

# INTERNATIONAL HYDROGRAPHIC ORGANIZATION



## ANNUAL REPORT 2010

### PART 1 – GENERAL

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**ANNUAL REPORT**  
**OF THE**  
**INTERNATIONAL HYDROGRAPHIC**  
**ORGANIZATION**  
**2010**

**PART I - GENERAL**

Published by the International Hydrographic Bureau  
Monaco

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

ALGERIA	MEXICO
ARGENTINA	MONACO
AUSTRALIA	MOROCCO
BAHRAIN	MOZAMBIQUE
BANGLADESH	MYANMAR
BELGIUM	NETHERLANDS
BRAZIL	NEW ZEALAND
CANADA	NIGERIA
CHILE	NORWAY
CHINA	OMAN
COLOMBIA	PAKISTAN
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<i>(formerly ZAÏRE)</i>	PERU
CROATIA	PHILIPPINES
CUBA	POLAND
CYPRUS	PORTUGAL
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ECUADOR	ROMANIA
EGYPT	RUSSIAN FEDERATION
ESTONIA	SAUDI ARABIA
FIJI	SERBIA
FINLAND	SINGAPORE
FRANCE	SLOVENIA
GERMANY	SPAIN
GREECE	SRI LANKA
GUATEMALA	SURINAME
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INDONESIA	THAILAND
IRAN	TONGA
IRELAND	TRINIDAD & TOBAGO
ITALY	TUNISIA
JAMAICA	TURKEY
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KOREA - Democratic People's Republic of	UNITED ARAB EMIRATES
KOREA – Republic of	UNITED KINGDOM
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MALAYSIA	VENEZUELA
MAURITIUS	

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Pending Member States: Bulgaria, Cameroon, Haiti, Mauritania, Montenegro, Sierra Leone.

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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 2010. This report will be of interest to Member States and those who have contributed to successfully progressing the various technical and administrative developments of the IHO, which, in turn, contribute to issues affecting safety at sea, protection of the marine environment, development and security.

The Directing Committee, with the support of the Staff of the Bureau, monitored and assisted in the execution of the IHO Work programme for 2010, sought to respond to the needs and requirements of the Organization and especially from Member States as and when they arose, and prepared and participated in meetings on behalf of the Organization.

The 2010 Report consists of two parts;

**Part 1 – General.** Part 1 describes the progress of the IHO Work Programme in 2010, 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 financial developments of the Organization for 2010 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.

The Report has been structured around the three re-organised Work Programmes approved by the Organization, namely **Corporate Affairs, Hydrographic Services and Standards and Inter-Regional Coordination and Support**. In this way the Report is connected to the new technical structure of the Organization which is based on two principal Committees, the Hydrographic Services and Standards Committee and the Inter-Regional Coordination Committee. It is thereby also better related to the revised Strategic Plan of the Organization.

The section on the Corporate Affairs Work Programme contains the topics related to the cooperation of the Organization 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, the information management at the Bureau and issues related to membership of the Organization, new Hydrographers and the administration of the IHB. It also covers the developments of the Working Groups that are reviewing the Staff Regulations and the S-23 publication, Limits of Oceans and Seas. The section also refers to Public Relations and in particular the excellent relationship that the Directing Committee maintains with the Government of Monaco and the celebration of World Hydrography Day in the presence of HSH Prince Albert II, his Prime Minister and Ministers.

The section covering the Hydrographic Services and Standards Work Programme, reports on the technical issues and activities of the Organization, through the Hydrographic Services and Standards Committee (HSSC). During the second meeting of the HSSC in 2010 the work of its ten subordinate WGs was examined with special emphasis on the various issues related to ENC developments. The Inter-Regional Coordination Work Programme section reports on the activities of the Regional Hydrographic Commissions, the Capacity Building Sub-Committee, the WWNWS Sub-Committee and other bodies represented in the IRCC. Capacity Building activities continued to provide important support especially to developing States, in order to enhance their hydrographic capabilities and implement their obligations under Regulation 9 of Chapter V of SOLAS. Seminars and workshops were organized on a variety of topics and technical visits were made to various States. Twelve RHCs, the HCA and the Black and Azov Seas WG met in 2010 and examined various topics of interest to the specific regions. Of interest is the establishment and the approval of the Statutes of the Arctic Regional Hydrographic Commission, the first meeting of which took place in Canada.

# WORK PROGRAMME 1 CORPORATE AFFAIRS

## 1. COOPERATION WITH INTERNATIONAL ORGANIZATIONS (Element 1.1)

### 1.1 UNITED NATIONS (Task 1.1.1)

#### 2<sup>nd</sup> PREPARATORY MEETING FOR THE PROPOSED UN COMMITTEE ON GLOBAL GEOGRAPHIC INFORMATION MANAGEMENT UN Headquarters, New York, 10-11 May

Captain WARD (IHB) represented the IHO at the 2<sup>nd</sup> preparatory meeting of a UN Committee on Global Geographic Information Management (CGGIM), where he explained the IHO's role and the well established mechanisms and standards that are in place to enable the exchange and availability of hydrographic information. He also pointed out the work that the IHO is doing in promoting maritime spatial data infrastructures and encouraging all its Member States to support national and regional spatial data infrastructures.

The creation of a UNCGGIM follows several recent UN Resolutions that have highlighted the fundamental importance that geographic information management provides in support of the diverse global issues facing UN Member States, and in particular disaster management, climate change and vulnerability. It is expected that the CGGIM, through the UN, would provide clear guidance on global spatial data infrastructures, requirements and priorities, help promote the necessary levels of government support and put in place any necessary capacity building. Geographic information issues are currently only dealt with in the UN on a regional basis.



The 2<sup>nd</sup> preparatory meeting of the CGGIM agreed that the next step must be to gain the support of all UN Member States and that this would be best achieved by holding a UN Global Geographic Information Management Forum. The Republic of Korea offered to host such a forum in Seoul in September 2011.

**11<sup>th</sup> UNITED NATIONS OPEN-ENDED INFORMAL CONSULTATIVE PROCESS ON  
OCEANS AND THE LAW OF THE SEA**  
UN Headquarters, New York, 21-25 June

The 11<sup>th</sup> meeting of UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (UNICPOLOS) was held at the United Nations in New York, from 21 – 25 June. The IHO was represented by Lieutenant Commander SHIPMAN.



*Lt. Cdr Shipman with the representatives of the  
Principality of Monaco.*

The theme for the 11<sup>th</sup> meeting was “Capacity Building in Ocean Affairs and the Law of the Sea, including Marine Science”. The meeting comprised four plenary sessions covering: General Statements; Inter-Agency cooperation and coordination; Process for the selection of topics and panelists so as to facilitate the work of the UN General Assembly; and consideration of the outcome of the meeting. There were four “Discussion Panels” covering: Assessing the need for capacity building in ocean affairs and the law of the sea including marine science; Overview of capacity building activities / initiatives in ocean affairs and the law of the sea including marine science; Challenges for achieving effective capacity building in ocean affairs and the law of the sea including marine science and transfer of technology; and New approaches, best practices and opportunities for improved capacity building in ocean affairs and the law of the sea.

Lieutenant Commander SHIPMAN reported on the IHO’s Capacity Building activities. Copies of the presentations made during the discussion panels are available from the following web site: [www.un.org/depts/los/consultative\\_process/consultative\\_process.htm](http://www.un.org/depts/los/consultative_process/consultative_process.htm) . The co-chairpersons report is also available on this site.

## **1.2 INTERNATIONAL MARITIME ORGANIZATION (IMO)** **(Task 1.1.2)**

**IMO COMSAR 14**  
IMO Headquarters, London, 8 – 12 March

The 14<sup>th</sup> session of the IMO Sub-Committee on Radiocommunications and Search and Rescue (COMSAR 14) was held at the IMO Headquarters in London from 8 – 12 March. The IHO was represented by Vice Admiral MARATOS, Lieutenant Commander SHIPMAN (IHB) and the Chairman of the IHO Sub-Committee on the Worldwide Navigation Warning Service (WWNWS). 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 International SafetyNET Manual and resolution on the Performance Standards for Inmarsat Enhanced Group Call (EGC) equipment that was subsequently considered and adopted by the 87<sup>th</sup> meeting of the IMO Maritime Safety Committee (MSC 87).

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 outcomes of the 1<sup>st</sup> meeting of the WWNWS.

The Sub-committee reviewed the report of the joint IMO/IHO/WMO CG established at COMSAR 13 on extending the WWNWS to Arctic<sup>1</sup> waters. The report was accepted and the IHO, through its WWNWS Sub-Committee, was invited to monitor the Initial Operational Capability (IOC) testing and the transition to Full Operational Capability (FOC) and to provide guidance and assistance as appropriate. The IHO and WMO were invited to report on progress at COMSAR 15 in 2011.

The meeting completed a draft revision of the NAVTEX Manual which will be submitted to COMSAR 15 in 2011.

### **87<sup>th</sup> SESSION OF THE IMO MARITIME SAFETY COMMITTEE**

IMO Headquarters, London, UK, 12 – 21 May

The 87<sup>th</sup> session of the IMO Maritime Safety Committee (MSC 87) was held at the IMO Headquarters in London from 12 to 21 May. Vice Admiral MARATOS and Lieutenant Commander SHIPMAN (IHB) represented the IHO.

MSC 87 considered the reports of its Sub-Committees, including COMSAR and Safety of Navigation (NAV) Sub-Committees and took the following actions of relevance to the IHO:

- Approved five new, and two revised, Traffic Separation Schemes (TSS);
- Approved one new Area To Be Avoided (ATBA);
- Approved amendments to two mandatory Ship Reporting Systems;
- Approved the revised text of the International SafetyNET Manual which will come into force on 1 January 2012;
- Adopted the MSC resolution on “Guideline on operational procedures for the promulgation of maritime safety information concerning acts of piracy and piracy counter-measure operations”;
- Adopted the MSC resolution on the revised performance standards for Enhanced Group Call (EGC) equipment, amending resolution A.664(16); and
- Endorsed the issue of COMSAR Circular 51 on the list of NAVAREA Co-ordinators.

Based on a submission by Brazil, France, Norway and the IHO, the MSC agreed to issue an MSC Circular urging IMO Member States who are not yet members of the IHO to join the IHO.

### **60th SESSION OF THE IMO TECHNICAL COOPERATION COMMITTEE MEETING**

The Technical Cooperation Committee (TCC) held its sixtieth session from 1 to 3 June under the chairmanship of Rear Admiral OLIMBO (Italy). The IHO was represented by Captain BERMEJO (IHB).

The Committee considered the report submitted by the IHO, providing updated information on the activities of the IHO Capacity Building Programme since the Committee's fifty-ninth session in June 2009.

The Committee noted that IHO and IMO had, during the past year, reinforced their cooperation and coordination aimed at making the best possible use of the limited human and financial resources allocated to improve the hydrographic capability of developing maritime States.

Many delegations expressed their appreciation to the IHO for the technical assistance provided under the IHO Capacity Building Programme, with regard to hydrographic and nautical surveying and the promulgation of maritime safety information. The Committee also welcomed the collaboration between IHO, IALA, WMO, IOC and IMO to optimize resources in capacity-building programmes.

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<sup>1</sup> See page 66

The Committee considered the biennial report on the Integrated Technical Cooperation Programme – ITCP for 2008-2009 and outlined the salient results achieved over the biennium; 86 advisory missions, with a preponderance of maritime safety assignments, and 161 training events including courses, seminars and workshops held at the national, regional and global levels, covering a wide range of topics. It was noted that from a regional perspective, Africa continued to be a priority.

It was noted that the regional presence in Africa and East Asia and also in the Caribbean through the Regional Maritime Advisers, as well as partnership arrangements for technical co-operation, continued to function successfully and that this mechanism had contributed to the effective coordination and implementation of IMO activities in those regions.

### **56<sup>th</sup> SESSION OF THE IMO SUB-COMMITTEE ON SAFETY OF NAVIGATION**

IMO Headquarters, London, UK, 26-30 July

The 56<sup>th</sup> session of the IMO Sub-Committee on Safety of Navigation (NAV 56) was held at IMO Headquarters in London from 26-30 July. The IHO was represented by Vice Admiral MARATOS, Captain WARD, and Lieutenant Commander SHIPMAN, (IHB). Several heads and representatives of hydrographic offices also attended the meeting as part of national delegations. There were a number of agenda items of relevance to the IHO.

The IHO gave an out of session presentation on the opening day entitled - *The IHO Data Registry (S-100) and how it can support e-Navigation and the proposed Universal Maritime Data Model*. The IHO also provided each delegation with a copy of IHO Publication S-66 - *Facts about Electronic Charts and Carriage Requirements*, which it introduced to the Sub-Committee under the agenda item: Any Other Business.

NAV 56 approved nine new Traffic Separation Schemes (TSS) with seven associated recommended routes; deleted one TSS; approved four other new or amended Routing Measures; and approved three new or amended Reporting Systems all of which were passed to the Maritime Safety Committee for adoption at its 88<sup>th</sup> session in late 2010.

NAV 56 continued its work on the development of an implementation plan for e-navigation and approved the text of a Safety of Navigation (SN) Circular on: *Guidelines for Safety Zones and Safety of Navigation around Offshore Installation and Structures*, as well as a revised text of SN Circular 266 on: *Maintenance of Electronic Chart Display and Information System (ECDIS) Software* and finalised the text of an MSC Circular on: *Procedures for updating shipborne navigation and communication equipment*.

Following discussion on a paper submitted by the IHO, the Sub-Committee agreed that the MSC should be invited to expand the scope of the NAV Work Programme Item on *Symbols for AIS Aids to Navigation* to include discussion on the policy for their use.

### **88<sup>th</sup> SESSION OF THE IMO MARITIME SAFETY COMMITTEE**

IMO Headquarters, London, UK, 24 November – 3 December

The 88<sup>th</sup> session of the IMO Maritime Safety Committee (MSC 88) was held at the IMO Headquarters in London from 24 November to 3 December. Vice Admiral MARATOS and Lieutenant Commander SHIPMAN (IHB) represented the IHO.

MSC IMO 88 considered the reports of its Sub-Committees including COMSAR and NAV and took the following actions of relevance to the IHO:

- Approved nine Traffic Separation Schemes (TSS) and associated recommended routes and deleted one existing TSS;

- Approved four new/amended routeing measures;
- Approved three new/amended Ship Reporting Systems;
- Approved the draft SN Circular on *Guidelines for safety zones and safety of navigation around offshore installations and structures*;
- Approved the revision to the SN Circular on *Maintenance of Electronic Chart Display and Information System (ECDIS) software* (SN.1/Circ.266/Rev1) and authorised the IMO Secretariat to issue further revisions following notification by the IHO of updated information on the latest relevant IHO Standards;
- Approved the draft MSC Circular on *Guidance on procedures for updating shipborne navigation and communication equipment*.

MSC 88 accepted a proposal for the adoption of an IMO Assembly Resolution on an IMO/WMO Worldwide Met-ocean Information and Warning Service (WMMIWS). This resolution will complement the existing IMO Resolution A.706(17) - as amended, on the IMO/IHO Worldwide Navigational Warning Service (WWNWS). This matter will be finalised at COMSAR15 in March 2011.

The MSC considered a submission from Japan and the United States proposing an extension of the NAV work programme: *New symbols for AIS aids to navigation* with a new title: *Development of policy and new symbols for AIS aids to navigation*. This followed the submission made by the IHO at NAV 56 raising concerns about the adoption of symbology for Virtual AtoN without consideration of a policy for their use. The revised title was approved by the MSC and the completion date for the work by NAV remains as 2013.

MSC 88 discussed a paper from Japan, Norway, the United Kingdom, the International Chamber of Shipping (ICS), and the International Federation of Shipmasters' Associations (IFSMA) entitled *Operating anomalies identified within ECDIS* and decided to issue an MSC Circular bringing the matter to the attention of administrations. Further input on this matter was requested for consideration at MSC 89 due to take place in 2011.

### **1.3 INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)** **(Task 1.1.3)**

#### **43<sup>rd</sup> IOC EXECUTIVE COUNCIL**

Paris, France, 08 - 16 June

The meeting of the 43rd Executive Council (EC) of IOC took place from 08 to 16 June, in Paris, France to review progress and to adopt resolutions pertaining to the IOC Programme. The 40 Member States, Members of the Executive Council, were represented, including the new members, Democratic Republic of Congo and Grenada. The Heads or Deputies of the following Hydrographic Offices were also present: Brazil, Canada, Chile, Ecuador, France, Germany, Peru, Turkey and Venezuela. The IHO was represented by Captain GORZIGLIA (IHB).

The 50<sup>th</sup> Anniversary of the IOC was celebrated on 8 June and welcoming and congratulatory addresses were given by various authorities including Captain GORZIGLIA on behalf of the IHO.

Captain GORZIGLIA presented the IHO/IOC joint activities including the contribution made by Hydrographic Offices in providing data from ENC's and the progress made by IHO and IOC on Coastal Bathymetry. The present GEBCO status and the efforts in capacity building, mainly through the GEBCO Nippon Foundation Project and the progress in coastal shallow water bathymetry were also highlighted.

The IOC noted that the IHO Regional Hydrographic Commissions (RHC's) might wish to consider inviting the Chairs of the International Regional Coordination Groups on Tsunamis to RHC meetings when appropriate, to better coordinate at a regional level the particular needs regarding shallow water bathymetry.

#### **1.4 INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES** **(Task 1.1.4)**

**VIRTUAL AIDS TO NAVIGATION WORKSHOP**  
IALA Headquarters, St Germain en Laye, France, 25-28 January



Captain WARD and Ingénieur en chef HUET participated in a workshop at the headquarters of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) in January. The workshop was convened by IALA to formulate guidelines for the implementation of virtual Aids to Navigation (virtual AtoN). The workshop was attended by 44 delegates spanning the range of IALA stakeholders.

#### **IALA MEETING ON THE MARKING OF THE POLAR ROUTES** St Germain-en-Laye, France, 10 – 12 February

A meeting on the marking of polar routes was held at the IALA Headquarters on 10-12 February. 23 representatives from six countries participated in the meeting. Vice Admiral MARATOS represented the IHB and made a presentation on the status of hydrographic support in the polar regions, followed by presentations by the invited delegates from Canada, Denmark, Norway, the Russian Federation, and the USA, and by the IALA Committee Chairmen. It was agreed that an appropriate output from the meeting would be a Resolution from the five Arctic circumpolar countries that IALA would coordinate the establishment of a forum for subsequent discussions relevant to the needs of aids to navigation in Arctic waters.

In the margins of the meeting, an *ad-hoc* meeting was held with the participation of the representatives of HOs of the Arctic countries. The meeting was chaired by Canada and reviewed the progress concerning the establishment of an Arctic Regional Hydrographic Commission (ARHC). Various administrative and technical issues were discussed.

## **1.5 ANTARCTIC RELATED ORGANIZATIONS**

### **(Task 1.1.10)**

#### **XXXIII<sup>rd</sup> ANTARCTIC TREATY CONSULTATIVE MEETING**

Punta del Este, Uruguay, 3-14 May

The Antarctic Treaty Consultative Parties and related Antarctic international bodies meet annually to discuss matters concerning the management of the Antarctic Treaty area and to further develop the Antarctic Treaty System. On this occasion one of the most important IHO issues discussed by the Antarctic Treaty Consultative Meeting (ATCM) was the report and recommendations of the Chairs of the Antarctic Treaty Meeting of Experts (ATME) on the Management of Shipborne Tourism in the Antarctic Treaty Area.

Participants allocated time for the discussion of 69 Working Papers, 130 Information Papers and 11 Secretarial Papers submitted by various countries, international organizations involved in the Antarctic in different domains and the secretariat of the Antarctic Treaty. Over 250 people from 28 Consultative Parties plus four from Contracting Parties and one Observer attended the meeting. Nine out of the 13 international organizations were present, including the IHO, represented by Captain GORZIGLIA who attended from 3-7 May and introduced the IHO report on *Cooperation in Hydrographic Surveying and Charting of Antarctic Waters*, which described some of the key activities including the outcome of the Seminar on Hydrography at the Annual Meeting of COMNAP, held in Punta Arenas, Chile in August 2009.

The meeting considered the recommendations of the ATME on Shipborne Tourism, including:

*That the Treaty Parties should continue to contribute to hydrographic surveying and charting information and consider advising vessels intending to operate in the Antarctic Treaty area that many areas have not been surveyed to modern standards,*

and:

*The IHO-HCA should continue to be invited to annual ATCMs to report the status of hydrographic survey and nautical chart production in Antarctic waters. Parties also agreed that, as appropriate, the ATCM should be represented at IHO-HCA meetings. Where an IHO-HCA meeting was to be held in a country that was also a Consultative Party, then that Consultative Party should consider attending the HCA meeting,*

Noting that the majority of the Southern Ocean remains unsurveyed, the meeting endorsed both of these Recommendations.

**1.6 PORT MANAGEMENT ASSOCIATION OF WEST  
AND CENTRAL AFRICA**  
**(Task 1.1.12)**

**33<sup>rd</sup> ANNUAL COUNCIL MEETING OF THE BOARD OF DIRECTORS,**  
Banjul, The Gambia, 10-14 May

The IHO was represented at the 33<sup>rd</sup> Annual Council Meeting of the Board of Directors, Port Management Association of West and Central Africa (PMAWCA), held in Banjul, The Gambia, 10-14 May, by Commodore INUSA, Nigerian Hydrographer and Chair of the EAHC. Port Managers from the Republic of Cameroon, Togo, Côte d' Ivoire, Cape Verde, Ghana and Nigeria were present.

Commodore INUSA delivered a goodwill message to the Association on behalf of the IHO. Some of the problems identified by the meeting as being responsible for the poor development of hydrography in most African Ports include: the lack of national hydrographic infrastructures, shortage of manpower, insufficient hydrographic data and information and the inability to update Electronic Navigational Charts (ENC) as required by IMO among others. Consequently, this affects the development and the sustainability of hydrographic activities in the African region. Commodore Inusa informed the meeting that IHO is making efforts to develop hydrography in Africa through a structured capacity building programme.



*Commodore INUSA delivering the message of goodwill.*

**1.7 INTERNATIONAL ASSOCIATION OF ANTARCTIC  
TOUR OPERATORS**  
**(Task 1.1.14)**

**ANNUAL IAATO MEETING**  
Torino, Italy, 21-24 June

The International Association of Antarctic Tour Operators (IAATO) is a global network of tour operators that came together in 1991 to advocate, promote and practice safe and environmentally responsible private-sector travel to the Antarctic. At the 21st Annual Meeting of IAATO that took place in Turin, Italy, 21-24 June, the IHO/HCA was represented by the HCA Chairman and IHB Director, Captain Gorziglia, together with Mr. Willett, member of the UK delegation to the HCA and Chair of the HCA Hydrographic Survey Prioritization Working Group, who



made a presentation on the Importance of Hydrographic Activities in Antarctica, focusing on the IHO and IHO/HCA involvement in Antarctica; the role, priorities and achievements of HCA; SOLAS V Regulation 9 and the Antarctica and the IHO/IAATO relationship. A second presentation included a description of the Maritime Shipping Routes (MSRs) and approach to charting priorities; work done and future work plans. Some case studies were offered as well as how hydrographic knowledge reduces risk. Finally, some proposals were considered that could be implemented by IAATO to contribute to improving the availability of reliable nautical charts of Antarctic waters.

In particular, the *Guidelines for the Collection and Rendering of Hydrographic Data* obtained by Ships of Opportunity in Antarctic waters were explained.

It was confirmed that IAATO stands ready to continue cooperating with and participating in IHO/HCA meetings.

## **1.8 OTHER INTERNATIONAL ORGANIZATIONS** **(Task 1.1.16)**

### **INTERNATIONAL CONFERENCE ON MARINE DATA AND INFORMATION SYSTEMS** Paris, France, 29-31 March

In March Captain WARD (IHB) 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.

### **JCOMM - MARITIME SAFETY SERVICES ENHANCEMENT WORKSHOP** Australian Bureau of Meteorology, Melbourne, Australia, 3-6 May

The Joint World Meteorological Organization (WMO) / Intergovernmental Oceanographic (IOC) Technical Commission for Oceanography and Marine Meteorology (JCOMM) held a Maritime Safety Services Enhancement Workshop at the Australian Bureau of Meteorology in Melbourne, Australia from 3 – 6 May. Mr. Chris PAYNE of the Australian Maritime Safety Authority - AMSA, the NAVAREA X representative to the IHO WWNWS Sub-Committee, represented the IHO and presented the IHO report to the meeting, addressing the experiences and progress in implementing the IMO/IHO WWNWS.

The IHO report also provided updated information with respect to the WWNWS document review, e-Navigation, GMDSS and the establishment of the new Arctic NAVAREAs.

The Chairman invited the IHO representative to provide a report on NAVAREA X and this was done using the WWNWS Sub-Committee self-assessment template as a guide.

### **WMO/IOC-JCOMM-ETMSSIII** Saint Petersburg, 4-8 October

The Expert Team on Maritime Safety Services (ETMSS) is part of the World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission's (IOC) Joint Technical Commission for Oceanography and Marine Meteorology (JCOMM). The ETMSS participates in, and provides the Meteorological input to, the World-Wide Navigational Warning Service (WWNWS) Sub-Committee. ETMSS meets every four years and held its 3<sup>rd</sup> meeting at the Arctic and Antarctic

Research Institute of the Russian Federation in St. Petersburg, from 4 - 8 October. The IHO was represented by Lieutenant Commander SHIPMAN (IHB).

Delegates from the WMO Secretariat, Australia, Canada, China, Finland, France, Japan, Morocco, Norway, Russian Federation, UK, USA, and Inmarsat attended the meeting which was chaired by Mr. SAVINA of *Météo France*.



The meeting received reports from the IMO, the IHO, the JCOMM's Services and Forecast Systems Program Area (SFSPA), Inmarsat Global Ltd and the new Arctic METRAREA Issuing Services (Canada, Norway and the Russian Federation). The meeting reviewed the status of relevant WMO and Joint IMO/IHO/WMO documentation and agreed on the actions necessary to bring the WMO documentation into full alignment with the recently updated joint documentation. The meeting endorsed the need for continuing the close cooperation between WMO and IHO through their ETMSS and WWNWS.

The IHO provided a brief on the IHO's Universal Hydrographic Data Model (S-100). Dr. Vasili SMOLIANITSKY of the Russian Federation and Chairman of the JCOMM Expert Team on Sea Ice (ETSI) provided information on the inclusion of "Ice objects" in S-57 and S-100. The meeting agreed that it would be beneficial if other WMO data sets, such as gridded data, were compatible with S-100.

### **IHO-IMO-IOC-WMO-IAEA-IALA CAPACITY BUILDING COORDINATION MEETING**

WMO, Geneva, Switzerland, 14-15 October

The Fourth Meeting of the Officers from the IHO, IMO, IOC, WMO, IAEA and IALA, responsible for Capacity Building matters, met at the WMO premises in Geneva, Switzerland, on 14-15 October. Mr. KRASTINS (Chairman, IHO Capacity Building Sub-Committee), Captain GORZIGLIA and Captain BERMEJO (IHB) represented the IHO.



The following topics were discussed at the meeting:

- a) Status of accomplishment of the 2010 Capacity Building Work Programmes;
- b) Experience gained and procedures in place to improve effectiveness in the provision of capacity building;
- c) Status of joint cooperation projects and other Regional Case Studies experiences;
- d) Presentation of Capacity Building Work Programmes for 2011;
- e) Experience in dealing with funding agencies. This included an excellent presentation made by an expert from the WMO on strategies to be followed when dealing with funding agencies and donors.

**20<sup>th</sup> CONGRESS OF THE INTERNATIONAL MARITIME PILOTS ASSOCIATION (IMPA)**  
Brisbane, Australia, 14-19 November

Captain WARD (IHB) represented the IHO at the 20<sup>th</sup> Congress of the International Maritime Pilots Association in Brisbane.

IMPA, which represents the world's maritime pilots, was recognised by the IHO as a Non Governmental International Organization (NGIO) in 2008. IMPA delegates have attended all IHO HSSC meetings since 2009 as Observers. The IMPA Congress is held every two years and was attended by over 300 delegates from around the globe. As well as covering many other aspects of maritime pilotage, the Congress devoted a whole day to electronic technology. Captain WARD provided a comprehensive description of the IHO and its technical programme on that day.

## **2. INFORMATION MANAGEMENT (Element 1.2)**

### **2.1 IHB COMPUTER AND NETWORK SYSTEMS AND IHO WEBSITE** **(Task 1.2.1)**

The maintenance of the IHO web site is an ongoing task that is undertaken by several IHB staff members. The web site is an important resource for the Organization. It is an essential reference for coordinating the work of Commissions, and IHO committees and working groups. It also provides an online repository where meetings documents, IHO publications and circular letters can be downloaded.

Mr. Yong HUH, an officer seconded from the Korean Hydrographic and Oceanographic Administration (KHOA) (under the terms of IHO Resolution T4.2), completed a study to identify an improved web site content management system (CMS). He transferred the content of the existing IHO web site onto the new system. It is anticipated that the new web site CMS will become active in the first quarter of 2011 after extensive testing has been completed.

### **2.2 WEB MAP SERVICES** **(Task 1.2.2)**

The IHB continued to maintain the IHO ENC Coverage catalogue, and has included KML files that can be downloaded and used with Google Earth. An additional prototype web map server was also developed during the year to show the extent of hydrographic surveys and other resources within the Antarctic region.

### **2.3 IHO PUBLICATIONS** **(Task 1.2.4)**

A list of new or revised IHO publications completed in 2010 is provided at Appendix I. More information about specific technical publications is given in the relevant sections of this Annual Report.

### **2.4 IHB TECHNICAL LIBRARY** **(Task 1.2.5)**

More than 450 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 2010. In addition, many Member States forwarded copies (digital or paper) of their Annual Reports and/or technical publications during the year.

An inventory of all IHO publications produced since the creation of the IHO has been prepared.

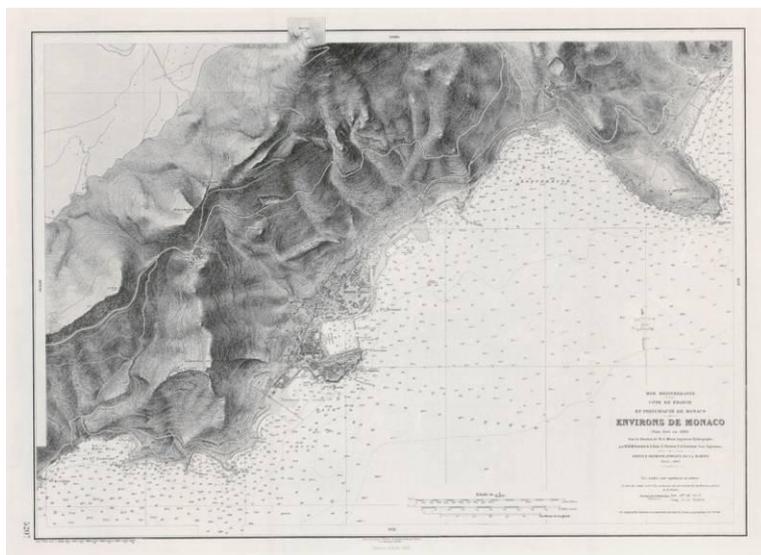
## **2.5. TRANSFER OF THE IHB FRENCH NAUTICAL CHART COLLECTION TO THE MARITIME MUSEUM OF SAINT-TROPEZ, FRANCE**

As the final part of disposing of the IHB's collection of superseded paper nautical charts, approximately 1500 French charts were transferred to the Maritime Museum of Saint-Tropez on 25 June. Saint-Tropez is on the southern coast of France about 150 km southwest of Monaco.

This follows some 15,000 other nautical charts that were transferred from the IHB to the *Bibliothèque Nationale de France* (French National Library) in 2008, in order to limit the IHB's paper chart collection to current INT charts supplemented by the global Admiralty series and at the same time provide greater public access to these superseded charts for historical and reference purposes. The initial transfer of charts to the *Bibliothèque Nationale de France* did not include any French charts, because the library already held such copies in its collection.

The IHB is grateful to SHOM for its approval and support for the donation of the French charts, some of which date back to the 19<sup>th</sup> century.

The *Bibliothèque Nationale de France* and the Maritime Museum of Saint-Tropez are very appropriate places to display and provide public access to these old charts that have thus been given a new lease of life.



*Chart of Monaco, SHOM, 1923 Edition*

### **3. PUBLIC RELATIONS (Element 1.3)**

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

Relations with the Government of Monaco, as Host Country, continued to be very good. The Department of External Relations of Monaco administers requests from States to become Members of the Organization, in accordance with the procedures described in the Convention on the IHO, and the approvals of the Protocol of Amendments to the Convention on the IHO, as decided by the 3<sup>rd</sup> Extraordinary International Hydrographic Conference in 2005.

The Government of Monaco continued its very generous support of the renovation and maintenance of the IHB premises with the creation of a new office and meeting room in the chartroom and the installation of an enclosed chart storage for the complete collection of paper charts.

The Department of Tourism of Monaco hosted a special reception for the participants in the ABLOS Conference at the premises of the Casino in October.

The Directing Committee attended the celebrations of the National Day of Monaco on 19 November, and various other events hosted by various Ministries and other agencies.

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

IHB, Monaco, 28 January

A lecturer and five students attending a six-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 Thursday 28 January where they received a briefing on “*Hydrography and UNCLOS*” followed by a Question and Answer Session. The visit was part of the International Liaison component of their course. Prior to the visit to the IHB the students had visited the International Maritime Organization (IMO) in London.

The lecturer came from the Philippines and the students were from the Bahamas, Fiji, Georgia, India and Sierra Leone.

#### **VISIT TO IHB BY STUDENTS FROM THE GDYNIA MARITIME UNIVERSITY, POLAND.**

IHB, Monaco, 17 May

A group of nine students from the Faculty of Navigation of the Gdynia Maritime University, Poland, visited the International Hydrographic Bureau in Monaco on Monday 17 May.



The group was led by Dr. ZKLARSKI. Captain GORZIGLIA, IHB Director welcomed the group and gave a presentation on the importance of hydrography, its international scope and the role of the IHO in helping to coordinate the efforts of the Hydrographic Offices of IHO Member States.

**VISIT TO THE IHB BY THE PREPARATORY COMMISSION ON THE COMPREHENSIVE  
TEST BAN TREATY ORGANIZATION**

29-30 June

The Preparatory Commission of the Comprehensive Test Ban Treaty Organization (CTBTO) was set up in 1996 with its headquarters in Vienna, Austria. It is an interim intergovernmental organization tasked with building up the verification regime of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in preparation for the Treaty's entry into force. So far 182 States are signatories to the Treaty and 151 of those States have gone on to ratify the treaty. Over the last decade, the CTBTO has established a global monitoring and analysis service that includes a number of hydro-acoustic sensors that monitor for sea or ocean-based nuclear testing.

Mr. GRENARD (France), Chief of the Engineering and Development Section of the Preparatory Commission of the CTBTO and Mr. HARALABUS (Greece), Project Manager of the Acoustic Monitoring Group visited the IHB in June for informal discussions with the Directing Committee. The visit enabled Mr. GRENARD and Mr. HARALABUS to learn about the role of the IHO and the important part that its Member States' representatives play in the collection and distribution of hydrographic information that is relevant to the ocean-based CTBTO monitoring programme and the input that the IHO and its Member states can make in providing technical advice on hydrography and nautical charting matters.

**VISIT OF ACADEMICS FROM THE REPUBLIC OF KOREA**

23 August

On 23 August, the Directing Committee received Dr. KIM from the Department of Geography Education of the Chungbuk National University. Dr. KIM was researching the marine geographic names policy that was applied by the scientific community before the establishment of the former IHB in June 1921.

From 23 to 26 August, Professor CHOO and two academic assistants, graduates from the Kyung Hee University, visited the IHB. The team was requested by the Korea Hydrographic and Oceanographic Administration to consult the IHO archives of the 1920's in order to identify what policy existed in the marine community with regard to maritime geographic naming. On the occasion of this visit, Professor CHOO presented the Directing Committee with the Proceedings of the 16<sup>th</sup> International Seminar on Sea Names that took place on 20-22 August in The Hague, The Netherlands.

**VISIT BY A DELEGATION FROM THE  
FRENCH INSTITUTE OF HIGHER NATIONAL DEFENCE STUDIES**

21 October

On Thursday 21 October, a Delegation from the French Institute of Higher National Defence Studies [*Institut français des Hautes Etudes de Défense Nationale (IHEDN)*] visited the IHB as part of the programme of their visit to the Principality of Monaco. The event was coordinated by the External Relations and International Economic and Financial Affairs Department of the Government of Monaco.

The IHEDN is a French public institution recognized for its work in educating public and private-sector decision-makers in government and State administration and national defence.

Captain GORZIGLIA welcomed the 13 visitors and, together with Captain WARD and Ingénieur en chef HUET gave a presentation on the importance of hydrography, its role associated with various activities having a social and economic impact on national development as well as Coastal States' obligations with regard to the provision of hydrographic and cartographic data, information, products and services,

together with the marine safety information component. The presentation was completed with a detailed description of the IHO's objectives and the work of all its various components.

### **VISIT TO THE UNITED KINGDOM HYDROGRAPHIC OFFICE**

20 October

Captain GORZIGLIA and Mr. NAKABAYASHI - Professional Assistant at the IHB (seconded from Japan) visited the United Kingdom Hydrographic Office (UKHO) on 20 October, to brief the trainees, who were attending the Japan Capacity Building Project course funded by the Nippon Foundation, about the IHO and the importance of Hydrography.

The course began on 6 September and its first module was completed on 8 October. The three five-week modules ended on 17 December.

There was a general discussion with the students, followed by a presentation made by Captain GORZIGLIA that covered the areas of influence of Hydrography and the responsibilities Governments have regarding the provision of hydrographic data, information, products and services. The vital coordination and standardization role of the IHO was highlighted. Finally the students were requested to act as ambassadors of the IHO and of the profession when they returned to their home countries.

Captain GORZIGLIA also provided mementos and certificates for Module 1 of the course and thanked the UKHO and its instructors for their work in contributing to improving global levels of hydrographic capability.

### **3.2 WORLD HYDROGRAPHY DAY**

#### **(Task 1.3.2)**

Monaco, 21 June

World Hydrography Day (WHD) was celebrated in Monaco on Monday 21 June. The theme of this year's WHD was: *Hydrographic Services – the essential element for maritime trade*. A Media Release was provided in Monaco, in which the hydrographic activities in relation to the theme were explained as well as the importance of hydrography for safety of navigation, protection of the marine environment, development and security. A reception was hosted by the Bureau at the Yacht Club of Monaco. H.S.H. Prince Albert II, the Minister of State and members of the Government of Monaco honoured the event by their presence. Ambassadors, Consuls, representatives of the local maritime industry and others were also present. The President of the Directing Committee made a brief speech presenting the important role of hydrography in maritime trade and safety at sea.



As part of the WHD celebrations, the Bureau arranged for 19 classes of 14 year-olds, about 450 students, to visit the Bureau between 18 and 25 June. They were informed about hydrography and its global relevance and in particular about the nautical chart, its use and its importance.

## **4. IHO (Element 1.4)**

### **4.1 IHO STRUCTURE (Task 1.4.1)**

#### **4.1.1 NEW HYDROGRAPHERS OF MEMBER STATES**

##### **NEW HYDROGRAPHER OF COLOMBIA**



Rear Admiral Leonardo SANTAMARÍA GAITÁN took up the post of Director of the General Maritime Directorate and the National Hydrographic Office of Colombia on 10 December 2009.

Before taking up his new post, he had been the Coordinator of the Naval Operations Programmes at the War Academy in Colombia. He had also been the Naval Attaché at the Colombian Embassy in the United Kingdom and Permanent Representative at the International Maritime Organization (IMO).

He commanded the Specific Command of the Colombian Navy in the Archipelago of San Andrés, Providencia and Santa Catalina and he was Commander of the Frigate “ARC Caldas”, one of Colombia’s most important seagoing naval units.

##### **NEW HYDROGRAPHER OF THE REPUBLIC OF KOREA**

Mr. Dong Hyun SIM was appointed Director General of the Korea Hydrographic and Oceanographic Administration on 9 February.

Mr SIM was born in July 1957 in Jeonju, Republic of Korea. In 1981 he graduated from the Seoul National University and in 1984 he took a Master’s Degree in Law at the Seoul National University.

He began his career at the Korean Maritime and Port Administration in 1983. Thereafter, he served in various divisions, including Yeosu and Busan Regional Maritime and Port Administration, the Port of Seattle in USA, the Port Management Division of the Headquarters for Shipping and Logistics Bureau, the Marine Conservation Division of Headquarters for Marine Policy of MOMAF and so on.

During the period 2004-2007, he served as Liaison Officer to the National Oceanic and Atmospheric Administration (NOAA). In 2008 and 2009 he worked in the Institute of Foreign Affairs and National Security and in the Prime Minister’s Office, being appointed Director General of the Korean Hydrographic and Oceanographic Administration in February.

##### **NEW HYDROGRAPHER OF PERU**

Rear Admiral GAVIOLA TEJADA was born on 11 April 1960 in Lima. He attended the José Olaya School and upon completion of his school studies, he joined the Navy on 28 February 1977. He graduated on 1 January 1982 as Ensign.

He is qualified in Hydrography and Systems Engineering and has completed the Staff Basic Course, the Command and Staff Course and the Naval High Command Course at the Naval War Academy. He holds a Master Degree in Marine Sciences and in Maritime and Port Management; he is qualified in: Business Administration (ESAN), Methodology for the Assessment of Environmental Pollution (Pontifical Catholic University of Peru) Port Management and Maritime and Multimodal Transport Engineering (National University of Engineering) Resources Strategic Management of the Business Centre

CENTRUM of the Pontifical Catholic University of Peru and is qualified in the High Studies Course in Politics and Strategy CAEPE at the National Studies Centre (CAEN).

He has served on board BAP Castilla and BAP Unanue and was Commander of BAP Stiglich, BAP Carrasco and BIC Humboldt.

He was the Head of the Engineering Department at the Naval Base of Chimbote, Division Officer at the Oceanographic Department of the Hydrography and Navigation Directorate, Head of Informatics at the Hydrography and Navigation Directorate, Head of the 2<sup>nd</sup> Section of the Antisubversive Detachment, Second-in-Command of the Hydrography and Navigation Service of Amazonia, Head of the Informatics and Personnel Office, and of the Qualification School of the Hydrography and Navigation Directorate, Head of the Nautical Signalling Department of the Hydrography and Navigation Directorate, Head of the Hydrographic Department at the Hydrography and Navigation Directorate, Technical Head of the Hydrography and Navigation Directorate, Head of the International Affairs Division of the Joint Command of the Armed Forces, Director of Environment at the Harbour Master's and Coastguard Offices, Deputy Manager of the Hydrography and Navigation Directorate, Captain of the Callao Port and Head of the Organization Department of the General Navy Staff.

On 1 January 2009, he was promoted to Rear Admiral and nominated Executive Director of the General Directorate of Harbour Master and Coastguard, Director of Hydrography and Navigation.

On 1 January 2010 he took up the post of Director of Hydrography and Navigation.

#### **NEW PRESIDENT OF THE JAPAN HYDROGRAPHIC ASSOCIATION (JHA)**

Mr. Masashi SUE was appointed President of the Japan Hydrographic Association (JHA) on 1 April.

Mr. SUE was born in 1947. After having graduated from the Kobe University Postgraduate School with a Master's Degree in Industrial Chemistry in 1973, he joined the Hydrographic Department of Japan (now the Hydrographic and Oceanographic Department of the Japan Coast Guard). In more than 30 years of service with the Japan Coast Guard (JCG), he held various key posts, including Director of the Oceanographic Survey Division and the Coastal Survey and Cartography Division of the Hydrographic Department, Director of the Shiogama Coast Guard Office and Deputy Commander of the 10th Regional Coast Guard Headquarters in Kagoshima. Mr. SUE was the Chief Hydrographer of Japan from April 2005 to March 2007. During his career with the JHOD/JCG, he contributed, amongst other things, to promoting airborne laser hydrography and a long-range HF radar system.



Mr. SUE retired from the JCG in April 2007 and joined the JHA. During the next three years, as Executive Director of the JHA, he restructured the organization and has implemented an ISO 9001 quality management system in order to improve the reliability and efficiency of JHA's management and services. The Japan Hydrographic Association (JHA) was established in March 1971 as a public-utility corporation under the supervision of, and in very close collaboration with, the Hydrographic and Oceanographic Department (JHOD) of the JCG. Since its establishment, the JHA has been engaged in producing and publishing various yachting charts, small craft guides, marine leisure charts and maps as well as marine data and information supply/consulting services. As from 1988 the JHA has the sole contract with the JCG for reproducing and distributing the Japanese official charts and publications and the Japan ENC's published by the JCG. In recent years, the JHA has participated in and promoted various international projects, including capacity building on hydrography, cartography and ENC's in collaboration with the JHOD as well as the IHB, UKHO and other hydrographic offices in East Asian countries.

## NEW HYDROGRAPHER OF PORTUGAL

Born in Funchal, Madeira, in 1951, Vice Admiral Agostinho RAMOS DA SILVA joined the Portuguese Navy in 1969 and graduated from the Naval Academy in 1974.

He specialized in Hydrography in 1980, and completed the Junior (1987), Intermediate (2001) and Flag Officer (2004) Naval War College Courses and the National Defense Course (2005).

He served on board several warships and on Naval survey/research vessels and has held three commands at sea.

During his time at the Portuguese Hydrographic Institute he was in charge of Hydrographic Survey Teams and Head of Nautical Cartography, Hydrographic Surveys and Navigation Divisions. He was later appointed Technical Director and served as Assistant to the Director General.



Vice Admiral RAMOS DA SILVA also served in the Navy Staff, in the Logistics and Personnel Divisions, and later was appointed to the National Maritime Authority Directorate.

Promoted Rear Admiral in 2006, he took charge of the Azores Naval Zone and became the Head of the Azores Maritime Authority.

He was promoted to Vice Admiral on 10 March 2010.

## NEW DIRECTOR OF THE HELLENIC NAVY HYDROGRAPHIC SERVICE



Commodore Alexandros THEODOSIOU was born in Chalkida, Evvoia Island, on 30 October 1957. He joined the Naval Academy in 1976 as a Midshipman and graduated in 1980, receiving his commission as an Ensign. From 1980 to 2003 he served onboard different types of ships as officer and Commanding Officer and was Director of on-shore commanding posts.

He has a broad academic experience, having graduated from the Naval Postgraduate School in Monterey, California, USA, the Hellenic Navy Specialization & Education School and the Commanding Officers Course, BE-NL Mine Warfare School (Belgium).

In March, he took over as the Director of the Hellenic Navy Hydrographic Service.

## NEW HYDROGRAPHER OF POLAND

Born 2 April 1955 in Lubań, West Poland, Captain Henryk NITNER commenced his naval career in 1974 as a Midshipman at the Department of Navigation and Naval Weapon Systems, Naval Academy in Gdynia. Having earned the Master of Science degree and being commissioned in 1979, the then young Sub-lieutenant PN reported to the *ORP Wodnik*, a training ship, assumed the initial position of Assistant Officer and, subsequently, the position of Commanding Officer of one of the ship's departments. Following this tour of duty, between 1983 and 1985, Captain NITNER reported back to the Naval Academy to study hydrography, which has become his life's passion since. In 1985, following the studies, he reported to the Hydrographic Support Squadron and was appointed Executive Officer for Hydrographic Surveys of the *ORP Heweliusz*, a survey ship; then, as the Squadron's Chief Hydrographer.



In 1991, Head of the Hydrographic Department at the Naval Board of Hydrography, PN Headquarters, he was appointed followed, in 1995, by the same position at the reactivated Hydrographic Office of the Polish Navy (HOPN/BHMW). Between 1997 and 1998, Captain NITNER took up Postgraduate Hydrographic Studies at the Naval Academy. In August 2005, he was relieved as the Head of Hydrographic Department, HOPN, and appointed Deputy Chief, HOPN. Finally, Captain NITNER took over as Chief, HOPN (Polish Hydrographer) on 1 July.

As Head of the Hydrographic Department, HOPN, Captain NITNER was instrumental in implementing the production of Electronic Navigational Charts (S-57 Standard ENCs) and NATO required digital hydrographic products in HOPN. As a result of efforts made by many specialists, with Captain NITNER being one of them, Poland meets all its international obligations with regard to ENC coverage, finding itself in the exclusive group of several dozen or so countries boasting this achievement. Captain NITNER is deeply involved in the process of upgrading hydrographic hardware and software, fitted in Polish Navy survey ships, and in the production of digital, hydrographic products, used in support of Polish or NATO-lead naval operations. Captain NITNER participates in the works of various organizations responsible for hydrography and safety at sea. He is the author and co-author of many professional and academic publications.

## NEW HYDROGRAPHER OF SPAIN

Captain Guillermo MOREU MUNAIZ took up the post of Director of the Instituto Hidrográfico de la Marina on 14 July.

Captain MOREU was born in Pontevedra in August 1955. He joined the Navy in 1974 and graduated on 16 July 1979 from the Naval Military Academy (Escuela Naval Militar) as an Ensign and was promoted to the rank of Captain in June 2006.

During his professional career, he has held various posts, among which commanding posts such as Deputy Commander of the Hydrographic Vessel "Malaspina", and Commander of the Hydrographic Vessels "Antares" and "Malaspina".

He has served on various Spanish ships: Destroyers "Blas de Lezo", "Gravina" and "Churruca", the training ship "Juan Sebastián de Elcano", and the hydrographic ships "Tofiño" and "Malaspina".

He completed the Course in Hydrography for Officers in 1987, and the Hydrographic Engineer course in 1995.



His shore service has included the Spanish Hydrographic Institute and the Hydrographic School “Alejandro Malaspina”, the Joint Staff Defence in Madrid, Fleet Staff in Rota - Cádiz, Naval Military Academy in Marín (Pontevedra), and several Maintenance Departments of the Spanish Navy in Madrid and Ferrol.

### **NEW HYDROGRAPHER OF TURKEY**



Rear Admiral Hakan ERAYDIN was born in Bodrum in 1962. He graduated from the Naval Academy in 1983. He was the Communications Officer onboard the TCG YÜCETEPE Destroyer from 1983 to 1985 and Combat Information Centre (CIC) Officer from 1985 to 1987.

After having served as the Operational Training Officer in the Fast Patrol Boat Division from 1987 to 1988, he obtained a Master of Science degree at the Naval Postgraduate School in California, USA, which he attended from 1988 to 1991.

He assumed various duties in the Engineering Department as Branch Officer on TCG YAVUZ and TCG TURGUTREİS Frigates from 1991 to 1994. Following courses at the Naval War College between 1994 and 1996, he worked as Chief Engineer on TCG YILDIRIM from 1996 to 1998.

He worked at the Western European Union in Brussels, Belgium from 1998 to 2001. After returning to Turkey, he worked as a Faculty Member of the “Management” Discipline at the Naval Academy for a year. He graduated from the Armed Forces Academy in 2002.

He worked as Section Chief at the Plans and Principles Department of the Naval Forces Command from 2002 to 2003, as Executive Assistant to the Commander-in-Chief of the Navy from 2003 to 2005, as Naval High School Commandant from 2005 to 2007 and Head of the General Plans and Policy Department of the Ministry of National Defence from 2007 to 2010.

Hakan ERAYDIN was promoted to Rear Admiral (LH) on 30 July 2007.

### **NEW HEAD OF THE MARITIME HYDROGRAPHIC DIRECTORATE OF ROMANIA**

Captain Adrian FILIP was born in 1960 in Arad, Romania. After graduating with a Bachelor of Science Degree in Naval Radioelectronics from the “Mircea cel Batran Naval Institute”, in Constanta, he received his commission and was appointed as the Sensors Officer onboard the 198 Missile Patrol Boat, 133 Missile Patrol Boat Squadron.

From 1984 to 1992 he served as a radioelectronics staff officer for the 126 Torpedo Patrol Boat Squadron followed by the 133 Missile Patrol Boat Squadron.

In 1994 he graduated from the War Academy in Constanta and was appointed as Commanding Officer of an OSA I class Missile Patrol Boat. After completing the Joint Operations Course at the NATO-PfP Regional Training Centre in 1999, he served as Commanding Officer on a TARANTUL class Missile Patrol Boat until 2001, when he became the Chief Operations Officer, 9th Joint Operational Command.



In 2000 he was accepted into the Command and Staff War College. Upon graduation he was appointed as the Sensors and Communications Officer onboard the “Delfinul” Submarine, but serving as acting Commanding Officer until 2003. He was then appointed as Chief of Staff, 126 Training Squadron.

From 2004 to 2005 he coordinated the Navy's simulation training programme, setting in 2005 the foundations of the Information, Simulation and Evaluation Centre. In this position he coordinated the development of information systems for naval operations, at the time, pioneering the operational training programme for naval ships and national evaluation programmes for naval platforms and personnel.

In 2007 he was appointed as Commanding Officer of the newly created Centre for Training, Simulation and Evaluation, which he led until 2009. During this period of time he also earned his qualifications as Level I NATO evaluator for interoperability, and Level 11 NATO Operational Capabilities for naval forces.

As from 2008 he has been a PhD student in military science and information at the National Defence University "Carol I". In 2009 he completed the International Relations Course at the Romanian Diplomatic Institute and the National Defence College, and was then appointed as Head of Training within the Romanian Naval Forces Staff Headquarters.

Captain FILIP was appointed as Head of the Maritime Hydrographic Directorate on 15 July.

### **NEW DIRECTOR OF THE NORWEGIAN HYDROGRAPHIC SERVICE**



Mr. Evert FLIER was appointed Director of the Norwegian Hydrographic Service in 2010.

Mr. FLIER served as an Officer in the Royal Netherlands Navy (RNIN) from June 1989, and has more than 20 years of operational and managerial experience from a variety of programmes within the RNIN and the Dutch Ministry of Defence. He has held operational and executive positions onboard frigates for eleven years. As part of an exchange programme with the Norwegian Navy, he sailed as Executive Officer onboard a missile torpedo boat. He was project manager for navigational equipment at the Directorate for Material Royal Netherlands Navy, taught navigation and safety at sea at the Royal Netherlands Naval Academy, served as

Commanding Officer on a naval instruction vessel and was staff officer at the Ministry of Defence.

From August 2008, he served as Head of Internal Training at the NATO Joint Warfare Centre in Stavanger, Norway.

Mr. FLIER holds a Master's Degree in Security and Defence from the Netherlands Defence College and a Bachelor's Degree in Information and Technology from the Technical University in Eindhoven, The Netherlands.

### **NEW CHIEF OF THE DEPARTMENT OF NAVIGATION AND OCEANOGRAPHY - RUSSIAN MINISTRY OF DEFENCE (CHIEF OF THE HYDROGRAPHIC SERVICE OF RUSSIAN NAVY)**

Captain Alexander V. SHEMETOV was born on 16 October 1957. After graduating from the Naval College, Navigation Faculty in Saint Petersburg, in 1979 he served as Navigator on board nuclear submarines. From 1988 he served as the Flag Navigator Officer of the nuclear submarine unit and then as the Head Navigator of the North Fleet.

In 2006 Captain A. SHEMETOV was assigned to the Main Naval Headquarters as the Head Navigator of the Navy.

On 4 August 2010 Captain SHEMETOV was appointed Head of the Department of Navigation and Oceanography of the Russian Ministry of Defence.

### NEW HYDROGRAPHER OF ECUADOR

Commander Jorge Alejandro CARDENAS AMORES was appointed Director of the Instituto Oceanográfico de la Armada (Naval Oceanographic Institute) in 2010.

Born in 1963, Commander CARDENAS graduated from the Naval War College, Chile; the Naval Postgraduate School, USA and the Naval University, Ecuador.

He has completed and qualified in several courses, in Chile, USA and Ecuador and has a broad professional experience as Commander of various ships, training activities as professor in the War College and the Naval Academy.

He was Deputy Technical Deputy Manager of the Naval Oceanographic Institute before being appointed Director of the Naval Oceanographic Institute.



### NEW HYDROGRAPHER OF THAILAND



Vice Admiral Prayuth NETRPRAPA, born in 1951, was appointed Hydrographer of Thailand in 2010.

From 1972 to 1976, he studied at the Royal Thai Naval Academy, Royal Thai Navy, specializing in Hydrography. He was Commanding Officer of various ships and on shore departments of the Navy, including the Naval War College and several posts within the Royal Thai Naval Academy, and the Hydrographic Department of which he was appointed Deputy Director General in 2008 and Director General in 2010.

### NEW HYDROGRAPHER OF FRANCE

Born in 1957, Ingénieur général de l'armement de 1<sup>e</sup> classe Bruno FRACHON is a graduate of Polytechnic Engineering School (1976) and of the Graduate School of Advanced Techniques – Marine Environment option (ENSTA-81).

He specialized in Hydrography and Oceanography, beginning his career in 1982 at the *Service hydrographique et océanographique de la marine (SHOM)* where his work covered a broad spectrum of operational, technical and management tasks.

His experience at sea covers hydrographic surveys in the Atlantic, in the Channel and in the West Indies, as well as oceanographic campaigns in the Atlantic. He was also in charge of geodetic and topographic work in the West Indies.

Within the SHOM Directorate, he was responsible for cooperation policies and for relations with national and foreign institutions in the domain of oceanography, in particular in its applications to defence.

He was Head of the Military Centre of Oceanography, in charge of the meteo-oceanographic support of the naval forces and of the development of corresponding products and services.

As from 2001, Ingénieur général de l'armement FRACHON held various posts of responsibility in the field of technical policy at the *Direction Générale de l'Armement (DGA)*. He was Director of the Defence Analysis Centre, in charge of operational analysis studies and systems analysis, required for major decisions as regards weapon systems.

He was appointed Chief Executive of SHOM on 24 June.



## NEW HYDROGRAPHER OF THE HYDROGRAPHIC AND OCEANOGRAPHIC SERVICE OF THE CHILEAN NAVY (SHOA)



Captain CARRASCO HELLWIG graduated from the Naval Academy in 1982. He obtained a University Degree in Naval and Marine Sciences and is a qualified Engineer in Armaments, with a Bachelor's Degree in Navigation (1988) and Hydrography (1989).

In 1992 he qualified as a Hydrographer at the Hydrographic School of the Spanish Hydrographic Institute, a course which has been internationally recognized by the International Federation of Surveyors (FIG) and the International Hydrographic Organization (IHO).

In 1994 he attended a Training Course in Pedagogy at the Naval Education Directorate and in 1996 he qualified as an Instructor in Hydrography. In November 2000 he completed the Naval War College Information Course.

Amongst the various national and international courses, training, seminars, conferences and technical meetings that he has attended, the Course on Coastal Surveys with Multibeam Echo Sounders Systems in 1997 at the University of New Brunswick, (Canada) and the Course on Projects Preparation and Evaluation at the "*Instituto Latinoamericano y del Caribe de Planificación Económica y Social*" (ILPES) in 2002 should both be highlighted

Between 1992 and 1997, as a Specialist Officer, he held various posts in the Hydrographic and Oceanographic Service of the Navy, amongst which: Head of the Hydrographic Surveying Department, Head of the Planning Office; Head of the Hydrographic Group in several Commissions in the field in the whole country, including the Southern Ice Fields and the Antarctic.

In 1998 he was appointed Instructor and Head of the 1st year Course at the Naval School "Arturo Prat" and in 1999 his presence was again required at SHOA, where he served as Head of the Special Projects Office. Between 2001 and 2002 he was the Head of the Hydrographic Surveying Department; between 2002 and 2005 he was Head of Research and Development and in 2006 took up the post of Head of the Technical Area, being in charge of four Departments totaling 130 people. Between 2007 and 2009 he served as Deputy Director.

During his service in all the above mentioned posts, he designed, conducted and monitored various projects, concerning changes of high technology equipment, design and adoption of new production procedures and systems; the implementation of a corporate database, the archiving of data, management of information and restructuring of computer systems, which have become known by the whole organisation and whose results have received international recognition. He is currently the Chairman of the Marine Cartography Commission of the International Cartographic Association (ICA).

In October 2009 he was appointed Deputy Director of the Polytechnic Naval Academy, and carried out those duties from 16 December 2009 until 04 March 2010, when he was appointed Director of the Hydrographic and Oceanographic Service of the Navy.

## **4.1.2 IHO MEMBERSHIP**

### **NEW IHO MEMBER STATES**

No new Member States joined the Organization in 2010.

### **PENDING MEMBER STATES**

#### **- APPLICATIONS FOR ADMISSION TO THE IHO HAVING BEEN APPROVED**

##### **Republic of Bulgaria**

The application for membership of the Organization by the Government of the Republic of Bulgaria was approved by the required two-thirds of the Parties to the Convention on the IHO in April 1992. At that time the Government of Monaco, as the Depositary Government for the Convention, invited the Government of Bulgaria to deposit its Instrument of Accession to complete the IHO membership formalities. By the end of the year this last formality had not yet been completed.

*Ref: CLs1/2011, 52/90, 55/93.*

##### **Republic of Cameroon**

The application for membership of the IHO by the Government of Cameroon was approved by the required two-thirds of the Parties to the Convention on the IHO in February 2009. The Government of Monaco, as the Depositary Government for the Convention, has invited the Government of Cameroon to deposit its Instrument of Accession to complete the IHO membership formalities. By the end of the year this last formality had not yet been completed.

*Ref: CLs 1/2011, 36/2004.*

##### **Islamic Republic of Mauritania**

The application for membership of the IHO by the Government of Mauritania was approved by the required two-thirds of the Parties to the Convention on the IHO in February 1991. The Government of Monaco, as the Depositary Government for the Convention, has invited the Government of Mauritania to deposit its Instrument of Accession to complete the IHO membership formalities. By the end of the year this last formality had not yet been completed.

*Ref: CLs1/2011, 44/89, 25/90, 55/93.*

##### **Republic of Sierra Leone**

The application for membership of the IHO by the Government of Sierra Leone was approved by the required two-thirds of the Parties to the Convention on the IHO in September 2010. The Government of Monaco, as the Depositary Government for the Convention, has invited the Government of Sierra Leone to deposit its Instrument of Accession to complete the IHO membership formalities. The Directing Committee looks forward to welcoming Sierra Leone to the membership of the IHO in the near future.

*Ref: CLs 1/2011.*

**PENDING MEMBER STATES  
- APPLICATIONS FOR ADMISSION TO THE IHO AWAITING APPROVAL**

**Republic of Haiti**

Haiti applied for membership of the IHO in June 2008 and reported a national tonnage figure of 5892 tonnes. By the end of 2010, Haiti's application had so far received 44 approvals out of a required 52.

*Ref: CLs 1/2011, 50/2008*

**Republic of Montenegro**

Montenegro applied for membership of the IHO in August 2007 and reported a national tonnage figure of 18,492 tonnes. By the end of the year, Montenegro's application had received 51 approvals out of a required 52. The last remaining approval is anticipated in the near future.

*Ref: CLs 1/2011, 75/2007*

**MEMBER STATES WHOSE RIGHTS AND PRIVILEGES HAVE BEEN SUSPENDED**

Of the 80 Parties to the Convention, two - the Democratic Republic of the Congo and the Dominican Republic - have all rights and benefits suspended in accordance with Article XV of the Convention and Articles 16 and 17 of the Financial Regulations. A two-thirds majority of Member States entitled to vote, therefore, is currently 52.

**4.2 WORK PROGRAMME AND BUDGET  
(Task 1.4.2)**

In accordance with Article 8 of the IHO Financial Regulations, the Directing Committee, through IHO CL 44/2010, requested the Finance Committee Members to review and provide comments on the proposed IHO 2011 Budget.

The proposed IHO Work Programme and Budget for 2011 was prepared in line with the 2008-2012 Work Programme and the Five-Year Budget approved by the XVII<sup>th</sup> IHC.

Member States' approval of the Proposed IHO Budget was communicated to the IHO Member States in CL 81/2010 of 7 December.

*Ref: CL 44, 81*

**4.3 IHO WORKING GROUP ON S-23  
(Task 1.4.4)**

The S-23 Working Group held its 2nd meeting in Singapore on 5-7 July to progress a revision of the 3rd edition of S-23 Limits of Oceans and Seas, dated 1953, which is still in force. On this occasion and through subsequent correspondence, several 'Areas of Concern' issues were progressed, in particular in the South China Sea, the East China Sea, the Yellow Sea and Bo Hai. Concerning the sea area located between the Korean Peninsula and the Japan Archipelago, a „Way Forward. was proposed to S-23 WG members in December.

## **5. IHB (Element 1.5)**

### **5.1 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 the secretariat function of the IHO. The various roles and responsibilities have been 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. Four out of the five of the Professional Assistant positions have been recruited internationally. 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 Renée CAUDOUX retired from the IHB on 26 February after 23 years service. During that time Mrs CAUDOUX provided steadfast service in her principal role as the Document Preparation Assistant, where she continuously incorporated amendments and changes to the majority of the IHO publications. Mrs Isabelle BELMONTE was recruited in February to replace Mrs CAUDOUX.

Mrs Ghislaine FAUCHOIS joined the IHB in June as Administrative and Accounting Officer to replace Ms Christine MEYNADIER who relocated elsewhere in France after 12 years of service.

Very sadly, Mr. Rachid SEMLALI died suddenly in hospital on 1 July following a short illness. He had joined the IHB in 1987 as a General Services Assistant and later was appointed Office Manager. After the sudden death of Mr SEMLALI, the Directing Committee transferred some of Mr SEMLALI'S duties to Mr MAACHE. Mr. MAACHE was promoted from his staff category C to category B2 and in November, the Directing Committee recruited Mr. Dan COSTIN to undertake dedicated duties related to technology support. Mr COSTIN will join the IHB in January 2011.

Following the announced retirement of Captain Federico BERMEJO in May 2011, the Directing Committee selected Captain Alberto COSTA NEVES (Brazil) as a replacement. The retirements of Lieutenant Commander Steve SHIPMAN and Mr. Christian VELARD will both retire in 2012.

#### **SECONDMENT OF PERSONNEL**

Two officers were seconded to the IHB Staff during 2010 under the terms of IHO Resolution 54/2008 (formerly Resolution T4.2). Dr. Moon Bo SHIM from the Korea Hydrographic and Oceanographic Administration completed an eleven-month period of secondment in January and was replaced by Mr. Yong HUH in March.

Mr. Shigeru NAKABAYASHI from the Hydrographic Department of the Japan Coastguard, who joined the IHB staff in October 2008 continued his work at the IHB.

## ***TECHNICAL MISSIONS***

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

### ***5.2 IHO WORKING GROUP TO REVIEW IHB STAFF REGULATIONS (Task 1.5.2)***

The Working Group that was established with Decision No 18 of the XVIIth International Hydrographic Conference (IHC) to study and propose changes to the Staff Regulations (SRWG), continued its work during 2010. A meeting took place in April at the German Hydrographic Office, where the work was concluded and the Report finalized. The Report of the SRWG, with comments from the FCOs, the Directing Committee and the Staff, was presented to Member States for approval through Circular Letter 43/2010 dated 26 July. This Circular letter was withdrawn in accordance with the request of the Chair of the SRWG for further consideration.

### ***5.3 TRANSLATION SERVICES (Task 1.5.3)***

The IHB continued to provide translation services in French and in Spanish.

Cooperation from the French and Spanish-speaking Member States was very helpful in the production of French/Spanish versions of several publications and the IHB thanks those States for their support.

### ***5.4 IT EQUIPMENT (Task 1.5.8)***

Several improvements were made to the IHB Information Technology (IT) infrastructure. These included the replacement of two internal network servers, workstation upgrades, and the improvement of the IHB WiFi network. Improvements were also made to the IHB conference room IT infrastructure to include a dual-screen projection capability and improved internet access for delegates.

Following the untimely death of Mr SEMLALI, a new staff member, Mr COSTIN, was recruited towards the end of 2010. He will provide dedicated IT support in the IHB and will commence work in January 2011.

Mr. NAKABAYASHI, the seconded officer from the Japan Hydrographic and Oceanographic Department, has assisted with internal IT maintenance and support, and has also worked on the establishment of a metadata database and web map server for the Hydrographic Commission on Antarctica. He has also continued working on the conversion of the hydrographic dictionary into a Wiki format, and provided valuable assistance with other IT and GIS related tasks.

## **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.

## **1. MEETINGS OF SUBORDINATE SUB-COMMITTEES AND WORKING GROUPS (ELEMENT 2.1)**

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

The second meeting of the Hydrographic Services and Standards Committee (HSSC) was held in Rostock from 26-29 October, hosted by the German Hydrographic Service, Bundesamt für Seeschifffahrt und Hydrographie. The meeting was chaired by Captain Vaughan NAIL (UK) attended by 62 delegates from 26 Member States together with representatives from seven Non-Governmental International Organizations (NGIO's) and sister intergovernmental organizations.

The final minutes of HSSC2 were published via CL 86/2010. The minutes and all documents referred to at the meeting are available on the IHO web site. The most significant points discussed at the meeting are summarized below.

During the meeting the work of HSSC's ten subordinate Working Groups was examined. Of particular note was the endorsement of S-99 - *Management Rules and Procedures for the Operation of the S-100 Geospatial Information Registry (GI Registry)*. As a result, the HSSC recommended that IHO Member States adopt S-99. S-99 was subsequently adopted by Member States as an active standard effective from 1 January 2011.



The Committee was informed that the S-100 GI Registry was already in use by a number of HSSC Working Groups to develop such things as the S-101 ENC Product Specification and a new digital standard for nautical publications data. Other organizations, outside the IHO, such as the Inland ENC Harmonization Group (IEHG), the UN Department of Administration of the Law of the Sea (UN

DOALOS) and the World Meteorological Organization group on Ice Thickness and Snow on Ice (WMO-ITSI) were also using the IHO GI Registry to support their product specifications developments for Inland ENCs, extended continental shelf claims and sea ice reporting, respectively. Meanwhile, the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and the IMO Correspondence Group on e-Navigation had expressed interest in using the S-100 GI Registry to support their complementary maritime data requirements and the e-Navigation concept in the future.

Other notable topics discussed at the meeting included proposals concerning the HSSC input to the IHO Strategic Planning Process, and in particular ways to reduce the number of recommended Performance Indicators to a more manageable level. The Committee also discussed the IHO strategic planning process and provided a list of strategic topics that were forwarded to the IHB Directing Committee to assist in the development of the 2013-2017 Plan.

The Committee learned of certain shortcomings in the way that the governing IHO standards for ECDIS may have been inappropriately implemented by some equipment manufacturers and the potential consequences for safety of navigation. As a result, the committee agreed that the ECDIS test data set should be enhanced and recommended that an urgent meeting be arranged between the relevant stakeholders, including IHO, ECDIS manufacturers, equipment type-approval authorities, and maritime administrations.

More detailed descriptions of progress made by the various HSSC bodies are provided elsewhere in this report.

## **1.2 TRANSFER STANDARD MAINTENANCE AND APPLICATION DEVELOPMENT WORKING GROUP** **(TASK 2.1.2)**

The Transfer Standards Maintenance and Application Development (TSMAD) Working Group met twice during 2010 under the chairmanship of Mr. Barrie GREENSLADE (UK), firstly in Rostock, Germany in May and then in Victoria, Canada in November. In addition, an S-101 Stakeholders' Workshop was held in March and an S-101 Sub-WG meeting was held in August – both meetings taking place at the UKHO, Taunton, UK. About 15 Member States were represented at each TSMAD meeting, together with more than ten NGIO delegates and expert contributors.



The main focus of TSMAD work centred around the ongoing development of S-100 – *IHO Universal Hydrographic Data Model*, S-101, and the ongoing maintenance of S-57 – *IHO Hydrographic Data Transfer Standard* and its associated guidelines and standards, such as S-58 - *Recommended ENC Validation Checks*.

**S-101 User Requirements Workshop.** An S-101 stakeholders' workshop was held at the UKHO in March. The workshop was convened by the chairs of the IHO technical working groups (WGs) that are working directly on the development of products and specifications based on the IHO S-100 data modelling framework. These include S-101 – the ENC Product Specification and the data elements required for S-10n – Digital Nautical Publications. Like the first workshop, held two years previously, the purpose of this workshop was to gain first hand information from stakeholders on the impact, requirements and any possible constraints that may have an impact on the introduction of these new developments.

The workshop comprised 15 invited industry experts representing mariners, ship operators, ECDIS manufacturers and chart software developers, together with the chairs and sub-group leaders of the Transfer Standards Maintenance and Application Development WG (TSMAD), the Standardisation of Nautical Publications WG (SNPWG), the Data Portrayal WG (DPWG), and the IHO Data Protection Scheme WG (DPSWG).

The workshop participants addressed a number of specific technical questions as well as developing more general principles that should be followed during the development and implementation of new S-100-based capabilities.

**S-101 – Draft ENC Product Specification.** The S-101 workshop held in Taunton provided valuable user and stakeholder input to the ongoing development of S-101 – the next-generation ENC Product specification, based on S-100. Work continued on the preparation of XML feature and portrayal catalogues. The USA (NOS) volunteered to develop an S-57 to S-101 data format converter by employing a contractor. The converter will be used initially to create S-101 test data.

**S-58 - Recommended ENC Validation Checks.** A new edition of S-58 was produced, primarily to provide improved checks to test the encoding of the data attribute EXPSOU (exposition of sounding) as a result of inconsistencies in ENC data encoding reported to Member States via CL 21/2010.

**Generic Template Product Specification for Marine Information Overlays.** Work continued on the development of a generic template for Product Specifications for Marine Information Overlays (MIO).

Information obtained during the discussions at the S-101 Stakeholder Workshop was used as important input to this activity.

**S-100 GI Registry.** The S-100 GI Registry is the web-based registry that directly supports S-100. During 2010 the Chair of TSMAD, through the UKHO, continued to develop the on-line Registry function. At the end of the year, the Registry was made openly available on the internet, under the management and operational arrangements described in S-99.

**TSMAD Outreach.** TSMAD, particularly through its Chair, continued to provide support, advice and guidance to various organisations, primarily through explaining and assisting those developing various applications using either S-100 or S-57. These included UN DOALOS which is developing an UNCLOS claims data Product Specification and liaison with IALA's e-Nav Committee on their possible use of S-100 and the S-100 GI Registry.

### **1.3 CHART STANDARDIZATION AND PAPER CHART WORKING GROUP** **(TASK 2.1.3)**

The Chart Standardization and Paper Chart Working Group (CSPCWG) met in Simon's Town, South Africa under the chairmanship of Mr. Peter JONES (UK) from 23-26 November. The record of the meeting is available on the IHO website. CSPCWG continued to receive active support from more than 20 IHO Member States. Additionally, two industry representatives (from Jeppesen C-Map and ESRI) joined the WG as expert contributors. The WG maintained its previous high level of activity of reviewing the IHO standards for which it is responsible. Work in 2010 included:

- A new edition of S-11 Part A - *Guidance for the Preparation and Maintenance of International Chart Schemes and Catalogue of International (INT) Charts*, that included the model Terms of Reference and Rules of Procedure for the International Charting Coordination WG.
- A completely revised edition 2.0 of IHO Publication S-49 - *Standardization of Mariners' Routeing Guides*.
- A new edition 4.000 of S-4 - *Chart Specifications of the IHO and Regulations for International (INT) Charts* that included a completely new section B-600. This was the culmination of thorough consultation over a long period and provides the international hydrographic community with completely new and detailed guidance on Chart Maintenance and the NM System.

The CSPCWG INT 1 sub-WG met in Cadiz, Spain in June principally to resolve differences between the three official language INT1 versions and S-4, in preparation for a round of new editions of INT1 planned for 2011.

Significant subjects discussed during 2010 included potential new symbols for Virtual Aids to Navigation and a resolution of problems caused by different understandings and associations of the word 'Foul'. Outcomes have since been reported or proposed to IHO Member States.

### **1.4 DIGITAL INFORMATION PORTRAYAL WORKING GROUP** **(TASK 2.1.4)**

The Digital Information Portrayal Working Group (DIPWG) maintains IHO specifications for colours, symbols and display rules used to portray Electronic Navigational Chart (ENC) data on Electronic Chart Display and Information Systems (ECDIS). The Working Group has active participation from over a dozen Member States and about the same number representing industry as expert contributors. The DIPWG, under the chairmanship of Mr. Colby HARMON (USA), held its 2010 annual meeting, in

conjunction with TSMAD, between 3-7 May, in Rostock, Germany. Minutes of the DIPWG meeting are available on the IHO web site.

As always, the routine efforts carried out by the Working Group included identifying corrections and enhancements to S-52 - *Specifications for Chart Content and Display Aspects of ECDIS*. However, some of the most important activities undertaken by the Working Group in 2010 included preparing data models and documentation for the S-100 Portrayal Register and S-101 Portrayal Catalogue, which will support the display of the next generation of ENC data, specified by the evolving S-101 - *ENC Product Specification*, which is being developed by TSMAD.

Ongoing work of the DIPWG also included liaising with the CSPCWG to ensure as much consistency between paper chart and ENC symbology as possible, as well as with the Standardization of Nautical Publications Working Group (SNPWG) to assist in their early work to define symbology for the graphic display of some aspects of nautical publication information.

More detailed information about DIPWG activities is provided in the DIPWG pages of the IHO website.

## **1.5 STANDARDIZATION OF NAUTICAL PUBLICATIONS WORKING GROUP (TASK 2.1.5)**

The 12<sup>th</sup> Meeting of the Standardization of Nautical Publications Working Group (SNPWG 12) took place in Tokyo, Japan, from 21 to 27 June under the chairmanship of Mr. David ACLAND (UK). The minutes of the meeting are available on the IHO website. Finland joined the SNPWG in 2010.

The bulk of the work was focussed on continuing development of an S-100 based data model for nautical publications information. During 2010 work on the Marine Environmental Programme showed that when detailed consideration is given to any new subject area, careful revision of the evolving data model is required. As a result, it is still too early to populate the NPUBS register in the IHO Geospatial Information Registry. However, the data dictionary in the SNPWG wiki continued to evolve and will eventually form the basis of the input to the NPUBS register.

Textual test data-sets were produced for parts of Sailing Directions, Radio Signals and Marine Protected Areas, concentrating on the “*Approaches to Micklefirth*” depicted in the S-64 test ENC. A test data set was also produced for Die Jade on the North Sea coast of Germany.

SNPWG began work to develop a Product Specification for an overlay depicting marine environment protection area information based on S-100. A first draft application schema was produced based on the assumption that the data will be in GML and initially displayed against a background of S-57 ENCs.

As a result of its work during 2010, various proposed improvements to S-100 were forwarded to TSMAD.

## **1.6 DATA PROTECTION SCHEME WORKING GROUP (TASK 2.1.6)**

The Chair, Mr. Jonathan PRITCHARD (UK), and the Secretary of the Data Protection Scheme Working Group (DPSWG) continued to provide vital technical advice to the IHB in fulfilling its role as the S-63 data protection scheme administrator. The scheme administrator processes all applications for licences to use the S-63 scheme, issues the relevant encryption keys and ensures compliance with the technical and other requirements of the licences. Throughout the year, an increasing number of applications were received from prospective Data Servers wishing to distribute ENCs and from equipment manufacturers wishing to use ENCs in their equipment and systems. The resultant workload on the IHB rose to about a quarter of the scheme administrator’s time. During 2010, the role of administrator was undertaken by the officer seconded to the IHB from Japan. New arrangements will need to be put into place in 2011 using the IHB’s permanent staff.

The principal work of the WG in 2010 was to review the progress of implementation of edition 1.1.1 of the S-63 data protection scheme and to begin consideration of appropriate data protection schemes to support S-100-based ENCs and other products in the future. The adoption of S-63 edition 1.1.1 was found to be mixed within the community of data servers and end user ECDIS systems. A large proportion of Data Servers were using edition 1.1, however, a number of the more prominent Data Servers that aggregate data from many Member States continued to use edition 1.0 to ensure compatibility with a large range of ECDIS systems.

The Chair of the DPSWG attended inter-RENC meetings to advise on technical issues related to the S-63 scheme.

### **1.7 HYDROGRAPHIC DICTIONARY WORKING GROUP** **(TASK 2.1.7)**

The Hydrographic Dictionary Working Group (HDWG), comprising relatively few active members, conducted all its work by correspondence under the chairmanship of Mr. Jerry MILLS (USA). The WG prepared revised definitions for 51 terms: 18 based on recommendations from CSPCWG; 26 from IHO publication B-6; and seven proposed by the former Chair of the S-44 WG. These were endorsed by HSSC2 and subsequently forwarded to Member States for adoption under cover of CL 75/2010.

### **1.8 TIDAL AND WATER LEVEL WORKING GROUP** **(TASK 2.1.8)**

The Tidal and Water Level Working Group (TWLWG) met in Stavanger, Norway from 27-29 April under the chairmanship of Mr. Stephen GILL (USA). Initial work on the “Dynamic application of tides in ECDIS” was completed and passed to TSMAD. The development of proposals for an appropriate S-57 / S-100 data model for tidal data is continuing.



A review of the definitions of Mean Sea Level and their suitability for waters with little tidal variation was progressed with areas for further work identified. The outline of a short course in “Tides for Hydrography” was prepared and passed to the Capacity Building Sub Committee. The WG provided assistance and clarification to the contractor engaged to translate the French Manual of Tides into English and completed the proof reading of the first four translated chapters of the manual.

### **1.9 ADVISORY BOARD ON THE LAW OF THE SEA** **(TASK 2.1.9)**

The 16<sup>th</sup> Advisory Board on the Law of the Sea (ABLOS) Business Meeting was held at the IHB on 25 and 28 October, in conjunction with a very successful 6<sup>th</sup> ABLOS Conference which attracted a full house to the IHB from 25 – 27 October. An ABLOS team from the UK delivered a one-week training course in Thailand on the technical aspects of the Law of the Sea for the benefit of EAHC Member States.

## **1.10 RENC'S JOINT TECHNICAL EXPERTS WORKING GROUP** **(TASK 2.1.10)**

The Joint Technical Experts Working Group (JTEWG), comprising technical experts from the established Regional ENC Coordination Centres (RENCs), did not meet in 2010.

## **1.11 DATA QUALITY WORKING GROUP** **(TASK 2.1.11)**

The 3<sup>rd</sup> meeting of the Data Quality Working Group (DQWG) took place in Rostock, Germany on 5 November under the chairmanship of Mr. Chris HOWLETT (UK). The minutes of the meeting are available on the IHO website.

The principal work of the DQWG during the year related to continuing investigations of optimal methods to depict chart data quality – especially in ENCs. The DQWG, through two IHO Circular Letters asked Member States to indicate what quality indicators are currently being routinely used (see CL 17), and what criteria HOs were using to determine the quality attribute CATZOC for legacy data (see CL 59). The replies, together with a future questionnaire to mariners and nautical colleges / institutes will enable the WG to develop proposals in 2011.

## **1.12 ENC UPDATING WORKING GROUP** **(TASK 2.1.12)**

In 2010 the ENC Updating Working Group (EUWG) comprised 19 Members States and three Expert Contributor Organisations who worked primarily on developing a revised version of Appendix 1 to S-52 “*Guidance for ENC Updating*” under the chairmanship of Mr. Yves LE FRANC (France).

The Working Group focused its activity on developing specific guidance for the production of ENC updates. The result of this work, which is continuing, will be incorporated in S-65 “*ENC Production Guidance*” or in the S-57 “*Use of the Object Catalogue for ENC*” in due course. In relation to Radio Navigational Warnings and ECDIS, the EUWG liaised in particular with the World-Wide Navigational Warning Service Sub-Committee (WWNWS).

## **1.13 MARINE SPATIAL DATA INFRASTRUCTURE** **WORKING GROUP** **(TASK 2.1.13)**

The monitoring of global geomatics development, especially that connected with coastal zone management and the development of national, regional and global spatial data infrastructure is a principal task of the Marine Spatial Data Infrastructure Working Group (MSDIWG), under its chairperson Ms. Maureen KENNY (USA).

While the MSDI WG did not meet in 2010, a white paper entitled *The Hydrographic and Oceanographic Dimension to Marine Spatial Data Infrastructure Development: “Developing the capability”* was prepared by MSDIWG expert contributors in May and made available via the MSDIWG section of the IHO Web site.

At the end of the year, a proposal for four documents previously associated with IHO publication C-17 - *Spatial Data Infrastructures: “The Marine Dimension” - Guidance for Hydrographic Offices* were submitted to Member States to be included as Annexes to C-17 (see CL 88).

## **2. HYDROGRAPHIC SURVEYING (ELEMENT 2.2)**

### **2.1 MANUAL ON HYDROGRAPHY – C-13** **(TASK 2.2.1)**

Two amendments to C-13 were published in 2010. The first reflected the adoption of the 5<sup>th</sup> Edition of S-44 - *Standards for Hydrographic Surveys* and some typographical errors identified by Portugal during its translation of C-13 into Portuguese. The second amendment corrected some further typographical errors identified during the translation of parts of C-13 into French by France.

### **2.2 HYDROGRAPHIC DICTIONARY – S-32** **(TASK 2.2.2)**

An on-line “Wiki” version of the Hydrographic Dictionary in English and French was made available via the IHO website in 2010. This was primarily as a result of the work undertaken by Mr NAKABAYASHI, seconded to the IHB from the Hydrographic Department of the Japan Coastguard. Work on a Spanish version is continuing.

### **2.3 TIDAL AND WATER LEVEL PUBLICATIONS** **(TASK 2.2.3)**

Information regarding the types of tide gauges used by IHO Member States was made available on the TWLWG web page of the IHO website and will be maintained on a continuous basis as new/updated information is received.

### **2.4 HYDROGRAPHIC PUBLICATIONS** **(FOR WHICH THERE IS NO SPECIFIC BODY IN CHARGE)** **(TASK 2.2.4)**

There was no revision action taken in 2010 on those IHO publications for which there is no specified responsible body, including M-12 – *Standardization of List of Lights and Fog Signals* and S-60 – *Handbook on Datum Transformations*.

## **3. NAUTICAL CARTOGRAPHY (ELEMENT 2.3)**

### **3.1 NAUTICAL PUBLICATIONS (TASK 2.3.1)**

#### **S-4 – IHO Chart Specifications**

As indicated elsewhere in this report, the CSPCWG continued its review of Part B of S-4. A new section, B-600, on the subject of Chart Maintenance, was approved by Member States (see CL 49). A new edition 4.000 of S-4 was published in September. See also § 1.3.

#### **S-11 – Guidance for the Preparation of International Chart Schemes and Catalogue of INT Charts**

A new edition 2.003 of S-11 Part A, which included generic terms of reference and rules of procedure for International Charting Coordination Working Groups (ICCWG), was approved by Member States (see CL 23) and published in March.

S-11 Part B – the catalogue of INT charts - is permanently maintained by the IHB in liaison with the 14 regional coordinators of INT chart schemes. Significant re-scheming and/or addition of charts occurred in INT Regions B (Baltic Sea) and K (E. Asia & NW Pac. Ocean), under the coordination of Finland and Japan, respectively. 105 new INT charts have been added to the schemes, including 54 for Region E and 19 for Region K. In total, 192 new INT charts were published during the year, including 44 in Region E and 95 in Region K. The status of INT chart series at the end of 2010 is shown in a table at Appendix V.

#### **S-49- Recommendations Concerning Mariners' Routeing Guides**

A new edition 2.0 of S-49, prepared by the CSPCWG, was approved by Member States (see CL 33) and published in April.

#### **S-52 – Specifications for Chart Content and Display Aspects of ECDIS**

A new edition 6.0 of S-52, prepared by the DIPWG and amalgamating the former main document of S-52 and its Appendix 2 (display specifications), was approved by Member States (see CL 24) and published in March.

#### **S-65 - ENC Production Guidance**

A new edition 1.2 of S-65 was approved by Member States (see CL 13) and published in February. It included a revised list of “*Specific SCAMIN Step Values for Object and Attribute Combinations*” (Appendix 1 of Annex A), prepared by TSMAD, and “*Guidelines for encoding Temporary and Preliminary ENC updates*” (Annex B), prepared by the EUWG.

#### **S-66 - Facts about Electronic Charts and Carriage Requirements**

Edition 1.0.0 of S-66 was published in January (see CL 5). Versions in Spanish, Portuguese and Japanese have also been produced and are available from the IHO website.

#### **S-99 - Operational Procedures for the Organization and Management of the S-100 Geospatial Information Registry**

S-99 is the new IHO standard prepared by TSMAD that describes the roles, responsibilities and procedures for operating and managing the S-100 GI Registry and its component registers. A draft was submitted to, and endorsed by HSSC in October. It was proposed to Member States for approval in November (See CL 70).

#### **S-100 – The Universal Hydrographic Data Model**

Edition 1.0.0 of S-100 was adopted by Member States as an active standard (see CL 83/2009), and published in January.

### **3.2 DIGITAL DATA PROTECTION** **(TASK 2.3.2)**

The IHB has continued to act as scheme administrator for the S-63 IHO Data Protection Scheme. At the end of the year, there were about 150 OEMs (mainly ECDIS manufacturers and software developers) and 30 Data Servers, accredited to implement the S-63 ENC data protection scheme. Advice was provided to a number of S-63 users, regarding the use and implementation of the S-63 scheme, often drawing on the valuable assistance of the Chair and the Secretary of the DPSWG.

### **3.3 LIAISON AND COOPERATION WITH OTHER ORGANIZATIONS** **(TASK 2.3.3)**

An increasing number of expert contributors and delegates from accredited Non Governmental International Organizations (NGIO) participated in the technical bodies of the IHO, providing valuable insight, comment and practical assistance to work items under consideration. The IHB represented the IHO as a liaison member at the 30th plenary and working group meeting of the ISO Technical Committee 211 (ISO/TC211) dealing with ISO geographic standards. The meeting took place in Southampton, UK on 24-28 May. ISO/TC 211 (ISO/TC 211) is responsible for the development of the series of standards for geospatial information upon which the IHO S-100 framework and the IHO GI registry is based. The ISO standards are also relevant to the development work of other HSSC technical working groups such as SNPWG and DIPWG.

### **3.4 ENC PRODUCTION, DISTRIBUTION AND UPDATE** **(TASK 2.3.4)**

A number of Regional Hydrographic Commissions included the review and coordination of ENC consistency and a common level of IHO data quality on the agendas of their meetings. Where this occurred, it has been reported in the records of the relevant meetings.

### **3.5 INT CHART SERIES** **(TASK 2.3.5)**

The number of INT charts included in the various regional INT chart schemes, as well as the number of INT charts actually produced by Member States, increased significantly in 2010, as reflected in the table at § 3.1 (S-11).

## **4. DATA FOR GEOMATIC APPLICATIONS (ELEMENT 2.4)**

### **4.1 DEVELOPMENT OF STANDARDS (TASK 2.4.1)**

The work of developing processes under S-100 for hydrographic data and exchange product specifications has been covered elsewhere in this report – especially under the sections concerning HSSC and TSMAD.

### **4.2 MARITIME SPATIAL DATA INFRASTRUCTURES (TASK 2.4.2)**

The monitoring of global geomatics development, especially those connected with coastal zone management and the development of national, regional and global spatial data infrastructure is a principal task of the MSDIWG. This is reported under the section covering the MSDIWG.

## **5. TECHNICAL ASPECTS OF THE LAW OF THE SEA**

### **5.1 ABLOS CONFERENCES (TASK 2.5.1)**

The 6th Conference of the Advisory Board on the Law of the Sea (ABLOS) was held at the IHB from 25-27 October. The conference theme was: *Contentious issues in UNCLOS? Surely not!* The conference attracted a capacity audience of 90 delegates from 28 countries with 28 papers being presented during nine sessions. The Keynote address “*The Relevance of Hydrography to UNCLOS; an Indonesian Perspective.*” was delivered by Professor HASJIM Djalal.



### **5.2 TECHNICAL ASPECTS OF THE LAW OF THE SEA MANUAL (TASK 2.5.2)**

ABLOS began a review of the manual on the Technical Aspects of the Law of the Sea (TALOS) with a view to preparing a first draft of the 5th Edition in 2011.

### **5.3 TALOS TECHNICAL ASSISTANCE (TASK 2.5.3)**

As reported under Task 2.1.9 a one-week law of the sea training course was delivered to the East Asia Hydrographic Commission (EAHC) by the UK on behalf of ABLOS.

## **WORK PROGRAMME 3 INTER-REGIONAL COORDINATION AND SUPPORT**

### **Introduction**

The International Hydrographic Organization established the Inter Regional Coordination Committee (IRCC) 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 programmes;
- 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 section provides an overview of IRCC related activities as mandated by Programme 3 of the IHO Work Programme 2010 (ref. CL 82/2009). The following sections are organized according to the elements of the Programme.

## 1. CO-OPERATION WITH MEMBER STATES (ELEMENT 3.1)

### 1.1 REGIONAL HYDROGRAPHIC COMMISSIONS (TASKS 3.1.1 TO 3.1.14)

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

#### 54<sup>th</sup> MEETING OF THE NORDIC HYDROGRAPHIC COMMISSION (TASK 3.1.1)

Reykjavik, Iceland, 12-14 April

**Chairperson:** Rear Admiral LARUSSON (Iceland)

**Members:** Denmark, Finland, Iceland, Norway, Sweden  
**IHB Representatives:** Captain WARD, Mr. PHARAOH



The 54<sup>th</sup> Meeting of the Nordic Hydrographic Commission (NHC) was hosted in Reykjavik by the Hydrographic Department of the Icelandic Coastguard from 12 to 14 April. Rear Admiral LARUSSON, Director General of the Icelandic Coastguard, opened the meeting. All the RHC Members were represented: Denmark, Finland, Iceland, Norway and Sweden. Captain WARD represented the IHB as an observer.

The meeting reviewed hydrographic progress in the region and various developments affecting the region and agreed on a number of actions. Discussions included national reports, developments in the past year, the status of approval of the Protocol of amendments to the IHO Convention and new IHO Member States; the likely establishment of an Arctic Hydrographic Commission and any impact it might have on the NHC; progress reports on various NHC Working Groups and progressing various hydrographic related issues raised in the National Reports. The Commission also discussed print-on-demand, validation of multibeam data and organization of surveying. Activities post-meeting included a workshop on nautical publications and a meeting of the Nordic Chart Production Expert Working Group were held later in the year.

At the end of the meeting Norway took over the Chair of the Nordic HC. The 55th meeting of the NHC will be in Stavanger, Norway, on 5 and 6 April 2011.



**29<sup>th</sup> MEETING OF THE NORTH SEA  
HYDROGRAPHIC COMMISSION .  
(TASK 3.1.2)  
SHOM, Brest, 28-29 September**

<p><b>Chairperson:</b> Mr. ESKILDSSSEN (Denmark)  <b>Vice-Chairperson:</b> Ingénieur général de l'armement  FRACHON (France)</p> <p><b>Members:</b> Belgium, Denmark, France, Germany, Iceland, Ireland,  Netherlands, Norway, Sweden, UK.  <b>IHB representatives:</b> Vice Admiral MARATOS, Lieutenant  Commander SHIPMAN</p>
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The 29<sup>th</sup> meeting of the North Sea Hydrographic Commission (NSHC) was held at the French Hydrographic Service in Brest, France, on 28-29 September. Twenty-three (23) delegates participated in the meeting representing France, Germany, Denmark, the Netherlands, Sweden, Norway, Iceland, Ireland and UK. The Bureau was represented by Vice Admiral MARATOS.



The Commission reviewed the status of INT chart and ENC production and discussed a number of issues such as the use of remote updating services for ENCs, methods for cleaning survey depth data, methodology for assessing and displaying survey status, reference surfaces for the North Sea area, re-survey strategies, and HO finance models. The Commission tasked its Working Group on European Union (EU) Marine and Maritime policies to continue as focal point on the development of EU activities and agreed to open it for participation by all EU HOs. It decided to establish an ENC Harmonization Working Group in order to promote increased consistency, common encoding standards and an improved level of ENC quality in the region.

The Director of SHOM, IGA Bruno FRACHON, was elected Chairman of the Commission for the next period.

**EAST ASIA HYDROGRAPHIC COMMISSION  
(TASK 3.1.3)**

**4<sup>TH</sup> COORDINATING MEETING  
Bangkok, Thailand (21-22 January)**

The East Asia Hydrographic Commission (EAHC) held its 4<sup>th</sup> coordinating meeting in Bangkok, Thailand (21-22 January). Its ENC Task Group met three times (Bangkok, Thailand, 20 January; Hong Kong, China, 17-19 March; Pattaya, Thailand, 19-21 July) to address ENC overlaps, gaps and data harmonization in the region.

**33<sup>rd</sup> MEETING OF THE US-CANADA  
HYDROGRAPHIC COMMISSION  
(TASK 3.1.4)**

Ottawa, Canada, 17-18 May.

**Co-Chairs:** Dr. NARAYANAN (Canada) and Captain LOWELL (USA)

**Members:** Canada, USA

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



The 33<sup>rd</sup> Meeting of the US-Canada Hydrographic Commission (USCHC) was held in Ottawa hosted by Canada, co-chaired by the Dominion Hydrographer of Canada and the Director of Coast Survey of the USA, Dr. Savi NARAYANAN and Captain John LOWELL respectively.

The meeting discussed a range of topics including ongoing consideration of ways to achieve consistent ENC coverage in the trans-boundary areas between Canada and the USA. Extensive discussion also took place on the impending establishment of an Arctic Hydrographic Commission, and, in particular, where the northern boundary between the USCHC and the new Arctic Commission might lie.



**15<sup>th</sup> MEETING OF THE BALTIC SEA  
HYDROGRAPHIC COMMISSION  
(TASK 3.1.6)**

Gdynia, Poland, 21-23 September

<p><b>Chairperson:</b> Ms. HAVSTEEN (Denmark) <b>Vice-Chairperson:</b> Captain NITNER (Poland)</p>	
<p><b>Members:</b> Denmark, Estonia, Finland, Germany, Latvia, Poland, Russian Federation, Sweden.</p>	
<p><b>Associate Members:</b> Lithuania. <b>IHB representatives:</b> Vice Admiral MARATOS, Lieutenant Commander SHIPMAN</p>	

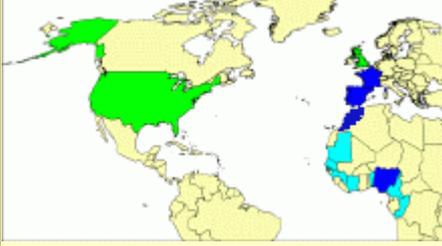
The 15<sup>th</sup> Meeting of the Baltic Sea Hydrographic Commission (BSHC) was held in Gdynia, Poland, on 21-23 September, under the Chairmanship of Mrs. Wiin HAVSTEEN (Denmark). All full members of the Commission attended, the UK attended as an Observer and the IHB was represented by Lieutenant Commander SHIPMAN.



The Commission discussed such items as the current and future use of S-100 within BSHC Member States, the status of leisure craft charts and the methodology for assessing and displaying survey status. A number of BSHC Working Groups (Chart Datum WG, Re-Survey Monitoring WG, Bathymetry Database WG, Baltic Sea Hydrographic Depth Information Harmonization WG) were tasked to continue their activities while the remaining work from the Baltic Sea ENC Harmonization WG was transferred to the Baltic Sea INT Chart Committee WG. An additional working group was established to initiate a study of Marine Spatial Data Infrastructure in the Baltic.

At the end of the meeting Captain Henryk NITNER of Poland was elected Chairman of the BSHC.

**11<sup>th</sup> EASTERN ATLANTIC  
HYDROGRAPHIC COMMISSION CONFERENCE  
(TASK 3.1.7)  
Accra, Ghana, 24-26 November**

<p><b>Chairperson:</b> Commodore INUSA (Nigeria)  <b>Vice-Chairperson:</b> Vice Admiral RAMOS DA SILVA (Portugal)</p>	
<p><b>Members:</b> France, Morocco, Nigeria, Portugal, Spain.  <b>Associate Members</b> Benin, Cameroon, Cape Verde, Congo (Rep. of), Côte d'Ivoire, Guinea, Guinea-Bissau, Mauritania  <b>Observers:</b> Congo (Dem. Rep. of), Equatorial Guinea, Gabon, Gambia, Ghana, Liberia, Sao Tome and Principe, Sierra Leone, UK, USA, Senegal, Togo.  <b>IHB Representatives:</b> Captain GORZIGLIA, Ingénieur en chef HUET</p>	

The 11<sup>th</sup> Conference of the Eastern Atlantic Hydrographic Commission (EAthC) was hosted by the Government of Ghana at the Regional Maritime University (RMU). 32 participants attended the event that took place at the RMU facilities in Accra. Participants from France, Morocco, Nigeria, Portugal, Spain, Guinea, Guinea Bissau, Rep. of Congo, Togo, Ghana and UK attended the meeting. The IHB was represented by Captain GORZIGLIA and Ingénieur en chef HUET. Vice Admiral RAMOS DA SILVA (Portugal) was elected Vice Chair of the



Conference and took over the EAthC chairmanship at the end of the 11th Conference, for a period of two years. The Commission considered items related to the management of the Commission, the status of INT chart and ENC production in the region and the IHO Work Programme, highlighting the cooperation with the PMAWCA, and the next IHC. Capacity building issues, increasing participation in IHO activities and improving the provision of Maritime Safety Information were also discussed.

The Commission decided to start developing a Capacity Building strategy following a proposal made by France as the CB Regional Coordinator. A report on MSI was also examined and it was noted that some progress had been made with regard to the operation of NAVAREA II. The actions conducted in 2009, with the support of the Regional Maritime University of Accra (RMU), as regards training on the systems and broadcasting of Maritime Safety Information (MSI) were welcomed and marked significant progress in this matter.

As noted above, at the end of the meeting, Vice Admiral RAMOS DA SILVA took over the EAthC chairmanship for the next two years.

**4th MEETING OF THE SOUTH WEST ATLANTIC  
HYDROGRAPHIC COMMISSION  
(TASK 3.1.14)**

Buenos Aires, Argentina, 25 - 26 March

**Chairperson:** Rear Admiral DI VINCENZO (Argentina)



**Members:** Argentina, Brazil, Uruguay

**Associated members:** Paraguay

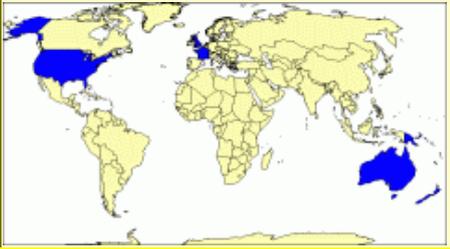
**Observers:** Bolivia

**IHB Representatives:** Captain GORZIGLIA, Captain BERMEJO

The 4<sup>th</sup> Meeting of the South West Atlantic Hydrographic Commission (SWAtHC) was held at the *Servicio de Hidrografía Naval* (SHA) in Buenos Aires, Argentina, on 25-26 March. The Hydrographers of Argentina, Brazil and Uruguay were present, along with the Hydrographers of Bolivia and Paraguay, as well as hydrographic industry representatives who attended as Observers. The IHB was represented by Captain GORZIGLIA and Captain BERMEJO. The Commission welcomed the two new Associate Members – Paraguay, who signed the Statutes, and Bolivia, in the process of finalizing the procedures. The Commission examined the actions agreed at the last meeting and confirmed that all the tasks had been completed. National Reports submitted by the members were also considered, as well as the reports presented by the SWAtHC Planning Committee and the Capacity Building Committee. Several proposals related to the conclusions of the reports were made. The Commission reviewed the ToRs of its Planning Committee and discussed ways and means to improve ENC harmonization on River Plate (Rio de la Plata). The representatives from CARIS and Jeppesen provided presentations on the latest developments in their respective areas.

**10th MEETING OF THE SOUTH WEST PACIFIC  
HYDROGRAPHIC COMMISSION  
(TASK 3.1.9)**

Honiara, Solomon Islands, 9-10 November

<p><b>Chairperson:</b> Ingénieur général de l'armement FRACHON (France) <b>Vice-chairperson:</b> Mr. GREENLAND (New Zealand)</p>	
<p><b>Members:</b> Australia, Fiji, France, New Zealand, Papua New Guinea, Tonga, UK, USA <b>IHB Representatives:</b> Captain WARD, Mr. PHARAOH</p>	

The 10<sup>th</sup> meeting of the South West Pacific Hydrographic Commission (SWPHC) took place in Honiara from 9 to 10 November, under the chairmanship of Ingénieur général FRACHON (France). The meeting was organized and hosted by the newly created Solomon Islands Maritime Safety Agency (SIMSA). Six Member States were represented at the meeting, plus observers from the Solomon Islands, the Pacific Islands Applied Geoscience Commission (SOPAC) and an industry representative from the region. The IHB was represented by Captain WARD. National reports and IHO activities were reviewed, especially those of the IHB, the IRCC and the HSSC.



The Commission reviewed the progress of surveying operations, the status of INT chart and ENC production, the delivery of Maritime Safety Information (MSI) and the relations with other regional organizations, as well as the development of regional initiatives to support States with limited hydrographic capabilities.

Capacity Building actions were identified and prioritized and a number of proposals will be presented to the next meeting of the IHO Capacity Building Sub-Committee. Papua New Guinea was elected to chair the Commission for the next two-year term, with Australia to serve as Vice-Chair.

**11<sup>th</sup> MEETING OF THE MESO-AMERICAN AND CARIBBEAN  
HYDROGRAPHIC COMMISSION  
(TASK 3.1.10)**

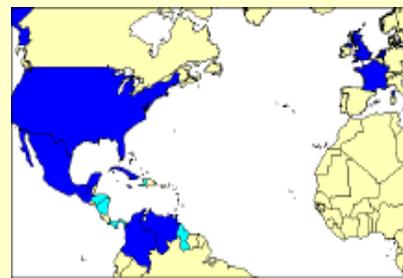
Paramaribo, Suriname, 10-11 November

**Chairperson:** Vice Admiral PALMER (Brazil)  
**Vice-Chairperson:** RAdm. LAMBERT (UK)

**Members:** Brazil, Colombia, Cuba, France, Guatemala, Jamaica, Mexico, The Netherlands, Trinidad & Tobago, UK, USA, Venezuela.

**Associate Members:** Antigua & Barbuda, Barbados, El Salvador, Guyana, Haiti, Honduras, Nicaragua, Panama, Sta. Lucia, St. Kitts & Nevis

**IHB Representatives:** Captain GORZIGLIA, Captain BERMEJO



The 11<sup>th</sup> Meeting of the Meso-American and Caribbean Hydrographic Commission (MACHC) was held at the Marriot Courtyard Hotel in Paramaribo, Suriname, hosted by the Hydrographic Office of Suriname. The following representatives attended: Antigua & Barbuda, Belize, Brazil, Colombia, Dominica, El Salvador, France, Guatemala, Haiti, Jamaica, Mexico, The Netherlands, St. Kitts & Nevis, Suriname, UK, USA and Venezuela. Representatives from Chile, Gulf of Honduras Project, PAIGH, KONSBERG, JEPPESEN and FURGO attended as observers. The meeting was preceded on 8-9 November by meetings of the Electronic Charts Committee and the INT Charts Committee, who presented reports to the plenary meeting. The work carried out since the last meeting was reviewed, as well as reports on the general activities and performance of the IHO. National Reports were provided by the members of the Commission.



Special consideration and time were devoted to Capacity Building, with a special session in support of Haiti, where the Haitian representatives submitted a project for assistance. The Commission decided to provide technical support to the development of the critical areas concerning safety of navigation in that country. The CB Co-ordinator (UK) presented the projects carried out during the period pertaining to the approved CB Programme for 2010. A revised CB Programme for 2011-2012 was subsequently approved.

The day following the closure of the meeting was “Industry Day”, when the MACHC delegates had the opportunity to see technical presentations made by the hydrographic companies present. These presentations were followed by a visit to the facilities of the Maritime Authority of Suriname (MAS).

**ROPME SEA AREA HYDROGRAPHIC COMMISSION  
(TASK 3.1.12)**

The 4<sup>th</sup> meeting of the Regional Organization for the Protection of the Marine Environment (ROPME) Sea Area Hydrographic Commission (RSAHC) was postponed. It is planned to be held in Muscat, Oman on 21-23 March 2011.

**10<sup>th</sup> MEETING OF THE NORTH INDIAN OCEAN  
HYDROGRAPHIC COMMISSION (NIOHC)  
(TASK 3.1.13)**

Dhaka, Bangladesh, 23-24 February

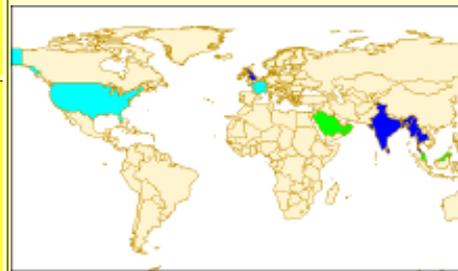
**Chairperson:** Vice Admiral RAO (India)  
**Vice Chairperson:** Rear Admiral Mohd AL SHERI (Saudi Arabia)

**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, Lieutenant Commander SHIPMAN



The 10<sup>th</sup> meeting of the North Indian Ocean Hydrographic Commission (NIOHC) took place in Dhaka, Bangladesh, on 23-24 February under the Chairmanship of Vice Admiral RAO, the Director of the Indian HO. Representatives from Bangladesh, India, Oman, Pakistan, Thailand, UK, USA and IOC participated in the meeting. The Bureau was represented by Vice Admiral MARATOS.

Various issues of interest to the region were examined, with special emphasis on the status of hydrographic surveying, the promulgation of MSI, disaster response, INT Chart status, C-55 update and needs for Capacity Building and training. The status of ENC production was examined in detail and it was concluded that the region has a good coverage on the various bands. The IHB reported on the progress of the approval of the Protocol of Amendments to the IHO Convention, asking those members present to accelerate their internal procedures. The IOC representative indicated IOC's willingness to finance training on surveying and charting. Representatives were asked to indicate to IOC their interest in this training and to provide details for participation.

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

Cartagena de Indias, Colombia, 15 - 17 November

**Chairperson:** Rear Admiral SANTAMARIA (Colombia)

**Vice Chairperson:**

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

**Observers:** Panama

**IHB Representatives:** Captain GORZIGLIA, Captain BERMEJO



The 9<sup>th</sup> Meeting of the South East Pacific Hydrographic Commission (SEPHC) took place at the Capilla del Mar Hotel in Cartagena de Indias, Colombia, from 15 to 17 November.

A detailed report on the activities conducted since the last meeting was presented by Colombia and all delegations presented their national reports.



The Commission discussed INT chart and ENC schemes and reviewed the status of the 2008-2012 IHO Work Programme and Capacity Building Programme, outlining the next phase (2013-2017). The next International Hydrographic Conference and other general items of the Organization were also discussed.

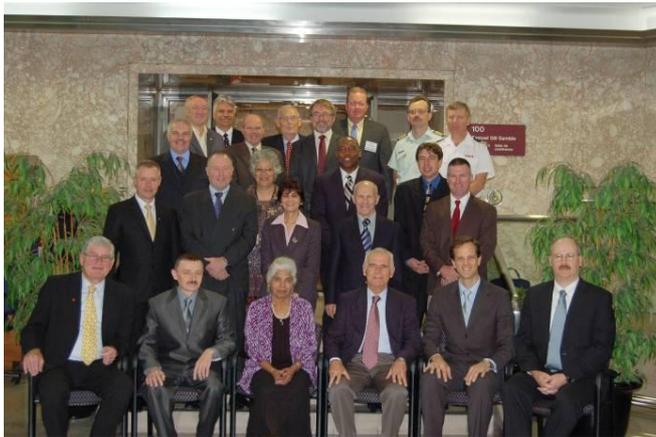
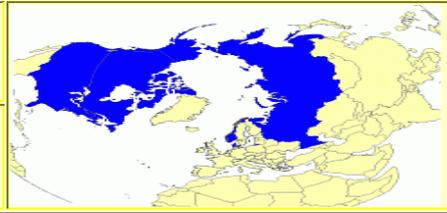
The participants agreed to:

- Create a WG on CB matters chaired by Peru
- Nominate Ecuador to coordinate a regional group on HSSC subjects
- Introduce video-conferences to improve coordination and follow-up of agreed actions
- Nominate Chile to lead the representation of the region at the WEND WG
- Organize a workshop to discuss ENC cells, consistency and availability in Chile, April 2011
- Set up a reporting procedure to assess progress every three months

**1<sup>st</sup> MEETING OF THE ARCTIC REGIONAL  
HYDROGRAPHIC COMMISSION**  
Ottawa, Canada, 4-6 October

**Chairperson:** Dr. NARAYANAN (Canada)  
**Vice-Chairperson:** Mr. ESKILDSEN (Denmark)

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



Following informal discussions in June 2009 at the 4<sup>th</sup> Extraordinary International Hydrographic Conference in Monaco, Canada, Denmark, Norway, Russian Federation and the United States agreed to set up a new RHC for the Arctic Ocean Region, which held its first meeting in Ottawa, Canada, organized by the Canadian Hydrographic Service, on 4-6 October. Twenty-one delegates attended the meeting coming from Canada, Denmark, Norway, Russian Federation and USA. Vice Admiral Alexandros MARATOS participated representing the IHB. Various presentations were made by the participants and invited

guests in order to highlight the importance of this region to safety and environmental issues and to examine possible problems that exist and how to face them.

The new Commission approved its Statutes (Ref: C. 63/2010). The signature of the Statutes by the five bordering countries, which became the members of the Commission, took place on 6 October during a special ceremony. The signed Statutes were handed to the President of the IHB Directing Committee to be kept by the Bureau acting as the repository of these Statutes.

Dr. NARAYANAN (Canada) was elected Chairperson of the ARHC.

**MEDITERRANEAN AND BLACK SEAS  
HYDROGRAPHIC COMMISSION**

**MBSHC INTERNATIONAL CHARTING COORDINATION WORKING GROUP**

Paris, France (16-17 February)

The Mediterranean and Black Seas Hydrographic Commission (MBSHC) International Charting Coordination Working Group met in Paris, France (16-17 February) to progress technical discussions on the INT chart scheme covering the Aegean Sea.

The Hydrographers of Cyprus, Greece and Turkey led the delegations that took part in the meeting. The Chairman of the IHO Chart Specifications and Paper Chart Working Group (CSPCWG), Captain Ward and Ing en chef Huet, representing the IHB, provided technical advice relating to the implementation of the INT chart schemes.

**10<sup>th</sup> MEETING OF THE BLACK AND AZOV SEAS WORKING GROUP**

Istanbul, Turkey, 27-28 May

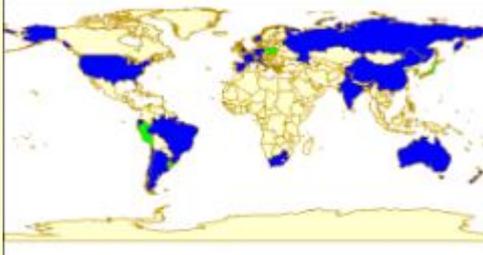
The 10<sup>th</sup> meeting of the Black and Azov Seas Working Group (BASWG) took place in Istanbul, Turkey on 27 - 28 May, under the Chairmanship of Rear Admiral IPTES, Director of the Office of Navigation, Hydrography and Oceanography of Turkey. There were 25 delegates at the meeting representing Turkey, Russian Federation, Ukraine, Bulgaria and Georgia. Vice Admiral MARATOS represented the IHB.

The WG discussed issues concerning the Statutes of the WG, the production of INT charts and ENC's, the promulgation of MSI, bilateral co-operation and the Capacity Building needs of the States bordering the region. The decisions of the meeting will be brought to the attention of the MBSHC for endorsement. Rear Admiral IPTES was re-elected Chairman for the next biennium 2011-2012.



**1.2. 10<sup>TH</sup> MEETING OF THE HYDROGRAPHIC COMMISSION**  
**ON ANTARCTICA**  
**(TASK 3.1.15)**

Cambridge, United Kingdom, 20-22 September

<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, United Kingdom, Uruguay, USA</p>	
<p><b>Observer Organizations:</b> Antarctic Treaty Secretariat (ATS), Council of Managers of National Antarctic Programmes (COMNAP), Standing Committee on Antarctic Logistics and Operations (SCALOP), 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), IHO Data Center for Digital Bathymetry (DCDB), Australian Antarctic Division, Antarctica New Zealand.</p>	

The 10<sup>th</sup> Meeting of the Hydrographic Commission on Antarctica (HCA) took place in Cambridge, United Kingdom, on 20-22 September, organized by the UKHO, with the support of the BAS.

16 IHO Member States (Argentina, Australia, Brazil, Chile, Ecuador, France, Germany, India, Korea (Rep. of), New Zealand, Norway, Peru, South Africa, Spain, United Kingdom and USA), attended with 5 other international organizations and projects (COMNAP, IAATO, IALA, GEBCO, IBCSO) and the representative from the UK Foreign and Commonwealth Office. Commodore NAIRN (Australia) was elected Vice Chairman of the HCA.

Reports were provided by IAATO, IALA, GEBCO, IBCSO and the IHO Member States. The reports detailed the progress made regarding the INT chart scheme, ENC scheme and production, the C-55 status with regard to Antarctica and an Antarctic GIS under development at the IHB.

Other topics discussed included the availability of ENC covering Antarctic waters, the status of survey and charting plans in the region and the ways and means to improve the visibility of related issues, in relation with the appropriate organizations. It was agreed to include information in the IHO report to the next ATCM concerning the status of ENC production and a call to enhance ENC availability as a mechanism to improve safety to navigation and protection of the marine environment in the region. The IHB - as the coordinator of the INT Chart of Antarctica - was requested to develop and propose a large-scale ENC scheme for consideration by the HCA.

The Commission further agreed on a number of other actions to be carried out during the inter-sessional period, with clear identification of the responsibilities and deadlines.

### **1.3 SECOND IRCC MEETING** **(TASK 3.1.16)**

The second meeting of the Inter Regional Coordination Committee (IRCC2) was held in New Orleans, USA on 17-18 June, as arranged by the US NAVOCEANO and NOAA (ref. CL 25/2010). The meeting was attended by the Chairs or Representatives from all Regional Hydrographic Commissions, except RSAHC, relevant Committees, except GEBCO, Sub Committees and other bodies as well as delegates from individual IHO Member States and Non Governmental International Organizations (NGIO) accredited to the IHO.

The final minutes of IRCC2, together with all documents referred to at the meeting, are available on the IHO web site (ref. CL 50/2010). The most significant points discussed at the meeting are summarized below.

#### **Regional Hydrographic Commissions**

The Committee reviewed the recent IHO Circular Letters relevant to RHC activities and discussed the progress of the establishment of an Arctic Regional Hydrographic Commission. RHCs were invited to report at the next meeting on methodologies in use for displaying information on survey status, on the implementation guidance for preparing and maintaining INT Charts and on experiences in dealing with marine disasters. On the recommendation of the Committee, Chart Specification A402.1 in Publication S-4 was amended to facilitate the access of INT chart producers to new data (ref. CL 69/2010).

The Committee considered a US proposal concerning the clarification of the status of RHCs and agreed that no further action was required.

#### **Activities of other IRCC Bodies**

RHCs were invited to use the template agreed by the IHO Sub-Committee on the World-Wide Navigational Warning Service (WWNWS) in the Marine Safety Information (MSI) section when establishing National Reports. Section 8 of IHO Resolution 2/1997 was amended accordingly (ref. CL 69/2010). RHCs were also invited to take action on the lack of follow-up reports from countries receiving support from the Capacity Building Fund.

The Committee adopted the Work Programme of the WEND Working Group (see § 1.4).

#### **Relations with other Bodies**

The Committee encouraged the continuation of the valuable collaboration amongst IHO, IALA, WMO, IOC and IMO to optimize resources in capacity building programmes<sup>2</sup> and noted the progress made in consolidating the cooperation with regional organizations such as the Association of Caribbean States and the European Commission.

#### **Terms of Reference and Rules of Procedure**

The Committee identified some editorial changes required to be made to its Terms of Reference and Rules of Procedure adopted in 2007 in order to make them consistent with the latest texts adopted by IHO Member States. The revised edition is posted on the IHO web site.

#### **Other topics**

The Committee was informed by the US delegates of the hard work that all the US institutions involved in the response to the oil spill in the Gulf of Mexico were carrying out. Their presentations stressed the importance of an adequate hydrographic background in emergency situations.

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<sup>2</sup> See page 16

## **1.4 WEND WORKING GROUP AND ENC COVERAGE** **(TASKS 3.1.17 TO 3.1.19)**

The Terms of Reference of the WEND Working Group (WENDWG) had been agreed at the first IRCC meeting (IRCC1) in 2009. The tasks of the WENDWG had been defined as:

- Monitor the development of adequate ENC coverage to meet any carriage requirements for ECDIS;
- Develop proposals for speeding up ENC production and ensuring uniform ENC quality and consistency, and for making data available worldwide, including SENC distribution, taking advantage of any offers for production assistance, or other ways of mutual assistance and co-operation;
- Advise MS, where appropriate, on the need, as well as on methods and tools for validating the data and on any assistance which could be offered by the RENCs;
- Monitor the implementation of the WEND, in response to Decision 21 of the XVIIth IHC, and advise IRCC of appropriate measures for speeding up the implementation process;
- Assist in harmonizing the policies of Regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, et cetera.

As agreed at IRCC1, the composition of the WG was prepared by correspondence and the proposals were presented at IRCC2. The Committee confirmed the chair (UK) and designated a vice chair (Brazil). The Committee also approved the following work plan:

- a. Monitor progress in providing ENC coverage and identify and propose solutions to issues of concern such as gaps and overlaps.
- b. Investigate and report on the significance of other areas of concern:
  - variation in licensing terms and conditions,
  - reports of ENC quality and updating issues.
- c. Keep RHC Chairs informed of ENC issues identified within their regions.
- d. Provide support to IHB in preparation of reports to IMO NAV Sub-Committee.
- e. Prepare a report for IRCC3.

The following table presented by the IHB at the 56th meeting of the IMO NAV Sub-Committee (ref. NAV56/8/7) indicated the progress in providing ENC coverage:

Comparison of ENCs with corresponding paper charts for international voyages			
	May 2008	May 2009	May 2010
Small scale ENCs (planning charts)	>90%	~100%	~100%
Medium scale ENCs (coastal charts)	60%	77%	84%
Large scale ENCs (top 800 ports)	65%	84%	91%

Although ENC availability is constantly increasing, only a minority of RHCs could claim to have full ENC coverage by 2010 and therefore a significant amount of work is still required to identify and resolve the remaining gaps and overlap issues. Member States of the HCA expressed concerns about the inadequate ENC coverage of Antarctic waters due to poor bathymetric data availability, datum mis-adjustment problems, and other relevant factors and agreed that this situation should be reported to IMO.

## **1.5 RELATIONS WITH THE HYDROGRAPHIC INDUSTRIAL SECTOR (TASK 3.1.20)**

Representatives of the hydrographic industrial sector participated in most RHC meetings which allowed useful feedback between HOs and industry.

As agreed at IRCC2, the IRCC chair submitted a paper to the Hydrographic Services and Standards Committee (HSSC) to consider the way forward for the ECDIS Stakeholders Forum.

## **2. CO-OPERATION WITH NON MEMBER STATES (ELEMENT 3.2)**

There has been little progress in increasing participation of Non-Member States in IHO activities.

Both the EAHC and SWPHC meetings took place in a Non-Member States. However the participation of Non-Member States in the meetings of the RHCs listed in element 3.2 was disappointing:

- EAHC: 5/18 (5 Non-Member States out of 18 in the Region)
- SWPHC: 3/8
- MACHC: 6/14
- NIOHC: 0/8

Two countries which have applied for IHO membership (Haiti and Montenegro) have not yet obtained the required number of approvals by Member States. Four countries whose application for membership has been approved (Bulgaria, Cameroon, Mauritania, Sierra Leone) have not yet deposited their Instrument of Accession.

Based on an IHO proposal co-sponsored by Brazil, France and Norway, the IMO Maritime Safety Committee approved at its 87th meeting <sup>3</sup> MSC.1/Circ.1373 on IHO membership, encouraging IMO Member States not already members of the IHO to give favourable consideration to becoming a member (ref. CL 34/2010). The support of the IMO was reiterated at the 105<sup>th</sup> session of the IMO Council (ref. C105/D, § 14.2).

In conjunction with the 11<sup>th</sup> MACHC Meeting, held in Paramaribo, Suriname, from 8 to 12 November, the Commission promoted a special event, requested by the Haitian Authorities, called “*Haiti Donors Meeting*”, with the specific purpose to produce a plan to support Haiti in the establishment of the Hydrographic and Oceanographic Service of Haiti (SHOH). Details of the meeting and the outcomes may be found in Annex A to the minutes of the MACHC Meeting available on the IHO website.

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<sup>3</sup> See page 9

### **3. CAPACITY BUILDING MANAGEMENT (ELEMENT 3.3)**

#### **Capacity Building Sub-Committee**

The Capacity Building Sub-Committee (CBSC) held its 8th meeting in New Orleans, USA, from 14 to 16 June, just before IRCC2. All the CBSC tasks in Element 3.3 (tasks 3.3.2 to 3.3.6) were addressed. The report of the meeting is available on the IHO web site. At the initiative of the IHB, Capacity Building coordination meetings have continued to take place with the CB officers of IMO, WMO, and IALA.<sup>4</sup>

#### **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 33<sup>rd</sup> meeting in Port of Spain, Trinidad, from 1 to 5 March (task 3.3.7). The report of the meeting is available on the IHO web site. The Board reviewed the status of ten courses and granted recognition or re-recognition to seven. The Board agreed two significant changes for introduction into the Standards, concerning the recognition of schemes that provide monitoring of an individual's competence and a fee for the review of submissions and recognition of courses. As a consequence amended Terms of Reference and Rules of Procedures were submitted for the approval of IHO Member States (ref. CL 72/2010) and were approved on 31 December.

The management of hydrographic and nautical cartographic training (task 3.3.8) did not require any specific action in 2010.

### **4. CAPACITY BUILDING ASSESSMENT (ELEMENT 3.4)**

#### **4.1 TECHNICAL AND ADVISORY VISITS** **(TASK 3.4.1)**

The following technical and advisory visits were carried out in 2010:

El Salvador and Georgia, - visited by the IHB in September and December respectively  
Vietnam - visited by the EAHC in November

A technical assessment mission was conducted by an IOC/IHO team in Kenya and Comoros (see § 5.3) in May-June as part of the Coast-Map IO project.

For various reasons the other visits scheduled had to be postponed to 2011 and will be coordinated by the Chairmen of the respective Regional Hydrographic Commissions.

#### **4.2 PUBLICATION C-55: STATUS OF HYDROGRAPHIC SURVEYING** **AND NAUTICAL CHARTING WORLDWIDE** **(TASK 3.4.2)**

The efforts to complete C-55 and to keep data updated were continued. The following Member States have updated their data in 2010: Denmark, Finland, France, Iceland, Japan, Monaco, The Netherlands, Norway, UK and Venezuela. The publication is available on the IHO web site.

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<sup>4</sup> See page 16

### **4.3 ASSESSMENT PROCEDURES** **(TASK 3.4.3)**

The CBSC has agreed to revise the “Procedures for Submission of Projects” in order to make them less complicated and easier to use. This task has been assigned to a Drafting Group comprising Australia, Germany, Norway and USA.

## **5. CAPACITY BUILDING PROVISION (ELEMENT 3.5)**

### **5.1 TECHNICAL WORKSHOPS, SEMINARS, COURSES** **(TASK 3.5.2 AND 3.5.3.)**

The following events took place:

- MSI Training Technical Course SAIHC (Namibia, 13-15 April)
- IHO Course in Marine Cartography (Singapore, 22 February – 26 March).
- MSI Regional Workshop SWPHC (Sydney, 17-19 August)
- Regional Hydrographic Survey & Nautical Cartographic Course SWPHC (Papua New Guinea, 11-22 October)
- 2-weeks Regional Training Course on basic ENC and ENC Production (MACHC) in joint cooperation with IMO (Jamaica 6-17 September)
- Workshop on Port and Shallow Waters Surveys (MACHC, SEPHC & SWAtHC), Uruguay, 22-26 November.
- 2nd Course in Hydrographic Data Processing and Marine Cartography, including specialism in Electronic Navigational Chart (UKHO, Taunton, UK, 6 September – 17 December 2010)
- Course on Technical aspects of maritime boundaries, baselines and the extended continental shelf (EAHC)
- 7<sup>th</sup> Nippon Foundation/GEBCO one-year Training Project course, University of New Hampshire, USA which began on 24 August 2010
- Workshop on Marine Cartography, ENC Production and Quality Assurance (EAHC Vietnam, 23-26 November 2010).

### **5.2 ON THE JOB TRAINING** **(TASK 3.5.4)**

A study is underway by the CBSC to identify “on the job training opportunities” and propose the adoption of an IHO Resolution on the subject.

### **5.3 MARINE/MARITIME PROJECTS** **(TASK 3.5.5)**

**MARINE ELECTRONIC HIGHWAY**  
**Technical Steering Committees**  
Singapore, 24-25 May

The MEH Demonstration Project aims to establish a practical example of the potential for digital information networks that can provide environmental and related information in real time to both mariners transiting the Straits of Malacca and Singapore Straits as well as other agencies and interested parties.

The Project includes detailed hydrographic surveys of some of the critical depth areas in the Straits, the development of ECDIS compatible Marine Information Overlays (MIOs), the establishment of a unified data centre to provide real time information and updates, and the establishment of a number of environmental monitoring stations including tide gauges and current meters.

The MEH Demonstration Project is being funded by the Global Environment Facility (GEF) and the International Bank for Reconstruction and Development (IBRD) and is supported by the IMO as managers of the Project. Additional financial support is being provided by the Republic of Korea.

The three littoral States – Indonesia, Malaysia and Singapore are all providing practical support and input to ensure the implementation of the Project. The IHO has been providing technical advice on the hydrographic aspects of the Project.

The Technical Steering Committee (TSC) on shore-based infrastructures and facilities and the TSC on environment systems and information met in Singapore on 24 and 25 May. About 25 delegates attended representing Indonesia, Malaysia and Singapore and the IMO, IHO, and the World Bank. Captain WARD represented the IHO.

The main activities of the TSC meetings were to review the roles of the committees and to provide advice to the Project Manager on the data and infrastructure input from the littoral States.

The MEH Project Manager reported that a high-accuracy hydrographic survey in the vicinity of One Fathom Bank had been completed and the results will be made available shortly for inclusion by the littoral States in the region's existing ENC's and charts. He also reported that contracts would be placed shortly for the equipment required to establish a data coordination centre in Batam, Indonesia.

The next phase of the MEH Project would be the identification of environmental data that will then be used in various Marine Information Overlays to be made available through the data coordination centre when it becomes operational in 2011.

### **COAST-MAP-IO PROJECT**

#### **IOC-IHO Assessment Mission conducted in Kenya and the Comoros**

24 May – 2 June



A technical assessment mission was conducted by an IOC-IHO expert team in Kenya and the Comoros from 24 May to 2 June, as part of the Coast-Map-IO project funded by the Italian Government. The team had the opportunity to meet representatives of all the institutions in Kenya and the Comoros likely to be concerned with, or involved in, this project. The aim of the Coast-Map-IO project is to enable countries bordering the Indian Ocean to acquire and fully exploit coastal bathymetric data for the development of various products required for preparedness and mitigation of ocean-based extreme events, such as tsunamis. The aim of the visit was to assess the level of capacity, focal points and national partner agencies,

as well as existing data sources for coastal bathymetry and land topography in these two countries. The objectives of the project are:

- To enhance available expertise to locally produce and maintain an accurate bathymetric and topographic database on either side [-200 to +50 meters] of the high tide-line;
- To provide modelling capacity for Tsunami arrival, run-up and inundation in coastal areas;
- To provide the necessary tools and training for national agencies responsible for Disaster Management and Preparedness to exploit the bathymetric and terrestrial datasets for the development

of targeted maps and services, including inundation maps, determination of set-back lines, coastal ecosystem mapping, and zonation for coastal users.

#### **5.4 BILATERAL AGREEMENTS** **(TASK 3.5.6)**

IHO Member States reported the establishment of the following bilateral agreements in 2010:

- France: bilateral agreement with Benin.
- India: bilateral agreement with Mauritius.
- UK: Memorandum of Understanding with Bangladesh, Memorandum of Understanding with Kuwait and revised bilateral arrangement with Vietnam.

### **6. MARITIME SAFETY INFORMATION (ELEMENT 3.6)**

The World-Wide Navigational Warning Service Sub-Committee (WWNWSSC) held its 2nd meeting in Sydney, Australia, from 9 to 13 August. All the tasks in Element 3.6 (tasks 3.6.2 to 3.6.4) were addressed. The report of the meeting is available from the IHO web site (ref. CL 57/2010).

Training aids for the MSI regional workshop (see § 5.1) have been translated into French and Spanish, to facilitate the training process, even though the day to day working/operating language is English.



The Sub-Committee produced a revised draft NAVTEX Manual which was then approved by Member States for submission to IMO COMSAR 15 (ref. CL 65/2010 and 74/2010).

IMO, the World Meteorological Organization (WMO) and the IHO agreed to establish 5 new Arctic NAVAREAs/METAREAs as part of the expansion of the IMO/IHO WWNWS into Arctic waters. Effective 1 July, an International SafetyNET Service for broadcasting navigational warnings and meteorological warnings and forecasts in the English language will be declared to be in an “Initial Operational Capability” (IOC) for these waters with a transition to “Full Operational Capability” (FOC) on 1 June 2011. The NAVAREA coordinators are:

- Canada: NAVAREA XVII and XVIII
- Norway: NAVAREA XIX
- Russian Federation: NAVAREA XX and XXI.

## **7. OCEAN MAPPING PROGRAMME (ELEMENT 3.7)**

The IOC-IHO GEBCO Guiding Committee (GGC) held its 27<sup>th</sup> meeting in Lima, Peru, on 18 September following the 26<sup>th</sup> meeting of the GEBCO Technical Sub-Committee on Ocean Mapping (TSCOM) (17 September) and the 23<sup>rd</sup> meeting of the GEBCO Sub-Committee on Undersea Feature Names (GEBCO SCUFN) (11-14 September) and the first meeting of the interim Sub-Committee on Regional Undersea Mapping (GEBCO iSCRUM) (14 September). All the tasks in Element 3.7 (tasks 3.7.4 to 3.7.11) were addressed (ref/ CL 85/2010).

The IHB representative encouraged the GGC to work closely with the IRCC and to make use of this forum to provide reports on the progress made by all GEBCO bodies and to identify GEBCO needs and possible cooperation in joint initiatives with RHCs. A new version of the GEBCO-08 grid was released on 27 September.

Noting that the IOC Coordinating Group on Ocean Mapping (CGOM) and some of the International Bathymetric Charting Projects (IBCs) were effectively defunct it was agreed to investigate ways to strengthen the relationship between GEBCO and IBCs, including upgrading the iSCRUM to a formal Sub-Committee (SCRUM).

A new version of the IHO-IOC GEBCO Gazetteer of Undersea Feature Names (B-8) dated August 2010 is available on the GEBCO web site. The GGC decided to speed up the preparation of an updated edition of IHO B-7 “GEBCO Guidelines” and requested the IHB to continue coordinating this effort.



### **New and Revised IHO Publications**

The following new IHO publications or revised editions were issued during 2010 and are available from the IHO web site.

DATE	TITLE	announced via CL:
13/01	IHO Publication – S-66 – Facts about Electronic Charts and Carriage Requirements	<a href="#">5/2010</a>
14/01	IHO Publication S-58 “Recommended ENC Validation Checks”, Edition 4.1, January 2010	<a href="#">6/2010</a>
25/01	Adoption of C-17 as a new IHO Publication	<a href="#">9/2010</a>
28/01	New Section of the Chart Specifications of the IHO (S-4) – Section B-600 Chart Maintenance	<a href="#">10/2010</a>
29/01	Review of the Repertory of IHO Resolutions (M-3)	<a href="#">12/2010</a>
01/02	Approval of Edition 1.2 of S-65 – ENC Production Guidance	<a href="#">13/2010</a>
04/02	Chart Specifications of the IHO (S-4) – New and Revised Specifications and Symbols for Pipeline and Cable Tunnels, Bridges, etc.	<a href="#">14/2010</a>
09/02	New Edition of IHO Publication S-49 – Standardization of Mariners’ Routeing Guides	<a href="#">18/2010</a>
03/03	Approval of Edition 2.003 of S-11 Part A – Guidance for the Preparation and Maintenance of International Chart Schemes	<a href="#">23/2010</a>
08/03	Approval of Edition 6.0 of S-52 – <i>Specifications for Chart Content and Display Aspects of ECDIS</i>	<a href="#">24/2010</a>
07/05	P-7: Annual Report of the IHO for 2009 Part 1 – General & Part 2 – Finances – IHO Work Programme for 2010 (updated)	<a href="#">31/2010</a>
21/05	Approval of Edition 2.0 of S-49 – Standardization of Mariners’ Routeing Guides	<a href="#">33/2010</a>
25/05	Copyright Notice for IHO Publications	<a href="#">35/2010</a>
14/06	Chart Specifications of the IHO (S-4) and Symbols, Abbreviations and Terms used on Charts (INT1) – Small Craft (Leisure) Facilities Symbols	<a href="#">39/2010</a>
22/06	Revision of Annual Report of the IHO for 2009 – Part 1 – General (P-7)	<a href="#">40/2010</a>
03/08	Approval of Annual Report of the IHO for 2009 – Part 2 – Finances	<a href="#">46/2010</a>
06/08	Approval of New Section of the Chart Specifications of the IHO (S-4) – Section B-600 Chart Maintenance	<a href="#">49/2010</a>
10/08	The International Hydrographic Review	<a href="#">51/2010</a>
17/08	Chart Specifications of the IHO (S-4) – Approval of New and Revised Specifications and Symbols for Pipeline and Cable Tunnels, Bridges, Wave Energy Devices, Unsurveyed Areas, Disused or Abandoned Platforms, Shellfish Beds	<a href="#">52/2010</a>
30/08	Chart Specifications of the IHO (S-4) – 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	<a href="#">56/2010</a>
06/09	Manual on Technical Aspects of the United Nations Convention on the Law of the Sea – 1982 (IHO Publication C-51 – 4 <sup>th</sup> Edition) – Spanish Edition	<a href="#">58/2010</a>
20/10	Chart Specifications of the IHO (S-4) – New and Revised Specifications and Symbols for Virtual Aids to Navigation	<a href="#">67/2010</a>
25/10	Approval of Amendments to A402.1 in S-4 and Resolution 2/1997 in M-3	<a href="#">69/2010</a>
02/11	Recommendation by HSSC for IHO to adopt S-99 as an IHO Standard	<a href="#">70/2010</a>
03/11	Chart Specifications of the IHO (S-4) and Symbols, Abbreviations and Terms used on Charts (INT1) – Small Craft (Leisure) Facilities Symbols	<a href="#">71/2010</a>
12/11	Hydrographic Dictionary (S-32)	<a href="#">75/2010</a>
13/12	Adoption of Edition 1.1 of C-17 – <i>Spatial Data Infrastructures: “The Marine Dimension” – Guidance for Hydrographic Offices</i>	<a href="#">88/2010</a>
14/12	IHO Publication S-58 “Recommended ENC Validation Checks” - HSSC Recommendation to adopt Edition 4.2	<a href="#">90/2010</a>

### ***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 Union; International Association of Marine Aids to Navigation and Lighthouse Authorities; International Commission for the Scientific Exploration of the Mediterranean and Non-Member States and GEO.
- WWNWS; ISPWG; ABLOS; LAC; 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.

and the following Regional Hydrographic Commissions:

- North Indian Ocean Hydrographic Commission.
- North Sea Hydrographic Commission.
- Mediterranean and Black Seas Hydrographic Commission.
- South 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
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

**Translators**

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

**Technical, Administrative and Service Staff**

Mrs I. BELMONTE (France)	Website and Publications Editor ( <i>from 15 February</i> )
Mrs. R. CAUDOUX (Belgium)	Publications and Document Preparation ( <i>Retired - 28 February</i> )
Mrs. G. FAUCHOIS (France)	Accounting and Administration ( <i>from 7 June</i> )
Mrs. C. FONTANILI (UK)	Secretary to the Directing Committee
Mr. A. MAACHE (France)	General Services
Mr. D. MENINI (France)	Graphic Arts and Cartography
Mrs.C MEYNADIER (France)	Accounting and Administration ( <i>Resigned- 30 June</i> )
Mrs. M. MOLLET (France)	Communications, Librarian
Mr. R. SEMLALI (France)	Office Manager ( <i>Died - July</i> )
Mrs. B. WILLIAMS (UK)	Head Secretariat

**Seconded Officers**

Mr. S. NAKABAYASHI (Japan)	GIS and IT Projects
Dr. M-B. SHIM (Republic of Korea)	Webmaster and Website Development Projects ( <i>until January</i> )
Mr. Y. HUH (Republic of Korea)	Webmaster and Website Development Projects ( <i>from March</i> )

## Appendix IV

**List of IHB Missions**

DATE	NAME	MEETING	DESTINATION
<b>JANUARY</b>			
18	WARD	Lecture at CSMART	Amsterdam, NED
25 28	WARD	IALA AtoNworkshop	Paris, FRA
25 28	HUET	IALA AtoNworkshop	Paris, FRA
<b>FEBRUARY</b>			
03 04	GORZIGLIA	CB Coordination Mtg (Nippon Funds)	Tokyo, JPN
03 04	BERMEJO	CB Coordination Mtg (Nippon Funds)	Tokyo, JPN
03 04	NAKABAYASHI	CB Coordination Mtg (Nippon Funds)	Tokoy, JPN
10 12	MARATOS	IALA Mtg Polar Routes	Paris, FRA
15 16	BERMEJO	IB Chair Group Mtg	London, UK
16 17	WARD	SHOM – MEDINTCHART Meeting	Paris, FRA
16 17	HUET	SHOM – MEDINTCHART Meeting	Paris, FRA
23 24	MARATOS	NIOHC 10	Dhaka, BAN
<b>MARCH</b>			
08 12	MARATOS	COMSAR 15	London, UK
08 12	SHIPMAN	COMSAR 15	London, UK
08 11	WARD	ENC availability – S101 WS	Taunton, UK
12	WARD	Memorial Service for Sir David Haslam	Bromsgrove, UK
15 19	SHIPMAN	WWNWS document review Meeting	London, UK
16 18	MARATOS	Staff Regulations Working Group SRWG	Hamburg, GER
16 18	WILLIAMS	Staff Regulations Working Group SRWG	Hamburg, GER
25 26	GORZIGLIA	SWAtHC	Buenos Aires, ARG
25 26	BERMEJO	SWAtHC	Buenos Aires, ARG
29 31	WARD	International Conference on Marine Data and Information Systems Conference	Paris, FRA
<b>APRIL</b>			
13 15	WARD	NHC54	Reykjavik, ICE
27 29	SHIPMAN	TWLWG2 Meeting	Stavanger, NOR
<b>MAY</b>			
03 07	GORZIGLIA	ATCM XXXIII	Punta del Este, URU
03 07	PHARAOH	TSMAD 20 and DIPWG 2	Rostock, GER
03 07	HUET	TSMAD 20 and DIPWG 2	Rostock, GER
10 11	WARD	2 <sup>nd</sup> Preparatory Meeting for the Proposed UNCGGIM	New York USA
12 13	WARD	MITAGS	Baltimore, USA
17 18	WARD	33 USCHC	Ottawa, CAN
10 20	SHIPMAN	IMO MSC 87	London, UK
12 20	MARATOS	IMO MSC 87	London, UK
24 25	WARD	MEH Technical Steering Committee Mtg	Singapore
24 28	PHARAOH	ISO /TC211	Southampton, UK Nairobi & Mombasa, Kenya
24-28	HUET	Coast-Map-IO Assessment Mission	Kenya
25	MARATOS	Meeting with Hellenic Hydrographer	Athens, GRE
27 28	MARATOS	BASWG	Istanbul, TUR
29-01	HUET	Coast-Map-IO Assessment Mission	Moroni, Comoros

**JUNE**

01 03	BERMEJO	TC 60 IMO	London, UK
07 11	GORZIGLIA	IOC Executive Council	Paris, FRA
14 16	GORZIGLIA	CBSC 8	New Orleans, USA
14 16	BERMEJO	CBSC 8	New Orleans, USA
17 18	GORZIGLIA	IRRC 2	New Orleans, USA
17 18	BERMEJO	IRCC 2	New Orleans, USA
18	WARD	Lecture at UNH Durham, NH	Durham, USA
21 23	WARD	Canadian Hydrographic Conference	Quebec City, CAN
21 23	GORZIGLIA	IAATO Seminar	Turin, ITA
21 25	PHARAOH	SNPWG 12	Tokyo, JAP
21 25	SHIPMAN	UNICPOLOS	New York, USA

**JULY**

05 07	MARATOS	S-23 Working Group – 2 <sup>nd</sup> Meeting	Singapore
05 07	HUET	S-23 Working Group – 2 <sup>nd</sup> Meeting	Singapore
13 15	WARD	3 <sup>rd</sup> Project Steering Committee	Singapore
12 18	SHIPMAN	IMSO Assembly	London, UK
19 21	WARD	Technical Seminar S-100	Incheon, KOR
26 30	PHARAOH	DCDB	Boulder, USA
26 29	MARATOS	NAV 56 IMO	London, UK
26 30	WARD	NAV 56 IMO	London, UK
26 30	SHIPMAN	NAV 56 IMO	London, UK

**AUGUST**

09 13	MARATOS	WWNWS2	Sydney, AUS
09 13	SHIPMAN	WWNWS2	Sydney, AUS
31 03	WARD	HSSC Briefing	Plymouth, UK
31 03	HUET	HSSC Briefing	Plymouth, UK

**SEPTEMBER**

11 14	HUET	SCUFN 23	Lima, PER
13 14	GORZIGLIA	Technical Visit	El Salvador
15 16	PHARAOH	TSCOM	Lima, PER
15 17	GORZIGLIA	GEBCO Guiding Committee	Lima, PER
17 18	SHIPMAN	GEBCO	Lima, PER
20 22	GORZIGLIA	HCA 10	Cambridge, UK
20 22	HUET	HCA 10	Cambridge, UK
20 24	WARD	IALA e-Nav 8	Paris, FRA
20 24	PHARAOH	IALA e-Nav 8	Paris, FRA
21 23	SHIPMAN	BSHC 15	Gdynia, POL
28 29	MARATOS	NSHC 29	Brest, FRA

**OCTOBER**

04 06	MARATOS	ARHC 1	Ottawa, CAN
04 08	SHIPMAN	ETMSS3 (WMO)	St Petersburg, RUS
14 15	GORZIGLIA	IHO-IOC-WMO-IALA CB Meeting	Geneva, CH
14 15	BERMEJO	IHO-IOC-WMO-IALA CB Meeting	Geneva, CH
19 22	MARATOS	8 <sup>th</sup> Regional Seapower Symposium	Venice, ITA
20	GORZIGLIA	UKHO Training Mission	Taunton, UK
26 29	WARD	HSSC 2	Rostock, GER

26 29	PHARAOH	HSSC 2	Rostock, GER
26 29	HUET	HSSC 2	Rostock, GER
<b>NOVEMBER</b>			
08 12	GORZIGLIA	MACHC 11	Paramaribo, Suriname
08 12	BERMEJO	MACHC 11	Paramaribo, Suriname
09 10	WARD	SWPHC10	Honiara, Solomon Isl
14 19	WARD	20 <sup>th</sup> IMPA Congress	Brisbane, AUS
15 17	GORZIGLIA	SEPHC 9	Cartagena, COL
23 26	PHARAOH	CSPCWG 7	Cape Town, RSA
24 02	MARATOS	IMO MSC 88	London, UK
24 02	SHIPMAN	IMO MSC 88	London, UK
24 26	GORZIGLIA	EATHC 11	Accra, Ghana
24 26	HUET	EATHC 11	Accra, Ghana
29 03	PHARAOH	TSMAD 21	Vancouver, CAN
29-30	HUET	Coast-Map-IO Wrap-up Meeting	Bangkok, THA
<b>DECEMBER</b>			
13 17	SHIPMAN	Technical Visit CB	Batumi, GEO

**Status of INT chart series at the end of 2010**

Region	Coordinator	Commission/Committee	Scheduled	Published	Reprinted by other MS
1 :10 Million			30	27	19
A (NW Atl. & NE Pac. Oceans)	USA/NOS	US/CHC	≥16	16	16
B (Meso-America & Caribb. Sea)	Brazil	MACHC	70	20	4
C1 (SW Atl. Ocean)	Brazil	SWAtHC	51	22	4
C2 ( SE Pac. Ocean)	Chile	SEPHC	44	6	2
D (North Sea)	United Kingdom	NSHC & NHC	221	211	146
E (Baltic Sea)	Finland	BSICC/BSHC	284	247	111
F (Med. & Black Seas)	France	MEDINTCHART/MBSHC	241	166	98
G (East Atl. Ocean)	France	CHATINTCHART/EAtHC	170	112	63
H (SE Atl. & SW Ind. Oceans)	South Africa	SAIHC	110	68	47
I (NW Ind. Ocean)	Iran	RSAHC	111	45	7
J (North Ind. Ocean)	India	NIOHC	140	89	9
K (E. Asia & NW Pac. Ocean)	Japan	EAHC	310	175	17
L (SE Ind. & SW Pac. Oceans)	Australia	SWPHC	62	56	41
M (Southern Ocean)	IHB	HCA	103	63	13
<b>TOTAL</b>			<b>1963</b>	<b>1323</b>	<b>597</b>