairperson:</b></p> <p><b>Members:</b> Algeria, Croatia, Cyprus, Egypt, France, Greece, Italy, Monaco, Montenegro, Morocco, Romania, Russian Federation, Serbia, Slovenia, Spain, Syria, Tunisia, Turkey, Ukraine.</p> <p><b>Associate Members :</b> Bulgaria, Georgia, Israel, Malta, Palestinian Authority, UK, USA.</p> <p><b>Observers:</b> Albania, Germany, Lebanon, DINMA, IMA, IOC, PRIMAR.</p> <p><b>IHB Representatives:</b> Vice Admiral MARATOS, Captain COSTA NEVES</p>	
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The 17<sup>th</sup> meeting of the Mediterranean and Black Seas Hydrographic Commission (MBSHC) was held in Athens, Greece, on 1-3 June, under the Chairmanship of Rear Admiral Hakan ERAYDIN, the Director of the Turkish Hydrographic and Oceanographic Service. 37 representatives participated from Algeria, Croatia, Cyprus, France, Greece, Italy, Morocco, Romania, Slovenia, Spain, Tunisia, Turkey, Ukraine, Georgia, Malta, UK, USA, the Intergovernmental Oceanographic Commission (IOC) and PRIMAR Stavanger. Vice Admiral MARATOS represented the IHO.



Vice Admiral MARATOS reported on: the Organization's activities during the intersessional period; the cooperation with other international organizations and in particular with IMO, IOC and IALA; issues being progressed by subsidiary bodies of the Organization; and the preparations for the International Hydrographic Conference to be held in April 2012. Specific time was dedicated to discussion on the status of the adoption of the amendments to the IHO Convention and on the way in which the approval procedure could be accelerated.

During the meeting the progress of production of INT Charts and ENCs, the promulgation of MSI in NAVAREA III, the report of the WG for the Safety of Navigation in the Black and Azov Seas, the Capacity Building needs and requirements in the region and the results of technical visits were discussed and debated in detail. Participants provided detailed national reports. Georgia noted their efforts to enhance their hydrographic capabilities through bilateral arrangements, and indicated that they would soon apply for membership of the Organization.

## TASKS 3.1.6

### 55<sup>th</sup> MEETING OF THE NORDIC HYDROGRAPHIC COMMISSION Stavanger, Norway, 4-6 April

**Chairperson:** Mr Sigvard Stampe VILLADSEN (Denmark)  
**Vice-Chairperson:** Mr Patrik WIBERG (Sweden)

**Members:** Denmark, Finland, Iceland, Norway, Sweden

**IHB Representatives:** Captain WARD, Mr. PHARAOH



The 55<sup>th</sup> meeting of the Nordic Hydrographic Commission (NHC) took place in Stavanger, Norway, between 4 and 6 April, chaired by the Director of the Norwegian Hydrographic Service. Fifteen representatives participated from five States representing Denmark, Finland, Iceland, Norway and Sweden. Vice Admiral MARATOS represented the Bureau. In his statement Vice Admiral MARATOS informed the participants on the status of the approval of the Protocol of Amendments to the Convention of the IHO, indicating that if the needed 19 additional approvals were achieved by the end of the year then the Conference next year would become an Assembly and the first Council would be elected. He further indicated the various subjects that the Organization is considering with IMO, including the status of ENC coverage, e-Navigation, and ongoing cooperation with IALA.

The Commission examined various technical issues of interest to all participants. Participants discussed progress in the work of the Nordic Chart Production Expert Group (NCPEG), of the Nordic Data Quality WG, the results of the workshop on the validation of multibeam data, various regional projects such as MonaLiza, BLAST and CHEMSEA and general trends and policy within the area of nautical charting and hydrographic surveying. Participants presented their national reports highlighting issues of interest to the Commission. The second day the meeting continued aboard the training vessel M/S GANN. There was a session organized jointly with the Standardization of Nautical Publications WG that was meeting during the same period in Stavanger.

Mrs. Charlotte WIIN HAVSTEEN from Denmark was elected the new Chair of the NHC.

## TASKS 3.1.7

### 11<sup>TH</sup> MEETING OF THE NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION (NIOHC)

(TASK 3.1.13)

New Delhi, India 01-02 March

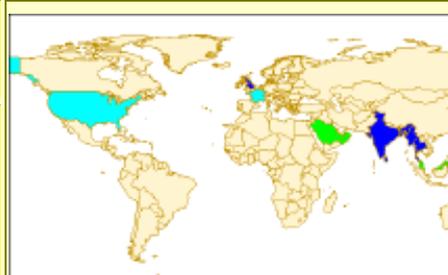
**Chairperson:** Rear Admiral Nick LAMBERT (UK).  
**Vice Chairperson:**

**Members:** Bangladesh, Egypt, India, Myanmar, Saudi Arabia, Sri Lanka, Thailand, United Kingdom.

**Associate Members:** France, Oman, Mauritius, Pakistan, Seychelles, USA.

**Observers:** Malaysia,

**IHB Representatives:** Vice Admiral MARATOS, Mr. SHIPMAN



The 11<sup>th</sup> Meeting of the North Indian Ocean Hydrographic Commission (NIOHC) was held in New Delhi, India, on 1<sup>st</sup> 2 March, under the Chairmanship of Rear Admiral Nicholas LAMBERT, the UK National Hydrographer. The following 12 States participated in the meeting with 25 representatives: Bangladesh, India, Myanmar, Sri Lanka, Thailand, United Kingdom as Members and France, Oman, Mauritius, Pakistan, Seychelles and USA as Associate Members. Vice Admiral MARATOS represented the Bureau.

The following were also present with one representative each: the Intergovernmental Oceanographic Commission (IOC) and the companies Fugro Offshore Survey and Jeppesen. Vice Admiral MARATOS reported on various important developments within the Organization that had taken place during the intersessional period. The meeting discussed issues concerning the production of ENC's and INT charts, the promulgation of MSI, the MSDI developments and Capacity Building needs. It was agreed that the UK will continue to occupy the Chair until the next meeting.

### TASKS 3.1.8

#### 4<sup>th</sup> MEETING OF THE ROPME SEA AREA HYDROGRAPHIC COMMISSION (RSAHC) (TASK 3.1.12)

Muscat, Oman, 21 – 22 March

<p><b>Chairperson:</b> Cdr. Thani AL MAHROUKI, Sultanate of Oman <b>Vice-Chairperson:</b> Mr. Vladan JANKOVIC (Qatar)</p>	
<p><b>Members:</b> Bahrain, Iran, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, United Arab Emirates</p>	
<p><b>Associate Members:</b> United Kingdom, United States of America <b>Observers:</b> Regional Organization for the Protection of the Marine Environment (ROPME), Middle East Navigation Service (MENAS).</p>	
<p><b>IHB Representatives:</b> Captain GORZIGLIA, Mr. Steve SHIPMAN</p>	

The 4<sup>th</sup> meeting of the Regional Organization for the Protection of the Marine Environment (ROPME) Sea Area Hydrographic Commission (RSAHC) was held in Muscat, Oman from 21 – 22 March, with a seminar comprising a series of industry presentations taking place on 23 March. Representatives of Bahrain, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, the UK and the USA attended the meeting. A national delegation from Abu Dhabi attended as observers. The Islamic Republic of Iran was unable to attend due to delays in obtaining visas. Captain Hugo GORZIGLIA and Mr. SHIPMAN represented the IHB.



Captain GORZIGLIA addressing RSAHC4.



RSAHC4 in session

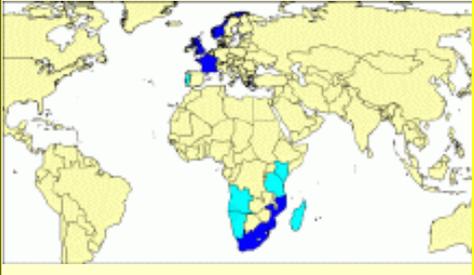
The Commission approved a revision to its Statutes to reflect the amendments made to IHO Resolution 2/1997, as amended (formerly T1.3). The Commission appointed Mr. Jeff BRYANT (UK) as their Capacity Building Co-ordinator and prepared a prioritised list of capacity building requirements for submission to the Capacity Building Sub-Committee.

The Commission also decided to establish a RSAHC International Charting Co-ordination Working Group (RSAICCWG) and approved its Terms of Reference and membership. The Commission considered a report from the INT Chart Co-ordinator (Islamic Republic of Iran) and a draft revision of S-11, Part B, Annex I prepared by the IHB.

The Commission agreed that Oman and Qatar should continue as Chair and Vice-Chair of the Commission.

## TASKS 3.1.9

### 8TH SOUTHERN AFRICAN AND ISLANDS HYDROGRAPHIC COMMISSION CONFERENCE Walvis Bay, Namibia – 6 - 7 September

<b>Chair:</b> Captain KAMPFER (South Africa) <b>Vice-Chair:</b> Mr. OOZEER (Mauritius)	
<b>Members:</b> France, Mauritius, Mozambique, Norway, Republic of South Africa, UK.	
<b>Associate Members:</b> Angola, Kenya, Madagascar, Malawi, Namibia, Portugal, Seychelles, Tanzania <b>IHB Representatives:</b> Vice Admiral MARATOS, Mr. PHARAOH	

The 8<sup>th</sup> meeting of the Southern African and Islands Hydrographic Commission (SAIHC) took place in Walvis Bay, Namibia on 6 and 7 September, under the Chairmanship of Captain Abri KAMPFER, the Hydrographer of South Africa. 21 delegates participated as full or associate members and observers from the following countries: Angola, France, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Norway, Portugal, South Africa, UK and the USA. The following international organizations were also represented: IALA, West Indian Ocean Marine Highway Project (WIOMHP) and the IMO. The Maritime Safety Administration of South Africa and representatives from Jeppesen, Underwater Surveys and C&C Technologies participated as observers. Vice Admiral Maratos represented the IHB.

Vice Admiral Maratos made a brief presentation of some of the important issues that the Organization has undertaken during the intersessional period, explaining the preparations for the IHC that was to take place in April 2012. The Commission examined various issues of interest to the region, referring to the progress of production of ENC's and INT charts, the promulgation of MSI, the status of hydrographic surveying, the need to update C-55, procedures to be followed in response to marine disasters, Capacity Building and the status and needs for the development of Hydrographic Spatial Data Infrastructures (SDI). The Commission decided to have meetings annually rather than every two years as had been the case, in order to better follow the various developments occurring at both the national and international level. Presentations were provided by the representatives of IALA and the WIOMHP.

Captain KAMPFER was re-elected as Chairman.



*Participants of the 8<sup>th</sup> SAIHC Meeting*

## TASKS 3.1.10

### 10<sup>th</sup> MEETING OF THE SOUTH EAST PACIFIC HYDROGRAPHIC COMMISSION (TASK 3.1.8)

Valparaiso, Chile, 04 - 06 April

**Chairperson:** Captain Patricio CARRASCO (Chile).  
**Vice Chairperson:**

**Members:** Chile, Colombia, Ecuador, Peru

**Observers:** Panama

**IHB Representatives:** Captain GORZIGLIA, Captain COSTA NEVES



The 10th Meeting of the South East Pacific Hydrographic Commission took place in the premises of the Chilean Navy Hydrographic and Oceanographic Service (SHOA), Valparaiso, Chile, from 4 to 6 April, followed by a two-day Workshop on ENC Data Standardization. At the Opening Ceremony, the Director of SHOA, Captain Patricio CARRASCO, welcomed the delegations from Colombia, Ecuador and Peru, as well as Observers. Rear Admiral Leonardo SANTAMARIA, Director General of DIMAR – Colombia - and Chairman of the SEPHC, greeted participants and declared the meeting open. Captain GORZIGLIA also addressed the participants highlighting the importance of the work of the Commission.



*10th SEPHC Meeting*

*From left to right: RAdm GAVIOLA – Peru ;  
Capt. GORZIGLIA – IHB ; Capt. CARRASCO – Chile  
and RAdm. SANTAMARIA – Colombia.*

Following the opening of the meeting, Rear Admiral SANTAMARIA provided a complete report on the activities undertaken since the last meeting and handed over the Commission chairmanship to Captain CARRASCO. Captain CARRASCO thanked the Commission Members for their confidence and particularly thanked Colombia for having chaired the Commission for an extra year, as Chile had not been able to assume this responsibility in 2010 due to the earthquake and tsunami in Chile.

Captain GORZIGLIA provided a detailed report on the main activities of the IHO in general and the IHB in particular since the last SEPHC meeting. Special reference was made to the tasks identified by the IRCC2 to be completed by the RHCs.

During the meeting all the delegations presented their national reports, updating the information contained in C-55 and shared their experience gained in multibeam surveys, special data management and ENC production. A visit to the SHOA facilities was organized and there was much discussion concerning the different steps of the hydrographic process, nautical cartographic and nautical publication production and hydro-cartographic equipment. Special consideration was given to the way HOs have faced the two tsunami events and associated emergencies that had occurred in the previous 12 months - February 2010 (Chile) and March 2011 (Japan). The importance of holding an Inundation Chart Production Workshop aimed at establishing standardized parameters and methodologies was emphasized. This event was scheduled to take place in Chile in 2011.

The ENC Workshop on Data Standardization was opened by Captain CARRASCO, Director of SHOA, and attended by delegations from Brazil, Chile, Colombia, Ecuador, Mexico, Peru and IC-ENC. A detailed presentation was given by the representatives of IC-ENC and detailed technical discussions took place during the following days on standardized data contained within ENCs. CARIS, ESRI and HEMISPERE GPS also participated in the Workshop and briefed the participants on new developments in the field of GIS and specialized software.



*Capt. CARRASCO, Director of SHOA, at the Opening of the ENC Workshop on Data Standardization.*

### **TASKS 3.1.11**

#### **5th MEETING OF THE SOUTH WEST ATLANTIC HYDROGRAPHIC COMMISSION**

##### **(TASK 3.1.14)**

Arrail do Cabo, Rio de Janeiro, Brazil, 24-25 March

<p><b>Chairperson:</b> Captain Orestes PEREYRA (Uruguay)  <b>Vice-Chair:</b> Rear Admiral Andres Roque DI VINCENZO (Argentina)</p>	
<p><b>Members:</b> Argentina, Brazil, Uruguay</p>	
<p><b>Associated members:</b> Paraguay</p>	
<p><b>Observers:</b> Bolivia</p>	
<p><b>IHB Representatives:</b> Captain GORZIGLIA, Captain COSTA NEVES</p>	

The 5<sup>th</sup> Meeting of the South West Atlantic Hydrographic Commission (SWAtHC) was held at the Hotel “A Ressurgencia” in Arrail do Cabo, Rio de Janeiro, Brazil, on 24-25 March.



*Group photo of all participants*

The Hydrographers of Argentina and Brazil were present, as well as the Hydrographer of Paraguay. Captain GORZIGLIA represented the IHB. Representatives from the hydrographic industry attended as observers. Regrettably, the Hydrographer of Uruguay could not attend the meeting.

Vice Admiral Fernando PALMER, Hydrographer of Brazil and Chairman of the Commission, welcomed the participants and thanked the observers for having accepted the invitation.

The Actions agreed at the last meeting were reviewed and discussions took place particularly on the harmonization of INT Charts and ENC in bordering areas, where agreements between Brazil and Uruguay, and Argentina and Uruguay had not yet been reached.

Captain GORZIGLIA made a presentation concerning the main subjects under consideration by the IHO since the last meeting of the Commission. Emphasis was made on the close relationship with IMO, IOC and IALA, together with several Memoranda of Understanding signed with relevant regional organizations aiming at improving hydrographic visibility and coordination; the progress made with regard to the IHO website, the celebration of World Hydrography Day and the availability of IHO publications in digital form and at no cost. Details were provided on the preparation of the XVIII<sup>th</sup> IHC in April 2012.

Also reported was the work of the HSSC and the IRCC, including details of some of their bodies. Particular mention was made of the standards issued and the regulations updated, particularly C-17, S-99, S-58, S-32, S-4 and M-3. ENC and ECDIS matters, as well as CB issues and the situation with regard to the Protocol of Amendments to the IHO Convention and IHO membership were reported.

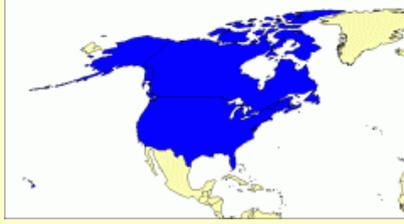
The SWAtHC Planning Committee reported on the relevant issues for the Commission with regard to CBSC, IRCC, HSSC and WEND WG activities. Following these presentations, Argentina, Brazil and Paraguay presented their national reports. Brazil made a presentation on Inland ENCs; the SWAtHC representative on the IHR to the IHR Editorial Board was discussed, and the CARIS representative gave a presentation on technical issues. After discussing the overall subjects reported, the Commission identified several actions that need to be taken, and an Action List was agreed, including a potential technical visit to Paraguay, the Hydrographic Office of which has demonstrated great progress in river chart production (550 kilometres of coverage), thanks, in the words of the Paraguayan representative, to the support received from IHO and particularly from the SWAtHC.

Uruguay was elected as the next Chairman and Argentina as Vice Chairman of the Commission.

### TASKS 3.1.12

#### 34<sup>th</sup> MEETING OF THE US-CANADA HYDROGRAPHIC COMMISSION

Tampa, USA, 25 April.

<p><b>Co-Chairs:</b> Captain John LOWELL (USA (NOAA)), Dr. Savi NARAYANAN (Canada)</p>	
<p><b>Members:</b> Canada, USA <b>IHB Representatives:</b> Captain WARD, Mr. PHARAOH</p>	

The 34th meeting of the United-States-Canada Hydrographic Commission took place in Tampa, Florida United States on 25 April. Capt. John E. LOWELL (USA - NOAA) and Dr. Savrithi NARAYANAN (Canada) co-chaired the meeting. Participants included senior staff from each of the member organizations and members from the National Geospatial-Intelligence Agency (NGA) and the U.S. Navy. France and New Zealand also participated in the meeting as invited observers. The IHB was unable to be represented by one of its staff.

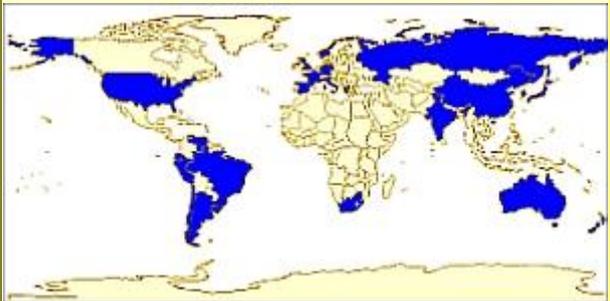
One of the priority issues discussed during the meeting was ensuring adequate ENC coverage in the USCHC shared transboundary areas, as well within national jurisdictions areas in support of the International Maritime Organization’s mandate for mandatory ECDIS carriage. Several relevant technical and policy issues relating to the transboundary project were resolved during 2011. These included: the handling of French language notes in United States ENCs, attaining agreement on notes that are specific to the project, agreeing on ENC revision limits, establishing an umbrella level of service agreement that covers the exchange of charting data for all nautical products and the establishment of a communication plan for customer outreach.

Concerning ENC coverage, the United States had completed its ENC coverage to meet with the WEND definition of adequate coverage. This coverage included the top 175 ports by tonnage with an exception of limited coverage in the Arctic due to the unique challenges in these areas.

Canada had been steadily improving its ENC production for its waters. ENC coverage was considered to meet the WEND definition of adequate coverage for all of Canada’s coastal and inland waters and its top international ports with the exception of certain areas of Labrador and the Arctic due to the unique challenges in these areas.

### TASK 3.1.13

#### 11<sup>TH</sup> MEETING OF THE HYDROGRAPHIC COMMISSION ON ANTARCTICA Hobart, Australia, 5-7 October

<p><b>Chairperson:</b> Captain GORZIGLIA (IHB)  <b>Vice Chairperson:</b> Commodore NAIRN (Australia)  <b>Secretary:</b> Ingénieur en chef. HUET (IHB)</p>	
<p><b>Members:</b> Argentina, Australia, Brazil, Chile, China, Ecuador, France, Germany, Greece, India, Italy, Japan, Korea (Rep. of), New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, Uruguay, United Kingdom, USA, Venezuela.</p> <p><b>Observer Organizations:</b> Antarctic Treaty Secretariat (ATS), Council of Managers of National Antarctic Programmes (COMNAP), International Association of Antarctic Tour Operators (IAATO), Scientific Committee on Antarctic Research (SCAR), International Maritime Organization (IMO), Intergovernmental Oceanographic Commission (IOC), General Bathymetric Chart of the Oceans (GEBCO), International Bathymetric Chart of the Southern Ocean (IBCSO).</p>	

The 11<sup>th</sup> Meeting of the Hydrographic Commission on Antarctica (HCA) took place in Hobart, Tasmania, Australia from 5 to 7 October, organized by the Australian Hydrographic Service (AHS) with the support of the Australian Antarctic Division (AAD). The meeting was chaired by Commodore Rod NAIRN, Hydrographer of Australia and Vice-Chairman of the HCA, in the absence of the Chairman, Captain GORZIGLIA, who was unable to attend. Ing en chef Michel HUET attended as HCA secretary and represented the IHB.

Dr. Tony FLEMING, Director of the Australian Antarctic Division, welcomed all participants and highlighted the strong involvement of AAD in environment protection in Antarctica and climate change. Commodore NAIRN also welcomed the fifteen IHO Member States (Australia, Brazil, Chile, Ecuador, France, Germany, New Zealand, Norway, Republic of Korea, South Africa, Spain, the UK, the USA, Uruguay and Venezuela), five observer organizations or projects: the Council of Managers of National Antarctic Program (COMNAP), the International Association of Antarctica Tour Operators (IAATO), IALA, the General Bathymetric Chart of the Ocean (GEBCO) and the Scientific Committee on Antarctic Research (SCAR) and two expert contributors (Fugro and Geoscience Australia) who participated actively in the event.



*HCA Group photo taken at the Government House, Hobart, Tasmania, Australia*

As the Commission is composed of 23 IHO Member States, the 15 representatives present constituted an appropriate quorum. The Commission re-elected Commodore NAIRN as Vice-Chairman of the HCA.

The Commission reviewed the status of the actions agreed at the last meeting and discussed the progress achieved so far, noting that almost all actions had been completed. Those subjects requiring further discussion were considered under various agenda items during the meeting. The reports provided by COMNAP, IAATO, IALA, GEBCO and SCAR, as well as by IHO Member States, were considered. The reports on the progress made regarding the scheming and production of INT charts and ENC's, and an Antarctic GIS under development at the IHB, were also considered and discussed. The Commission regretted that there were neither representatives nor any reports from the IMO, the IOC or the Secretariat of the Antarctic Treaty.

Two ad hoc sub working groups were established to address the following topics:

- Development of an Antarctic appendix of a proposed IMO SN Circular on "Precautions in Using Navigational Charts in Polar Waters". This was completed during the meeting.
- New strategic approach for raising awareness on safety of navigation and environmental protection in Antarctica. This resulted in a proposed HCA Strategic Statement and Strategic Direction, as well as several proposed new HCA tasks for inclusion in the IHO Work Programme.

The HCA Hydrographic Survey Prioritisation Working Group Chair (UK) reported that the HCA diagram on Maritime Shipping Routes had been updated following IAATO assessment and input. As a result, two new INT charts were proposed for inclusion in the scheme.

### **TASK 3.1.14**

#### **COMPLETION OF ADEQUATE ENC COVERAGE**

The following table presented by the WEND WG at IRCC3 indicates the progress in providing ENC coverage up to 2011.

Comparison of ENCs with corresponding paper charts for international voyages				
	May 2008	May 2009	May 2010	May 2011
Small scale ENCs (planning charts)	>90%	~100%	~100%	~100%
Medium scale ENCs (coastal charts)	60%	77%	84%	88%
Large scale ENCs (top 800 ports)	60%	84%	91%	94%

Of the 154 States with coastlines, there were only six States, and Antarctica, where five or more ENC's remained to be produced in order to match corresponding paper chart coverage at medium scale. For the world's top 800 ports (by total tonnage), only eight coastal States were yet to produce ENC's that matched the coverage provided by paper charts of those same ports.

The issue of overlapping data continued to be a problem in those sea areas where geopolitical issues hamper swift resolution.

### **TASK 3.1.15**

#### **INDUSTRY PARTICIPATION IN RHC MEETINGS**

Representatives of the hydrographic industry sector participated in some RHC meetings and associated workshops which allowed useful feedback between HOs and industry.

As agreed at IRCC3, the IRCC chair submitted a paper to the Hydrographic Services and Standards Committee (HSSC) to consider the way forward for an ECDIS Stakeholders' Forum. A joint HSSC-IRCC proposal to the XVIII<sup>th</sup> IHC on an action plan regarding outreach to IHO Stakeholders was agreed.

#### **Element 3.2 INCREASE PARTICIPATION BY NON-MEMBER STATES**

The following participation of non-Member States in the meetings of the RHCs was as follows:

RHC	number of non IHO Member States in RHC	number of non IHO Member States attended meeting
BSHC	1	1
EAHC	4	1
MACHC	14	11
MBSHC	7	2
NIOHC	8	0
RSAHC	1	0
SAIHC	7	5
SWAHC	2	2

In spite of the encouragement from the relevant RHCs, the four countries whose application for membership has been approved (Bulgaria, Cameroon, Mauritania, Sierra Leone) have still not yet deposited their Instruments of Accession.

There has been slow progress in the approval of pending applications for IHO membership (task 3.2.8) as shown in the following table:

Pending applications	New approvals in 2011	Status as of 31/12/2011 approvals / number required (CL 01/2012)
Montenegro (CL 75/2007)	0	51 / 52
Haiti (CL 50/2008)	5	48 / 52
Viet Nam (CL 76/2011)	0	1 / 52

## Element 3.3 CAPACITY BUILDING MANAGEMENT

### TASK 3.3.1 Capacity Building Sub-Committee

#### 9th IHO CAPACITY BUILDING SUB-COMMITTEE MEETING Niteroi, Brazil, 23-25 May

The 9<sup>th</sup> meeting of the IHO CBSC was held in Niteroi, Brazil, from 23 to 25 May, under the chairmanship of Mr. Janis KRASTINS, Hydrographer of Latvia. All Members were present. Representatives from the following countries and an NGIO were present as observers: Brazil, China, Colombia, Nigeria, Venezuela and the Radio Technical Commission for Aeronautics (RTCA). In total, 37 representatives attended.



*The Brazilian Hydrographer, Vice Admiral Luis Fernando Palmer, host of the CBSC9 with the 36 Members and Observers that attended the 9<sup>th</sup> CBSC Meeting. Niteroi, Brazil, 23-25 May 2011*

The Chairman provided an overview of the activities undertaken since the last meeting in 2011 highlighting the main matters that require special attention by the Sub-Committee during the sessions.

The Sub-Committee:

- Reviewed the Action List agreed in 2010, confirming that almost all matters had been addressed.
- Examined the performance of the Capacity Building Fund and fully supported the management of the Fund.
- Decided to request beneficiary RHCs to improve timing and details when requesting refund of costs.
- The representative of the Republic of Korea announced that his Government may, in the future, be able to increase its contribution to the IHO CBFund to USD 400,000.
- Exchanged experiences in the implementation of the 2010 and 2011 Capacity Building Work Programme (CBWP) and reviewed the performance and planning of activities associated with the 2011 CBWP. Based on new information received from the RHCs' representatives, the 2011 CBWP was adjusted.
- Reviewed the Capacity Building projects submitted by the RHCs and adopted the 2012 CBWP that should be included in the general IHO Work Programme for 2012.

The Sub Committee also agreed:

- to prepare a document proposing a mechanism to establish regional capacity building coordinators paid under contract to help RHCs to manage CB matters;
- to prepare, jointly with the IHB, a draft syllabus for an awareness raising seminar to be delivered to IMO Member States - mainly those least hydrographically developed – (using as a model the seminars organized by the HCA to the ATCM and others). Assess the interest of potential recipients and if positive, prepare a proposal for IMO endorsement.

The Chairman informed that due to his new appointment as Head of the Maritime Authority of Latvia he would not be able to continue as Chair. The Vice Chair, Commander Brian CONNON (USA) also announced that he could not continue serving due to new responsibilities assigned within the US Navy. The Sub –Committee elected Mr. Thomas DEHLING (Germany) as the new Chair, and Captain Vinay BADHWAR (India) as Vice Chair.

### **TASK 3.3.2**

#### **Capacity Building Fund**

The Capacity Building Fund (CBFund) is funded from IHO budget allocations; donations received in support of IHO Capacity Building initiatives and external contributions earmarked for specific capacity building initiatives. The Republic of Korea made an outstanding contribution to the CBFund during the period of this report. Many other IHO Member States have contributed significant resources in kind to the IHO CB Programme, by providing the venue, instructors, local support, or other items to ensure an effective implementation of CB activities.

YEAR	Funds at 1 <sup>st</sup> January	IHO Budget allocation	External Contribution (From the RoK)	Total annual availability	CBWP Budget	REAL CBWP Expenses	Balance
2011	393.730	55.000	257.592	708.880	502.435	310.222	192.213

Note: Values are expressed in euros.

### **TASK 3.3.3**

#### **Meeting with other Organizations**

##### **5<sup>th</sup> IHO-IMO-IOC-WMO-IAEA-IALA CAPACITY BUILDING COORDINATION MEETING**

IALA, St. Germain-en-Laye, France, 27-28 October

The 5<sup>th</sup> Meeting of officers from the secretariats of the IHO, IMO, IOC, WMO and IALA, responsible for Capacity Building matters, met at the IALA Headquarters in October. The International Atomic Energy Agency (IAEA) could not be present at this time. A representative from the Fédération Internationale des Géomètres (FIG) attended as an observer. The meeting was opened and chaired by Mr. Gary PROSSER (IALA) who welcomed the 11 participants. The IHB was represented by Captain Alberto COSTA NEVES.

The following topics were discussed at the meeting: the latest Institutional Education and Training Program developments; standardization procedures put in place to improve effectiveness in the provision of Capacity Building; experiences in dealing with funding agencies; status of joint co-operation projects; the 2012 Capacity Building Work Programs; exchange of information and analysis; the way ahead; and concerted priorities.

### **TASK 3.3.7**

#### **FIG-IHO-ICA International Board on Standards of Competence**

The FIG-IHO-ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) held its 34<sup>th</sup> meeting in New Orleans, USA, from 2 to 6 May.

The Board reviewed the status of nine courses and granted recognition or re-recognition to four and conditional, or limited recognition to three. It decided to start work on restructuring the Standards, beginning with S-5 - *Standards of Competence for Hydrographic Surveyors* and the separation of Category A and Category B competency requirements into two distinct parts. The Board decided also to include as a standing agenda item for future IBSC meetings an open session with industry, academia, etc. to listen and receive feedback on future requirements for development of the standards and the submission process for the recognition of courses.

Regarding the provision of guidance to training institutions (Task 3.3.8), the Board agreed to develop internal guidelines and a framework for conducting on-site reviews.

The 11<sup>th</sup> edition of S-5 and the 3<sup>rd</sup> edition of S-8 - *Standards of Competence for Nautical Cartographers* were published in January 2011. A revision of S-5 (11<sup>th</sup> Edition, version 11.0.1) was published in May 2011.

## Element 3.4 CAPACITY BUILDING ASSESSMENT

### TASK 3.4.0 Technical and Advisory Visits

#### Tasks 3.4.1 to 3.4.5

The following table summarizes the execution of technical and advisory visits.

Task	Item	Implementation	Comments
3.4.1	SAIHC: follow up technical visits to:		
	Angola	Postponed to 2012	
	Kenya	Postponed to 2012	
	Madagascar	Done	Report posted on IHO web site
	Malawi	Done	Report posted on IHO web site
	Mozambique	Postponed to 2012	
	Namibia	Done	Report posted on IHO web site
	Seychelles	Postponed	
	Tanzania	Postponed to 2012	
	Uganda	Postponed to 2012	
	Comoros	Anticipated from 2012	Report posted on IHO web site
3.4.2	EAHC: visit to Cambodia	Postponed to 2012	
3.4.3	MACHC: visits to:		
	Costa Rica	Done	
	Panama	Postponed	
3.4.4	SWPHC: visits to:		
	Kiribati	Done	
	Cook Islands	Done	Postponed from 2010 Report posted on IHO web site
	Vanuatu	Done	New item approved by CSBSC
3.4.5	EAtHC: follow-up technical visits to:		
	Cameroon	Done	Report posted on IHO web site
	Gabon	Postponed	
	Guinea Bissau	Postponed	

#### Capacity building procedures (Task 3.4.6)

The CBSC agreed to implement on a trial basis the new version of procedure 4 (evaluation procedure of submissions). The proposal of a new procedure 6 (project implementation plan and payment procedure) was discussed and the IHB was invited to prepare a draft for submission to CBSC10. It was also decided to update procedure 5 (performance assessment procedure) in 2012.

## Element 3.5 CAPACITY BUILDING PROVISION

### Task 3.5.1 Raise awareness on the importance of hydrography

#### Execution of a Memorandum of Understanding (MoU) with SPC.

As a result of a SWPHC initiative an MoU between the IHO and the Secretariat of Pacific Community (SPC) was signed in April 2011. This MoU acknowledges the importance of hydrography and nautical charting and brings it to the attention of many regional governments in the south west Pacific region at the most senior levels for the first time.

## Visit to students attending a course at the UKHO

Captain GORZIGLIA and Mr YAMAOKA represented the IHB during a visit to the United Kingdom Hydrographic Office (UKHO) on 19 October, to brief trainees, who were attending a course sponsored by the Japan Capacity Building Project funded by the Nippon Foundation. The visiting team also included Mr. KANAZAWA from the Japan Hydrographic Association.



The course started on 5 September and the three five-week modules finished on 16 December.

Capt. GORZIGLIA met the six students from Bangladesh, Indonesia, Mexico, Oman, Pakistan and Philippines. The students described their experiences and were grateful to have the opportunity to increase their knowledge in the field of nautical cartography. Captain GORZIGLIA gave a presentation that covered the areas of influence of hydrography and the responsibilities of Governments in relation to the provision of hydrographic data, information, products and services. The vital coordination and standardization role of the IHO was highlighted. The students were requested to act as ambassadors for the IHO and the profession when they returned home. Finally, the UKHO Training Team was congratulated for its important contribution to the success of the first module.

Captain GORZIGLIA also handed out mementos and certificates for Module 1 of the course and thanked UKHO and its instructors for contributing to the enhancement of the level of international hydrography and nautical charting knowledge.

### Task 3.5.2 Technical workshops, seminars, short courses

The following table summarizes the implementation of the 2011 Capacity Building work programme related to technical workshops, seminars and short courses.

Task	Item	Implementation	Comments
3.5.2a	Database design and management (EAHC).	Done	ROK contribution to CB Fund.
3.5.2b	Multibeam survey and side scan sonar (EAHC).	Done	ROK contribution to CB Fund.
3.5.2c	ENC Production and QA (EAHC).	Done	ROK contribution to CB Fund.
3.5.2d	Workshop on Port and Shallow Water Surveys (SAIHC, NIOHC).	Done	ROK contribution to CB Fund.
3.5.2e	MSI Regional Course (IHB standard course) (MACHC, SWAtHC and SEPHC).	Done	ROK contribution to CB Fund.
3.5.2f	Hydrographic Survey and Introduction to Chart Production (standard IHB course) (MACHC).	Done	ROK contribution to CB Fund.

3.5.2g	Gulf of Honduras Hydrographic Survey and Data Processing Training Type 2. (MACHC).	Done	ROK contribution to CB Fund.
3.5.2h	First module of Cat. B Marine Cartography training course provided by UKHO (open course).	Done	ROK contribution to CB Fund.
3.5.2i	Phase I Skills Course (SAIHC).	Postponed to 2012	
3.5.2j	2 weeks Regional Training Course on Hydrographic Survey and Introduction to Chart Production (EAtHC, SAIHC and NIOHC).	Done	With IMO funding.
3.5.2k	2-weeks Regional Training Course on Basic ENC and ENC Production (EAtHC, SAIHC and NIOHC).	Done	With IMO funding.
3.5.2l	3 <sup>rd</sup> Course on Hydrographic Data Processing and Marine Cartography (Module 1&2).	Done (ref. CL 14 & 29/2011)	With Nippon Foundation funding.
	(MACHC)	Hydrography and nautical cartography training for Haiti - Done.	New item approved by CBCSC. ROK contribution to CB Fund.
	(SWPHC)	Support to Chair or representative attending the PACMA Meeting	New item approved by CBCSC. ROK contribution to CB Fund.
	(Open call)	57 <sup>th</sup> Multibeam Sonar Training Course	New item approved by CBCSC. ROK contribution to CB Fund. (ref. CL 59 & 63/2011)

### Task 3.5.3 Hydrographic and Nautical Cartography Courses

The courses delivered in 2011 are listed in the table associated with Task 3.5.2.

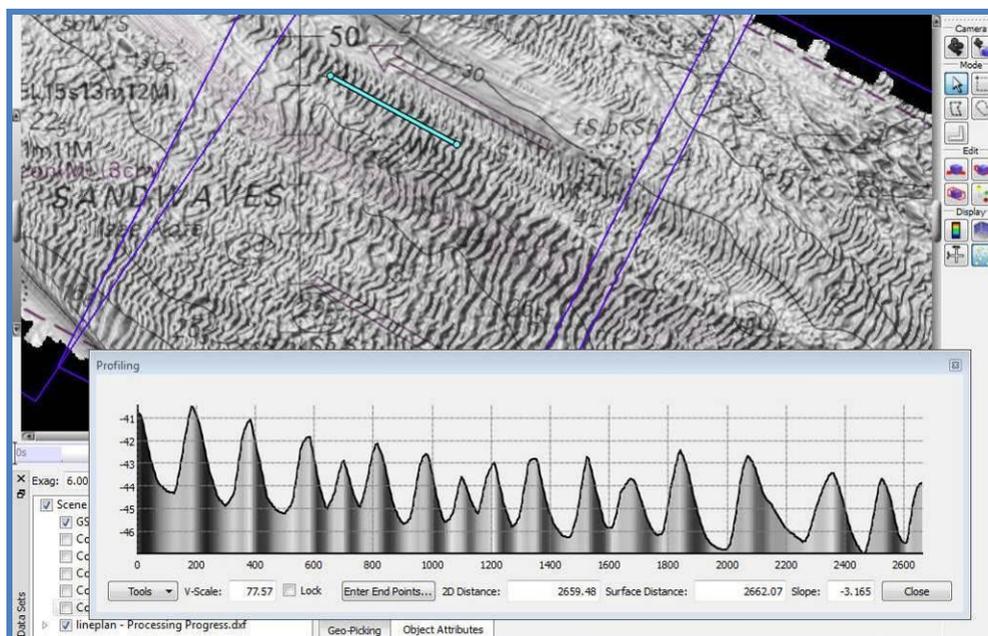
### Task 3.5.5 Marine/Maritime Projects

#### STRAITS OF MALACCA AND SINGAPORE MARINE ELECTRONIC HIGHWAY Environmental Data Feed Workshop Singapore, 30 May to 3 June

A workshop on the provision and distribution of environmental data was held in Singapore at the end of May as part of the Marine Electronic Highway (MEH) Demonstration Project.

The MEH Project was funded by the Global Environment Facility (GEF) and the International Bank for Reconstruction and Development (IBRD) with the support of the IMO as manager of the Project. The IHB, represented by Captain WARD, had participated throughout the Project providing technical advice, particularly in relation to hydrographic and nautical charting standards.

The purpose of the Project is to improve safety of shipping and protection of the marine environment by making digital environmental information available in real-time. This includes important information such as the observed height of tide, state of the tidal stream, and wave height information. Later, the Project will include the modelling and prediction of sandwave movement and a hydrodynamic model of the Straits to support predictions for any oil spill pollution incidents that might occur. Mariners transiting the Straits of Malacca and Singapore and shore-based agencies, interested parties and the general public should all have access to this information on completion of the Project.



*Sandwave Area Surveys in the Straits of Malacca*

The main activity of the Environmental Data Feed workshop, hosted by Singapore, was to finalise details on the availability of environmental data and how the data will be formatted, collated, and portrayed. The MEH Project will use Marine Information Overlays (MIO's) based on the IHO S-57 data standard as the method of providing its data to users.

**3<sup>rd</sup> MEETING OF THE STEERING COMMITTEE OF THE WESTERN INDIAN OCEAN  
GEF-MARINE HIGHWAY AND COASTAL  
AND MARINE CONTAMINATION PREVENTION  
PROJECT  
Johannesburg, South Africa, 5-7 July**

The 3<sup>rd</sup> meeting of the West Indian Ocean GEF-Marine Highway and Coastal and Marine Contamination Prevention Project (WIOMHCCP) Steering Committee was held in Johannesburg, South Africa 5-7 July, under the Chairmanship of Captain Karl OTTO from the South African Maritime Safety Authority (SAMSA) and WIOMHCCP Project Manager. The meeting was attended by 39 delegates representing nine States: Comoros, Kenya, La Reunion, Madagascar, Mauritius, Mozambique, France, the UK and South Africa, and six International Organizations and institutions. Vice Admiral MARATOS represented the IHO.

Rear Admiral Neil GUY, the consultant and coordinator for the Marine Highway (MH) part of the project, informed the meeting on the progress of the Project. Hydrographic surveys had been executed by SHOM and the production of paper charts and ENCs were being undertaken by the UKHO. The Capacity Building and training of the beneficiary countries was discussed, in order to be in a position to maintain the system when the project will be concluded in December 2012. It was decided that, under the coordination of South Africa, the beneficiary countries should make a submission to IMO for the survey route to initially become a "Recommended Route" in this area.

**BRINGING LAND AND SEA TOGETHER CONFERENCE  
Ostend, Belgium (22 September)**

The Bringing Land and Sea Together (BLAST) initiative is a regional project comprising 17 public and private sector partners from seven countries around the North Sea area. The project is divided into four distinct and inter-dependent work packages which include; the Land and Sea Model, Navigating the North Sea; Maritime Traffic Harmonisation and Climate Change in the Coastal Zone. The "Closing the Gap" Conference which took place on 22 September highlighted the progress that has been made so far and also included reports on recent developments in BLAST related areas.

In the plenary session Hilde CREVITS, the Flemish Minister for Transport and Public Works, presented the newly developed integrated master plan for the Belgian coast. Presentations were provided on the harmonization of geographic information within coastal zones, the integration of coastal zone management and marine spatial planning activities and the e-navigation concept that is currently being developed by the IMO.

During the second half of the conference, participants were invited to join a variety of workshops that focused on the work of the individual work packages in the BLAST project. Some of the themes included; Maritime Traffic Monitoring, the harmonization of land and sea charts, Comparative Coastal Survey Techniques, EU-related developments using the IHO S100 standard and INSPIRE, Effective Spatial Data Management through Standardized Data Models, 3D nautical chart prototypes, the use of web interface to collect and harmonize international nautical information, as well as presentations on potential solutions for Integrated Coastal Zone Management as a response to climate change. The IHO was represented by Mr PHARAOH (IHB) and Mr Thomas RICHARDSON (UKHO) who provided a presentation on the IHO S-100 standard.

The CBSC and IHB continued to monitor the capacity building aspects of on-going projects, particularly in the Straits of Malacca and Singapore, and in the Western Indian Ocean.

### **Task 3.5.6 Bilateral agreements.**

IHO Member States reported the following bilateral arrangements in 2011:

- France: bilateral arrangement with Congo (Republic of);
- United Kingdom: bilateral arrangements with Antigua and Barbuda; Barbados - Ports Authority; El Salvador; Guyana; Jamaica - National Lands Agency and Nigeria - Ports Authority.

## **Element 3.6 COORDINATION OF GLOBAL SURVEYING AND CHARTING**

### **Task 3.6.1 WEND Working Group**

#### **1<sup>st</sup> MEETING OF THE IHO WORLDWIDE ENC DATABASE WORKING GROUP**

Wollongong, Australia, 13-14 October

The WorldWide ENC Database Working Group (WEND Working Group) monitored progress in providing ENC coverage and interacted with RHCs on ENC issues by correspondence and through a WG meeting which took place in Wollongong, Australia, on 13-14 October 2011. The Chairman of the Working Group, Captain Jamie MCMICHAEL-PHILLIPS (UK), welcomed 20 delegates, representing many of the Regional Hydrographic Commissions, Member States and the Regional ENC Coordinating Centres. Member State representatives from Canada and the USA joined the meeting by video conference link.



Over the two days of the meeting, the working group reviewed the steady progress that has been made regarding global ENC coverage. The meeting followed a broad agenda that included discussion of ENC quality, consistency and updating issues as well as the subject of service provision and associated licensing.

There was lengthy discussion on ways to address gaps and overlaps in ENC coverage. This resulted in agreement to submit a Proposal to the next International Hydrographic Conference (IHC). The Proposal would seek to expand the guidelines to the WEND Principles to include more details about the processes to be followed to identify and subsequently fill any gaps in ENC coverage and processes to identify and report areas of overlapping data that might impact on safety of navigation.

The working group also decided to raise a second Proposal for the consideration of the next IHC. This second Proposal would cover ENC production and re-affirm the IHO's commitment to full ENC coverage, subject to the needs of changing traffic patterns, and the availability of suitable source data and resources.

Another important decision made by the working group was to establish a small WEND Task Force to consider a number of key policy issues including that of RENC to RENC harmonization.

## Task 3.6.2

### Coordination of ENC schemes, consistency and quality

The following table summarizes the status of ENC schemes.

Area	Agreed ENC Schemes / Usage Bands						Comments
	1 Overview	2 General	3 Coastal	4 Approach	5 Harbour	6 Berthing	
A (USCHC)	X	X	X	X			Phase 1 completed for Pacific Ocean southern transboundary waters (Strait of Juan de Fuca) only.
B (MACHC)	X	X	X	X	X	X	Refer to ECC/WG2 2011 Annual Report, "Conclusions" section, for additional details.
C1 (SWAtHC)		X	X	X	X		
C2 (SEPHC)		X	X	X	X	X	
D (NSHC)	X	X	X	X	X		
E (BSHC)	X	X	X	X	X	X	
F (MBSHC)	X*	X*	X*				* Schemes available but not agreed (remaining gap and overlap issues).
G (EAHC)	X	X					
H (SAIHC)	X	X	X	X	X		
I (RSAHC)	X	X					
J (NIOHC)	X*	X*	X*				* Schemes available but not agreed (remaining gap and overlap issues).
K (EAHC)							The coordination of ENC schemes, consistency and quality in the EAHC Region is ongoing. EAHC is in the process of producing Band 1 ENCs covering the Region.
L (SWPHC)	X	X					Bands 3-6 allocated to national charting authority.
M (HCA)	X	X	X				
N (ARHC)							New area to be agreed.

### Task 3.6.3

#### Publication C-55: Status of Hydrographic Surveying and Nautical Charting Worldwide

Efforts to complete C-55 and to keep it updated were continued. The following Member States provided updated information in 2011: Denmark, Finland, Germany, India, Iran, Mexico, Norway, New Zealand, Oman, Pakistan, Poland, Portugal, Qatar, South Africa, Spain, Sri Lanka, Suriname, Sweden, Thailand, Tonga. The following non-Member States also provided updated information: Israel, Lithuania.

Under UK leadership, a discussion paper was circulated to initiate the design of a new framework for C-55, as agreed at IRCC3.

### Task 3.6.4

#### Maintenance of INT chart schemes and improvement of availability of the INT chart series

The following table summarizes the status of INT chart series at the end of 2011.

Region	Coordinator	Commission	Scheduled	Published in 2011	Published Total
1 :10 Million	IHB	CSPCWG	25	0	24
A	USA/NOS	USCHC	NA*	0	15
B	Brazil	MACHC	71	1	26
C1	Brazil	SWAtHC	50	3	28
C2	Chile	SEPHC	44	0	6
D	UK	NSHC	221	6	216
E	Finland	BSHC	289	4	256
F	France	MBSHC	240	0	159
G	France	EAtHC	170	1	115
H	South Africa	SAIHC	114	4	77
I	Iran	RSAHC	113	11	56
J	India	NIOHC	168	3	92
K	Japan	EAHC	306	1	224
L	Australia	SWPHC	62	1	56
M	IHB	HCA	108	5	68
N	Norway	ARHC	/	/	/

\* NA: Information not available

## Element 3.7 MARITIME SAFETY INFORMATION

### WORLD-WIDE NAVIGATIONAL WARNING SERVICE SUB-COMMITTEE

IHB, Monaco, 13-16 September

The 3rd meeting of the World-Wide Navigational Warning Sub Committee (WWNWS3) was held at the IHB in Monaco, from 13 – 16 September. The meeting was attended by 27 delegates from 17 IHO Member States, the IHB, the IMO, the World Meteorological Organization (WMO), and Inmarsat Global Ltd. The delegates included representatives of 12 NAVAREA Co-ordinators, one Sub-Area Co-ordinator and four National Co-ordinators. Tasks 3.7.2 to 3.7.4 were addressed.

Following the approval by COMSAR15, and subsequent adoption by MSC89, of the NAVTEX Manual, WWNWS3 focused its attention on a holistic review of all the WWNWS documentation to ensure 100% consistency in guidance and terminology used across all documents. Further work on this was planned to take place at the 10<sup>th</sup> meeting of the Document Review WG which will be held at IMO Headquarters in London in the week following COMSAR16.

Reports were received from all the new Arctic NAVAREAs confirming that they had satisfactorily entered Full Operational Capability (FOC) as planned, on 1 June 2011.

The Sub-Committee received MSI self-assessment reports from all twenty-one NAVAREAs. Reports were also received from the IMO, the Chairman of the IMO NAVTEX Panel, the IMO SafetyNET Panel, the WMO and Inmarsat Global Ltd, all of whom attended the meeting.

The meeting received updated information on the delivery of MSI training courses. Since the last meeting courses had been delivered in Australia for the SWPHC and Brazil for the MACHC, SEPHC and SWAtHC.



3<sup>rd</sup> Meeting of the World-Wide Navigational Warning Service Sub-Committee - Monaco, 13-16 September 2011

### **Element 3.8 OCEAN MAPPING PROGRAMME**

The IOC-IHO GEBCO Guiding Committee (GGC) held its 28<sup>th</sup> meeting in San Diego, USA, on 7 October following the joint meeting of the GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) and the interim Sub-Committee on Regional Undersea Mapping (iSCRUM) (3-5 October). The 24<sup>th</sup> meeting of the GEBCO Sub-Committee on Undersea Feature Names (SCUFN) had taken place earlier in Beijing, China, from 12 to 16 September. All the tasks in Element 3.8 (tasks 3.8.4 to 3.8.11) were addressed.

In order to revitalize the regional mapping efforts of the IOC, the GGC proposed to maintain the interim Sub-Committee on Regional Undersea Mapping (SCRUM) and submitted Terms of Reference for approval from both IHO and IOC.

## New and Revised IHO Publications

The following new IHO publications or revised editions were issued during 2011 and are available from the IHO web site.

DATE	TITLE	announced via CL:
06/01	Chart Specifications of the IHO (S-4) – Proposed New Definitions, Specifications and Symbols for Foul Area and Foul Ground	2/2011
07/01	Chart Specifications of the IHO (S-4) – Approval of New and Revised Specifications for Chart Accuracy Note, Oscillating Lights, Floating Wind Turbines, Intervals between Symbols in Area Limits, Size and Displacement of Symbols, Floating Waste Bins, Fish Aggregating Devices, Sub-surface ODAS Instruments	3/2011
12/01	Approval of Edition 1.0.0 of S-99 – Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry.	5/2011
03/02	Chart Specifications of IHO S-4 – Approval of New and Revised Specifications and Symbols for Virtual Aids to Navigation	11/2011
15/02	7th Edition of IHO Publication INT 1, English version – Symbols, Abbreviations and Terms used on Charts	17/2011
21/02	Hydrographic Dictionary (S-32), New or Revised Definitions.	18/2011
03/03	Adoption of edition 4.2 of IHO Publication S-58	21/2011
09/03	Adoption of Revised Edition of IHO Publication C-17 – “Spatial Data Infrastructures: ‘The Marine Dimension’ – Guidance for Hydrographic Offices”	22/2011
14/03	Chart Specifications of the IHO (S-4) – Revision 4.1.0	25/2011
09/05	P-7: Annual Report of the IHO for 2010, Part 1 – General and Part 2 - Finance	31/2011
17/05	Chart Specifications of the IHO (S-4) – Approval of New Definitions, Specifications and Symbols for Foul Area and Foul Ground	32/2012
18/07	Proposed new edition of Annex A to Appendix B. 1 of S-57 - Use of the object catalogue for ENC	41/2011
10/08	Approval of the IHO 2010 annual report - Part 2 / Finances	49/2011
12/08	Resolutions of the IHO : M-3	50/2011
31/08	Chart Specifications of the IHO (S-4) Revision 4.2.0	54/2011
25/10	Approval of the new edition of Annex A to Appendix B.1 of S-57- Use of the Object Catalogue for ENC	65/2011
28/11	New and Changed ENC Producer Agencies Listed in S-62 – List of Data Producer Codes	73/2011

## **IHB Directing Committee Responsibilities**

### **President: Vice Admiral Alexandros MARATOS (Greece)**

- Relations with: the United Nations; International Cartographic Association; International Maritime Organization; World Meteorological Organization, European Commission; International Association of Marine Aids to Navigation and Lighthouse Authorities; International Atomic Energy Agency, International Association on Geodesy, International Commission for the Scientific Exploration of the Mediterranean and Non-Member States and GEO.
- WWNWS; ISPWG; ABLOS; HDWG; Maritime Safety Information; Hydrographic Surveying Information Services.
- Matters concerning IHO Membership and IHB Administration; Host Government Affairs and Public Relations.
- IHO Finances and Budget.
- IHO Re-structuring – Staff Regulations.
- IHB Security and Maintenance, Logistics

and the following Regional Hydrographic Commissions:

- North Indian Ocean Hydrographic Commission.
- North Sea Hydrographic Commission.
- Mediterranean and Black Seas Hydrographic Commission.
- Southern Africa and Islands Hydrographic Commission.
- Arctic Regional Hydrographic Commission.

### **Director 1: Captain Hugo GORZIGLIA (Chile)**

- Relations with: the Intergovernmental Oceanographic Commission; all International Bodies concerned with Antarctic matters; the Pan American Institute of Geography and History; FIG and the Academic Sector (education and training).
- Capacity Building, Training and Education and Technical Co-operation activities.
- GEBCO and International Bathymetric Mapping Projects.
- Matters referring to Information Management (Publications).
- IHO Work Programme.
- IRRC matters.

and the following Regional Hydrographic Commissions :

- Eastern Atlantic Hydrographic Commission
- South East Pacific Hydrographic Commission
- ROPME Sea Area Hydrographic Commission
- Meso American & Caribbean Sea Hydrographic Commission
- South West Atlantic Hydrographic Commission

and the Hydrographic Commission on Antarctica

### **Director 2: Captain Robert WARD (Australia)**

- Relations with the International Organization for Standardization and the International Electrotechnical Commission.
- Marine Cartographic matters including HSSC and its Working Groups; and other related international organizations and bodies, such as NAV within IMO and DGIWIG.
- Spatial Data Infrastructure matters and related international organizations and bodies.
- Matters related to IHB Property and Information Technology.
- HSSC matters.

and the following Regional Hydrographic Commissions:

- Nordic Hydrographic Commission
- Baltic Sea Hydrographic Commission
- US/Canada Hydrographic Commission
- East Asia Hydrographic Commission
- South West Pacific Hydrographic Commission

## IHB Staff Responsibilities

### Professional Assistants

Captain F. BERMEJO BARO (Spain)	Capacity Building, Training, Publications Management (retired in May)
Captain A. PEDRASSANI COSTA NEVES (Brazil)	Programme Management (from May)
Ing. en chef M. HUET (France)	Cartography
Mr. A. PHARAOH (South Africa)	Data Management and Cartography
Lieutenant Commander S. SHIPMAN (UK)	Hydrography
Mr. C. VELARD (France)	Administration and Logistics (retired in December)
Mrs. G. FAUCHOIS (France)	Manager, Finance and Administration (from 1 <sup>st</sup> December)

### Translators

Mrs. I. VANKRINKELLEN (France)	Head French Translator
Mrs. P. BOUZANQUET (France)	French Translator
Miss M.P. MURO (Spain)	Spanish Translator

### Technical, Administrative and Service Staff

Mrs. I. BELMONTE (France)	Website and Publications Editor
Miss S. BRUNEL (France)	Administrative and Accounting Officer (from 1 <sup>st</sup> December)
Mr. D. COSTIN (Romania)	Information Technology Assistant
Mrs. G. FAUCHOIS (France)	Accounting and Administration ( <i>to 30 November</i> )
Mrs. C. FONTANILI (UK)	Secretary to the Directing Committee
Mr. A. MAACHE (France)	Bureau Services Assistant
Mr. D. MENINI (France)	Graphic Arts and Cartography
Mrs. M. MOLLET (France)	Communications, Librarian
Mrs. B. WILLIAMS (UK)	Head Secretariat

### Seconded Officers

Mr. S. NAKABAYASHI (Japan)	GIS and IT Projects (to March)
Mr. S. YAMAO (Japan)	GIS and IT Projects (from mid-March)
Mr. Sung Ho CHOI (Republic of Korea)	Website Development Projects

## List of IHB Missions

DATE	NAME	MEETING	DESTINATION
<b>JANUARY</b>			
03 06	WARD	SPC, SOPAC	Fiji
10 11	WARD	E-Nav	Brussels, BRU
11 13	MARATOS	SRWG	Taunton, UK
11 13	WILLIAMS	SRWG	Taunton, UK
31 03	WARD	Project "Efficiensea"	Copenhagen, DEN
<b>FEBRUARY</b>			
24 05	MARATOS	NIOHC	Delhi, IND
<b>MARCH</b>			
07 11	MARATOS	COMSAR 15	London, UK
07 11	SHIPMAN	COMSAR 15	London, UK
14 18	WARD	IALA e-Nav	Copenhagen, DEN
14 18	PHARAOH	IALA e-Nav	Copenhagen, DEN
14 18	SHIPMAN	WWNWS Doc Review WG	London, UK
19 24	SHIPMAN	RSAHC	Muscat, OMAN
21 22	GORZIGLIA	RSAHC	Muscat, OMAN
24 25	GORZIGLIA	SWAtHC	Rio, BRA
31 07	WARD	3 <sup>rd</sup> Preparation Mtg of UN CGGIM and MITAGS	New York, USA
<b>APRIL</b>			
04 08	SHIPMAN	TWLWG3 Meeting	Jeju Island, KOR
04 08	GORZIGLIA	SEPHC	Valparaiso, CHL
04 08	PHARAOH	SNPWG 13	Stavanger, NOR
04 06	MARATOS	NHC 55	Stavanger, NOR
11 15	HUET	DIPWG 3	Seoul, KOR
11 15	PHARAOH	TSMAD 22	Seoul, KOR
11 15	WARD	CIRM Conference	The Hague, NED
<b>MAY</b>			
02 05	GORZIGLIA	Arctic/Antarctica Seafloor Mapping mtg	Stockholm, SWE
03 06	PHARAOH	e-Nav Meeting	Taunton, UK
04	WARD	PRIMAR	Stavanger, NOR
10 20	SHIPMAN	MSC 89	London, UK
11 19	MARATOS	MSC 89	London, UK
18 19	WARD	Lecture at Force Technology	Copenhagen, DEN
23 27	GORZIGLIA	CBSC 9 & IRCC 3	Rio, BRA
23 27	NEVES	CBSC 9 & IRCC 3	Rio, BRA
23 25	PHARAOH	ISO TC211	Delft, NED
28 03	WARD	MEH Workshop on environmental data feeds	Singapore
31	MARATOS	Greek HO	Athens, GRE
<b>JUNE</b>			
01 03	MARATOS	MBSHC	Athens, GRE
06 10	MARATOS	IMO NAV 57	London, UK
06 10	WARD	IMO NAV 57	London, UK
06 10	SHIPMAN	IMO NAV 57	London, UK
08 10	PHARAOH	Baltic Sea INT Charting WG	Norrkoping, SWE
13 16	HUET	DQWG 4	Helsinki, FIN
15 17	MARATOS	KHOA	Incheon, KOR

20 24	GORZIGLIA	ATCM XXXIV	Buenos Aires, ARG
20 23	SHIPMAN	IMO TC 61	London, UK
20 23	NEVES	IMO TC 61	London, UK
27 01	GORZIGLIA	IOC XXVI Assembly	Paris, FRA
<b>JULY</b>			
04 06	MARATOS	West Indian Ocean Marine Hwy Meeting	Jo'burg, RSA
<b>AUGUST</b>			
<b>SEPTEMBER</b>			
05 07	NEVES	Technical Visit	San Jose Costa Rica
05 08	MARATOS	SAIHC	Walvis Bay, NAM
06 08	WARD	ECDIS Issues Mtg	London, UK
12 16	HUET	SCUFN 24	Beijing, CHN
12 15	WARD	IALA Forum on Global data exchange	Paris, FRA
18 20	NEVES	CBSC Database Management	Stavanger, NOR
20 24	WARD	IALA e-Nav 8	Paris, FRA
20 24	PHARAOH	IALA e-Nav 8	Paris, FRA
20 23	PHARAOH	BLAST	Belgium, BEL
20 21	WARD	BSHC 16	Norrkoping, SWE
26 29	PHARAOH	S-100 Portrayal Meeting	Taunton, UK
26 29	MARATOS	150yrs BSH & ARHC	Rostock & Copenhagen
26 28	WARD	IALA e-Nav 10	Paris, FRA
<b>OCTOBER</b>			
03 07	WARD	MEH PSC	Kuala Lumpur, MAL
03 07	SHIPMAN	GEBCO GC	San Diego, USA
03 07	PHARAOH	GEBCO SCDB & TSCOM	San Diego, USA
03 07	HUET	HCA 11	Hobart, AUS
10 12	WARD	Technical Visit	Palau
13 14	WARD	WEND WG	Wollongong, AUS
19 20	GORZIGLIA	Japan CB Project	Taunton, UK
19 20	YAMAOKA	Japan CB Project	Taunton, UK
24 28	WARD	UN GGIM Forum	Seoul, KOR
27 28	NEVES	IALA Capacity Building	Paris, FRA
31 02	WARD	HSSC Briefing	Plymouth, UK
31 02	HUET	HSSC Briefing	Plymouth, UK
<b>NOVEMBER</b>			
07 12	SHIPMAN	ABLOS 18	Valparaiso, CHL
14 18	PHARAOH	ISO TC211	Pretoria, RSA
15 03	WARD	Technical Visit	Kiribati, Vanuatu, Fiji
21 01	SHIPMAN	IMO Assembly	London, UK
21 28	MARATOS	IMO Assembly	London, UK
28 02	HUET	CSPCWG 8	Turku, FIN
<b>DECEMBER</b>			
05 09	NEVES	MACHC 12	St Kitts
08	MARATOS	IALA HQ inauguration	Paris, FRA