

INTERNATIONAL HYDROGRAPHIC ORGANIZATION



**XVIIth
INTERNATIONAL
HYDROGRAPHIC CONFERENCE**

7 – 11 May

2007

MONACO

REPORT OF PROCEEDINGS

VOLUME 2

INTERNATIONAL HYDROGRAPHIC ORGANIZATION



**XVIIth INTERNATIONAL HYDROGRAPHIC CONFERENCE
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VOLUME 2

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TABLE OF TONNAGES, SHARES AND VOTES
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(1) In accordance with Technical Resolution R2 1.1 (b)
 (1) Conformément à la Résolution Technique R2 1.1 (b)

Member Govern./ Gouvern. Membres	Updating Source/ Source /Maj	Tonnages Lloyd's List (1)	Tonnages reported	Shares - Parts			Votes - Voix		
				Fix.	Sup.	Tot.	Fix.	Sup.	Tot.
ALGERIA - ALGERIE	CCL9 - Tonnage	766 367	872 000	2	4	6	2	2	4
ARGENTINA - ARGENTINE	CCL9 - Tonnage	700 446	952 834	2	4	6	2	2	4
AUSTRALIA - AUSTRALIE	CCL9 - Tonnage	1 885 810	2 216 455	2	7	9	2	3	5
BAHRAIN - BAHREÏN	CCL9 - Tonnage	320 120	498 368	2	3	5	2	1	3
BANGLADESH	CCL9 - Tonnage	466 235	464 360	2	3	5	2	1	3
BELGIUM - BELGIQUE	CCL9 - Tonnage	4 128 123	4 232 236	2	10	12	2	3	5
BRAZIL - BRESIL	CCL9 - Tonnage	2 268 998	3 412 309	2	9	11	2	3	5
CANADA	CCL9 - Tonnage	2 812 634	4 562 470	2	10	12	2	3	5
CHILE - CHILI	CCL9 - Tonnage	904 856	769 015	2	4	6	2	2	4
CHINA - CHINE	CCL9 - Tonnage	22 793 671	43 790 000	2	25	27	2	4	6
COLOMBIA - COLOMBIE	CCL9 - Tonnage	96 087	154 984	2	1	3	2	1	3
CROATIA - CROATIE	Yearbook 2006	1 143 848	* 772 259	2	4	6	2	2	4
CUBA	Yearbook 2006	64 674	80 327	2	0	2	2	0	2
CYPRUS - CHYPRE	CCL9 - Tonnage	19 542 753	21 401 065	2	21	23	2	4	6
DENMARK - DANEMARK	CCL9 - Tonnage	8 809 560	8 135 744	2	14	16	2	4	6
D.P.R. OF KOREA - REP. DEM. DE COREE	Yearbook 2006	1 132 624	* 639 000	2	3	5	2	2	4
ECUADOR - EQUATEUR	CCL9 - Tonnage	275 786	456 757	2	3	5	2	1	3
EGYPT - EGYPTE	Yearbook 2006	1 129 868	1 297 789	2	5	7	2	2	4
ESTONIA - ESTONIE	CCL9 - Tonnage	425 093	439 077	2	2	4	2	1	3
FIJI - FIDJI	Yearbook 2006	30 246	34 953	2	0	2	2	0	2
FINLAND - FINLANDE	CCL9 - Tonnage	1 377 814	1 463 333	2	6	8	2	2	4
FRANCE	CCL9 - Tonnage	5 965 002	6 179 123	2	12	14	2	3	5
GERMANY - ALLEMAGNE	CCL9 - Tonnage	11 270 476	11 646 866	2	16	18	2	4	6
GREECE - GRECE	CCL9 - Tonnage	32 077 202	30 881 988	2	25	27	2	4	6
GUATEMALA	Yearbook 2006	5 528	1 586	2	0	2	2	0	2
ICELAND - ISLANDE	CCL9 - Tonnage	188 361	197 354	2	1	3	2	1	3
INDIA - INDE	CCL9 - Tonnage	8 372 729	14 296 628	2	18	20	2	4	6
INDONESIA - INDONESIE	Yearbook 2006	4 625 033	* 3 438 335	2	9	11	2	3	5

Member Govern./ <i>Gouvern. Membres</i>	Updating Source/ <i>Source /Maj</i>	Tonnages Lloyd's List (1)	Tonnages reported	Shares - Parts			Votes - Voix		
				Fix.	Sup.	Tot.	Fix.	Sup.	Tot.
ISLAMIC REPUBLIC OF IRAN	Yearbook 2006	5 2 61 319	4 691 986	2	11	13	2	3	5
ITALY - <i>ITALIE</i>	CCL9 - Tonnage	12 005 293	12 649 967	2	17	19	2	4	6
JAMAICA - <i>JAMAIQUE</i>	Yearbook 2006	127 741	10 000	2	0	2	2	0	2
JAPAN - <i>JAPON</i>	CCL9 - Tonnage	12 817 321	12 770 631	2	17	19	2	4	6
KUWAIT - <i>KOWEIT</i>	Yearbook 2006	2 477 064	2 354 000	2	7	9	2	3	5
LATVIA - <i>LETTONIE</i>	CCL9 - Tonnage	305 685	409 797	2	2	4	2	1	3
MALAYSIA - <i>MALAISIE</i>	Yearbook 2006	5 988 055	5 196 492	2	11	13	2	3	5
MAURITIUS - <i>MAURICE</i>	Yearbook 2006	70 936	150 000	2	1	3	2	1	3
MEXICO	Yearbook 2006	1 107 202	1 414 998	2	5	7	2	2	4
MONACO	Yearbook 2006		1 228	0	0	0	2	0	2
MOROCCO - <i>MAROC</i>	Yearbook 2006	542 625	342 470	2	2	4	2	1	3
MOZAMBIQUE	Yearbook 2006	35 768	45 581	2	0	2	2	0	2
MYANMAR	CCL9 - Tonnage	435 515	600 309	2	3	5	2	2	4
NETHERLANDS - <i>PAYS- BAS</i>	CCL9 - Tonnage	5 770 230	6 070 030	2	12	14	2	3	5
NEW ZEALAND - <i>NOUVELLE ZELANDE</i>	CCL9 - Tonnage	213 230	247 339	2	1	3	2	1	3
NIGERIA	Yearbook 2006	370 048	204 422	2	1	3	2	1	3
NORWAY - <i>NORVEGE</i>	CCL9 - Tonnage	18 311 170	18 648 155	2	20	22	2	4	6
OMAN SULTANATE - <i>SULTANAT D'OMAN</i>	Yearbook 2006	18 658	25 231	2	0	2	2	0	2
PAPUA NEW GUINEA - <i>PAPOUASIE NOUVELLE GUINEE</i>	CCL9 - Tonnage	83 977	148 238	2	1	3	2	1	3
PAKISTAN	CCL9 - Tonnage	415 617	434 967	2	2	4	2	1	3
PERU - <i>PEROU</i>	Yearbook 2006	234 698	272 750	2	2	4	2	1	3
PHILIPPINES	CCL9 - Tonnage	5 218 765	4 980 880	2	11	13	2	3	5
POLAND - <i>POLOGNE</i>	CCL9 - Tonnage	191 076	189 970	2	1	3	2	1	3
PORTUGAL	CCL9 - Tonnage	1 283 956	1 271 004	2	5	7	2	2	4
REPUBLIC OF KOREA - <i>REPUBLIQUE DE COREE</i>	CCL9 - Tonnage	9 488 345	16 831 000	2	19	21	2	4	6
REP. OF SOUTH AFRICA - <i>AFRIQUE DU SUD</i>	CCL9 - Tonnage	188 338	263 790	2	2	4	2	1	3
ROMANIA - <i>ROUMANIE</i>	Yearbook 2006	329 463	381 696	2	2	4	2	1	3
RUSSIA - <i>RUSSIE</i>	CCL9 - Tonnage	8 259 640	8 157 373	2	14	16	2	4	6
SAUDI ARABIA - <i>ARABIE SAOUDITE</i>	CCL9 - Tonnage	952 892	1 737 725	2	6	8	2	2	4

**PROPOSED IHO WORK PROGRAMME
FOR THE PERIOD 2008-2012**

CONF.17/REP.01 rev.1

PROPOSED IHO WORK PROGRAMME FOR THE PERIOD 2008-2012**TABLE OF CONTENTS**

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IHO FIVE-YEAR WORK PROGRAMME 2008 – 2012

PREAMBLE

In accordance with Article 23 (c) of the IHO General Regulations, the Directing Committee, taking into consideration the work of Committees and Working Groups, shall present to each International Hydrographic Conference the Work Programme to be carried out during the following period (2008-2012) with the financial implications related to it.

In preparing this document, the Directing Committee requested the Chairmen of all IHO bodies in September 2005 to contribute to this task by providing input in order to make the IHO Work Programme as complete as possible with all the activities the Organization is intending to undertake in the next 5-year period.

As you are aware, the IHO has identified 5 Programmes to meet its goals, and for each of the five Programmes a concept has been developed, aimed at highlighting what the Programme is about. Under each programme there are various elements, followed by the tasks that constitute actions. In identifying the tasks the input received from the Chairmen of several IHO bodies, as well as any other information from the IHB, have been taken into account. Within the description of each task there is an indication of the year(s) when the activity should take place.

Annex A includes all tasks with an indication of the timeframe within which each task is anticipated to be executed. This spread sheet will serve as a basis and guide for the preparation of the yearly work programmes during the period.

Annex B is a cross reference between the proposed 2008-2012 IHO Budget and the Work Programme for the same period. On one side, this document identifies the Chapters and their items, and, on the other, the Programmes, Elements and Tasks funded with the amount allocated in the Budget.

The Directing Committee submits the IHO FIVE-YEAR WORK PROGRAMME 2008-2012 for the approval of the XVIIth IH Conference, in May 2007.

PROGRAMME 1

Co-operation with Member States and with International Organizations

Concept

This Program refers to the Organization's desire to improve co-operation among the IHO Member States (MS) through the work of the Regional Hydrographic Commissions (RHCs), encouraging bilateral and multi-lateral co-operation between National Hydrographic Services (HOs). It also concerns encouragement of MS' participation in IHO organs and bodies, the enlargement of the RHCs and co-operation with other international organizations to ensure efficient collaboration and use of resources. Main participants are IHO Member States, RHCs, Non IHO Member States, relevant International Governmental Organizations (IGOs) and Non Governmental International Organizations (NGIOs) and the IHB.

Element 1.1 Co-operation with Member States

Objective

Facilitate IHO MS coordination, cooperation and collaboration to improve hydrographic services and the provision of hydro-cartographic products through the structure of the RHCs. National Reports to each RHC Meeting should follow a scheme agreed by MS.

Task 1.1.1 Nordic Hydrographic Commission (NHC)

The Chairman of the NHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.2 North Sea Hydrographic Commission (NSHC)

The Chairman of the NSHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2010, and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.3 East Asia Hydrographic Commission (EAHC)

The Chairman of the EAHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2009 and 2011, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.4 USA and Canada Hydrographic Commission (USCHC)

The Co-Chairs of the USCHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.5 Mediterranean and Black Seas Hydrographic Commission (MBSHC)

The Chairman of the MBSHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2009 and 2011, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.6 Baltic Sea Hydrographic Commission (BSHC)

The Chairman of the BSHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.7 Eastern Atlantic Hydrographic Commission (EAtHC)

The Chairman of the EAtHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2010, and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.8 South East Pacific Hydrographic Commission (SEPHC)

The Chairman of the SEPHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2010, and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.9 South West Pacific Hydrographic Commission (SWPHC)

The Chairman of the SWPHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.10 Meso American and Caribbean Hydrographic Commission (MACHC)

The Chairman of the MACHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.11 Southern Africa and Islands Hydrographic Commission (SAIHC)

The Chairman of the SAIHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2009 and 2011, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.12 ROPME Sea Area Hydrographic Commission (RSAHC)

The Chairman of the RSAHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2010, and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.13 North Indian Ocean Hydrographic Commission (NIOHC)

The Chairman of the NIOHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.14 South West Atlantic Hydrographic Commission (SWAtHC)

The Chairman of the SWAtHC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting the outcome to its members and the IHB. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.15 Hydrographic Committee on Antarctica (HCA)

The Chairman of the HCA, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, reporting their outcome to its members and the IHB. Coordinate the participation of other relevant Antarctic international organizations. Follow-up the coordination required to execute the action lists agreed, and report to the next IHC and the IRCC, when established.

Task 1.1.16 Inter Regional Coordinating Committee (IRCC) Meeting. (subject to its establishment)

The IHB and the IRCC Chairman (if and when IRCC is established) to organize, prepare and conduct the meetings scheduled for 2009, 2010 and 2011. Report the results to MS and adopt the required coordination to execute the action lists agreed, and report to the next IHC.

Task 1.1.17 RHCs to work to complete ENC coverage for High Speed Crafts (HSC) by 01 JUL 2008

RHCs Chairmen to encourage MS in their RHCs to make ENCs available as necessary and to seek assistance from the CBC if needed. Audit the state of completion and report to WEND/IRCC.

Task 1.1.18 RHCs to work to complete adequate ENC coverage for all other types of vessels by 31 DEC 2010

RHCs Chairmen to encourage MS in their RHCs to make ENCs available as necessary and to seek assistance from the CBC if needed. Audit the state of completion and report to WEND/IRCC.

Task 1.1.19 RHCs to work to complete adequate ENC coverage schemes by 31 DEC 2008

RHCs Chairmen to encourage MS in their RHCs to develop national ENC coverage schemes and to seek assistance from the CBC if needed. Audit the state of completion and report to WEND/IRCC.

Task 1.1.20 RHCs and the Hydrographic Industrial Sector

RHC Chairmen to consider the participation of representatives of the industrial sector of the hydrographic community in their Conferences to achieve better understanding of the status of hydrography in the region and additional potential resources for regional initiatives (2008 to 2012).

Element 1.2 Co-operation with International Organizations**Objective**

Improve the relationships with relevant international organizations to facilitate the representation of IHO interests; to take advantage of their structure and capacity to support the IHO's Mission and Objectives, and to develop projects of common interest.

Task 1.2.1 United Nations (UN)

The IHB or a MS to participate as an Observer at the UN Assembly, in DOALOS, UNICPOLOS and UNGEGN meetings whenever their respective agendas include matters directly related to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.2 International Maritime Organization (IMO)

The IHB to participate in the Assembly, Council, Technical Cooperation Committee (TCC), Maritime Safety Committee (MSC), Subcommittee on Safety of Navigation (NAV), Marine Environmental Protection Committee (MEPC) and Subcommittee on Radio Communications and SAR (COMSAR) annual meetings (2008 to 2012) whenever their agendas include matters of relevance to the IHO objectives or following submission of IHO proposals to any of these bodies. Comply with the objectives laid down in the existing agreement between IHO and IMO.

Task 1.2.3 Intergovernmental Oceanographic Commission (IOC)

The IHB to participate in the Assemblies and Executive Councils (2008 to 2012) and other subsidiary bodies when matters related to bathymetry, capacity building, coastal cartography and other topics of direct interest to the IHO are scheduled. Comply with the objectives laid down in the existing MOU between IHO and IOC.

Task 1.2.4 International Association of Lighthouse Authorities (IALA)

The IHB or a MS to participate in meetings whose agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.5 International Cartographic Association (ICA)

The IHB or a MS to participate in conferences and meetings of the Marine Cartography Group; coordinate the nautical charting exhibitions at all ICA Conferences and cooperate in the capacity building efforts directed at improving nautical cartography capabilities. Comply with the objectives laid down in the existing MOU. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.6 International Federation of Surveyors (FIG)

The IHB to participate in the activities of common interest with the FIG Commission 4 Hydrography, each year (2008 to 2012), mainly on those initiatives with a capacity building component oriented towards developing hydrographic capabilities in developing countries. Comply with the objectives laid down in the existing MOU.

Task 1.2.7 International Association of Ports and Harbours (IAPH)

The IHB or a MS to participate in meetings for which the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.8 International Organization for Standardization (ISO)

The IHB to contribute to seek official international recognition of the standards developed by the organization and keep track of the development of new standards, participating in meetings for which the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.9 International Electro-technical Commission (IEC)

The IHB to keep abreast of the electro - technological development and its effect on IHO business, participating in meetings for which the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.10 Antarctic Treaty Consultative Meetings (ATCM)

The IHB or HCA Chairman to participate in the annual meetings (2008 to 2012) reporting progress achieved in Antarctic surveys and nautical chart production, and proposing actions and initiatives to improve safety of navigation in Antarctic waters through improved collection and shared use of hydrographic data. Coordinate the delivery of a special presentation in the form of a Seminar at the 2008 ATCM, on the importance of the hydrographic activity in Antarctica.

Task 1.2.11 Pan American Institute of Geography and History (PAIGH)

The IHB or a MS to participate in the meetings of the Hydrographic Committee of the PAIGH in 2009 and 2011, to report on the IHO progress in the Pan American region, and to promote collaboration to avoid duplication of activities and encourage countries that are not IHO members to join the Organization.

Task 1.2.12 Port Management Association of West and Central Africa (PMAWCA) & Maritime Organizations of West and Central Africa (MOWCA)

The IHB or the Chairman of the EAHC to participate in their Executive Council meetings when agendas include matters of relevance to IHO objectives. Make use of these bodies to foster regional hydrographic projects in the West and Central Africa region. Comply with the objectives laid down in the existing MOU with PMAWCA. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.13 Council of Managers of National Antarctic Programs (COMNAP)

The IHB or HCA Chairman to maintain close contact with COMNAP as provider of feedback information on requirements for hydro-cartographic products in the Antarctic. Participate in the Annual General meetings when the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary. Coordinate the delivery of a special presentation in the form of a Seminar at the 2009 Annual Meeting, on the importance of the hydrographic activity in Antarctica.

Task 1.2.14 International Association of Antarctic Tour Operators (IAATO)

The IHB or HCA Chairman to maintain close contact with IAATO as provider of feedback information on requirements for hydro-cartographic products in the Antarctic and as a supporter of data gathering initiatives. Participate in their meetings when the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary. Coordinate the delivery of a special presentation in the form of a Seminar at the 2010 IAATO Meeting, on the importance of the hydrographic activity in Antarctica.

Task 1.2.15 Scientific Committee on Antarctic Research (SCAR)

The IHB or HCA Chairman to co-operate with SCAR (2008 to 2012) to improve bathymetric data collection in Antarctic waters in support of nautical charting and other bathymetric projects of scientific interest. Participate in their meetings when the agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Task 1.2.16 Other International Organizations

The IHB or a MS to participate in meetings of other relevant international organizations e.g. GEO, ISCGM, IFHS, NATO, GEOSS, JBGIC, DGIWG, IMSO, EUROGI, when their agendas include matters of relevance to the IHO objectives. Participation is to be determined on a case by case basis, and only approved if strictly necessary.

Element 1.3 Co-operation with non-Member States

Objective

Raise awareness on the part of the authorities of non-Member States of the importance of hydrography and its related products. Give advice to maritime countries on how to comply with international regulations such as SOLAS V and highlight the importance of coordinated efforts in providing safety of navigation and protection to the marine environment. Stress the importance of becoming IHO Members States and of integration in the work of the RHCs.

Task 1.3.1 Eastern Atlantic Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to continue giving advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

Task 1.3.2 South West Pacific Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business (eg. Western Samoa and others); to give advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization. Attend relevant Pacific NGO meetings (eg. SOPAC, PACMA and SPC) where advice could reach high-level governmental officers.

Task 1.3.3 Meso-American Caribbean Sea Hydrographic Commission

Members of the RHC with the support of the IHB to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to continue giving advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

Task 1.3.4 Southern Africa and Islands Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to continue giving advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

Task 1.3.5 ROPME Sea Area Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to give advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

Task 1.3.6 North Indian Ocean Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to give advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

Task 1.3.7 Baltic Sea Hydrographic Commission

Members of the RHC, with the support of the IHB, to develop and execute (2008-2009) a strategy to facilitate Lithuania's accession to the Organization.

Task 1.3.8 Mediterranean and Black Seas Hydrographic Commission

Members of the RHC with the support of the IHB, to develop (2008-2009) and execute (2009/2012) a strategy to increase participation of Non-Member States in IHO business; to give advice on how to comply with international regulations such as SOLAS V and to encourage them to attend and participate in the RHC meetings and to join the Organization.

PROGRAMME 2

Capacity Building

Concept

This Program refers to the Organization's desire to support Member States as well as Non Member States to build national hydrographic capacities where they do not exist and to contribute to the improvement of the already established hydrographic infrastructure. It is a collective IHO effort that includes mainly the IHO Capacity Building Committee, the IHB, the IHO MS, RHCs, non-MS, funding agencies and other international organizations, together with the private sector and academia.

Element 2.1 Capacity Building Management

Objective

The maintenance of an IHO Strategy on Capacity Building, and the establishment of coordination, operational and control procedures aimed at achieving effective and efficient interaction between all parties involved in the IHO CB effort.

Task 2.1.1 IHO Capacity Building Committee (IHO CBC)

The Chairman of the CBC, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled for 2008, 2009, 2010, 2011 and 2012, informing CBC members and the IHB of the outcome. Follow-up the coordination required to execute the action lists agreed, and report to next IHC and the IRCC when established. Keep IHO publication M-2 - National Maritime Policies and Hydrographic Services, duly updated.

Task 2.1.2 Capacity Building Fund (CBFund)

The IHB to administer the CBFund in conformity with IHO AR 6.1 to 6.4 and as indicated in the IHO WP, reporting to MS on its use and status through the Annual Report (2008-2012).

Task 2.1.3 Meetings with other organizations, funding agencies, private sector and academia

The IHB or Chairman of the CBC to participate in coordination meetings with international organizations such as FIG, IMA and others; and with funding agencies, the private sector and academia, related to initiatives with a capacity building component aimed at developing hydrographic capabilities in developing countries, informing MS of results, 2008 2009, 2010, 2011 and 2012.

Task 2.1.4 IHO Capacity Building Strategy

The CBC to keep the IHO Capacity Building Strategy updated. At each CBC meeting, the Committee is to review the Strategy in the light of new elements, update it accordingly and display it in the IHO website. To foster duplication of positive experience gained by other projects and experience such as the HELCOM Resurvey Plan. 2008, 2009, 2010, 2011 and 2012.

Task 2.1.5 Capacity Building Work Program (CBWP)

The CBC to study the CB needs presented to the CBC by the RHCs. To develop and propose an annual IHO Capacity Building Work Program to be included in the general IHO WP. To maintain and control the execution of the approved CBWP. 2008, 2009, 2010, 2011 and 2012.

Task 2.1.6 Follow-up of CB activities and initiatives

The CBC to follow-up the CB activities and initiatives, especially those for which the CB Fund and MS have contributed (2008-2012). To study and establish a procedure to assess the benefit of such activities and initiatives (2008-2009). To execute an assessment trial, identifying the ways to improve the management of the CB Fund and other resources, including human resources (2010).

Task 2.1.7 Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IAB)

The FIG/IHO/ICA IAB to maintain annually the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IHO publications M-5, M-6, M-8 and S-47) updated in conformity with technological developments, keeping MS and learning institutions informed on the outcome on an annual basis. (2008-2012).

Task 2.1.8 Hydrographic and Nautical Cartographic Training

The FIG/IHO/ICA IAB to provide guidance to the learning institutions established or in the process of being established, on the delivery of hydrographic and nautical cartography education and training programs. Meet annually to recognize courses or programs fulfilling the international standards of competence and to provide guidance on the structure and content of short term training programs, as required. (2008-2012).

Element 2.2 Capacity Building Assessment

Objective

Assessment of the hydrographic surveying, nautical charting and nautical information status of nations and regions where hydrography is developing. Provision of guidelines for the development of local hydrographic capabilities. Identification of regional requirements and study of possibilities for capacity building assistance and training from CBC and other sources.

Task 2.2.1 Technical and Advisory Visits

The RHCs, with the support of the CBC Chairman and IHB, to establish appropriate teams of experts and to schedule and undertake Technical and Advisory Visits to assess the status of hydrography, cartography and aids to navigation in the following areas (countries to be identified at a later stage):

- 2008 SWPHC (Technical Visits), SAIHC (Advisory Visits) & EAthC (Assessment).
- 2009 EAHC (Technical Visits) & SWPHC (Advisory Visits).
- 2010 MBSHC (Technical Visits) EAthC (Follow-up Technical Visits already undertaken and conduct assessments).
- 2011 SAIHC (Follow-up Technical Visits already paid).
- 2012 EAthC (Assessment).

Task 2.2.2 S-55 Status of Hydrographic Surveying and Nautical Charting Worldwide

The IHB with the support of the RHCs and the CBC to keep S-55 updated (including information of Antarctica, and when done, recommend deletion of S-59); to gather missing data and process information received, and to report on the results to the IHO and other international organizations, such as UN and IMO, as requested. (2008-2012).

Task 2.2.3 Assessment procedures

The CBC to establish (2008) and maintain (2009-2012) loaded in the IHO website the procedures to be used by RHC Chairmen when assessing hydrographic, cartographic and safety of navigation status. RHC Chairmen to consider the participation of the Industrial and Academic sectors with the aim of increasing external support.

Element 2.3 Capacity Building Provision

Objective

The scheduling and execution of initiatives aimed at the provision of general support, training and education to address identified CB shortcomings. Identification of aid agencies and other sources of funds. Liaison with Member States, other organizations and Funding Agencies for such provision. Establishment of and participation in joint development projects.

Task 2.3.1 Raise Awareness of the Importance of Hydrography

The IHB, RHC Chairmen and individual National Hydrographers to provide the Governmental Authorities of the Developing Countries with the necessary information required to raise the awareness of the importance of Hydrography and its contribution to socio-economic development. (2008-2012).

Task 2.3.2 Technical Workshops, Seminars, Short Courses

The RHCs in conjunction with the CBC and with the support of the IHB, to organize Technical Workshops, Seminars and Short Courses with a view to highlighting the responsibilities of maritime countries (SOLAS V); to provide the basic technical knowledge and to jointly explore initiatives to achieve a minimum level of response to national, regional and international obligations. The following events are anticipated:

- | | |
|-------|--|
| 2008: | MSI Technical Training Course (MBSHC and NIOHC)
MB Course (MACHC, SEPHC and SWAtHC)
Regional Data Exchange Workshop (SEPHC)
Nautical Cartographic Refresher Course (MACHC)
Workshop on Port and Shallow Water surveys, S-44 (RSAHC)
Fluvial ENC Production Workshop (SWAtHC)
WB/IMO MEH Project Seminar (to be confirmed) (EAHC)
Basic Practical Hydrographic Survey Course (EAHC) |
| 2009: | Workshop on Port and Shallow Water surveys, S-44 (BSHC, MACHC, SWAtHC and SEPHC)
Seminar for National Hydrographic Committee Chairmen (SWPHC and SAIHC)
MSI Technical Training Course (RSAHC and EAHC)
Workshop on Regional Survey Team Operations (NIOHC)
Workshop on Techniques and Experiences in Antarctic surveying (HCA) |
| 2010 | Workshop on Surveys Dangerous Grounds (EAHC)
Workshop on data processing/management/spatial databases (SEPHC, MACHC, RSAHC and SWAtHC)
Workshop on Port and Shallow Water surveys, S-44 (SAIHC, NIOHC)
ENC production, distribution and maintenance INT Charts (HCA) |
| 2011 | MSI Technical Training Course (SWPHC)
Workshop on Port and Shallow Water surveys, S-44 (MBSHC, EAHC)
ENC Nautical Cartographic Refresher Course (SEPHC, MACHC, SWAtHC)
Datum Transformation Short Course (SWPHC)
Nautical Cartographic refresher Course (SAIHC)
Workshop on data processing/management/spatial databases (NIOHC)
Seminar for National Hydrographic Committee Chairmen (RSAHC)
Seminar on MSI/GMDSS for Antarctica (CHA) |

- 2012 Workshop on data processing/management/spatial databases (MBSHC, SAIHC)
Seminar on Hydrography and its contribution to sustainable development. Socio-economic perspectives. (SEPHC, MACHC and SWAtHC)
Workshop on Port and Shallow Water surveys, S-44 (SWPHC)
ENC Nautical Cartographic Refresher Course (NIOHC and RSAHC)

Task 2.3.3 Hydrographic and Nautical Cartography Courses

The IHB, in conjunction with the IAB and the CBC, to encourage the development and delivery of new Hydrographic and Nautical Cartography Programs, including the establishment of new Hydrographic Schools where that regional capacity does not exist. Report to the IHO on the results. (2008, 2009 and 2010).

Task 2.3.4 On the Job Training (ashore / on board)

The CBC, with the support of the IHB, to investigate “on-the-job training opportunities” ashore and on board (ships of opportunity) (2008). To study and develop a procedure to take advantage of this innovative training tool and report the results to the IHO proposing the adoption of an administrative resolution on the subject (2009).

Task 2.3.5 Marine/Maritime Projects

The IHB, with the support of the CBC and RHC Chairmen, to ensure awareness of multilateral or bilateral projects with hydrographic and/or cartographic components, and to provide advice to governments, project managers and funding agencies on the importance of including a hydrographic Capacity Building Component. Report to IHO annually on the results obtained. (2008-2012).

Task 2.3.6 Bilateral agreements

The CBC to study, develop and propose IHO transition procedures that could be adopted by countries with developing hydrographic capabilities for the provision of hydrographic services in accordance to SOLAS V. (2008-2009).

PROGRAMME 3

Techniques and Standards Co-ordination and Support

Concept

This Program refers to the Organization's desire to establish in a coordinated way a set of methodologies and standards that would facilitate the global understanding and application of the procedures involved in the principal technical fields for which IHO is the international competent organization. It also considers the follow-up and requirements needed to support the provision of this service. It mainly involves all the IHO technical bodies and the hydrographic industry, private sector and academia.

Element 3.1 Meetings of Committees and Working Groups

Objective

Achieve the requirements of the IHO Work Program through the coordination and interaction of the relevant Committees and Working Groups.

Task 3.1.1 Committee on Hydrographic Requirements for Information Systems (CHRIS)

The CHRIS Chairman, with the support of the IHB as needed, to organize, prepare and conduct the meetings scheduled annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

Task 3.1.2 Transfer Standard Maintenance and Application Development Working Group (TSMAD)

The Chairman of the TSMAD WG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings scheduled each six months during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep the following IHO publications updated: S-58, S-61, S-62 and S-63; this last one in coordination with CSMWG. TSMAD Sub WGs, to meet as required.

Task 3.1.3 Chart Standardization and Paper Chart Working Group (CSPCWG)

The Chairman of the CSPCWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep IHO publication M-15 - List of Booklets on Chart Symbols updated. CSPCWG Sub WGs to meet as required.

Task 3.1.4 Colours and Symbols Maintenance Working Group (CSMWG)

The Chairman of the CSMWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep IHO publication S-64 updated, in coordination with TSMAD.

Task 3.1.5 Standardization of Nautical Publications Working Group (SNPWG)

The Chairman of the SNPWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. SNPWG Sub-WGs to meet as required.

Task 3.1.6 Data Protection Scheme Working Group (DPSWG)

The Chairman of the DPSWG under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

Task 3.1.7 IHO-IEC Harmonizing Group on Marine Information Objects (HGMIO)

The Chairman of the HGMIO under the guidance of CHRIS and with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS.

Task 3.1.8 Committee on the Hydrographic Dictionary (S-32) (CHD)

The Chairman of the CHD to progress the activities of the Committee by correspondence and with IHB support as needed, to organize, prepare and conduct meetings as required during the period 2008-2012.

Task 3.1.9 Commission on Promulgation of Radio Navigational Warnings (CPRNW)

The Chairman of the CPRNW with IHB support as needed, to organize, prepare and conduct the meetings annually 2008-2012; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to relevant organizations, bodies and MS.

Task 3.1.10 IHO Standards for Hydrographic Surveys (S-44) (S-44 WG)

The Chairman of the S-44 WG with IHB support as needed, to organize, prepare and conduct the meetings as required during the period 2008-2012; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to relevant organizations, bodies and MS.

Task 3.1.11 Tidal Committee (TC)

The Chairman of the TC with IHB support as needed, to organize, prepare and conduct the meetings 2009, 2010 and 2012, and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to relevant organizations, bodies and MS.

Task 3.1.12 World-wide Electronic Navigational Chart Database (WEND)

The Chairman of WEND, with IHB support as needed, to organize, prepare and conduct the meetings scheduled annually 2008-2012, to coordinate and execute the detail of approved IHO WP items and to consider issues and provide guidance and advice to relevant organizations, bodies and MS. To keep updated IHO publication S-65 - ENC Production Guidance.

Task 3.1.13 General Bathymetric Chart of the Oceans (GEBCO Guiding Committee)

The Chairman of the GEBCO Guiding Committee with the support of the IHB and IOC as needed, to organize, prepare and conduct the meetings in 2009 and 2011; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to IHO and IOC, other bodies and MS.

Task 3.1.14 GEBCO Sub-Committee on Digital Bathymetry (GEBCO SCDB)

The Chairman of the SCDB with the support of the IHB, IOC and the GEBCO Guiding Committee as needed, to organize, prepare and conduct the meetings annually 2008-2012; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to IHO and IOC, other bodies and MS.

Task 3.1.15 GEBCO Sub-Committee on Undersea Feature Names (GEBCO SCUFN)

The Chairman of the SCUFN with the support of the IHB, IOC and the GEBCO Guiding Committee as needed, to organize, prepare and conduct the meetings annually 2008-2012; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to IHO and IOC, other bodies and MS.

Task 3.1.16 Advisory Board on the Law of the Sea (ABLLOS)

The Chairman of the ABLLOS with the support of the IHB and the IAG as needed, to organize, prepare and conduct the meetings annually 2008-2012; and to coordinate and execute the detail of approved IHO WP items, providing guidance and advice to relevant organizations, bodies and MS.

Element 3.2 Hydrographic Surveying**Objective**

Improve the quality of hydrographic data gathering through the development of specifications and standards for the execution of hydrographic surveys and the provision of support to achieve the best practice.

Task 3.2.1 S-44 WG

The S-44 WG to develop and maintain IHO technical specifications and guidelines that govern hydrographic surveying, IHO publication S-44 IHO Standards for Hydrographic Surveying. (2008-2012).

Task 3.2.2 Manual on Hydrography

Considering that this WG is dormant (or probably disbanded by decision of the XVII IHC), the IHB to collect and compile comments received by MS and users of the Manual, and to propose and adopt the necessary measures as required to keep IHO publication M-13 Manual on Hydrography duly updated. (2008-2012)

Task 3.2.3 Hydrographic Dictionary (CHD)

The CHD to study and to propose new terms required for the work of the Organization, and to maintain IHO publication S-32 Hydrographic Dictionary. (2008-2012)

Task 3.2.4 Tidal Committee publications.

The Tidal Committee to maintain the standard List of Harmonic Constituents (2008-2012) and to review the tidal related IHO Technical Resolutions – Pub. M-3 proposing required changes. (2008-2009)

Task 3.2.5 Hydrographic Publications (for which there is no specific body in charge).

The IHB to maintain the following technical publications in the absence of a specific technical body dealing with them: M-12 Standardization of List of Lights and Fog Signals; S-23 Limits of Oceans and Seas and S-60 Handbook on Datum Transformations.

Element 3.3 Nautical Cartography and Marine Data Management

Objective

Facilitate worldwide quality nautical charting coverage to suit the needs of the mariner in support of safe and efficient navigation through the development of specifications and standards for the production, distribution and updating of cartographic products and supporting publications.

Task 3.3.1 Nautical Publications

Revise, develop and maintain the following IHO publications, with the support of consultants as required (2008-2012 ongoing):

- a) M-4 2008-2012 ongoing
- b) M-11 2008-2012 ongoing
- c) S-52 2008-2012 ongoing
- d) S-57 2008
- e) S-100 2008
- f) S-101 2012
- g) S-10X 2008
- h) INT 1, INT2 and INT3

Task 3.3.2 Digital Data Protection

CHRIS to provide support to users on the implementation and operation of the IHO data protection scheme S-63 (2008-2012). To develop and maintain S-63 with support for S-101 and other relevant specifications based on S-100 (2012). To provide IHB with support to operate the scheme as scheme administrator (2008-2012).

Task 3.3.3 Liaison and cooperation with other organizations.

CHRIS to develop and maintain contact with relevant organizations to harmonize standards, to avoid potential conflicts, to anticipate development and to maximise the quality and availability of adequate nautical products and services. To invite participants to attend appropriate IHO forums (eg. Open ECDIS Forum) and to participate in governmental and non governmental groups such as: IEC/TC80, ISO TC211, DGIWG, GSDI, ICA Commission on Spatial Data Standards, GNSS-ICG. (2008-2012)

Task 3.3.4 ENC Production, Distribution and Update.

RHCs to work to ensure ENC consistency and a common level of IHO data quality. To encourage MS to work together on achieving ENC consistency across national boundaries. To audit the state of consistency in their regions and to report to WEND. (2008-2012)

Task 3.3.5 INT Chart Series

MS to improve the availability of charts included in the INT Chart Schemes, especially in remote areas (2008-2012). HCA Members to take advantage of the International Polar Year (2007-2008) to foster the production of INT Charts covering Antarctic waters (2008-2012).

Element 3.4 Marine Safety Information (MSI)

Objective

Facilitate the efficient provision of MSI to mariners through coordination and the establishment of relevant standards between agencies.

Task 3.4.1 CPRNW Expansion

The CPRNW to seek MSI coverage for Arctic waters as agreed by IHO, IMO and WMO, and to establish NAVAREA coordinators for the Arctic waters (2008-2009). RHCs to improve the NAVTEX coverage in their respective regions. (2008-2012)

Task 3.4.2 NAVAREA Coordinators

The CPRNW to rotate its meetings every other year to one of the MS countries to encourage MS in the region and to increase awareness, responsibility and ownership of MSI. (2008-2012)

Task 3.4.3 CPRNW Publications

The CPRNW to maintain, improve and keep updated relevant publications such as:
S-53
S-53 App 1

Element 3.5 Data for Geomatics Application**Objective**

Facilitate the optimal use of hydrographic data for purposes other than navigation.

Task 3.5.1 Development of Standards

CHRIS to develop processes under which Hydrographic Data and Exchange Products Specifications may be created under S-100. (2008-2009) To develop standards for coastal zone hydrographic surveys in support of coastal zone management, protection of the environment and natural hazards (e.g. tsunamis). (2008-2012)

Task 3.5.2 Maritime Spatial Data Infrastructure

CHRIS to monitor global geomatics development, especially those connected with coastal zone data management and the development of national, regional and global spatial data infrastructure and to provide guidance to MS as appropriate.(2008-2012)

Element 3.6 Technical Aspects of the Law of the Sea**Objective**

Through ABLOS, provide expert advice to relevant international organizations and Member States on the technical aspects of the UN Convention on the Law of the Sea.

Task 3.6.1 ABLOS Conferences

The Chairman of ABLOS, with the support of the IHB as needed, to organize, prepare and conduct the ABLOS conferences in 2008, 2009 and 2011, and to consider the inclusion of topics of particular relevance and related to hydrography. To report results to relevant organizations, bodies and MS.

Task 3.6.2 Technical Aspects of the Law of the Sea Manual (TALOS Manual)

ABLOS to study the technical aspects of the Law of the Sea and to maintain, and keep up to date the TALOS Manual, IHO publication S-51. (2008-2012)

Task 3.6.3 TALOS Technical Assistance

ABLOS to prepare a standard training program for IHO members on the hydrographic aspects of maritime delimitation (e.g. extension of the continental shelf, fishing zones, protection zones); to identify lecturers from MS and to propose to the CBC the mechanism to deliver this training assistance. (2008-2009)

Element 3.7 Ocean Mapping Program

Objective

The development of the IHO/IOC General Bathymetric Chart of the Oceans (GEBCO) and the International Bathymetric Charts (IBC) in accordance with the decisions of the International Hydrographic Conference and the IOC Assembly, and, in particular, to promote the free exchange of processed data between the two Organizations for different uses.

Task 3.7.1 Shallow Water Bathymetry

The GEBCO Guiding Committee, with the support of the IHB as needed, to propose IHO mechanisms to incorporate shallow water depth measurements in bathymetric maps and grids. MS to contribute to the build-up of a validated bathymetric data base extracting data from different sources, including ENCs. (2008-2010).

Task 3.7.2 Bathymetric Data Integration

The SCDB to develop means of integrating areas intensively surveyed by multibeam with areas having only single beam individual track with satellite altimetry data.(2008-2012).

Task 3.7.3 Maps and Digital Grids

To produce and update contour maps and bathymetric data in a gridded format. To assimilate and distribute new versions through internet or CDs, and to incorporate acoustic data into GEBCO products. (2008-2012).

Task 3.7.4 New Products

GEBCO Guiding Committee to identify and propose IHO and IOC new products for the description of global ocean depths to be prepared mainly for scientific and research purposes. (2008, 2009 and 2010).

Task 3.7.5 Global Education

GEBCO Guiding Committee to prepare a product for insertion of the SCUFN Gazetteer in global projects which are underway or under development, such as Google Earth website and Global Mapping. To prepare media products for primary school and for wide distribution (2008-2009).

Task 3.7.6 IHO Digital Bathymetry Data Center

DCDB to continue incorporating new bathymetric trackline data (and other relevant sources of data) into the data centres databank and to made available data to MS via an online web service. The IHB is to advertise the latest dataset incorporated into the data centre, on the B-4 online web map server. (2008-2012).

Task 3.7.7 IBC Projects

GEBCO Guiding Committee to liaise with IBC Editorial Boards to ensure dataset consistency and avoid duplication of work. MS and IHO DCDB to provide bathymetric data to support IBC projects and, when applicable, to produce regional series of bathymetric maps at 1:1 million scale. (2008-2012).

Task 3.7.8 GEBCO Publications

GEBCO Guiding Committee and its Sub Committees, with the support of the IHB as required:

- a) to maintain, improve and keep updated relevant publications such as:
 - B-6 Standardization of Undersea Feature Names
 - B-7 GEBCO Guidelines

- B-8 Gazetteer
- B-9 GEBCO Digital Atlas

b) to study the future of the following former publications, proposing actions to the IHB:

- B-1 GEBCO Sheets.
 - B-2 Catalogue of IHO Bathymetric Plotting Sheets
 - B-4 Information concerning recent bathymetric data
-

PROGRAMME 4

Information Management and Public Relations

Concept

This Program refers to the Organization's role in disseminating relevant information to IHO Member States, Organizations and individuals.

Element 4.1 Information Management

Objective

To keep MS well informed in a timely manner on matters related to IHO work and objectives.

Task 4.1.1 Maintenance and development of the IHO Web Site

The IHB to keep the IHO web site updated with the support of a consultant as required (2008-2012) and to study and implement a safe mechanism to allow direct access of RHCs and WG Chairmen to the web. (2009-2010). Member States and IHO bodies to provide IHB with the information to keep the IHO website updated (2008-2012). The HCA to develop its corresponding component of the IHO website (2011).

Task 4.1.2 Communications between the IHB and Member States through Circular Letters

The IHB to continue the system of Circular Letters (2008-2012), to assess its effectiveness and to study and propose changes to improve efficiency (2009-2010). The IHB to standardize the system of voting by correspondence and the deadline for response (2009).

Task 4.1.3 IHO Publications

The IHB to maintain the following digital publications duly updated: Catalogue of Publications (IHO P-4) and the IHO Yearbook (IHO P-5). The IHB to prepare and distribute annually the Annual Report (IHO P-7) by 01 May and the Reports of Proceedings of the IHC (IHO P-6), whenever applicable.(2008-2012). The IHB to develop and propose new IHO classification criteria and a new pricing policy (2010). The IHB, with the support of IHO bodies, to prepare a new edition of M-3 "IHO Technical and Administrative Resolutions" (2008-2009) and to keep it updated (2010-2012).

Task 4.1.4 IHB Technical Library

The IHB to maintain a Technical Library with the contribution of Member States and a few subscriptions (2008-2012). The IHB to review and update the register of books (2009). The IHB to conduct a study and propose actions required to modernize the Technical Library including a policy with regard to its functioning (2010).

Element 4.2 Public Relations

Objective

Raise awareness of the importance of hydrography, and ensure that the need for, and responsibilities of, hydrographic offices are properly understood, particularly in government and in the user community.

Task 4.2.1 Relationship with the Government of Monaco and other Authorities

The IHB to maintain regular communications and relationship with the Monegasque Government; the Diplomatic Corps accredited to Monaco, IHO MS authorities and sister organizations. The IHB to be aware of applications for membership and accession to the IHO Convention. (2008-2012).

Task 4.2.2 World Hydrography Day

The IHB to coordinate with IHO MS, non MS and other relevant international organizations, the celebration of the World Hydrography Day (21 June), and to organize at the IHB an event to promote this commemoration (2008-2012). IHO Member States to celebrate the World Hydrography Day.

Task 4.2.3 Communication with Hydrographic Industry

The IHB and IHO Member States to facilitate the communication with, and encourage the participation of, Hydrographic Industry stakeholders on topics of interest to the Organization (2008-2012). The IHB, with the support of the relevant IHO Bodies, to organize every two years the “Industry Days” event. (2009-2011).

Task 4.2.4 Press Releases

The IHB and IHO Member States and Bodies to prepare Press Releases for the widest possible distribution any time an IHO activity takes place, nationally, regionally or internationally. (2008-2012).

Task 4.2.5 Delivery of papers about the IHO

IHO Member States’ Hydrographers, the IHB and Chairmen of IHO bodies to deliver papers in their areas of competence at all main events where the IHO requires to be represented. IHB to consider making wide use of the publication B-10 - History of GEBCO (2008-2012).

Task 4.2.6 Public Relations’ support

The IHB to produce (2008) and keep updated a series of presentations and brochures (digital and hard copy) about the IHO, concerning its activity and the benefits derived from the IHO Membership (2009-2012).

Task 4.2.7 Publicity

The IHB to maintain and/or make arrangements with publishers of Journals and Reviews devoted to maritime matters, as necessary, to include publicity about the IHO and its work and objectives. Participate in the Editorial Board of the International Hydrographic Review. (IHO P-1) printed under license twice a year. (2008-2012). The IHB, with the approval of Member States, to establish a procedure for awarding the Prince Albert Ist Medal for Hydrography (2008).

PROGRAMME 5

General Organization Development

Concept

This Program refers to the maintenance and development of the Organization's structure. It includes both the IHO and the IHB. This program also includes the IH Conferences.

Element 5.1 IHO

Objective

To ensure IHO development responds to the challenges of the third millennium and modern techniques, providing best solutions to meet to MS' requirements. This Element will be focused on the implementation of the decisions taken by the 3rd EIHC and the XVIIth IHC.

Task 5.1.1 New IHO Structure

The IHB (and the SPWG if it continues) to monitor and conduct the implementation of the new IHO structure, as decided by the 3rd EIHC and XVII IHC. IHO Bodies to organize meetings as required to monitor the agreed implementation plan. (2008?).

Task 5.1.2 IHO Work Program and Budget

The IHB to implement the IHO Work Program and Budget as approved by Member States at the XVII IHC and to propose annual updates as necessary, for approval by MS (2008-2012).

Task 5.1.3 IHO Strategic Plan

The Working Group established by the XVII IHC (if established) or the IHB, to review and update the IHO Strategic Plan for adoption of the amended version at the 4th EIHC (2008-2009) if so decided, or at the XVIIIth IHC. (2008-2012).

Task 5.1.4 IHO Legal Advisory Committee

The IHO Legal Advisory Committee to provide guidance and advice to the IHO on technical matters as requested. (2008-2012).

Element 5.2 IHB

Objective

To ensure IHB development responds to the priorities set by MS, aiming to provide the best service (quality, opportunity, reasonable cost) according to the resources available.

Task 5.2.1 IHB Administration

The IHB Directing Committee to administer the IHB in accordance with the IHO Convention, and Regulations. To prepare and submit annually the IHO Work Programme and budget for MS approval. To report the results through the Annual Report and the financial situation of the Organization, with the advice of the Finance Committee and the report of the Auditor. Apply depreciation of fixed assets. To keep the IHO publication M-1- Basic Documents of the IHO, duly updated. (2008-2012).

Task 5.2.2 IHB Staff Regulations

The Working Group established by the XVIIth IHC (if established) to prepare a new edition of the IHB Staff Regulations. (2008-2012).

Task 5.2.3 IHB Translation Service

The IHB to provide translation services in accordance with the obligations established in the IHO Basic Documents and IHO Resolutions. To coordinate with MS their potential contribution to the translation needs of the Organization. (2008-2012).

Task 5.2.4 IHB Finance Procedures

The IHB, with the support of the Finance Committee, to develop an internal Manual of Finance Procedures consisting of a structured compilation of all finance procedures in force (2008-2009).

Task 5.2.5 IHB Procedural Manual for Permanent Activities

The IHB to develop a Procedural Manual for Permanent Activities consisting of a structured compilation of internal procedures related to all activities of repetitive occurrence. (2009-2010).

Task 5.2.6 Staff Training

The IHB staff to attend different training courses to maintain and improve their skills in the use of the existing and newly incorporated technology, equipment and systems.

Task 5.2.7 Maintenance

The IHB to take the required measures to maintain the premises (building), the existing IT equipment and the furniture to ensure a good service to MS and mainly to the various IHO bodies meeting at the IHB. The IHB to contract insurance services. Maintain a Renovation Fund for unexpected medium term requirements, by transferring resources to this Fund.

Task 5.2.8 Purchase of IT Equipment, Furniture and other equipment

The IHB to renew as required the IT Equipment, furniture and other equipments in order to ensure that service to MS and IHO bodies is provided in an effective and efficient way, according to the available technology.

Task 5.2.9 Removal of Directors and applicable PAs

The IHB to maintain a fund for the provision of the expenditures associated to the removal of Directors and applicable Professional Assistants by transferring resources to this Fund.

Element 5.3 International Hydrographic Conferences

Objective

To ensure that these important events will be organized in such a way that will facilitate the IHO Member States decision-making process and the participation of all interested parties.

Task 5.3.1 4th Extraordinary Conference

The IHB to organize the 4th Extraordinary Conference in 2009 (if so agreed at the XVII IHC) according to past experience and instructions received from the XVII IHC. The IHB to maintain a fund for the provision of the expenditures associated with the organization and execution of the 4th EIHC by transferring resources to the Conference Funds.

Task 5.3.2 XVIIIth International Hydrographic Conference

The IHB to organize the XVIIIth International Hydrographic Conference in 2012 according to past experience and instructions received from the XVII IHC. The IHB to maintain a fund for the provision of the expenditures associated with the organization and execution of the XVIIIth IHC by transferring resources to the Conference Funds.

Annex A : Spread sheet Tasks/Timing.

Annex B: Cross Reference Budget Chapters v/s Programmes, Elements and Tasks.

Annex "A"
SPREAD SHEET TASKS/TIMING

Program 1"Co-operation with Member States and with International Organizations"
Element 1.1 Co-operation with Member States

		2008	2009	2010	2011	2012
Task 1.1.1	Nordic Hydrographic Commission (NHC)	X	X	NO	X	X
Task 1.1.2	North Sea Hydrographic Commission (NSHC)	X	NO	X	NO	X
Task 1.1.3	East Asia Hydrographic Commission (EAHC)	NO	X	NO	X	NO
Task 1.1.4	USA and Canada Hydrographic Commission (USCHC)	X	X	X	X	X
Task 1.1.5	Mediterranean and Black Seas Hydrographic Commission (MBSHC)	NO	X	NO	X	NO
Task 1.1.6	Baltic Sea Hydrographic Commission (BSHC)	X	X	X	X	X
Task 1.1.7	Eastern Atlantic Hydrographic Commission (EAHC)	X	NO	X	NO	X
Task 1.1.8	South East Pacific Hydrographic Commission (SEPHC)	X	NO	X	NO	X
Task 1.1.9	South West Pacific Hydrographic Commission (SWPHC)	X	X	X	X	X
Task 1.1.10	Meso American and Caribbean Hydrographic Commission (MACHC)	X	X	X	X	X
Task 1.1.11	Southern Africa and Islands Hydrographic Commission (SAIHC)	NO	X	NO	X	NO
Task 1.1.12	ROPME Sea Area Hydrographic Commission (RSAHC)	X	NO	X	NO	X
Task 1.1.13	North Indian Ocean Hydrographic Commission (NIOHC)	X	X	X	X	X
Task 1.1.14	South West Atlantic Hydrographic Commission (SWAtHC)	X	X	X	X	X
Task 1.1.15	Hydrographic Committee on Antarctica (HCA)	X	X	X	X	X
Task 1.1.16	Inter Regional Coordinating Committee (IRCC) Meeting. (subject to its establishment)	NO	X	X	X	NO
Task 1.1.17	RHCs to work for completing ENC coverage for High Speed Crafts (HSC)	X	NO	NO	NO	NO
Task 1.1.18	RHCs to work for completion of adequate ENC coverage for all other types of vessels	X	X	X	NO	NO
Task 1.1.19	RHCs to work for completion of adequate ENC coverage schemes	X	NO	NO	NO	NO
Task 1.1.20	RHCs and the Hydrographic Industrial Sector.	X	X	X	X	X

Element 1.2 Co-operation with International Organizations

		2008	2009	2010	2011	2012
Task 1.2.1	United Nations (UN)	?	?	?	?	?
Task 1.2.2	International Maritime Organization (IMO)	X	X	X	X	X
Task 1.2.3	Intergovernmental Oceanographic Commission (IOC)	X	X	X	X	X
Task 1.2.4	International Association of Lighthouses Authorities (IALA)	?	?	?	?	?
Task 1.2.5	International Cartographic Association (ICA)	?	?	?	?	?
Task 1.2.6	International Federation of Surveyors (FIG)	X	X	X	X	X
Task 1.2.7	International Association of Ports and Harbours (IAPH)	?	?	?	?	?
Task 1.2.8	International Organization for Standardization (ISO)	?	?	?	?	?
Task 1.2.9	International Electro Technical Commission (IEC)	?	?	?	?	?
Task 1.2.10	Antarctic Treaty Consultative Meetings (ATCM)	X	X	X	X	X
Task 1.2.11	Pan American Institute of Geography and History (PAIGH)	NO	X	NO	X	NO

Task 1.2.12	Port Management Association West & Central Africa (PMAWCA) & Maritime Organizations of West and Central Africa (MOWCA)	?	?	?	?	?
Task 1.2.13	Council of Managers of National Antarctic Programs (COMNAP)	?	X	?	?	?
Task 1.2.14	International Association of Antarctic Tour Operators (IAATO)	?	?	X	?	?
Task 1.2.15	Scientific Committee on Antarctic Research (SCAR)	?	?	?	X	?
Task 1.2.16	Other International Organizations	?	?	?	?	?

Element 1.3 Co-operation with non-Member States

		2008	2009	2010	2011	2012
Task 1.3.1	Eastern Atlantic Hydrographic Commission.	X	X	X	X	X
Task 1.3.2	South West Pacific Hydrographic Commission.	X	X	X	X	X
Task 1.3.3	Meso-American Caribbean Sea Hydrographic Commission	X	X	X	X	X
Task 1.3.4	Southern Africa and Islands Hydrographic Commission	X	X	X	X	X
Task 1.3.5	ROPME Sea Area Hydrographic Commission	X	X	X	X	X
Task 1.3.6	North Indian Ocean Hydrographic Commission	X	X	X	X	X
Task 1.3.7	Baltic Sea Hydrographic Commission	X	X	NO	NO	NO
Task 1.3.8	Mediterranean and Black Sea Hydrographic Commission	X	X	X	X	X

Program 2 Capacity Building
Element 2.1 Capacity Building Management

		2008	2009	2010	2011	2012
Task 2.1.1	IHO Capacity Building Committee (IHOCBC)	X	X	X	X	X
Task 2.1.2	Capacity Building Fund (CBFund)	X	X	X	X	X
Task 2.1.3	Meetings with other organizations, funding agencies, private sector and academia.	X	X	X	X	X
Task 2.1.4	IHO Capacity Building Strategy	X	X	X	X	X
Task 2.1.5	Capacity Building Work Program (CBWP)	X	X	X	X	X
Task 2.1.6	Follow-up of CB activities and initiatives.	X	X	X	X	X
Task 2.1.7	Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IAB).	X	X	X	X	X
Task 2.1.8	Hydrographic and Nautical Cartographic Training.	X	X	X	X	X

Element 2.2 Capacity Building Assessment

		2008	2009	2010	2011	2012
Task 2.2.1	Technical and Advisory Visits.	X	X	X	X	X
Task 2.2.2	S-55 Status of Hydrographic Surveying and Nautical Charting Worldwide	X	X	X	X	X
Task 2.2.3	Assessment procedures.	X	X	X	X	X

Element 2.3 Capacity Building Provision

		2008	2009	2010	2011	2012
Task 2.3.1	Raise Awareness of the Importance of Hydrography.	X	X	X	X	X
Task 2.3.2	Technical Workshops, Seminars, Short Courses.	X	X	X	X	X
Task 2.3.3	Hydrographic and Nautical Cartography Courses.	X	X	X	NO	NO
Task 2.3.4	On the Job Training (ashore / on board)	X	X	NO	NO	NO
Task 2.3.5	Marine/Maritime Projects.	X	X	X	X	X
Task 2.3.6	Bilateral agreements.	X	X	NO	NO	NO

Program 3 " Techniques and Standards Co-ordination and Support"
Element 3.1 Meetings of the different Committees and Working Groups

		2008	2009	2010	2011	2012
Task 3.1.1	Committee on Hydrographic Requirements for Information Systems (CHRIS)	X	X	X	X	X
Task 3.1.2	Transfer Standard Maintenance and Application Development Working Group (TSMAD)	X	X	X	X	X
Task 3.1.3	Chart Standardization and Paper Chart Working Group (CSPCWG)	X	X	X	X	X
Task 3.1.4	Colours and Symbols Maintenance Working Group (CSMWG)	X	X	X	X	X
Task 3.1.5	Standardization of Nautical Publications Working Group (SNPWG)	X	X	X	X	X
Task 3.1.6	Data Protection Scheme Working Group (DPSWG)	X	X	X	X	X
Task 3.1.7	IHO-IEC Harmonizing Group on Marine Information Objects (HGMIO)	X	X	X	X	X
Task 3.1.8	Committee on the Hydrographic Dictionary (S-32) (CHD)	X	X	X	X	X
Task 3.1.9	Commission on Promulgation of Radio Navigational Warnings (CPRNW)	X	X	X	X	X
Task 3.1.10	IHO Standards for Hydrographic Surveys (S-44) (S44 WG)	X	X	X	X	X
Task 3.1.11	Tidal Committee (TC)	NO	X	X	NO	X
Task 3.1.12	World-wide Electronic Navigational Chart Database (WEND)	X	X	X	X	X
Task 3.1.13	General Bathymetric Chart of Oceans (GEBCO Guiding Committee)	NO	X	NO	X	NO
Task 3.1.14	GEBCO Sub-Committee on Digital Bathymetry (GEBCO SCDB)	X	X	X	X	X
Task 3.1.15	GEBCO Sub-Committee on Undersea Feature Names (GEBCO SCUFN)	X	X	X	X	X
Task 3.1.16	Advisory Board on the Law of the Sea (ABLOS)	X	X	X	X	X

Element 3.2 Hydrographic Surveying

		2008	2009	2010	2011	2012
Task 3.2.1	S-44 WG	X	X	X	X	X
Task 3.2.2	Manual on Hydrography	X	X	X	X	X
Task 3.2.3	Hydrographic Dictionary (CHD)	X	X	X	X	X
Task 3.2.4	Tidal Committee Publications	X	X	X	X	X
Task 3.2.5	Hydrographic Publications (for which there is no specific body in charge)	X	X	X	X	X

Element 3.3 Nautical Cartography and Marine Data Management
--

		2008	2009	2010	2011	2012
Task 3.3.1	Nautical Publications.	X	X	X	X	X
Task 3.3.2	Digital Data Protection	X	X	X	X	X
Task 3.3.3	Liaison and cooperation with other organizations.	X	X	X	X	X
Task 3.3.4	ENC Production, Distribution and Update.	X	X	X	X	X
Task 3.3.5	INT Chart Series	X	X	X	X	X

Element 3.4 Marine Safety Information (MSI)
--

		2008	2009	2010	2011	2012
Task 3.4.1	CPRNW Expansion	X	X	X	X	X
Task 3.4.2	NAVAREA Coordinators	X	X	X	X	X
Task 3.4.3	CPRNW Publications	X	X	X	X	X

Element 3.5 Data for Geomatics Application

		2008	2009	2010	2011	2012
Task 3.5.1	Development of Standards.	X	X	X	X	X
Task 3.5.2	Maritime Spatial Data Infrastructure	X	X	X	X	X

Element 3.6 Technical aspects of the Law of the Sea

		2008	2009	2010	2011	2012
Task 3.6.1	ABLOS Conferences	X	X	NO	X	NO
Task 3.6.2	Technical Aspects of the Law of the Sea Manual (TALOS Manual)	X	X	X	X	X
Task 3.6.3	TALOS Technical Assistance	X	X	NO	NO	NO

Element 3.7 Ocean Mapping Program

		2008	2009	2010	2011	2012
Task 3.7.1	Shallow Water Bathymetry	X	X	X	NO	NO
Task 3.7.2	Bathymetric Data Integration	X	X	X	X	X
Task 3.7.3	Maps and Digital Grids	X	X	X	X	X
Task 3.7.4	New Products	X	X	X	NO	NO
Task 3.7.5	Global Education	X	X	NO	NO	NO
Task 3.7.6	IHO Digital Bathymetry Data Center	X	X	X	X	X
Task 3.7.7	IBC Projects	X	X	X	X	X
Task 3.7.8	GEBCO Publications	X	X	X	X	X

Program 4 " Information Management and Public Relations"**Element 4.1 Information Management**

		2008	2009	2010	2011	2012
Task 4.1.1	Maintenance and development of the IHO Web Site.	X	X	X	X	X
Task 4.1.2	Communication between the IHB and Member States through Circular Letters.	X	X	X	X	X
Task 4.1.3	IHO Publications.	X	X	X	X	X
Task 4.1.4	IHB Technical Library.	X	X	X	X	X

Element 4.2 Public Relations

		2008	2009	2010	2011	2012
Task 4.2.1	Relationship with the Government of Monaco and other Authorities.	X	X	X	X	X
Task 4.2.2	World Hydrography Day	X	X	X	X	X
Task 4.2.3	Communication with Hydrographic Industry.	X	X	X	X	X
Task 4.2.4	Press Releases.	X	X	X	X	X
Task 4.2.5	Delivery of papers about the IHO.	X	X	X	X	X
Task 4.2.6	Public Relations' support	X	X	X	X	X
Task 4.2.7	Publicity.	X	X	X	X	X

Program 5 " General Organization Development "
Element 5.1 IHO

		2008	2009	2010	2011	2012
Task 5.1.1	New IHO Structure.	X	X	X	X	X
Task 5.1.2	IHO Work Program and Budget.	X	X	X	X	X
Task 5.1.3	IHO Strategic Plan.	X	X	X	X	X
Task 5.1.4	IHO Legal Advisory Committee	X	X	X	X	X

Element 5.2 IHB

		2008	2009	2010	2011	2012
Task 5.2.1	IHB Administration.	X	X	X	X	X
Task 5.2.2	IHB Staff Regulations.	X	X	X	X	X
Task 5.2.3	IHB Translation Service.	X	X	X	X	X
Task 5.2.4	IHB Finance Procedures.	X	X	NO	NO	NO
Task 5.2.5	IHB Procedural Manual for Permanent Activities.	NO	X	X	NO	NO
Task 5.2.6	Staff Training	X	X	X	X	X
Task 5.2.7	Maintenance	X	X	X	X	X
Task 5.2.8	Purchase of IT equipment, furniture and other equipment	X	X	X	X	X
Task 5.2.9	Removal of Directors and applicable PAs	X	X	X	X	X

Element 5.3 International Hydrographic Conferences

		2008	2009	2010	2011	2012
Task 5.3.1	4 th Extraordinary Conference	X	X	NO	NO	NO
Task 5.3.2	XVIIIth International Hydrographic Conference.	NO	NO	X	X	X

COLOUR CODE

	Task for which resources have been estimated.
	Task for which it is considered that no direct budget is required.
	Task for which no funds have been allocated as there is not sufficient information and are "only if necessary tasks".

ANNEX "B"
CROSS REFERENCE BUDGET CHAPTERS V/S PROGRAMMES, ELEMENTS AND TASKS

CHAPTER I	Item	PROGRAMME	ELEMENT	TASKS
PERSONNEL COSTS	a	1 to 5	All	All
	b	1 to 5	All	All
	c	1 to 5	All	All
	d	1 to 5	All	All
	e	1 to 5	All	All
	f	1 to 5	All	All
	g	1 to 5	All	All
	h	1 to 5	All	All
	l	1 to 5	All	All
	j	1 to 5	All	All
	k	1 to 5	All	All
	m	1 to 5	All	All
	n	1 to 5	All	All
	o	5	5,2	5.2.3
	p	5	5,2	5.2.6
	CHAPTER II	Item	PROGRAMME	ELEMENT
CURRENT OPERATING COSTS	a	5	5,2	5.2.7
	b	1 to 5	All	All
	c	1 to 5	All	All
	d	5	5,2	5.2.1
	e	5	5,2	5.2.1
	f	3	3,3	3.3.1
		4	4,1	4.1.1
	g	5	5,2	5.2.1
	h	4	4,2	4.2.1; 4.2.2; 4.2.3; 4.2.6
	i	5	5,2	5.2.1
	j	2	2,1	2.1.1; 2.1.3; 2.1.7; 2.1.8
			2,2	2.2.1
	k	1	1,1	1.1.1; 1.1.2; 1.1.3; 1.1.4
				1.1.5; 1.1.6; 1.1.7; 1.1.8
				1.1.9; 1.1.10; 1.1.11; 1.1.12
				1.1.13; 1.1.14; 1.1.15; 1.1.16
			1,2	1.2.2; 1.2.3; 1.2.6; 1.2.10
				1.2.11; 1.2.13; 1.2.14; 1.2.15
				1.2.16
		3	3,1	3.1.1; 3.1.2; 3.1.3; 3.1.4
			3.1.5; 3.1.6; 3.1.7; 3.1.9	
			3.1.10; 3.1.11; 3.1.12; 3.1.13	
			3.1.14; 3.1.15; 3.1.16	

CHAPTER II (contd.)	Item	PROGRAMME	ELEMENT	TASKS
			3,3	3.3.3
			3,4	3.4.1
		5	5,1	5.1.1
	l	4	4,2	4.2.7
	m	3	3,2	3.2.4
			3,3	3.3.1
			3,4	3.4.3
			3,7	3.7.8
		4	4,1	4.1.3

CHAPTER III	Item	PROGRAMME	ELEMENT	TASKS
CAPITAL EXPENDITURE	a	5	5,2	5.2.8
	b	5	5,2	5.2.8
	c	4	4,1	4.1.4
	d	5	5,2	5.2.1

CHAPTER IV	Item	PROGRAMME	ELEMENT	TASKS
TRANSFERENCE TO FUNDS	a	3 GEBCO	3,7	3.7.4/3.7.5
	b	5 Renovation	5,2	5.2.7
	c	5 Conference	5,3	5.3.1/5.3.2
	d	5 Removal	5,2	5.2.9
	e	2 CBFUND	2.2/2.3	2.2.1/2.3.2

**WORK PROGRAMME 1
DOCUMENTS**

**COOPERATION BETWEEN MEMBER STATES AND
WITH INTERNATIONAL ORGANIZATIONS**

CONF.17/WP.1

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REPORTS OF THE IHO REGIONAL HYDROGRAPHIC COMMISSIONS

REPORT OF THE NORDIC HYDROGRAPHIC COMMISSION (NHC) by the Chairman, Mr. Svend ESKILDSEN, Denmark

1. **Chairman:** Mr. Svend ESKILDSEN, Denmark
2. **Membership:** Denmark, Finland, Iceland, Norway and Sweden.
3. **Meetings**

Since the XVIth International Hydrographic Conference, Monaco 2002, the NHC has convened as follows:

46 th NHC Meeting,	Denmark,	2002.
47 th NHC Meeting,	Sweden,	2003.
48 th NHC Meeting,	Finland,	2004.
49 th NHC Meeting,	Iceland,	2005.
50 th NHC Meeting,	Norway,	2006.

4. **Agenda items**

NHC is a forum for exchange of views on strategic, political and technical issues related to the conduct of hydrographic surveys, production and distribution of paper charts and ENC's. The aim is to strengthen the co-operation between the HO through sharing of knowledge and experiences and to increase the efficiency of the work of the HOs.

The main issues, which have been discussed over the past five years, include themes such as :

- Reorganization of the work within the HOs, including outsourcing of part of the work related to data collection, processing and chart production.
- Coordination of survey plans, including exchange of hydrographic data, and development of a common position on the update of S-44, M-4, WEND and RENC issues.
- Preparation for the future focused on the efforts of the SPWG.

5. **Conclusions**

6. **Proposals**

The NHC has not submitted any proposal for adoption at the XVIIth International Hydrographic Conference.

**REPORT OF THE NORTH SEA HYDROGRAPHIC COMMISSION (NSHC)
by the Chairman, Dr. D. Wynford WILLIAMS, United Kingdom**

1. **Chairman:** Dr. D. Wynford Williams (UK) to July 2006
Prof. Dr. Peter Ehlers (Germany) from Sept 2006
- Vice-Chairman:** Prof. Dr. Peter Ehlers (Germany) to Sept 2006
(Denmark) from Sept 2006
2. **Membership:** Belgium, Denmark, France, Germany, Iceland, Netherlands, Norway, Sweden, UK.

Note: Ireland has now received sufficient votes to join the IHO, but they still have to deposit their Instrument of Accession before becoming a member.

3. **Meetings**

- 25th Meeting – 9 to 12 September 2002 (Gothenburg, Sweden)
- 26th Meeting – 21 to 23 September 2004 (Cardiff, UK)
- 27th Meeting – 4 to 6 September 2006 (Rostock, Germany)

4. **Agenda Items**

The Agenda of the NSHC has evolved to facilitate wide-ranging exchange of technical information within the framework of the IHO WPs. The major items discussed are as follows:

Charting issues in the region (Work Programme 1)

- NW European Charting Group – WG to continue to coordinate the production of INT charts in the NSHC area and ensure the INT Chart Catalogue (Area D) is kept up-to-date; UK Chair.

Technical issues affecting surveying and charting (Work Program 1)

- Experience in processing digital bathymetric survey data.
- Vertical Offshore Reference Framework.
- Real-time offshore tidal reduction.
- Experience gained with new positioning systems.
- Chart production software systems and hydrographic databases.
- Use of, and problems associated, with commonly available satellite data.
- Working Group established to consider ‘Standardisation of digital exchange of Notices to Mariners’, chaired by Germany.
- Tidal Working Group to continue under NSHC – linkage with IHO Tidal Committee is under consideration.
- Progress made by NSHC members in quality assurance using ISO9001 standards.

ENC development (Work Programme 1)

- Status of ‘Enhanced ENC Production’.
- Safety of electronic systems – matter notified to CHRIS Chairman.
- ECDIS/ENCs – discussion on mandatory carriage and worldwide coverage.
- WEND Task Group issues – production, quality and distribution of ENC’s.
- UK to coordinate production of small-scale ENC’s for the NSHC area.

Development of digital nautical publications (Work Programme 1)

- Digital nautical publications – development and availability from various Member States.
- Internet publishing of Notices to Mariners.

Regulatory Issues (Work Programme 1)

- Regulations necessary for digital nautical documents considered as meeting SOLAS Chapter V carriage requirements – see Conclusion 78 (below).
- Governmental product liability and disclaimer considerations.
- The impact of marine environmental protection measures in the North Sea in the light of decisions of the Helsinki Commission (HELCOM) – see Conclusion 79 (below).
- North Sea Ministerial Meeting – NSHC provided hydrographic input, in the form of a proposal to the working group on shipping, regarding status of surveys and ENC availability in the North Sea. NSHC members contacted their relevant ministries for support. At the North Sea Ministerial meeting (May 2006), the NSHC proposal was accepted by Ministers.
- A new NSHC Working Group is to be established to determine a survey strategy for the North Sea area.

Wider Issues of marine activities and marine management (Work Programme 1)

- INSPIRE Directive – A Seminar ‘The role of hydrographic services in marine geospatial planning and data infrastructures’ was held in Rostock, Germany, 8-9 November 2005.
- UK will provide a paper on the implications of INSPIRE for marine hydrography, for discussion by NSHC members.
- EU Maritime Green Paper – NSHC will send comments (coordinated by UK) to EU on this initiative on marine management/marine spatial planning.
- Discussion of similar national initiatives affecting hydrography - UK Marine Bill, Norway Digital, French coastal reference initiative (Litto3D), UK Integrated Coastal Hydrography.
- NSHC is leading the way in involvement of HOs beyond navigational safety (which will become more important). NSHC members have been encouraged to emphasise these new requirements to other nations.
- A new NSHC Working Group is to be established (chaired by France) to coordinate responses to EU initiatives (and will share findings with other EU countries through IHO) – see Conclusion 81 (below).

Capacity Building (Work Programme 2)

In addition to the information available in the Capacity Building Committee report:

- Current status of S-55 and importance of updating entries.
- Discussions on how NSHC Member States can assist with capacity building e.g. offering training, funding, supporting specific projects (identified by IHO CBC).
- Discussions on how NSHC Member States can help emerging states to meet SOLAS Chapter V requirements on hydrographic services.
- International training: UK- Hydrographic data processing and Marine cartography, ENC Production (bursary schemes offered); Norway – Multibeam training; France – IHO Cat. A and B courses and specific training in cartography.

NSHC members agreed that visibility of hydrography is important; at the 27th meeting it was decided to consider a joint NSHC celebration of World Hydrography Day – France to coordinate.

5. Conclusions and Recommendations

Conclusion 78 (2002): Recognizing the new SOLAS Chapter V, effective from 1st July 2002, NSHC recommends the HOs of each MS to arrange for their national Maritime Administration to notify the IMO of any digital nautical publication they accept as meeting the SOLAS chapter V carriage requirements and to inform the IHB accordingly.

Conclusion 79 (2002): NSHC Resolves that the Hydrographic Offices of the Member States request their relevant national authorities to support an initiative in the OSLO-PARIS Commission (OSPAR), on the occasion of the joint ministerial meeting of OSPAR and HELCOM planned for June 2003, to incorporate obligations for adequate hydrographic surveying, completing ENC coverage of the North Sea and adjacent areas and promoting the use of ECDIS, as already adopted in the Helsinki Convention.

2004: NSHC Members support in general the proposals put forward by SPWG, in particular the amendments to the IHO Convention. Members are encouraged to help convince other IHO Member States of the importance of the proposals.

Conclusion 80 (2004): NSHC recommends that the IHB, assisted by the S-55 Project Coordinator, develop the IHO's strategy to overcome deficiencies in surveying, charting and MSI coverage world-wide, using the S-55 database.

NSHC resolves that HOs of Member States:

- 1) Use the on-line database and draw it to the attention of appropriate national authorities;
- 2) Put in place a systematic process for regular update of national data in S-55.

Conclusion 81 (2006): NSHC Resolves to establish a working group on EU marine and maritime policies to monitor the impact on HOs, with the following terms of reference:

1. *identify EU activities and processes on matters of interest to HOs;*
2. *establish a common understanding of the issues when possible;*
3. *consider and propose the ways and channels to interface with the EU activities and processes (mechanisms) through NSHC initiatives or through the IHO in general.*

6. Proposals for adoption by the XVIIth I.H. Conference

It is proposed that the Conference adopts the present Report.

**REPORT OF THE EAST ASIA HYDROGRAPHIC COMMISSION (EAHC)
by the Chairman, Mr. Parry OEI, Singapore**

- 1. Chairman:** Mr. Parry OEI, Singapore (from 22 Sep 2006)
Mr. You-sub JUNG, Republic of Korea (from 14 Nov 2004 – 22 Sep 2006)
- Vice-Chairman:** Vice-Admiral Saneh SOONTONGMONGKOL, Thailand (from 22 Sep 2006)
Mr. Parry OEI, Singapore (from 14 Nov 2004 – 22 Sep 2006)
- 2. Membership:** China, Democratic People's Republic of Korea (as of 16 Aug 2005), Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore and Thailand.
- 3. Meetings**

Date	Place	Name of Conference/ meeting
EAHC Conferences		
11-14 Nov 2003	Shanghai, China	8 th EAHC Conference
22-24 Feb 2005	Seoul, Korea	Extra-Ordinary Conference
19-22 Sep 2006	Jeju, Korea	9 th EAHC Conference
EAHC Working Group Activities		
4-5 Mar 2004	Tokyo, Japan	Seminar on publishing of ENC in the South China Sea for International Navigation
23-24 Jul 2004	Bangkok, Thailand	Meeting on the South China Sea ENC
23-24 Sep 2004	Singapore	1 st South China Sea ENC Task Group (SET) Meeting
2-3 Dec 2004	Hong Kong	2 nd SET Meeting
19-20 Feb 2005	Daejeon, Korea	3 rd SET Meeting
28-29 Jul 2005	Bangkok, Thailand	Meeting on Harmonisation of ENCs
1-2 Jun 2006	Kuala Lumpur, Malaysia	ENC Harmonisation Meeting
17-18 Sep 2006	Jeju, Korea	ENC Harmonisation Meeting

4. Agenda Items

Principal agenda items:

- a) Extraordinary EAHC Conference (2005), Seoul-Korea
 - i) Tsunami Issue
 - ii) South China Sea ENC Task Group (SET) Report
 - iii) ENC Production Further to SET
- b) 9th EAHC Conference (2006), Jeju- Korea
 - i) ENC Issues
 - ENC Harmonisation
 - Promoting the use of ENCs
 - ii) Survey Issues
 - Assessment of navigational hazards along the main shipping routes in the South China Sea (SCS)
 - iii) Capacity Building in the EAHC

5. Conclusions

- a) Extraordinary EAHC Conference (2005), Seoul-Korea

At the Extraordinary Conference, the EAHC agreed to adopt the following recommendations :

- i) Development of a regional mechanism for communication and coordination between EAHC MS and users during a natural disaster. The mechanism was called Regional EAHC Assistance for Disaster Initiative (READI).
 - ii) The EAHC adopted the SET's report and recommendations. The South China Sea ENC was subsequently jointly released on 31 March 2005.
 - iii) For the Task Group to look into the harmonisation of small scale SCS ENCs with medium and large scale ENCs.
- b) 9th EAHC Conference (2006), Jeju- Korea

At the 9th Conference, the EAHC agreed to adopt the following Resolutions:

- i) To develop guidelines on ENC harmonisation work, optimising and enhancing the SCS ENC and promoting the use of ENC.
 - ii) To assess and identify the navigational hazards along the main shipping routes in the SCS.
 - iii) To form a permanent Committee to assist the EAHC to coordinate capacity building plans, including the liaison with the IHO CBC.
- c) 10th EAHC Conference

The 10th EAHC Conference will be held in Singapore in October 2009.

6. Proposals for adoption by the XVIIth IH Conference

There are no proposals.

**REPORT OF THE UNITED STATES/CANADA HYDROGRAPHIC
COMMISSION (USCHC)
by the Co-Chairpersons, Dr. Savithri NARAYANAN, Canada and
Captain Steve BARNUM, USA**

1. Co-Chairpersons

Dr. Savithri NARAYANAN

Dominion Hydrographer and Director General
Ocean Science/Canadian Hydrographic
Service
Department of Fisheries and Oceans
CANADA

Captain Steve BARNUM

Director, Office of Coast Survey
National Oceanic and Atmospheric
Administration (NOAA)
Department of Commerce
USA

2. Membership:

Canada, United States of America

3. Meetings

May, 2002 Toronto, Ontario, Canada
March 2003 Biloxi, Mississippi, United States of America
May, 2004 Ottawa, Ontario, Canada
March, 2005 San Diego, California, United States of America
June 2006 Halifax, Nova Scotia, Canada

4. Agenda Items

The USCHC continues to address trans-boundary ENC activities, personnel exchanges and cooperative field and office programs as well as participating on many IHO Workings Groups. Through collaborative participation at external Canada/ United States meetings and workshops USCHC also continues to further the integrated management thrust of the IHO with other national groups which have had a current focus to emergency planning activities.

The annual hydrographic conferences, hosted biennially by each country, have provided a forum for professional development of the hydrographic community in North America. These conferences also have included a well attended industry tradeshow and on-water demonstration component which has provided a venue not only for equipment and service providers but also as a display for leading edge innovation.

The USCHC, which first met in 1974, is renewing its Memorandum of Understanding which includes the activities of the USCHC Charting Advisors Working Group. At the annual USCHC meetings in addition to an IHB representative attending and providing an update, member state Hydrographic Office representatives are invited to attend the meeting as observers.

5. Conclusions

The USCHC, which works closely with each other throughout the year on a variety of operational activities, is completing a report on the resource requirements and timeline development of its trans-boundary ENC program.

6. Proposals for adoption by the XVIIth I.H. Conference

The USCHC does not have any Proposal to submit to the Conference.

**REPORT OF THE MEDITERRANEAN AND BLACK SEAS
HYDROGRAPHIC COMMISSION (MBSHC)
by the Chairman, Captain Fernando QUIRÓS, Spain**

- 1. Chairman:** Capt. Angelo AGLIATA (Italy) (from 28 September 2001 to 01 July 2002)
 RAdm. Pierpaolo CAGNETTI (Italy) (from 01 July 2002 to 6 June 2003)
 Ing Gen. Yves DESNÖES (France) (from 6 June 2003 to 30 September 2005)
 Ing. Gen Gilles BESSERO (France) (from 30 September 2005 to 5 October 2005)
 Capt. Fernando QUIRÓS (Spain) (from 5 October 2005)
- Vice-Chairman:** Capt. A. AGLIATA (Italy) (from 11 June 1999 to 28 September 2001)
 Ing. Gen, Yves DESNÖES (France) (from 28 September 2001 to 6 June 2003)
 No Vice-chairman for the period 2003-2007.
- 2. Membership:** Algeria, Croatia, Cyprus, Egypt, France, Greece, Italy, Monaco, Morocco, Russian Federation, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey, Ukraine.
- Associate Members:** Bulgaria, Georgia, Israel, Malta, Palestinian Authority, Romania, UK, USA.
- Observers:** Albania, Germany, Lebanon, DINMA-Trieste (Prof. C. MORELLI), IMA-Trieste (RAdm. Francesco SPANIO), IOC UNESCO (France, Mr. D. TRAVIN), PRIMAR (Norway, Mr. R.SANDVIK)
- IHB Representatives:** Vice Admiral Alexandros MARATOS, Capt. Federico BERMEJO BARO.
- 3. Meetings**
- The XIIIth MBSHC Meeting was held in Brest, France, 2-5 June 2003.
 The XIVth MBSHC Meeting was held in Monaco, 4-5 October 2005.
- 4. Agenda Items**
- 4.1. XIIIth MEETING**
- The XIIIth Meeting of the MBSHC took place in Brest, France from 1-4 June 2003 under the Chairmanship of the Director of the Italian Hydrographic Service, RAdm Pierpaolo Cagnetti. The discussions were mainly focused on the following:
- 4.1.1 International Charts. Implementation and new demands. France will prepare the new edition of the MEDINTCHART catalogue taking into consideration the comments of the Meeting participants.

- 4.1.2 The status of the hydrographic surveys in the area and the way to achieve a better and more accurate depiction was discussed. Member States and Associate MS shall compile and send to Spain annually, by the end of February, the status of their surveys up to 31 of December each year.
- 4.1.3 Captain Mike Baritt explained in detail the procedures that will be followed for the updating of the IHO Publication S-55 as announced in CL 23/2003.
- 4.1.4 The status of the ENC production was examined. The Commission tasked France, as the new Chair of the Commission, to report to CHRIS that any changes to the existing Standards will have consequences on the progress of their production of ENCs. Italy gave a presentation on the developments for the establishment of the V-RENC.
- 4.1.5 The status of the promulgation of MSI was discussed and decisions were made, for a more effective way of broadcasting the warnings.
- 4.1.6 IMA presented the developments and progress made with the projects that are funded by the European Union, and the training programs that will be offered by IMA.
- 4.1.7 Representatives from PRIMAR Stavanger and IC-ENC presented the developments in the two RENCs.
- 4.1.8 During the Meeting, the WG for the Safety of Navigation in the Black and Azof Seas (BASWG) held its 6th meeting under the Chairmanship of the Turkish Hydrographer, RAdm Nazim Cubukcu. The following actions were decided:
- 4.1.9 Black Sea countries to define their Hydrographic and Cartographic requirements, especially for the ENC production and send to Turkey before the next WG meeting.
- 4.1.10 IMA to report to BASWG following the meeting with the EU representatives and set the time frame for the implementation of the project within a period of two months.
- 4.1.11 ENC production boundaries to be defined. Turkey to prepare a draft scheming for the Black Sea before the next meeting of the WG.
- 4.1.12 Next meeting will take place in Ukraine in Spring 2004 and Ukraine will inform.
- 4.1.13 The Chairman of the SPWG, Mr. Fröde Klepsvik, and the Vice-Chairman, Dr. Wyn Williams, briefed the MBSHC representatives on the developments and progress of the work of the SPWG.
- 4.1.14 France is the new Chair of the MBSHC and the next meeting will take place either in Tunisia or in Morocco, in the Spring of 2005.

4.2. XIVth MEETING

The XIVth Meeting of the MBSHC was finally held at the IHB, Monaco, from 4 to 5 October 2005, under the Chairmanship of the Director of the French Hydrographic Office (SHOM), Ingénieur Général de l'Armement Gilles Bessero. Discussions mainly focused on the following:

- 4.2.1. **MANAGEMENT OF THE OWNERSHIP MATRIX**
Decision MBSHC13-2 was discussed under AOB. Considering that no nation volunteered to manage the development of ownership matrix, and that this is a very demanding and challenging activity, the MBSHC decided not to proceed.

4.2.2. IHB REPORT ON STATUS OF THE IHO WORK PROGRAMME

The main issues were presented by the IHB's President : Convention amendments ratification process, SPWG progress and the way forward, procedures and representation on the Council, WEND principles, IHO's disaster response, cooperation and liaison with IMO, IOC, IALA and other international organisations.

4.2.3. STATUS OF THE SPWG. (IHO WP Element 5.1)

Member States were invited to provide comments on SPWG's documents (Decision MBSHC14-1), and Italy (IT), representing the Commission at the SPWG, will report at the next SPWG meeting that MBSHC supports "IHB's new Convention strategy" – option 1 (Decision MBSHC14-2).

4.2.3. a. PROCEDURE FOR MBSHC TO DESIGNATE THEIR REPRESENTATIVES ON THE COUNCIL (IHO WP Element 5.1)

The Commission decided to designate the representatives in a 2-step process: call for candidates and then election of the MBSHC Reps by the Member States (Decision MBSHC14-3).

4.2.3. b. STATUS OF THE ADOPTION PROCESS OF THE NEW CONVENTION (IHO WP Element 5.1)

The Member States reported on the progress made in their countries to ratify the amendments to the Convention. Prior to the next SPWG meeting, MS are invited to update (Italy) IT on the situation (Decision MBSHC14-4).

4.2.4. PROPOSED AMENDMENTS TO THE MBSHC STATUTES. (IHO WP Task 1.1.5)

It is proposed to give the possibility to Associated Member States to host MBSHC Meetings. The MBSHC Statutes will be revised accordingly (Decisions MBSHC14-5 and MBSHC14-6).

4.2.5. IMPLEMENTATION OF THE SCHEMES AND NEW DEMANDS FOR INT CHARTS : MEDINTCHART – REPORT BY FRANCE. (IHO WP Task 3.3.4)

France (FR) reported on the latest edition of the MEDINTCHART catalogue. A new edition will be distributed in due course.

After fruitful debates and official statements made by the national representatives, Greece/Turkey (GR/TR) on one hand, and Russia/Ukraine (RU/UA) on the other hand, agreed on the way forward. These nations will provide their proposals to amend and correct the catalogue as soon as they have reached an agreement (process described in Decisions MBSHC14-7 to 14-10). If there were any disputes with regard to INT chart production, nations were invited to comply with M-11 procedures, and to solve the problems in the first place, through the MEDINTCHART Coordinator (Recommendation MBSHC14-1). In these challenging cases, it is our collective responsibility to define, support and implement co-production chart schemes and programmes in order to solve such issues.

4.2.6. a. PROGRESS IN NATIONAL ENC PRODUCTION, TRAINING, TESTING AND DISTRIBUTION (IHO WP Task 3.3.1)

Some inconsistencies have been identified during the last months by RENCs and MS.

Most of these issues concern overlapping on ENC data coverage produced and distributed by 2 neighbouring countries, or disputes about ENC boundaries. It is therefore not acceptable and these issues must be solved under bilateral technical agreements.

- 4.2.6. b. V_RENC SITUATION. (IHO WP Task 3.3.1)
Italy (IT) gave a short status report on V-RENC developments and the links with MEDCHARTNET project. IMA was invited to provide MBSHC with a progress report, including ENC production status and availability (Decision MBSHC14-14).
- 4.2.6. c. PRESENTATION OF THE REVISED WEND PRINCIPLES (IHO WP Element 3.3)
The revised edition of the WEND principles was re-distributed by the Bureau (ref. CL39/2005, 18 April 2005). The Commission made the decision to develop an ENC scheme covering Mediterranean/Black Seas (MBS). This scheme will be based on the WEND principles, and in accordance with these principles, proposals will be made by the MEDINTCHART Coord. Taking into account, as a first step, existing INT chart schemes. In a second phase, production (or co-production) responsibilities will be addressed (Decision MBSHC14-11 and 14-12).
- 4.2.7. REVIEW OF S-55. HYDROGRAPHIC SURVEY STATUS IN THE MBSHC AREA: REPORT BY SPAIN. (IHO WP Element 3.2)
The IHO CBC Vice-Chairman requested those Member States that keep in contact with countries in the South East region of the Mediterranean Sea, to ask those countries to send the required information in order to update S-55.
- 4.2.8. THE IMPLEMENTATION OF GMDSS (IHO WP Task 3.4.3)
Spain announced that, in their capacity as NAVAREA III regional co-ordinator, they will try to organize a meeting with the participation of IMO NAVTEX CONTROL PANEL and NAVAREA representatives, in order to establish a new scheme of MBS NAVTEX Service Areas, looking for the best possible service for mariners and at the same time trying to accept national proposals.
- This meeting finally took place in January 2006 at the IHB and was considered a remarkable success. New NAVTEX service areas in the Central and Western Mediterranean were agreed among the participants and will be implemented shortly.
- 4.2.9. TRAINING AND EDUCATION. (IHO WP Task 2.3.2)
The Bureau announced the 1st IHO seminar on capacity building to be held in Trieste, 10-14 October 2005, in order to provide the representatives of the West African Country National Hydrographic Committees with an overview of hydrography, cartography, and MSI, related responsibilities, requirements and recent developments. Many countries also highlighted their current actions on training and education, in cooperation with other MBS countries.
- 4.2.10. TECHNICAL ASSISTANCE AND COOPERATION
- 4.2.10. a. MEDA MEDCHARTNET AND OTHER HYDROGRAPHY SUPPORT PROJECTS (IHO WP Element 1.2).
RAdm Spanio from IMA provided the MBSHC participants with a report on MEDA MEDCHARTNET. It was decided to investigate the best way of providing sustainable support to the project partners (Decision MBSHC14-14 and Rec. MBSHC14-4).
- 4.2.10. b. BILATERAL AND MULTILATERAL PROJECTS. PROPOSALS FOR FURTHER CO-OPERATION. (IHO WP Element 1.1)
Some co-operative projects were presented by the nations. Slovenia announced its willingness to get assistance from neighbouring countries in order to carry out a hydrographic survey. Italy and Croatia will consider the request in liaison with the IHO CBC (Rec. MBSHC14-7).

4.2.11. STATUS AND REPORT OF THE WORKING GROUP FOR THE SAFETY OF NAVIGATION IN THE BLACK SEA. (IHO WP Element 1.1).

Turkey gave a short report in which they exposed that TN-DNHO presented the draft ENC production scheme for the Black Sea region for medium scale. The BASWG Chairman will report to the next MBSHC Meeting on the BASWG Medium Scale ENC Scheme which can be connected to the Mediterranean Region in the future. Ukraine reported that they have also prepared a scheme for ENC, connecting it with the Mediterranean Region.

4.2.12. INTERNATIONAL SEAPOWER SYMPOSIUM. (IHO WP Element 1.1)

It was emphasize to all participants that this symposium gave the Hydrographic community an excellent opportunity to make its activities more visible and tangible at the highest levels of decision makers. The next symposium is scheduled in October 2006. If needed, nations are invited to present their cases to the Bureau or through the Italian Navy.

5. Conclusions

These are the most important conclusions adopted since the last IHC, at the XIVth Meeting:

Decision MBSHC14-2: Italy to report to SPWG the MBSHC's decision to support IHB's implementation strategy (i.e. option « 1 »).

Recommendation. MBSHC14-1: Member States are kindly requested to comply with M-11 guidance when proposing changes to MEDINTCHART catalogue. If there are disputes with regard to INT chart production, the members involved should solve the problems in the first place, through the MEDINTCHART Coordinator

Decision MBSHC14-11: MEDINTCHART Coordinator to develop a draft ENC scheme based on WEND principles across all usage bands (1st step).

Rec. MBSHC14-5: Member States and Associated Member States are encouraged to contribute to regional sea level observation projects as part of the MBSHC response to IHO CL 89/2005.

6. Proposals for adoption by the XVIIth I.H. Conference

None.

**REPORT OF THE BALTIC SEA HYDROGRAPHIC COMMISSION (BSHC)
by the Chairman, Mr. Janis KRASTINS, Latvia**

- 1. Chairman:** Mr. Janis KRASTINS (Latva)
- Vice-Chairman:** Mr. Victoras LIULYS (Lithuania)
- 2. Membership:** Denmark, Estonia, Finland, Germany, Latvia, Poland, Russian Federation, Sweden.
- Associate Member:** Lithuania – not an IHO Member State.
- Observers:** Vice-Admiral Alexandros MARATOS, President of the IHB; Dr. Dimitri TRAVIN (UNESCO), Captain Michael BARRITT, CBC Vice-Chairman, UKHO.

3. Meetings

10th BSHC meeting - Russian Federation (St.Petersburg), 2-5 September 2003

Some of the agenda items are listed below:

- Strategic aspects of the further development of IHO
- Strategic aspects concerning technical issues of the activities of HOs
- Strategic aspects concerning administrative and marketing activities of HOs
- BSHC co-operative projects with other organizations
- Status of Hydrographic Surveying and Nautical Charting Worldwide S-55
- Actions connected with the HELCOM Copenhagen Declaration

11th BSHC meeting - Latvia (Jurmala) 14-17 June 2005

During the meeting the following agenda items were discussed:

- Strategic aspects of the development of IHO;
- Aspects related to technical issues of the HOs activities (such as - Sea level datum of Baltic Sea, Navigational and Hydrographic support of underwater laying of pipes along the Baltic Sea bottom, Use of Internet for dissemination of information from HOs and other authorities);
- Promulgation of maritime safety information in the Baltic Sea;
- Activity related to the HELCOM Copenhagen Declaration (that included Report of the HELCOM Monitoring Working Group and considering an approval of a revised Work Plan for the Monitoring Working Group, Information on situation concerning resurvey and ENC production in HOs, Bilateral exchange of ENCs for administrative purposes);
- Progress in the creation of the International Charts for the Baltic Sea;
- IHO Special Publication S-55;
- Other related issues.

**REPORT OF THE EASTERN ATLANTIC HYDROGRAPHIC COMMISSION (EAHC)
by the Chairman, IGA Gilles BESSERO, France**

1. **Chairman:** IGA Gilles BESSERO (France – from 1/10/2005)
IGA Yves DESNOES (France – up until 30/09/2005)
- Vice-Chairman:** Captain Fernando QUIRÓS Cebriá (Spain)
2. **Membership:** France, Morocco, Nigeria, Portugal, Spain.
- Observer Organizations :** IALA, PMAWCA (Port Management Association of West and Central Africa), IOC / UNESCO.
3. **Meetings**
- | | | |
|-------------------------|------------------------------|--------------------|
| 7 th Meeting | Lisbon (Portugal) | 15-17 October 2002 |
| 8 th Meeting | Brest (France) | 28-29 October 2004 |
| 9 th Meeting | Dakar ¹ (Senegal) | 6-8 December 2006 |

4. **Summary of activities**

The region covered by the EAHC is very diverse:

- 24 countries in the region (all are members of IMO but only 6 are members of IHO),
- 4 major languages,
- 4 hydrographic services providing quasi-worldwide coverage, but several countries still with no hydrographic capability,
- At least 6 countries do not have a reliable communications system.

Following the meeting in Lisbon towards the end of 2002, and taking into account both the critical state of the hydrographic surveys in a large part of the area and the growing importance of the SOLAS Convention, all the Commission's efforts were concentrated on :

IHO Programme 2 "Capacity Building"

- a) Increasing awareness of the importance of hydrography at governmental level in west African coastal countries.

IHO Programme 3.4 "Maritime Safety Information"

- b) The importance and obligation of rapidly and systematically informing the NAVAREA II Coordinator for the area of all nautical information, as well as the hydrographic services producing charts and nautical documents.
- c) Progress has been made by Nigeria in setting up a web site to broadcast nautical information.

¹ Option confirmed at the time of writing Version 2 of this report.

IHO Programme 2 "Capacity Building"

- d) The development of a methodology to assist in the setting up of basic hydrographic services (as defined in the SOLAS Convention).
- e) The possibility of developing bilateral arrangements between States, so that coastal States are in a position to assume their responsibilities in terms of "hydrographic services", as defined in the SOLAS Convention.

With this in mind, the following actions have been undertaken with the active involvement of the British (UKHO), Spanish (IHM), Portuguese (IHPT), American (NAVOCEANO) and French (SHOM) Hydrographic Services:

IHO Programme 2 "Capacity Building": awareness actions

- f) 4 initial visits by a group of experts (WAAT = West Africa Action Team) to meet with the authorities in 17 countries at three levels:
 - Government authorities (usually the Minister of Transport or head of Cabinet).
 - Maritime economic sector, mainly ports.
 - Technical services: hydrographic service or unit (where one exists, it is usually attached to a port authority).
- g) 2 technical seminars :
 - One in Brest in October 2004, in conjunction with the 8th EAHC meeting.
 - The other in Trieste in October 2005 in the form of a workshop aimed at training managers of national hydrographic committees or those responsible for maritime safety.

The last seminar provided the opportunity for the CHARMER Project to be presented covering a major part of the EAHC area. This project is aimed at :

- Giving EAHC members an overall view of maritime safety in that area.
- Facilitating cooperation between hydrographic services.
- Seizing important financial opportunities, which remain inaccessible for small national projects.

The pursuit of this project is hinged on a real regional awareness which is presently lacking, and also on the availability of a full time project leader to seek the necessary financing.

- h) 2 support missions :
 - One led by two experts from the UKHO in November 2005 in 4 English-speaking countries.
 - The other led by a consultant from SHOM in March 2006 in 3 French-speaking countries.

IHO Programme 3.2 "Hydrographic Surveys"

- i) During this same period, hydrographic surveying operations were carried out by the main hydrographic services which are equipped for high sea operations :
- SHOM vessels : in Gabon, Togo, Benin, and Cameroon.
 - Royal Navy vessels: in Gambia and Sierra Leone.
 - IHPT (Portugal) vessels : in Cape Verde.
 - The Spanish Hydrographic Service carried out joint surveys with Morocco in the Strait of Gibraltar (May-June 2005) as part of a project under the Seapower Symposium.
- j) Also should be mentioned the positioning operations to locate over 180 wrecks in the Lagos Channel led by the Nigerian authorities, marking Nigeria's significant involvement in the field of hydrography since joining the IHO.

IHO Programme 2.3 "Provision of Capacity Building"

- k) The following hydrographic services have provided training for hydrographers :
- SHOM (France): Category B: 2 for Morocco, 2 for the Ivory Coast.
 - IHPT (Portugal): Category A: 2 for Morocco.
 - UKHO: Category A: 1 for Nigeria; and in nautical charting: 1 for Nigeria.
 - IHM (Spain): Category A: 2 for Morocco, and Category B: 2 for Morocco.
- l) Negotiations have been initiated for the signing of bilateral cooperation agreements in hydrography and nautical cartography (as defined by SOLAS) between several countries on the west coast of Africa and certain European countries.

IHO Programme 3.3 "Marine Cartography"

- m) As regards cartography, the following publications and chart editions were produced in the period 1 January 2002 to 1 September 2006:
- 22 INT paper charts by SHOM.
 - 55 new charts by IHM (Spain), 27 of which are new publications.
 - 40 ENC charts by IHPT (Portugal), 58 ENC charts by SHOM (see ENC cover given in the appendix).
 - 4 Nautical Instructions and 2 Lists of Lights by SHOM.
 - 1 Nautical Instructions produced by the UKHO.
 - 6 Nautical Instructions, 9 Lists of Lights and Fog Signals, 2 books of signals by IHM (Spain).

IHO Programme 1.3 "Cooperation with non Member States"

- n) Applications for IHO membership from Cameroon and Sierra Leone are pending approval.

It may be recalled that the application for membership made by the Islamic Republic of Mauritania was approved in February 1991; to date, the Mauritanian Government has not deposited its Instrument of Accession.

IHO Programme 1.2 "Cooperation with International Organisations"

- o) An agreement has been signed between the IHO and the Port Management Association of West and Central Africa, PMAWCA.

IHO Programme 5.1 "IHO Development"

- p) The EAthC was represented by Portugal at various SPWG meetings.

5. Conclusions

The actions and recommendations approved at the 8th EAthC meeting are now more than ever topical matters; the most important are listed here below:

- 5.1. The EAthC countries must contribute to the updating of the S-55 (partly achieved).
- 5.2. The EAthC countries must attain steps 1 and 2 in the development of their hydrographic capacity (limited progress).
- 5.3. The EAthC countries must report to the EAthC Chairman on CBC/WAAT matters, in good time, for the annual CBC meetings (few reports made).
- 5.4. The S-55 must be used to assign priorities to hydrographic plans and capacity building in the EAthC area (in hand).
- 5.5. The EAthC countries must establish formal arrangements with the developed Hydrographic Services.
- 5.6. Technical assistance and training must be a permanent item on the agenda of EAthC meetings (done).
- 5.7. The EAthC countries must work together to establish a small scale ENC programme (done, see appendix).
- 5.8. The EAthC countries must provide data, products and services other than those for navigation, for example coastal management (limited).
- 5.9. Use of Internet and new technologies (limited).
- 5.10. The EAthC must develop a « Marine Electronic Highway » for West and Central Africa by 2006 (coverage partly achieved).

Despite the efforts deployed by the WAAT teams of the EAthC and the IHB, the result in terms of development of hydrographic capacity in the EAthC zone is somewhat mixed since the last conference, in spite of the excellent welcome and the enthusiasm created by the visits to the local authorities concerned. Starting concrete projects, such as the creation of a National Hydrographic Committee, for example, and their follow up, are generally long and drawn out, for two reasons in particular:

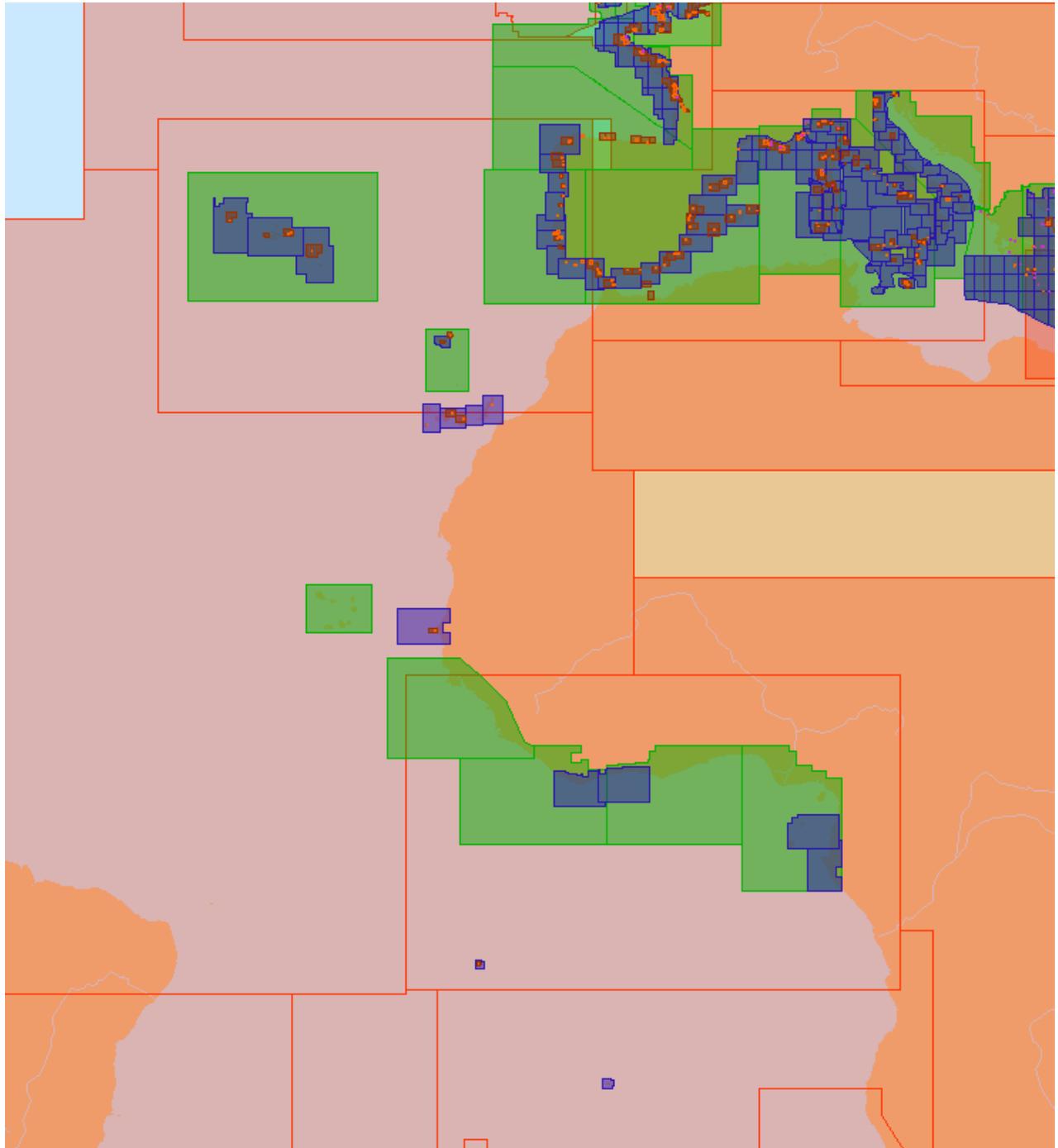
- Unreliable broadcasting system within the national territories and with a great number of African countries, in particular internet.
- Certain difficulties to work between ministries and/or different national bodies on transverse domains.

6. Proposals for the approval of the XVII International Hydrographic Conference

None.

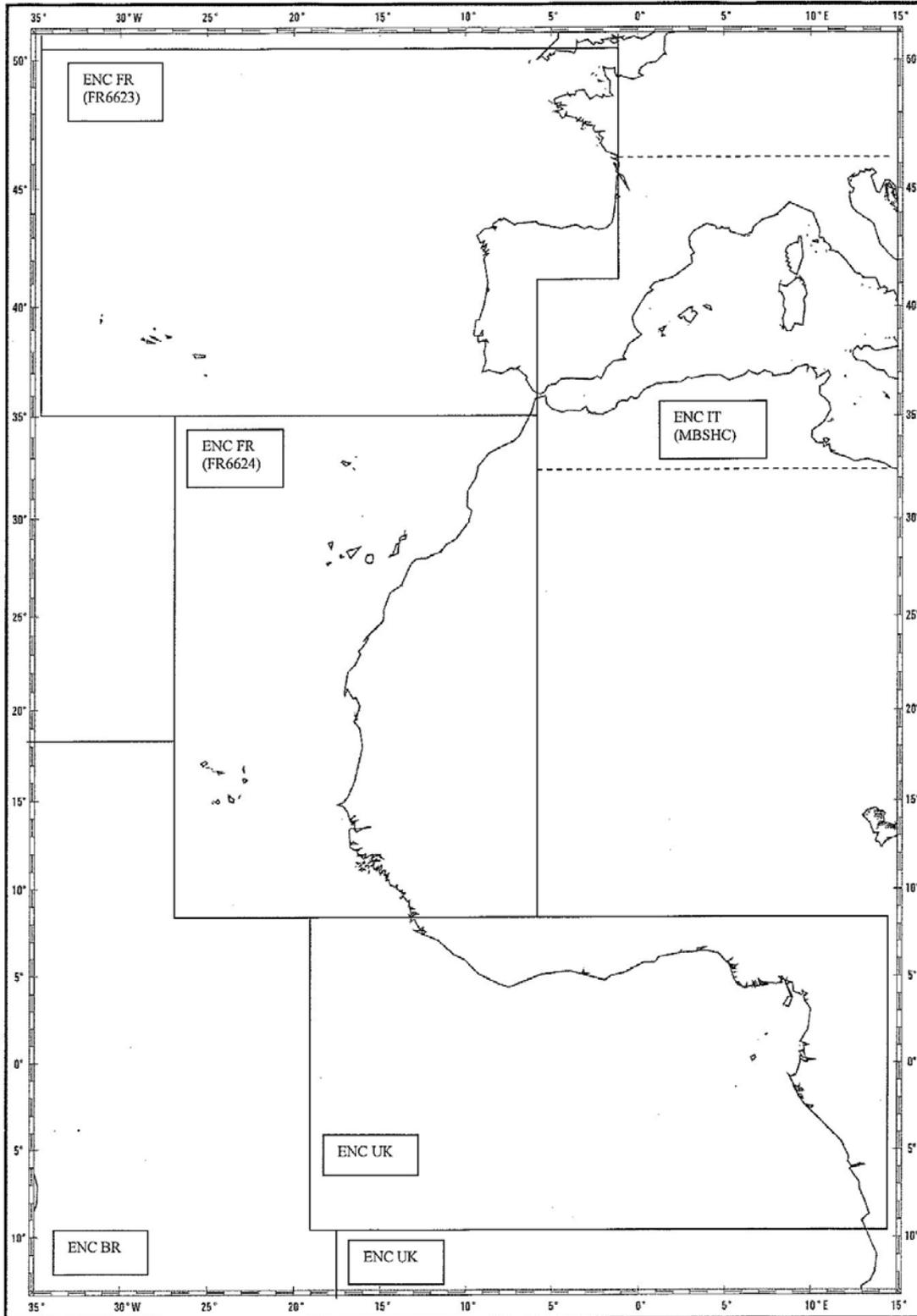
APPENDIX

ENC COVERAGE IN EA+HC AREA



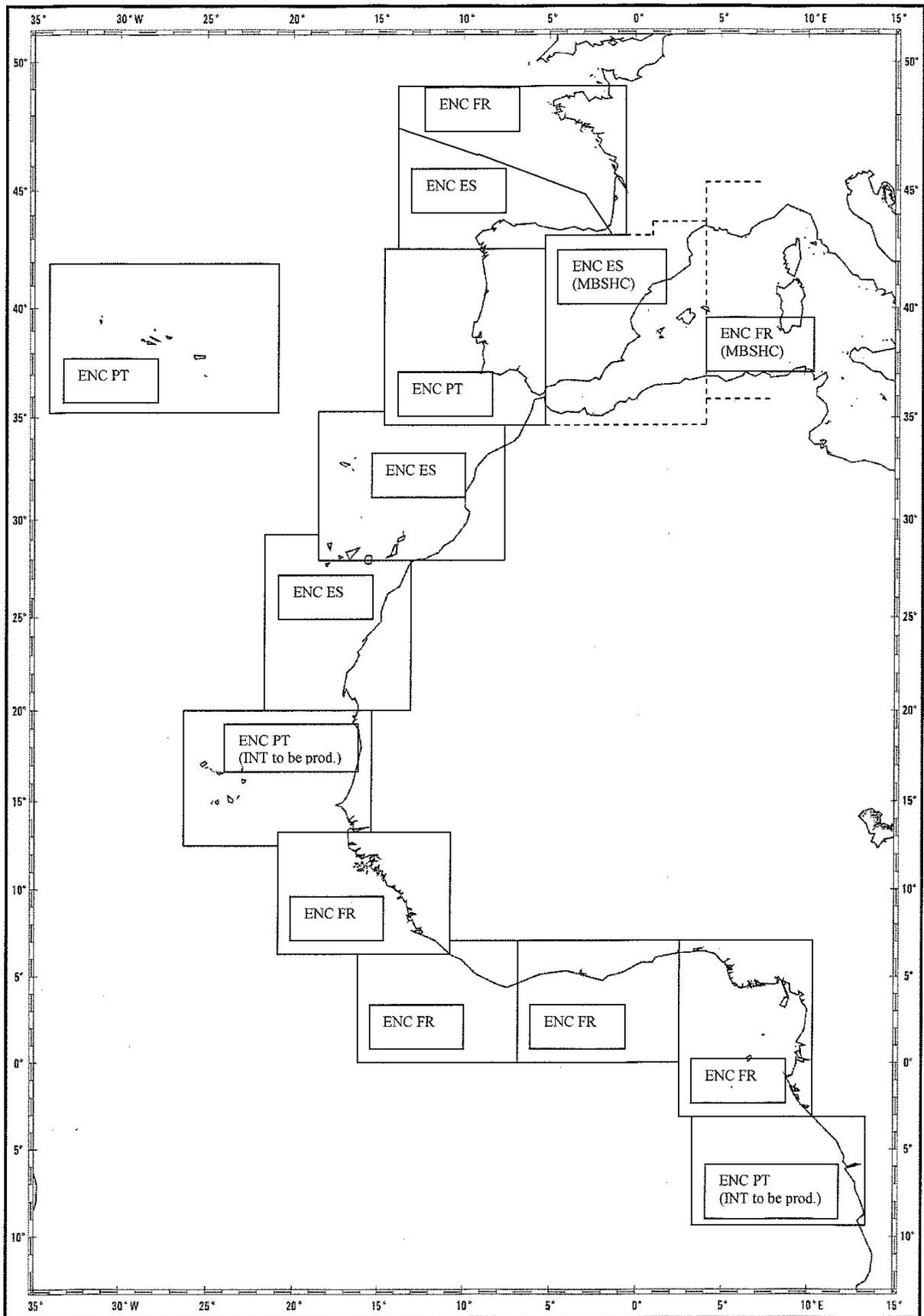
**SMALL SCALE ENC SCHEMA
(APPROVED AT THE 8th EAHC MEETING, 28-29 OCT. 2004, BREST, FRANCE,
WITH CERTAIN RESERVATIONS EXPRESSED BY PORTUGAL²)**

ENC Schema at the scale ~ 1 : 3000000 (overview)



² Reservations on the report of the 8th Conference and referred to in a fax from IHPT on 18 February 2004.

ENC at the scale of ~ 1: 1000000 (general)



**REPORT OF THE SOUTH EAST PACIFIC HYDROGRAPHIC COMMISSION (SEPHC)
by the Chairman, Commander Mario PROAÑO SILVA, Ecuador**

1. **Chairman :** Commander Mario PROAÑO SILVA (Navy of Ecuador)
2. **Membership :** Chile, Colombia, Ecuador, Peru.
3. **Meetings**
 - 6th Meeting Lima, Peru 29 October - 5 November 2003
 - 7th Meeting Guayaquil, Ecuador 7-8 July 2005
 - Seminar on the Electronic Chart (Data Protection);
 - S-57 Standard : held in the premises of the Hydrographic and Oceanographic Office of the Chilean Navy (SHOA), on 21-25 August 2006.
4. **Items of the Agenda**
 - Aspects concerning the distribution and safety of the S-57 data. Copyright.
 - Development of the S-57 Standard.
 - Exchange Forum for Regional Experiences in the adoption of the S-57 Standard.
 - Briefing on the status of the production in each country of ENC's and aspects related to the internal developments.
5. **Conclusions**

In the Seminar on the Electronic Chart, the existing technology for the production, protection and distribution of the electronic nautical charts was considered and the organization of future seminars was considered, as they can help the participant countries to take action in the future concerning the electronic nautical charting and its technological advances.

**REPORT OF THE SOUTH WEST PACIFIC HYDROGRAPHIC COMMISSION (SWPHC)
by the Chairman, Mr. John SPITTAL, New Zealand**

- 1. Chairman:** Mr. John SPITTAL, National Topographer/Hydrographer (New Zealand)
- Vice Chairman:** Mr. F. R. MAHARAJ – Hydrographer (Fiji)
- 2. Membership:** Australia, France, Fiji, New Zealand, Papua New Guinea, Tonga, United Kingdom, USA.
- Observers:** Kiribati, Solomons (prior to 2005), South Pacific Geoscience Commission (SOPAC), Secretariat of Pacific Community (SPC), Tokelau, Vanuatu, Western Samoa.
- 3. Meetings**

Country	Host	Date
Australia - Wollongong	Australian Hydrographic Office	April 2003
Fiji - Suva	Fiji Islands Marine Safety Administration	November 2005
New Zealand - Wellington	Land Information New Zealand	November 2006
Tonga ³ (alt France-Tahiti)	Tbd	NLT Sept 2007

4. Agenda Items (Since 2003)

The SWPHC Meetings tend to work to a standard agenda with modifications for new issues as they arise. The principal items discussed are:

▪ **The Exchange of Information through National Reports**

This is an important communication tool for Member States and Observers as Hydrographic Authorities are separated by long distances and, in some cases, difficult access. Electronic communication is not always readily available to some regional hydrographers. Member States range from highly developed super powers to some of the smallest countries in the world. There is an ongoing need to meld the more highly technological hydrographic systems, processes and approaches with the practical requirements of countries that administer navigation in isolated and often poorly charted regions.

▪ **Reports from Regional Agencies and Observers**

The SWPHC provides a way for countries and agencies that do not belong to the IHO to participate in its activities and contribute to the safety of life at sea. All fully support IHO principles and use standard charts and publications, often produced by foreign National Hydrographic Authorities.

Regional Agencies such as SOPAC carry out a significant amount of bathymetric surveying in the Pacific and are willing to make their data available to National Hydrographic Authorities. There is a need to avoid duplication of effort where the Regional Agencies and Member States are working in similar areas.

³ In concurrence with SOPAC annual meeting, if possible.

- **Review of the INT Chart Scheme for Area L**

Ongoing monitoring of progress and refining chart coverage.

- **Regional Co-operation with Surveying and Chart Production**

Reporting of activities and maximising effectiveness through co-operation. Australia has been assisting PNG on the recompilation and modernisation of hydrographic charts. New Zealand assists Tonga with the production and printing of charts. It is also arranging a harbour survey for Samoa. The UK works with Fiji to produce charts. Although France is legally responsible for hydrographic services in New Caledonia and French Polynesian waters, official arrangements have been established with the local governmental authorities in order to raise their situation awareness.

- **Progress with the Production and Distribution of ENC's**

Monitoring of progress and encouraging of further coverage. Australia is the most advanced ENC producing country in the Region. New Zealand has full coverage of RNCs. Due to IMO regulations on ECDIS carriage requirements, France will ensure that all HSC lines in French Polynesia and New Caledonia are covered with ENC by 2008.

- **MOUs with Regional Agencies**

A significant Memorandum of Understanding was signed by the IHB and SOPAC in 2004. This facilitates the exchange of hydrographic information and provides for mutual representation at SWPHC and SOPAC meetings. The use of common surveying standards is encouraged.

- **IHO Special Publication S-55**

Discussions have ranged from an initial introduction to the revision and re-issuing of the Publication through to the population and maintenance of information. The need for Member States to regularly review national data and establish systematic up-dating procedures has been identified.

Agreement was reached at the Wellington meeting to use S-55 as the starting point for establishing regional survey priorities. A draft set of priorities was extracted from S-55 for consideration by Member States.

- **Training and Technical Assistance**

The South West Pacific is beginning to suffer from acute skills shortages. Even countries like Australia and New Zealand are struggling to attract suitably qualified surveyors and cartographers. A hydrographic office within the region has closed since the last conference.

The CBC met in Fiji in 2004 and allocated funding for a technical visit to several South Pacific countries. Resourcing and logistic issues have meant that the Chair has not been able to progress these before 2007.

PNG has made major efforts to re-establish its hydrographic administration under the National Maritime Safety Authority. They have formed a National Data Committee which deals with issues like the benefits of charting for economic development. An e-mail system has been established to circulate navigation aids and hazard information to

Mariners. In time this will be made available on the Internet. On-the job hydrographic training is being proposed with the Australian Hydrographic Office.

- **IHO Strategic Planning Working Group**

Reporting back on progress and the implications for the Region. Feedback was provided to the SWPHC representative on the SPWG.

5. Conclusions Adopted Since The Last Conference

The normal business conclusions reached by the last 3 SWPHC Meetings are reported in Section 4. Other matters of a more overarching strategic nature for the region have also been discussed and Member States are currently reflecting on the long term implications. These are:

- **Adopting the new IHO Convention and participating in the Assembly, Council, Committees and other Groups**

Members States have been advised of the work of the SPWG and urged to ratify the new Convention as soon as possible. A set of principles were discussed at the 2005 meeting for SWPHC representation on the Council. In practice the choice of representation may be limited as some MSs will be ineligible as they will be representing other Regional Commissions. Others will not have the resources to attend the annual Council Meetings. Similarly their ability to regularly participate in other committees and working groups is likely to be low. There is a risk that regional representation will fall on only one or two countries for extended periods of years. The need to affiliate more Pacific countries to the IHO has been recognised.

- **Bridging the technology gap**

MSs are very conscious of the technological developments in hydrography and navigation as well as those in geospatial data generally. The impact of the Internet and the changes it is bringing to the discovery and dissemination of data is being felt by all countries. However there is a great range in the ability of countries to implement technology like ENCs, ECDIS or geospatial data managements systems. The more advanced have electronic systems available as part of their normal business. Others struggle to comply with even the most basic IHO requirements. The SWPHC has identified an ongoing increase in the technology gap and will consider strategies to deal with it.

- **Projected skills shortages**

The South West Pacific Region is showing the first signs of significant skills shortages in coming years. The reasons for this are few graduating hydrographic surveyors and cartographers, a high demand for them from the private sector, the retirement of the “baby boomers” and lure of younger people to highly paid positions in Europe and North America. In the past Pacific Island countries benefited from hands-on training provided by expatriate hydrographers seconded from the larger authorities. Excess skills are no longer available for this type of deployment. The work of the CBC is particularly important to the SWPHC. It will need to be supplemented with foreign aid if indigenous skill levels are to be preserved. The South Pacific Forum has considered a study to determine the cost benefits of a regional hydrographic service.

- **Access to bathymetric data**

In recent years there has been a trend towards very large passenger vessels exploring isolated regions that have been untouched by civilisation. Fishing, pearl harvesting and mineral exploration are being undertaken in some of the most remote corners of the Pacific. Scientists have been researching distant locations for signs of global warming, tsunami generation, undiscovered sea life etc. A significant amount of bathymetric surveying is being undertaken with only some being made available to hydrographic authorities. There are few common data standards or systems to discover, evaluate and access information. Progress towards data sharing has been made through the IHB/SOPAC MOU but more work needs to be done with other organisations. A simple discovery level metadata standard and data portal need to be identified and evaluated.

- **Access to other data**

There are many scientific, military, industry and aid agencies working in the Pacific on a range of other marine projects. Most have some form of geospatial base and provide information about the seabed, the sub surface or the water column. The nature of the data captured is usually different to that hydrographers normally work with but can be processed to reveal information about the depth of the seabed. For example seismic data. SWPHC MS's can see the benefits of using data like this to improve knowledge of the seabed in the vast gaps between navigation surveys as recorded in S-55. Only very preliminary discussion has taken place to date to understand how this might be achieved. It will require long term consideration.

6. Proposals for Adoption by the XVIIth Conference

- (a) It is proposed that the Conference adopt this report.
 - (b) There are no specific proposals to be submitted to the Conference.
 - (c) No amendments to Technical and Administrative Resolutions are proposed.
-

**REPORT OF THE MESOAMERICAN-CARIBBEAN SEA
HYDROGRAPHIC COMMISSION (MACHC)
by the Chairmen, Rear Admiral C.G.DEM. Javier del ANGEL RIVAS, Mexico
and Vice-Admiral Edgar Augusto CELY NÚÑEZ, Colombia**

- 1. Chairmen:** Rear Admiral C.G. DEM. Javier del ANGEL RIVAS (Mexico),
From April 2006.
Vice-Admiral Edgar Augusto CELY NÚÑEZ, Director General
Marítimo de (Colombia), 2005-2006.
Vice-Admiral Carlos Humberto PINEDA GALLO Director General
Marítimo de (Colombia), 2004.
Rear Admiral THOMAS DONALDSON, Hydrographer of the
United States Navy (USA), 2002-2003.
- 2. Membership:** Brazil, Colombia, Cuba, Dominican Republic, France, Guatemala,
Jamaica, Mexico, The Netherlands, Suriname, Trinidad and Tobago,
United Kingdom, United States of America, Venezuela.
- Associate Members:** Antigua and Barbuda, Barbados, Belize, Guyana, Haiti, Honduras,
Nicaragua, Panama, Saint Lucia.
- Observers** Costa Rica, El Salvador, Bahamas, Dominica, Grenada, Saint
Vincent and the Grenadines, Saint Kitts and Nevis.

3. Meetings

1. Vth Meeting of the MACHC	3-4 November 2002	Biloxi, Mississippi, USA
2. VIth Meeting of the MACHC	30 August - 3 September 2004	Cartagena de Indias, Colombia
3. Special Meeting of the MACHC	31 May 2005	Cartagena de Indias, Colombia
4. Extraordinary Meeting of the MACHC	7 – 11 November 2005	Veracruz, Mexico
5. VIIth MACHC Conference	4 – 7 October 2006	Acapulco, Mexico

4. Agenda Items: (Note: principal agenda items dealt with since the previous I.H. Conference)

1. Revision and signature of the Commission Statutes.
2. Management of the INT charts scheme.
3. Capacity Building. Technical Cooperation and Assistance in the Region.
4. Review of shipping routes and priority areas for ENC production.
5. Input to the work of the SPWG.
6. Hydrographic component of the Gulf of Honduras Project.
7. Development of International (INT) Charts.
8. The regional Global Maritime Distress and Safety System (GMDSS) /Status of Navigation Warning Services.
9. Current Status of Hydrographic Surveys and [Nautical] Charting in the Region.
10. Availability and experience using new techniques and equipment.
11. Discussion on the appropriateness of establishing a RENC in the area.
12. Establishment of selection procedures for future Council membership.

5. Conclusions (Principal Conclusions adopted since the last I.H. Conference).

1. The Statutes of the Commission were amended to facilitate the participation of El Salvador and Brazil as new members. This motivated the corresponding re-naming of the Commission and the identification of a wider area.
 2. Proposals to the IHO Strategic Planning Working Group.
 3. The establishment of the MACHC Capacity Building Committee and re-structuring of the MACHC Committees and Working Groups for better coordination.
 4. The establishment of regional needs and projects and their submission to the IHO CBC requesting actions. The following visits were undertaken:
 - a. Technical visits to Central-American and Caribbean countries.
 - b. Visits to regional organizations (CARICOM (pending), COCATRAM etc.).
 - c. High level visits by the IHB to Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua and Panama.
 5. Maintenance and updating of the entries in the IHO publication S-55 for the MACHC countries.
 6. Countries in the region were encouraged to become IHO members.
 7. Liaison with PAIGH to identify common projects.
 8. Identification of the need to establish a MACHC Work Programme.
 9. Support to the Gulf of Honduras Project.
-

**REPORT OF THE SOUTHERN AFRICA AND
ISLANDS HYDROGRAPHIC COMMISSION (SAIHC)
by the Chairman, Captain Abri KAMPFER, South Africa**

- 1. Chairman:** Mr. Albano GOVE, Mozambique (1999 – 2003)
Captain Abri KAMPFER SAN, Hydrographer South Africa (since 2003)
- 2. Membership:** France, Mozambique, Mauritius, Norway, South Africa and United Kingdom.

Associate Members: Angola, Kenya, Malawi, Madagascar, Tanzania, Portugal and Seychelles.
- 3. Meetings**

4th SAIHC Meeting held in Swakopmund, Namibia, 25-26 September 2003.
5th SAIHC Meeting was held in Simon's Town, South Africa, 27 – 28 September 2005.
Special SAIHC Meeting was held in Maputo, Mozambique, 6 June 2006.

4. Agenda Items

The following are the principal agenda items dealt with during the above-mentioned meetings.

4.1 4th SAIHC Meeting

- Presentation of National Reports on Area H activities.
- IHB report including SPWG work.
- Revision of S-55 with specific reference to IHB CL 23/2003.
- Maritime Safety Information(MSI) including the dissemination of critical safety information.
- Status of the INT Chart Scheme in Region H.
- ENC Topics including WEND Task Group.
- Capacity Building initiatives.
- Hydrography and Aids to Navigation in the SADC Region, Project Profile.
- Feedback on Marine Highway Project.

Conclusions

Main conclusions were as follows:

- To encourage and to assist Member States to subscribe to IHO and IALA conventions and to work towards establishing Hydrographic and Aids to Navigation institutions.

- Member States are urged to start the delimitation of the Continental Shelf process. Full hydrographic surveys are necessary. Member States are to sensitize governments on the hydrographic capability and data necessary for undertaking such tasks.
- Distribute IHO resolutions to Member States. Encourage the exchange of relevant hydrographic information and to stimulate communication among Member States.
- Urge Member States to contribute towards the development of the IHO Capacity Building strategy. RHCs have an important role to co-ordinate requests for training and assist Member States in obtaining specialized training. Member States are to identify what funding possibilities exist for regional projects.
- WEND principles oblige Member States to provide ENC's compliant with IHO/IMO standards for their own waters and to be distributed through a network of RENCs.
- The importance of the review and reissue of S-55 was highlighted. RHCs are to encourage and provide assistance to Member States to complete and to render the questionnaire for updating of S-55 information. All nations are to complete the section on Maritime Safety Information (MSI).
- The Marine Electronic Highway project. The full project title is "Western Indian Ocean Marine Electronic Highway and Coastal and Marine Contamination Prevention Project. A task team, funded by the World Bank, will meet with heads of State to promote the project. National Hydrographers should be invited to such meetings.
- SAIHC Statutes Article 1A, line 3, to be amended from "1.2" to read "1.3" and reissue affected page as change 1.
- Mauritius has applied for IHO membership. Mozambique is to be amended on the IHO website as a full member. Malawi must be included as an associate member of SAIHC.

4.2 5th SAIHC Meeting

- Review of the Commission Statutes.
- Maritime Safety Information (MSI).
- INT chart scheme for Region H: Progress made since the last meeting; actual charting status (S-55); ENC production status; new requirements and modifications proposed to the scheme.
- Hydrographic Survey status (S-55).
- Bilateral and Regional cooperation agreements, projects and capacity building initiatives in progress.
- Presentation of National Reports: Hydrographic surveying, nautical charting, nautical publications and information status.
- Feedback on Marine Highway Project.
- Tsunami threat in the region.

Conclusions

Main conclusions were as follows:

- IALA should be invited to future SAIHC meetings such as the CBC Technical Workshop in Maputo in 2006 due to their involvement with Aids to Navigation in the region.
- The paper presented on MSI provided an overview on MSI worldwide, narrowing the focus to the SAIHC Region. Member States are encouraged to carry out MSI self-assessments.
- Distribute IHO resolutions to Member States. Encourage the exchange of relevant hydrographic information and to stimulate communication among Member States. The training opportunities offered by IHO Member States is of particular importance to assist with building of Hydrographic capacity in the region.
- SAIHC Member States were urged to make full use of the opportunities offered by the planned Technical Visits in 2006. All future National reports to include National Capacity Building requirements to assist in the drafting of the Regional Capacity Building Plan and the generation of prioritised Capacity Building requirements for SAIHC input to the IHOCBC.
- The INT Chart Scheme on the west coast of Africa may need some amendments to take account of the developments in the offshore oil and gas industry. An implementation plan should be developed by the Member States with charting responsibility in Area H for the completion of the outstanding charts along the Angolan and Mozambique coasts.
- The importance of S-55 was re-iterated as it forms the basis for establishing capacity building needs in the various regions. All Member states were urged to keep S-55 up to date by online corrections or with the annual S-55 Questionnaire.

4.3 Special SAIHC Meeting

- SAIHC Structure and functioning. Statutes and Statutes' signature status.
- Progress since the 5th SAIHC Meeting. Review of Action Items.
- IHB Report on Capacity Building Initiatives.
- Report on Technical Visits. Regional Hydrographic Status.
- Technical Visits. Discussion with all participating countries visited (Brain storming session).
- Regional on-going and/or planned projects.
- Regional Capacity Building initiatives. Presentation, analysis, prioritisation and agreements.

Conclusions

The main conclusions were as follows:

- All recipients of the IHO Technical Visits were unanimous in their praises of the value of the visits in creating awareness on Hydrography at higher levels of decision-making in their respective countries.
- A SAIHC Capacity Building Management Plan was developed based on the findings and recommendations of the Visit Teams. This plan will serve as the basis for all inputs to the IHO CBC for SAIHC requirements and it will also reflect those capacity building initiatives that the SAIHC will conduct and manage within the region without CBC assistance.

5. Venue and date of next meeting

The 6th SAIHC Meeting will be held in Monkey Bay, Malawi in August 2007.

6. Proposals for adoption by the XVIIth International Hydrographic Conference

None.

**REPORT OF THE ROPME SEA AREA HYDROGRAPHIC COMMISSION (RSAHC)
by the Chairman, Commodore Muhammad ZAFARYAB, Pakistan**

- 1. Chairman:** Commodore Muhammad ZAFARYAB (Pakistan)
- Vice-Chairman:** Rear Admiral Abdul Rahman Mohammad AL SHEHRI (Saudi Arabia)
- 2. Membership:** Bahrain, Islamic Republic of Iran, Kuwait, Oman, Pakistan, United Arab Emirates
- Associate Members:** Qatar, Saudi Arabia, United Kingdom (UK), United States of America (USA)
- Observers:** Regional Organization for the Protection of the Marine Environment (ROPME), Middle East Navigation Service (MENAS)
- IHB Representatives:** Capt Hugo GORZIGLIA (IHB Director)
Lt. Cdr. Steve SHIPMAN (IHB)
- 3. Meetings**
- | | | |
|-------------------------|----------------------------------|-------------------|
| 1 st Meeting | Islamic Republic of Iran | 7-10 October 2000 |
| 2 nd meeting | Tehran, Islamic Republic of Iran | 2-3 May 2006 |
- 4. Agenda Items**

Agenda No	Agenda Items	Remarks
Agenda item 5	Review of the Statutes	The Statutes of RSAHC have been revised.
Agenda Item 8	Training and Education	Information on Training Capabilities and requirements is awaited from the MS. Deadline for submission of training information is 31 Dec 06.
Agenda Item 9	S-55	Some of the Member States have submitted information for S-55, and others are in the process of submitting information.
Agenda Item 10	Capacity Building	Draft of WPCB for the period of 2008-12 has been submitted, and is being finalized.
Agenda Item 11	WWNWS - Navarea IX Report	Points of contact for MSI and updated list to all States of Navarea IX are being prepared.
Agenda Item 12	Report by the INT Chart Coordinator	Draft M-11 has been submitted to INT chart coordinator (Islamic Republic of Iran)
Agenda Item 13	ENC issues	Statutes of IC-ENC and possibility of using single distribution for RSAHC is under consideration.
Agenda Item 17 and 18	Next meeting, venue and date, and Election of Chairman and Vice-chairman	Preparations for 3 rd RSAHC in Karachi are being finalized.

5. Conclusions

Only one RSAHC Meeting has been held since the last IH Conference. Almost all the follow-up actions of first RSAHC Meeting (year 2000) have been dealt with, over the 5-year period. New agenda items were discussed at the 2nd RSAHC Meeting (year 2006) and the principal items are listed in paragraph 4.

6. Proposals for adoption by the I.H. Conference

None.

**REPORT OF THE NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION (NIOHC)
by the Chairman, Dr. D. Wynford WILLIAMS, United Kingdom**

- 1. Chairman:** Dr. D. Wynford WILLIAMS (UK) to July 2006
Rear Admiral Ian MONCRIEFF (UK) from December 2006
Vice-Chairman: Mr. M. ARIYAWANSA (Sri Lanka)
- 2. Membership:** Bangladesh, Egypt, India, Myanmar, Sri Lanka, Thailand, UK.
Associate Members: France, Pakistan, Seychelles, USA
- 3. Meetings**

3 rd Meeting – 17 to 19 January 2003	(Goa, India)
4 th Meeting – 24 to 25 March 2004	(Mumbai, India)
5 th Meeting – 28 February to 1 March 2005	(Jeddah, Saudi Arabia)
6 th Meeting – 14 to 16 March 2006	(Colombo, Sri Lanka)
7 th Meeting – to be held 28 February to 2 March 2007	(Bangkok, Thailand)
- 4. Agenda Items**
 - Review and modification of the Commission Statutes
 - Progress on INT charting in the region
 - Progress on ENC developments in the region, including distribution
 - Capacity Building in the region, including training
 - Report on the Indian Ocean Tsunami damage and assistance in the region

Progress on INT charting in the region (Work Programme 1)

A revised INT chart scheme for Area J was prepared by the Commission and adopted by IHO.

Limits of Area J were revised following the creation of Area I covering the Persian Gulf.

Allocation of Producer Nations is complete (INT charts to be produced by country: Bangladesh – 3; India – 54; France - 4; Oman – 5; Pakistan – 3; Thailand – 5; UK – 69).

About half of the INT charts in the area have been produced.

Progress on ENC developments in the region (Work Programme 1)

Key shipping routes and ports have been identified.

An ENC Scheme has been produced, based on the INT chart scheme for the region and on the minimum coverage of ENCs required for international shipping. The need for the production of an ENC schema to address overlap issues has been identified.

Timeline for production has been discussed.

Producer Nations have been identified, based on Producer Nations for the corresponding INT paper charts.

Over half of the ENC cells in the area have been produced.

Assistance with ENC production has been offered by France, India and UK.

Distribution Services have been discussed. The importance of RENCs for monitoring quality, ensuring consistency and distributing ENCs has been emphasised.

Capacity Building in the region (Work Programme 2)

The implementation of the revised IMO SOLAS Chapter 5 (especially provisions of Regulations 4 and 9) has been used to raise national awareness on hydrography.

There has been discussion on the issue of various nations losing trained hydrographic personnel. Input to S-55 has been supplied by most members, and the importance of annual update has been reinforced.

A process for review and prioritisation of bids to the IHOCBC has been established.

An IHO Capacity Building team from UK and France is due to make a technical visit in early 2007 to Sudan and Yemen.

The region recognises the need for action to implement GMDSS and improve MSI arrangements. A Phase 1 Technical Workshop for Red Sea countries and a CPRNW training course are planned for 2007.

Training has been provided in both Cartography and ENC Production (Category A and B courses) by France, India, UK and USA.

France, India, Pakistan, Saudi Arabia, Sri Lanka, Thailand, UK and USA have training available in some or all of the following areas: surveying, cartography, ENC production and oceanography. IOC has notified members that Education grants are available from them.

Indian Ocean Tsunami (Work Programme 2)

Following the Indian Ocean Tsunami, Capt Barritt (for IHB) collated all reports of damage and requests for offers of assistance- see Table at Annex A. This was fed into discussions at a special session on the tsunami following the 3rd Extraordinary International Hydrographic Conference. Coordination of offers of assistance within the NIOHC area was carried out by India, whilst Germany coordinated offers of assistance from outside the NIOHC area.

Key assistance includes:

- Germany has replaced equipment at Sri Lanka's National Hydrographic Office.
- French plans to carry out surveying in Sri Lanka have unfortunately been put on hold due to security issues.
- In addition to work in the Andaman Islands, India conducted check surveys of Colombo and Galle, and a survey of Kankesanthurai.
- UK conducted a survey of the earthquake epicentre in order to further the understanding of earthquakes and assist prediction of such events in the future.
- USA carried out hydrographic surveys off Sumatra.

5. Conclusions

The main conclusions and recommendations from the NIOHC meetings are as follows:

3rd meeting (2003)

Recommendation that IHB forward a letter to IMO asking them to encourage mariners to forward Hydrographic Notes, to help keep charts updated. Also, Member States should contact national shipping authorities to issue Marine Safety Notes on the same subject.

Recommendation that HOs should liaise with Meteorological authorities to improve meteorological contents and accuracy in Navarea messages.

5th meeting (2005)

Resolution to support in principle the proposals put forward to the Extraordinary Conference by the SPWG.

Resolution to approve the programme by IOC for the collection of data and establishment of databases for coastal bathymetry in the Indian Ocean to support the establishment of a tsunami warning system.

Adoption of IHO Disaster response, following Indian Ocean tsunami.

Recommendation to IHB that they should prepare a proforma for National Reports, in an effort to achieve consistency of input to Regional Hydrographic Commissions. The NIOHC welcomes the subsequent guidance on standard formats for both National Reports and RHC agendas, and urges other RHCs to adopt them to promote co-ordination within the IHO.

6. Proposals for adoption by XVIIth I.H. Conference

It is proposed that the Conference adopts the present Report.

IHO SPECIAL MEETING – 16 APRIL 2005
Table of Reported Damage and Requests for Assistance

Country	Reference	Reported Damage	Requests for Assistance (a) Urgent resurvey (b) Major survey (c) Advice (d) Equipment	Comment
Bangladesh	Verbal report to NIOHC.	No significant damage.	(d) Tidal stations needed.	To be provided by IOC in 06.
Burma (Myanmar)		No significant damage?	Nothing required?	No response to IHB letter.
India	Verbal report to NIOHC.	National recovery plan underway, focused on Andaman and Nicobar Islands.	Nothing required.	Assistance available for other NIOHC states.
Maldives	Report from UK visit team.	No damage to aids to navigation. Minor damage to sea defences. No significant change to depths expected.	Nothing required.	
Oman	Verbal report to NIOHC.	No significant damage.	Nothing required.	
Sri Lanka	Report to IHO Special Meeting – 16 Apr 05	Disruption of fishery ports, and changes to seabed.	(a) Coastal surveys, especially in N and NE.	(a) France plans one survey in Sep 06. India will look at Trincomalee task in autumn 06. UK proposal for LIDAR/MBES survey forthcoming.

Country	Reference	Reported Damage	Requests for Assistance (a) Urgent resurvey (b) Major survey (c) Advice (d) Equipment	Comment
Sri Lanka (contd.)	<p>E-mail 26 Jan 05.</p> <p>NHO letter dated 29 Dec 04.</p> <p>Ibid.</p>	<p>Approaches to 3 main ports to be assessed for changed depths.</p> <p>SV SAYURI capsized.</p>	<p>(b) Survey of approaches to 3 main ports.</p> <p>(c) Restoration of NHO survey and cartographic capacity, including longer – term strengthening of the National Charting Programme.</p> <p>(d) Repair/replacement of SV SAYURI and equipment, including MBES. In longer-term, additional multi-purpose data collection platform.</p>	<p>(b) Surveys completed. Digital data to be supplied by India.</p> <p>(c) Germany has supplied equipment. UK has offered training and advice. Training needed in CARIS – India may be able to provide. Germany and Norway examining longer- term assistance. To be separated from post-Tsunami assistance.</p> <p>(d) UK prepared to examine option of purchase of second hand vessel. Germany has €300k for equipping of vessel (Must be spent in 2006). IMO funding available for equipment subject to application by IHO in Mar 06.</p>
Somalia				No information available.
Yemen	Information from France.	No significant damage.	Nothing required.	
Pakistan (RSAHC)	Verbal report to NIOHC.	No damage.	Nothing required.	

Country	Reference	Reported Damage	Requests for Assistance (a) Urgent resurvey (b) Major survey (c) Advice (d) Equipment	Comment
Indonesia (EAHC)	Report to EAHC.	15 ports damaged in Aceh province. New dangers in areas of coastal change. 27 AtoN damaged.	(a) 15 ports to be re-surveyed, with 4 as top priority. (b) Geodetic and coastline survey.	(a) List to be passed to IHO. IALA co-ordination in hand.
Malaysia (EAHC)	Report to EAHC. Update by Pres IHB and Singapore at Special Meeting, 16 Apr 05.	No damage to survey systems. No requirement for re-surveys related to the 26 Dec disaster.	Nothing required. No reports of problems. Check surveys complete.	Options for Malacca Strait are acceleration of IMO/WB MEH project, or renew 4 Nations co-operative surveys. Meeting scheduled 26-27 Apr to discuss survey of critical areas from One Fathom Bank southwards.
Réunion, France (SAIHC)	Report by France to NIOHC.	No significant damage.	Nothing required.	
Seychelles (SAIHC)	NH/1454/NIOHC dated 17 Jan 05. Verbal report to NIOHC.	No damage to survey systems. Some damage to fishing port, and re-survey required after repairs complete. Check survey of 2 wrecks needed.	Assistance requested with re-survey of port and wrecks.	AtoN all replaced. Surveys completed by India and UK.
Thailand (EAHC)	Reports to EAHC and NIOHC.	National recovery plan well underway.	(c) Satellite images and applications to assist 3-year re-survey plan. MBES training course and advice.	

Table of Offers of Assistance

Recipient Partner	Offering Partner	Reference	Assistance	Comment
Sri Lanka	(a) France	(a) E-mail 22 Jan 05.	(a) Survey assistance from ships in IO. Can also provide training. <u>Available for any other NIOHC country.</u>	
	(b) Germany	(b) E-mails 26 Jan and 1 Feb 05. Verbal update on 13 Apr 05.	(b) Replacement of mobile survey equipment (SBES, DCSS, DGPS, CTD probes, TGs, data acquisition system, CARIS for fair sheet production). Funding set aside for longer-term equipment purchase for survey and charting, together with training.	(b) Equipment package in transit. Advisers will arrive w/c 18 Apr for installation. After rehabilitation, programme needed to strengthen hydrographic capabilities.
	(c) India	(c) Offer at NIOHC.	(c) Can respond to short and longer term survey needs, and training and advice	
	(d) Japan	(d) Report at Special Meeting	(d) JICA airborne survey	(d) Nothing heard
	(e) Norway	(e) Update by BSH on 13 Apr 05.	(e) Contribution to platform purchase and replacement of tidal stations for GLOSS.	(e) Further fact-finding required before assistance can be committed.
	(f) Pakistan	(f) Offer at NIOHC.	(f) Can offer survey and charting assistance.	
	(g) UK	(g) E-mail of 17 Feb 05.	(g) Survey and chart production support, including contribution to purchase of platform, equipment provision, advice and training.	

Recipient Partner	Offering Partner	Reference	Assistance	Comment
Seychelles	(a) India		(a) Surveys.	
Bangladesh	(a) IOC		(a) Assistance with establishment of tide gauge network. Also rehabilitation and capacity building, in development of coastal bathymetry, coastal zone management and coastal bathymetric training <u>for any NIOHC country.</u>	
Indonesia	(a) USA		(a) Survey ship in area. Fly-away teams available <u>for NIOHC.</u> Cat A and B training available <u>for any NIOHC country.</u>	

Note:

1. **High-lighted offers** have been accepted by the recipient country.
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**REPORT OF THE HYDROGRAPHIC COMMITTEE ON ANTARCTICA, (HCA)
by the Chairman, Captain Hugo GORZIGLIA, IHB Director**

1. **Chairman:** Captain Hugo GORZIGLIA, IHB Director
- Vice-Chairman:** Captain Rod NAIRN (Australia)
- Secretary:** Ing. en chef Michel HUET (IHB)
2. **Membership:** Argentina, Australia, Brazil, Chile, China, Ecuador, France, Germany, Greece, India, Italy, New Zealand, Norway, Russia, South Africa, Spain and United Kingdom.

3. **Meetings**

Since the XVIth International Hydrographic Conference, Monaco 2002, the HCA has convened as follows:

3 rd Meeting,	IHB, Monaco,	8 – 10 September 2003
4 th Meeting,	Kythnos, Greece,	6 – 8 September 2004
5 th Meeting ,	Christchurch, New Zealand,	2 – 4 November 2005
6 th Meeting,	Punta Arenas, Chile	6 – 8 November 2006

Note: The 7th Meeting will take place in Buenos Aires, Argentina, the first week of October 2007.

4. **Agenda Items**

4.1 **Update and Signature of Statutes**

The Committee has kept the Statutes updated. Several countries that originally participated in the work of the former “ Permanent Working Group on Cooperation concerning Hydrographic Surveys and Charting in Antarctica ” have still not signed them. Since 2002 the IHB records show an increase from 12 to 17 HCA Members.

During the discussions held, one HCA member indicated his intention to propose amendments to the HCA Statutes; however, the general HCA feeling has been that there seems to be no urgent need to make changes to the Statutes, moreover one member indicated that it took almost two years for him to obtain the signature / approval of the relevant authority, therefore he was reluctant to start this process again. Nevertheless it has been agreed that the Vice-Chairman will assess the necessary amendments that might be required after the entry into force of the amended IHO Convention.

4.2 **Chairmanship of the Committee**

The Statutes indicate that the Committee shall be chaired by a Director of the IHB appointed by the President of the Directing Committee of the IHB. This situation has been extensively discussed and the majority of HCA Members have indicated that the practice in force should continue, as Antarctica is an international area, and the current arrangement also facilitated liaison with other international organizations.

4.3 **INT Charts and ENC Production**

The INT Chart production continues to show progress. Out of 98 INT charts contained in the cartographic scheme for the Region M, 54 have already been published. The production of ENC also has shown an increase, and 5 ENC Charts are available. The completion of the INT chart scheme for

Region 'M' remains the high priority objective for HCA. An ENC scheme for Region 'M', taking into consideration the approaches adopted by other RHCs is under preparation at the IHB.

4.4 Hydrographic Survey in Antarctic

The discussions led by the HCA Chairman on ways to improve safety of navigation in the Antarctic concluded that, without new surveys, the situation could not be significantly improved. The INT Chart scheme clearly indicated the general priorities but a detailed study of hydrographic survey needs and priorities was necessary. To progress in this direction, the HCA established the Hydrographic Survey Programme Working Group with the following objectives:

- a) To establish a prioritised HCA Statement of Survey Requirements.
- b) To develop guidelines, complementing S-44, for gathering and submitting surveying observations in ships of opportunity.
- c) To promote and co-ordinate hydrographic activity for maximum output during the International Polar Year (2007-2008) by advocacy for an IPY Hydrographic Initiative.

Based on the work conducted by the WG, the HCA has progressed as follows:

- Guidelines for the gathering and submission of hydrographic data in Antarctic waters were approved.
- 20 additional charts have been approved and added to the INT Chart scheme.
- A long term survey plan prepared by assigning Usage Category and Survey Status Category values to each corridor was approved.
- A short list of high priority surveys was approved and submitted for endorsement to the IPY Coordinating Committee, ATCM and COMNAP; and circulated to Member States for information and possible inclusion in national survey programmes, with the aim that focus should be on surveying those areas on the occasion of the IPY.

The WG continues to work. The identification of special capacity building needs is under consideration.

4.5 Multibeam impact on marine environment

This has been an important and worrying issue, due to its potential implication on hydrographic surveys. The restrictions on the use of multibeam systems in Antarctic waters, decreed by the German Federal Environmental Agency lit a warning light over HCA coordination activities. The matter has been widely considered by the scientific community (SCAR) and the results of the research conducted have been submitted to ATCM. The latest conclusions as regard to the risk evaluation indicate:

- a) Risks of most scientific acoustic techniques likely to be used in the Antarctic were less compared to shipping activities on their own.
- b) Survey planning (to avoid duplication/overlapping) could be required to reduce the risk.
- c) Ship noise is not likely to be a problem for most Antarctic waters.

Certainly, survey planning is a task that HCA is taking forward in order to, among other things, avoid duplication while reducing the risk to the environment.

4.6 Information on Antarctic

The HCA agreed to maintain a register of Member States' publications on Antarctic waters on the HCA page of the IHO web site, with a brief resume of their contents, together with information on links to other web sites giving information on activities in Antarctica. This service is in operation and constitutes a good tool for those seeking information on Antarctica.

4.7 Fusion of S-59 into S-55

The HCA has been working closely with the IHB to develop a prototype GIS data base of the S-55, having a chart background base with layers for hydrographic surveys (based on the data in S-59 Part II), INT charts (based on the data in M-11), ENCs (based on the ENC coverage description, as on the IHO Website), and RNCs (based on ARCS). This database is in progress and will be made available soon. The first beneficiary will be the HCA, but its application might also be useful for other RHCs willing to expand S-55 information on different layers.

For the time being Antarctica is a gap in the S-55 database. HCA Members, which have not submitted data for the review of S-55, have been requested to do so in order to advance in its preparation. As a provisional measure it has been agreed to use the data in S-59, to be refined when all States with survey and charting programmes in the region provide updated information.

4.8 Aids to Navigation

The Committee, noting that it is extremely difficult and expensive to place and maintain structures on the coastline of Antarctica, considered that the erection of new AtN should be limited to where danger exists and where there is the highest density of shipping. To identify priorities, the HCA requested COMNAP and SCAR to consult mariners involved in their projects on priorities for terrestrial aids to navigation. The result was a list of recommendations that were made available to Member States, suggesting that they bring this information to the attention of their national maritime administrations.

4.9 Interaction with other International Organizations

4.9.1 IMO

There was no record of IMO's participation in HCA meetings until 2004, when HCA benefitted from IMO's active participation. On this occasion a clear message on the ongoing work to improve safety of navigation in remote areas such as Antarctica was received. Concern has been expressed by HCA on the applicability of SOLAS V in Antarctica, in particular regarding the provision of hydrographic services. Who is responsible for what, where there is no recognized coastal state or EEZ? It seems that this situation deserves further study jointly by IMO and ATCM.

IMO as well as other international organizations has been provided with the HCA Hydrographic Survey Program – priority short list - for consideration and promotion.

4.9.2 IOC

4.9.2.1 GEBCO

The HCA has noted that the Antarctic portion of the GEBCO Gazetteer of Undersea Feature Names includes only a few names (less than 200) compared to the 17,000 names in the SCAR Composite Gazetteer, most of them on "land". It has been anticipated that in the light of new surveys, new undersea features might require names that should be proposed to SCUFN. To facilitate this, guidance on the submission procedures was provided to Member States to be passed to scientific institutions.

4.9.2.2 International Bathymetric Chart of the Southern Ocean (IBCSO)

Considering the good results of a similar project in the Arctic Ocean (IBCAO), during this inter conference period the IOC, IHO and SCAR agreed on the establishment of the IBCSO. SCAR supports the acquisition of bathymetric information on all their vessels, including when in transit. The resulting data is routinely provided to the IHO Data Centre for Digital Bathymetry (DCDB).

The IBCSO work plan considers:

- a. Building and maintaining a thorough data base;
- b. Quality control and assessment, analysis and editing of available bathymetric data;
- c. Development of a new method for morphological interpolation of bathymetric contours using sonar data and satellite radar altimetry gravity anomalies;
- d. Determination of Digital Terrain Models around Antarctica;
- e. Creation of a set of 1:1 Million traditional bathymetry sheets in digital form; and
- f. In areas of systematic multibeam surveys, preparation of large scale bathymetric charts.

HCA members support nominating a representative to the IBCSO.

4.9.3 Antarctic Treaty System and the Antarctic Treaty Consultative Meeting (ATCM)

In 2004 the Antarctic Treaty System (ATS) established its Secretariat in Buenos Aires, Argentina. The Executive Secretary of the ATS attended HCA5, marking a milestone in the relationship between the IHO and the ATCM. His contribution was mainly on the procedural line, providing key information on the way HCA message should have a better possibility within the ATCM decision-making process.

The Antarctic Treaty System (ATS) considers holding annual meetings called ATCM. The XXVth meeting took place in Warsaw, Poland in September 2002, where the IHO was not represented, and therefore no report was provided on the progress made in charting Antarctic waters. Since 2003 the Chairman of the HCA has represented the IHO at the annual ATCM meetings.

At the XXVIth Meeting the IHO was given the opportunity to make a presentation on the status of hydrography and cartography in Antarctica. The proposed recommendations were adopted, including the update of the existing ATCM Resolution No 1 (1995). ATCM XXVI approved Resolution 3 (2003) on Co-operation in Hydrographic Survey and Charting of Antarctic Waters and resolved on the need to improve hydrography in Antarctica. (See **Annex A**).

The XXVIIth Meeting took place in South Africa where a presentation on the progress made to date was given in plenary. The ATCM endorsed the recommendations made by the IHO and the strong comments made by the UK delegation urging Member States to augment the hydrographic surveys in the Antarctic.

The XXVIIIth Meeting took place in Stockholm, Sweden, where again an update was presented. The ATCM welcomed the report and endorsed its recommendations. The Meeting encouraged the IHO to continue its planning for hydrographic activity in connection with the International Polar Year.

At the XXIXth meeting held in 2006 in Edinburgh, UK, the IHO representative introduced its report and informed the Meeting of the first World Hydrography Day. The Meeting acknowledged the increasing demand for hydrographic INT charts and the progress so far made in their production. It welcomed the procedure established for the collection and rendering of Hydrographic Data approved by the Hydrographic Committee for Antarctica (HCA), and the short-list of High Priority Surveys identified by the HCA. The Meeting further invited the IHO to continue efforts to increase the coverage of hydrographic information in Antarctica, especially in main passages and ports, and where

there are vulnerable or protected marine areas, and urged greater involvement in the work of the HCA by all Consultative Parties.

4.9.4 COMNAP

COMNAP has strongly contributed to HCA's work by sharing their experience and helping to identify needs and priorities. COMNAP has been provided with the HCA Hydrographic Survey Program for consideration and promotion among the National Antarctic Operators. COMNAP as "observer" to ATCM has submitted working papers to the ATCM emphasizing the work of, and good cooperation with HCA.

4.9.5 IAATO

The Committee has taken note of IAATO's concern over the entry of new ship operators into Antarctica, with no experience of navigational conditions in Antarctica, and sometimes with inadequate planning, and has communicated with IHO Member State on the importance of maintaining communications with IAATO and COMNAP to assist in encouraging best practice.

During this period IHB and IAATO put in place a mechanism to embark hydrographic surveyors on IAATO ships of opportunity to conduct hydrographic activities in Antarctica, and the Committee encourages MSs to take advantage of this opportunity. The IHB developed a Standard Protocol form to be used by HOs to formulate their needs regarding transport of Hydrographic survey specialists on IAATO ships of opportunity for onboard collection of hydrographic data. IAATO Secretariat on a yearly basis provides the schedule of IAATO ship's movements to the IHB for dissemination to all HCA Member States, for them to then contact directly the IAATO Secretariat.

Noting that IAATO operators were not fully aware of the IHO INT Chart Scheme, it was agreed to inform IAATO in detail about this IHO effort in Antarctica, and to request comments on how best to prioritize INT chart and ENC production for the region. The feedback to this request allowed HCA to improve the INT Chart scheme, considering users needs and priorities.

IAATO has been an excellent ally in all tribunes where safety of navigation in Antarctic waters is discussed. They have strongly contributed to HCA's work by sharing their experience and helping to identify needs and priorities. IAATO has been provided with the HCA Hydrographic Survey Program for consideration and promotion among the National Antarctic Operators and with guidelines for the collection of hydrographic information by tour vessels.

4.9.6 IPY 2007/2008

HCA agreed to take advantage of the "International Polar Year" (IPY, 2007-2008), to flag the most important needs as regards surveys in Antarctica. It was proposed to the IPY Planning Committee to co-ordinate the planning of regional survey programs in order to avoid duplication of work; to support proposals which include detailed and systematic bathymetric surveys; to encourage scientists to collect continuously multibeam and single beam sonar data and to consider liaison with HCA for cruise planning and meta data exchange. The HCA offers to assist with information as necessary to support data exchange between hydrographic and scientific organizations. Despite the fact that no feedback has been received at the IHB from the Committee, it was decided to provide the Planning Committee with the short-list of High Priority Surveys identified by the HCA.

4.10 SPWG Matters

HCA has been kept informed on the progress made by the SPWG in implementing the decisions adopted at the 3rd EIHC and the preparation of a plan to be followed when the amendments to the convention enter into force.

At the last meeting the issue of Council representation was discussed. HCA coordinates an area that due to its special characteristics requires international cooperation and collaboration, and therefore it was considered important to have its voice heard on the Council, where the Organization's coordination would take place. The HCA agreed and proposed to the SPWG that representation of HCA matters on the Council would be undertaken by a nominated State with a seat on the Council and that HCA should be included in the development of Performance Indicators for subordinate bodies of the IHO.

5. Conclusions

- 5.1 The 17 HCA Members have successfully coordinated its activities among themselves and with related international organizations according to HCA's aim defined in Art. 3 of its statutes.
- 5.2 The conduct of annual meetings has provided HCA with the opportunity to follow up all decisions adopted; to interact with international organizations that also meet once a year and keep track of INT Chart and ENC production.
- 5.3 INT Chart scheme for region "M" has been updated with new requirements and its implementation depends on the hydrographic survey effort made by HCA Member State. The preparation of a "short list of high priority surveys" should provide guidance on where the efforts should be made, and the IPY offers an opportunity for that.
- 5.4 Cooperation with international organizations has been outstanding, with contributions from ATS, IAATO and COMNAP that deserve IHO recognition.
- 5.5 The potential impact of multibeam systems on marine environment should no longer be considered a limiting factor for conducting hydrographic surveys in Antarctic waters.

6. Proposals for adoption by XVIIth I.H. Conference

- 6.1. It is proposed to the XVIIth I.H. Conference to:
 - a) Adopt the present Report of the Hydrographic Committee on Antarctic.
 - b) Invite IHO Member State to increase their hydrographic activity in Antarctica taking advantage of the IPY, aiming to complete the present INT Chart scheme as soon as possible.
 - c) Request HCA to continue improving the relationship with relevant international organizations, aiming to develop joint projects of common interest, especially ATS, IOC, COMNAP, SCAR and IAATO.
 - d) Thank IAATO for making available its ships to be used as "ships of opportunity" for hydrographic surveyors as well as for volunteering to collect hydrographic data.
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ANNEX A

RESOLUTION 3 (2003)**CO-OPERATION IN HYDROGRAPHIC SURVEY AND
CHARTING OF ANTARCTIC WATERS**

The Representatives,

Noting that, in response to Recommendation XV-19 and Resolution 1 (1995), the International Hydrographic Organisation (IHO) has established, amongst its Member States, a Hydrographic Committee on Antarctica (HCA) with the aim of co-ordinating hydrographic survey in the region and producing international nautical charts within the standards of the IHO;

Welcoming the report introduced by the Director of the IHO on progress that is being made by the HCA in the production of the international (INT) scheme of nautical charts for Antarctic waters, though noting that substantial further works remains to be done;

Recalling that the INT chart scheme for Antarctica has been agreed by IHO Member States and that a number of them have volunteered to assist with chart production;

Recognising that the HCA routinely liaises with SCAR in the support of scientific research requiring hydrographic products;

Noting also the valuable contribution to the INT chart scheme by SCAR, COMNAP and IAATO;

Noting further the entry into force of a revised version of Chapter V of the Convention for the Safety of Life at Sea on 1 July 2002 and in particular its Regulation 9 on Hydrographic Services;

Cognisant of the importance of accurate and up-to-date nautical charts as an essential aid to the safety of navigation in Antarctic waters;

Recommend that:

1. All Consultative Parties with a hydrographic surveying and charting capability in Antarctic waters encourage their national authorities to redouble their efforts to:
 - Co-ordinate their hydrographic surveying and charting activities through the IHO's Hydrographic Committee on Antarctica;
 - Support and contribute to the ongoing development of the INT chart scheme for Antarctic waters agreed by the IHO;
 - Promote the international nature of their Antarctic activities particularly when seeking national support for hydrographic surveying and charting priorities.
2. The IHO Hydrographic Committee on Antarctica continue its endeavours to achieve comprehensive, up-to-date coverage of hydrographic charting and chart production through the INT scheme for Antarctic waters;

The item on Co-operation in Hydrographic Surveying and Charting of Antarctic Waters be again included in the agenda of the XXVII ATCM.

COOPERATION WITH INTERNATIONAL ORGANIZATIONS

COOPERATION WITH THE UNITED NATIONS (UN)

The IHO has maintained a close and particularly productive relationship with the United Nations during the 2002-2007 period. The full potential of this relationship began when the IHO was granted Observer Status to the UN General Assembly in November 2001. This Observer Status has provided entry for the IHO into numerous UN forums when it has been possible to highlight the importance of hydrography and the need to increase hydrographic capacity, worldwide. While the main contact has been with the Division for Ocean Affairs and Law of the Sea, the IHO has also worked with the Division for Sustainable Development. The IHO made statements at the following major UN events:

- The World Summit on Sustainable Development, Johannesburg, South Africa (August 2002),
- The UN General Assembly on the occasion of the 20th Anniversary of the UN Convention of the Law of the Sea (November 2002),
- The Meeting on the Sustainable Development of Small Island Developing States, Mauritius (January 2005).

Additionally, the IHO has been an active participant in the UN Informal Consultative Process on Oceans and Law of the Sea (UNICPOLOS) in June 2003, June 2005 and June 2006. Of particular note, the fourth UNICPOLOS (June 2003) devoted one-half of its deliberations on the building of capacity for the production of nautical charts. Participation in UNICPOLOS has led to the following outcomes:

- UN General Assembly Resolution A/58/240 in which the General Assembly:
 - Welcomes the work of the International Hydrographic Organization (IHO) and its 14 regional hydrographic commissions and encourages increased membership of the IHO by States, noting that organization's capacity to provide technical assistance, facilitate training and identify potential funding sources for development or improvement of hydrographic services; and calls upon States and agencies to support the IHO trust fund and examine the possibility of partnerships with the private sector;
 - Invites IHO and the International Maritime Organization (IMO) to continue efforts and to jointly adopt measures with a view to encouraging greater international cooperation and coordination for the transition to electronic nautical charts; and to increase the coverage of hydrographic information on a global basis, especially in areas of international navigation and ports and where there are vulnerable or protected marine areas;
 - Encourages intensified efforts to build capacity for developing countries, in particular for the least developed countries, small island developing States and coastal African States, to improve hydrographic services and the production of nautical charts, including the mobilization of resources and building of capacity with support from international financial institutions and the donor community, recognizing that economics of scale can apply in some instances at the regional level through shared facilities, technical capabilities and information for the provision of hydrographic services and the preparation of and access to nautical charts.

- UN General Assembly Resolution A/59/24 in which the General Assembly:
 - recognizing that hydrographic surveys and nautical charting are critical to the safety of navigation and life at sea, environmental protection, including vulnerable marine ecosystems and the economics of the global shipping industry, and recognizing in this regard that the move towards electronic charting not only provides significantly increased benefits for safe navigation and management of ship movement, but also provides data and information that can be used for sustainable fisheries activities and other sectoral uses of the marine environment, the delimitation of maritime boundaries and environmental protection,
 - *Encourages* intensified efforts to build capacity for developing countries, in particular for the least developed countries and small island developing States, as well as coastal African States, to improve hydrographic services and the production of nautical charts, including the mobilization of resources and building of capacity with support from international financial institutions and the donor community, recognizing that economies of scale can apply in some instances at the regional level through shared facilities, technical capabilities and information for the provision of hydrographic services and the preparation of and access to nautical charts;
- UN General Assembly Resolution A/60/30 in which the General Assembly:
 - *Welcomes* the adoption by the International Hydrographic Organization of the “World Hydrography Day”, to be celebrated annually on 21 June, with the aim of giving suitable publicity to its work at all levels and of increasing the coverage of hydrographic information on a global basis, and urges all States to work with that organization to promote safe navigation, especially in the areas of international navigation, ports and where there are vulnerable or protected marine areas.

The IHO, which hosts the Secretariat of the IHO-IOC GEBCO Sub-Committee on Undersea Feature Names (SCUFN), also maintains a close relationship with the UN Group of Experts on Geographical Names (UNGEGN). The IHO was represented at and provided reports on marine naming issues to the following events:

- ✓ 8th UN Conference on the Standardization of Geographical Names, Berlin, Germany (August-September 2002)
 - ✓ 22nd Session of UNGEGN, New York, USA (April 2004)
 - ✓ 23rd Session of UNGEGN, Vienna, Austria (March-April 2006)
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COOPERATION WITH THE INTERNATIONAL MARITIME ORGANISATION (IMO)

1. The IHB, as an Observer, has attended meetings of the Assembly, the Maritime Safety Committee (MSC), the Technical Cooperation Committee (TCC), the Sub-committee on Safety of Navigation (NAV), the Sub-committee on Communications and Search and Rescue (COMSAR) and one meeting of the Sub-committee on Flag State Implementation (FSI). The IHB hosted two meetings of the Correspondence Group (CG) established to review the Performance Standards for ECDIS.

2. The most important matters of relevance to the IHO that resulted from these meetings, some of which are still ongoing, were:

- The publication of the 2nd Edition (2003) of the International SafetyNET Manual.
- The publication of the 4th Edition (2005) of the International Navtex Manual.
- The adoption of Resolution A.958(23) on the Provision of Hydrographic Services which reminds States of their obligations under SOLAS Chapter V and additionally urges them to promote the use of ECDIS and production of ENCs; to cooperate with States having little or no hydrographic capability; to promote support for governments requesting technical assistance in hydrographic matters; to establish hydrographic offices where they do not exist and to consider joining the IHO if not already a member state.
- The issue, following the tsunami disaster of 2004 and subsequent cooperation with IMO, IALA and IOC, of COMSAR/Circ.36 which makes the WWNWS available for the transmission of tsunami warnings if required.
- The issue by the MSC, at the request of IHO, of MSC/Circ.1118 reminding Coastal States of their obligations under SOLAS Chapter V.
- The issue of MSC/Circ.1179, at the request of IHO, on Deficiencies in Hydrographic Surveying and Nautical Charting Worldwide and their impact on Safety of Navigation and Protection of the Marine Environment as highlighted in the 3rd edition of IHO publication S-55.
- The implementation of the IMO Voluntary Member State Audit Scheme to which IHO has contributed a questionnaire for use by auditors and auditees to assess compliance with SOLAS Chapter V and provide input to IHO publication S-55.
- The review and adoption of new routeing measures and amendments to traffic separation schemes. The IHO is available for consultation by submitting governments and also by the IMO secretariat.
- The preparation of Guidelines for voyage planning for passenger ships operating in remote areas. The IHB participated in the NAV WG which produced this guidance.
- The evaluation of the use of ECDIS and ENC development and the consideration of mandatory carriage requirements for ECDIS. The IHO has submitted several documents on this subject and participated in WGs established by NAV. The MSC in December 2006 is expected to adopt a resolution introducing mandatory carriage of ECDIS by all High Speed Craft from 1 July 2010. The mandatory carriage by other classes of vessels is still under consideration.

- The revision of the ECDIS Performance Standards (PS) following a proposal from the IHO. The IHB hosted two meetings of the CG revising these standards. The revised PS are expected to be adopted by the MSC in December 2006.
- The development of an IHO on-line catalogue of available ENC's, RNC's and paper charts used as a backup. This was requested of IHO during the debate on "the evaluation of the use of ECDIS and ENC development" and it is intended to demonstrate an online catalogue during NAV53 in July 2007.
- The revision of SN/Circ.207 on the differences between RCDS and ECDIS following the revision of the ECDIS PS. A revised text has been agreed and, now that the revised ECDIS PS has been adopted by MSC, will be issued by NAV.
- The preparation of an SN/Circ on "Additional guidance on chart datums and the accuracy of positions on charts". This was prepared at the request of the Russian Federation in order to remind mariners of the implications of the different horizontal datums used on paper and raster navigational charts (RNC's).
- The consideration of "E Navigation". NAV has been tasked to develop an E Navigation strategy and report back to the MSC in 2008. A CG has been established to give preliminary consideration to this topic. The IHB is participating in the work of the CG.
- The establishment of a joint IMO / IHO / WMO Correspondence Group under the Chairmanship of Peter Doherty, Chairman of CPRNW, to consider the provision of MSI services in Arctic Waters. Arctic waters are increasingly visited by shipping compared with when the WNWNS was established. Agreement on the need to extend the WNWNS has been reached and potential coordinators identified. There is still a need to agree the boundaries between the new Navareas and to confirm the means of transmitting messages.
- The revision of IMO resolution A.888 (21), "Criteria for the provision of mobile-satellite communication systems in the Global Maritime Distress and Safety System (GMDSS)". This revised resolution is intended to allow for GMDSS services to be provided by companies other than Inmarsat. The MSC in Nov/Dec 2006 decided that applications to become a service provider for the GMDSS will be considered / approved by the MSC and that subsequent oversight will be done by IMSO. The MSC has instructed COMSAR to revise the draft resolution in light of these decisions and to forward it to Assembly 25 for adoption.
- An amendment to the footnote to subparagraph 2.1.5 of SOLAS regulation V/19 regarding the definition of the term "appropriate portfolio of up-to-date paper charts" was approved with an aim of clarifying what is meant by "Appropriate".
- Active participation in the meetings of the Technical Cooperation Committee submitting reports both on the IHO development of Capacity Building and the relationship between IHO and the International Maritime Academy (IMA).
- Participation by the IMO Secretariat in efforts by the IHO Capacity Building Work Programme to encourage the development of hydrography and safety of navigation in developing States. IMO support was especially appreciated in the execution of the Technical Visits and Technical Workshops organized for various regions of the IHO Hydrographic Commissions (relevant reports are included in the Capacity Building Committee report) as well as in the two Seminars for Chairmen of National

Hydrographic Committees organized in 2005 for the EAtHC region and in 2006 for the MACHC region.

- Continued support by the IHO for courses at IMA in Hydrography (General and Port), Hydrographic Data Management and Nautical Cartography. The IHO hopes that the re-organization of IMA that has led to the current suspension of these courses will be soon be achieved and that these important courses will be resumed.
3. The IHO has submitted 3 information papers on behalf of Member States:
- The production of the South China Sea Electronic Navigational Charts (ENCs)
 - An example of co-operation within the IHO Baltic Sea Hydrographic Commission - The HELCOM Harmonised Re-Survey Plan
 - Release of official Malacca and Singapore Straits Electronic Navigational Charts (MSS ENC)
4. The Conference is requested to adopt this report.
-

COOPERATION WITH THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

Immediately after having been tasked with handling the relationship with IOC, Captain Gorziglia, IHB Director, had a coordination meeting with the IOC Executive Secretary, Dr. Patricio Bernal (December 2002). At this Meeting the Memorandum of Understanding (MOU) signed in 2000 by the IHO and IOC, was reviewed and found to be sufficiently wide in scope as to cover any emergent matter needing coordination. It was agreed that if the need arose, annexes to the MOU would be included.

A brief coordination meeting takes place every year at which the relationship between the two organizations is considered.

Based on the MOU, the relationship between the two organizations has been concentrated mainly on the following subjects:

- a) Ocean Mapping Projects
 - i. GEBCO Joint Project
 - ii. IBC Projects
 - b) Advisory Board on the Law of the Sea (ABLOS)
 - c) Global Sea Level Observing System (GLOSS)
 - d) Capacity Building
 - e) Tsunami
- a) Under **Ocean Mapping Projects** it has to be highlighted that the **GEBCO Project** celebrated its centenary with a Conference in Monaco. The event was organized by the IHB in close cooperation with IOC, including a financial contribution. The Conference was most successful.

After this event, the IHB and the IOC Secretariat began discussions on how the efficiency and effectiveness of the Ocean Mapping Projects could be improved. It was then decided to work on a document that would recommend merging the IBC projects and GEBCO. As both projects are coming out the same activity with regard to bathymetry, it was evident this was resulting in an undesirable duplication of effort and an overlapping of activities. The first draft of a new structure on Ocean Mapping was submitted to the GEBCO Guiding Committee and to CGOM in 2004 for comments and feedback. Following comments from the GGC the proposal was improved and resubmitted. The proposal was again discussed at the GGC meeting in 2006 and is under consideration by the GGC, and is a task to be included in the 2008/2012 IHO Work Program.

SCUFN and SCDB have worked very efficiently, and IOC's contribution has been made mainly to SCUFN, where 5 IOC representatives participate in the sub committee's work. Full reports from GEBCO and its Sub-Committees are provided by its Chairmen in Program 3.

With regard to **IBC projects**, IHO has contributed directly to support training aimed at improving capabilities to produce IBC's from the charting perspective. Both IHO and IOC have agreed to launch an IBC for the Southern Ocean. The first formal working meeting of this initiative has not yet taken place, but is planned for the near future. The Chairman of the IBCSO is already participating in HCA meetings to coordinate the work.

It has to be mentioned that due to significant economic constraints within UNESCO, the IOC budget has been reduced and, it was proposed to eliminate the Ocean Mapping program at the IOC Assembly in 2005. Concern was expressed by the IHO representative to the Assembly, as well as by the Heads of Hydrographic Offices present. Fortunately, the situation was reconsidered and a very small budget was assigned to the program, but the most important thing is that it was not eliminated. This situation should be carefully considered by IHO, as in the event of having IOC withdrawing from the Ocean Mapping program, it would be up to the IHO to support this initiative alone.

- b) **Advisory Board on the Law of the Sea (ABLOS)**, which is an IHO/IAG/IOC Joint Advisory Board has worked following its terms of reference. IOC has participated less mainly because their resources have been allocated to run ABE-LOS, another advisory board on the Law of the Sea within IOC. ABE-LOS considers marine scientific research matters and it seems that it would be appropriate to have IHO and IAG in charge of the hydrographic and geodetic technical aspects, i.e. going back to the origin of TALOS. All the participants in ABLOS have worked on a new edition of the "Manual on Technical Aspects of the UN Convention on Law of the Sea" and conducted several conferences on the subject.

A complete report on ABLOS activities is provided by its Chairman in Program 3.

- c) **Global Sea Level Observing System (GLOSS)** is an IOC program with which the IHO has had some contact. The IHO's Tidal Committee deals with matters which might be of interest to GLOSS. There have been some initiatives to work closer, but interaction has been rather minimum. This is an area that can be explored as there are many subjects of common interest such as: training, data gathering, processing and exchange, new technologies, just to mention a few.
- d) **Capacity Building.** IOC has been developing Principles and Strategy for Capacity Building and an Implementation Plan for Capacity Building. These documents identify IHO as a "partner" in several initiatives, such as training workshops on coastal bathymetry and mapping; coastal mapping program. In fact IHO together with IOC has participated in technical visits to assess capabilities and identify ways to improve the availability of hydrographic data in support of tsunami preparedness.
- e) **Tsunami.** As indicated in the previous paragraph, IHO together with IOC has participated in technical visits as part of the COAST-MAP-IO IOC project. Tsunami preparedness is based on a good knowledge of the seafloor's depths. This means that ocean bathymetry, coastal bathymetry and detailed coastal bathymetry are key elements for running models that would provide intelligence for risk evaluation, evacuation planning, coastal zone management, among others.

The IHO has been represented at all IOC Executive Councils and Assemblies.

COOPERATION WITH THE INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES (IALA)

The IHO and IALA had a very fruitful relationship during the period 2002-2007. During this period the IHO cooperated in various projects and programs either bilaterally or with other international organizations.

The IHO has participated in the work of the IALA e-ANSI (Electronic Aids to Navigation Service Information) Working Group, in order to provide support on issues related to ECDIS/ENC. The aim of this WG is to establish an electronic aid to navigation information service, through which the status of all aids to navigation would be transmitted at sea in real time, via AIS, and displayed on the onboard ECDIS as a separate layer of information or Marine Information Object (MIO). The IHO contribution consists of defining a specific MIO layer for e-ANSI, based on S-57/S-100, creating a register for e-ANSI objects/attributes and determining the best approach to display e-ANSI information.

The IHO participated in two meetings, one in September 2004 in Portsmouth, England and the other in January 2005 at the IALA headquarters in Paris, France. A workshop and a meeting on this subject were also held at the IHB in Monaco in June 2005.

The IHO participates as an observer in the meetings of the Guiding Board of the IALA VTS Guide, as decided by the IHO Member States in accordance with CLs 60/2003 and 78/2003, in order to provide technical support when needed. This publication provides diagrammatic and written information regarding the navigational requirements of the participating VTS Centres with particular emphasis on the communication requirements.

The IHO and IALA have cooperated in providing expert advice within their respective areas of competence to the East African Community in support of an IMO initiative, funded by the French Ministry of Foreign Affairs, to establish a framework in which safety of navigation may be improved on Lake Victoria. This advice was provided at meetings with regional decision-makers in Nairobi, Kenya (February 2003) and Arusha, Tanzania (February 2003 and October 2005). IHO and IALA also provided advice and, within their existing work programs, assistance to the World Bank in developing and resourcing the Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention Project. Coordination meetings took place in Cape Town (December 2004) and at IMO, London (April 2005).

In 2004 and 2005 IHO participated in meetings of the IALA AIS Committee in order to support and provide guidance in their efforts to include navigational warnings in AIS. In 2005 IHO submitted a paper on Datum issues on chart to IALA. In September 2006 IHO participated in the IALA e-Navigation Committee meeting and also plans to participate in a seminar on e-Navigation to be held at Trinity House in London in July 2007.

IHO and IALA cooperated very closely with IMO to identify the needs of those States which suffered the Indian Ocean tsunami disaster and provided support to meet hydrographic, navigational and aids to navigation demands and requirements. For this purpose, the Secretary-General of IALA participated in meetings of the NIOHC.

The Directing Committee express its appreciation to the UKHO and SHOM for providing experts to participate in meetings with IALA, thereby supporting the Bureau's efforts for closer cooperation with Member States.

COOPERATION WITH THE INTERNATIONAL CARTOGRAPHIC ASSOCIATION (ICA)

The IHO enjoyed very fruitful and constructive cooperation with the ICA during the period 2002-2007. The main event to be highlighted was the signing in January 2004 of the IHO-ICA Memorandum of Understanding, as approved by Member States in CLs 69/2003 and 2/2004.

Within the framework of this cooperation the following should be noted:

- a. The IHO participated in the following meetings of the ICA Commission on Spatial Data Standards:
- Brno, Czech Republic, July 2002.
 - Ithala, South Africa, August 2003.
 - IHB, Monaco, July 2004.
 - La Coruna, Spain, July 2005.

Topics addressed by this Commission have included the assessment of international metadata standards, in particular the modeling of spatial data infrastructure (SDI). SDI is an emerging and growing concept within the IHO community and participation in this ICA Commission is important in educating IHO representatives on SDI matters, even though the Commission principally addresses the theoretical and scientific aspects of SDI. Works of the Commission are published in scientific publications and books.

- b. IHO participates in the biennial ICA Conferences where an ICA exhibition is also held. In conjunction with the ICA exhibition the IHO organizes a navigational chart exhibition, where Member States can display their cartographic products. These exhibitions, which give added visibility to IHO products and achievements, are organized with the much appreciated assistance of the national HOs of the countries where the Conferences are held, supported by the Bureau. In 2003 and 2005 the South African Hydrographic Service and the Spanish Hydrographic Service supported the exhibitions held in Durban and La Coruna respectively. A prize is awarded to the best display, selected by an ad hoc jury. In this context:
- The HOs of South Africa and Ukraine were jointly awarded the 2003 IHO display prize, the two Hydrographers receiving their prize at the Extraordinary International Hydrographic Conference in 2005.
 - The Australian Hydrographic Service won the 2005 IHO display prize, which will be presented to the Hydrographer during the Opening Ceremony of the XVIIth IHC in 2007.

The next such IHO cartographic exhibition will be place in Moscow, Russia, in August 2007.

The IHO also co-operates very closely with ICA in the Joint Board of Geospatial Information Societies and the IHO-FIG-ICA Advisory Board on the Standards of Competence for Hydrographic Surveyors and Nautical Cartographers.

COOPERATION WITH THE INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

1. Participating Members

Mr. Barrie GREENSLADE (UKHO)
Mr. Anthony PHARAOH (IHB)

2. Background

The International Organization for Standards (ISO) is a non-governmental international organization comprising a world wide federation of national standards bodies from approximately 130 countries.

IHO cooperation with this organization has mostly been with the ISO Technical Committee (TC) 211 which has been tasked to establish a structured set of standards for digital geographic information. This TC also attempts to harmonize the development of related standards for information technology, and where appropriate provides a framework for the development of sector-specific applications that use geographic data.

IHO has participated as a Class A liaison member in the ISO/TC211 plenary and working group meetings listed below, and has contributed to the development of several of the ISO TC 211 19000 series standards.

3. Meetings

15th Plenary	14-15 November 2002	Gyeongju, Rep. of Korea
16th Plenary	22-23 May 2003	Thun, Switzerland
17th Plenary	30-31 October 2003	Berlin, Germany
18th Plenary	27-28 May 2004	Kuala Lumpur, Malaysia
19th Plenary	02-08 October 2004	Pallanza, Italy
20th Plenary	09-10 June 2005	Stockholm, Sweden
21st Plenary	15-16 September 2005	Montreal, Canada
22nd Plenary	25-26 May 2006	Orlando, FL, USA
23rd Plenary	14/15 November 2006	Riyadh, Saudi Arabia

ISO/TC211 produces a comprehensive suite of standards and technical specifications, many of which have been used as reference documents for the development of the IHO S-100 standard. Some of the more relevant TC211 documents are listed below:

19101:2002	- Reference model
19103:2005	- Conceptual schema language
19106:2004	- Profiles
19107:2003	- Spatial schema
19108:2002	- Temporal schema
19109:2005	- Rules for application schema
19110:2005	- Methodology for feature cataloguing
19111:2003	- Spatial referencing by coordinates
19115:2003	- Metadata (Parts 1 and 2)
19117:2005	- Portrayal
19118:2005	- Encoding
19119:2005	- Services
19121:2000	- Imagery and gridded data
19135:2005	- Procedures for item registration

4. Conclusion

Within the IHO community, the use of geographic information has, to a large extent become ubiquitous. The ISO/TC211 standards provide an important framework on which the IHO and many similar organizations are building community profiles. This will result in a greater level of interoperability between the data, products and services provided by these organizations.

COOPERATION WITH THE INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

As provided in the 2002-2008 IHO Work Programme, the IHB approached the Chairman of IEC Technical Committee 80 to implement a Memorandum of Agreement between the two organizations. After some progress, it became apparent that the IEC Secretariat felt that the Class A liaison status of the IHO with IEC/TC80 and the accreditation of IEC as an observer to the IHO defined sufficient rights and responsibilities of each organization in their mutual dealings and that a MOA was not warranted. Therefore, the development of a MOA has not been pursued further and it is recommended that this item of the Work Program be deleted.

Cooperation of IHO and IEC on the development of Marine Information Objects (MIO), for use in ECDIS in association with ENCs, has continued through the joint IHO-IEC Harmonizing Group on MIOs. Matters progressed so far by HGMIO include ice coverage, meteorological, water level, current flow, oceanographic, marine environmental protection, and status of aids to navigation. See also CHRIS report to the 17th IHC.

**COOPERATION WITH
THE ANTARCTIC TREATY CONSULTATIVE MEETING (ATCM),
THE COUNCIL OF MANAGERS OF NATIONAL
ANTARCTIC PROGRAMMES (COMNAP) and
THE INTERNATIONAL ASSOCIATION OF ANTARCTICA TOUR OPERATORS (IAATO)**

The IHO cooperates with the Antarctic Treaty System - through participation at the Antarctic Treaty Consultative Meetings (ATCM)- , with the Council of Managers of National Antarctic Programmes (COMNAP) and with the International Association of Antarctica Tour Operators (IAATO). The contacts are mainly through the HCA and the IHB.

ATCM. The IHB Director, (also Chairman of HCA), represented the IHO at the four ATCM held in 2003, 2004, 2005 and 2006, providing on each occasion a report on the status of hydrographic surveys and INT Chart production.

The presentation made by the IHO at the XXVIth ATCM resulted in the adoption of Resolution 3 (2003), that recommended all Consultative Parties with a hydrographic surveying and charting capability in Antarctic waters to encourage their national authorities to :

- a) intensify their efforts to co-ordinate their hydrographic surveying and charting activities through the IHO's Hydrographic Committee on Antarctica;
- b) to support and contribute to the ongoing development of the INT chart scheme for Antarctic waters agreed by the IHO; and
- c) to promote the international nature of their Antarctic activities particularly when seeking national support for hydrographic surveying and charting priorities.

and, which at the same time, recommended the IHO Hydrographic Committee on Antarctica to continue its endeavours to achieve comprehensive, up-to-date coverage of hydrographic charting and chart production through the INT scheme for Antarctic waters.

At the XXVIIth ATCM the IHO recommendations to support the launching of the IBCSO project, the continuous use of multibeam systems during surveys and the augmentation of hydrographic surveys in Antarctica were endorsed.

In 2005 at the XXVIIIth ATCM, the IHO announced the establishment of the Hydrographic Survey Programme Working Group to intensify hydrographic survey activity in Antarctica, an initiative very well received by ATCM representatives.

At the XXIXth ATCM, the IHO report included a statement on the World Hydrography Day and provided details on the priorities for hydrographic surveys for consideration during the International Polar Year. The Meeting acknowledged the increasing demand for hydrographic INT charts and welcomed the procedure established for the collection and rendering of Hydrographic Data and the short-list of High Priority Surveys identified by the HCA. The Meeting invited the IHO to continue efforts to increase the coverage of hydrographic information in Antarctica, especially in main passages and ports, and where there are vulnerable or protected marine areas, and urged greater involvement in the work of the HCA by all Consultative Parties.

COMNAP. Taking advantage of the ATCM and meetings of the HCA, the IHB Director in charge of the Antarctic matters met with the COMNAP Executive Secretary and Chair of the Ship Operations Working Group (SHIPOPS), and discussed ways in which COMNAP could contribute to raise awareness on the importance to improve safety to navigation in Antarctic through the availability of new surveys and the production of nautical charts. COMNAP has considered all HCA initiatives in

this respect and hydrography is part of the agenda of their meeting. COMNAP volunteered to participate as an Observer in the Hydrographic Survey Programme Working Group and has provided IHO with great visibility during discussion held within their body and also in ATCM discussions. In brief, COMNAP is a very good ally in fostering hydrography in the Antarctic.

IAATO. As in the case of COMNAP, the IHB Director in charge of Antarctic matters has taken advantage of ATCM and HCA meetings to meet with the Executive Director of IAATO. During this period, IAATO has participated actively in the IHO HCA Survey Programme WG business contributing and offering support to hydrographic activities. The input from their operators has contributed to improve the INT Chart scheme of the area. IAATO has distributed among its associates the forms “Collection and Rendering of Hydrographic Data”, for application when reporting new data. IAATO’s offer to use ships of opportunity to support hydrographic activity in Antarctic should be emphasized. The relationship with IAATO can be considered excellent and its position is very supportive of IHO activities.

**COOPERATION WITH THE PAN AMERICAN INSTITUTE OF
GEOGRAPHY and HISTORY (PAIGH)**

The IHB, on behalf of the IHO, has maintained contacts with the PAIGH through its Committee on Hydrography. This Committee met twice during the period, in 2003(Chile) and 2005 (Ecuador). An IHB Director attended both events.

In 2003 the IHB gave a presentation on “IHO Strategic Plan, Work Program and Budget” together with a report covering the main aspects of the IHO business. On that occasion it was proposed to increase the participation of IHO MS in the decision process of the Organization; to consider the benefits of belonging to the IHO (to those not yet members); to request PAIGH authorities to raise the level of the body from Working Group to Committee (this new status was later obtained); to participate on call for projects offered by the PAIGH system.

In 2005 the subject highlighted by the IHB was a paper on “Capacity Building, a Challenge for the IHO” and also a complete report on the IHO’s businesses. The main agreements reached at this meeting were: the translation of the Manual on Hydrography (activity finalized and in the printing process), to request IHB to approach Haiti and find out the technical needs required for the development of a hydrographic infrastructure and to work on a project to prepare a practical manual of procedures to improve multibeam data gathering, processing and management. These last activities are in progress.

**COOPERATION WITH THE SOUTH PACIFIC
APPLIED GEO-SCIENCE COMMISSION (SOPAC)**

SOPAC, an intergovernmental organization comprised of States in the Southern Pacific, coordinates numerous geophysical surveys of the region that could yield valuable data for Hydrographic Offices while the data collected by Hydrographic Offices would be of importance to the geophysical scientist. For these reasons, among others, a Memorandum of Understanding between the IHO and SOPAC was signed on 10 November 2004. Since then SOPAC and the South West Pacific Hydrographic Commission have been represented at each other's meetings and they have exchanged information on their respective activities in the region. This exchange of information and open cooperation is essential in overcoming the data paucity in the region.

COOPERATION WITH THE INTERNATIONAL FEDERATION OF SURVEYORS (FIG)

The IHB, on behalf of the IHO, has maintained a very good working relationship with the FIG authorities and mainly with the Chairman of Commission 4 “Hydrography”.

At the beginning of this period the situation was rather complex as the IHO was informed that FIG would withdraw from the joint Technical Assistance and Cooperation Coordination Committee (TACC), but would continue participating actively in the work of the International Advisory Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IAB). FIG’s difficulties to support a more active participation in the Committee were well understood by IHO and the TACC was disbanded, whereas the IAB did not experience any problem and has continued to be very active.

In November 2003 a coordination meeting was held at the IHB with the FIG Commission 4 Chairman and the IHB Director in charge of Capacity Building (CB) matters. This meeting was the start of a new era in FIG/IHO relations, as several initiatives were agreed, such as the desire to sign a Memorandum of Understanding (MOU); an active participation and contribution to the IHO CB efforts, the holding of annual coordination meetings to foster various activities, the confirmation of the strong support to the IAB, were clear demonstrations of this new approach.

The main achievements during this period have been:

- a) The signing of the Memorandum of Understanding, Athens, Greece, May 2004.
- b) FIG’s contribution to Seminars organized by IHOCBC (2005 and 2006).
- c) IHO’s participation in several Working Weeks and Conferences held by FIG (2004, 2005 and 2006), including participation in Working Group 4.2 on “Vertical Reference Surface for Hydrography”.
- d) The joint FIG-IHO-ICA work on the International Advisory Board on Standards of Competence, with annual meetings.
- e) Production and distribution by FIG of a CD containing conference proceedings, papers and reports published by Commission 4.

The MOU has contributed to provide a platform for improving the good relations between FIG and IHO, facilitating the participation in different events organized by both organizations. FIG, and especially Commission 4, constitutes a good partner in all CB initiatives as well as in some technical aspects where dialogue and experience can be shared.

**COOPERATION WITH THE WORLD METEOROLOGICAL
ORGANISATION (WMO)**

The WMO has regularly attended meetings of the IHO Commission on the Promulgation of Radio Navigational Warnings (CPRNW). The CPRNW was represented by Cdr. Godsiff (UKHO), the IMO NAVTEX Coordinator, at the meeting of the Expert Team on Maritime Safety Services of the WMO-IOC Joint Commission for Oceanography and Marine Meteorology (JCOMM).

Following requests from the WMO, the IHO informed Member States in CL 38/2004 dated 21 June 2004 and CL 60/2006 dated 8 September 2006 of ongoing vandalism to the WMO data gathering buoys. IHO Member States were requested to bring this issue to the attention of as wide a maritime audience as possible, in order to prevent further damage / destruction to the buoys, which collect and transmit marine observational data essential to maritime safety, to global climate studies and to other applications of value to the mariners.

The WMO is working with IHO and IMO on the revision of all documents relating to the WWNWS.

COOPERATION ON SPATIAL DATA INFRASTRUCTURE (SDI) ACTIVITIES

The IHO has started considering the development of Spatial Data Infrastructures (SDI) in particular the Marine and Hydrographic SDI components and the way that they can contribute to national, regional and global efforts. There are many issues that need to be considered in developing this infrastructure, which should ensure that spatial data are stored, made available and maintained at the most appropriate level, so that it is possible to combine spatial data from different sources in a consistent way and share them between several users and applications. The effective implementation of an infrastructure for spatial information requires coordination by all those with an interest in the establishment of such infrastructures and the IHO and its Member States have a significant role to play in this regard.

In November 2005 the first seminar on this topic was organized by the IHO and the German Hydrographic Service (BSH) in Rostock, Germany, chaired by Prof. Dr. Peter Ehlers, the Director of BSH. The theme of the Conference was “The role of Hydrographic Services with regard to Geospatial Data and Planning Infrastructure”. Fifty representatives from twenty Hydrographic Offices, international organizations, interested States and private companies participated in the seminar. It was recognized by all the participants that this first seminar had been successful in exchanging views on the development of SDIs at national, regional and global levels and particularly on the marine and hydrographic components. CHRIS has been identified as the appropriate Committee to consider this issue and to advise the Organization. The seminar identified the following specific actions to be undertaken by CHRIS :

- a. Define customer/client needs;
- b. Define core data held by HOs;
- c. Create a framework for SDIs;
- d. Define strategies and mechanisms for implementation of SDI;
- e. Develop a communication plan for both internal and external stakeholders.

Details of the seminar were provided to Member States in Circular Letter 119/2005 dated 30 November 2005.

In February 2007 a workshop was held by the IHO and the Cuban Hydrographic Service in Havana, Cuba, in conjunction with the Vth International Congress GEOMATICA 2007, with the title “Marine/Hydrographic Spatial Data Infrastructure” with emphasis on Latin America and the Caribbean. This was considered as a follow up to the first seminar. It was chaired by Mr. Horst Hecht of the BSH. Approximately 40 persons attended with simultaneous Spanish-English interpretation provided. The workshop proposed :

- a. Reinforcing the need for IHO to move forward on developing a strategy for designing and implementing Marine SDI, including an assessment of associated benefits to society;
- b. IHO Regional Hydrographic Commissions to have “Progress on Maritime SDI Development and Land-Sea Data Integration” as a standing agenda item for their meetings; and
- c. IHB to establish on the IHO website a special page dedicated to Marine SDI developments, including the outcome of regional workshops and seminars on the matter.

Details of the workshop will be held to Member States with Circular Letter 24/2007 dated 21 February 2007.

In March a workshop was organized by the EuroSDR (European Spatial Data Research) in Dublin, Ireland, co-sponsored by the IHO, with the title “Land and Marine Information Integration”.

In order to follow up the international developments with SDIs and with the agreement of Member States, the IHO has been :

- a. Registered under the Spatial Data Interest Communities (SDICs) in the Infrastructure for Spatial Information in Europe (INSPIRE), which is based on infrastructures for spatial information established and operated by the European Union Member States. Hydrography has been recognized as an INSPIRE spatial data theme.
- b. Recognized as a GEO (Group on Earth Observation) Participating Organization, during its meeting in November 2006 in Bonn, Germany.

The IHO is a member of the Joint Board of Geospatial Information Societies (JB GIS), together with the International Association of Geodesy (IAG), the International Cartographic Association (ICA), the International Federation of Surveyors (FIG), the International Mapping Trade Association (IMTA), the International Steering Committee for Global Mapping (ISCGM) and the International Society for Photogrammetry and Remote Sensing (ISPRS). The Board meets once a year in conjunction with a major event of the Members and Member States are informed of developments and discussions.

The Bureau in close co-operation with CHRIS, will monitor developments and keep Member States informed. Comments from the Conference on the way forward that may be considered by CHRIS and the Bureau on this issue would be welcome.

**WORK PROGRAMME 2
DOCUMENTS**

**CAPACITY BUILDING
TECHNICAL CO-OPERATION**

CONF.17/WP.2

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CAPACITY BUILDING AND TECHNICAL COOPERATION

REPORT OF THE IHO CAPACITY BUILDING COMMITTEE (IHO CBC) by the Chairman, Captain Hugo GORZIGLIA, IHB Director

- 1. Chairman:** Captain Hugo GORZIGLIA, IHB Director
- Vice-Chairman:** Captain Mike BARRITT (UK)
- Secretary:** Captain Federico BERMEJO, IHB
- 2. Membership:**
- | | |
|----------------------|-----------------|
| Capt. R. Nairn | Australia |
| Capt. W. Cavalheiro | Brazil |
| Lt. Cdr. A. Enriquez | Chile |
| ICETA. Y. Guillam | France |
| Mr. T. Dehling | Germany |
| Capt. V. Badhwar | India |
| Mr. S. Kato | Japan |
| Mr. J. Kim | Korea (Rep. of) |
| Mr. J. Krastins | Latvia |
| Cdr. M. Gongora | Mexico |
| Mr. Select Mundlovo | Mozambique |
| Mr. John Spittal | New Zealand |
| Mr. Frode Klepsvik | Norway |

3. Meetings

The IHO Capacity Building Committee (IHO CBC) was established in 2003 following a proposal submitted by the IHB (CL 7/2003) and approved by Member States with the outstanding support of over two-thirds positive votes and no negative response, as reported by the IHB (CL 30/2003). To date the Committee has held four meetings:

- CBC1 (Monaco, 11 and 12 September 2003).
- CBC2 (Fiji, 11 and 12 November, 2004).
- CBC3 (Colombia, 01 and 02 June, 2005).
- CBC4 (Mozambique, 07 and 08 June, 2006).

The next meeting of the IHO CBC will be held in Karachi, Pakistan, in June 2007. This venue will facilitate the now established practice of meeting in a region which permits countries in need of capacity building assistance to receive training and to see the work of the IHO CBC in session. In this instance the RSAHC members have requested that a Technical Workshop on cartographic issues be held.

4. Agenda Items

- a) Terms of Reference: Terms of Reference and Rules of Procedure approved by Member States were examined at the first meeting and adopted. The text has been included in the IHO Technical Resolution Repertory (T.R. K2.36).

- b) IHO publication M-2: A group studied this publication and recommended updates, which were further examined and approved by the Committee. A new version of the publication was prepared and was circulated to Member States with CL 62/2004.
- c) Definition of “Capacity Building”: At the first Committee meeting, its members discussed the scope of the term/concept of capacity building and agreed on a definition that was circulated to Member States through CL 70/2003 requesting comments. Only positive comments were received and the Committee adopted the definition of capacity building that had been proposed. (The definition is included in the Annex to this report).
- d) IHO Capacity Building Strategy: The Committee produced a draft IHO CB Strategy document encapsulating philosophy, vision, goals and intended processes, for the IHOCBC’s work. The document was submitted to Member States for endorsement through CL 88/2004. As there were no objections, the strategy entered in force on 01 March 2005. At the last meeting in 2006, it was agreed to establish an ad hoc Correspondence WG to review the CBC Strategy Paper and check the CBC documents placed on the IHO web site, in order to improve communications with the external world, and to ingest the lessons identified over the last two years.
- e) CB Management Plan: The establishment of a Management Plan that would include all the requirements, projects and initiatives identified by the RHCs was considered vital for the work of the Committee. The first issue of the Plan emerged from the second meeting of the IHOCBC and was circulated with CL 88/2004. The latest version, arising from the decisions of the 4th IHOCBC meeting was circulated with CL 58/2006.
- f) CB Work Program: The Committee prepared and agreed on the Capacity Building Work Programme for the years 2005, 2006 and 2007, based on S-55 information, the assessments made by the international technical teams appointed by the RHCs and other sources. Each year these programmes are included in the IHO General Work Program and approved by IHO Member States.
- g) Capacity Building Fund: The Committee tasked its Chairman to establish an IHO Capacity Building Fund. A proposal was prepared by the Chairman and submitted to Member States through CL 87/2004. The proposal received strong support (over two-thirds positive votes) and the fund was established, details of which are included as A.R R6.1 in the repertory of IHO Administrative Resolutions. These detailed regulations have facilitated the allocation of additional resources from Member States in support of CB activities through direct contribution to the CB Fund, complementing the substantial direct contribution that they make to support each identified activity in the CB Work Program.
- h) RHC submissions: The Committee developed a presentation format for all Capacity Building requests submitted by RHCs to the Committee, aimed at standardizing the submissions as well as facilitating the evaluation and selection procedure.
- i) CBC WP 2008-2012: The Committee requested all RHC’s to communicate their most urgent capacity building needs in order to have them included in the 2008-2012 CB Program, a sub set of the IHO WP. At the time of writing this report, this activity is still in progress, awaiting information.
- j) Guidelines for Assessment Criteria: a document called “Guidelines for Assessment Criteria” was prepared by the Committee to provide a process for the identification of appropriate capability during technical assessment visits and the subsequent stages of analysis within the RHCs and the IHOCBC. It was reviewed and endorsed at the last meeting. This document is an annex to the CB Strategy.

- k) S-55: As reported in CL 23/2003, with assistance from UKHO (Captain M Barritt), S-55 “Status of Hydrographic Surveying and Nautical Charting Worldwide” has been revised and promulgated in an on-line version on the IHO Web site. CL 35/2004 drew attention to the new format and the importance of regular updating, and according to its ToR, the CBC will support this effort by requiring feedback from the RHCs’ permanent agenda item. Specifically, RHC Chairmen are asked to encourage the provision of missing data and to highlight areas of major concern and proposed remedial actions.
- l) IHO Structure: the CBC Chairman was requested by the SPWG to study and propose a new IHO Committee to be called “Inter Regional Co-ordination Committee (IRCC)”. This was done and the final report was submitted to the SPWG on 19 July 2006. The IHOCBC has also considered the process of performance review, and has forwarded its conclusions to the SPWG on the development of an IHO Balanced Score Card, with Performance Indicators for subordinate bodies.

The CBC has received guidance on the way the academic and industrial sectors could contribute to IHO CB efforts. Their views have been very useful developing the CB strategy. Within the RHC, efforts are being made to build closer relationships with major donor agencies and regional maritime organisations.

The Committee has taken note of the United Nations Resolutions (A/RES/57/141; A/RES/58/240; A/RES/59/24; A/RES/60/30) that recognize the work of the IHO and encourage intensified efforts to build capacity for developing countries, in particular for the least developed countries and small island developing States, as well as coastal African States, to improve hydrographic services and the production of nautical charts.

The IMO has been briefed on IHO CB efforts through briefs to NAV and MSC. The IMO Regional Coordinator for Southern and Eastern Africa joined the SAIHC Technical Team for advisory visits in his region, and his participation greatly facilitated access and impact. The IHOCBC will continue to pursue the closest possible teamwork with IMO.

The intensified efforts of the IHO in the field of CB are evident in the following activities that have been carried out at the time this report was prepared:

- **Technical Visits:**

Technical Visits have been paid to the following 52 countries: Anguilla(*), Antigua and Barbuda, Bahamas, Barbados, Benin, Belize, British Virgin Islands(*), Brunei Darussalam, Cameroon, Cap Verde, Cayman Is (*), DR of Congo, Dominica, Dominican Republic, El Salvador, Estonia, Gabon, Gambia, Ghana, Grenada, Guatemala, Guinea, Guinea Bissau, Guinea Equatorial, Honduras, Jamaica, Kenya, Latvia, Lithuania, Madagascar, Malawi, Mauritania, Mauritius, Montserrat(*), Panama, Namibia, Nicaragua, Nigeria, R of Congo, St Lucia, St Kitts & Nevis, St. Vincent & Grenadines, Senegal, Seychelles, Sierra Leone, Tanzania, Thailand, Togo, Trinidad & Tobago, Turks & Caicos(*), Uganda and Vietnam.

Note: (*) Corresponds to British Overseas Territories.

- **Technical Workshops:**

The first Technical Workshop, on MSI and GMDSS was held following the analysis of the reports of the technical visits made to countries in the Eastern Atlantic Hydrographic Commission (EAHC). This was held in conjunction with the 2004 EAHC Conference, in Brest, France.

Thereafter, in conjunction with the CBC meetings, Technical Workshops on the establishment of the first phase of hydrographic capacity were held to address representatives of the countries of the South West Pacific Hydrographic Commission (SWPHC 2004), of the Meso American and Caribbean Hydrographic Commission (MACHC 2005), and of the Southern Africa and Islands Hydrographic Commission (SAIHC 2006).

- **Technical Seminars:**

A Seminar was held in 2005 at the IMA, in Trieste, Italy, for the countries of the EAAtHC, with the objective of raising awareness at governmental level of the importance of hydrography to safety of navigation and national economic development, and to explore initiatives of common regional interest.

A similar Seminar was held in Acapulco, Mexico in October 2006.

- **Courses:**

Courses have been mainly based on the IMA capabilities. Unfortunately due to a reorganization process in the IMA, only a two courses have been held since the establishment of the CBC, but this situation should change very soon.

Other courses, partially funded by the CB Fund, have been multi-beam courses benefiting 10 students, one from each country: Chile, China, Ecuador, Malaysia, Oman, Pakistan, Philippines, Rep. of Korea, Thailand and Uruguay.

An experimental Practical Basis Hydrographic Course should commence in late August 2006 in Nicaragua for countries in the region. The Course is partially supported by the CB Fund, as is a Seminar on Electronic Charts for countries in the SEPHC region that will also be held in late August 2006.

5. Conclusions

- 5.1 The establishment of the IHOCBC has proved to be an excellent decision as real progress has been made in various domains (S-55, situational awareness, training, etc.) in only a couple of years. CBC Members have worked hard to set down principles and procedures with a strong “team work” approach.
- 5.2 The CBC is an effective and efficient IHO body governed by appropriate ToR and RoP that have avoided bureaucracy and facilitated the IHO decision making process.
- 5.3 The establishment of the IHO CB Fund has also been an excellent idea, as limited but very important activities have been undertaken, providing opportunities to raise the awareness on the importance of hydrography and its great influence on socio-economic development.
- 5.4 The success and effectiveness of the IHO CB effort depend on several factors, but the most important ones are in the hands of the RHCs. RHCs should do their best to identify and determine the priorities amongst their regional needs.
- 5.5 The new version of the publication S-55, in its digital format, is an excellent tool for, amongst other thing, the identification of capacity building needs. Every effort must be made to keep it updated.

5.6 If the importance of hydrography now has a higher profile in developing countries, it is also because the CBC has clearly drawn the attention of national policy and decision makers to the obligations of hydrographic services as stated in SOLAS/Chap V. This effort and the majority of the activities described in this report have been supported by an important contribution and involvement of volunteering countries.

6. Proposals for adoption by the XVIIth I.H. Conference

6.1. It is proposed that the Conference adopts this Report of the IHO Capacity Building Committee.

6.2. It is proposed that the Conference:

- a) Invite IHO Member States to take advantage of the opportunity the IHO structure/system in place offers to support their capacity building needs, and to consider channelling those needs through the RHCs.
 - b) Requests RHC Chairmen to keep the CBC permanently informed of regional capacity building needs as well as of the opportunities that can be offered to other regions.
 - c) Invites IHO Member States to note the usefulness of the CBC Performance Measurement Process and to consider whether similar measures should be adopted for other subsidiary and subordinate bodies of the IHO.
-

DEFINITION OF CAPACITY BUILDING

With respect to the IHO, “capacity building” is defined as the process by which the organization assesses and assists in sustainable development and improvement of the States, to meet the objectives of the IHO and the hydrography, cartography and maritime safety obligations and recommendations described in UNCLOS, SOLAS V and other international instruments.

REPORT ON IHO TECHNICAL COOPERATION, TECHNICAL VISITS, SEMINARS AND WORKSHOPS

Note: This Report covers the period September 2002 to December 2006.

1. Technical Cooperation

Technical cooperation is provided in the form of « advice » facilitating the development of projects and identifying capacity building requirements. During the period, the IHO has had a certain level of participation in the following projects:

Central American Hydrographic Project

The Central American Commission for Maritime Transport (COCATRAM) and the IHO prepared a joint project in 2001 aimed at developing the hydrographic capability of the Central American region. Later the International Maritime Academy (IMA) joined COCATRAM and IHO as the third project partner, proposing to submit the project to the European Commission, seeking funding for training and the provision of basic hydrographic equipment. Unfortunately the project was not approved for funding by the EC.

In 2003, the IHB participated in a meeting of the Vice-Ministers of Transportation of the 6 Central American countries in Santo Domingo, Dominican Republic, with a view to re-structuring the project, but to date no further progress has been made in this item, probably due to the commencement of the “Gulf of Honduras” project (see below).

Malacca and Singapore Straits Marine Electronic Highway Project

This is a project of the Global Environment Facility (GEF), implemented by the World Bank (WB), and has an overall objective to develop and establish a marine electronic highway system for enhanced maritime services, improved navigational safety, integrated marine environment protection and sustainable development of the coastal and marine resources. The IHB participates actively in the discussions and meetings of the Project Steering Committee providing technical guidance and support for the planning of the survey and the production of the ENCs, the systems needed in the field and the Standards that must be used.

MEDA project – MEDCHARTNET

The MEDA Project is a Technical Cooperation project developed by the IMO, IHO and IMA, which was approved and funded by the European Commission to develop hydrography in countries in the Southern Mediterranean. The countries which have received training and equipment under this project are: Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Palestinian Authority, Syria, Tunisia and Turkey.

The First phase of the MEDA Project was completed in early 2002 and a second phase of the project, MEDChartNet, aimed at developing the cartographic capability of the countries involved, is now in progress under the EUMEDIS projects.

Lake Victoria Project

This project, that began after the 1996 sinking of the passenger vessel MV BUKOBA resulting in the loss of 600 passengers, has progressed slowly. The French Ministry of Foreign Affairs and the IMO have funded the development of implementation plans for Hydrographic, Cartographic, Aids to Navigation and Search and Rescue Projects along with the drafting of framework legislation that would enable a sustainable program for Safety of Navigation on Lake Victoria. To date, little

progress has been made with these initiatives, despite a high level workshop held in Arusha, Tanzania, in October 2005, on the implementation of this project.

Development of Hydrography and Aids to Navigation in the Black Sea

A working group was formed in 1998 with the aim of improving the situation of hydrography and aids to navigation in the Black Sea, with the participation of Bulgaria, Romania, Ukraine, Russia, Georgia and Turkey. The Group also included representatives from Greece, the IHB, IALA and IMA, under the Chairmanship of Turkey. In 2002, IMA submitted the project to the European Commission in order to obtain a first agreement on the draft, but the funding has not yet been agreed and additional information has been sent, in order to pursue the efforts to obtain funding. The latest meeting of the WG was held in April 2004.

West Indian Ocean Marine Highway Project

This is a project that has followed the model developed for the Straits of Malacca and Singapore, that is to say a GEF-supported project to be implemented by the World Bank (WB). The specific objectives of the project are: to ascertain the economic, technical, and institutional feasibility of introducing precision navigation systems in the region; to support capacity for port state control at major ports of the region and to reduce risks of environmental damage to beaches, fishing grounds, and other domestic resources from oil and chemical spills. The project will include Kenya, Mozambique, South Africa, Tanzania, Madagascar, Comoros, Mauritius and Seychelles, and as a partner La Réunion (France). It has been proposed that the project should be implemented in partnership with multilateral organizations, with industry groups representing both the shipping and oil industries, and with donors.

The IHO has participated in some coordination meetings but no IHO involvement has taken place since late 2005.

Gulf of Honduras

This project proposal for the environmental management of the Gulf of Honduras (GOH), “Environmental Protection and Maritime Transport Pollution Control in the Gulf of Honduras,” is primarily focused on the demonstration of new and mixed technologies to address some of the major environmental problems and issues of the Gulf. One of the components of the projects is : *(iii) Enhancing navigational safety in shipping lanes.*

Aware of this initiative, the Capacity Building Committee agreed to support the “Gulf of Honduras” project and a series of technical visits to the countries participating in the project, namely Belize, Guatemala and Honduras were scheduled, including COCATRAM at its headquarters in Nicaragua. The project is now being progressed under the administration of COCATRAM.

2. Technical Visits

Technical visits are considered important to assess hydrographic surveying, nautical charting and nautical information status; to provide guidelines for the development of local hydrographic capabilities and/or to discuss and advise on technical matters pertaining to hydrographic projects. Furthermore, Technical Visits are important tools for raising hydrographic awareness at high governmental level in countries where hydrographic development is just starting or where are projects in that direction.

The immediate objective is to raise awareness at governmental level on the importance of hydrography regarding safety to navigation and its contribution to the national economic development, while a medium-term objective is to establish a core group of trained people to deliver

the output required in phase 1, to coordinate the production and management of a prioritised national survey plan, to oversee subsequent field-work and where appropriate, to conduct parts of that field-work. The long term objective is to establish an appropriate national agency with responsibilities in hydrographic matters, properly funded and with regulatory support.

2002:

- a) The EAtHC established, with the support of several Hydrographic Offices, a team of experts known as the West African Action Team (WAAT). WAAT paid its first visit to the following countries: Gabon, Nigeria, Ghana, Mauritania, Senegal, Cap Verde, Guinea and Sierra Leone.

2003:

- a) Continuing with its program, the EAtHC organized, again with the support of several Hydrographic Offices, the second and third visits of WAAT, to the following countries: Democratic Republic of Congo, Republic of Congo, Equatorial Guinea, Benin, Togo, Senegal and Gambia.
- b) The IHB paid a special visit to the Dominican Republic.

2004:

- a) During this year the EAtHC concluded the WAAT visits with the following countries: Cameroon, Senegal (second time) and Guinea Bissau.
- b) The IHB visited Vietnam, Thailand and Brunei Darussalam.

2005:

- a) The IHB visited Guatemala, Honduras, Nicaragua, El Salvador and Panama.
- b) Within the MACHC, a special technical visit was paid to countries involved in the Gulf of Honduras project: Guatemala and Honduras (Belize was postponed to 2006).

2006:

- a) As a follow-up of the WAAT, the EAtHC organized visits to Benin, Cameroon and Togo, which were made by SHOM, whilst the UK visited Ghana, Gambia, Nigeria and Sierra Leone.
- b) Within the SAIHC, 4 different missions were organized, covering the following countries: Kenya, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Tanzania and Uganda.
- c) Within the MACHC, 3 different missions were organized covering the following countries: Belize, Antigua, Montserrat(*), Anguilla(*), Bahamas, Turks & Caicos(*), Cayman Is., Jamaica, Trinidad & Tobago, Barbados, Grenada, St. Vincent & Grenadines, St Lucia, St Kitts & Nevis and Dominica.

(* Corresponds to British Overseas Territories.

- d) The IHB visited Estonia, Latvia and Lithuania.

3. Seminars

These events have been held as a follow-up to the technical visits, aimed at briefing national/governmental key persons that might be given the responsibility for running any hydrographic development project, the understanding of the importance of hydrography to safety of navigation and national economic development, and to explore initiatives of common regional interest. So far two Seminars have been held:

- a) EAtHC Seminar: in 2005, taking advantage of the facilities of the International Maritime Academy in Trieste, Italy, the Seminar was held on its premises. The 6 participants were from Central and Western African countries with no national hydrographic infrastructure yet in place to comply with the obligations set by SOLAS V. A strong contribution was received from various IHO Member States supported the Seminar commissioning experts.
- b) MACHC Seminar: In 2006, and thanks to the kind offer from Mexico, this Seminar was held at the Naval facilities in Acapulco. The seminar followed almost the same pattern as the one of the previous year and was attended by over 10 representatives from different developing countries of the region that still do not have a national hydrographic infrastructure to comply with the obligations set by SOLAS V. As in the past, IHO Member States made an important contribution to the event, providing experts and an exchange of experiences for the audience.

4. Workshops

The analysis of the data gathered when preparing the third edition of S-55 indicates that assistance is needed to establish the first phase of hydrographic capability and enable governments to discharge their obligations under SOLAS Chapter V Regulation 9 for the timely collection and promulgation of navigational safety information for their waters.

The Workshops have been held back to back with other events, either a RHC meeting or a CBC meeting, in order to facilitate attendance and the participation of a wide spectrum of experts from various countries.

2004:

- a) The first Technical Workshop on MSI and GMDSS, was held following the analysis of the reports of the technical visits made to countries in the Eastern Atlantic Hydrographic Commission (EAtHC). This was held in conjunction with the 2004 EAtHC Conference, in Brest, France, with the participation of 40 National representatives from 17 countries.
- b) A second Workshop took place in conjunction with the CBC meetings, addressing 24 national representatives from 12 countries of the South West Pacific Hydrographic Commission.

2005:

The third Workshop was also organized in conjunction with a CBC Meeting, in the Meso American and Caribbean Hydrographic Commission.

34 Participants were present at the Workshop, from 14 countries.

2006:

The last event was organized on the occasion of another CBC meeting, this time in the Southern Africa and Islands Hydrographic Commission. 36 participants from 17 countries were present at the Workshop.

Annexes:

“A” Standard Model of the content of Seminars.

“B” Standard Model of the content of Technical Workshops.

STANDARD MODEL OF THE CONTENT OF TECHNICAL SEMINARS***Content*****Unit 1: Introduction to the Seminar**

- a) Objective of the Seminar
- b) General concepts of Hydrography
- c) Safety of Navigation and Protection of Marine Environment
- d) Other Areas of application of Hydrography
- e) The international Hydrographic scene
- f) Main international organizations involved: IHO, IMO, IALA, IOC
- g) States' general responsibilities – SOLAS V/Regulation 9

Unit 2: Generalities associated to Hydrography

- a) Objective and specifications of hydrographic surveys
- b) Phases of a Hydrographic Survey
- c) Instrumentation and methodologies used
- d) Data processing
- e) Hydrographic and cartographic products and services
- f) Nautical Publications
- g) Importance of update
- h) Technological developments

Unit 3: The National Hydrographic Office

- a) Responsibilities of a National Hydrographic Office
 - a. National Hydrographic Authority
 - b. Provision of Hydro-Cartographic products and services
 - c. Others, such as NAVAREAS, GMDSS
 - d. Legal aspects. Liability of the hydrographer.
 - e. International representation
- b) Organization of a typical Hydrographic Office (Infrastructure)
 - a. Legal framework
 - b. Basic organization
 - c. Components
 - d. Communications
- c) Technology
 - a. Basic in house or out sourced capabilities
 - b. Relation with industry and private sector
 - c. Importing new technologies
 - d. Bilateral agreements and associated royalties
- d) Budget Considerations
 - a. Basic costs
 - b. Operational costs
 - c. Development costs
 - d. Income
 - e. Recovery of costs / self sustainability

- e) Personnel
 - a. Basic Staff
 - b. Training
 - c. Project based administration

Unit 4: Application of Hydro-Cartographic products and services

- a) Shipping
- b) Defense
- c) Maritime delimitation
- d) Environmental protection
- e) Natural hazard mitigation
- f) Fisheries and Aquaculture
- g) Tourism
- h) Coastal Zone Management
- i) Non-Living resources
- j) Marine scientific research

Unit 5: Economic benefits associated with Hydro-Cartographic products and Services

Unit 6: The National Hydrographic Committee

- a) Objective
- b) Responsibilities
- c) Composition
- d) Secretariat
- e) National Focal Point
- f) Minimum structural hydrographic organization and possible stages of subsequent development.

Unit 7: Regional Situation and Opportunities

- a) Status of Hydrography in the region
- b) Evaluation of projects in execution
- c) Discussion of new projects

Unit 8: Development of the basis for a Regional Project

STANDARD MODEL OF THE CONTENT OF TECHNICAL WORKSHOPS

Content

1. Importance of Hydrography.
 2. IHO Capacity Building Strategy. The 3 Stages of Development of Hydrographic Capacities.
 3. Maritime Safety Information (MSI). Global Maritime Distress and Safety Systems (GMDSS).
 4. S-55 “Status of Hydrographic Surveying and Nautical Charting Worldwide”. Objective – Content – Analysis - Use & Update.
 5. The Importance of Accurate Nautical Information. Liabilities.
 6. National Presentations. Status of Hydrographic Surveys, Nautical Charting and MSI/GMDSS.
 7. Discussion panel.
 8. Conclusions.
-

**WORK PROGRAMME 3
DOCUMENTS**

TECHNIQUES AND STANDARDS SUPPORT

CONF.17/WP.3

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TECHNIQUES AND STANDARDS SUPPORT

REPORT OF THE WORLDWIDE ELECTRONIC NAVIGATIONAL CHART DATA BASE (WEND) COMMITTEE by the Chairman, Captain Abri KAMPFER, South Africa

- 1. Chairman:**
- | | | |
|--|--------------------------------------|---------------------|
| | Captain A. KAMPFER (South Africa) | (since June 06) |
| | Captain R.L. PARSONS (USA) | (July 04 - May 06) |
| | Rear Admiral K.R. SRINIVASAN (India) | (Jan. 03 - June 04) |
| | Dr. P. EHLERS (Germany) | (until Dec. 02) |
- Vice-Chairman:**
- | | | |
|--|--------------------------------------|--------------------|
| | Captain S. BARNUM (USA) | (since June 06) |
| | Captain A. KAMPFER (South Africa) | (Jan. 03 - May 06) |
| | Rear Admiral K.R. SRINIVASAN (India) | (until Dec. 02) |
- Secretary:**
- | | | |
|--|----------------------------|------------------|
| | Ing. en chef M. HUET (IHB) | (since Sept. 02) |
| | Rear Admiral N. GUY (IHB) | (until Aug. 02) |
- 2. Membership:** **IHO Member States**
Algeria, Argentina, Australia, Brazil, Canada, Chile, China, Cuba, Estonia, Finland, France, Germany, Greece, India, Indonesia, Italy, Japan, Korea (Rep. of), Malaysia, Mexico, Netherlands, New Zealand, Norway, Oman, Peru, Portugal, Russian Federation, Singapore, South Africa, Spain, Sweden, Thailand, Ukraine, UK, USA, Venezuela.
- Observers:**
- | | | |
|--|--|--------|
| | Comité International Radio Maritime | CIRM |
| | International Centre for ENC's | IC-ENC |
| | International Council of Cruise Lines | ICCL |
| | Intergovernmental Oceanographic Commission | IOC |
| | Open ECDIS Forum | OEF |
| | PRIMAR – Stavanger | PRIMAR |
| | Radio Technical Commission for Aeronautical Services | RTCA |
- 3. Meetings**

The Committee has met four times since the XVIth IHC

7 th Meeting	Lima	Peru	15-16 May 2003
8 th Meeting	Tokyo	Japan	5-6 March 2004
9 th Meeting	IHB	Monaco	7-8 April 2005
10 th Meeting	IHB	Monaco	11 and 14 September 2006

4. General

Discussions at WEND meetings focused on ways to increase ENC coverage and availability, and on mechanisms for efficient ENC distribution and use. Key outcomes of WEND have been:

- A study on ENC coverage in 2002-03, based on information provided by IHO Member States, which led to the development of a worldwide ENC coverage catalogue on the IHO website, soon to be upgraded to an “IHO Online Chart Catalogue”, following a request by IMO.
- The setting up in 2003 of a WEND Task Group to promote worldwide ENC coverage and updating, uniform data quality, and user-friendly and integrated ENC services.
- A major revision of the IHO WEND Principles in 2004, that placed greater emphasis on more concrete actions towards attaining sufficient coverage, efficient distribution and common-sense pricing and licensing.

5. WEND Task Group

The WEND TG, chaired by Mr. Horst HECHT (Germany), works primarily by correspondence and through participation of its members in RHC meetings. Details of meetings and membership are contained in Annex A to this report. Issues addressed by the WEND TG included:

- Development of a standard presentation on TG goals, intended for presentation at meetings of RHCs.
- Seeking RHCs’ support to increase ENC coverage and quality.
- Definition of a strategy for ENC production.
- Preparation of schemas for small-scale ENC production, in liaison with RHCs.
- Assistance with ENC production.
- Revision of the WEND Principles (see paragraph 4), including definition of an integrated ENC service.
- Proposal for the IHO Work Programme 2008-2012.

The WEND TG is tasked to develop a study to identify the main shipping routes for all SOLAS vessels (including HSC) and to determine where gaps in ENC coverage exist for all navigational purposes (scale ranges), and continues its work to stimulate cooperation within RHCs and monitor ENC development.

6. Important Issues Considered

In addition to the activities referred to in paragraphs 4 and 5, many issues related to the development, production and distribution of ENCs were considered. These included the following:

- ENC production assistance and Quality Management System implementation (see WEND page on the IHO website).
- Guidelines for the establishment of ENC production boundaries (now annexed to the WEND Principles).

- New definition for Regional ENC Centres (RENC – now included in the IHO Dictionary S-32).
- High level paper stressing the benefits of using ENC/ECDIS, targeted to high level government officials, for use by HOs as necessary (see WEND page on the IHO website).
- IMO MSC Circular 1179 on deficiencies in surveying and nautical charting worldwide and their impact on safety of navigation and protection of the marine environment (see IHO website > INT Organizations > IMO).
- Possibility for NGOs to participate as observers in WEND meetings (now reflected in WEND Terms of Reference).
- ENC Production Guidance, published as IHO S-65.

7. Interaction with other Organizations and Groups

The main IHO Committee with which the WEND Committee interacts is CHRIS. It is important that the technical issues addressed by both committees are harmonised and this has occurred particularly on the following issues:

- Guidance for the submission of reports and proposals for consideration by WEND.
- Recommended changes to ECDIS type-approval testing.
- Improved ENC consistency.
- Principles and procedures for making changes to IHO standards.
- IHO information paper on S-57 Ed. 4 / S-100.
- Impact of S-101 (future ENC Product Specification) on all ECDIS stakeholders.
- Use of the IHO Data Protection Scheme S-63.
- Use of the Open ECDIS Forum (OEF).
- Communication with IMO regarding the need to develop a mechanism to deal with software changes to ECDIS.

WEND received reports from RHCs on ENC scheming, production and availability, for consideration at meetings. Contribution of RHCs is essential to achieve global ENC coverage.

WEND cooperated with the existing two RENCs: IC-ENC and Primar-Stavanger. They have observer status at WEND meetings and their collaboration is most useful in seeking efficient ENC distribution services and building ENC catalogues.

Finally, holding the 2006 WEND meeting coincident with an ECDIS Stakeholders' Forum, provided WEND members with a golden opportunity to extensively discuss ENC availability and distribution with ECDIS software/hardware manufacturers, Maritime Safety Administrations, shipping lines and NGOs.

8. Major Outstanding Issues

Inadequate ENC coverage provides strong disincentives for the mariner to adopt navigation with ECDIS, opting instead for navigation on paper charts using Electronic Charting Systems (ECS) for situational awareness. Further, in December 2006 MSC adopted revisions to the High Speed Craft Codes, making the carriage of ECDIS compulsory for new built craft from 1 July 2008 and for existing craft from 1 July 2010. Hydrographic Offices, the IHO and IMO therefore need to redouble their efforts in achieving adequate coverage of ENCs in support of international shipping.

ENC pricing can also be an issue, as the cost of maintaining an ENC portfolio for a long haul international ship may be regarded as too high. Innovative solutions for reducing the total cost of ENCs to the mariner will have to be sought, as well as harmonization of the various means of ENC distribution.

Finally, the IHO's efforts towards resolving inconsistencies between adjoining ENC cells, disconcerting to the mariner, will need to be pursued.

9. Proposals for adoption by the 17th I.H. Conference

The 17th IH Conference is invited to:

Approve this Report.

Approve the ongoing existence of WEND under the Terms of Reference shown at Annex B, and following the WEND Principles (also IHO T.R. K2.19) shown at Annex C.

ANNEX A**WEND TASK GROUP (TG)**

- 1. Chairman:** Mr. Horst HECHT (Germany)
 - Secretary:** Mr. Peter WRIGHT (UK) (2003-2005)
Mr. Richard CARPENTER (UK) (since 2005)
 - 2. Membership:** UK (also representing IC-ENC), France (also representing Primar-Stavanger), IHB.
 - 3. Meetings**

Hamburg, Germany	3 July 2003
IHB, Monaco	11 September 2003
IHB, Monaco	3 December 2003
Hamburg, Germany	8-9 December 2004
Paris, France	13 January 2006
-

WORLD-WIDE ELECTRONIC NAVIGATIONAL CHART DATABASE (WEND)
Terms of Reference

Objective:

To promote the establishment of a World-wide Electronic Navigational Chart Database (WEND) suitable for the needs of international shipping.

1. Terms of Reference

- 1.1 To provide a forum for the coordination of the activities of Member States in achieving the objective.
- 1.2 To harmonize the policies of regional ENC Coordinating Centres (RENC) with respect to matters related to administration, legality, finances, technical processes, etc.
- 1.3 To take account of the Terms of Reference of, and consult with, other IHO bodies as appropriate, particularly CHRIS.
- 1.4 To report to Member States annually through Circular Letter and make a report to the ordinary sessions of the International Hydrographic Conference.

2. Rules of Procedure

- 2.1 The Committee is composed of representatives duly authorized by Member States and an IHB Director will attend WEND Meetings.
 - 2.2 The Committee may invite accredited international NGOs and professional associations to participate as observers to Committee meetings.
 - 2.3 Meetings shall be held once a year. The venue and date will be announced at least three months in advance.
 - 2.4 The Committee Members will elect the Chairman and the Vice-Chairman of the Committee at its first meeting following each ordinary session of the International Hydrographic Conference.
 - 2.5 Recommendations of the Committee will be submitted to the IHO Member States for adoption through the Directing Committee.
 - 2.6 The IHB will serve as the Secretariat for the WEND Committee.
-

WEND PRINCIPLES

K 2.19 PRINCIPLES OF THE WORLDWIDE ELECTRONIC NAVIGATIONAL CHART DATABASE (WEND)

The purpose of WEND is to ensure a world-wide consistent level of high-quality, updated official ENC's through integrated services that support chart carriage requirements of SOLAS Chapter V, and the requirements of the IMO Performance Standards for ECDIS.

1. Service Provision

- 1.1 Member States will strive to ensure that, mariners, anywhere in the world, can obtain fully updated ENC's for all shipping routes and ports across the world.
- 1.2 Member States will strive to ensure that their ENC data are available to users through integrated services¹, each accessible to any ECDIS user (i.e., providing data in S-57 form), in addition to any national distribution or system-specific SENC delivery.
- 1.3 Member States are encouraged to distribute their ENC's through a RENC² in order to share in common experience and reduce expenditure, and to ensure the greatest possible standardization, consistency, reliability and availability of ENC's.
- 1.4 Member States should strive for harmonization between RENC's in respect of data standards and service practices in order to ensure the provision of integrated ENC services to users.
- 1.5 Methods to be adopted should ensure that data bear a stamp or seal of approval of the issuing HO.
- 1.6 When an encryption mechanism is employed to protect data, a failure of contractual obligations by the user should not result in a complete termination of the service. This is to assure that the safety of the vessel is not compromised.
- 1.7 In order to promote the use of ENC's in ECDIS, Member States are to strive for the greatest possible user-friendliness of their services, and facilitate integrated services to the mariner.

2. Rights and Responsibilities

- 2.1 SOLAS Chapter V, Regulation 9, requires Contracting Governments to ensure that hydrographic data are available in a suitable manner in order to satisfy the needs of safe navigation. Once the carriage of ECDIS becomes mandatory, there will be a consequential requirement to ensure that such data, as agreed by IMO, are available in a form suitable for use in ECDIS.

¹ *Integrated services are a variety of end-user services where each service is selling all its ENC data, regardless of source, to the end user within a single service proposition embracing format, data protection scheme and updating mechanism, packaged in a single exchange set.*

² *RENC's are organisational entities where IHO members have established co-operation with each other to guarantee a world-wide consistent level of high quality data, and for bringing about co-ordinated services with official ENC's and updates to them.*

- 2.2 It is expected that Member States, for waters of national jurisdiction, will have mature supply systems for ENC's and their subsequent updating in place by the earliest date for mandatory carriage of ECDIS.
- 2.3 By the dates established by IMO³, Member States will strive to either:
- Provide the necessary ENC coverage, or
 - Agree with other States to produce the necessary ENC coverage on their behalf.
- IHO will address overall coverage on a regional basis through Regional Hydrographic Commissions.
- 2.4 The INT chart system is a useful basis for initial area selection for producing ENC's.
- 2.5 Member States are encouraged to work together on data capture and data management.
- 2.6 Responsibilities for providing digital data outside areas of national jurisdictions must be established (see guidance in Annex).
- 2.7 Technically and economically effective solutions for updating are to be established conforming to the relevant IHO standards. The updating of ENC's should be at least as frequent as that provided by the nation for correction of paper charting.
- 2.8 The Member State responsible for originating the data is also responsible for its validation in terms of content, conformance to standards and consistency across cell boundaries.
- 2.9 A Member State responsible for any subsequent integration of a country's data into a wider service is responsible for validating the results of that integration.
- 2.10 National HOs providing source data are responsible for advising the issuing HO of update information in a timely manner.
- 2.11 Member States should work together so that the IHO Data Protection Scheme (S-63) is used for ENC distribution to end users, to ensure data integrity, to safeguard national copyright in ENC data, to protect the mariner from falsified products, and to ensure traceability.
- 2.12 In producing ENC's, Member States are to take due account of the rights of the owners of source data and if paper chart coverage has been published by another Member State, the rights of that State.
- 2.13 Member States should recognize their potential exposure to legal liability for ENC's.

3. Standards and Quality Management

- 3.1 A Quality Management System should be considered to assure high quality of ENC services. When implemented, this should be certified by a relevant body as conforming to a suitable recognised standard; typically this will be ISO 9001:2000.
- 3.2 There must be conformance with all relevant IHO and IMO standards.

³ *The IMO Maritime Safety Committee, at its 82nd Session (MSC 82), adopted revisions to the High Speed Craft Codes, making the carriage of ECDIS compulsory for new build craft from 1 July 2008 and for existing craft from 1 July 2010. Also, as directed by MSC 81, the IMO Sub-Committee on Safety of Navigation is considering possible mandatory carriage requirements for other types of ships.*

4. Assistance and Training

- 4.1 Member States' HOs are strongly recommended to provide, upon request, training and advice to HOs that require it to develop their own national ENC provision.
-

GUIDANCE FOR THE ESTABLISHMENT OF ENC PRODUCTION BOUNDARIES

- a ENC duplication should be avoided. A single ENC producing country should exist in any given area.
 - b A country is normally the ENC producing country for waters within its national jurisdiction.
 - c Responsibility for the production of ENC can be delegated in whole or in part by a country to another country, which then becomes the producing country in the considered area.
 - d When the limits of waters of national jurisdiction between two neighbouring countries are not established, or it is more convenient to establish boundaries other than established national boundaries, producing countries are to define the boundaries for ENC production within a technical arrangement. These limits would be for cartographic convenience only and shall not be construed as having any significance or status regarding political or other jurisdictional boundaries.
 - e In international waters, the INT chart producer nation shall be assumed to be the producer of the corresponding ENC. Where the offshore limits of waters under national jurisdiction have not yet been established, clause 'd' should apply.
 - f In areas where the paper INT charts overlap, neighbouring producer nations should agree a common limit of ENC production in the overlapping areas. Cartographic boundaries should be as simple as possible; for example: a succession of straight segments and turning points corresponding to such things as meridians, parallels, or chart limits. Where different producer nations are responsible for INT coverage of the same area at different scales, those nations should agree on a suitable set of boundaries so as to provide the user with the most coherent service possible.
 - g In areas of national jurisdiction for which there is no recognised ENC producer nation, the Regional Hydrographic Commission (or similar body) should determine the ENC producer nation. ENC's produced under such arrangements should be offered for transfer to the Coastal State in the event that the Coastal State subsequently develops the capacity to maintain the ENC's. Such transfer should respect the moral rights of the Coastal State and the commercial rights of the producer nation.
 - h When the production limits are the official limits for national jurisdiction waters, commercial rights shall belong to the ENC producing country.
 - i When the production limits are cartographic boundaries as opposed to national boundaries, the commercial rights shall normally belong to the ENC producing country but may possibly be encumbered by the payment of royalties to the relevant country through a technical arrangement (see clause d).
-

**REPORT OF THE COMMITTEE ON HYDROGRAPHIC REQUIREMENTS
FOR INFORMATION SYSTEMS (CHRIS)
by the Chairman, Captain Robert WARD, Australia**

- 1. Chairman:** Captain Robert WARD (Australia) (2005-2006)
Mr. Ole BERG (Denmark) (2003-2004)
Rear Admiral Neil GUY (IHB) (2002)
- Vice-Chairman:** Mr. Parry OEI (Singapore) (2005-2006)
Captain Robert WARD (Australia) (2003-2004)
- Secretary:** Ing. en chef Michel HUET (IHB)
- 2. Membership: IHO Member States.**
Australia, Brazil, Canada, Chile, China, Denmark, Ecuador, Estonia, Finland, France, Germany, Greece, Indonesia, Italy, Japan, Rep. of Korea, Netherlands, New Zealand, Nigeria, Norway, Papua New Guinea, Portugal, Singapore, Republic of South Africa, Spain, Sweden, Thailand, United Kingdom and the United States of America.
- Observers:**
- | | |
|---|--------|
| Comité International Radio Maritime | CIRM |
| IEC-IHO Harmonization Group on Marine Information Objects | HGMIO |
| The International Centre for ENC's | IC-ENC |
| International Council of Cruise Lines | ICCL |
| Inland ECDIS Harmonization Group | IEHG |
| PRIMAR – Stavanger | PRIMAR |
| The Radio Technical Commission for Aeronautical Services | RTCA |
| The Radio Technical Commission for Maritime Services | RTCM |
- 3. CHRIS Meetings**
- | | |
|-------------------|----------------------|
| Shanghai, China | 15-17 August 2002 |
| Monaco | 10-13 June 2003 |
| Ottawa, Canada | 28-31 May 2004 |
| Rostock, Germany | 5-9 September 2005 |
| Cairns, Australia | 26-29 September 2006 |

4. CHRIS Working Groups

Working Groups progressed work items under the CHRIS Work Programme. Details of office holders, meetings and membership are contained in Annexes A to F to this report.

- Transfer Standard Maintenance and Applications Development Working Group (TSMAD) see Annex A
- Colours and Symbols Maintenance Working Group (C&SMWG) see Annex B
- Chart Standardization and Paper Chart Working Group (CSPCWG) see Annex C
- Standardisation of Nautical Publications Working Group (SNPWG) see Annex D

- Data Protection Scheme Working Group (DPSWG) see Annex E
- IHO-IEC Harmonization Group on Marine Information Objects (HGMIO) see Annex F

5. General

The CHRIS has undergone a period of organisational review. This has been necessary to efficiently address the ever increasing scope of work. Defined procedures, timetables, documentation templates and business rules have all been developed to ensure consistency and to improve effectiveness. The CHRIS Work Programme is now a central part of CHRIS activity.

6. Cooperation with other Organisations and Groups

Significant advances have been made in involving the user community at all levels of the work of CHRIS and its subordinate bodies. The participation of Non-Governmental International Organizations and the recognition of “expert contributors” in the working elements of CHRIS continues to grow. The involvement of organizations and entities who are affected by, or can contribute, to the work of CHRIS and its WGs is actively encouraged.

The continuation of “Industry Days” in 2002 and 2003, and more recently the “ECDIS Stakeholders’ Forums” conducted in 2005 and 2006 have been particularly beneficial in ensuring that CHRIS recommendations are both informed and realistic.

The combined IHO/IEC Harmonization Group on Marine Information Objects (HGMIO) has made limited progress on its declared Work Items. On the whole, it has been difficult to attract active participation.

The Transfer Standards Maintenance and Applications Development WG (TSMAD) has maintained increasingly closer links with ISO and with NATO geospatial standards organizations in order to maximise compatibility between allied standards.

7. Relationships with other Organizations

A combined IHO/IEC Harmonization Group on Marine Information Objects (HGMIO) has been established and this Group will report to IEC and CHRIS with recommendations for the treatment of MIO. It is chaired by Dr. Lee ALEXANDER (University of New Hampshire, USA) and its inaugural meeting took place on 15-16 January 2002 at the University of New Hampshire, Durham, USA.

In addition to IEC Technical Committee 80 Working Group 7, in which the IHO has observer status, the IEC has established a Working Group 13 to address the harmonization of displays of shipboard navigational information.

The Digital Geospatial Information WG (DGIWG) for defence organizations of member nations and IHO have a long history of cooperation regarding the harmonization of their complementary geospatial standards for the exchange of hydrographic information. A Cooperation Agreement between IHO and DGIWG is in an advanced stage of drafting (Oct 2006) and will be submitted to MS for approval shortly. Several CHRIS members participate actively in DGIWG meetings.

CIRM has actively participated in CHRIS meetings and provided a valuable manufacturers’ perspective of the development, implementation and entry into force of new and revised standards affecting navigational equipment.

8. Technical Achievements

Work has continued on S-57 - the hydrographic data transfer standard as well as the ENC Product Specification. This has included the maintenance and enhancement of the documentation that supports S-57. These measures are aimed at assisting data consistency, particularly for ENCs.

The future development of S57 was agreed in 2005 when the migration to an ISO compliant geospatial standard for hydrographic data to be known as S-100 was endorsed by Member States. A complementary series of Product Specifications is also envisaged. This objective was made possible in no small part through the close involvement and advice of the various stakeholder groups and expert contributors involved in the ECDIS Stakeholders' Forums and in CHRIS WGs.

S-63 - the IHO ENC Security Scheme was implemented during this reporting period.

In 2003 the former IHO Chart Standardisation Committee was incorporated in CHRIS as a subordinate body known as the Chart Standardisation and Paper Chart Working Group (CSPCWG). The CSPCWG has benefited from a much closer liaison with the Colours and Symbols Maintenance Working Group (CSMWG) whose principal task is the data presentation standards for ECDIS.

While the majority of WGs have been very successful and made substantial progress with Work Items, low participation levels in the Standardisation of Nautical Publications WG and the Colours and Symbols WG are causes for concern. It is also apparent that a number of long serving participants in WGs will shortly be retiring from public service. This may result in a significant gap in experience for certain WGs that will take some time to recover.

9. Future Activity of CHRIS

In addition to the major development work involved with S-100, and the maintenance of the existing standards and technical documentation, the CHRIS will monitor and advise where appropriate on the role of Hydrographic Services with regard to geospatial data and planning infrastructure.

The CHRIS is anticipating the implementation of a new IHO Committee structure and is well prepared to form the core of the Hydrographic Standards and Specifications Committee (HSSC).

10. Terms of Reference

The CHRIS last reviewed its ToRs at its 18th meeting in September 2006 where it was noted that the procedures for electing the officer bearers require revision. It is proposed that the CHRIS adopt the same procedures as those being proposed for the HSSC and the IRCC. Revised ToRs incorporating these changes are contained at Annex G to this report.

11. Proposals for adoption by 17th I.H. Conference:

The 17th Conference is invited to:

Approve this Report.

Approve the ongoing existence of CHRIS under the Terms of Reference shown at Annex G.

**TRANSFER STANDARD MAINTENANCE AND APPLICATIONS
DEVELOPMENT WORKING GROUP
(TSMAD)**

- 1. Chairman:** Mr. Michael BROWN (USA) (2003-2006)
Dr. Christopher DRINKWATER (UK) (1996-2003)
- Vice-Chairman:** Mr. Barrie GREENSLADE* (UK) (2003-2006)
Mr. Don VACHON (Canada) (2001-2003)
- * *Chair of TSMAD S-100 Sub Working Group*
- Secretary:** Mr. Anthony PHARAOH (IHB)
- 2. Membership: IHO Member States.**
Australia, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Italy, Japan, Rep. of Korea, Netherlands, New Zealand, Norway, Singapore, Republic of South Africa, Spain, Sweden, United Kingdom, United States of America and Venezuela.
- Expert contributors:**
- | | |
|-----------------------------------|----------------------------|
| International Centre for ENCs | IC-ENC |
| PRIMAR – Stavanger | PRIMAR |
| Caris | (Canada & The Netherlands) |
| C-Map | (Italy) |
| HSA Systems | (Australia) |
| IDON Technologies | (Canada) |
| IIC Technologies | (Canada) |
| Joint Geospatial Support Facility | (New Zealand) |
| MITRE | (USA) |
| SevenCs | (Germany) |
| T-Kartor | (Sweden) |
| Tokimec | (Japan) |
| Transas | (Russia) |
- 3. Meetings**
- | | |
|-------------------------------|-----------------------|
| Ottawa, Canada* | 3-6 June 2002 |
| Monaco | 23-25 October 2002 |
| Ottawa, Canada* | 12-16 May 2003 |
| Wollongong, Australia | 1-3 October 2003 |
| Silver Spring, Maryland, USA* | 29 March-2 April 2004 |
| Monaco | 11-12 November 2004 |
| Durham, New Hampshire, USA* | 25-29 April 2005 |
| Wollongong, Australia | 7-8 November 2005 |
| Brest, France* | 15-19 May 2006 |
| Wellington, New Zealand | 18-19 September 2006 |
| Taunton, UK | 4-8 June 2007 |
| Stavanger, Norway | 11 June 2007 |

**Sub-Working Group Meeting*

ANNEX B

**COLOURS AND SYMBOLS MAINTENANCE WORKING GROUP
(C&SMWG)**

- 1. Chairman:** Dr. Mathias JONAS (Germany)
- Vice-Chairman:** *vacant*
- Secretary:** Mr. Chris ROBERTS (Australia)
- Technical advisors:** Mr. Sven HERBERG (Germany) 2002-2006
Mr. Pol LE BIHAN (France) 2005-2006
- 2. Membership: IHO Member States**
Australia, Canada, France, Germany, Norway, United Kingdom, United States of America and Venezuela, as well as the IHB.
- Expert contributors:**
- | | |
|-----------------|---------------------------|
| BSH | (Type Approval Authority) |
| C-Map | (Italy and Norway) |
| DNV | (Type Approval Authority) |
| Furuno | (Japan) |
| Geomod | (France) |
| Jeppesen | (Germany) |
| OSL | (Canada) |
| SAM Electronics | (Germany) |
| SevenCs | (Germany) |
| Transas | (Russia) |
| US Coastguard | (ECDIS Training) |
- 3. Meetings**
- | | |
|--------------------|-----------------|
| Ottawa, Canada | 18-20 May 2003 |
| Rostock, Germany | 2-4 May 2005 |
| Monaco | 29-31 May 2006 |
| Stavanger (Norway) | 11-13 June 2007 |
-

**CHART STANDARDIZATION AND PAPER CHART WORKING GROUP
(CSPCWG)**

- 1. Chairman:** Mr. Peter JONES (UK) (2003-2006)
Dr. Peter COX (UK) (2002) *
- Vice-Chairman:** Mr. Jarmo MAKINEN (Finland) (2003-2006)
Mr. Jean-Louis BOUET-LEBOEUF (France) (2002)*
- Secretary:** Mr. Andrew HEATH-COLEMAN (UK) (2003-2006)
Mrs Elizabeth DUNN (UK) (2002)*

** as Chart Standardization Committee (CSC until CHRIS/14 (2002)*

- 2. Membership:** **IHO Member States**
Australia, Brazil, Canada, Chile, Colombia, Croatia, Cuba, Denmark, Finland, France, Germany, Greece, India, Indonesia, Italy, Japan, Netherlands, New Zealand, Norway, Pakistan, Russian Federation, South Africa, Spain, UK, USA, as well as the IHB.

Expert contributors: None at meetings.
Contributions by correspondence: IALA
Trinity House (UK)

3. Meetings

Monaco 3-5 November 2004 (inaugural meeting, CSPCWG)
Monaco 19-21 October 2005
Monaco 22-24 November 2006

ANNEX D**STANDARDIZATION OF NAUTICAL PUBLICATIONS WORKING GROUP
(SNPWG)**

- 1. Chairman:** Mr Johannes MELLES (Germany)
- Vice-Chairman:** Mr. David ACLAND (UK)
- Secretary:** Mr. John NYBERG (USA)
- 2. Membership:** **IHO Member States**
Argentina, Australia, Cuba, Chile, Denmark, Estonia, France, Germany, India, Italy, Japan, Korea (Rep. of), Portugal, Russia, Spain, Sweden, UK, USA, as well as the IHB.
- Expert contributors:** CARIS (Canada)
IIC Technologies (Canada and UK)
IHB (Monaco)
Nippon Sogo Systems, Inc. (Japan)
- 3. Meetings**
- | | |
|------------------------|----------------------|
| Hamburg, Germany | 02-04 June 2003 |
| Silver Spring, MD, USA | 07-09 June 2004 |
| Monaco | 01-03 March 2005 |
| Copenhagen, Denmark | 25 – 27 October 2005 |
| Monaco | 19 – 23 June 2006 |
| Rostock, Germany | 12 –16 February 2007 |
-

**DATA PROTECTION SCHEME WORKING GROUP
(DPSWG)**

1. **Chairman:** Mr. Robert SANDVIK (Norway)
Vice-Chairman: Mr. Chris SMITH (UK)
Secretary: Mr. Michel HUET/Mr. Anthony PHARAOH (IHB)
2. **Membership:** **IHO Member States**
Canada, France, Germany, Norway, United Kingdom

Expert contributors: ChartWorld (Germany)
Electronic Chart Centre AS (Norway)
IIC Technologies Private Ltd (India)
Japan Radio Company Ltd (Japan)
Kelvin Hughes (UK)
SAM Electronics (Germany)
SevenCs (Germany)
Transas (Russia)
3. **Meetings**

ECC, Norway* 21-23 May 2002
IHB, Monaco 13-14 March 2003
IHB, Monaco 24-25 November 2003
IHB, Monaco 22-23 June 2004
IHB, Monaco 31 Aug-01 September 2006

**Data Protection Scheme Advisory Group*

ANNEX F

**IHO-IEC HARMONIZATION GROUP ON MARINE INFORMATION OBJECTS
(HGMIO)**

- 1. Chairman:** Dr. Lee ALEXANDER (Univ. of NH, USA) (2002-present)
- Vice-Chairman:** Capt. Joseph RYAN (IEC TC80/WG13) (2002-2004)
- Secretary:** LCDR Troy TEADT (US Navy) (2002)
Mr. Doug BRUNT (Canada) (2002-2003)
vacant (2004-present)
- 2. Membership: IHO Member States**
Australia, Canada, Chile, China, Denmark, Germany, Japan, Mexico, United Kingdom, United States of America, as well as the IHB.
- Expert contributors:** CARIS (Canada)
Maptech (USA)
SevenCs (Germany)
Tideland Marine Systems (UK)
Tideland Signal (USA)
Xenex Navigation (Canada) IEC TC80
US Coast Guard
US Navy
National Geospatial Intelligence Agency (USA)
IALA
Trinity House (UK)
- 3. Meetings**
- | | |
|------------------------|--------------------|
| Durham, NH, USA | 15-16 January 2002 |
| IHB, Monaco | 14 June 2003 |
| IHB, Monaco | 27 June 2005 |
| Silver Spring, MD, USA | 24-25 October 2006 |
-

**COMMITTEE ON HYDROGRAPHIC REQUIREMENTS
FOR INFORMATION SYSTEMS (CHRIS)**

TERMS OF REFERENCE

Considering the need to promote and coordinate the development of standards, specifications and guidelines for official hydrographic products and services, to meet the requirements of mariners and other users of hydrographic information, the International Hydrographic Organization (IHO) establishes a Committee on Hydrographic Requirements for Information Systems (CHRIS) with the following Terms of Reference and Rules of Procedure:

1. Terms of Reference

- 1.1 To monitor the requirements of mariners and other users of hydrographic information associated with development and use of paper hydrographic products and electronic information systems that may require data provided by national hydrographic authorities, and identify those technical matters that may affect the activities and products of those authorities.
- 1.2 To study and propose methods and minimum standards for the development and provision of official hydrographic data, nautical products and other related services.
- 1.3 To prepare and maintain publications to describe and promote the recommended methods, standards, specifications and guidelines as adopted by the IHO, and advise IHO Member States about implementation procedures.
- 1.4 To consider alternative procedures for the timely production of standards, for example by using external expertise when necessary.
- 1.5 To establish and maintain contact with other relevant IHO bodies, such as the Committee on WEND, the Legal Advisory Group, etc, to ensure that IHO activities are coordinated.
- 1.6 To liaise with other relevant international organizations

2. Rules of Procedure

- 2.1 The Committee is composed of Representatives of Member States and a representative of the International Hydrographic Bureau (IHB).
- 2.2 Accredited Non-Governmental International Organizations (NGIO's) may attend Committee Meetings.
- 2.3 Meetings shall be held at least once a year. The venue and date will be announced at least three months in advance.
- 2.4 Decisions should generally be made by consensus. If votes are required on issues or to endorse proposals presented to the Committee, only Member States may cast a vote. Votes shall be on the basis of one vote per Member State represented.
- 2.5 ~~The length of tenure of the Chair and Vice-Chair is governed by IHO Technical Resolution T1.1.~~ The Chair and Vice-Chair shall be a representative of a Member State. The election of the Chair and Vice-Chair shall be decided at the first meeting after each ordinary session of the Conference (Conference to be replaced by Assembly when the revised IHO Convention enters force) and shall be determined by vote of the Member States present and voting.

- 2.6 If the Chair is unable to carry out the duties of the office, the Vice-Chair shall act as the Chair with the same powers and duties.
- 2.67 The Committee will progress its work primarily through Working Groups, each of which will address specific tasks. Working Groups will operate by correspondence to the maximum extent practicable.
- 2.78 Recommendations of the Committee will be submitted to the Member States for adoption through the IHB Directing Committee.
-

**REPORT ON THE WORK ON THE PUBLICATION
ON LIMITS OF OCEANS AND SEAS (S-23)
by the IHB Directing Committee**

1. The XIth International Hydrographic Conference in 1977 by Decision No. 17 tasked the Bureau to undertake a revision of the IHO Publication S-23, Limits of Oceans and Seas, a technical publication of interest to maritime and academic communities. Regrettably, thirty years later, this work has not yet been completed. The 3rd edition of 1953 is still the only valid one, but is out of stock and outdated.
2. The following is a brief description of the events since the XIth IHC :
 - a. Following the XIth IHC a Working Group was established, Chaired by a Member of the Directing Committee, and started working on the Publication.
 - b. Following the XIIth IHC in 1982 and with a new Director in the Chair of the Working Group, a rough draft was submitted to its Members in 1983, but it was not until 1986 that a final draft of the 4th edition of S-23 was submitted to all Member States with CL No. 6/1986 dated 27 February 1986.
 - c. There were replies from 37 Member States : 28 replied affirmatively and 9 negatively. However the draft 4th edition does not appear to have been approved.
 - d. Following the XIIIth IHC in 1987 the new President of the Directing Committee did considerable work in trying to resolve contentious issues, but the work was not completed.
 - e. After the XVth IHC in 1997 the Directing Committee, in order to progress the work, decided to contract the services of a consultant. The initial work was based on the draft of the 4th edition which had not been approved in 1986. In 2001 a new draft of the 4th edition was sent to Member States with CL No. 55/2001 dated 7 November 2001 for comments. In August 2002 a final draft of the 4th edition was sent to Member States for approval with CL No. 30/2002 dated 9 August 2002. In the second part of this CL, the Directing Committee indicates that.
 - the two pages referring to the name of “Japan Sea” as it appears in the 1953 edition, were not included in this 4th edition;
 - for three years the IHB had endeavored to finalize these two pages without success;
 - this matter is of a highly sensitive political nature and is not a technical one; and
 - an addendum could be issued covering this matter at a later stage.
3. The first three weeks after the current Directing Committee took up its post on 1st September 2002, comments and questions were received from Hydrographic Offices, Ministries and Embassies of the Member States regarding the omitted two pages, as the result of contacts made by Japan and the Republic of Korea with Member States. The Directing Committee not knowing the details on this subject, faced with issues beyond the technical purpose of the Organization and not being in position to respond to the numerous questions, decided to interrupt the voting of the 4th edition, in order to study the details of the subject. Member States were informed of this action taken by the Directing Committee with CL 38/2002 dated 19 September 2002. At the time that the voting was interrupted, the Bureau had not received any voting response from Member States to the CL 30/2002.

4. In January 2003, during the SPWG meeting in Goa, India, the Heads of the Delegations of Japan and the Republic of Korea met with the President of the Directing Committee and informed him that the two States had decided to start discussions on this issue and requested the Directing Committee not to take any action waiting for the outcome of their bilateral discussions.
 5. From the reports provided by the Hydrographers of the two States at the request of the Directing Committee, it can be concluded that no significant progress has been made in their discussions.
 6. The Directing Committee seeks advice on the way forward.
-

**REPORT OF THE COMMITTEE ON THE HYDROGRAPHIC DICTIONARY (S-32)
by the Chairman, Mr. Jerry MILLS, USA**

1. **Chairman:** Mr. Jerry MILLS (USA)
Vice-Chairman: *Not nominated*
2. **Membership:** Argentina, Chile, France, Uruguay, United States, IHB.

3. **Meetings**

None.

4. **Activities**

A web-based version of the Dictionary was launched in 2004 as announced in CL13/2004. The problems with updating definitions remain and the search facility is restricted in that it is only possible to search on a single word with no spaces allowed. The means of upgrading and improving the functionality of the web-based dictionary are under investigation.

The Committee was reactivated in January 2006 (see CL 13/2006) following the request for consideration of terms for inclusion from several other IHO Committees and Working Groups. The Committee is currently considering these terms via the IHB Discussion web site.

The committee is monitoring progress in order to determine whether there is a need for a meeting.

5. **Conclusion**

The Conference is requested to adopt this report.

**REPORT OF THE WORKING GROUP ON STANDARDS FOR
HYDROGRAPHIC SURVEYS (S-44)
by the Chairman, Mr. Chris HOWLETT, UK**

1. **Chairperson:** Chris HOWLETT (UK)
Vice-Chairperson: Rob HARE (Canada)
2. **Membership:** Australia, Brazil, Chile, Croatia, Denmark, Ecuador, Finland, France, Germany, Iceland, Italy, Japan, Netherlands, Norway, Portugal, Russian Federation, Korea, Sweden, UK, USA, IHB.

3. Meetings

1. 28 – 30 August 2006 at the IHB Monaco
2. 9 November 2006 at HYDRO 06, Antwerp, Belgium

4. Activities

The WG was reactivated in February 2005 following a proposal from Australia to prepare a 5th Edition of S-44 (IHB CLs 37/2004, 67/2004 and 13/2005 refer).

The WG commenced work by correspondence and also took the opportunity whenever members of the WG were attending related meetings, seminars and workshops to hold ad hoc meetings at which a wider audience were invited to attend in order that the WG members present could obtain comments and feedback for further consideration by the WG.

By mid 2006 sufficient information and opinions had been gathered to make a meeting not only worthwhile but necessary. Consequently the first meeting was held at the IHB from 28 to 30 August 2006 and was attended by 11 members of the WG. During this meeting a draft text for the 5th Edition was prepared, taking into account those comments from members not able to attend. The draft text was then circulated to the WG members for further consideration / refinement.

A 2nd meeting was held in conjunction with the HYDRO 06 conference. Delegates to the conference were invited to attend an open meeting on 9 November, where they were given the opportunity to comment on and make suggestions regarding the first draft of the 5th Edition. Several useful comments were made and taken into account during a closed meeting of the WG held on the following day. During this meeting all comments made since the preparation of the first draft were considered and a revised second draft text put together. This was then sent to all members of the WG for final consideration prior to the draft 5th Edition being circulated to MS for approval which is expected to take place in early 2007.

5. Conclusion

The Conference is requested to adopt this report.

**REPORT OF THE IHO TIDAL COMMITTEE (TC)
by the Chairman, Commander J.W. PAGE, RN, UK**

1. **Chairman :** Commander J. W. PAGE, RN, UK
Vice-Chairman: *Not nominated*
2. **Membership:** Australia, Canada, Chile, China, Denmark, France, Japan, New Zealand, Norway, Peru, Portugal, South Africa, United Kingdom, United States.
3. **Meetings**

Lima, Peru	(April 2003)
Lisbon, Portugal	(October 2004)
Sydney, Australia	(June 2006)
4. **Agenda Items**
(only the principal ones)

Migration activities to LAT/HAT datum:

Opinion was canvassed on the status of LAT/HAT adoption for national vertical charting and heighting datums under CL55/2003. 31 Member States responded, 12 of which confirmed they had already adopted LAT/HAT ; 8 were intending to convert in the near future ; but 11 had no intention of converting either because their tidal regime was so small as to negate the requirement or because the cost of chart re-compilation would be prohibitive in the short term.

Standard Constituent List:

The Standard Constituent List has been evolving for several years, but virtually reached its completed state in 2004 comprising over 400 Harmonic Constituents. At the TC Meeting in Lisbon it was agreed that the inclusion of Nodal Corrections would add considerable value to the list. Consequently, the French and UK delegates undertook to add the appropriate data together with comprehensive descriptions of the derivation of nodal corrections for primary constituents and detailed instructions on the fundamental principles of the construction of nodal corrections for compound constituents. The final revised list was approved at the TC Meeting in Sydney and then published on the IHB website. A draft amendment to TR A6.8 is attached to this report for consideration and approval by the Conference.

Format for Exchange of Harmonic Constants:

The UK proposed a standard digital exchange format for harmonic constants in order to improve the efficiency of data transfer between HOs and to eliminate the potential for human error inherent with importing data manually. The TC unanimously approved the proposed format, which is now being actively developed by a TSMAD Sub-Working Group and will be tabled for consideration at the next TSMAD Meeting in September 2006.

Tides in ECDIS:

The TC considers that tides should be a mandatory requirement in an ECDIS, and recommends that ECDIS manufacturers should be encouraged to utilise official HO tidal prediction software which had been written to S-57 specifications. Although one such product has already been published by the UKHO, ECDIS manufacturers must be allowed the freedom to choose their own preferred tidal prediction software. The TC also considers that it would be beneficial to navigation if ENC's were capable of displaying dynamic soundings with the tidal reduction being produced by the ECDIS tidal prediction package. Furthermore, the tidal reduction elements should be developed in such a way that in an ideal situation real-time tidal data could be used to provide the tidal reduction when this facility becomes widely available.

Digital Tide Tables:

The TC wishes to encourage all Member States to pursue the development of digital tide tables which have functionality and intelligence built into them. Member States need to embrace the new digital culture positively and actively as mariners are increasingly turning to a digital solution for tidal predictions as opposed to paper tidal tables. In the interests of safety of navigation at sea, the TC considers it essential that digital tide tables make use of the latest sets of harmonic constants from which HOs are publishing their national predictions. A proposed amendment to Technical Resolution A6.2 to invite HOs to exchange harmonic constants together with their national tidal predictions has been promulgated by CL 51/2006. The TC also considered that one possible future solution would be for MS to make available their harmonic constants, using the most efficient transfer protocol, to a central body which would then make available the National Standard Port predictions via the internet. However, this new concept would call for careful harmonisation, stewardship and governance in order to become accepted.

Global Vertical Reference Surface:

The TC considered that the most suitable ellipsoid for a global vertical reference surface was best addressed by the geodetic community because they have the technical expertise to make the best assessment necessary. The work of the FIG and IAG in this context is being carefully monitored on behalf of the TC by PAH at the IHB who attends their meetings. The preferred choice of ellipsoid would be a geocentric reference frame based on ITRF such as WGS84. Several MS are developing vertical reference frameworks to enable rapid and efficient transformations between the spheroid, Chart Datum and the entire range of tidal levels for data capture and charting purposes.

Vertical Datum Management and Naming Convention:

The TC recognises the importance of establishing a unified vertical datum which needs to be defined without ambiguity. Hydrographic datums will always require adjustment due to crustal motion and sea level changes. Furthermore, climate change may well accelerate the rate of change. Dynamic ENC's and real-time water levels will require explicit datum transforms to be readily available and thus complex datum relationships will need to be articulated in order to take advantage of new technologies such as kinematic DGPS. The TC concluded that using a designated epoch for Chart Datum (such as CD2000) would be the preferred methodology to adopt. The chosen epoch would be at the discretion of each MS based on national requirements. The individual designations would then become metadata providing an unambiguous reference in digital systems (e.g. ECDIS) using data based on an IHO Standard (e.g. S-100). Chart Datum would continue to be accurately defined in relation to the Land Levelling System. The Chairman and PAH undertook to prepare a draft Technical Resolution on a naming convention for discussion at the next TC meeting due to be held in November 2007.

Global Sea Level Rise effects:

Global sea level rises of 1-2mm per year are still being quoted as the average annual values by the Permanent Service for Mean Sea Level (PSMSL) in spite of exaggerations attributed to global warming. The UK has detected a reduction in tidal ranges over the past 10 years for Standard Ports around UK which are being routinely analysed each year. This would indicate that, with the expansion of the Atlantic Ocean under the influences of global warming this body of water is becoming more sluggish and, therefore responding less vigorously to the tide raising forces. Although other Member State had observed similar effects with the Pacific the TC concluded that a time span longer than 10 years would be necessary to eliminate potential cyclical variations in the M-2 tide before any definite proclamation could be made.

Tidegauge Networks for Tsunami Warnings:

This issue is attracting an increasing intensity of interest in the light of recent major incidents, and so it became necessary for the TC to discuss this topic. At the TC Meeting in Sydney Member States were given substantial presentations by both Canada and Australia detailing the active programmes of tidegauge networks being developed in North America and Australasia for tsunami warnings. The IOC is the primary body concerned with tsunami warning services and they have initiated such activity for the Mediterranean and set up a Working Group for the North Atlantic, with PSMSL building a UK tsunami warning service. The TC recommends that Member States be encouraged to provide, wherever possible, real time tidal information to Tsunami Warning Systems.

Rationalisation of relevant Technical Resolutions and Charting Specifications:

It had become apparent that several significant discrepancies existed between Technical Resolutions and Charting Specifications, particularly with regard to datums and tidal levels. Consequently, at the TC Meetings in Lisbon and Sydney action was taken to rationalise both sets of instructions by reviewing all relevant Technical Resolutions (A2.8, 2.9, 6.1, 6.2, 6.7, 6.8 and 6.9; G2.1, 2.2 and 2.3) and Charting Specifications M-4 (B-302.2, B-380.1 and B-405.3) for mutual compatibility. Appropriate amendments to the Technical Resolutions have already been promulgated by CL and proposed amendments to the Charting Specifications (M-4) have already been forwarded to the Chairman of the Chart Standardization and Paper Chart Working Group (CSPCWG). It is the intention of the TC to continue to review all relevant Technical Resolutions and Charting Specifications for validity and compatibility at each subsequent TC Meeting.

French Manual of Tides:

The French Manual of Tides, written by TC Member, Bernard Simon, is intended to provide advice aimed at the practical needs of hydrographic surveyors. Volume 1 of the Manual, "Coastal Tides" has been commissioned and edited by the Institut Océanographique in Paris and will be printed by SHOM. The IHO has arranged for the translation of the French text into English. PAH will act as the technical adviser to the translator and will also oversee the proof reading of the completed text. Australia, Norway and UK have volunteered their services to proof read individual chapters, which should be available before the end of 2006.

The Institut Océanographique has put together a team to prepare Volume 2, "Ocean Tides" in French and the IHO will facilitate the translation into English which should be completed by the end of 2007. Once the English text of each volume is available the IHB will seek the support of Spanish-speaking countries to prepare a Spanish text.

IOC/GLOSS mutual activity:

At the TC Meeting in Lima, for the first time, a GLOSS Representative gave a comprehensive presentation on the latest activity being undertaken by the IOC so that the TC could be made aware of any of their work which complemented anything being considered by MS on the TC. At both the subsequent TC Meetings in Lisbon and Sydney GLOSS designated a delegate to report on GLOSS activities. The TC has also been represented at meetings of the GLOSS Group of Experts.

5. Conclusion

Proposals for adoption by the XVIIth I.H. Conference:

The Conference is requested to:

- Approve the amended text of IHO TR A6.8 as included in the Annex to this report.
- Task the IHOTC to develop standards for digital tide tables.
- Endorse the continuing liaison with IOC/GLOSS.
- Adopt this report.

A 6.8 NATIONAL TIDAL CONSTITUENT BANKS

It is resolved that the National Tidal Constituent Banks should store the following information for each location:

- i) Location identification by number, name, country, body of water, and geographic coordinates;*
- ii) Source, date, time zone, and duration of data used in analysis;*
- iii) Identification of geodetic levelling datum, and date of reference to this datum, elevation of mean sea level and, where applicable, the connection to and identification of the appropriate bench mark(s);*
- iv) Listing of values for tidal constituents giving amplitudes in metres and Greenwich phase lags in degrees and designation of organization responsible for analysis. (Tidal constituents used should form part of those in the Standard List prepared by the IHOTC and published on the IHO website.)*

See also A 6.1, A 6.2

Proposed new text is shaded.

**REPORT OF THE IHO MANUAL ON HYDROGRAPHY WORKING GROUP (MoHWG)
by the Chairman, Captain Hugo GORZIGLIA, IHB Director**

- 1. Chairman:** Captain Hugo GORZIGLIA (IHB Director)
- Vice-Chairman:** LT. Cdr. David WYATT (UK)
- Secretary:** LT. Cdr. Steve SHIPMAN (IHB)
- 2. Membership:**
- | | |
|---------------------------------|-----------|
| Mr. Federico MAYER | Argentina |
| LCDR Peter JOHNSON | Australia |
| Mr. Thomas DEHLING | Germany |
| LCDR Lamberto LAMBERTI | Italy |
| Mr. Akio UCHIDA | Japan |
| Captain M. ZAFARYAB | Pakistan |
| LT. Fernando FREITAS ARTILHEIRO | Portugal |
| Mr. Jerry MILLS | USA(NOAA) |
| Captain Luis OJEDA | Venezuela |
| Lt. Cdr. Jesus JIMENEZ | Venezuela |

Note: All the above persons attended the 2nd (and last) meeting of the WG. The WG also received contributions from: Mr. Salgado (ARG); Lt Di Lieto (ITA); Adm. Ritchie (UK), Lt Cdr. Paul Lawrence (UK) and Lt Cdr. Bob Wilson (UK).

3. Meetings

The 2nd Meeting of the Manual on Hydrography Working Group was held at the IHB, Monaco, 1-3 March 2004. This was the only meeting held by the WG during this 5 year period.

4. Agenda Items

The 2nd meeting had just one main Agenda Item, and that was to review the draft texts of the different chapters of the Manual. The procedure established was to have each chapter's leader introducing the chapter for which he was responsible prior to the WG splitting into teams led by the chapter leader to discuss details. All members were free to join the team of their choice and were also free to visit other teams, as convenient, where they had a contribution they wished to make. At the end of each day the WG reconvened and team leaders briefed the WG on the proposals for each chapter. Following further discussion the required Actions were agreed.

It was felt that the final text should be reviewed by a native English speaker before being released. It was considered that if this were not done then the Manual would lose credibility as an authoritative text and it would be almost impossible to correctly translate into French and Spanish. Given the size of the manual, more than 400 pages long, it was believed that an experienced surveyor would require about 4 weeks to complete this task. The delegates from Venezuela offered to lead a team to translate the Manual into Spanish, once the English text had been finalized. The WG decided that the remaining tasks should be completed by correspondence. However it was agreed that if Member States had significant comments on the final draft, when distributed, then the need to hold a further meeting would be reconsidered.

5. Conclusions

- 5.1 Chapter 7 of the Manual "Hydrographic Practice" was prepared and finalized after the meeting, as its content was dependent on the content of the previous chapters.

- 5.2 Lt. Cdr. David Wyatt (UK) with the support of the IHB, did the editorial reviewing of the text and provided the final text that was posted on the IHO web site on May 2005. After having completed its task of compiling the IHO Manual on Hydrography the Working Group was considered dormant until further work is required.
- 5.3 On 13 January 2006, the IHB distributed a printed version of the Manual in English to all Member States, authors and learning institutions delivering hydrographic courses.
- 5.4 Despite the dormant status of the WG, the preparation of the Spanish version proceeded with the support of Argentina, Chile, Colombia, Ecuador, Venezuela and the IHB. The Spanish version was finalized and posted on the IHO web site on 19 July 2006.
- 5.5 The printed version of the Manual in Spanish is being prepared at the Hydrographic and Oceanographic Service of the Chilean Navy.
- 5.6 The IHB is in the process of seeking volunteers to handle the preparation of the French version of the Manual.

6. Proposals for adoption by the XVIIth I.H. Conference

- 6.1 It is proposed that the present Report of the IHO Manual on Hydrography Working Group be adopted.
- 6.2 It is proposed to the Conference to: **disband** the MoHWG which is currently “dormant”, as I its work has been completed.
- 6.3 It is proposed to delete T.R. K 2.31.
- 6.4 It is proposed that, whenever further work might be required, the IHB Directing Committee should adopt the necessary measures and propose action(s) as necessary to Member States.
-

REPORT ON TRAINING, INCLUDING RELATIONSHIP WITH IMA

1. General

Training and Education have continued to be priorities for the IHO. Among the particular activities undertaken by the Advisory Board and reported on separately, IHO Member States and the hydrographic industry have been offering training opportunities. To facilitate the dissemination of this information, the IHB has created a section within the Capacity Building section of the IHO web site, called "Training Opportunities" where the IHB posts all relevant information concerning training and education opportunities.

2. Opportunities

Besides the information about courses in hydrography and nautical cartography included in IHO publication S-47, offered and kept up to date in the IHO web site, during the period 2002-2006 the IHB received additional information from various institutions and organizations on courses organized or sponsored by them. Among the new initiatives reported, the following can be noted :

During the period 2002-2006, the following courses have been held :

- a) Free Hydrographic Course run by the National Hydrographic School, Goa, INDIA.
 - 03 November 2003-05 June 2004
 - 28 June 2004-29 January 2005
 - 27 June 2005-28 January 2006

- b) Courses run by the International Maritime Academy, Trieste, Italy
 - Harbour and Coastal Hydrography (4th edition) - 24 June-06 December 2002.
 - Nautical Cartography – 24 February - 5 May 2003.
 - Electronic Nautical Cartography (1st edition) - 1 October-28 November 2003.
 - Harbour and Coastal Hydrography (5th edition) - 16 June-19 November 2004.
 - Electronic Nautical Cartography (2nd edition) - 31 March – 28 May 2004.
 - MEDChart Net Mediterranean ENC Network - from 2002 to 2005.

- c) Multibeam Courses
 - Hosted by the Norwegian Hydrographic Office in 2004
 - Hosted by the Australian Hydrographic Service in 2005
 - Plymouth, UK 2005 (*)
 - Co-hosted by the Maritime and Port Authority of Singapore (MPA) 2006 (*)

Note: () some students supported by the CBFUND.*

- d) Nippon Foundation - GEBCO Training Project
 - First Course 2004-2005
 - Second Course 2005-2006
 - Third Course 2006-2007

- e) UK International Training Courses.

An announcement was made in 2002 concerning courses offered by the UKHO and the Royal Navy Hydrographic and Meteorology School on cartographic and hydrographic topics.

- f) IOC / GLOSS Courses
Sea Level Training Course – Sea Level Changes : Observation, Interpretation, Application – 2004.
- g) Other opportunities:
- CARIS World Tour Training Program including 6 countries - 2006.
 - Master of Science in Photogrammetry and Geoinformatics, University of Applied Sciences/Stuttgart, Germany – Academic year - 2007/2008
 - Canada – Acquisition of hydrographic data, Rimouski, Quebec, or via Internet. Teaching in French language. CHS accredited 85 hours training course intended for developing Hydrographic Offices. Open.

3. Re-structuring of the International Maritime Academy (IMA), Trieste, Italy

The IHB has been informed that IMA is under a undergoing process, the modality of which is under consideration by the Italian Government. It is expected that a renovated IMA will continue to exist, as the Academy facilities have significantly contributed to the education and training of IHO Members States.

**REPORT OF THE FIG/IHO/ICA INTERNATIONAL ADVISORY BOARD ON
STANDARDS OF COMPETENCE
FOR HYDROGRAPHIC SURVEYORS AND NAUTICAL CARTOGRAPHERS (IAB)
by the Chairman, Captain Andrew ARMSTRONG, USA**

- | | | | |
|-----------|-----------------------------------|--|--|
| 1. | Chairman: | Mr. Svante ASTERMO (Sweden) (FIG)
Capt. Andrew ARMSTRONG (USA) (IHO) | until July 2004
since July 2004 |
| | Vice-Chairman: | Cdr. Steve SHIPMAN, (UK) (IHO)
Capt. Andrew ARMSTRONG (USA) (IHO)
Mr. Gordon JOHNSTON (UK) (FIG) | until June 2003
June 2003-July 2004
since July 2004 |
| | Secretary: | Capt. Federico BERMEJO (Spain) (IHB) | |
| 2. | Members | | |
| | FIG members | Dr. David WELLS (Canada)
Dr. MOHD RAZALI Mahmud (Malaysia)
Ms. Tiina TUURNALA (Finland) | until Nov. 2005

since May 2004 |
| | IHO Members | Capt. Hugo GORZIGLIA (Chile)
Radm. K.R. SRINIVASAN (India)
Cdre. R.B. JAYARAMAN (India)
Cdre. Lohit BRAHMA (India)
Dr. Luciano SURACE (Italy)
Dr. Delf EGGE (Germany) | until June 2003
until June 2003
June 2003–March 2005
since March 2005
since June 2003
since June 2003 |
| | ICA Members | Mr. Ron FURNESS (Australia)
Dr. Lysandros TSOULOS (Greece) | since Sep. 2001
since Oct. 2001 |
| 3. | Meetings | | |
| | 25th 12 – 18 Jun 2002 | Durham, USA
Hosted by the NOAA/University of New Hampshire Joint
Hydrographic Center | |
| | 26th 03 – 07 Jun 2003 | London, UK
Hosted by Thales Geosolutions | |
| | 27 th 04 – 09 May 2004 | Johor Bahru, Malaysia
Hosted by the Universiti Teknologi of Malaysia | |
| | 28 th 25 – 29 Apr 2005 | Athens, Greece
Hosted by National Technical University Athens | |
| | 29 th 10 – 14 Apr 2006 | Goa, India
Hosted by the Indian Hydrographer. | |

4. Agenda Items

The following are the principal agenda items handled during the above mentioned meetings.

4.1 Review of Courses

During the period 2002/2006, the IAB reviewed the following programmes:

Year 2002 (6)

- *Post-Graduate Course in Hydrography for Naval Officers of the Venezuelan Navy.* The board was unable to review this course as it was submitted in Spanish and against the superseded 8th Edition of the standards. The board encouraged Venezuela to resubmit in English in a future year.
- *Basic Hydrography Course of the Bangladesh Navy Hydrographic School.* Recognition was not granted at this time; the board identified the shortcomings and encouraged a new submission in a future year.
- *Hydrographic Education Programme of the University of Otago (New Zealand).* Awarded Category A recognition.
- *Programme for Bachelor of Engineering Degree in Hydrography of the Dalian Naval Academy (China).* Awarded Category A recognition with Options 1, 2, 3, 4, 5, 6, and 7.
- *Advanced Training Course on Hydrography for Officers (CAHO) of the Brazilian Navy.* Awarded Category A recognition with Option 1.
- *Royal Australian Navy H2 Hydrographic Surveying Course.* Awarded Category B recognition with Options 1 and 6.

Year 2003 (6)

M-5 Hydrography

- *The Royal Navy's HM2 Course (UK).* Awarded Category B recognition with Option 6.
- *Advanced Training Course on Hydrography of Officers – EPSHOM (France).* Awarded Category B recognition.
- *Programme for National Diploma in Hydrography of the Dalian Naval Academy of China.* Awarded Category B recognition with options 1, 2, 3, 4, 5, 6, and 7.
- *Specialization Course in Hydrography of the Portuguese Hydrographic Institute.* Awarded Category A recognition with Options 1 and 2.
- *Hydrographic Course Programme of the Tunisian Hydrographic Service.* The board was unable to completely review this course as the documentation was only partly in English and some required items were missing. The board identified the shortcomings and encouraged Tunisia to resubmit in a future year.

M-8 Cartography

- *UKHO Hydrographic Data Processing and Marine Cartography Programme.* Recognition was not granted at this time. This was the first course submitted against the newly adopted “Standards of Competence for Nautical Cartographers.” Although the programme was

submitted for consideration at the Category A level, the board concluded that as organized, the programme would be more appropriately considered at the Category B level, and invited the UKHO to resubmit a slightly revised programme for review at that level.

Year 2004 (5)

M-5 Hydrography

- ***Course of Hydrography for Naval Officers of Peruvian Hydrographic Service.*** Awarded Category B recognition with Options 1, 2, 5, and 7.
- ***Basic Hydrographic Course of the Bangladesh Navy.*** Recognition was not granted at this time. The board identified shortcomings and requested submission of additional material for review in the inter-sessional period.
- ***Technical Course in Hydrography from the Portuguese Hydrographic Service.*** Awarded Category B recognition with Options 1 and 2.

M-8 Cartography

- ***Model Course in Nautical Cartography of the International Maritime Academy, Trieste (Italy).*** Awarded recognition at Category B level. The board identified some enhancements that if implemented would allow this course could be recognized at the Category A level. The board invited the IMA to resubmit at the A level during the inter-sessional period.
- ***Programme for Bachelor of Engineering Degree in Nautical Cartography from the Dalian Naval Academy, China.*** Awarded Category A recognition.

The Board notes that these two programmes are the first courses to receive recognition in accordance with the “*Standards of Competence for Nautical Cartographers,*” and views this as an important milestone in the enhancement of nautical cartographic skills worldwide.

Year 2005 (5)

M-5 Hydrography

- ***Basic Hydrographic Course of the Bangladesh Navy*** was awarded recognition at the Category B level based on additional materials submitted during the inter-sessional period (see entries in 2002 and 2004, above).
- ***Course in Hydrography for Naval Officers of the Indonesian Navy (SEHIDRAL).*** The board was unable to award continued recognition of this course, based on the material provided. The board identified the shortcomings and requested resubmission, allowing the existing certificate to remain valid for one additional year.
- ***Course of Hydrography for Naval Officers of the Spanish Hydrographic School.*** Awarded Category A recognition with Options 1 and 6.

M-8 Cartography

- ***Model Course in Nautical Cartography of the International Maritime Academy, Trieste (Italy)*** was awarded recognition at the Category A level based on additional materials submitted during the inters-sessional period (see entry in 2004, above).
- ***UKHO Hydrographic Data Processing and Marine Cartography Programme*** was awarded recognition at the Category B level based on a revised submission provided and reviewed during the inter-sessional period (see entry in 2003, above).

Year 2006 (4)**M-5 Hydrography**

- *Course in Hydrography for Naval Officers of the Indonesian Navy (SEHIDRAL)*. Awarded Category B recognition with Options 1 and 2 (see entry for 2005, above).
- *Course of Hydrography for Naval Officers of the Tunisian Hydrographic Service*. The board decided to award recognition at the Category B level with Option 1, pending receipt of amplifying information. Final action on recognition is still pending.
- *Basic Hydrographic Course (CatB) of National Hydrographic School (India)*. Awarded Category B recognition with Options 1 and 6.
- *Long Hydrographic Course (CatA) of the National Hydrographic School (India)*. Awarded Category A recognition with Options 1, 2, and 3.

4.2. Review of the Standards**Year 2002**

M-5 Hydrographic Surveyors—The 9th Edition of the *Standards of Competence for Hydrographic Surveyors* having just been published, the board took no action on M-5.

M-8 Nautical Cartographers—Capt. Hugo Gorziglia, former chairman presented the draft Preface and Detailed Syllabus sections of the board's new document, *M-8 Standards of Competence for Nautical Cartographers*. The Board thoroughly reviewed these two principal parts of the Standard and approving the structure and content of the drafts, produced a Provisional 1st Edition, divided, as is M-5, into Basic and Essential Subjects. The board agreed to continue work on the provisional draft, with the intent to approve the document at the 26th meeting in 2003. Although this new Standard still required approval from the three parent organizations before being officially issued, it was made available on the IHO web site in its provisional form for the benefit of institutions planning cartographic courses.

Year 2003

M-5 Hydrographic Surveyors—The board agreed that it should begin to consider amendments to the 9th Edition and organized 4 teams to start this effort during the inter-sessional period.

M-8 Nautical Cartographers—The board discussed and approved final amendments to the Provisional standards and approved the final text of the 1st Edition of *Standards of Competence for Nautical Cartographers*. Approval of this document represents the beginning of a significant new mission for the International Advisory Board, and the recognition that nautical cartography is an essential component of hydrographic expertise, both within the IHO and in other segments of the profession.

The 1st Edition of *Standards of Competence for Nautical Cartographers* (M-8) became available from the IHB web page.

Year 2004

M-5 Hydrographic Surveyors—the board reviewed proposed amendments and incorporated the amendments into the text of Edition 9. The amendment included a more detailed set of instructions for the content and documentation of a submission, and a number of minor changes in the Basic and Essential subject competencies. **The revised Standards will be known as 9th Edition, updated 2004.** As the document now is distributed electronically, amendments to the Standards will be

incorporated as necessary and the document will be described by edition number and year. Major revisions will result in a new edition number, whereas minor revisions will be reflected by a change in the year number.

M-8 Nautical Cartographers— The 1st Edition of the Standards of Competence for Nautical Cartographers having just been published, the board took no action on M-8.

Year 2005

M-5 Hydrographic Surveyors—the board approved several minor revisions to Essential subjects 3 and 4 and incorporated the changes into the **9th Edition, updated 2005**. Dr. Wells presented new text for guidelines for submission and a model spreadsheet file demonstrating a hypothetical syllabus section submission for consideration as an appendix to M-5 standards. The model would provide institutions with an example of what the board considers a high-quality submission.

M-8 Nautical Cartographers—the board revised the preamble and the section on documentation to be submitted to make the submission requirements of M-8 consistent with those of M-5. The changes were incorporated into the Standards, **M-8 1st Edition, updated 2005**.

Mr Furness presented a new reviewing form for evaluation of submitted courses under M-5 and M-8. The new form was accepted and put in use by the board.

Year 2006

M-5 Hydrographic Surveyors—the board considered the proposed new guidelines for submission and decided against inclusion of the new text into the standards at this time. The board also reviewed a proposal from the USA (NOAA and Navy) to consider the development of standards for a new level, a so-called Cat C reflecting entry level training and technician level competence in hydrographic surveying. After considerable discussion, the board decided against development of a Cat C standard at this time. Some minor amendments were incorporated into the Standards, **M-5 9th Edition, updated 2006**.

M-8 Nautical Cartographers—the board approved a number of minor amendments for incorporation into the next year update of the standards.

4.3 Other Agenda Matters

- **Updating of Publication M-6**

After a brief discussion in 2004, the Board reaffirmed in 2005 the value of Publication M-6 *List of Reference Texts*, and asked the Vice Chairman and Secretary to investigate the possibility of updating M-6 and converting it to a database for publication on the IHO web page. Following the 2005 meeting the board asked the IHB to carry out this conversion with support on content from the members of the board. The IHB has agreed and is providing financial support for the update/conversion. In 2006, the Vice Chairman updated the board on progress and the board scheduled additional input and review to be accomplished in the inter-sessional period. Completion of the project is anticipated in 2007.

- **Work Programme**

In accordance with the request of the IHO, the FIG/IHO/ICA International Advisory Board Work Programme 2006-2008 was completed and submitted at the 2006 meeting of the board. The work programme will be extended for one year on an annual basis.

- **Additional Funding Mechanisms for the IAB**

The Terms of Reference for the IAB specify that the expenses of individual members of participation in the IAB will be funded by the members or their sponsoring organizations. It is becoming increasingly difficult, particularly for the FIG and ICA representatives on the board who are not sponsored by governmental organizations, to locate funding for the international travel necessarily involved in meetings of the board. Furthermore, both M-5 and M-8 include provisions for the IAB to perform inspection visits at institutions seeking recognition or re-recognition. While the board believes that inspection visits are crucial in assuring the capabilities of institutions seeking recognition, it is impossible to consider such visits under the present funding mechanism for the IAB. The board is examining options for additional funding, including consideration of establishing a partial cost-recovery fee for the review of courses and inspection visits associated with review of courses. Fees for similar audit, accreditation, or certification reviews and visits are common in the educational sector.

- **Individual Competency Schemes**

There has been, within the hydrographic community, an ongoing discussion of the development and maintenance of professional standards. Although the IAB has never recognized or certified individual hydrographers, there exists an unfortunate but common practice of referring to individuals who have completed IAB-recognized training programmes as “Category A” or “Category B” hydrographers. There have been, in fact, some recent government-issued requests for tender that require the participation or direction by a “Category A” hydrographer. Since the original creation of the IAB, the hydrographic profession has grown considerably, and there are now significant numbers of hydrographers working outside of national hydrographic offices. While the increase in recent years of recognized courses provided by academic institutions has helped provide a mechanism for hydrographic training of non-government hydrographers, there remain many hydrographers for whom attendance of an IAB-recognized course is not practicable. Also, there have been significant advancements in hydrographic technology within the past decade, and there are no formal provisions for assuring that practicing hydrographers maintain their professional competencies. Unlike the requirement that recognized training programs resubmit their curricula periodically for review by the IAB, there are few requirements for hydrographers to receive periodic formal training to update their knowledge.

In 2002, the board became aware that the International Marine Contractors Association was considering the development of their own set of standards of competence for hydrographic surveyors, and adoption of a related scheme of individual professional competency certification. Recognizing the strong interest by hydrographers, contracting organizations, and hydrographic organizations in assuring the professional competence of hydrographers, and the underlying requirement for complete and accurate hydrographic surveys, the board invited IMCA to make a presentation on their program for assessing individual competency. Following the IMCA presentation the board decided to study the possibility of developing a plan for recognition of individual competency schemes or programs. In 2006, the board received a request from the Australasian Hydrographic Surveyors Certification Panel to review and recognize their programme of individual certification. The board agreed to review the programme as a useful step in determining the feasibility and advisability of recognizing individual competency schemes. The Australasian programme was presented at the 2006 meeting. Although the board was not able to recognize the Australasian programme, the board is very grateful to the AHSCP for its presentation and found the presentation very useful in its continued study of the issue. Continued discussion of individual competency schemes is planned for the IAB’s 2007 meeting.

In October 2006, at the XX FIG Congress, the Chairman briefed the International Federation of Surveyors (FIG) Commission 4 (Hydrography) on the IAB’s activity to date on individual recognition. Commission 4 requested that the IAB continue its study and expressed the Commission’s desire that the board develop a mechanism for the recognition of individual competency schemes.

5. Conclusions

- 5.1. The IAB has contributed to improve the level of international hydrographic competence, providing guidance to the international hydrographic community about hydrographic and cartographic education by granting recognition certificates to 19 hydrographic or cartographic programmes during the period. The IAB also provided advice for the development of an unclassified programme for hydrographic training.
- 5.2. The Standards of Competence have been kept updated with the incorporation of new technologies and methodologies. During the period, a new set of Nautical Cartographic Standards have been completed and issued and the standards converted from slow-to-change printed documents to annually updated electronic versions. The new standards and annual editions represent a clear improvement in the maintenance and availability of up-to-date guidance for hydrographic and cartographic training and education programmes.
- 5.3. The IAB is grateful to the permanent support provided by the IHB and IHO Member States that contribute with their experts to the work of the Board. The board also recognises the priority that FIG and ICA are giving to the IAB and their support for the work of the board.
- 5.4. The work of the IAB is absolutely essential to the development and maintenance of hydrographic and cartographic expertise worldwide. The *Standards of Competence* developed and published by the board are now the internationally-accepted criteria for expertise in hydrography and nautical cartography. In the environment of contracted services, the competence of individuals is becoming increasingly important to the quality of hydrographic work, and the IAB must address that aspect of competency to maintain its pre-eminent role in setting standards of expertise.

6. Proposals for adoption by XVIIth International Hydrographic Conference:

The Conference is requested to adopt the present Report of the FIG/IHO/ICA International Advisory Board on Standards of Competence for Hydrographers and Nautical Cartographers, and

- 6.1 The conference is requested to endorse the IAB's development of a process for recognition of national, regional, or industrial schemes of individual certification, and the preparation of standards for such individual certification schemes.
 - 6.2 The Conference is requested to endorse the development by the IAB of new cost-recovery mechanisms for partial funding of critical activities of the IAB.
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**REPORT OF THE JOINT IHO-IOC GUIDING COMMITTEE FOR
THE GENERAL BATHYMETRIC CHART OF THE OCEANS (GEBCO)
by the Chairman, Mr. David MONAHAN, Canada**

- | | | |
|----------------------------|--|---|
| 1. Chairperson: | Sir Anthony LAUGHTON (UK)
Mr. David MONAHAN (Canada) | until April 2003
from April 2003 |
| Vice-Chairperson: | Mr. David MONAHAN (Canada)
Dr. Robin FALCONER (New Zealand) | until April 2003
from July 2005 |
| Secretary: | Mr. Brian HARPER (UK)
Professor Bob WHITMARSH (UK) | 1997-2000
from January 2001 |
| 2. Membership: IHO: | Ing. gén. Etienne CAILLIAU (France)
Dr. Chris FOX (USA)
Mr. Alexis HADJANTONIOU (Greece)
Dr. Michael S. LOUGHRIDGE (USA)
Cdr. Paolo LUSIANI (Italy)
Mr. David MONAHAN (Canada),
Ing. gén. de l'armement Patrick SOUQUIERE (France) until 2002,
Dr. Kunio YASHIMA (Japan). | from 2003,
from July 2005,
until May 2004),
until January 2006,
from February 2005, |
| | IOC: Dr. Robin FALCONER (New Zealand),
Lic. José Luis FRIAS SALAZAR (Mexico),
Dr. Martin JAKOBSSON (Sweden)
Dr. Meirion JONES (UK; 2003)
Sir Anthony LAUGHTON (UK)
Dr. Hans-Werner SCHENKE (Germany),
Dr. Nataliya TURKO (Russian Federation)
Dr. Gleb UDINTSEV (Russian Federation) | from 2006),
June 2006,
until April 2003,
from June 2006),
until June 2006). |

3. Meetings

2002

The 13th meeting of the GEBCO Officers was held in Durham, New Hampshire, USA in 20-21 May 2002.

Ref: Doc. IOC-IHO/GEBCO Officers XIII and Sub-Committee on Digital Bathymetry XIX.

The 19th meeting of the Sub-Committee on Digital Bathymetry was held in Durham, New Hampshire, USA in 16-17 May 2002. The report of this meeting was incorporated into the minutes of the GEBCO Officers (GEBCO Officers XIII).

Ref: Doc. IOC-IHO/GEBCO Officers XIII and Sub-Committee on Digital Bathymetry XIX.

The 15th meeting of the Sub-Committee on Undersea Feature Names was held in Monaco in 7-10 October 2002.

Ref: Doc. IOC-IHO/GEBCO SCUFN-XV/10

2003

The 19th meeting of the GEBCO Guiding Committee was held in Monaco in 16-17 April 2003.

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XIX and Sub-Committee on Digital Bathymetry XX.

The 20th meeting of the Sub-Committee on Digital Bathymetry was held in Monaco in 12 April 2003. The report of this meeting was incorporated into the minutes of GEBCO Guiding Committee (GEBCO Guiding Committee XIX).

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XIX and Sub-Committee on Digital Bathymetry XX.

The 16th meeting of the Sub-Committee on Undersea Feature Names was held in Monaco in 10-12 April 2003.

IOC-IHO/GEBCO SCUFN-XVI/3

2004

The 20th meeting of the GEBCO Guiding Committee was held in Portovenere, Italy in 1-6 April 2004.

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XX.

The 17th meeting of the Sub-Committee on Undersea Feature Names was held in St Petersburg, Russian Federation in 8-11 June.

IOC-IHO/GEBCO SCUFN-XVII

2005

The 21st meeting of the GEBCO Guiding Committee was held in Aguascalientes, Mexico in 11-12 July 2005. The 22nd meeting of the GEBCO Guiding Committee was held in Durham, New Hampshire, USA in 3 December 2005.

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XXI and Sub-Committee on Digital Bathymetry XXI.

The 21st meeting of the Sub-Committee on Digital Bathymetry was held in Aguascalientes, Mexico in 27-28 July 2005. The report of this meeting was incorporated into the minutes of GEBCO Guiding Committee (GEBCO Guiding Committee XXI).

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XXI and Sub-Committee on Digital Bathymetry XXI.

The 18th meeting of the Sub-Committee on Undersea Feature Names was held in Monaco in 3-6 October 2005.

IOC-IHO/GEBCO SCUFN-XVIII/3

2006

The 23rd meeting of the GEBCO Guiding Committee was held in Bremerhaven, Germany in 19-20 June 2006.

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XXIII and Sub-Committee on Digital Bathymetry XXII.

The 22nd meeting of the Sub-Committee on Digital Bathymetry was held in Bremerhaven, Germany in 14-16 June 2006. The report of this meeting was incorporated into the minutes of GEBCO Guiding Committee (GEBCO-XXII).

Ref: Doc. IOC-IHO/GEBCO Guiding Committee XXIII and Sub-Committee on Digital Bathymetry XXII.

The 19th meeting of the Sub-Committee on Undersea Feature Names was held in Bremerhaven, Germany in 21-23 June 2006.

2007

The 24th meeting of the GEBCO Guiding Committee is planned to be held at the Lamont-Doherty Geological Observatory, New York, USA in September 2007.

The 20th meeting of the Sub-Committee on Undersea Feature Names is planned to be held in Monaco in 9-13 July 2007.

SUB-COMMITTEE ON DIGITAL BATHYMETRY (SCDB)

1. **Chairman:** Dr. Meirion T. JONES (UK; until April 2003)
Dr. Walter SMITH (USA; from April 2004)
- Secretary:** Professor Bob WHITMARSH
2. **Members:** [Dr Michael Carron](#), [Mr Norman Z. Cherkis](#), [Dr Andrew Goodwillie](#), [Mr Alexis E. Hadjiantoniou](#), [Dr John K. Hall](#), [Mr Peter Hunter](#) (until December 2005), [Dr Michael S. Loughridge](#), [Mr Ron Macnab](#), [Dr Andrey Popov](#), [Mr William Rankin](#), [Dr -Ing. Hans-Werner Schenke](#), [Dr George Sharman](#), Dr. Walter Smith (from May 2002), [Mr Shin Tani](#).

SUB-COMMITTEE ON UNDERSEA FEATURE NAMES (SCUFN)

1. **Chairman:** Dr. Robert L. FISHER (USA; until April 2003)
Dr. Hans-Werner SCHENKE (Germany; from April 2003)
- Secretary:** Ing. en chef M. HUET (IHB)
2. **Members:** [Dr Galina Agapova](#), Lt. Cdr Harvinder Avtar (from July 2005), Mr Norman Z. Cherkis (from April 2003), [Dr Robin K.H. Falconer](#) (until October 2002), Lic. José Luis FRIAS Salazar (from July 2005), [Rear Admiral Neil Guy](#) (until May 2002), Dr Hyun-Chul HAN (from June 2006), Dr Kunikazu Nishizawa (April 2003 – 2005), Dr Yasuhiko Ohara (from July 2005), L. Cdr. Rafael PONCE Urbina (from July 2005), Lic. W. Reynoso (from June 2006), [Mr Desmond P D Scott](#) (until 2003), Capt Vadim Sobolev (from April 2003), Mrs Lisa Taylor (from April 2003), Capt. Albert E. Theberge (from July 2005), [Dr Kunio Yashima](#) (until 2003).

4. Agenda Items

GEBCO is a project that is open to all those interested in mapping the ocean floor. It relies largely on the voluntary efforts of an international collaborating community of scientists and hydrographers with the support of the IHO and the IOC. Because of its voluntary nature progress may at times seem sporadic but readers of this report will learn that GEBCO has made substantial progress on many fronts in the last five years.

4.1 GEBCO Centenary

GEBCO celebrated its Centenary in 2003. The Centenary Commemoration, which was jointly organized by GEBCO, the IHO and the IOC with a contribution from the Government of Monaco, was held in Monaco on 14-16 April 2003. It was a complete success in no small part due to the efforts of GEBCO's Centenary Organising Committee chaired by Dr Loughridge. GEBCO is also greatly indebted to the staff of the International Hydrographic Bureau for their efforts in providing the local organisation of the event.

The main component of the event was the Conference "*Charting the Secret World of the Ocean Floor. The GEBCO Project 1903-2003*", which brought together a selection of very interesting papers on subjects ranging from the early years to the future of GEBCO, with

special emphasis on Ocean Mapping in the 21st Century. These papers were subsequently published on CD-ROM. The Conference was attended by more than 150 specialists who were impressed by the high quality of the presentations, including 3-D dynamic pictures of the seabed and other state-of-the-art developments in digital bathymetry. Associated events were:

- The publication of a 140-page book “*The History of GEBCO, 1903-2003*”, with numerous colour plates, published by GITC bv.
- The publication of the Centenary Edition of the GEBCO Digital Atlas which includes a gridded version of GEBCO contours and terrestrial relief presented on a one minute (latitude by longitude) global grid. A copy was distributed to Conference participants.
- A technical ocean mapping exhibition, which included the first bathymetric map of the whole Indian Ocean, generated from gridded data, and bathymetric products of several International Bathymetric Chart (IBC) projects.
- The unveiling of a commemorative plaque by H.S.H. Prince ALBERT of Monaco during the Opening Ceremony.

4.2 GEBCO Products

During the Centenary Conference in 2003 the new 1-minute gridded Centenary Edition of the GDA (referred to as the GDA-CE) was released. This represented the culmination of strenuous efforts by many people within GEBCO to meet a tight deadline. The software interface of the new GDA exhibits great flexibility in the types of displays that can be created and in addition can be used to create profiles of relief, to plan cruise tracks and to enquire about feature and place names. In December 2002, at the Fall meeting of the American Geophysical Union in San Francisco, 400 people visited a booth run by GEBCO. In April 2003, the new GDA was shown to a similar number of people attending the European Geophysical Assembly in Nice, France.

Subsequently in February 2004 a system was set up to allow users to access 20x20 degree tiles of bathymetry from the GDA-CE over the internet. This rapidly proved to be very popular. An upgraded version of the GDA-CE is now (October 2006) available with an improved software interface. In June 2006 the GDA grid was also made freely available for downloading from the GEBCO web site (www.gebco.net).

Cumulative Sales and Distribution of the GDA-CE up to May 2006 were 994 copies distributed to 82 countries (of which 553 were sold including 167 in the year to May 2006).

A small group has used the GDA-CE as the basis for a new, poster-sized, World Map of ocean bathymetry and land images intended to be printed at 1:35 million scale. The map, ten thousand copies of which will be printed in late 2006, is designed primarily for educational use. It will also be accessible over the internet.

4.3 GEBCO Web Site

The Web site was re-organised in 2003-2004 under a contract with Dr Goodwillie and continues to be a useful source of information about GEBCO for the community. In 2005, through the good offices of Mr John von Rosenberg, a new URL address was obtained at www.gebco.net. This URL, which is easier to remember than that of the actual physical host at NGDC (<http://www.ngdc.noaa.gov/mgg/gebco/gebco.html>), immediately forwards all clients to the NGDC site. GEBCO is indebted to NGDC for continuing to host this site. A recent survey (2006) has shown that the GEBCO web site is experiencing an increasing number of hits per month.

4.4 GEBCO Officers and Guiding Committee meetings

In May 2002 it was agreed that henceforth the Guiding Committee should meet every year rather than holding just Officers meetings in alternate years.

In April 2003 Sir Anthony Laughton resigned from the Chairmanship of GEBCO. The Guiding Committee gratefully acknowledged his great contribution to GEBCO over many years. Mr David Monahan took over as chair.

4.5 Undersea Feature Names

In April 2003, Dr. R.L. Fisher resigned from the Sub-Committee on Undersea Feature Names (SCUFN) after more than 20 years of authoritative leadership of the committee and a huge contribution to GEBCO.

Dr. H.W. Schenke took over the Chairmanship of SCUFN from Dr Fisher. The committee has expanded its membership and increased its activities in the quinquennial period. The Sub-Committee has a high workload caused by an increase in proposed names for undersea features. The Committee is continuing to harmonise its own and the US Board on Geographic Names Advisory Committee on Undersea Features' (ACUF's) Gazetteers of undersea feature names. The GEBCO Gazetteer of Undersea Feature Names can now be downloaded from the GEBCO web site. An electronic form, also accessible from the web site, has also been devised to make it easier to propose names to the committee. Now this can even be done at sea during a research cruise or hydrographic survey!

4.6 Technical Issues

The Sub-Committee on Digital Bathymetry reached a critical moment in April 2003 when Dr Meirion Jones, its Chairman, retired after 20 years in post. Considerable discussion followed on the need for, and aims of, any successor committee and there was a hiatus until 2005. Eventually Dr Walter Smith was invited and agreed to be Chairman in April 2004 and the committee decided on a more appropriate name to reflect its aims and activities, the Technical Sub-Committee, in June 2006. During the interregnum (2003-2004) two Working Groups had considered how best to assimilate and acquire data for the IHO DCDB and how to integrate geoscientific data, such as satellite altimetry, into GEBCO products. It was decided to abandon the idea of concurrently maintaining a contour-based grid and a soundings-based grid in favour of the latter.

The principal technical issues at stake now are how to combine soundings with multibeam data and how to incorporate gridded data presented at different grid intervals. It is also important to devise ways to assimilate data more rapidly than in the past and to make the updated data sets widely available.

4.7 Regional and Global Mapping

Members of the GEBCO community have been instrumental in initiating one new Regional Mapping project in the quinquennial period. This is the International Bathymetric Chart of the Southern Ocean (IBCSO) which was first mooted at the GEBCO meeting in 2002. The International Bathymetric Chart of the Arctic Ocean (IBCAO) and the International Bathymetric Chart of the Mediterranean (IBCM) are also being updated and GEBCO has also been actively involved in the production of the International Bathymetric Chart of the Caribbean (IBCCA) which is well advanced. Two other Regional Mapping projects are being planned in the North Atlantic and Indian Oceans. The Guiding Committee has accepted that, given the limited resources available, carrying out regional mapping projects of particular seas or geographic units is one achievable step that contributes to mapping the global ocean.

On the other hand it has also been recognised that to make progress on a global scale it is necessary to solve the problems of how to ingest new gridded data sets, down to a 0.1' grid interval, and how to merge 'depths' computed from satellite altimetry with sounding observations. GEBCO is tackling such problems in parallel with regional mapping.

A new World Map based on the GDA-CE has also been produced (see Section 4.2).

There are recurring problems with accessing data sets collected by individual scientists, government agencies and military organisations. Often these data can eventually be obtained, even if in decimated form, but each case needs a separate approach and sometimes success is achieved only through personal contact. This is very time consuming.

4.8 Collaboration

To encourage closer co-operation with IOC's Consultative Group on Ocean Mapping (CGOM) and IOC's Ocean Mapping projects joint sessions were held with CGOM in April 2003 in Monaco and June 2006 in Bremerhaven, Germany. GEBCO has always been happy to work with the groups producing IBCs. It intends to work with CGOM with a view to better formalising the relationship between GEBCO and CGOM for the benefit of ocean mapping.

4.9 IHO Data Center for Digital Bathymetry

The IHO Data Center for Digital Bathymetry has been very active during the quinquennium and continues to supply substantial amounts of data for GEBCO products. A separate report is provided elsewhere.

4.10 The role of the VHOs

The greatest contribution that VHOs can make to GEBCO and its products is in the donation of shallow-water soundings and data culled from electronic and digital navigational charts. A questionnaire was circulated in 1996 by the IHB (Circular Letter 20/2006) to VHOs requesting that such data be made available. The response was generally disappointing although 14 countries had replied positively.

However, more recently, as was reported at the 2006 GEBCO meeting Bremerhaven, the IHB has had considerable success in obtaining shallow-water data from the electronic and digital navigational charts of eight VHOs and these data are now being incorporated into GEBCO databases.

4.11 Impact of UNCLOS surveys

Many coastal states have until 13th May 2009 to submit their claims to an offshore legal 'continental shelf' under Article 76 of the UN Law of the Sea (UNCLOS). To support such claims bathymetric surveys have been carried out over many continental shelf and margin areas and it is hoped that many of these data will enter the public domain, and hence be accessible to GEBCO, after each claim has been examined by the UN Commission on the Limits of the Continental Shelf.

4.12 Tsunamis

The devastating Asian tsunami of December 2004 made the importance of ocean bathymetry painfully apparent. Ocean bathymetry, and more finely gridded, shallow-water, coastal surveys in particular, are vital to model and predict the timing of arrival and the amplitude of run-up in coastal areas. Ocean bathymetry is particularly important for identifying isolated and relatively shallow-topped seamounts which influence the direction taken by tsunamis as

they propagate across oceanic basins. Since December 2004 GEBCO has begun to work more closely with key members of the tsunami modelling community while recognising that its main focus must remain in the deeper ocean areas.

GEBCO is also becoming involved in the intergovernmental *ad hoc* Group on Earth Observations (GEO) organisation which was set up by G8 Ministers to coordinate efforts in response to the Asian tsunami. It has been gratifying to note that bathymetry has been recognised as an important component of the efforts of the [Global Earth Observation System of Systems](#) (GEOSS) which aims to create data bases of satellite and remotely sensed data.

4.13 SSPARR Buoys

In 2003 Mr. Anderson and others submitted a proposal to the USA National Science Foundation to acquire soundings from free floating buoys that transmitted their data back to shore via satellite. The objective was to acquire bathymetric data from poorly surveyed oceanic areas and from floating ice in the Arctic Ocean. The proposal was eventually funded and following sea trials in October 2004 the first buoys are planned to be deployed in the Arctic in the near future.

4.14 Bathymetric Editor

Mr. P.M. Hunter, who had been GEBCO's Bathymetric Editor for some 17 years, resigned in late 2005 to enable him to broaden his career. Mr C.L. Jacobs, also from the National Oceanography Centre, Southampton, UK, took over as GEBCO's Bathymetric Editor in January 2006. GEBCO remains very grateful to the UK's Natural Environment Research Council for continuing to provide support of the Editor.

4.15 IHO Guidelines

An updated edition of the IHO-IOC Publication B-7 "GEBCO Guidelines" was produced in April 2003. This edition includes improvements to Chapter 2 "Bathymetric Data Management" and Chapter 4 "Multibeam Echo Sounders", as well as Annex 2 "Specifications for International Bathymetric Charts (IBC) produced under IOC's Regional Ocean Mapping Projects".

4.16 GEBCO Strategic Plan

Version 3.1 of a draft Strategic Plan for GEBCO was produced in May 2002 and developed subsequently at GEBCO's annual meetings up to July 2005. A Strategy Planning Committee, which had met for the first time in 2001, was disbanded in April 2004.

4.17 The future funding of GEBCO

The future funding of GEBCO continues to be a concern. GEBCO's sole source of regular cash income is from a half-share in the sale of the GDA-CE on CD ROMs. Other substantial support, either in kind or in funds, has been provided by the IHO Secretariat, the IOC Secretariat (until 2005) and by the UK Natural Environment Research Council all of which is gratefully acknowledged. Occasional gifts from a private source are also highly appreciated and gratefully received. Almost all other resources are obtained by individuals donating their own time, and sometimes their own funds, to GEBCO.

4.18 Nippon Foundation

Discussions at the 2002 GEBCO meeting identified the need for a new generation of ocean mappers as a key strategic issue. This led to a successful major funding proposal to the Nippon Foundation in 2003. The project, which is called the Nippon Foundation/GEBCO Training Project, is focused on the development of human resources in ocean mapping. Initially an *ad hoc* Project Management Group, later (from July 2005) a Project Management Committee, chaired by Dr Robin Falconer, was set up. Within a few months, after inviting tenders to run the project, the Center for Coastal and Ocean Mapping/Joint Hydrographic Center of the University of New Hampshire, USA was awarded a contract to run a series of 12-month courses leading to a Postgraduate Certificate in Ocean Bathymetry. In mid-2004, after short listing and interviewing four candidates from among 31 applicants, Mr David Monahan was appointed as Project Manager based in Durham, New Hampshire and he took up his post in August 2004.

The first seven students started at the University in September 2004; coming from Japan, India, Fiji, Peru, Argentina, Nigeria and Kenya. The project continues to thrive. Five students started in September 2006 and six more in September 2007. By August 2007, 18 students from 12 countries will have been trained in ocean bathymetry. Negotiations are currently underway with the Nippon Foundation to define the form of the project after August 2007.

4.19 Reorganisation of Ocean Mapping and New Terms of Reference

In April 2004, at the annual GEBCO meeting, the IHO and IOC Secretariats proposed a structure for the re-organisation of Ocean Mapping that included GEBCO and the Ocean Mapping Programme of the IOC working under an Ocean Mapping Directing Board. This was strenuously and almost unanimously rejected by the GEBCO community because it was perceived to be ill-conceived and to take no account of the voluntary nature of the contributions made by the GEBCO community nor to show any understanding of the manner in which GEBCO operates. The only perceived advantage in the proposed structure was the attempt to ensure closer collaboration between GEBCO and those producing the International Bathymetric Charts (IBCs) of IOC. However it was also recognised that members of GEBCO were already involved in all the proactive IBCs and that the injection of GEBCO people into the less active IBCs was unlikely to bring them to life. Fruitless negotiations on the proposed restructuring took place subsequently up to 2006.

At last, in June 2006, it was agreed with the IHO and IOC Secretariats that GEBCO should rewrite the Terms of Reference of its Committees. This was long overdue and has been needed to meet changing circumstances and to increase GEBCO's flexibility of operation. It has been evident for some time that the Terms of Reference and Rules of Procedure of GEBCO's committees need to be revised to bring them in line with GEBCO's current practices and to provide a firmer and clearer framework within which the committees can operate. Therefore, after extensive discussions within the GEBCO Guiding Committee and the wider GEBCO community and discussions and dialogue with the Secretariats of IHO and IOC, new draft Terms of Reference and Rules of Procedure were produced separately for the Guiding Committee, the Technical Sub-Committee (formerly the Sub-Committee on Digital Bathymetry) and the Sub-Committee on Undersea Feature Names. These drafts are submitted as Annexes 1 to 3, respectively, to this report for approval by the Member States of the International Hydrographic Organization and the Intergovernmental Oceanographic Commission, the two parent organizations of the GEBCO Project.

5. Conclusions

The five years of the reporting period have produced many reasons to celebrate, as GEBCO did at its Centenary. The Centenary celebrations typified GEBCO's purposes: the bringing together of experts and administrators with the common aim of mapping the seafloor, and the distribution of the results of their efforts through the publication of maps, grids, books and technical papers. These continued throughout the reporting period with at least three meetings behind held each year, displays at conferences, upgrading of the digital atlas (GDA-CE) and its software interface, making the grid available for downloading from the GEBCO web site, distribution of 994 copies of the GDA to 82 countries (of which 553 were sold including 167 in the year to May 2006), the impending release of a new World Map of ocean bathymetry, re-organisation of the website, the growth of membership of the Sub-Committee on Undersea Feature Names, the production of the Gazetteer of Undersea Feature Names in downloadable electronic form, development of a digital system allowing proposal of names even while at sea during a research cruise or hydrographic survey, interface with the International Bathymetric Chart of the Southern Ocean, the International Bathymetric Chart of the Arctic Ocean and the International Bathymetric Chart of the Mediterranean, the incorporation of shallow-water soundings from electronic and digital navigational charts, updating of specifications, and with the Nippon Foundation the creation of a program that has trained 18 new oceanic bathymetrists, the addition of a Science Day to annual meetings. All these GEBCO activities mean that the 95% of the ocean deeper than navigation depth is better mapped, known and understood than it was five years ago.

6. Recommendations

That, the XVIIth IHO Conference

1. Accepts the GEBCO report as tabled.
2. Endorses the new Terms of Reference and Rules of Procedure of the Guiding Committee and its Subcommittees annexed to the report.
3. Notes that GEBCO is a joint project of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) and as such the new Terms of Reference and Rules of Procedure of the Guiding Committee and its Subcommittees are not in force until also endorsed by the IOC.
4. Recognizing the value of improving the world bathymetry grid in inshore areas, encourages Member States who have not already done to participate in the program that harvests soundings from ENC files.
5. Recommends that the mutually valuable cooperative mapping activities wherein GEBCO maps the entire world ocean and the IBCs apply specialist knowledge to map regional areas, be further supported by Member States. Member States are urged to actively encourage, support and facilitate the submission of all bathymetry data held by organizations within each State to either an IBC or to GEBCO. GEBCO and the IBCs will actively exchange data. Completed IBCs will be published for the benefit of users in their geographic area and submitted to GEBCO for inclusion in the world compilation.

- Annexes**
- A Joint IHO-IOC GEBCO Guiding Committee - Terms of Reference and Rules of Procedure.
 - B Sub-Committee on Undersea Feature Names (SCUFN) -Terms of Reference and Rules of Procedure.
 - C Technical Sub-Committee on Ocean Mapping (TSCOM) (*former SCDB*) - Terms of Reference and Rules of Procedure.
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JOINT IHO–IOC GEBCO GUIDING COMMITTEE
TERMS OF REFERENCE AND RULES OF PROCEDURE

PREAMBLE

GEBCO was proposed in 1899 and became a reality in April 1903 when HSH Prince Albert I of Monaco offered to organize and finance the production of a new chart series designated: “The General Bathymetric Chart of the Oceans” (GEBCO), under the Prince’s Scientific Cabinet. In 1922 the responsibility for GEBCO was passed to the Director of the Oceanographic Museum of Monaco and in 1929 was transferred to the International Hydrographic Bureau (today the IHO). Since 1973, GEBCO has been a joint project of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

The Goals of the IHO-IOC GEBCO Project are to:

- 1) Develop and constantly improve the authoritative description of global ocean depths,
- 2) Act as the designated international authority for undersea feature names,
- 3) Advance the development and application of sea floor mapping technology,
- 4) Encourage and facilitate scientific cooperation leading to the exchange and preservation of bathymetric data and associated metadata,
- 5) Foster collaboration among individuals and organizations with established and developing expertise so as to assist local and regional mapping efforts to attain a global standard of quality,
- 6) Identify oceanic areas that are insufficiently surveyed and recommend to surveying and/or ocean-going organizations and institutions that such areas are mapped.
- 7) Promote education and training in ocean mapping.
- 8) Bring together ocean mappers and users of bathymetry thereby leading to products that are more widely used in science and education.

GEBCO is an IHO and IOC project that is open to all those interested in mapping the ocean floor. It relies largely on the voluntary efforts of an international collaborating community of scientists and hydrographers with the support of the IHO and the IOC.

GEBCO is led by the Joint IHO-IOC GEBCO Guiding Committee.

Terms of Reference

The GEBCO Guiding Committee shall:

1. Guide the GEBCO Project, under the general governance of IHO and IOC while recognising and following IHO and IOC policies, where they are concordant.
2. Prepare and disseminate maps, grids, data files and other appropriate depictions of the ocean floor.

3. Identify the needs of the various user communities of the bathymetry of the world's oceans, study the ways and means whereby these needs can be met and, where appropriate, implement actions or propose to IOC and IHO actions, within their purview, which meet these needs.
4. Stimulate the flow of data relevant to the GEBCO Project by actively identifying sources of new data and encouraging and promoting the release of data to appropriate data banks, with the objective of ensuring that maximum available data are provided to the IHO Data Centre for Digital Bathymetry (DCDB).
5. Supervise the development, maintenance and routine updating of GEBCO products. Activities are to include but are not restricted to:
 - (1) Study and set out procedures for new compilations of bathymetry.
 - (2) Develop standards and methodologies for the production of bathymetric maps and grids and recommend their adoption to the IHO and IOC and to the seafloor mapping community.
 - (3) Supervise the development, production and updating of a worldwide grid of digital bathymetric data.
 - (4) Supervise the preparation and maintenance, in association with national and international bodies, of an authoritative IHO/IOC GEBCO Gazetteer of Undersea Feature Names (Gazetteer of Geographical Names of Undersea Features)
 - (5) Study and implement the best distribution mechanism for the effective use of GEBCO products by all users.
6. Investigate and develop logistical and financial arrangements necessary for the furtherance of the GEBCO Project with the assistance of the IHB and IOC Secretariats.
7. Integrate into its products the geographical names of undersea features that appear in the IHO/IOC GEBCO Gazetteer of Undersea Feature Names.
8. Direct and monitor the work of the GEBCO Sub-Committees and Working Groups; propose to IHO and IOC the creation or termination of Sub-Committees, and create, maintain and terminate Working Groups as deemed necessary.
9. Cooperate, through the Consultative Group on Ocean Mapping (CGOM), with regional International Bathymetric Chart (IBC) projects on the specifications and preparation of regional bathymetric charts, to ensure their compatibility with, and eventual inclusion in, GEBCO products.
10. Build capacity by encouraging and enabling the training and scientific education of new generations of ocean mapping operational experts (bathymetrists) worldwide.
11. Pursue policies that facilitate the suitability of GEBCO products not only for scientific users but also, where appropriate, for educational and socio-economic purposes in the broadest sense.
12. Take all practical opportunities to advocate the scientific and societal benefits of mapping the seafloor.

13. The GEBCO Guiding Committee shall report to the IHO and IOC annually and should also propose activities to be considered in the IHO's and IOC's work programs, identifying and requesting, where necessary, the required funding support.

Rules of Procedure

1. Membership:

- (1) The Committee shall consist of five members appointed by IHO, five members appointed by the IOC, the Chairpersons of the Sub-Committees and the Director of the IHO Data Centre for Digital Bathymetry (DCDB). In close consultation, IHO and IOC will ensure that all the appointed members are, as far as possible, from different regions taking care of a balanced geographical representation
 - (2) Appointed Committee Members shall serve for a term of five years, renewable by a majority of the Committee for one additional five-year term with the approval of the corresponding parent organization.
 - (3) Members of the Guiding Committee, if appointed by IHO or IOC, represent their parent organization as experts⁴ and no substitution shall be allowed.
 - (4) Additionally, the Committee may invite other suitably qualified individuals to take part in their meeting, without voting rights.
 - (5) Members are expected to attend every meeting of the Committee. Committee Members who are absent from meetings over two consecutive years will normally be considered to have resigned and new nominations shall be sought.
 - (6) Business shall be conducted by correspondence between meetings. E-mail communication will be the normal method. The Committee's Minutes and other relevant documents shall be posted on the GEBCO web site linked to the IHO and IOC web sites.
2. The Chairperson and Vice-Chairperson shall be elected by the Committee from among the members appointed by the IHO and IOC, and normally should be from different parent organizations. The Chairperson and Vice-Chairperson are each elected for a four-year term which can be renewed for one additional term by vote of the Committee. These terms shall take precedence, while in office, over the term of membership of the Committee. The Chairperson, or in his/her absence, the Vice-Chairperson, shall conduct the business of the Committee.
 3. The IHB and IOC Secretariats, as well as representatives from Member States of IHO and IOC, may participate as observers in Committee meetings without voting rights.
 4. Meetings shall be held at least every two years. The venue and date of the meeting will normally be decided at the previous meeting, in order to facilitate participants' travel arrangements. Minimum quorum to hold a meeting shall be 6. Committee Members. An extraordinary meeting can be called by the Chairperson or any Committee Member, with the agreement of the simple majority of all members of the Committee. The working language of the Committee shall be English.

⁴ So far as IOC is concerned, the Guiding Committee is classed as a Joint Group of Experts under the IOC guidelines for subsidiary bodies.

5. The Committee shall strive to make decisions by consensus. If, during a Committee meeting, consensus cannot be reached, decisions shall be taken by simple majority vote of Members of the Committee present. At all other times, a simple majority of all Members of the Committee shall be required. The Chairperson shall have the casting vote if there is a tie.
 6. The Committee shall appoint a Secretary for a five-year term which can be renewed by the Committee. At the Committee's request secretarial support shall be provided by IHO and IOC. The Secretary shall be responsible for ensuring that the necessary GEBCO Project coordination is made in accordance with the decisions of the Committee, and that meeting arrangements, invitations, documentation and agenda are prepared. The Secretary shall act as Rapporteur and prepare the draft Summary Report of the meeting which shall be distributed to the Members of the Committee, preferably within one month of the meeting. Member's comments should be returned within one month of distribution of the draft report. The final Summary Report shall be forwarded to the IHO and IOC. The Secretary shall act as secretary between meetings.
 7. The Terms of Reference and Rules of Procedure should be endorsed by the assemblies of IHO and IOC. The Committee may propose to IHO and IOC changes to these Terms of Reference and Rules of Procedure with the approval of two thirds of the Committee. Any change shall enter in force after being endorsed by both IHO and IOC.
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SUB-COMMITTEE ON UNDERSEA FEATURE NAMES (SCUFN)

TERMS OF REFERENCE AND RULES OF PROCEDURE

1. Terms of Reference

1.1 The Sub-Committee on Undersea Feature Names reports to the Joint IOC-IHO GEBCO Guiding Committee (GC) as its designated authority for all matters concerning undersea feature names.

1.2 It is the function of the Sub-Committee to select those names of undersea features in the world ocean appropriate for use on GEBCO graphical and digital products, on the IHO small-scale International chart series, and on the regional IBC series.

1.3 The Sub-Committee shall:

1.3.1 Select undersea feature names from:

- a) names provided by national and international organizations concerned with nomenclature,
- b) names submitted to the Sub-Committee by individuals, agencies and organizations involved in marine research, hydrography, etc.,
- c) names appearing in scientific journals or on appropriate charts and maps,
- d) names submitted to the Sub-Committee by the Chairpersons or Chief Editors of IBC projects, in relation to the work on these projects.

All selected names shall adhere to the principles contained in IHO-IOC Publication B-6 "Standardization of Undersea Feature Names" and be supported by valid evidence. Such names shall be reviewed before they are added to the Gazetteer.

1.3.2 Define, where appropriate, the extent of named features,

1.3.3 Provide advice to individuals and appropriate authorities on the selection of undersea feature names in international waters and, on request, in waters under national jurisdiction.

1.3.4 Encourage the establishment of national boards on undersea feature names where such boards do not exist.

1.3.5 Prepare and maintain an international and worldwide IHO-IOC GEBCO Gazetteer of undersea feature names.

1.3.6 Encourage the use of undersea feature names included in the IHO-IOC GEBCO Gazetteer, on any maps, charts, scientific publications and documents by promulgating these names widely.

1.3.7 Prepare and maintain internationally agreed guidelines for the standardization of undersea feature names and encourage their use.

1.3.8 Review and address the need for revised or additional terms and definitions for submarine topographic features.

- 1.3.9 Maintain close liaison with the UN Group of Experts on Geographical Names, the focal point of which shall be invitations to attend meetings of the Sub-Committee, and with international or national authorities concerned with the naming of undersea features.
- 1.3.10 Provide, where feasible, historical information regarding the origin of pre-existing names and, where necessary, alternative names. This research will include discovery ship and/or organization, information regarding the individual or vessel being commemorated or geographic feature with which the name is associated, origin of alternative names if required and source material regarding naming information.

2. Rules of Procedure

- 2.1 Membership of the Sub-Committee on Undersea Feature Names is covered by the following rules:
- 2.1.1 The Sub-Committee shall normally consist of 12 members, preferably 6 members being appointed by IHO and 6 by IOC. SCUFN members shall be subject to endorsement by the Joint IOC-IHO GEBCO Guiding Committee (GC).
- 2.1.2 Appointed Members of the Sub-Committee represent their parent organization as experts⁵ and no substitution shall be allowed.
- 2.1.3 Members of the Sub-Committee shall be appointed for a four-year period, which may be extended for a period of two additional years, with a further provision that, if there are no requests for a member to be included from another Member State, that a further, additional two years of service may be permitted. If another Member State requests membership, the GC shall decide which member will stand down.
- 2.2 The Chairperson and Vice-Chairperson shall be elected by the Sub-Committee subject to endorsement by the GC. They should normally come from different Parent Organizations.
- 2.3 The Chairperson is elected for a four-year period and will normally be succeeded by the Vice-Chairperson. The Chairperson may be re-elected for one additional four-year period. Should the Chairperson step down before the end of his/her term, the Vice-Chairperson shall take over as Chair till the end of the current term.
- 2.4 The Chairperson, or in his/her absence the Vice-Chairperson, shall conduct the business of the Sub-Committee. Meetings will usually be held every year, ideally before the GC meeting. In the intervening period the Sub-Committee shall conduct its business by correspondence (preferably electronic).
- 2.5 Members are expected to attend every meeting of the Sub-Committee. Sub-Committee Members who are absent from meetings over two consecutive years will normally be considered to have resigned and new nominations shall be sought from the relevant parent organization.

⁵ *So far as IOC is concerned, the Sub-Committee on Undersea Feature Names is classed as a Joint Group of Experts under the IOC guidelines for subsidiary bodies.*

- 2.6 Representatives of non-governmental entities / organisations, or individuals, that can provide a relevant and constructive contribution to the work of the Sub-Committee may attend meetings with observer status. In the event that a large number of observers seek to attend a meeting, the Chairperson may restrict attendance by inviting them to act through one or more collective representatives.
 - 2.7 Observers from IHO and/or IOC Member States may attend meetings. Attendance shall normally be limited to one observer per Member State.
 - 2.8 Proposals which are to be considered at SCUFN meetings must be submitted 30 days before meetings if in electronic form, or 60 days if in analog form.
 - 2.9 The Sub-Committee should strive to decide by consensus. If a vote is necessary, the quorum required is 7 members. The majority required for acceptance is a simple majority of the total number of members. Only members may cast a vote either in person or by correspondence. The Chairman shall have the casting vote if there is a tie.
 - 2.10 Recommendations of the Sub-Committee shall be submitted to the GC for consideration and decision.
 - 2.11 The Chairperson is to submit an annual report to the Chairperson of the GC.
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ANNEX C

TECHNICAL SUB-COMMITTEE ON OCEAN MAPPING (TSCOM) (former SCDB)**TERMS OF REFERENCE AND RULES OF PROCEDURE****Preamble**

In May 1977, at GEBCO-IV, the Guiding Committee decided to form a small Sub Committee on Digital Bathymetry to 'investigate... the question: Is there an advantage [in] having digital bathymetric data?' This led to a very positive report being submitted to the Guiding Committee in May 1983, the formation of a larger and more representative Sub- Committee, with revised Terms of Reference, and a recommendation leading to the establishment of the IHO Data Centre for Digital Bathymetry.

Over the years the annual meetings of this Sub-Committee have gained increasing recognition as being of growing importance to the scientific community. >From a meeting of five experts in 1984, the group had grown to thirty-six experts from twenty-five groups in thirteen countries by June 1999.

By 2006 it was recognized that all GEBCO products and nearly all cartographic activities are “digital”, and after the SCDB XXII meeting in Bremerhaven, Germany it is proposed that, as part of the revision of the GEBCO structure, the sub-committee be renamed the “Technical Sub-Committee on Ocean Mapping” (TSCOM).

1. Terms of Reference

- 1.1 The Sub-Committee reports to the Joint IOC-IHO GEBCO Guiding Committee (GGC) as its designated authority for all technical matters relevant to the goals of GEBCO as set out in the Guiding Committee Terms of Reference and Rules of Procedure.
- 1.2 The Sub-Committee shall:
 - 1.2.1 Maintain and improve GEBCO products and supporting data such as, but not limited to:
 - a) A global bathymetric grid;
 - b) The GEBCO Digital Atlas;
 - c) Databases of soundings, shorelines, land elevations, remotely sensed and other data, generalized to a useful working scale, as may facilitate update of GEBCO products and maintenance of product quality.
 - 1.2.2 Monitor developments in data availability and relevant technology as may impact GEBCO activities, and recommend to the GC actions that will maintain the excellence of GEBCO products.
 - 1.2.3 Provide advice to individuals and appropriate authorities on the scientific and technical aspects of bathymetric mapping, as requested.
 - 1.2.4 Encourage and facilitate the location, acquisition and exchange of sounding, shoreline, remotely sensed and other data supporting bathymetric mapping.
 - 1.2.5 Investigate the application of GEBCO products, beyond the cartographic sciences, with the aim of producing products that are easily applied to other ocean sciences.
 - 1.2.6 Establish, nurture, and/or disband working groups, as needed, to carry out specific tasks or product developments that relate to the technical advance of the GEBCO project.

- 1.2.7 Work with SCUFN on matters of joint interest, such as, but not limited to, the shapes or outlines of named features and the automatic placement of feature names.

2. Rules of Procedure

- 2.1 Membership of the Sub-Committee is covered by the following guidelines:
 - 2.1.1 The Sub-Committee shall consist of up to 10 members, 6 appointed by the Joint IOCIHO GEBCO Guiding Committee (GGC), and 4 appointed by the Sub-Committee.
 - 2.1.2 Members of the Sub-Committee are experts acting exclusively for the benefit of the GEBCO project ⁶. They shall be selected for their individual technical expertise and to complement the overall technical breadth of the Sub-Committee as a whole.
 - 2.1.3 Members of the Sub-Committee shall be appointed for a four-year period, which may be renewed.
- 2.2 The Chair and Vice-Chair shall be elected by the Sub-Committee subject to endorsement by the GGC.
- 2.3 The Chair is elected for a four-year period and will normally be succeeded by the Vice-Chair. The Chair may be re-elected for one additional four-year period. Should the Chair step down before the end of his/her term, the Vice-Chair will take over as Chair till the end of the current term.
- 2.4 The Chair, or in his/her absence the Vice-Chair, shall conduct the business of the Sub-Committee. Meetings will usually be held every year. In the intervening period the Sub-Committee shall conduct its business by correspondence (preferably electronic mail).
- 2.5 Individuals that can provide a relevant and constructive contribution to the work of the Sub-Committee may attend meetings as Scientific Advisors with observer status, at the discretion of the Chair or Vice-Chair.
- 2.6 Entities and organisations that can provide a relevant and constructive contribution to the work of the Sub-Committee may be represented at meetings with observer status.
- 2.7 The Sub-Committee shall strive to decide by consensus. If a vote is necessary, the quorum required is 6 members. The majority required for acceptance is a simple majority of the total number of members.
- 2.8 Recommendations of the Sub-Committee shall be submitted to the GGC for consideration and decision.
- 2.9 The Chair shall submit an annual report to the Chair of the GGC.

⁶ *So far as IOC is concerned, the Sub-Committee is classed as a Joint Group of Experts under the IOC guidelines for subsidiary bodies.*

REPORT OF THE IHO DATA CENTER FOR DIGITAL BATHYMETRY (DCDB)

I. Background

In 1988, a proposal (Circular Letter 41/1988) was written to have the U.S. National Geophysical Data Center (NGDC) operate a worldwide digital data bank of oceanic bathymetry on behalf of the IHO Member States. This proposal was revised in response to Member State comments and the International Hydrographic Organization Data Center for Digital Bathymetry (IHO DCDB) was officially established on 1 June 1990 at the NGDC. Since that time, the IHO DCDB has made substantial progress toward establishing itself as the focal point for the digital bathymetric data service for IHO Member States and toward ensuring that maximum benefits to the IHO accrue from the parallel and co-located operation of the World Data Center for Marine Geology and Geophysics, Boulder and the U.S. National Geophysical Data Center.

II. Major Accomplishments

An abbreviated listing of IHO DCDB and NGDC digital data accomplishments from January 2002 to December 2006 related to Marine Geology and Geophysics are cited below. For a more comprehensive listing, including non-digital data products, as well as predominantly United States related accomplishments, products and services, please consult the web pages at:

<http://www.ngdc.noaa.gov/mgg/announcements/announcements.html>

- 1) **Digital Data Distribution** – In the last five years, the IHO DCDB responded to over 590 requests for data or information from organizations outside the United States. These organizations are located in 42 IHO Member State Countries, as well as several non-IHO Member State countries. This number does not include the number of online data search and retrieval operations that have been performed by web browsers. The IHO DCDB has significantly expanded its online data offerings over the last five years, and is expecting to experience an increasing amount of internet traffic as more data sets become available through its web pages and as data search and download tools improve.
- 2) **Digital Trackline Bathymetry Database Growth** – In the past five years, the IHO DCDB has added more than 5.3 million bathymetric soundings from 315 cruises to the Marine Trackline Geophysics Database. 1.9 million bathymetric soundings from 94 cruises came from IHO Member States other than the United States. The trackline database now contains more than 43 million bathymetric soundings from 4,622 cruises.
- 3) **Multibeam Bathymetry Database Growth** - Over the last five years, the IHO DCDB has added 438 international cruises (5.5 million nautical miles) to its Multibeam Bathymetry Database. Almost one terabyte of multibeam data from these cruises has been archived. The database now holds 1.02 terabytes of downloadable data files from 1,019 cruises (6.6 million trackline nautical miles).
- 4) **National Ocean Service (NOS) Hydrographic Database Growth** – Version 5.0 of the NOS Hydrographic Survey Database, released in the fall of 2006, includes 698 new and corrected surveys (3.4 million soundings) in U.S. coastal regions. The new sounding data was produced from historic surveys through a digitizing contract from 2001 to 2004. The data were then checked for quality at NGDC through 2006. The database now holds over 76.7 million soundings from 6683 hydrographic surveys, selected for the greatest coverage of U.S. coastal waters.

Since 2004, high-resolution multibeam data, sidescan sonar data, and data products have contributed to the collection of hydrographic survey data at NGDC. High-resolution data is now available for the more recent surveys in the form of raw multibeam and sidescan sonar

files, processed multibeam files, mosaicked sidescan sonar images, shaded color relief images 3-D images, and grids. Over 8 terabytes of high-resolution digital survey data are currently archived and distributed by NGDC.

- 5) **Online Data/Metadata Access** – Since 2002, NGDC has considerably expanded the volume and types of data available for download via the web. NGDC has also implemented several new access technologies including geospatially-enabled relational databases for data access and widely-used open source standards and protocols for metadata creation and sharing.

NGDC has implemented ESRI ArcIMS interactive web maps for most of its marine geological and geophysical databases. NGDC's interactive map services provide visual display of data layers, often with links to download data or create a shape file of the underlying layer. Geospatially-enabled data are also available via Open Geospatial Consortium Web Map Services (WMS). The WMS protocol is based on a simple query syntax for posting a request for the desired layers and region to the server, which returns a map as a standard image (GIF, PNG or other format).

Metadata about NGDC's holdings are created in standard Federal Geographic Data Committee (FGDC) form, with International Standards Organization (ISO) compatibility. Metadata are routinely shared with the NASA Global Change Master Directory (GCMD) and the U.S. Geospatial-One-Stop (GOS) web sites via Dublin Core and Z39.50 protocols, as well as posted to a public directory for harvesting by other sources. By sharing metadata that includes links to NGDC databases, NGDC effectively provides more discovery and access points for our data holdings.

- 6) **Marine Trackline Geophysics Database Access** - is accessible online or from a DVD-ROM. The DVD-ROM also contains GEOphysical DATA System (GEODAS) search and retrieval software and data tools to access digital records of geophysical parameters including bathymetry, magnetics, gravity, and seismic reflection. The latest version of the database was released in the fall of 2006 as version 5.0 on DVD-ROM. CD-ROM products of the marine trackline database have not been updated since the version 4.1 release in 2002, due to the increased demand for DVD-ROMs. Since the fall of 2006, the IHO DCDB has made the trackline data available online through an interactive map service. The map service is built upon ArcIMS technology and GEODAS functionality, allowing the user to spatially and textually search for trackline data and perform a direct download of the results.

Reference: <http://www.ngdc.noaa.gov/mgg/geodas/trackline.html>

- 7) **Multibeam Bathymetry Database Access** - In May 2004, the Multibeam Bathymetry Database became accessible through an online interactive map service. Using the map service, tracklines can be geographically searched and the metadata textually searched to find data. The multibeam data may then be downloaded in the format that it was originally sent, and an image (Postscript, GIF, or HTML) or a netCDF grid generated from the data using software developed at NOAA's Pacific Marine Environmental Laboratory (PMEL). The Multibeam Bathymetric Data Map Service averages over 7,100 web hits each month.

The IHO DCDB encourages data collectors and other agencies to submit multibeam datasets to increase the coverage of this expanding global Multibeam Bathymetry Database. The IHO DCDB has recently developed a website that will permit the submission of data and metadata online. The link for the data submission site is available on request.

Reference: <http://www.ngdc.noaa.gov/mgg/bathymetry/multibeam.html>

- 8) **NOS Hydrographic Survey Database Access** – In February 2005, an ArcIMS based utility was created for searching, displaying, and distributing NOS hydrographic survey data. The map service is now the central, dominant means for the public to browse and download hydrographic data at NGDC. Users may perform spatial or textual searches for data of interest, display metadata for the source surveys, and retrieve data files associated with selected surveys or a defined area. The NOS Hydrographic Survey Data Map Service averages over 14,600 web hits each month.

Reference: <http://www.ngdc.noaa.gov/mgg/bathymetry/hydro.html>

- 9) **ETOPO2v2** – Introduced in the fall of 2006, ETOPO2v2 is a 2-minute, gridded, global relief data set that incorporates many corrections and improvements over its predecessor, ETOPO2. A one-cell westward shift has been removed and the new grid now has cell-centered registration with new or improved source data. The source data include Smith and Sandwell worldwide bathymetry, GLOBE topography, the IBCAO database, NGDC Coastal Relief Model data of the U.S. coastal area, NGDC Great Lakes bathymetry, and Caspian Sea bathymetry from the Caspian Environment Programme. ETOPO2v2 is available online for download as 45-degree square subgrids for easier extraction of smaller data areas. Color shaded relief images derived from the data, new posters featuring ETOPO2v2 data, and ETOPO2v2 DVDs are also available.

Reference: <http://www.ngdc.noaa.gov/mgg/global/global.html>

- 10) **Tsunami Forecasting and Warning System Support** - In 2006, NGDC developed 14 high-resolution near-shore bathymetric-topographic grids to be used in modeling tsunami inundation in support of the NOAA Tsunami Forecasting and Warning System. Detailed bathymetry is crucial for forecasting the potential effects of tsunamis and for the protection of life and property. The locations of the inundation grids were chosen by tsunami modelers at the NOAA PMEL based on tsunami threat, data availability, population, and other factors. The grids are referenced to Mean High Water and are available to the public with accompanying metadata and documentation via NGDC's Tsunami Inundation Gridding Project website.

NGDC has also developed a system of overlapping, Atlantic Basin (1 arc-minute), and Atlantic, Caribbean, and Gulf of Mexico (9 arc-seconds) bathymetric grids to be used in modeling the deep ocean propagation of tsunamis. The National Oceanic and Atmospheric Administration (NOAA), the parent organization of NGDC, has primary responsibility for providing tsunami warnings to the U.S., and a worldwide leadership role in tsunami observations and research.

Reference: <http://www.ngdc.noaa.gov/mgg/inundation/>

- 11) **NOS Bathymetric Fishing Maps** – In 2004, the digital map images of the NOS Bathymetric Fishing Map Series were made available online as full resolution images for download and lower resolution images for preview. The maps span the entire U.S. coastline and include detailed depth contours. Access to the map images is provided through an ArcIMS web page, which averages over 10,700 web hits monthly, and a textual search interface. The complete map series is also offered on seven CD-ROMs.

Reference: http://www.ngdc.noaa.gov/mgg/bathymetry/maps/nos_intro.html

III. Ongoing Activities

- 1) **GEODAS Software Development** – The GEODAS continues to undergo significant enhancements to improve user search, access, and data presentation capabilities. GEODAS software is available for MS Windows, UNIX Xwindows, and Macintosh OS-X, and now handles a variety of databases, including Marine Trackline Geophysics (bathymetry, magnetics, gravity, and seismics), NOS Hydrographic Surveys, Aeromagnetic Surveys, ETOPO2v2 Topography, U.S. Coastal Relief Model Grids, and Great Lakes Bathymetry Grids. New and improved data tools such as Hydroplot, Shapefile Maker, Coastline Extractor, Reformat Data, and Grid Translator are now included with online and desktop GEODAS software. Other enhancements include improved metadata and plot capabilities, and a customized interface for users to access the IHO B-4, Information Concerning Recent Bathymetric Data (http://www.ngdc.noaa.gov/mgg/gdas/iho/gd_sys.html) publication.

Reference: <http://www.ngdc.noaa.gov/mgg/geodas/geodas.html>

- 2) **Great Lakes Mapping** - NGDC, in cooperation with the Canadian Hydrographic Service (CHS), has completed the contours and presented a preview of the poster to be published on its Great Lakes website. Lakes Michigan, Erie, Ontario and Huron now have bathymetric contours as well as a coastline available for download via an interactive map service. The final contours for Lake Superior are the last piece to complete this series of the Coastal Relief Mapping Project.

Reference: <http://www.ngdc.noaa.gov/mgg/greatlakes/greatlakes.html>

- 3) **Coastal Relief Model (CRM) Development** – Volumes 6, 7 and 8, covering the west coast of the contiguous U.S., and volumes 9 and 10 covering Puerto Rico and Hawaii, were produced within the last five years and are now available with the first five volumes on one DVD-ROM. The DVD-ROM also includes GEODAS and Grid Translator software. Additionally, the data and software are accessible online, making it possible to search and download CRM data over the internet. This collection of 3-arc-second DEMs provides the first comprehensive view of the U.S. Coastal Zone, incorporating land topography with coastal bathymetry, that extends from the coastal state boundaries to as far offshore as the NOS hydrographic data will support a continuous view of the seafloor. In many cases, this seaward limit reaches out to, and in places even beyond, the continental slope. Data sources include the NOS and the U.S. Geological Survey. The development of the CRM for Alaska is underway with data quality control activities currently being performed.

Reference: <http://www.ngdc.noaa.gov/mgg/coastal/coastal.html>

- 4) **International Activities** – In addition to its contribution to GEBCO, NGDC continues to take an active role in the IOC regional bathymetric charting projects in which IHO is an active participant. The IHO DCDB benefits in a number of ways from this effort, not the least of which are the substantial contributions by the IBCs to the growth of the global bathymetric database.

Senorita Pilar Ortiz of the Chilean Hydrographic Service spent a two-week period with NGDC in January 2002 receiving marine data management training aimed toward production of bathymetric maps in support of the International Bathymetric Chart of the South East Pacific. This was the first such one-on-one training session offered by NGDC in bathymetric data management, analysis, and display in support of global bathymetric compilations leading to a new (sixth edition), more accurate and useful General Bathymetric Chart of the Oceans (GEBCO).

On 6-7 March 2003, NGDC hosted the Ninth Editorial Board Meeting of the International Bathymetric Chart of the Caribbean Area and the Gulf of Mexico and provided training sessions and exchange of information on Marine Data management, distribution, and archive, digital capture of analog data, generation of graphics, and research results for the deep Gulf of Mexico. Twenty participants, including observers from IHO and IOC, and an equal number of local personnel participated in the two-day meeting.

In 2004, NGDC published a poster based on the International Bathymetric Chart of the Arctic Ocean (IBCAO) data grid. The printing was supported by Office of Naval Research funding through Ron McNab of the IBCAO Editorial Board and the published poster used a color palette, projection, and scale to mimic sheet 5.17 of the GEBCO series, that of the Arctic Ocean. Dr Martin Jakobsson was primarily responsible for the generation of the underlying IBCAO digital Cartesian grid with 2.5 km grid spacing at 75° N on a polar stereographic projection as well as the digital artwork for the poster. The poster was edited by Dr. George Sharman, Director of the World Data Center for Marine Geology and Geophysics (WDC MGG) Boulder and was published under the WDC MGG Research Publication Series as RP-2.

In 2006, NGDC sponsored two students from the University of New Hampshire program on Ocean Mapping, which is jointly sponsored by the General Bathymetric Chart of the Oceans (GEBCO) and the Nippon Foundation of Japan. This international training program in deep ocean bathymetry results in a certificate in Ocean Mapping for its successful participants. As part of the program, two students, one from Japan, one from Mexico, spent two weeks working at NGDC with a focus on management and analysis of high resolution, near-shore, bathymetric-topographic grid generation of the type to be used in coastal flooding analysis. It is expected that this type of practicum experience for the students will be expanded in the future.

**REPORT ON THE WORK OF THE ADVISORY BOARD ON HYDROGRAPHIC,
GEODETTIC AND MARINE GEO-SCIENTIFIC ASPECTS
OF THE LAW OF THE SEA (ABLOS)**

1. ABLOS is a joint Board of the IHO, IAG and IOC. Each parent organisation has 3 members and there are two ex officio members:

IHO Members: Italy, Japan and the United Kingdom

IAG Members: Australia, New Zealand and Sweden

IOC Members: Canada, China and France

Ex Officio Members: UN DOALOS, IHB

2. In November 2006 the IOC informed the IHB and ABLOS that they were going to withdraw from ABLOS in order to focus their efforts on the IOC group Advisory Body of Experts on Law Of the Sea (ABE-LOS). This matter is to be discussed at the 13th ABLOS Business Meeting and will be the subject of an IHB CL to MS.

- | | | |
|---------------------|-------------|------------------------------|
| 2. Chairman: | 2005 – 2007 | Shin TANI (Japan, IHO) |
| | 2003 – 2005 | Chris RIZOS (Australia, IAG) |
| | 2001 – 2003 | Ron MACNAB (Canada, IOC) |

- | | | |
|-----------------------|-------------|------------------------------|
| Vice-Chairman: | 2005 – 2006 | Ron MACNAB (Canada, IOC) |
| | 2003 – 2005 | Shin TANI (Japan, IHO) |
| | 2001 – 2003 | Chris RIZOS (Australia, IAG) |

- | | | |
|-----------------------|--------------------------|-----------------------------|
| Members: | Chris CARLETON | UK IHO (1997 -) |
| | Chris RIZOS | Australia, IAG (1997 -) |
| | Bjorn Geir HARSSON | Norway, IAG (1997 - 2003) |
| | Tadahiko KATSURA | Japan, IHO (1997 - 2003) |
| | Alexei ZINCHENKO | UN DOALOS (1998 -) |
| | Ron MACNAB | Canada, IOC (1999 - 2006) |
| | Samuel BETAH | Cameroon, IOC (2000 – 2003) |
| | Lars SJÖBERG | Sweden, IAG (2002 – 2006) |
| | Shi XUEFA | China, IOC (2002 -) |
| | Alexandros MARATOS | IHB (2002 –) |
| | Steve SHIPMAN | IHB (2003 -) |
| | Shin TANI | Japan, IHO (2003 -) |
| | Carlo DARDENGO | Italy, IHO (2003 - 2006) |
| | Don GRANT | New Zealand, IAG (2003 -) |
| | Elie JARMACHE | France, IOC (2004 - 2006) |
| Zvonko Gržetić | Croatia (2006 -) | |

3. Meetings

9 th	23 – 25	October 2002	Tokyo, Japan
10 th	26 – 27	October 2003	IHB, Monaco
11 th	19 – 21	October 2004	Canberra, Australia
12 th	9	October 2005	IHB, Monaco
13 th	10 - 11	December 2006	IHB, Monaco

Conferences

3 rd	28 – 30 October 2003	IHB, Monaco
	"Resolving difficult issues in UNCLOS"	
4 th	10 – 12 October 2005	IHB, Monaco
	"Marine Scientific Research and the Law of the Sea: The Balance between Coastal States and International Rights"	

4. The main topics discussed during these meetings were:

2002

- Financing the participation of ABLOS members. Concern was expressed over the lack of funding for some members of ABLOS to attend meetings thereby reducing its effectiveness. It was agreed that the Chairman should write a letter to the parent bodies highlighting the matter and seeking secured funding. It was also agreed that meetings should be arranged so as to minimise the cost of participation.
- Conferences. The 2001 conference was reviewed and planning conducted for the 2003 conference planned for Monaco in October.
- International meetings. The members gave a brief review of the relevant international gatherings which they had attended highlighting elements of interest to ABLOS.
- International Law Association – Committee on legal issues of the Continental Shelf It was noted that 2 members of ABLOS were members of this ILA Committee and that this should enable an effective cross party dialogue to take place.
- CLCS confidentiality issues. It was agreed that CLCS confidentiality was a matter for concern.
- Future activities for ABLOS. Two issues were identified: "Vertical reference systems, shorelines and baselines" and "Article 76 training for developing States".
- Revision of the TALOS Manual (IHO S-51). It was agreed that there was a strong need to establish an editorial group to take forward the preparation of the 4th Edition. Members of this editorial group were identified.
- A mini workshop on UNCLOS matters was held.

2003

- Revision of the TALOS Manual. Progress to date was discussed and future work and responsibilities agreed.
- International meetings. The members gave a brief review of the relevant international gatherings which they had attended highlighting elements of interest to ABLOS.
- CLCS confidentiality An update on this matter was received and some necessary amendments to the 2002 minutes agreed.
- The following potential ABLOS activities were discussed: Scientific consensus on ridge issues in different parts of the world; Article 76 and Marine Scientific Research; A global vertical reference network; International cooperation in ocean mapping; Participation in training initiatives; and the deposit of charts and lists of coordinates in digital form.

- The 2003 ABLOS Conference. Some final detailed planning arrangements were agreed.

2004

- ABLOS membership. The dates of expiry of the current membership were reviewed and some concern was expressed at the lack of attendance at meetings of the IOC representatives, other than Ron Macnab.
- The ABLOS fund report. The status of the fund whose income derived from the biennial scientific conferences was reviewed and guidelines on the use and control of expenditure from this fund agreed.
- Briefing on the delimitation of the Australia – New Zealand Border. The Board received a comprehensive briefing on this topic from the Australian and New Zealand members and observers at the meeting.
- New developments related to CLCS submissions. The Board received an update on submissions.
- Global vertical reference frames. The Board received an update on activities on this subject.
- Report of the WG revising the TALOS Manual. Progress to date was discussed and future work and responsibilities agreed.
- Review of recent relevant international meetings. The members gave a brief review of the relevant international gatherings which they had attended highlighting elements of interest to ABLOS.
- Review of ABLOS activities. Further discussion took place on these items in continuation of the discussion at the 2003 meeting.
- Review of the 2003 Conference and planning for the 2005 Conference. Feed back from last years conference was considered and taken into account in the detailed planning for 2005.

2005

- Review of the ABLOS Conference fund and final preparations for the 2005 ABLOS Conference. The status of the fund was reviewed and final detailed arrangements made for the scientific conference.
- Report of the WG revising the TALOS Manual. Work on the manual had progressed well and final arrangements were agreed in order to complete this task.
- Reports on recent relevant international meetings. The members gave a brief review of the relevant international gatherings which they had attended highlighting elements of interest to ABLOS.
- Recent CLCS submissions. It was noted that submissions by Australia and Ireland had been lodged.
- Future ABLOS activities. Discussions on this topic followed on from those held at earlier meetings.
- ABLOS membership. The current membership and tenure of membership were discussed.

2006

- ABLOS the way forward following the withdrawal of IOC, revised ToR for ABLOS.
 - 4th ABLOS Biennial Conference, subject, dates, organizing committee.
 - Status and maintenance of TALOS Manual (S-51)
 - Reports on members' attendances at LOS related conferences.
 - Science / Technical questions (brought forward from 12th meeting)
 - New developments relating to CLCS submissions.
5. The 4th Edition of the Manual on Technical Aspects of the United Nations Convention on the Law of the Sea – 1982 (IHO Publication S-51) was prepared in accordance with ABLOS TOR by an editorial WG chaired by Mr. Ron Macnab and published in English in early 2006. This Edition, in digital form, is available for free download from the IHO web site. The 4th Edition incorporates the latest knowledge and technology, including new material and much improved graphics. A Spanish text is in preparation and it is intended to prepare a French text in due course.

6. Conclusion

The Conference is requested to adopt this report.

**REPORT ON THE WORK OF THE IHO COMMISSION ON PROMULGATION OF
RADIO NAVIGATIONAL WARNINGS (CPRNW)
by the Chairman, Mr. Peter DOHERTY, USA**

1. **Chairman:** Mr. Peter DOHERTY (USA), Chief, Global Operations, Maritime Division
2. **Membership:** Argentina, Australia, Brazil, Chile, Croatia, Ecuador, Egypt, France, Germany, Greece, India, Islamic Republic of Iran, Italy, Japan, Monaco, New Zealand, Pakistan, Peru, Republic of South Africa, Russian Federation, Spain, Sweden, UK, and USA.

Observers: IMO, Inmarsat, IMSO and WMO. With expansion of the World Wide Navigational Warnings Service to the Arctic Ocean in progress, Norway and Canada will be added to the membership list as NAVAREA Coordinators. All of the NAVAREA Co-ordinators are active members of the Commission.
3. **Meetings held since the XVth IHC**
 - a. CPRNW Sixth meeting 13 – 15 May 2003 at the IHB, Monaco.
 - b. CPRNW Seventh meeting 12 – 14 Sep 2005 at the IHB, Monaco.
 - c. CPRNW Eighth meeting 12 – 15 Sep 2006 in Buenos Aires, Argentina.
4. **Principal Agenda Items at the meetings in paragraph 3, above**
 - a. Sixth Meeting – Matters related to the GMDSS Master Plan; Promulgation of Maritime Safety Information (MSI) including, but not limited to, results of the 7th session of IMO COMSAR, amendments to the IMO International SafetyNET Manual, World-Wide Navigational Warning Service (WWNWS) guidance document review, Member States' Self Assessment of navigational warning services, etc.; and representation at Regional Hydrographic Conferences.
 - b. Seventh Meeting – Matters related to the GMDSS Master Plan; Promulgation of Maritime Safety Information (MSI) including, but not limited to, results of the 9th session of IMO COMSAR, World Wide Navigational Warning Service (WWNWS) guidance document review, emerging technologies, emerging radio navigational warning subjects- tsunami warnings, enhanced group call SafetyNET brief, review of the IMO/IHO/WMO Joint Manual on (MSI), review of the NAVTEX Manual, review and change to the Terms of Reference for the CPRNW, Member States' Self Assessment of navigational warning services, etc.; approval of CPRNW WWNWS CD, World Meteorological Organization actions; and representation at Regional Hydrographic Conferences.
 - c. Eighth Meeting – Matters related to the GMDSS Master Plan; Promulgation of Maritime Safety Information (MSI) including, but not limited to, results of the 10th session of IMO COMSAR, World Wide Navigational Warning Service (WWNWS) guidance document review, establishment of a Joint IMO/IHO/WMO Correspondence Group on Arctic MSI Services, MSI outside the limits of the WWNWS, emerging MSI dissemination technologies, enhanced group call SafetyNET brief, review of the IMO/IHO/WMO Joint Manual on (MSI), review of IMO Res. A705 (17) and A706(17), review of the NAVTEX Manual, review of the Terms of Reference for the CPRNW, Member States' Self Assessment of navigational warning services, etc.; review of CPRNW WWNWS CD; World Meteorological Organization actions; and representation at Regional Hydrographic Conferences.

5. The Main Outputs from CPRNW have been

- a. Attendance by the Chairman at IMO COMSAR meetings including the chairing of WG's established to consider aspects of the GMDSS and chairing the Joint IMO/IHO/WMO CG on expansion of WNWNS to cover the Arctic Ocean.
- b. Preparation of reports on the outcome of CPRNW meetings and their presentation at IMO COMSAR Meetings.
- c. Preparation of a COMSAR Circular on the use of NAVTEX Characters B3 and B4 and the designation of NAVTEX Service Areas.
- d. Preparation of reports on the Joint IMO/IHO/WMO CG.
- e. Liaison with WHO regarding the possible inclusion of Health Advisory notices in the WNWNS.
- f. Allowance to use the WNWNS for the dissemination of Tsunami Warnings.
- g. Systematic review of all IMO/IHO/WMO WNWNS guidance documents (ongoing).
- h. Preparation and distribution of CPRNW WNWNS CD.
- i. Contribution to the review of IMO Resolution A.888 (21), "criteria for the provision of mobile –satellite communications systems in the Global Maritime Distress and Safety System (GMDSS)".
- j. Liaison with IALA with regard to the Aids to Navigation Information Service.
- k. Meeting with NAVAREA III National Coordinators hosted at the IHB on 18-19 Jan 2006.
- l. Preparation of revised ToR to reflect a decision to have an annual meeting of CPRNW.
- m. Attendance at Regional Hydrographic Commission Meetings.

6. The Chairman has represented the IHO at the following conferences/meetings

- a. The 7th, 8th, 9th and 10th sessions of the IMO Sub-Committee on Radio Communications and Search and Rescue (COMSAR) where he serves as the Chairman of the International SafetyNET Co-ordinating Panel and the Maritime Safety Information Working Group;
- b. 2003, 2004, 2005 and 2006 NAVTEX Co-ordinating Panel meetings;
- c. 2003, 2005 and 2006 Meso-American Caribbean Hydrographic Commission Meetings;
- d. 2003, 2004, 2005 and 2006 Radio Technical Commission for Maritime Services (RTCM) Annual Assembly;
- e. 2004 IALA Aids to Navigation Information Service (ANIS);
- f. 2006 Joint IMO/IHO/WMO Correspondence Group on Arctic MSI Services.

7. Conclusion

The Conference is requested to adopt this report.

WORK PROGRAMME 4 DOCUMENTS

INFORMATION MANAGEMENT AND PUBLIC RELATIONS

CONF.17/WP.4

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INFORMATION MANAGEMENT AND PUBLIC RELATIONS

REPORT ON IHO PUBLICATIONS

1. Background

a) Classification of Publications

The present classification of IHO publications is:

- Periodical Publications: are those that are prepared following a very precise calendar, such as the Annual Report, the IHO Year Book, the Proceedings of IH Conferences, the International Hydrographic Review (under contract with GITC) and the Catalogue of IHO Publications.
- Bathymetric Publications: are all those publications related to GEBCO matters.
- Miscellaneous Publications: as its name indicates, include different publications, some with administrative content and others with a clear technical content, including manuals and standards.
- Special Publications: under this group we have mainly publications dealing with technical matters.

It is evident that the existing classification does not help much those trying to find a particular subject, and furthermore, there is not a clear distinction between Miscellaneous and Special Publications. The IHB believes that a new classification criteria should be developed and has therefore included this task in the 2008/2012 work program.

b) Characteristics of Publications

- Printed version: there are still some publications only available in a printed format due to their special nature; and others due to their contribution to public relations. Nevertheless the tendency has been to move to digital publications as much as possible, but always offering IHO Member States the possibility to request a printed copy from the IHB. The IHB is willing to make copies on demand, but a stock of some publications is not justified due to its cost and difficulty in keeping them updated.
- Digital version: the majority of publications exist in a digital form and the IHB policy is that all new publications should be managed in this format. The advantage of a digital format is clear when updates are needed.

c) Distribution of Publications

- Mail: Printed versions, mainly of periodical publications, are distributed by mail, as well as any special request for a printed copy of a digital publication. This is the least used method of distributing publications.

- CD-Rom: An annual distribution of all digital publications on CD-Rom was established in the past, however nowadays this mode has been considered no longer as all useful digital publications can be downloaded from the IHO web site. MSs have agreed to delete the IHB's obligation to send Member States each year a CD-Rom on condition that the IHB is ready to provide Member States any digital publication on a CD-Rom on demand.
- IHO website: this is the most popular way in which the IHB distributes publications. They are simply posted on the IHO web site and all MSs are able to download them at their convenience or to consult their content on line.

d) Maintenance of Publications

The usefulness of any publication is that its content provides updated information. Keeping publications updated is quite a complex job which requires continuous management. It is considered as an IHO general responsibility to keep publications updated as some publications are under the direct control of IHB, whilst others are the responsibility of the various IHO bodies. The IHB is keen to keep them all updated provided that these bodies submit updates to the IHB.

e) Pricing of Publications

There are no established criteria for pricing publications except the ongoing practice. For IHO Member States publications should all be free of charge. For the external world the IHB considers that certain publications, mainly those concerned with capacity building, the introduction of standards, and others supporting IHO public relations, should be free of charge and make them freely available from the IHO web site. The income from the sale of publications is relevant and the associated administrative work does not justify the implementation of procedures to charge for all publications. Subscriptions by interested third parties has facilitated administration.

A written policy on pricing publications will be prepared as part of the study to be conducted with regard to the classification of publications mentioned above.

2. **New Publications published since the XVIth IH Conference**

a) **Periodical Publications:**

P-1 International Hydrographic Review :

August and November 2002; April, August and December 2003; April, August and November 2004; April, August and November 2005; April and August 2006. Contract indicates "at least two editions in a year".

P-4 Catalogue of IHO Publications:

Edition 2002/2003 and Edition 2004/2005. Now kept updated only in digital form.

P-5 IHO Year Book:

Edited annually until 2005. Is kept permanently updated based on information received.

P-6 Report of Proceedings of IHC:

Proceedings of the XVIth IHC (2002) as well as from the 3rd EIHC (2005) were published.

P-7 IHO Annual Report:

Starting with the 2003 Annual Report, the IHB has done its best to provide MSs with both, Part 1 “General” and Part 2 “Finances” at the same time in late April each year.

b) Bathymetric Publications:

B-7 GEBCO Guidelines:

An updated version was published in 2003

B-9 GEBCO Digital Atlas :

An updated version in CD was prepared by GEBCO and circulated in 2003.

B-10 History of GEBCO:

Publication prepared by GEBCO on the occasion of the 100th Anniversary of the GEBCO project (2003).

c) Miscellaneous Publications:

M-1 Basic Documents of the IHO:

A revised edition was published in 2004.

M-2 National Maritime Policies and Hydrographic Services:

A new edition was prepared and published in 2004.

M-3 Resolutions of the IHO:

An updated version was made available in 2005 and is now updated every six months.

M-4 Regulation of IHO for INT Charts and Charts Specifications of the IHO:

Version 3.003 was published in 2006

M-5 Standards of Competence for Hydrographic Surveyors:

Updates to the 9th edition were made in 2004 and 2006.

M-6 Reference Texts and Journals for Training in Hydrography

A new edition , in the form of a database will be produced in early 2007.

M-7 Staff Regulations of the IHO:

The 7th edition was published in 2004 and has been kept updated.

M-8 Standards of Competence for Nautical Cartographers:

The 1st edition was published in 2003. An update to the 1st edition was prepared in 2005.

M-10 The History of the IHO:

The 2nd edition was published in 2005.

M-12 List of Lights:

The 1st edition was prepared and published in 2004.

M-13 Manual on Hydrography:

The 1st edition was published in English in 2005, and in Spanish in 2006.

M-15 List of Booklets on C&S&A Published by Various Maritime Countries:
The 1st edition was published in 2004.

d) Special Publications:

S-47 Training Courses in Hydrography and Nautical Cartography:
The 6th edition was published in 2006.

S-51 Manual on Technical Aspects of the UNCLOS
The 4th edition was published in 2006.

S-52 Specifications for Chart Content and Display Aspects of ECDIS:
Appendix 2 and its Annex A (Presentation Library) were last updated in 2004.

S-55 Status of Hydrographic Surveys and Nautical Charting Worldwide:
The 3rd edition was made available in 2004. This is a digital database and is continuously updated.

S-58 Recommended ENC validation Checks
The 2nd edition was published in 2003.

S-60 User's Handbook on Datum Transformation involving WGS-84
The 3rd edition was published in 2003.

S-62 IHO Codes for Agencies producing S-57 Data
Edition 2.2 was published in 2006

S-63 IHO Data Protection Scheme
The 1st edition was prepared and published in 2003.

S-64 IHO Test Data Sets for ECDIS
The 1st edition was prepared and published in 2003.

S-65 ENC Production Guidance
The 1st edition was prepared and published in 2005.

3. Status of IHO Publications

The attached Table provides the full list of all IHO Publications and associated information.

TABLE " IHO PUBLICATIONS"

Number	Title	Language	Type	Edition	Last Update
	A. Periodical Publications				
P-1	International Hydrographic Review.	E with abstracts also in F and S	Printed by contract with GITC	Twice a year	nil
P-4	Catalogue of IHO Publications.	E-F-S	Digital	2004 - 2005	2004

Number	Title	Language	Type	Edition	Last Update
P-5	IHO Year Book.	E-F	Digital	Annually	2006
P-6	Report of Proceeding of International Hydrographic Conferences.	E-F	Printed Digital	2002 and 2005	nil
P-7	IHO Annual Report.	E-F-S	Printed Digital	Annually	2006
B. Bathymetric Publications					
B-1	General Bathymetric Chart of the Oceans (GEBCO). Fifth Edition.		Maps	5th	1980
B-2	Catalogue of IHO Bathymetric Plotting Sheets.	E - F	Printed	3rd	1991
B-4	Information concerning Recent Bathymetric Data.	E-F	Printed		1996
B-6	Standardization of Undersea Feature Names (Guidelines, Proposal form, Terminology).	E-F; E-S;	Printed (L/S) Digital	3rd	2001
B-7	GEBCO Guidelines.	E - F	Digital Printed		2003
B-8	Gazetteer of Geographical Names of Undersea Features.		Digital	1st	1988
B-9	GEBCO Digital Atlas.		Digital prepared by GEBCO	3rd	2003
B-10	The History of GEBCO.	E	Printed prepared by GEBCO	1st	2003
C. Miscellaneous Publications					
M-1	Basic Documents of the IHO.	E - F - S	Digital		2002
M-2	National Maritime Policies and Hydrographic Services.	E - F - S	Printed Digital		2004
M-3	IHO Resolutions.	E - F	Digital		2006
M-4	IHO Chart Specifications.	E - F - S	Digital		2006
M-5	Standards of Competence for Hydrographic Surveyors.	E - F - S	Digital	9 th	2001 updated 2006
M-6	Reference Texts and Journals for Training in Hydrography.	E	Digital	4th	2007
M-7	IHB Staff Regulations.	E - F	Digital	6 th	2004
M-8	Standards of Competence for Nautical Cartographers.	E	Digital	1 st	2003

Number	Title	Language	Type	Edition	Last Update
M-10	The History of the IHO .	E - F - S	Printed	2 nd	2005
M-11	Catalogue of INT charts.	E-F	Digital		1994
M-12	List of Lights.	E	Digital		2004
M-13	Manual on Hydrography.	E-S	Digital	1 st	2005
M-14	The Liability in delict of the State Hydrographer.	E	Printed		
M-15	List of Booklets on Chart Symbols and Abbreviations published by Various Maritime Countries.	E-F-S	Digital		2004
	D. Special Publications				
S-23	Limits of Oceans and Seas.			3 rd	1953
S-32	Hydrographic Dictionary.	E - F - S	Digital	5 th	
S-44	IHO Standards for Hydrographic Surveys - Classification Criteria for Deep Sea Soundings - Procedures for Elimination of Doubtful Data.	E - F - S	Digital	4 th	1998
S-47	Training Courses in Hydrography and Nautical Cartography.	E	Digital	4 th	
S-51	1. Manual on Technical Aspects of the United Nations Convention on the Law of the Sea. 2. Geodetic Commentary to TALOS Manual, (Prepared by the IHO/IAG Advisory Board on LOS (ABLOS).	E - F - S	Digital + Printed	4 th	2006
S-52	Specifications for Chart Content and Display Aspects of ECDIS.	E-F	Digital	5 th	2001
S-52 App1	Guidance on Updating the Electronic Navigational Chart.	E-F	Digital	3 rd	1996
S-52 App2	Colour & Symbols Specifications for ECDIS + Annex A: IHO ECDIS Presentation Library.	E	Digital	4.2 Annex A 3.3	2004
S-52 App3	Glossary of Terms related to ECDIS Glossary of ECDIS-Related Terms.	E-F	Digital	3 rd	1997

Number	Title	Language	Type	Edition	Last Update
S-53	Worldwide Navigational Warnings Service - Guidance Document.	E	Digital	3rd	2000
S-55	Status of Hydrographic Surveying and Nautical Charting Worldwide.	E	Digital		2006
S-57	IHO Transfer Standard for Hydrographic Digital Data.	E	Digital	3.1	2000
S-58	Recommended ENC Validation Checks.	E	Digital	2	2003
S-60	User's Handbook on Datum Transformations involving WGS-84.	E	Digital	3rd	2003
S-61	Product Specification for Raster Navigational Charts.	E	Digital	1 st	1999
S-62	ENC Producer Codes.	E	Digital	2.2	2006
S-63	IHO Data Protection Scheme.	E	Digital	1	2003
S-64	IHO Test Data Sets for ECDIS.	E	Digital	1	2003
S-65	ENC Production Guidance.	E	Digital	1	2005

REPORT ON IT EQUIPMENT

IHB Director: RAdm Kenneth BARBOR

IHB Professional Assistants: Mr. Anthony PHARAOH
Lt. Cdr. Steve SHIPMAN

There has been a marked shift towards the provision of digital documents, publications and services during the period 2002 to 2007. This has resulted in the need for a substantial strengthening of the IT infrastructure within the IHB. These IT related changes, upgrades and developments are described below:

Maintenance and Upgrade of IHB Computers and Network System

In order to support an increasing demand for computer and network facilities within the IHB, a new MS Windows 2003 network server was installed in 2005. This server which supplements the existing Linux servers, is primarily used for the IHB Document Management system, internal Web Map Server facility and IHO accounting system.

Three Wireless Access Points (WIFI), which allow Internet access from within all IHB offices (including the conference room) were installed.

Network Server Upgrades

Following two major hardware failures and a need for increased disk storage capacity, the IHB primary and secondary network servers were upgraded during 2006. The primary and secondary proxy servers were also upgraded during 2006. These linux servers support all email services and external network connections.

Workstation upgrades

Several computer workstations were upgraded during this period. This was done in order to replace old equipment and to upgrade older operating systems and application software.

Peripheral Devices

Three of the IHB network printers were upgraded. A 21 inch colour plotter was purchased for the provision of large format cartographic/poster printing requirements.

Installation of the S-63 ENC Signature Server

During 2005 the IHO Signature Server was installed at the IHB. The objective of this installation is to provide IHO S-63 Data Servers with an online signature service. The implementation and maintenance of this service is externally funded and has minimal cost implication for the IHB.

Implementation of a document management system

In 2004 the Chilean hydrographic office developed a customized document management system for the IHB. The system is designed to assist with the management, control and dissemination of all incoming and outgoing IHO documents. It also provides a mechanism for assigning and monitoring actions to be taken and provides a historical record of all IHO / IHB correspondence.

REPORT ON IHO WEB SITE DEVELOPMENT

IHB Directors: RAdm. Kenneth BARBOR
Captain Hugo GORZIGLIA

IHB Professional Assistants: Mr. Anthony PHARAOH
Lt. Cdr. Steve SHIPMAN

REPORT ON IHO INFORMATION MANAGEMENT (IHO WEBSITE AND DOCUMENT MANAGEMENT SYSTEM)

IHO Web Site

The IHO web site continues to be the focal point for relevant IHO information and for the dissemination of IHO publications and documents. It also contains important information concerning IHO activities which include meetings of the various Regional Hydrographic Commission, and IHO committees and working groups. It is a resource that has increased in importance and has been expanded to cater for many new requirements.

A major upgrade of the IHO web site took place in 2003. This included a complete redesign of the web site, and the addition of many new section and sub sections. This resulted in a significant increase in the ongoing maintenance of the web site, and necessitated the training and involvement of several additional IHB staff.

In December work commenced on further upgrades to the IHO web site that include additional hosting and Web Map services. A password-protected IHB Intranet - providing access to IHB information and resources - has also been implemented.

REPORT ON PUBLIC RELATIONS

WORLD HYDROGRAPHY DAY

Decision No. 10 of the XVIth International Hydrographic Conference in April 2002 stated that the Organization should establish an International Hydrographers' Day and instructed the Directing Committee to investigate how the United Nations could recognize an Hydrographers' Day.

The Directing Committee looked into the procedures and actions required to establish and officially recognize an "Hydrographers' Day" through contacts with the Permanent Representative of Monaco to the UN, the IMO and WMO and after a lengthy period of investigation, the procedures to seek this recognition were followed with the UN.

The Directing Committee was then very pleased to be able to announce that the United Nations General Assembly (UN/GA), under the Agenda item on the Oceans and the Law of the Sea, adopted Resolution A/60/30 on 29 November 2005. This Resolution included the statement, "Welcomes the adoption by the International Hydrographic Organization of the "World Hydrography Day", to be celebrated annually on 21 June, with the aim of giving suitable publicity to its work at all levels and increasing the coverage of hydrographic information on a global basis, and urges all States to work with that Organization to promote safe navigation, especially in the areas of international navigation, ports and where there are vulnerable or protected marine areas". The Directing Committee wishes to express its thanks to the Government of Monaco, as the host country of the IHO, and the Government of Brazil for all the efforts made by their Permanent Missions to UN in finalizing the drafting and ensuring the inclusion of this recognition into the Oceans and Law of the Sea Resolution and to all those Member States who supported the text during its discussion at the UN/GA.

The first World Hydrography Day (WHD) was celebrated on 21 June 2006 with the following events taking place at the IHB:

- a. The President gave a short interview to local television on the importance of the WHD.
- b. During the period around the event, local television broadcast a special programme on Hydrography making reference to the WHD.
- c. A reception was held on the Bureau's roof terrace which HSH Prince Albert II honoured by his presence. Members of the Monaco Government, local diplomatic authorities, representatives from the maritime industry and others were also present. The President opened the reception by welcoming the Prince and all the guests and gave a brief statement on the importance of the WHD, highlighting the Organization's contribution to global safety at sea for the past 85 years, according to the theme approved by the Member States. HSH Prince Albert II then gave a brief speech on the history of the IHO's standing commitment to safety of navigation. Following the Prince's speech, the President formally presented the Sovereign Prince with a framed chart of the Svalbard region produced by Norway in 1932, which was the departure point of the Prince's Arctic Expedition in April 2006, marking the 100th anniversary of his Great Great Grandfather Prince Albert Ist's Arctic campaigns in 1906.
- d. The Bureau had prepared a series of posters highlighting the IHO's contribution to safety at sea, and these were displayed on the terrace during the reception for the benefit of the participants. The President and Director of the IHB explained the posters in some detail to HSH Prince Albert II.

- e. The Bureau set up a special page on the IHO website, where texts and other materials were posted for the benefit of all HOs. It should be further noted that the documentation related to WHD has now been posted under the Bulletin in the section entitled "Others".
- f. The Bureau provided support to Member States on various topics as it was requested.
- g. The IHO webpage on WHD was linked to similar website pages that had been established by National HOs.
- h. Captain Gorziglia, who was absent from the IHB participating in the Antarctic Treaty Consultative Meeting in Edinburgh followed by the IOC Executive Council in Paris, made a brief statement on the WHD on both occasions.

The Directing Committee was informed by Member States on the events that took place on a national level to celebrate the event. It is believed that the celebration of WHD at the Bureau and by the HOs, nationally, will help to increase public awareness of the importance of hydrography not only to safety at sea, but to many other requirements and applications by scientists, maritime industry, Governmental Agencies, research and Academic institutions and others.

IHB VISITS TO NATIONAL AUTHORITIES

2002

Outgoing Directing Committee

President – Real Admiral G. ANGRISANO: Bangladesh, Colombia, Guatemala, India, Libya, Panama, Singapore.

Director I – Real Admiral N.R. GUY: Estonia, Latvia, Lithuania.

Incoming Directing Committee

Director II – Captain H. GORZIGLIA: Portugal.

2003

President – Vice-Admiral A. MARATOS: China, Croatia, France, Germany, Indonésia, Peru, Russia.

Director I – Real Admiral K.E. BARBOR: Australia, Korea (Republic of).

Director II – Captain H. GORZIGLIA: Argentina, Chile, Ecuador, Peru, Dominican Republic and Uruguay.

2004

President - Vice-Admiral A. MARATOS: Croatia, Greece, Japan.

Director I - Real Admiral K.E. BARBOR: Cuba, Fiji, Finland, Germany, Japon.

Director II - Captain H. GORZIGLIA: Argentina, France, Thailand.

2005

President – Vice-Admiral A. MARATOS: Australia, Egypt, Germany, Greece, Mexico, Russian Federation.

Director I – Real Admiral K.E. BARBOR: Germany, Island.

Director II – Captain H. GORZIGLIA: Chile, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua.

2006

President – Vice-Admiral A. MARATOS: Croatia, Greece, Norway, Sri Lanka, Tunisia.

Director II – Captain H. GORZIGLIA: Brazil, Estonia, Latvia, Lithuania.

MEETINGS IN THE BUREAU**2002****SEPTEMBER**

16-17 SPWG 1st meeting

OCTOBER

7-10 GEBCO SCUFN XVth
 21-22 S-57 Extensions Sub-WG
 23-25 TSMAD
 31 SPWG Chair Group

DECEMBER

16-17 SPWG Chair Group

2003**FEBRUARY**

27-28 IHO Working Group on Study of UN Alignment

MARCH

13-14 IHO Data Protection Scheme Advanced Group

APRIL

2 IHO Finance Committee Meeting
 10 SPWG Chair Group Meeting
 10-11 SCUFN Meeting
 12 SCDB Meeting
 14-16 GEBCO Centenary
 16-17 GEBCO Guiding Committee

MAY

12 NAVTEX meeting
 13-15 CPRNW

JUNE

10-13 CHRIS Meeting
 12 Restricted Finance Committee Officers' Meeting on IRF and Pension Plans
 16-17 IHO Industry Days
 18-19 SPWG Legal Experts Meeting

SEPTEMBER

8-10 3rd HCA Meeting
 10 SPWG Chair Group Meeting
 11-12 IHO Capacity Building Committee
 23 Finance Committee Officers' Meeting

OCTOBER

23-24 Technical Aspects on Law of the Sea (TALOS) Editorial Board
26-27 ABLOS business meeting and CARIS Work Shop
28-30 ABLOS

NOVEMBER

25 Finance Committee Officers' Meeting

DECEMBER

3-4 Legal Experts Meeting (SPWG)

2004

JANUARY

15-16 SPWG Chair Group Meeting
27 GEBCO Meeting

MARCH

1-3 Manual on Hydrography Working Group Meeting
29-30 S-51 Editorial Committee Meeting, TALOS

APRIL

19-20 SPWG Chair Group Meeting
20-21 IC-ENC Technical Experts Working Group TEWG - 4th Meeting
28 Finance Committee Officers' Meeting

JUNE

22-23 IHO Data Protection Scheme Working Group (DPSWG), 4th Meeting

JULY

5-9 ICA Standards Commission Meeting

OCTOBER

4 SPWG Chair Group Meeting.
26-27 S-63 eXtended Working Group Meeting

NOVEMBER

3-5 IHO Chart Standardization and Paper Chart WG (CSPCWG), 1st Meeting
8-12 11th TSMAD Meeting
24 Finance Committee Officers' Committee Meeting

2005

JANUARY

11-12 SPWG Chair Group Meeting

MARCH

1-3 Standardization of Nautical Publications Working Group Meeting
29-30 S-51 Editorial Committee Meeting, TALOS

APRIL

7- 8 WEND Meeting
26 Finance Committee Officers' Meeting

MAY

9-10 SPWG Chair Group Meeting

JUNE

27 3rd HGMIO Meeting
28- 29 IHO IALA ANIS Workshop
30 IALA 4th Meeting

SEPTEMBER

8-9 SPWG Legal Experts Group Meeting
13-15 7th CPRNW Meeting

OCTOBER

3-6 18th SCUFN Meeting
4-5 14th MBSHC
10- 12 ABLOS
19-21 2nd CSPCWG Meeting

NOVEMBER

15 Finance Committee Officers' Meeting

2006**JANUARY**

17 WWNWS Documents Meeting
18-19 NAVAREA III Navtex Coordinator Meeting

FEBRUARY

13 SPWG Legal Experts Meeting
14-15 SPWG Chair Group Meeting
20-22 Correspondence Group on ECDIS

APRIL

5 Finance Committee Officers' Meeting

MAY

29-31 CSMWG

JUNE

21 World Hydrography Day
26-30 SNPWG
29-30 SPWG Chair Group Meeting

JULY

24-25 SPWG FCWG

AUGUST

28-30 S-44

SEPTEMBER

11-15 WEND Committee and ECDIS Stakeholders

OCTOBER

23 Finance Committee Officers' Meeting

NOVEMBER

22-24 CSPCWG

DECEMBER

10-11 ABLOS Business Meeting

IHB TECHNICAL MISSIONS**2002 (from September)**

DATE	DESTINATION	MEETING	PARTICIPANT
10-12 September	Gothenburg, SWEDEN	25 th NSHC	VAdm. A. MARATOS
7-10 October	Kiel, GERMANY	Hydro 2003	Capt. H. ROHDE
14-17 October	Lisbon, PORTUGAL	EAtHC	Capt. H. GORZIGLIA
14-17 October	Lisbon, PORTUGAL	EAtHC	Capt. F. BERMEJO
15-18 October	Venice, ITALY	Seapower Symposium	VAdm. A. MARATOS
4-7 November	Biloxi, USA	CGMHC	Capt. H. GORZIGLIA Capt. F. BERMEJO
6-8 November	Athens, GREECE	ECDIS meeting	VAdm. A. MARATOS
11-15 November	Gyeongju, Rep of KOREA	ISO/TC211	Mr. A. PHARAOH
25-27 November	London, UK	IMO Council	VAdm. A. MARATOS
27-28 November	London, UK	IMO/TC	Capt. F. BERMEJO
3-5 December	London, UK	IMO/MSC	VAdm. A. MARATOS
3-6 December	Paris, FRANCE	IOC	Capt. H. GORZIGLIA
5-6 December	Genoa, ITALY	ISO ECS WG	RAdm. A. BARBOR
5-6 December	Genoa, ITALY	ISO ECS WG	Ing. en Chef M. HUET
5-6 December	Genoa, ITALY	ISO ECS WG	Mr. A. PHARAOH
9-12 December	New York, USA	UNCLOS 20 th Anniversary of the Convention	RAdm. K. BARBOR
11-13 December	Trieste, ITALY	IMA	Capt. H. GORZIGLIA

2003

DATE	DESTINATION	MEETING	PARTICIPANT
15-23 January	Goa, INDIA	SPWG	Vadm. A. MARATOS
15-23 January	Goa, INDIA	SPWG	Capt. F. BERMEJO
10 –15 February	Nairobi, KENYA	Steering Committee on Lake Victoria	RAdm. K. BARBOR
4-9 March	Boulder, USA	8 th IBCCA	Ing. en Chef M. HUET
8-10 March	Vancouver, CANADA	DGIWG	RAdm. K. BARBOR
13-14 March	London, UK	SPWG Chair Group Meeting	VAdm. A. MARATOS
13-14 March	London, UK	SPWG Chair Group Meeting	Capt. F. BERMEJO
19-20 March	Pretoria, RSA	SAIHC/SPWG	RAdm. K. BARBOR
24-27 March	Biloxi, USA	USCHC	RAdm. K. BARBOR
1-2 April	The Hague, NETHERLANDS	IC-ENC TEWG Meeting	Ing. en Chef M. HUET
7-9 April	Trieste, ITALY	IMA	VAdm. A. MARATOS
15- 17 April	Wollongong, AUSTRALIA	SWPHC	RAdm. K. BARBOR
21- 25 April	Lima, PERU	IHO Tidal Committee	Lt. Cdr. S. SHIPMAN
28-29 April	Paris, FRANCE	Fixage Training	C. VELARD
28-29 April	Paris, FRANCE	Fixage Training	C. MEYNADIER
29 April	London, UK	International Chamber of Shipping	RAdm. K. BARBOR
5-8 May	Norrkoping, SWEDEN	NSHC	VAdm. A. MARATOS
10-16 May	Ottawa, CANADA	TSMAD	A. PHARAOH
12-14 May	Lima, PERU	SPWG & Visit HO	VAdm. A. MARATOS
12-16 May	Lima, PERU	SPWG	Capt. F. BERMEJO
14-16 May	Lima, PERU	WEND	VAdm. A. MARATOS
15-16 May	Lima, PERU	WEND	Ing. en Chef M. HUET
17-20 May	Ottawa, CANADA	C&SMWG	Ing. en chef M. HUET
19-27 May	Zurich & Geneva, SWITZERLAND	ISO/TC211 and JSG	Mr. A. PHARAOH
27May - 6 June	London, UK	MSC - IMO	Lt.Cdr. S. SHIPMAN
28-30 May	Valparaiso, CHILE	PAIGH and Visit HO Chile, Argentina and Uruguay	Capt. H. GORZIGLIA
30-6 June	London, UK	FIG/IHO/ICA	Capt. F. BERMEJO
2-4 June	Hamburg, GERMANY	SNPWG	Mr. A. PHARAOH
2-6 June	New York, USA	UNICPOLOS	RAdm. K. BARBOR
3-6 June	London, UK	FIG/IHO/ICA	Capt. H. GORZIGLIA
3-6 June	Brest, FRANCE	13th MBSHC & visit HO	VAdm. A MARATOS
4-8 June	London, UK	FIG/IHO/ICA	Lt. Cdr. S. SHIPMAN
16-17 June	Madrid, SPAIN	ATCM Meeting	Capt. H. GORZIGLIA
19-20 June	London, UK	IMO	VAdm. A. MARATOS
24-28 June	Paris, FRANCE	IOC	Capt. H. GORZIGLIA
30June - 4 July	London, UK	IMO NAV 49	Lt. Cdr. S. SHIPMAN

9-10 July	London, UK	SPWG Chair Group Meeting	VAdm. A. MARATOS
9-10 July	London, UK	SPWG Chair Group Meeting	Capt. F. BERMEJO
11 July	Trieste, ITALY	IMA Steering Committee	Capt. H. GORZIGLIA
31 July	Hamburg, GERMANY	SPWG Legal Experts Meeting & visit HO	VAdm. A. MARATOS
31 July	Hamburg, GERMANY	SPWG Legal Experts Meeting & visit HO	Capt. F. BERMEJO
7-15 August	Durban, RSA	ICC Conference 2003	Ing. en Chef M. HUET
1-5 September	St. Petersburg, RUSSIA	BSHC & Visit HO	VAdm. A. MARATOS
4-5 September	Frankfurt, GERMANY	ECGN Meeting	Lt. Cdr. S. SHIPMAN
15-16 September	Split & Zagreb CROATIA	HO visit & Ministry of FA	VAdm. A. MARATOS
15-17 September	Rostock, GERMANY	IC-ENC TEWG Meeting	Mr. A. PHARAOH
19 September	Oberammergau, GERMANY	NATO Geo Course	RAdm. K. BARBOR
19 September	Nancy, FRANCE	DHYDRO Meeting	Lt. Cdr. S. SHIPMAN
25- 26 September	Walvis Bay, NAMIBIA	4th SAIHC	RAdm. K. BARBOR
28September - 4 October	Wollongong, AUSTRALIA	TSMAD	Mr. A. PHARAOH
6-11 October	Singapore	ECDIS Conference	Mr. A. PHARAOH
7-9 October	Singapore	ECDIS	VAdm. A. MARATOS
9-11 October	Singapore	SPWG	VAdm. A. MARATOS
9-11 October	Singapore	SPWG	Capt. F. BERMEJO
13-15 October	Jakarta, INDONESIA	MEH & Visit HO	VAdm. A. MARATOS
13-16 October	Paris, FRANCE	GLOSS Meeting	Lt. Cdr. S. SHIPMAN
21-24 October	Paris, FRANCE	DQWG	Mr. A. PHARAOH
27- 31 October	Berlin, GERMANY	ISO/TC211	Mr. A. PHARAOH
3-5 November	Lima, PERU	SPWG & HO	VAdm. A. MARATOS
3-5 November	Lima, PERU	SEPHC	Capt. H. GORZIGLIA
3-5 November	Lima, PERU	SPWG	Capt. F. BERMEJO
6-7 November	Guayaquil, ECUADOR	Visit HO	Capt. H. GORZIGLIA
11-14 November	Shanghai, CHINA	EAHC	RAdm. K. BARBOR
12 November	Shanghai, CHINA	SPWG & HO	VAdm. A. MARATOS
17-18 November	Incheon, Rep. of KOREA	Visit HO NORI	RAdm. K. BARBOR
17-21 November	Santo Domingo, DOMINICAN Rep	COCATRAM	Capt. F. BERMEJO
17-21 November	Santo Domingo, DOMINICAN Rep	COCATRAM	Capt. H. GORZIGLIA
26 November - 1 December	London, UK	IMO Assembly	VAdm. A. MARATOS
24 November – 5 December	London, UK	IMO Assembly	Lt. Cdr. S. SHIPMAN
15-17 December	Singapore	MEH	VAdm. A. MARATOS

2004

DATE	DESTINATION	MEETING	PARTICIPANT
13-15 January	London, UK	FIG and WAAT meeting	Capt. H. GORZIGLIA
2-6 February	Helsinki, FINLAND	NHC Meeting	RAdm. K. BARBOR
16-18 February	London, UK	SPWG Chair Group meeting	VAdm. A. MARATOS
16-18 February	London, UK	SPWG Chair Group meeting	Capt. F. BERMEJO
16-20 February	London, UK	COMSAR	Lt. Cdr. S. SHIPMAN
1-5 March	Tokyo, JAPAN	SPWG	VAdm. A. MARATOS
1-5 March	Tokyo, JAPAN	SPWG	Capt. F. BERMEJO
2-7 March	Tokyo, JAPAN	WEND	RAdm. K. BARBOR
3-7 March	Tokyo, JAPAN	WEND	Ing. en Chef M. HUET
9 March	Paris, FRANCE	IALA	Lt. Cdr. S. SHIPMAN
13-24 March	(Vietnam 13-17) (Thailand 18-20) (Brunei 21-23)	Technical visits to ASIA	Capt. H. GORZIGLIA
13-24 March	(Vietnam 13-17) (Thailand 18-20) (Brunei 21-23)	Technical visits to ASIA	Capt. F. BERMEJO
17-19 March	Hamburg, GERMANY	S-63 Workshop	Mr. A. PHARAOH
22-29 March	Mumbai, INDIA	NIOHC + Hydro-IND 2004	VAdm. A. MARATOS
29 March - 2 April	Silver Spring, USA	TSMAD	Mr. A. PHARAOH
1-7 April	La Spezia, ITALY	GEBCO Guiding Committee	Capt. H. GORZIGLIA
1-7 April	La Spezia, ITALY	GEBCO Guiding Committee	Lt. Cdr. S. SHIPMAN
1-2 April	La Spezia, ITALY	GEBCO Guiding Committee	Ing. en Chef M. HUET
20-23 April	Hangzhou, CHINA	4 th IBCWP	Ing. en Chef M. HUET
21-23 April	Kiev, UKRAINE	7 th BASWG	VAdm. A. MARATOS
1-4 May	Trieste, ITALY	IMA Technical Meeting	Capt. H. GORZIGLIA
5-8 May	Kuala Lumpur, MALAYSIA	27 th Meeting of the FIG/IHO/ICA Advisory Board	Capt. F. BERMEJO
8-16 May	Havana, CUBA	Geomatica	RAdm. K. BARBOR
8-16 May	Havana, CUBA	Geomatica+ENC Workshop+ICA Standards Com.	Ing. en Chef M. HUET
10-11 May	Trieste, ITALY	IMA, EUMEDIS	VAdm. A. MARATOS
12-18 May	London, UK	MSC 78, IMO	VAdm. A. MARATOS

DATE	DESTINATION	MEETING	PARTICIPANT
12-20 May	London, UK	MSC 78, IMO	Lt. Cdr. S. SHIPMAN
21 May	Oberammergau, GERMANY	NATO School	Ing. en Chef M. HUET
22-29 May	Kuala Lumpur, MALAYSIA	ISO TC 211	Mr. A. PHARAOH
24-31 May	Ottawa, CANADA	USCHC & CHRIS	RAdm. K. BARBOR
24-27 May	Cape Town, RSA	ATCM	Capt. H. GORZIGLIA
24-26 May	Athens, GREECE	FIG Working Week	Lt. Cdr. S. SHIPMAN
24-26 May	Athens, GREECE	SPWG Seminar	VAdm. A. MARATOS
26-30 May	Athens, GREECE	SPWG Seminar	Capt. F. BERMEJO
28-31 May	Ottawa, CANADA	16 th CHRIS	Ing. en Chef M. HUET
5-9 June	Buenos Aires, ARGENTINA	125 th Anniversary of HO	Capt. H. GORZIGLIA
6-11 June	Silver Spring, USA	SNPWG	Mr. A. PHARAOH
6-13 June	St. Petersburg, RUSSIA	SCUFN	Ing. en Chef M. HUET
14-18 June	London, UK	54 th IMO T.C.	Capt. F. BERMEJO
19-26 June	Paris, FRANCE	IOC Executive Council	Capt. H. GORZIGLIA
22-24 June	Paris, FRANCE	SPWG	VAdm. A. MARATOS
22-24 June	Paris, FRANCE	SPWG	Capt. F. BERMEJO
23 June	Brussels, BELGIUM	NATO, SHAPE	Lt. Cdr. S. SHIPMAN
5-9 July	London, UK	IMO NAV,50	VAdm. A. MARATOS
5-9 July	London, UK	IMO NAV 50	Lt. Cdr. S.SHIPMAN
13-16 July	Istanbul, TURKEY	ISPRS	VAdm A. MARATOS
26-28 July	New Orleans, USA	Multibeam Meeting Navoceano	Capt. H. GORZIGLIA
29-30 July	Bremen, GERMANY	IBCSO	Ing. en Chef M. HUET
30 August – 3 September	Cartagena de Indias, COLOMBIA	6 th MACHC	Capt. H. GORZIGLIA
30 August – 3 September	Cartagena de Indias, COLOMBIA	6 th MACHC & SPWG Seminar	Capt. F. BERMEJO
1 st September – 3 September	Cartagena de Indias, COLOMBIA	SPWG Seminar	VAdm. A. MARATOS
6-8 September	Kythnos, GREECE	4 th HCA	Ing. en Chef M. HUET
6-8 September	Kythnos, GREECE	4 th HCA	Capt. H. GORZIGLIA
20-23 September	Cardiff, UK	NSHC	VAdm. A. MARATOS

DATE	DESTINATION	MEETING	PARTICIPANT
22-24 September	Oberammergau, GERMANY	NATO School	RAdm. K. BARBOR
4-8 October	Pallanza, ITALY	ISO TC211	Mr. A. PHARAOH
5-7 October	Stavanger, NORWAY	IC-ENC TEWG	Ing. en Chef M. HUET
11 –13 October	Lisbon, PORTUGAL	6 th IHO Tidal Committee	Lt. Cdr. S. SHIPMAN
12 – 15 October	Venice, ITALY	5 th Regional Seapower Symposium	VAdm. A. MARATOS
18-21 October	Canberra, AUSTRALIA	ABLOS Business Meeting	Lt. Cdr. S. SHIPMAN
25 – 28 October	Brest, FRANCE	8 th EAHC	Capt. F. BERMEJO
26-29 October	Brest, FRANCE	8 th EAHC	Capt. H. GORZIGLIA
28-29 October	Brest, FRANCE	8 th EAHC	Ing. en Chef M. HUET
4-12 November	Suva, FIJI	SWPHC + IHOCBC	RAdm. K. BARBOR
5-15 November	Suva, FIJI	IHOCBC 2 and Workshop	Capt. F. BERMEJO
7-13 November	Suva, FIJI	IHOCBC 2 and Workshop	Capt. H. GORZIGLIA
1-7 December	London, UK	MSC 79, IMO	VAdm. A. MARATOS
1-10 December	London, UK	MSC 79, IMO	Lt. Cdr. S. SHIPMAN
8-9 December	Hamburg, GERMANY	WEND TG	RAdm. K. BARBOR
13 - 17 December	Cape Town, RSA	East Africa MH Project	RAdm. K. BARBOR
13 - 17 December	Cape Town, RSA	East Africa MH Project	Mr. A. PHARAOH

2005

DATE	DESTINATION	MEETING	PARTICIPANT
3-4 January	London, UK	FIG Meeting	Lt. Cdr. S. SHIPMAN
8-16 January	MAURITIUS	UN Sustainable Development for SIDS	RAdm. K. BARBOR
11-12 January	London, UK	Tsunami Disaster Meeting	VAdm. A. MARATOS
11-13 January	Paris, France	IALA ANIS Project	Ing. en chef M. HUET
25-27 January	London, UK	DGI Conference	RAdm. K. BARBOR
31-4 February	Vancouver, CANADA	HIHG	Mr. A. PHARAOH
2-5 February	St. Petersburg, RUSSIA	HDNO	VAdm. A. MARATOS
5-10 February	London, UK	COMSAR	VAdm. A. MARATOS
7-10 February	London, UK	COMSAR	Lt. Cdr. S. SHIPMAN
7-10 February	Reykjavik, ICELAND	NHC	RAdm. K. BARBOR
14-15 February	Paris, FRANCE	SHOM	Capt. H. GORZIGLIA
16-18 February	Douala, CAMEROON	PMAWCA	Capt. H. GORZIGLIA
21-24 February	Seoul, Rep. of KOREA	EAHC & ENC	RAdm. K. BARBOR
21-24 February	Seoul, Rep. of KOREA	EAHC	VAdm. A. MARATOS
23-25 February	Paris, FRANCE	Gloss Meeting at IOC	Lt. Cdr. S. SHIPMAN
22 February - 5 March	Central America	Capacity Building	Capt. H. GORZIGLIA
22 February - 5 March	Central America	Capacity Building	Capt. F. BERMEJO
27 February – 3 March	Jeddah, SAUDI ARABIA	NIOHC	VAdm. A. MARATOS
7 March	Trieste, ITALY	IMA	Capt. H. GORZIGLIA
28 March – 1 April	San Diego, USA	US Hydro '05 USCHC	RAdm. K. BARBOR
17 – 24 April	Cairo, EGYPT	Joint Board Geospatial Society	VAdm. A. MARATOS
23 – 29 April	Athens, GREECE	FIG/IHO/ICA AB	Capt. F. BERMEJO
24 – 29 April	New Hampshire, USA	TSMAD	Mr. A. PHARAOH
2-4 May	Rostock, GERMANY	C&SMWG	Ing. en chef M. HUET
4 May	London, UK	IMO	RAdm. K. BARBOR
10 – 11 May	Oberammergau, GERMANY	NATO School	RAdm. K. BARBOR
10 – 17 May	London, UK	IMO, MSC	VAdm. A. MARATOS
11 – 21 May	London, UK	IMO, MSC	Lt. Cdr. S. SHIPMAN

DATE	DESTINATION	MEETING	PARTICIPANT
28 May – 04 June	Cartagena, COLOMBIA	IHOCBC & MACHC	Capt. H. GORZIGLIA
29 May – 05 June	Cartagena, COLOMBIA	IHOCBC & MACHC	Capt. F. BERMEJO
5-10 June	London, UK	IMO NAV 51 & SPWG Chair Group meeting	VAdm. A. MARATOS
5-10 June	Stockholm, SWEDEN	ISO TC/211	Mr. A. PHARAOH
5-12 June	Stockholm, SWEDEN	Antarctic Treaty	Capt. H. GORZIGLIA
6-10 June	London, UK	IMO, NAV 51	Lt. Cdr. S. SHIPMAN
7-9 June	London, UK	SPWG Chair Group	Capt. F. BERMEJO
9-19 June	New York, USA	UN Open Ended Informal Consultative Process on Oceans and Law of the Sea	RAdm. K. BARBOR
13-17 June	London, UK	IMO TC55	Capt. F. BERMEJO
14 –17 June	Riga, LATVIA	11 th BSHC	VAdm. A. MARATOS
19 – 28 June	Paris, France	23 rd IOC Assembly	Capt. H. GORZIGLIA
26 –29 June	Alghero, Sardinia, ITALY	INSPIRE	Mr. A. PHARAOH
2-8 July	Guayaquil, ECUADOR	SEPHC	Capt. H. GORZIGLIA
3-15 July	La Coruna, SPAIN	ICC	Ing. en chef M. HUET
5-7 July	Kuala Lumpur, MALAYSIA	2 nd Int Hydrographic and Oceanographic Industry Exhibition and Conference 2005.	VAdm. A. MARATOS
6-13 July	Aguascalientes, MEXICO	GEBSCO SCDB	Lt. Cdr. S. SHIPMAN
6-13 July	Aguascalientes, MEXICO	GEBSCO SCDB	Mr. A. PHARAOH
10-15 July	Sydney, AUSTRALIA	SPWG	VAdm. A. MARATOS
10 –15 July	Sydney, AUSTRALIA	SPWG	Capt. F. BERMEJO
4-9 September	Rostock, GERMANY	17th CHRIS	RAdm. K. BARBOR
4-9 September	Rostock, GERMANY	17th CHRIS	Ing. en chef M. HUET
10-17 September	Montreal, CANADA	21st ISO /TC211 Meeting	Mr. A. PHARAOH
11-12 September	Plymouth, UK	4 th Intl.Conf. on High Resolution Surveys in Shallow Water	VAdm. A. MARATOS
18-21 September	London, UK	IHO Advisory Board Chair Group	Capt. F. BERMEJO

DATE	DESTINATION	MEETING	PARTICIPANT
25-27 September	BSH Hamburg, GERMANY	SPWG Legal Experts Group Meeting	Capt. F. BERMEJO
23-27 September	BSH Hamburg, GERMANY	SPWG Legal Experts Group Meeting	VAdm. A. MARATOS
26-29 September	Cape Town, RSA	SAIHC Meeting	RAdm. A. BARBOR
2 – 4 October	Arusha, TANZANIA	Workshop on Implementation of Lake Victoria Safety in Navigation	RAdm. A. BARBOR
3 – 6 October	Taunton, UK	IC-ENC Meeting/Primar Stavanger TEWG	Mr. A. PHARAOH
8 – 10 October	Malmoe, SWEDEN	WMU Graduation	VAdm. A. MARATOS
11-14 October	London, UK	SPWG Chair Group Meeting	VAdm. A. MARATOS
11-14 October	London, UK	SPWG Chair Group Meeting	Capt. F. BERMEJO
10 – 14 October	Trieste, ITALY	Seminar at IMA EAthC	Capt. H. GORZIGLIA
24 – 28 October	Copenhagen, DENMARK	5th SNPWG Meeting	Mr. A. PHARAOH
30 Oct – 6 November	Christchurch, NEW ZEALAND	HCA Meeting	Capt. H. GORZIGLIA
30 Oct – 6 November	Christchurch, NEW ZEALAND	HCA Meeting	Ing. en chef M. HUET
4 – 9 November	Wellington, NEW ZEALAND	SWPHC Meeting	RAdm. A. BARBOR
7 – 9 November	Rostock, GERMANY	IHO Seminar – Role of Hydrographic Services with regards to Geospatial Data and Planning Infrastructure	VAdm. A. MARATOS
4-12 November	Veracruz, MEXICO	MACHC Meeting	Capt. F. BERMEJO
3-12 November	Sydney, AUSTRALIA	12th Meeting TSMAD Sub WG, 9th Meeting Wollongong	Mr. A. PHARAOH
7-12 November	Veracruz, MEXICO	MACHC Meeting	Capt. H. GORZIGLIA
19 Nov- 3 Dececeember	London, UK	IMO Assembly, 24 th Session	Lt. Cdr. S. SHIPMAN
21-25 November	London, UK	IMO Assembly, 24 th Session	VAdm. A. MARATOS
2-10 December	Mexico City, MEXICO	7 th SPWG Meeting	VAdm. A. MARATOS
3-7 December	Mexico City, MEXICO	7 th SPWG Meeting	Capt. H. GORZIGLIA
3-12 December	Mexico City, MEXICO	7 th SPWG Meeting	Capt. F. BERMEJO

2006

DATE	DESTINATION	MEETING	PARTICIPANT
12-13 January	Paris, FRANCE	WEND WG	RAdm. A. BARBOR
16-17 January	Paris, FRANCE	SHOM	Capt. H. GORZIGLIA
30 January - 9 February	Bangkok, THAILAND Dhaka, BANGLADESH	IOC Coast Map IO Project	Ing. en chef. M. HUET
7-9 February	Stavanger, NORWAY	NHS Maritime Conference	VAdm. A. MARATOS
22-25 February	London, UK	Chair Group Meeting IAB	Capt. F. BERMEJO
23 February	Brussels, BELGIUM	Dictionary Meeting	Lt. Cdr. S. SHIPMAN
6-9 March	London, UK	COMSAR	VAdm. A. MARATOS
3-16 March	London, UK	COMSAR/IMO-IHO-WMO Coordination Group on Harmonisation IMO/IHO docs WNWNS	Lt. Cdr. S. SHIPMAN
7-10 March	Accra, GHANA	FIG Congress	Capt. H. GORZIGLIA
13-17 March	Colombo, SRI LANKA	6th NIOHC	VAdm. A. MARATOS
21-22 March	London, UK	19th SPWG Chair Group Meeting	VAdm. A. MARATOS
21-22 March	London, UK	19th SPWG Chair Group Meeting	Capt. F. BERMEJO
20-24 March	Ottawa, CANADA	TSMAD	Mr. A. PHARAOH
4 April	London, UK	Military Geospatial Intelligence 2006	RAdm. A. BARBOR
10-13 April	Tunis, TUNISIA	Visit to Hydrographic Service	VAdm. A. MARATOS
10-14 April	Goa, INDIA	FIG/IHO/ICA IAB	Capt. F. BERMEJO
24-27 April	Stavanger, NORWAY	Technical Experts WG Meeting	Mr. A. PHARAOH
24-27 April	Longyearbyen, NORWAY	50th NHC	RAdm. A. BARBOR
1-5 May	Busan, Rep. of KOREA	8th SPWG Meeting	VAdm. A. MARATOS
1-5 May	Busan, Rep. of KOREA	8th SPWG Meeting	Capt. F. BERMEJO
2-3 May	Tehran, IRAN	2nd RSA Meeting	Capt. H. GORZIGLIA
2-3 May	Tehran, IRAN	2nd RSA Meeting	Lt. Cdr. S. SHIPMAN
8-17 May	SEYCHELLES MAURITIUS MADAGASCAR	Capacity Building Mission	Ing. en chef. M. HUET
9-19 May	London, UK	MSC 81 IMO	Lt. Cdr. S. SHIPMAN
10-12 May	Brest, FRANCE	SHOM - Librarians Meeting	Ms. P. BOUZANQUET
15-19 May	London, UK	MSC 81 IMO	VAdm. A. MARATOS

DATE	DESTINATION	MEETING	PARTICIPANT
16 May	London, UK	Nippon Foundation	Capt. H. GORZIGLIA
17 May	Oberammergau, GERMANY	NATO PfP GOC	RAdm. A. BARBOR
22-26 May	Colorado Springs, USA	ISO TC/211	Mr. A. PHARAOH
29-31 May	Lagos, NIGERIA	Seapower Symposium	RAdm. A. BARBOR
4-9 June	Halifax, CANADA	29th USCHC	VAdm. A. MARATOS
5-9 June	Maputo, MOZAMBIQUE	2nd EX SAIHC	RAdm. A. BARBOR
5-9 June	Maputo, MOZAMBIQUE	IHO - CBC and IHO CBC Technical Workshop (5 June 2006) SAIHC	Capt. H. GORZIGLIA
5-9 June	Maputo, MOZAMBIQUE	IHO - CBC and IHO CBC Technical Workshop (5 June 2006) SAIHC	Capt. F. BERMEJO
6-7 June	London, UK	IMO FSI sub Committee	Lt. Cdr. S. SHIPMAN
9 June	Paris, FRANCE	Institut Oceanographique	Lt. Cdr. S. SHIPMAN
12-15 June	Edinburgh, SCOTLAND, UK	ATCM	Capt. H. GORZIGLIA
12-16 June	New York, USA	7th UNICPLOS	RAdm. A. BARBOR
13-15 June	London, UK	IMO Technical Cooperation Committee	Capt. F. BERMEJO
13-16 June	Bremerhaven, GERMANY	GEBCO SCDB	Mr. A. PHARAOH
16-20 June	Bremerhaven, GERMANY	GEBCO CGOM	Capt. H. GORZIGLIA
16-20 June	Bremerhaven, GERMANY	GEBCO CGOM	Lt. Cdr. S. SHIPMAN
19-23 June	Bremerhaven, GERMANY	GEBCO SCUFN	Ing. en chef M.HUET
20-27 June	Paris, FRANCE	IOC	Capt. H. GORZIGLIA
22-30 June	Sydney, AUSTRALIA	Tidal Committee	Lt. Cdr. S. SHIPMAN
27-28 June	Trieste, ITALY	IMA	VAdm. A. MARATOS
3-11 July	ESTONIA, LATVIA, LITHUANIA	Technical visit	Capt. H. GORZIGLIA
3-11 July	ESTONIA, LATVIA, LITHUANIA	Technical visit	Capt. F. BERMEJO
4-8 July	Vienna, AUSTRALIA	ICA Standards Commission	Ing. en chef M.Huet
10-12 July	Vienna, AUSTRALIA	GICON 2006	VAdm. A. MARATOS
17-21 July	London, UK	IMO Nav 52	VAdm. A. MARATOS
17-21 July	London, UK	IMO Nav 52	Lt. Cdr. S. SHIPMAN
4-6 September	Rostock, GERMANY	27th NSHC	VAdm. A. MARATOS
6-8 September	Split, CROATIA	Hydrographic Office Visit	VAdm. A. MARATOS
9-18 September	Buenos Aires, ARGENTINA	CPRNW 8	Lt. Cdr. S. SHIPMAN

DATE	DESTINATION	MEETING	PARTICIPANT
18-22 September	Wellington, NEW ZEALAN	13 TSMAD	Mr. A. PHARAOH
19-22 September	Jeju, Rep. of KOREA	9th EAHC	RAdm. A. BARBOR
25-30 September	Cairns, AUSTRALIA	18th CHRIS Meeting	RAdm. A. BARBOR
25-30 September	Cairns, AUSTRALIA	18th CHRIS Meeting	Ing. en chef M. HUET
2-6 October	Acapulco, MEXICO	7th MACHC	Capt. H. GORZIGLIA
2-6 October	Acapulco, MEXICO	7th MACHC	Capt. F. BERMEJO
9-12 October	Munich, GERMANY	FIG Congress	Capt. H. GORZIGLIA
9-12 October	Munich, GERMANY	FIG Congress	Lt. Cdr. S. SHIPMAN
10-13 October	Venice, ITALY	Seapower Symposium	VAdm. A. MARATOS
10-13 October	Oberammergau, GERMANY	NATO PfP	RAdm. A. BARBOR
6-9 November	Antwerp, BELGIUM	HYDRO'06	VAdm. A. MARATOS
6-10 November	Antwerp, BELGIUM	HYDRO'06	Lt. Cdr. S. SHIPMAN
6-8 November	Punta Arenas, CHILE	6th HCA	Capt. H. GORZIGLIA
6-8 November	Punta Arenas, CHILE	6th HCA	Ing. en chef M. HUET
16 November	Rio de Janeiro, BRAZIL	SWAtHC Constitutional Meeting	Capt. H. GORZIGLIA
21-22 November	London, UK	International Chamber of Shipping	VAdm. A. MARATOS
21-22 November	London, UK	International Chamber of Shipping	Lt. Cdr. S. SHIPMAN
27 November - 1 December	Yangon, MYANMAR	Mission IOC Coastal Map IO	Ing. en chef M. HUET
27-1 December	Silver Spring, USA	TSMAD Focus WG	Mr. A. PHARAOH
29-8 December	Istanbul, TURKEY	MSC 82	VAdm. A. MARATOS
29-8 December	Istanbul, TURKEY	MSC 82	Lt. Cdr. S. SHIPMAN
6-8 December	Dakar, SENEGAL	9th EAHC	Capt. H. GORZIGLIA
6-8 December	Dakar, SENEGAL	9th EAHC	Ing. en chef M. HUET

**WORK PROGRAMME 5
DOCUMENTS**

GENERAL ORGANIZATION DEVELOPMENT

CONF.17/WP.5

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GENERAL ORGANIZATION DEVELOPMENT

REPORT OF THE IHO LEGAL ADVISORY COMMITTEE (LAC) by the Chairwoman Denise WEBSTER, USA

1. **Chair:** Ms. Denise WEBSTER, USA.
Vice-Chair: Mr. Ken POGSON, Australia.
2. **Membership:** Australia, Canada, Cuba, Denmark, France, Germany, Iceland, Japan, Monaco, Norway, Spain, South Africa, Sweden, United Kingdom, and United States of America.

3. **Meetings**

No meetings have been held by the Legal Advisory Committee. A few members of the LAC have actively participated as Members of the Legal Experts since the XVIth Conference.

4. **Agenda Items**

The only legal issue that was addressed by the LAC (vice the Legal Experts) pertained to the “legal personality” of the IHO. A letter addressing this issue was sent to Admiral Barbor on 25 November 2002.

5. **Proposals**

No items are proposed for adoption by the XVIIth I.H. Conference.

REPORT ON TRANSLATION SERVICES

1. The official languages of the IHO are English and French, but Spanish is also widely used within the Organization, in accordance with the relevant resolutions, regulations and rules. Normally all documents are prepared in English first and then translated into French, and into Spanish when required.
 2. French Translations are the responsibility of the Head French Translator, who is assisted when required, and part-time, by the French Translation Assistant. It should be noted that since the retirement of the former Head French Translator in 2003, the position of a second full-time professional translator has not been filled. If needed, the IHB hires a professional translator on a temporary basis and also relies on occasional voluntary assistance from French-speaking Member States, to whom the IHB is grateful for their valuable support.
 3. All translations into Spanish are the responsibility of the Spanish Translator. In the case of specific technical translations or any major translation task beyond the existing possibilities, Spanish-speaking Member States have provided valuable translation support to the IHB, which is grateful to those countries for their contribution.
 4. Translations into English from French are normally carried out by the English native tongue IHB staff members – the Office Superintendent and the Directors' Secretary.
 5. The above mentioned staff members also undertake proof reading in the three languages.
-

REPORT ON IHO MEMBERSHIP

1. The number of IHO Member States has continued to increase satisfactorily and now (2007) stands at 78 Member States, with the very recent admission of Romania and Saudi Arabia.
 2. It will be recalled that Slovenia became the 72nd IHO Member State on 15 April 2002 which meant that the Slovenian Delegation was able to participate in the XVIth International Hydrographic Conference as a Member State with full voting rights.
 3. In the period following the XVIth I.H. Conference (April 2002) to February 2007, six more countries have joined the Organization, as follows:
 - 73rd Member State: - Kuwait on 6 September 2002
 - 74th Member State: - Myanmar on 9 September 2003
 - 75th Member State: - Latvia on 17 March 2005
 - 76th Member State: - Mauritius on 4 August 2005
 - 77th Member State: - Romania on 29 January 2007
 - 78th Member State: - Saudi Arabia on 27 February 2007.
 4. Of the 78 Member States, the following three countries have their rights and benefits suspended: Democratic Republic of the Congo (suspended since 1983), Dominican Republic (suspended since 1982), Suriname (suspended since 1991). Guatemala, which had been suspended since 1991, recovered its full rights and benefits on 4 June 2002.
 5. The admission of the following countries is currently pending: Bulgaria, Cameroon, Ireland, Mauritania, Qatar and Sierra Leone.
-

REPORT ON HOST GOVERNMENT AFFAIRS

Relations with the Host Country were very good during the period 2002-2007. The Department of External Relations efficiently handled applications from States to become Members of the Organization and monitored the approval procedure in accordance with Article XX of the Convention, as well as the approval of the Protocol of Amendments to the Convention, as approved by the 3rd Extraordinary I.H. Conference in 2005, in accordance with Article XXI of the Convention.

In 2003, the Bureau held a Seminar for the GEBCO Centenary celebrations, in the presence of Prince Albert II who, in his address, highlighted the importance of the project.

The Directors were amongst the mourners at Prince Rainier III's funeral, who passed away on 6th April 2005. They also participated in the celebrations that took place three months later for the official enthronement of Prince Albert II.

The Directing Committee also participated in the celebrations commemorating the centenary of the Arctic Expedition by Prince Albert Ist and the expedition to the same area by Prince Albert II in 2006. A very interesting Conference and Exhibition were held in May 2006, where the Directing Committee participated very actively.

The Directing Committee very much appreciates the support provided by the Government of Monaco, in maintaining and renovating the Bureau and especially Mr FISSORE's active interest (*Government Counsellor for External Affairs - Conseiller de Gouvernement pour les Relations Extérieures*). The Directing Committee has implemented procedures, in cooperation with Mr FISSORE, in order to raise awareness of National Officials visiting Monaco of the importance of Hydrography.

Prince Albert II and Members of the Government of Monaco participated in the celebrations held on the roof terrace of the Bureau, for the first World Hydrography Day on 21 June 2006. The Prince in his address highlighted the importance of these celebrations and the support that the Government of Monaco continues to provide to the Organization.

FINANCE DOCUMENTS

CONF.17/F/01 rev.1

CONF.17/F/02 rev.3

CONF.17/F/03 rev.1

CONF.17/F/04 rev.1

CONF.17/F/05

CONF.17/F/REP

IHO FINANCE REPORT 2002 – 2006
Submitted by the IHB Directing Committee

CONF.17/F/01 rev.1

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IHO FINANCE REPORT 2002-2006

Submitted by the IHB Directing Committee

1. INTRODUCTION

1.1 Preparation of the Report

This report on the administration of the finances of the International Hydrographic Organization for the period 1 January 2002 to 31 December 2006 has been prepared by the Directing Committee of the International Hydrographic Bureau for examination by the Finance Committee and their recommendation for approval by the Conference in accordance with Article 12(a)(i) of the IHO General Regulations.

1.2 Audit of the accounts

The Bureau's accounts for each calendar year have been audited by the Auditor appointed by the XVIth International Hydrographic Conference. The annual report of the Auditor has been included in each Annual Report, Part 2 – Finance.

1.3 Currency

In accordance with the IHO Financial Regulations, Article 2(a), the Euro was introduced on 1 January 2002, as the currency to be used for the accounting purposes of the Organization.

1.4 Bank transfers

Transfer of cash from the Bureau's various bank accounts in Monaco, the United Kingdom and the United States of America have been made as required and in conformity with the exchange control regulations. Bank accounts outside of Monaco have been maintained in order to facilitate payments abroad whenever needed.

1.5 Annual Financial Statements

Financial Statements have been forwarded annually to Members of the Finance Committee for comment. Upon review, comments of the Finance Committee have been forwarded with the report for approval by the Member States as the Annual Report, Part 2 – Finance.

2. INCOME 2002 TO 2006 -TABLE 1

2.1 Contributions

2.1.1 Number of shares

In 1993 the Organization, based on a suggestion from France, ceased the projection of increased shares for pending Member States and has based budget projections on the known number of shares at the time of budget preparation. The five-year budget estimates (2003-2007) were prepared for the XVI IHC based on this principle with a number of 593 shares. Also during the five-year period there were small changes in the number of shares due to changes in the tonnage figures reported by Member States.

The number of shares of 598.5 in 2002 progressed to 612 in 2003, to 616 in 2004, to 621.5 in 2005 and to 629 in 2006 (note: half shares result from new Member States joining the Organization after July).

Six new Member States joined the IHO during the period making a total of seventy-six. These States are: Mexico, Slovenia and Kuwait in 2002, Myanmar in 2004, Latvia and Mauritius in 2005.

2.1.2 Value of a share

There was no increase in the share value for 2002, 2003 and 2004. The XVIth International Hydrographic Conference in April 2002 had approved increases in the share value by 2.5% for 2005, 2.9% for 2006 and 3.0% for 2007. The Directing Committee in managing the finances of the Organization recommended an increase of 2.0% for 2005 (instead of 2.5%) and no increase for 2006 and 2007 resulting in the total increase of the share value of 2.0% instead of 8.4% for the period of 2003-2007.

2.1.3 Suspension of rights and benefits

The Dominican Republic and the Democratic Republic of Congo (ex Zaire), in 1983, and Suriname, in 1991, had their rights suspended for failing to pay their contributions. These Member States remain suspended as they have not paid their outstanding contributions. Guatemala had its rights suspended in 1991 but was restored in June 2002 upon payment of its outstanding contributions.

2.1.4 Payments of contributions

Payments of contributions generally have been good throughout the period. The status of contribution payments has been provided in each Annual Report, Part 2 – Finance. As a general observation it has to be noted that for the period 2002-2006, 50% of the contributions were paid by 50% of Member States by the end of April each year, while the final amount received at the end of the years has varied between 85.31% in 2003 and 92.37% in 2004 with an average over the five year period of 88.75%.

2.2 Sales of Publications

The income from the sales of publications has remained at a reasonable level for the period 2003-2006 ranging between 8,843 Euros in 2005 and 13,133 in 2004. Substantially higher sales in 2002 of 20,300 Euros were associated with the Conference of the Organization.

It has to be noted that the publication and distribution of the International Hydrographic Review were contracted out to a commercial company in 2000.

2.3 Interest on the bank accounts

The total interest earned for the period was 259,137 Euros or nearly triple that projected by the XVI Conference (82,734 Euros). This sharp increase in the interest earned was mainly due to the upward trend of global interest rates and the continuous negotiations with the local banks, in order to take advantage of the best interest rates offered by local banks.

2.4 GEBCO Grant

The Government of the Principality of Monaco generously continues its annual contributions towards GEBCO expenses for a total of 37,600 Euros. In 2006 the annual contribution of 7,600 Euros was allocated to the GEBCO Fund.

2.5 Internal Tax

The Directors and all the Staff of the Bureau continue to pay a monthly Internal Tax, which is 10% of their gross salary.

2.6 Extraordinary income

2.6.1 Interest on overdue contributions

Extraordinary income of 108,965 Euros resulted from the interest on overdue contributions as required by Article 13 (c) of the Financial Regulations.

2.7 INCOME – Summary

The total estimated income for the period 2002-2006 was 12,694,282 Euros and the total income received during the period was 13,220,244 Euros. This increase was due to the increase of the number of shares as new States joined the Organization and in the increase of the other items of this Chapter as explained above.

3. EXPENDITURE 2002-2006-TABLE 2 EXPLANATORY NOTES

3.1 Chapter I – Personnel Costs

3.1.1 Directors' and Staff salaries

Member States approved the recommendations of the Finance Committee Working Group which was established, following the Decision 21(a) of the XVI International Hydrographic Conference, to study the alignment of salaries of the IHB Directors and Staff with the UN system. These recommendations are as follows:

- Directors, Category A Staff and Translators should have their rates of pay aligned with UN pay scales. Directors were assimilated to level D-1 of the UN system (and not to D-2 as it was proposed by the UN Body), Category A Staff to P-4 (and not P-5) and Translators to P-1 (and not P-2);
- Average increase in net pay awards should be made to the above with effect from 1 January 2004 (this was implemented on 1 July 2004) as follows: Directors 25%, Category A Staff 22.4% and Translators 11.7%;
- The payment of the bonus representing one month's salary should cease to all Staff whose salary scales are aligned with the UN pay scales;
- The UN pay scales, including the Post Adjustment factor, should be used as a benchmark against which the IHB scales are determined for individuals at the time of initial appointment or re-appointment where the post is subjected to a process of external competition. The pay scale fixed upon appointment will be subject to increases in line with the average awards made to the Monaco Civil Service.

The details of this subject are included in Finance Committee Circular Letter 5/2003 dated 17 October 2003. To accommodate this alignment, Member States approved an increase in the Conference approved level of expenditures to 236,946 Euros in 2004, 271,993 Euros in 2005, 284,179 Euros in 2006, and 296,315 Euros in 2007.

In 2003 one Staff Member took early retirement without replacement and the Professional Assistant for Hydrography was replaced.

Directors and Staff whose salaries were aligned to the UN salary scheme, ceased to receive language allowance and the Monaco cost of living allowance, from 1 July 2004.

3.1.2 Annual Bonus

An annual bonus of one-month salary has been paid to the Directors and Staff; however, the bonus ceased for the Directors, Category A Staff and Translators from 1 July 2004 when their salaries were aligned with the UN system. The bonus is not taken into account for pension purposes.

3.1.3 Payment to the Retirement Fund

The retirement schemes of the Directors and Staff are as follows:

- Staff recruited before 31 August 1987 come under the Internal Retirement Fund (IRF). For these employees the Organization and the Staff pay a contribution of 15% and 7.5% of the basic salary, respectively;
- The Directors and Staff recruited after 31 August 1987 have Personalized Pension Plans (PPP), to which the Organization and the Staff contribute 15% and a minimum of 5% respectively.

Also the Bureau continues to pay the obligatory contributions to the Association Monégasque des Retraites par Repartition (AMRR), which is a Monegasque complementary retirement scheme for all Staff except Directors.

The IRF had suffered a loss of 150,000 Euros due to the investment of part of the Fund in Equities. The years 2000-2003 represented one of the worst investment climates in recent years. The details were reported to Member States in FCCL 2/2003 dated 4 April 2003. The Directing Committee took measures to reduce the amount of the IRF at risk to market volatility and at present 82% of the IRF is kept in Bank Accounts and 18% is invested in Mutual Funds. The developments of the IRF are examined during the meetings of the Directing Committee with the Chairman and Vice-Chairman of the Finance Committee that take place twice a year in accordance with Article 14 of the General Regulations.

3.1.4 Accident Insurance for the Personnel

The Bureau has continued with the compulsory insurance policy covering the risk of work accidents.

3.1.5 Family Allowance

Family Allowances were paid and adjusted in accordance with the regulations of Monaco. This item varies according to the number of eligible family members.

3.1.6 Education Grants

Education Grants were paid in accordance with the United Nations' system as was adopted by the XIV I.H. Conference. This item varies according to the number of eligible family members attending school.

3.1.7 Home rental

A small expense was foreseen under this item for one of the Staff members who was eligible for House Rent Allowance in accordance with Staff Regulations paragraph IV.2.2.2. This allowance ceased in July 2004, as no Staff member is any longer eligible to receive it.

3.1.8 Medical Expenses

Medical Expenses were high during the period due to the number of personnel, active and retired, requiring medical care and the rising costs of medical care. The Bureau carries an insurance plan to guard against major medical claims and the recovery of funds from the plan has been indicated separately. Due to the big difference in what was paid and what was received back, the Directing Committee renegotiated the contract with the company, with better terms for the Bureau and an immediate profit of about 40,000 Euros for 2006. This insurance contract includes the obligation to have an extra policy covering disability and death.

3.1.9 Home leave

Directors and Category A Staff recruited on an international basis and their dependents are eligible for Home Leave every two years in accordance with the decision of the XIIIth I.H. Conference. Home Leave has been granted in accordance with IHB Staff Regulations VI.4.

3.1.10 Pensions paid to retired Staff members (only IRF)

As noted in the FCCL 5/2003 dated 17 October 2003, from 1 January 2005 the pensions to retired Staff are paid from the IRF, as was the case before 2000.

3.1.11 Salaries – Temporary Staff

With this item the Bureau covers the need to employ temporary Staff. In 2005 two of the Staff members were on maternity leave for six months and approximately 50,000 Euros were paid for the employment of Temporary Staff to cover these posts.

3.1.12 Training

Training was concentrated on three items: language tuition in English/French and Spanish for those wishing to improve their level of knowledge, training in information technologies required by the Bureau and training in the performance of actuarial studies required for the monitoring of the IRF.

3.1.13 Personnel Expenses – Summary

Total expenditure in this Chapter was 8,933,418 Euros compared to an approved expenditure of 9,176,627 for the five year period.

The expenditures of this Chapter represent 80.34% of the total operating costs and should be considered as "inelastic" expenses that slowly increase year after year due to the increase in cost of living and the provision of services.

3.2 Chapter II – Current Operating Cost

3.2.1 Maintenance

The cost of maintenance contracts remained stable throughout the period. A new alarm and security system was installed at the Bureau by the Government of Monaco.

3.2.2 Office Stationery

Expenditure to cover the needs under this item remained within normal limits.

3.2.3 Post, telephone and telefax

The expenditure for all the telecommunication costs of the Bureau has remained constant through the five-year period. This was mainly due to the use of the IHO web site by Member States to download different documents and the use of e-mails by the Bureau to send Circular Letters and other documents.

3.2.4 Consultancy Expenses

During the five-year period approximately 123,000 Euros were paid in consultancy fees. This amount represents 35% of the amount approved by Member States.

3.2.5 Public Relations

The funds available were used to cover expenses related to receptions, to invitations, and to the requirements to support visiting officials of Member States and other Organizations to the Bureau and for celebrating the World Hydrographic Day.

3.2.6 Travel (Technical Assistance and long distance travel)

The expenditure for the five-year period on this item was approximately 930,000 Euros compared to 887,000 Euros (an increase of approximately 7%) approved by Member States during the annual approval of the Budget and to 773,000 Euros (an increase of approximately 20%) that the Conference approved in 2002. This increase was due to several reasons not foreseen during the budget preparation and approval in 2002:

- Strategic Planning Working Group (SPWG). The IHB provided Executive Official and Secretary for the several SPWG and SPWG Chair-Group meetings held during the period.
- Capacity Building Committee. The IHB provided the Chairman and Secretary for the Capacity Building Committee that was established in 2003.
- Extraordinary meetings. Numerous Regional Hydrographic Commissions held extraordinary meetings during the period and exigent circumstances, such as the 2004 Indian Ocean Tsunami, generated unplanned meetings that required the participation of the IHB.
- Changes in long distance travel criteria. In 2005, Article VIII.1.3 of the Staff Regulations was more clearly interpreted as it relates to the class of long distance travel for IHB Staff.

3.2.7 **Publications**

This item covers the cost of producing publications. The expenditures after 2002 have decreased due to moving from print to digital form. Hard copy publications and printing support for different meetings and other obligations will continue as necessary.

The cost involved in the publishing and distribution of the I.H. Review is now a fixed fee paid to the commercial publisher.

3.3 Chapter III – Capital Expenditure

Expenditures for office equipment principally have been to improve automation within the Bureau and purchase of furniture.

3.4 Total Operating Costs

The total Operating Costs during the period were 11,119,331 Euros. These were 799,147 Euros less than the approved 11,918,478 Euros.

3.5 Chapter IV – Printing Fund

The five-year budget made provision for a total of 35,063 Euros to be added to the Printing Fund during the period. The fund is used to purchase new photocopiers, printers and other printing material that are needed. In 2004 a new colour printer was purchased to cover publication and other requirements. A total of 23,716 Euros were expended leaving the Printing Fund with a balance of 67,693 Euros.

3.6 Renovation Fund

The five-year budget made provision for a total of 23,716 Euros to be added to the Renovation Fund during the period. After having occupied the new premises for 10 years some work was needed. A total of 7,666 Euros was expended with 10,000 Euros remaining in the Renovation Fund.

3.7 I.H. Conference Fund

At the end of 2002 the I.H. Conference Fund had an 88,000 Euros balance with the five-year budget allocating the addition of 399,300 Euros over the period to support the 2005 EIHC and the 2007 IHC. For the 2005 EIHC a total of 120,265 Euros were spent in planning and execution. At the end of 2006, 288,763 Euros are available in the I.H. Conference Fund for the planning and execution of the XVII IHC and subsequent Conferences.

3.8 Removal Fund Allocation

The five-year budget made provision for a total of 166,000 Euros to be added to the Removal Fund during the period. This Fund covers all the obligations for the removal of the Directors and Professional Assistants (furniture, tickets, etc) and their dependents when they join or leave the Bureau. A total of 173,400 Euros were expended during the period and at the end of 2006, 87,000 Euros are available in the Removal Fund.

3.9 Capacity Building Fund

This Fund was established at the end of 2004 to cover Capacity Building requirements of the Organization. For the three-year period the Fund has received 120,000 Euros from the Budget, 96,000 Euros were transferred from the budget surplus, 100,000 USD (80,000 Euros) were donated by the Republic of Korea and 3,100 Euros by Chile. To date expenditures have amounted to 110,000 Euros and at the end of 2006 196,000 Euros are available in the Capacity Building Fund.

3.10 Emergency Reserve Fund

In accordance with Article 18 of the Financial Regulations, the emergency reserve fund, the amount of which shall be not less than one-twelfth of the total annual operating budget of the Organization, is exclusively designed to enable the Organization to meet extraordinary expenditures. At the end of 2006 the Emergency Reserve Fund was valued at 219,708 Euros and this amount is held in reserve by the IHB

3.11 Operating Cash Reserve

The Operating Cash Reserve has been established to ensure the financial stability of the Bureau and to avoid any treasury difficulties. The amount that the IHB shall have at its disposal, on 31st December of each year, shall not be less than three-twelfths of the total annual operating budget of the Organization. At the end 2006, the IHB has more than the required minimal Operating Cash Reserve of 659,125 euros.

3.12 Internal Retirement Fund

The amount of the Internal Retirement Fund on 1 January 2002 was 2,662,061 Euros and on 31 December 2006 was 3,045,078 Euros. As reported in FCCL 2/2003 dated 4 April 2003 there was a loss in the fund of approximately 150,000 Euros due to losses on the investments of the Fund, but this situation has now been stabilized. Following an updated actuarial study conducted by the Bureau and a transfer of funds from the budget surplus (263,713 Euros in the 5 year period), the investment losses reported in FCCL 2/2003 dated 4 April 2003 have been absorbed and the Fund is now in a position to cover the Organization's long-term obligation.

As reported in FCCL 5/2003 dated 17 October 2003 the Bureau started paying the pensions to the retired Staff from 1 January 2005 from the Internal Retirement Fund, as was the case before 2000. There are twelve pensioners and two Staff members under the Internal Retirement Fund.

3.13 Internal Retirement Reserve fund

This reserve fund was created in the past from transfers of unexpended budget surplus during the period 1990-1992, in order to cover the requirements of the Fund. Following a decision after a meeting with the Finance Committee Officers, this reserve was combined in 2006 with the Internal Retirement Fund.

3.14 Expenditure – Summary

The total expenditure, including Total Operating Costs of 11,119,331 Euros and the actual expenditure in the operational Funds (see 3.5, 3.6, 3.7, 3.8, and 3.9) totalled 11,863,580 Euros over the 5-year period which was less than the 12,662,727 Euros approved for the 2002 -2006 budgets and was below the approved expenditure level in each year of the period. Also, during the period, there were limited transfers of credit between Chapters of the budget as provided in Article 10 of the Financial Regulations, and transfers of more than the allowed 10% transfer between chapters were not required.

4. CONCLUSIONS

Throughout the five-year budget period, Total Income has exceeded Total Expenditures in all years. The Bureau has strived to contain costs and has had funds remaining in each year which have variously been applied to maintain Funds of the Organization, to increase the Operating Cash Reserve or to increase the Internal Retirement Fund. In the period 2003-2007 the increase in the share value is 2% compared to the 8.4% approved by the XVIth I. H. Conference. Overall the Organization is in a satisfactory financial position.

The details of Income, Expenditures, Net Effect on Capital, Liabilities and the Internal Retirement Fund are presented in the attached Tables.

TABLE 1
INCOME 2002-2006 (Euros)

	2002	2003	2004	2005	Unaudited 2006	Total of period
Number of shares of contribution	598.5	612.0	616.0	621.5	629.0	
Percentage of Evolution of the share value	0,00	0.00	0.00	2.00	0.00	
Yearly Unit value of the share of contribution	3,906.35	3,906.35	3,906.35	3,984.48	3,984.48	
CONTRIBUTION OF THE YEAR						
(a) Received	2,015,141	2,039,503	2,222,714	2,202,389	2,275,138	10,754,885
(b) Remaining due at end of year	322,809	351,183	183,598	273,965	231,100	1,362,656
	2,337,950	2,390,686	2,406,312	2,476,354	2,506,238	12,117,541
SALES OF PUBLICATIONS						
	20,306	11,337	13,133	8,843	6,390	60,010
INTERIES ON MONIES IN BANKS						
	48,984	36,595	41,845	53,389	78,323	259,137
GEBCO Grant from Monegasque Government	7,400	7,500	7,500	7,600	0 (*)	30,000
INTERNAL FAX	115,107	120,585	125,681	137,649	142,390	641,411
TOTAL INCLUDING CONTRIBUTIONS DUE	2,529,748	2,566,704	2,594,470	2,683,835	2,733,340	13,108,098
Annual budget presented	2,402,674	2,456,215	2,536,843	2,626,523	2,672,027	12,694,282
EXTRAORDINARY INCOME						
Interest on overdue contributions (**)	19,586	27,045	23,739	16,499	22,095	108,965
Cheques not cashed	96					96
Bill Burgess Rental contract		2,516				2,516
Royalties	479	40	14	38	0	570
	2,549,908	2,596,305	2,618,223	2,700,372	2,755,435	13,220,244
(*) Transfert to GEBCO Fund					15,459	
(**) Interest presently remaining due						

TABLE 2
EXPENDITURE 2002-2006 (Euros)

	2002	2003	2004	2005	Unaudited 2006	Total of period
I – PERSONNEL COSTS						
a) Salaries - Directing Committee	211,208	257,061	307,627	370,587	388,580	1,535,062
b) Salaries - Category A	337,874	339,722	402,015	477,290	496,725	2,053,625
- Translators			94,591	109,757	113,346	317,694
- Categories B & C	490,134	455,771	351,691	368,156	381,907	2,047,659
- Overtime	0	9,497	3,477	8,177	9,457	30,608
c) Annual Bonus	87,286	84,150	55,079	28,913	29,842	285,270
d) Payment to Retirement Funds	202,755	205,161	230,365	274,624	286,469	1,199,375
e) Insurances based on staff wages	8,560	9,883	11,130	11,116	13,190	53,879
Medical GAN premiums	57,921	68,527	75,713	76,007	38,232	316,400
f) Family Allowances	22,020	23,079	23,301	33,004	31,427	132,831
g) Education Grants	40,053	61,166	50,343	21,920	16,683	190,165
h) Medical claims paid	67,897	73,866	56,362	65,162	57,662	320,949
Medical claims – refunds from GAN	-17,396	-24,544	-14,789	-11,838	-26,846	-95,413
Home Rental	4,228	3,822	1,836	0	0	9,887
i) Home Leave	6,583	5,875	9,413	9,174	4,376	35,421
j) Pensions to retired staff	117,326	132,334	146,908	0	0	396,568
k) Miscellaneous Personnel Expenses	6,915	4,770	618	545	669	13,517
l) Salaries - Temporary staff	2,398	0	0	47,172	5,060	54,630
m) Training	10,659	12,523	5,368	3,928	2,814	35,293
Total Actual Chapter I	1,656,422	1,722,663	1,811,049	1,893,693	1,849,592	8,933,418
Total approved Budget for Chapter I	1,691,748	1,705,613	1,906,566	1,929,400	1,943,300	9,176,627
II – CURRENT OPERATING COSTS						
a) Maintenance of Building	43,089	54,835	44,179	57,227	52,199	251,528
Multirisk Insurance	1,262	1,439	1,582	1,665	1,684	7,631
Maintenance of IT equipments	15,287	28,488	26,179	26,054	31,584	127,592
b) Office Stationery	13,994	14,456	12,218	11,121	15,322	67,111
c) Postage, telephone, telex, telefax	41,824	35,235	36,737	36,977	39,197	189,971
d) Local Travel	2,445	2,414	2,350	3,098	2,993	13,299
e) Bank Charges	4,437	4,476	3,886	5,596	4,981	23,377
f) Consultancy Expenses (other than auditor)	40,705	43,021	14,399	19,542	5,495	123,161

TABLE 2 (continuation)

	2002	2003	2004	2005	Unaudited 2006	Total of period
g) Auditor's fees	7,249	3,850	2,000	3,900	3,000	19,999
h) Public Relations	24,931	16,753	18,287	10,721	17,186	87,878
i) Miscellaneous Operating Expenses	2,164	949	766	568	945	5,392
j) Technical Assistance	41,805	38,929	46,813	25,126	25,888	178,561
k) Long Distance Travel	96,010	113,812	133,453	202,416	202,392	748,082
l) GEBCO & Int. Bathymetric Charts	5,889	0	3,574	8,781	5,271	23,516
m) I.H. Review	8,282	8,417	3,633	10,944	11,079	42,355
n) Other publications	14,423	3,185	9,183	8,600	7,816	43,207
Total Chapter II	363,794	370,260	359,239	432,334	427,032	1,952,660
Total approved Budget for Chapter II	470,335	483,484	464,608	463,900	534,500	2,416,827
III – CAPITAL EXPENDITURE						
a) Purchase of IT equipments	9,685	5,557	7,594	9,377	11,240	43,453
Purchase of furniture & other equipments	2,012	1,824	2,656	1,856	4,721	13,069
Depreciation of fixed assets	35,504	51,086	37,763	27,841	17,171	169,366
b) Purchase Publications & binding	2,123	2,777	977	704	785	7,366
c) GEBCO	0			0		0
Total Chapter III	49,324	61,245	48,990	39,778	33,918	233,253
Total approved Budget for Chapter III	53,661	78,817	65,924	63,902	62,720	325,024
Total Operating Costs	2,069,539	2,154,168	2,219,277	2,365,805	2,310,541	11,119,331
Total approved Budget for Operating Costs	2,215,744	2,267,914	2,437,098	2,457,202	2,540,520	11,918,478
IV – PRINTING FUND ALLOCATION	10,671	6,098	6,098	6,098	6,098	35,063
V - RENOVATION FUND ALLOCATION	7,622	1,522	1,524	1,524	11,524	23,716
VI – I.H. CONFERENCE FUND	60,980	115,913	94,504	81,225	46,678	399,300
VII – REMOVAL OF DIRECTORS ALLO- CATION	48,784	30,490	29,728	28,965	28,203	166,170
VIII– CAPACITY BUILDING ALLOCATION	0	0	0	50 000	70,000 *	120,000
	2,197,596	2,308,191	2,351,131	2,523,617	2,473,044	11,863,580
Total approved Budget per year	2,343,801	2,421,937	2,568,952	2,625,014	2,703,023	12,662,727

* In addition, external donation from the Republic of Korea

TABLE 2 (continuation)

	2002	2003	2004	2005	Unaudited 2006	Total of period
EXTRA EXPENDITURES AND LOSES						
Rappel cotisations AMRR			6,371			6,371
Exceptional Director's allowance (Leech)	6,347					6,347
Bill Burgess Rental contract				2,516		2,516
Tax litigation					389	389
Unrecoverable VAT	1,765					1,765
Unrecoverable invoices	3,541			20		3,561
GRAND TOTAL	2,209,249	2,308,191	2,357,502	2,536,152	2,473,433	11,884,528

TABLE 3
NET EFFECT ON CAPITAL 2002-2006 (Euros)

	2002	2003	2004	2005	Unaudited 2006	Total of period
Approved Expenditure Level	2,343,801	2,421,937	2,568,952	2,625,014	2,703,023	12,662,727
TOTAL EXPENDITURE	-2,209,249	-2,308,191	-2,357,502	-2,536,152	-2,473,433	-11,884,528
TOTAL INCOME	2,549,908	2,596,305	2,618,223	2,700,372	2,755,435	13,220,244
Surplus on yearly Budget	340,659	288,114	260,721	164,220	282,002	1,335,716
<u>Currencies</u>						
Net Gains on Change Operations	6,337	10,131	2,304	4,564	9,638	32,974
Net Losses on Change Operations	-4,588	-4,301	-2,809	-3,284	-2,456	-17,438
Net Gains on Valuation of Holdings	2	7	1	32,547	271	32,828
Net Losses on Valuation of Holdings	-21,131	-31,880	-19,102	0	-43,011	-115,123
NET RESULT (Income/Expenditure/Currencies)	321,280	262,071	241,115	198,047	246,444	1,268,956
OTHER OPERATIONS						
Provision for Staff Retirement Rights	0	86,394	93,441	-106,878	-156,835	-83,878
Transfer at destination of CBF	0			-50 000	-46,000	-96,000
NET BALANCE (Total income less expenditure)	321,280	348,465	334,556	41,169	43,609	1,089,078
WORKING CAPITAL AT YEAR'S END	1,129,903	1,397,886	1,716,132	1,750,800	1,799,952	
EMERGENCY RESERVE FUND	121,959	202,441	218,751	225,252	219,708	
TOTAL FUNDING AT YEAR'S END	1,251,862	1,600,327	1,934,883	1,976,052	2,019,660	

TABLE 4
COMPARISON OF BALANCE SHEETS
(as of 31st December 2002-2006)

I- ASSETS (Euros)

	2002	2003	2004	2005	Unaudited 2006	Total of period
CASH INVESTED FOR RETIREMENT FUND						
- Long term IRF investments	1,582,566	548,697	548,697	548,697	548,697	
- Latent result on long term investment	-210,125	-156,115	-130,000	-45,435	-28,740	
- Retirement Cash invested	1,068,957	2,142,307	2,164,332	2,350,238	2,312,486	
- Interest to be received	0	0	20,387	0	0	
- Long term guaranty from IHB funds	379,029	315,628	240,172	91,527	212,635	
	2,820,426	2,850,517	2,843,589	2,945,027	3,045,078	
VARIOUS DEBTORS						
- Purchase made in advance	3,621	9,430	16,211	21,855	16,163	
- Outstanding bills	3,619	1,622	1,740	1,220	3,448	
- Advance to staff	18,067	17,005	11,570	15,467	16,541	
- Expenses for GEBCO Centenary	20,519					
- Interest to be received	0	0	0	0	12,531	
- Claim for refunding of VAT	64,845	41,634	30,695	60,631	46,139	
	110,670	69,691	60,216	99,173	94,822	
OUTSTANDING CONTRIBUTIONS						
- Contribution for the year	322,809	351,183	183,598	273,965	231,100	
- Contribution for previous years	55,309	76,533	77,742	112,444	165,949	
- Contribution for suspended Member States	24,019	24,019	24,019	24,019	24,019	
- Interest due	8,895	12,874	16,695	23,914	18,250	
	411,032	464,609	302,055	434,343	439,318	
FURNITURES AND INSTRUMENTS						
Value of purchases	247,464	245,250	255,765	284,551	301,831	
Depreciation	-122,716	-173,803	-211,566	-239,407	-256,578	
LIBRARY	36,664	36,664	36,664	36,664	36,664	
STOCKS OF PUBLICATIONS	1	0	0	0	0	
	161,413	108,111	80,863	81,807	81,917	

I – ASSETS (continuation)

	2002	2003	2004	2005	Unaudited 2006	Total of period
CASH IN BANK AND ON HAND						
- Bank currents accounts	725,141	353,255	271,232	245,636	230,212	
- Bank deposit accounts	1,276,210	2,007,466	2,557,998	2,346,209	3,013,396	
- Petty cash	6,523	4,164	2,800	6,489	16,549	
	2,007,874	2,364,885	2,832,030	2,598,333	3,260,157	
ASSETS GRAND TOTAL	5,511,415	5,857,812	6,118,753	6,158,684	6,921,292	

II – LIABILITIES (Euros)

	2002	2003	2004	2005	Unaudited 2006	Total of period
STAFF INTERNAL RETIREMENT FUND						
Internal Retirement Reserve fund	698,672	698,672	698,672	698,672	0	
Internal Retirement fund	428,440	544,924	631,437	625,997	1,267,885	
- Provision to ensure pensions to retired staff	1,693,315	1,606,921	1,513,480	1,620,358	1,777,193	
Net IRF Liability	2,820,426	2,850,517	2,843,589	2,945,027	3,045,078	
VARIOUS CREDITORS						
- Guaranty to the IRF	379,029	315,628	240,172	91,527	212,635	
- Provision for doubtful contributions	26,810	26,810	26,810	26,810	26,810	
- Personalized pension plans	0	32,218	51,431	0	0	
- A.M.R.R. Complementary Retirement Scheme	25,834	22,573	33,876	38,383	40,270	
- Accruals (outstanding bills....)	52,299	43,992	51,457	49,129	41,324	
- Travel claims & wages	2,818	0	0	0	0	
- Deposits received for Conference (stand)	0	0	6,820	0	13,390	
- Various creditors	0	1,769	1,800	1,814	1,820	
I.H. CONFERENCE FUNDS						
- Organization of IH Conferences	88,222	196,406	287,946	259,597	288,763	
- Removal of Directors	0	0	29,728	58,693	86,896	
- ABLOS Conference fund	474	6,939	6,668	10,864	8,884	
- GEBCO Centenary fund	12,000	9,979	9,149	0	6,564	
- Capacity Building fund			3,167	73,468	196,772	
PRINTING EQUIPMENT FUND	60,707	60,438	57,174	61,595	67,693	
RENOVATION FUND	7,519	9,041	10,565	8,578	19,564	
PRESENTATION LIBRARY FUND	36,487	32,952	44,813	63,863	70,846	
CONTRIBUTIONS RECEIVED IN ADVANCE						
- Received in advance or in excess	746,929	648,222	478,705	493,284	774,324	
	1,439,127	1,406,969	1,340,281	1,237,605	1,856,554	

II – LIABILITIES (continuation)

	2002	2003	2004	2005	Unaudited 2006	Total of period
CAPITAL						
Emergency Reserve Fund	121,959	202,441	218,751	225,252	219,708	
Reserves for reevaluation						
- Financial holdings	410,589	410,589	0	0	0	
- Physical assets	46,092	46,092	46,092	46,092	46,092	
Provisions for risks (IRF & suspended MS)	-1,720,125	-1,633,731	-1,540,290	-1,647,168	-1,804,003	
Net yearly result	321,279	416,094	372,969	365,859	408,947	
Net Member States funds	2,072,068	2,158,842	2,837,361	2,986,017	3,148,917	
Permanent funding	1,251,862	1,600,327	1,934,883	1,976,052	2,019,661	
LIABILITIES GRAND TOTAL	5,511,415	5,857,812	6,118,753	6,158,684	6,921,292	
	0	0	0		0	
Cash reserve to continue operations (Fin.Reg. Art 18)						
IHB Cash balances less	2,007,874	2,364,885	2,832,030	2,598,333	3,260,157	
Advance contributions for next year	-746,929	-648,222	-478,705	-493,284	-774,324	
Emergency reserve fund	-121,959	-202,441	-218,751	-225,252	-219,708	
Special purpose reserves and funds	-205,409	-315,756	-449,209	-536,658	-745,981	
Guaranty to the IRF	-379,029	-315,628	-240,172	-91,527	-212,635	
Operating Cash Reserve	554,549	882,838	1,445,192	1,251,613	1,307,509	
Total Actual Operation costs	2,069,539	2,154,168	2,219,277	2,365,805	2,310,541	
Total Budget for future operations	2,267,914	2,437,098	2,457,202	2,540,520	2,636,500	
Number of weeks of operations	13,9	21,3	33,9	27,5	29,4	
Minimal Requirements (3 months – 13 weeks)	566,979	609,275	614,301	635,130	659,125	

TABLE 5
INTERNAL RETIREMENT FUND (IRF) EVOLUTION

	2002	2003	2004	2005	Unaudited 2006	Total of period
Situation of the fund on 1 st January	2,662,061	2,820,426	2,850,516	2,843,589	2,945,027	
Contributions received (Bureau & Staff)	30,101	23,960	17,585	18,224	18,825	
Interest received on investments	23,496	21,654	42,814	40,920	59,243	
Result on sale of investment	-146,154	16,860				
Pensions paid	0	0	0	-149,149	-151,548	
Lump sum paid	-90,064					
Sub-total	2,479,440	2,882,900	2,910,916	2,753,584	2,871,548	
<u>Provision for liability</u>						
- as 1 January of the year	-1,534,949	-1,693,315	-1,606,921	-1,513,480	-1,620,358	
- as 31 December of the year	1,693,315	1,606,921	1,513,480	1,620,358	1,777,193	
Net variation for the year	158,366	-86,394	-93,441	106,878	156,835	242,244
<u>Valuation of investment during the year</u>						
- as 31 December of the year	1,792,691	392,582	418,697	503,262	519,957	
- as 1 January of the year	-1,610,071	-338,572	-392,582	-418,697	-503,262	
Net variation for the year	182,620	54,010	26,115	84,565	16,695	
Situation of the fund on 31 December	2,820,426	2,850,516	2,843,589	2,945,027	3,045,078	

IHO FIVE-YEAR BUDGET 2008-2012
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IHO FIVE-YEAR BUDGET 2008-2012

Submitted by the IHB Directing Committee

1. INCOME

1.1 Member States' contributions

The approach adopted for the contributions is based on the total number of shares as determined from the responses of Member States to Conference Circular Letters 9, dated 3 July 2006, and 9A, dated 13 November 2006 and the twelve shares coming from the two new Member States, Romania and Saudi Arabia. The total number of shares stands at 673 or 38 more than the number of shares used for contributions in 2007. This does not include the six shares of the three suspended Member States, Dominican Republic in 1983, Democratic Republic of the Congo in 1983 and Suriname in 1991. Shares of future new Member States or possible alterations in the number of shares of Member States during the 5-year period have not been taken into consideration in preparing the budget.

For the first three years 2008, 2009 and 2010 no increase in the unit share value is proposed. After five years (2006-2010) of zero increase in the unit share value and an increase of only 2% in the last eight years, the need to increase the unit share value by 1.50% in 2011, and 3% in 2012 has been anticipated. This nominal increase follows the historic rise in the cost of living in Monaco and is considered prudent for the future functioning of the Bureau. As has been the case for the last three years, the Directing Committee will strive through efficiencies, economies and judicious reprogramming to forgo these out-year increases in share value.

1.2 Interest on Bank Accounts

Due to economic developments worldwide the interest on bank accounts in the past five years remained high and the income was on average almost twice that which had been projected in the budget. Expecting the same financial situation to continue for the next five years, the yearly income from the interest on bank accounts has been estimated at 45,000 Euros for the first two years and 47,500 Euros for the last three years, as compared to the yearly forecast in the previous 5-year budget of 16,100 Euros.

2. EXPENDITURE

The expenditure of the Bureau can be subdivided into the expenses for salaries and associated personnel costs, the operating costs and other expenditure of the Bureau. The proportion devoted to personnel costs is about 75% of the total budget. 18% corresponds to current operating costs and 2% to capital expenditure. The remaining 5% is the transfer to Funds established for specific purposes, such as the Conference Fund, Capacity Building Fund, Renovation Fund, etc.

2.1 Chapter I – Personnel costs

Based on the decision to align the salaries of Directors, Professional Assistants and Translators with the UN salary scheme:

- a. The salaries of the new Directing Committee elected in May 2007 at the XVII I.H. Conference will be aligned with the UN pay scale applicable 1 September 2007. This increase is estimated to be about 3000 Euros per year per Director, a total of about 9000 Euros for the three Directors.

There will also be a promotion increase after three years on 1 September 2010, which is estimated to be about 3000 Euros, for a total of 9000 Euros for the three Directors. This promotion increase is applicable only for the last two years of the 5 year period.

- b. There will be an alignment with the UN pay scale effective 1 October 2007, for a Professional Assistant, whose position will be externally competed, in accordance with Article V.10.1 of the Staff Regulations. The expected increase will be about 3000 Euros per year.

During the 5-year period the Professional Assistants and the Category B and C Staff are expected to have the normal promotions, i.e. advancements on the salary scale due to time in grade, as contained in the tables attached to the Staff Regulations, amounting to about 53,000 Euros for the 5-year period.

There will also be an expenditure due to the increase of the cost of living in Monaco expected to be on average about 1.5% per year, applicable to the salaries of Directors and Staff, based on the statistics of the past 5 years.

The present number of employees, counting all categories, is 19 and is not expected to change during the 5-year period:

- three Directors;
- five Category A Professional Assistants; and
- ten Category B and one Category C.

2.2 Chapter II – Current operating costs

The main items of this chapter are :

- Maintenance costs of the premises and telecommunication charges. Although the maintenance of the premises is an obligation of the Organization under the terms of the Host Agreement with the Principality, Article 3, II, the Government of Monaco has responded positively to undertake a partial renovation of the Bureau when requested;
- Long distance travel has been fixed for each year of the 5-year period, at lower levels than 2007;
- Technical assistance remains fixed at 47,000 Euros per year for the 5-year period, 3,000 Euros less than the previous 5-year budget;
- Consultants' contracts, which has been reduced considerably compared to the previous 5-year budget, has been fixed at 40,000 Euros per year, for the 5-year period;
- No significant changes are foreseen with other items in this Chapter beyond an increase of approximately 1.5% per year following the expected inflation rate in Monaco.

2.3 Chapter III – Capital Expenditure

The expenditures for the items in this Chapter remain the same as in 2007 and without any increase for the 5-year period.

3. FUNDS

3.1 Chapter IV – Allocation to funds

Allocations to funds for the 2008-2012 period have been assumed as follows :

- 3.1.1 GEBCO Fund. This fund will include the funds provided every year by the Government of Monaco for the maintenance of GEBCO.
- 3.1.2 Printing fund. No allocations are foreseen in this fund which remains at the level of 67,692 Euros.
- 3.1.3 Renovation Fund. 3,000 Euros are projected to be added annually for an accumulated total of 15,000 Euros in 2012.
- 3.1.4 Conference Fund. A total of 205,000 Euros are projected for the 5-year period, to support the 4th Extraordinary Conference (4th EIHC) in 2009 and the XVIIIth I.H. Conference in 2012.
- 3.1.5 Directors' Removal Fund. A total of 106,000 Euros are projected for the 5-year period.
- 3.1.6 Capacity Building Fund. A total of 315,000 Euros are projected for the 5-year period. We expect an additional 100,000 US Dollars per year, to be donated by the Republic of Korea, based on a Memorandum of Understanding signed between the Organization and the Republic of Korea.

4. TABLES FOR THE PROPOSED 2008-2012 BUDGET

An annual balanced budget has been sought for the whole period 2008-2012. The small budget excesses of 45,000 Euros in 2008 and 22,000 Euros in 2009 will be used to cover the small liability deficit of the IRF as determined by an external actuarial study completed in December 2006. Annex A presents the details of the Budget for the 5-year period 2008-2012.

ANNEX A

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

PREVISIONS BUDGETAIRES POUR 2008 - 2012

TABLEAU I - REVENUS - (Euros)

BUDGET ESTIMATES FOR 2008 - 2012

TABLE I - INCOME - (Euros)

	Adopted Estimates 2007 Budget Approuvé	Proposed Estimates 2008 Budget Budget	Proposed Estimates 2009 Budget Budget	Proposed Estimates 2010 Budget Budget	Proposed Estimates 2011 Budget Budget	Proposed Estimates 2012 Budget Budget
Percentage of increase proposed	0.00	% 0.00	0.00	0.00	0.00	1.50 3.00
Final number of shares	635	*	673	673	673	673
Unit share value	3984.48		3984.48	3984.48	3984,48	4044.25 4165.57
A. CONTRIBUTIONS						
Contributions		679	2 705 462			
Provision for suspended Member States		-6	-23 907			
Basis for budget estimates	2 530 145	673	2 681 555	2 681 555	2 681 555	2 721 778 2 803 432
B. SALES OF PUBLICATIONS	8 955		9 000	9 000	10 500	10 500 10 500
Ventes de publications						
C. ADVERTISEMENTS IN PUBLICATIONS	0		0			
Annonces dans les publications						
D. INTEREST ON BANK ACCOUNTS	45 000		45 000	45 000	47 500	47 500 47 500
Intérêts sur comptes en banques						
E. EXTRAORDINARY INCOME	7 800		7 800	7 900	8 000	8 100 8 200
Revenues exceptionnels						
F. INTERNAL TAX	148 700		153 820	157 666	162 001	166 861 172 284
Impôt interne						
	2 740 600		2 897 175	2 901 121	2 909 556	2 954 740 3 041 916

* Including 12 shares (Romania, Saudi Arabia)

ANNEX A

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

PREVISIONS BUDGETAIRES POUR 2008 - 2012

TABLEAU II - DEPENSES - (Euros)

BUDGET ESTIMATES FOR 2008 - 2012

TABLE II - EXPENDITURE - (Euros)

CHAPTER - CHAPITRE	Budget Approuvé 2007 Approved Estimates Euros	Proposition de budget 2008 Proposed Estimates Euros	Proposition de budget 2009 Proposed Estimates Euros	Proposition de budget 2010 Proposed Estimates Euros	Proposition de budget 2011 Proposed Estimates Euros	Proposition de budget 2012 Proposed Estimates Euros
I. PERSONNEL COSTS DEPENSES DE PERSONNEL						
Salaries Directing Committee	1 976 000	2 038 500	2 084 791	2 137 133	2 207 519	2 276 161
Salaries other staff						
Social charges						
Benefits and Pensions						
Controllable Personal cost						
II. CURRENT OPERATING COSTS DEPENSES DE GESTION COURANTE	578 500	515 076	524 365	533 626	541 035	548 820
Maintenance, communications, etc..						
Consulting						
Travels						
Publications						
III. CAPITAL EXPENDITURE DEPENSES DE CAPITAL	74 200	74 200	69 224	69 248	69 273	69 299
IV. ALLOCATION TO FUNDS						
- GEBCO Fund	7 800	7 800	7 900	8 000	8 100	8 200
- Renovation Fund	6 500	3 000	3 000	3 000	3 000	3 000
- Conference Fund	0	55 000	40 000	40 000	30 000	40 000
- Directors' Removal Fund	27 500	26 000	20 000	20 000	20 000	20 000
- Fonds pour le déménagement des Directeurs						
- Capacity Building Fund	64 000	70 000	70 000	65 000	55 000	55 000
- Printing Fund	6 100	0	0	0	0	0
	2 740 600	2 789 576	2 819 280	2 876 006	2 933 928	3 020 480

ANNEX A

TABLE II A : DETAILED EXPENDITURE - Détail des dépenses

CHAPTERS AND ITEMS	Budget	Proposition	Proposition	Proposition	Proposition	Proposition
	Approuvé 2007 Approved Estimates Euros	de budget 2008 Proposed Estimates Euros	de budget 2009 Proposed Estimates Euros	de budget 2010 Proposed Estimates Euros	de budget 2011 Proposed Estimates Euros	de budget 2012 Proposed Estimates Euros
I. PERSONNEL COSTS						
a) Salaries - Directing Committee	400 000	410 000	418 200	426 564	447 892	454 672
b) Salaries - Category A	505 000	525 900	539 048	553 871	570 487	589 489
- Translators	115 000	120 900	123 923	127 330	131 150	136 074
- General Services (B & C)	390 000	402 800	412 870	424 224	436 951	456 905
Overtime for B & C Categories (Costs dependent on Salaries)	10 000	10 300	10 558	10 848	11 173	11 536
c) Annual Bonus (B & C Categories only)	33 000	33 600	34 406	35 352	36 413	38 075
d) Payment to Retirement schemes	275 000	300 300	307 808	316 272	325 760	336 348
e) Insurance based on wages	15 000	15 300	15 683	16 114	16 597	17 137
f) Medical (GAN premiums)	76 000	65 500	67 334	69 219	71 157	73 149
g) Family Allowance	30 000	30 600	31 212	31 836	32 473	33 122
h) Education Grants	34 000	34 700	34 440	35 387	36 449	37 633
(Costs independent of Salaries)						
i) Medical - claims paid	75 000	70 000	70 000	70 000	70 000	70 000
Medical - refunds from GAN	-15 000	-15 000	-15 000	-15 000	-15 000	-15 000
j) Home rental		0				
k) Home Leave	12 000	12 200	12 505	12 849	13 234	13 664
l) Pensions to retired staff		0				
m) Miscellan. Personnel Expenses	5 000	5 100	5 100	5 100	5 100	5 100
(Controllable personnel costs)						
n) Salaries - Temporary staff	6 000	6 100	6 253	6 424	6 617	6 832
o) IHB staff training	10 000	10 200	10 455	10 743	11 065	11 424
	1 976 000	2 038 500	2 084 791	2 137 133	2 207 519	2 276 161
Average percentage of yearly increase (including promotions)		3,163	2,271	2,511	3,293	3,109

ANNEX A

TABLE II A : DETAILED EXPENDITURE (contd.) - Détail des dépenses (suite)

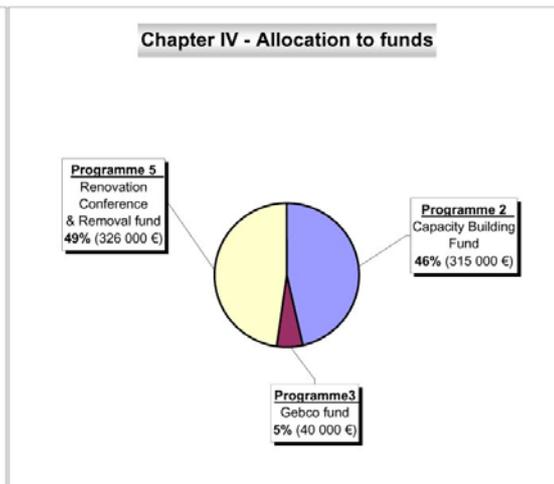
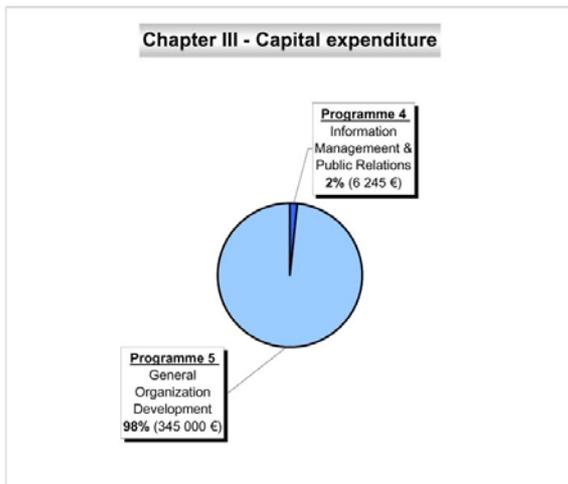
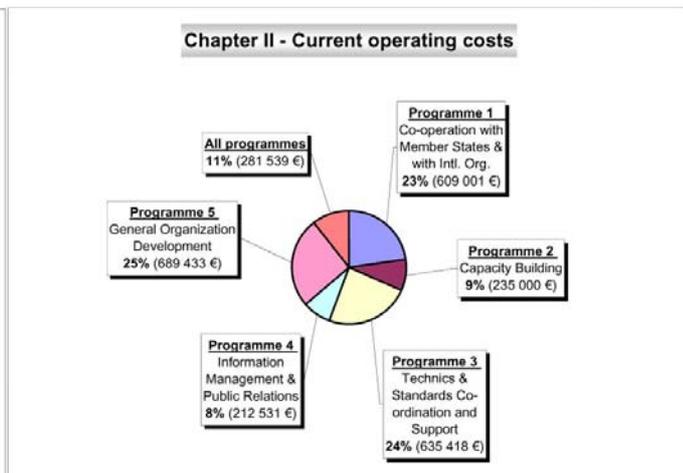
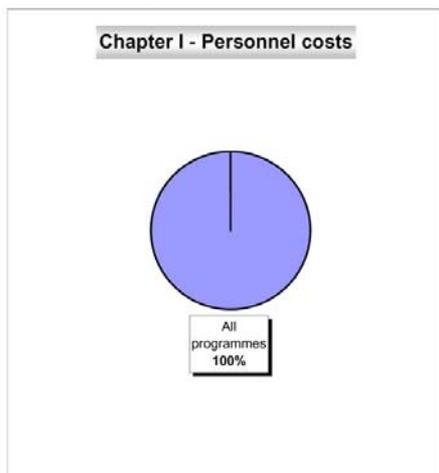
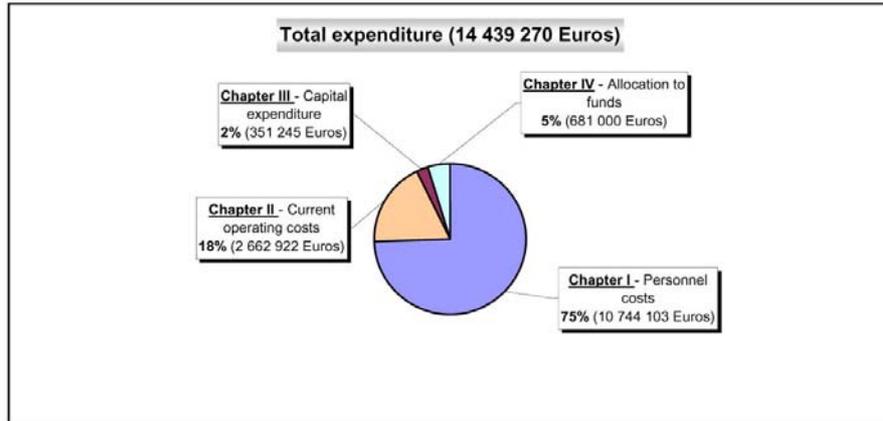
CHAPTERS AND ITEMS	Budget	Proposition	Proposition	Proposition	Proposition	Proposition
	Approuvé 2007 Approved Estimates Euros	de budget 2008 Proposed Estimates Euros	de budget 2009 Proposed Estimates Euros	de budget 2010 Proposed Estimates Euros	de budget 2011 Proposed Estimates Euros	de budget 2012 Proposed Estimates Euros
II. CURRENT OPERATING COSTS (Maintenance, communications, etc...)						
a) Maintenance of building	55 000	56 100	57 222	58 366	59 534	60 724
Multirisk insurance	2 000	2 000	2 000	2 000	2 000	2 000
Maintenance of IT equipments	35 000	35 700	36 414	37 142	37 885	38 643
b) Office Stationery	13 000	13 300	13 566	13 837	14 114	14 396
c) Postage, telephone, telex, telefax	40 000	40 800	41 616	42 448	43 297	44 163
d) Local Travel	3 500	3 600	3 672	3 745	3 820	3 897
e) Bank Charges	6 000	6 100	6 222	6 346	6 473	6 603
f) Consultancy Expenses (Others than Auditors)	85 000	40 000	40 000	40 000	40 000	40 000
g) Auditor fees	4 000	4 100	4 182	4 266	4 351	4 438
h) Public Relations	19 000	19 876	21 061	22 056	21 034	20 219
i) Miscellan. Operating Expenses	1 000	1 000	1 000	1 000	1 000	1 000
(Travel costs)						
j) Capacity Building (Progr. 2 only)	50 000	47 000	47 000	47 000	47 000	47 000
k) Long Distance Travel (All Progr. Except 2)	240 000	220 000	224 400	228 888	233 466	238 135
(Publications costs)						
l) I.H. Review	11 000	11 200	11 424	11 652	11 886	12 123
m) Other publications	14 000	14 300	14 586	14 878	15 175	15 479
	578 500	515 076	524 365	533 626	541 035	548 820
Average percentage of yearly increase		-10,964	1,803	1,766	1,389	1,439

ANNEX A

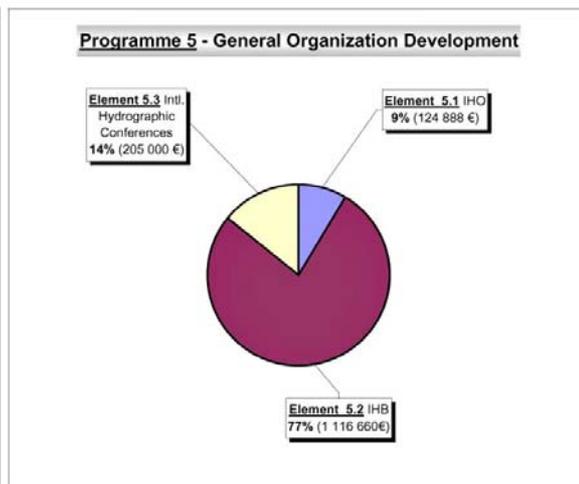
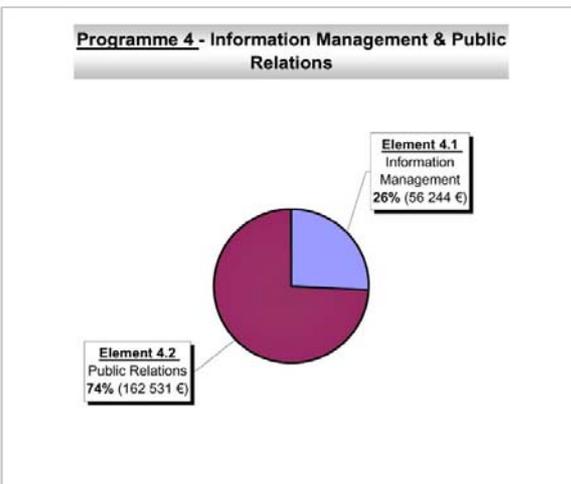
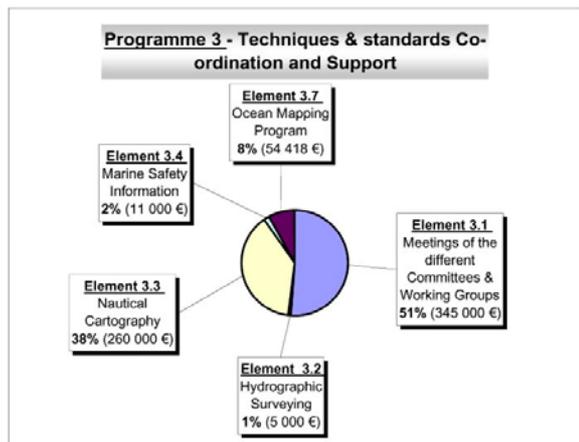
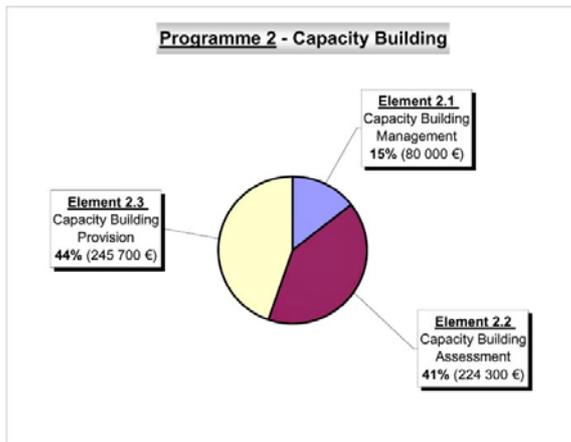
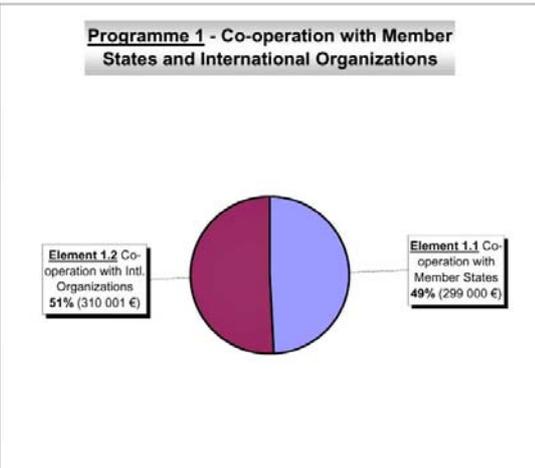
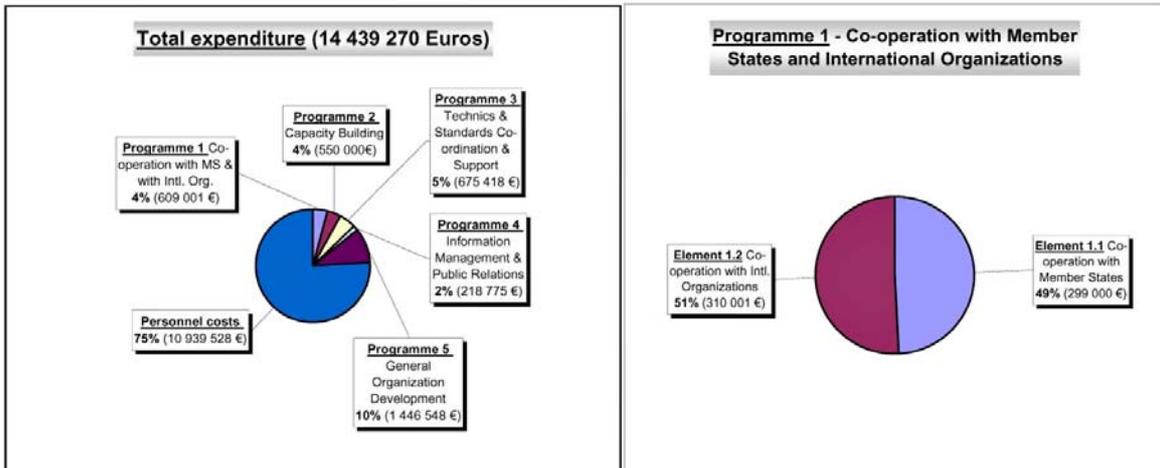
TABLE II A : DETAILED EXPENDITURE (contd.) - Détail des dépenses (suite)

CHAPTERS AND ITEMS	Budget	Proposition	Proposition	Proposition	Proposition	Proposition
	Approuvé 2007 Approved Estimates Euros	de budget 2008 Proposed Estimates Euros	de budget 2009 Proposed Estimates Euros	de budget 2010 Proposed Estimates Euros	de budget 2011 Proposed Estimates Euros	de budget 2012 Proposed Estimates Euros
III. CAPITAL EXPENDITURE						
a) Purchase of IT equipments	35 000	35 000	30 000	30 000	30 000	30 000
b) Purchase of furniture & other equipments	13 000	13 000	13 000	13 000	13 000	13 000
c) Purchase Publications & Binding	1 200	1 200	1 224	1 248	1 273	1 299
d) Depreciation of fixed assets	25 000	25 000	25 000	25 000	25 000	25 000
	74 200	74 200	69 224	69 248	69 273	69 299
Average percentage or yearly increase		0,000	-6,706	0,035	0,036	0,037
ANNUAL OPERATING COSTS	2 628 700	2 627 776	2 678 380	2 740 007	2 817 828	2 894 280
IV. ALLOCATION TO FUNDS						
		161 800	140 900	136 000	116 100	126 200
a) GEBCO Fund	7 800	7 800	7 900	8 000	8 100	8 200
b) Renovation Fund	6 500	3 000	3 000	3 000	3 000	3 000
c) Conferences Fund	0	55 000	40 000	40 000	30 000	40 000
d) Removal of Directors Fund	27 500	26 000	20 000	20 000	20 000	20 000
e) Capacity Building Fund	64 000	70 000	70 000	65 000	55 000	55 000
f) Printing Fund	6 100	0	0	0	0	0
TOTAL EXPENDITURE	2 740 600	2 789 576	2 819 279	2 876 007	2 933 927	3 020 479
Average percentage of yearly increase		1,787	1,065	2,012	2,014	2,950

Costs distribution per chapter over 5 years (2008-2012)



Costs distribution per programme over 5 years (2008-2012)



IHO BUDGET FOR 2008

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**INTERNATIONAL HYDROGRAPHIC
ORGANIZATION**

BUDGET ESTIMATES FOR 2008-2012

TABLE I - INCOME - (Euros)

Proposed Estimates 2006 <i>Projet de budget</i>	Actual Income 2006 <i>Recettes définitives</i>	Adopted Estimates 2007 <i>Budget approuvé</i>
2,90	2,90	3,00
0,00	0,00	0,00
616,0	623,5	629,0
1,5	1,5	
6,0	4,0	6,0
623,5	629,0	635,0
3 984,48	3 984,48	3 984,48
2 484 323	2 506 238	2 530 145
8 433	6 390	8 955
0	0	0
16 110	78 323	45 000
7 700	7 700	7 800
145 500	142 390	148 700
-----	-----	-----
<u>2 662 066</u>	<u>2 741 040</u>	<u>2 740 600</u>

**ORGANISATION HYDROGRAPHIQUE
INTERNATIONALE**

PREVISIONS BUDGETAIRES POUR 2008-2012

TABLEAU I - REVENUS - (Euros)

	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
Percentage of increase proposed	0,00
Final number of shares	673
Unit share value	3 984,48
A. CONTRIBUTIONS <i>Contributions</i> Provision for suspended Member States Basis for budget estimates	2 705 462 -23 907 2 681 555
B. SALES OF PUBLICATIONS <i>Ventes de publications</i>	9 000
C. ADVERTISEMENTS IN PUBLICATIONS <i>Annonces dans les publications</i>	0
D. INTEREST ON BANK ACCOUNTS <i>Intérêts sur comptes en banques</i>	45 000
E. EXTRAORDINARY INCOME <i>Revenus exceptionnels</i>	7 800
F. INTERNAL TAX <i>Impôt interne</i>	153 820

	<u>2 897 175</u>

BUDGET ESTIMATES FOR 2008-2012

TABLE II - EXPENDITURE - (Euros)

Approved Budget 2006 <i>Budget approuvé</i>	Actual Expenditure 2006 <i>Dépenses effectuées</i>	Proposed Estimates 2007 <i>Proposition de budget</i>
1 943 300	1 849 286	1 976 000
526 800	425 409	578 500
62 720	31 325	74 200
7 700	7 700	7 800
11 524	11 524	6 500
46 678	46 678	0
28 203	28 203	27 500
70 000	70 000	64 000
6 098	6 098	6 100
-----	-----	-----
2 703 023	2 476 223	2 740 600

PREVISIONS BUDGETAIRES POUR 2008-2012

TABLEAU II - DEPENSES - (Euros)

CHAPTER - CHAPITRE	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
I. PERSONNEL COSTS <i>DEPENSES DE PERSONNEL</i> Salaries Directing Committee Salaries Other Staff Social charges Benefits and Pensions Controllable Personnel cost	2 038 500
II. CURRENT OPERATING COSTS <i>DEPENSES DE GESTION COURANTE</i> Maintenance, communications, etc.. Consulting Travels Publications	515 076
III. CAPITAL EXPENDITURE <i>DEPENSES DE CAPITAL</i>	74 200
IV. ALLOCATIONS TO FUNDS - GEBCO Fund - Renovation Fund - Conferences Fund - Director's Removal Fund Fonds pour le déménagement des Directeurs - Capacity Building Fund - Printing Fund	7 800 3 000 55 000 26 000 70 000 0

	2 789 576
	=====

BUDGET ESTIMATES FOR 2008-2012
TABLE II A - DETAILED EXPENDITURE -

Approved Budget 2006 <i>Budget approuvé</i>	(Euros) Actual Expenditure 2006 <i>Dépenses effectuées</i>	Proposed Estimates 2007 <i>Proposition de budget</i>
390 000	388 580	400 000
500 000	496 725	505 000
114 000	113 346	115 000
380 000	381 907	390 000
7 000	9 457	10 000
30 000	29 842	33 000
275 000	286 469	275 000
17 000	13 190	15 000
82 000	34 368	76 000
31 700	31 427	30 000
34 000	16 683	34 000
70 000	57 662	75 000
-20 400	-22 899	-15 000
0	0	0
12 000	4 376	12 000
0	0	0
5 000	669	5 000
6 000	5 060	6 000
10 000	2 425	10 000
-----	-----	-----
1 943 300	1 849 286	1 976 000

PREVISIONS BUDGETAIRES POUR 2008-2012
TABLEAU II A - DETAIL DES DEPENSES - (Euros)

CHAPTERS AND ITEMS - <i>CHAPITRES ET POSTES BUDGETAIRES</i>	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
I. PERSONNEL COSTS	
a) Salaries - Directing Committee	410 000
b) Salaries - Category A	525 900
- Translators	120 900
- General Services (B & C)	402 800
Overtime for B & C Categories (Costs dependent on Salaries)	10 300
c) Annual Bonus (B & C Categories only)	33 600
d) Payment to retirement schemes	300 300
e) Insurances based on wages	15 300
f) Medical (GAN premiums)	65 500
g) Family Allowances	30 600
h) Education Grants	34 700
(Costs independent of salaries)	
i) Medical - claims paid	70 000
Medical - refunds from GAN	-15 000
j) Home rental	0
k) Home Leave	12 200
m) Pensions to retired staff	0
n) Miscellan. Personnel Expenses	5 100
(Controllable Personnel costs)	
o) Salaries - Temporary staff	6 100
p) IHB Staff training	10 200
-----	-----
	2 038 500

BUDGET ESTIMATES FOR 2008-2012
TABLE II A (continued) - DETAILED
EXPENDITURE - (Euros)

Approved Budget 2006 <i>Budget approuvé</i>	Actual Expenditure 2006 <i>Dépenses effectuées</i>	Proposed Estimates 2007 <i>Proposition de budget</i>
49 000	50 465	55 000
2 000	1 684	2 000
38 500	29 837	35 000
14 000	15 345	13 000
38 000	41 213	40 000
2 800	2 993	3 500
4 500	4 998	6 000
75 000	3 325	85 000
4 000	3 900	4 000
19 000	22 404	19 000
1 000	3 160	1 000
50 000	25 888	50 000
204 000	202 397	240 000
11 000	11 079	11 000
14 000	6 721	14 000
-----	-----	-----
526 800	425 409	578 500

PREVISIONS BUDGETAIRES POUR 2008-2012
TABLEAU II A (suite) - DETAIL DES DEPENSES - (Euros)

CHAPTERS AND ITEMS - <i>CHAPITRES ET POSTES BUDGETAIRES</i>	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
II. CURRENT OPERATING COSTS	
(Maintenance, communications, etc.)	
a) Maintenance of building	56 100
Multirisk insurance	2 000
Maintenance of IT equipments	35 700
b) Office Stationery	13 300
c) Postage, telephone, telex, telefax	40 800
d) Local Travel	3 600
e) Bank Charges	6 100
f) Consultancy Expenses (Others than Auditors)	40 000
g) Auditor fees	4 100
h) Public Relations	19 876
i) Miscellan. Operating Expenses	1 000
(Travel costs)	
j) Capacity Building (Progr. 2 only)	47 000
k) Long Distance Travel (All Progr. Except 2)	220 000
(Publications costs)	
l) I.H. Review	11 200
m) Other publications	14 300
-----	-----
	515 076

BUDGET ESTIMATES FOR 2008-2012
TABLE II A (continued) - DETAILED
EXPENDITURE - (Euros)

PREVISIONS BUDGETAIRES POUR 2008-2012
TABLEAU II A (suite) - DETAIL DES DEPENSES - (Euros)

Approved Budget 2006 <i>Budget approuvé</i>	Actual Expenditure 2006 <i>Dépenses effectuées</i>	Proposed Estimates 2007 <i>Proposition de budget</i>	CHAPTERS AND ITEMS - <i>CHAPITRES ET POSTES BUDGETAIRES</i>	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
33 300	7 952	35 000	III. CAPITAL EXPENDITURE	
11 000	4 750	13 000	a) Purchase of IT equipments	35 000
1 220	785	1 200	b) Purchase of furniture & other equipments	13 000
			c) Purchase Publications & Binding	1 200
17 200	17 837	25 000	d) Depreciation of fixed assets	25 000
-----	-----	-----		-----
62 720	31 325	74 200		74 200
=====	=====	=====	ANNUAL OPERATING COSTS	=====
2 532 820	2 306 020	2 628 700		2 627 776
=====	=====	=====		=====
			IV. ALLOCATION TO FUNDS	161 800
7 700	7 700	7 800	a) GEBCO Fund	7 800
11 524	11 524	6 500	b) Renovation Fund	3 000
46 678	46 678	0	c) Conferences Fund	55 000
28 203	28 203	27 500	d) Removal of Directors Fund	26 000
70 000	70 000	64 000	e) Capacity Building Fund	70 000
6 098	6 098	6 100	f) Printing Fund	0
-----	-----	-----		-----
2 703 023	2 476 223	2 740 600	TOTAL EXPENDITURE	2 789 576
=====	=====	=====		=====

BUDGET ESTIMATES FOR 2008-2012
TABLE III - BUDGET SUMMARY - (Euros)

Approved Budget 2006 <i>Budget approuvé</i>	Actual Expenditure 2006 <i>Dépenses effectuées</i>	Proposed Estimates 2007 <i>Proposition de budget</i>
2 703 023	2 476 223	2 740 600
2 662 066	2 741 040	2 740 600
----- 0	----- 264 817	----- 0
0	0	-0
0	-156 835	
----- 0	----- 107 982	----- -0
=====	=====	=====

PREVISIONS BUDGETAIRES POUR 2008-2012
TABLEAU III - RECAPITULATION BUDGETAIRE - (Euros)

CHAPTERS AND ITEMS - <i>CHAPITRES ET POSTES BUDGETAIRES</i>	Proposed Estimates 2008 Budget <i>Proposition de budget</i>
Net Expenditure - <i>Dépenses nettes</i>	2 789 576
Income - <i>Revenus</i>	2 897 175
Budget Excess - <i>Excédent budgétaire</i>	----- 107 599
Budget Deficit - <i>Déficit budgétaire</i>	0
Support to the IRF - <i>Soutien au RFI</i>	-45 000
Effect on capital - <i>Effet sur le capital</i>	----- 62 599
	=====

**REPORT OF THE WORKING GROUP OF THE FINANCE
COMMITTEE ESTABLISHED BY THE DECISION ARISING FROM
THE 6th AND 7th MEETINGS OF THE SPWG HELD IN JULY AND
DECEMBER 2005 TO STUDY THE SALARY SCHEME FOR THE
SECRETARY-GENERAL AND DIRECTORS UNDER THE
NEW STRUCTURE PROPOSED FOR THE IHO**

CONF.17/F/04 rev.1

The WGFC met at the IHB 24 - 25 July 2006 to study the salary scheme of the Secretary -General and Directors under the new organisation structure of the IHO as approved by the 3rd Extraordinary Hydrographic Conference in April 2005. This was in response to the mandate approved by the Member States in response to CL No 2/2006.

Membership of the WGFC comprised: Alan Maidment representing the United Kingdom Hydrographic Office acting as Chairman of the Group, Frode Klepshvik, Director Norwegian Hydrographic Service, Ms Ingelore Hering, representing the BSH, Germany.

Nominees received from Mozambique, New Zealand, Papua New Guinea and USA were unable to attend.

GENERAL CONSIDERATIONS

The WGFC were briefed by the IHB President on the basis by which staff are recruited to the IHB, the current convention whereby all Directors were deemed of equal standing in terms of responsibility for their specific functional activities, the decision of the Member States in 2002 to task the SPWG to undertake a review of the current structure and the acceptance by Member States of the SPWG's proposals in 2005 for re-structuring the administration of the IHO with the appointment of a Secretary-General and two supporting Directors. This led to the establishment of the working group. The President also drew attention to the work of a former Finance working group in 2003 that was tasked by the XVI IH Conference, 2002, to undertake a review of IHO salaries, recommending alignment to the UN structure which had been endorsed by Member States.

APPROACH

The working group's approach was governed by guidelines provided as part of the mandate approved by Member States in acceptance of CL No 2/2006. These were:

- i. A differentiated salary scheme for Secretary-General and Directors reflecting the difference in roles and responsibilities;
- ii. A mechanism for periodic adjustments;
- iii. Allowance for representation and related criteria;
- iv. Consider additional benefits;
- v. Consideration financial implications on IHO budget.

REVIEW PROCESS

Before addressing the specific areas for review the working group addressed the applicability of the UN salary structure to the new regime. In his initial briefing the President advised the working group of details that he had been able to obtain, on an informal basis, of the salary structure for three similar International organisations viz: the International Maritime Organisation, International Association of Lighthouse Authorities and Aids to Navigation, Maritime Laboratories Division of the International Atomic Energy Agency and Inter-Governmental Oceanographic Commission.

Based upon the information that the President had been able to obtain it appeared that the respective remuneration arrangements ranged from the application of rates from the UN pay structure to special contract arrangements, including provision of cars and rental and housing contributions. However, there was insufficient specific evidence to enable the working group to make any meaningful direct comparisons between the responsibilities of the incumbents of these organisations and the IHO.

In view of this the working group considered that retention of the existing UN structure afforded advantages of transparency, predictability of approach and eliminated the future requirement for the re-negotiation of salary packages in relation to future appointments. The system is widely recognised and easily implemented as it effectively forms the current basis by which the salaries of current Directors and other internationally recruited IHO posts are determined. The working group therefore recommend that the UN pay structure should form the basis of determining the salaries of the Secretary - General and Directors under the revised operating regime. This means embracing the full application of the UN pay assessment including the periodic post adjustment factor.

Case for a differential salary structure

The working group reviewed the proposed changes in responsibility and authority which will arise from the revised structure. It noted in particular that the Secretary - General would assume the following responsibilities and inter alia:

- personal accountability to the Assembly, Council and Finance Committee;
- advice on restructuring the work programme to the Council;
- full responsibility as the Chief Administrative Officer for the administration, corporate governance and documentation relating to the day to day operations of the IHO;
- the authority to invite observers to the Assembly, Council etc. in accordance with the conditions in the General Regulations;
- the calculation of seats for the Council allocated to each RHC based on information provided by the RHCs.

It was quite apparent that this would lead to a reduction in the direct responsibilities of the remaining Directors who, although retaining accountability for their own specific areas of operation, would exercise this through the Secretary-General.

Based upon the fundamental changes in accountability the working group recommends that a pay differential should be established between the Secretary - General and the Directors.

In addition, in order to avoid the potential for the convergence of salary points between the Secretary - General and Directors due to the over lapping of the respective UN pay scales for different grades the working group recommends that a two step differential should be adopted. The working group did not consider that the introduction of the revised structure would have any impact upon any other grades.

The establishment of appropriate UN pay scale grading under the new structure was reviewed by the working group. Based upon the findings of the previous review undertaken by Global Consulting Services (GCS) of the UN in November 2002, it was noted that the Directors had been graded at the UN D2 level although, primarily for financial reasons, the review by the former working group into IHB salaries in 2003 had recommended that their pay should be assimilated to the lower UN D1 level.

Ideally the assimilation of the Secretary-General and Directors under the revised regime should be determined through a similar process. However, the working group also noted the impracticability of this at the time of their review. Under the revised operating arrangements it falls to Member States to approve the job description for the Secretary - General and for the latter to determine those for the Directors. In the absence of agreed job descriptions the working group considered that it was reasonable to assume that a future review of the Director posts would affirm a UN grade level of D1 in view of the reduced authority and accountability of these posts. We therefore recommend assimilation of the Secretary-General post to the Assistant Secretary General level on the UN scales with the Directors posts remaining at D1 (i.e. maintaining a two level salary difference)

Once agreed job descriptions have been determined for the Secretary - General and Director posts, the working group recommends that an independent review of the gradings should be sought from GCS. The gradings should then be adjusted accordingly.

Mechanism for periodic adjustment

The previous study by the finance working group into IHO salaries, undertaken in 2003, recommended adoption of the UN pay system with one modification in relation to the revision of salaries for the UN post adjustment. The latter is a mechanism for reflecting changes in the impact of local inflationary and exchange rate fluctuations on the respective salary base rates. The 2003 study recommended that this adjustment should only be taken into account upon the recruitment or re-appointment of staff. In the interim period all salaries would be subject to an annual inflationary adjustment based upon that applied in determining salary rises in the Monaco Civil Service. In order to avoid such future disparities arising the working group recommend the full adoption of the UN pay system including application of changes in the post adjustment factor at the time of promulgation to existing salary scales for the Secretary - General and Directors. This change should take effect from the implementation of the new administrative structure and should apply to all IHO salaries that are linked to the UN structure.

Allowance for representation

The working group recognised that in the new role the Secretary - General will be expected to receive visits from international delegations, dignitaries and other bodies associated with the work of the IHO. Member States would wish such bodies to be received in a manner that portrays a favourable impression of the organisation. This will inevitably involve the provision of expenditure in the provision of social activities appropriate to the occasion. The working group recommend the formal allocation of a budget for use by the Secretary-General for meeting the costs of representational requirements. We would see this forming part of the IHO total budgetary requirement rather than as a personal allowance.

Additional Benefits

These were interpreted by the working group as comprising payments towards items such as housing, car allowance etc. It was the view of the working group that the UN pay scales took account of local cost of living expenses. It also noted that the Secretary - General's accommodation is already subsidised by the Government of Monaco and that the revised structure is unlikely to have any impact upon this arrangement. The provision of a car was also considered but the working group could see little practical benefit of this within the Monaco environment. However the working group

recommends that costs related to the daily operation of the IHO should be funded from the approved budget e.g. mobile telephone costs, as currently provided.

Financial implications on the IHO budget

The working group recognises that the implementation of these proposals should not result in an increase on members annual contributions. We have assessed the potential impact based upon 2006 UN pay scales for illustration. This indicates that an increase of approximately K€45 to the current annual operating budget or a 1.8% increase. This can be absorbed within the operating budget of the organisation without need to increase the contributions for this reason.

Summary

The proposed revised operating structure will result in fundamental changes in the respective accountability, responsibility and authority between the roles of the Secretary - General and those of the remaining Directors. The changes justify the implementation of a pay differential between the respective posts. The adoption of the UN pay regime as the basis of remuneration will provide a ready means for the application of a transparent methodology for the periodic adjustment of salaries. Initially, the grading of the Secretary -General should be assimilated to the UN grade Assistant Secretary General (ASG) and Directors at UN Grade D1. Once formal job descriptions have been established a review by the UN Global Consulting Services should be undertaken to verify the levels. Any resulting variations identified should be adjusted accordingly. It is accepted that the Secretary-General will be expected to receive visits from international representatives, dignitaries and other influential parties in his role and that appropriate budgetary provision should be included to meet these costs. No reason for the payment of additional personal benefits over and above the UN rates is considered appropriate although it is agreed that all expenditure incurred in meeting daily operating costs of the IHO are covered by the budget. No increase in member's contributions should result from the implementation of these changes.

RECOMMENDATIONS

The working group recommends that:

- a. Based upon the fundamental changes in future accountability a pay differential should be established between the Secretary - General and Directors.
- b. The full adoption of the UN pay system, including application of changes in the post adjustment factor at the time of promulgation to existing salary scales for the Secretary-General and Directors. This change should take effect from the implementation of the new administrative structure and should apply to all IHO salaries that are linked to the UN structure.
- c. Assimilation of the Secretary-General post to the Assistant Secretary General level on the UN scales with the Directors posts remaining at D1 (i.e. maintaining a two level salary difference).
- d. An independent review of the gradings should be sought from GCS once job descriptions have been agreed in respect of the Secretary-General and the Directors by the latter. *In the event that agreement on job descriptions necessitates adjustment to the grading recommended by the Working Group in this report, a new Working Group will reconvene to consider the adjusted gradings and recommend whether the Member States should adopt the adjusted gradings.* The gradings should then be adjusted accordingly.

- e. Formal allocation of a budget for use by the Secretary-General for meeting the costs of representational requirements. We would see this forming part of the IHO total budgetary requirement rather than as a personal allowance.
 - f. Costs related to the daily operation of the IHO should be funded from the approved budget e.g. mobile telephone costs, as currently provided.
-

LETTER FROM SHOM (FRANCE)

CONF.17/F/05

English translation – SHOM N° 78 SHOM/DIR/NP



MINISTÈRE DE LA DÉFENSE



Brest, 2 November 2006

SHOM's reply to CL63/2006
L'ingénieur général de l'armement Gilles Bessero
Director of the Service hydrographique et océanographique de la marine

To

The Directing Committee
International Hydrographic Bureau
Monaco

Subject: Salary Scheme for the Secretary General and Directors under the new structure of the Organization.

Ref: IHB CL 63/2006 dated 21 September 2006.

Dear Sirs,

The report of the Finance Committee Working Group on the salary scheme for the Secretary General and Directors under the new structure of the Organization was distributed to IHO Member States with the above-referenced CL. In anticipation of the Finance Committee meeting, to be held on 5 May 2007 immediately before the XVIIth IHC, where this matter will be considered, I am pleased to let you have France's remarks on this report.

The Working Group's proposals do not a priori give rise to any objection from France. In particular, France approves the recommendation, implicitly reiterated in the CL, concerning a difference of two levels between the salary of the Secretary General and those of the Directors.

Nevertheless, it would be good if the Finance Committee could have to hand the following complementary information in order to come to a decision at its meeting on 5 May :

- a) a comparative table detailing the salaries and various allowances both under the current scheme and the future scheme, in order to check that the initial classification proposed by the WG properly reflects the related change in responsibilities between the current organization and the future organization;

- b) additional information on the application of the proposed new salary indexation scheme in order to assess the impact (e.g. a comparison of the application of the current indexation formula with the recommended indexation formula over a significant period which could be 2001-2005 or 2002-2006, depending on the information available).

Yours sincerely,
IGA Gilles BESSERO
Director SHOM

Elements of response to the first question raised by France (SHOM)

**Financial comparative impact between the current structure
with 3 Directors and the future structure with a Secretary General**

2006 - Current structure		2006 - New structure		
	Net salaries paid (IHB basis)	Simulation of salaries with application of the new structure (UN tables)	% of increase	
President (D1)	110,745 €	Secretary General (ASG)	147,595 €	33.27%
Director 1 (D1)	110,745 €	Director 1 (D1)	113,718 €	2.68%
Director 2 (D1)	110,745 €	Director 2 (D1)	113,718 €	2.68%
% of increase between D1 & ASG			29,79%	

Elements of response to the second question raised by France (SHOM)

Impact of the Recommendations of the 2003 WG

**Simulation of a single adjustment of salaries made in 2001 on UN basis and then progression of salaries according to the IHB rules till 2005
No annual adjustment as per UN tables**

	2001	2005	
	Simulation of net salaries with application of UN tables in 2001	Simulation of net salaries if salaries maintained according to IHB rules (only one alignment with UN in 2001)	% of increase between 2001 and 2005
President (D1)	95,454 €	103,757 €	8.70%
Director 1 (D1)	95,454 €	103,757 €	8.70%
Director 2 (D1)	95,454 €	103,757 €	8.70%
Prof. Assistant (P4)	72,205 €	78,090 €	8.15%
Translator (P1)	39,793 €	44,294 €	11.31%

Impact of the Recommendations of the 2006 WG

Simulation of salaries with complete application of all UN tables and post adjustment between 2001 and 2005

	2001	2005	
	Simulation of net salaries with application of UN tables in 2001	Simulation of net salaries with application of all UN tables	% of increase between 2001 and 2005
President (D1)	95,454 €	117,368 €	22.96%
Director 1 (D1)	95,454 €	117,368 €	22.96%
Director 2 (D1)	95,454 €	117,368 €	22.96%
Prof. Assistant (P4)	72,205 €	83,379 €	15.48%
Translator (P1)	39,793 €	47,056 €	18.25%

REPORT OF THE FINANCE COMMITTEE

CONF./17/F/REP

The Finance Committee met on Saturday 5 May 2007 at 0900 and the work session ended at 14:30. Sixteen Member States were represented at the meeting.

The Agenda for this Committee was adopted without any change.

The Agenda included the consideration of the following items:

- Finance Report of the IHO 2002-2006.
- Proposed IHO Five-Year Budget for the period 2008-2012.
- IHO Budget for 2008.
- Report of the Working Group on the Salaries of the Secretary General and Directors under the new IHO structure.
- Appointment of the Auditor.

1. EXAMINATION OF THE FINANCE REPORT FOR THE PERIOD 2002-2006 (CONF.17/F/01 Rev.1)

In introducing the Report, the President of the Directing Committee highlighted certain points and, in particular, the following:

- All Member States received the Annual Report in April or May of the following year.
- The number of shares had increased from 593 (as forecast in the budget) to 629 at the end of 2006.
- Only an increase of 2% of the share value had been applied in 2005 whereas the Five-Year Budget, approved at the XVIth International Hydrographic Conference, forecasted an overall increase of 8.4% for the last 3 years.
- Despite the moderate increase in the share value, a budget surplus had been recorded for each year.
- The payment of contributions, which had been very closely monitored, had never fallen below 85% with an average of about 89% over this period. This was a good result. The reinstatement of one of the Member States which had been suspended for several years was to be noted.
- The income growth had been sustained over the period and had been higher than forecasted, notably due to the increase in the number of shares and the performance of the financial returns.

- With regard to expenditure, the main factor was the alignment of the salaries of the Directors, Professional Assistants and Translators with the United Nations system following the decision of the XVIth International Hydrographic Conference and the recommendations contained in the Working Group Report in 2003 (with implementation on 1 July 2004).
- As from 2005, pensions had been paid out of the Internal Retirement Fund (and no longer from the Budget) as was the case prior to 2000.
- There had been a modification in the investment of the Internal Retirement Fund, as, at the beginning of the period, a loss of approximately 150,000 € had been recorded, following a prolonged exposure to the risks of the stock market. This situation had now been recovered so that the fund was safe from further risks.

In conclusion, the Organisation's financial situation was very satisfactory.

Comments made by the delegates present mainly concerned the following points:

- Travel expenses. Several delegations would like the new "Business Class" travel policy to be clarified and annexed to the Staff Regulations. The President of the Directing Committee explained that the details were contained in a relevant Staff Memo, the number of which was inserted in the Staff Regulations in order to accommodate any possible future changes. The President of the Directing Committee reported that the number of official trips had considerably increased due to the implementation of the SPWG's recommendations, the Capacity Building programme and exceptional phenomena such as the tsunami in South East Asia.
- The Capacity Building Fund provision was then examined. One delegation considered that this provision should not be taken from the running costs of the Organization, but should remain on a voluntary contribution basis. In any case, the limit of 1.5% as decided by the Conference in 1982, should not be exceeded.
- In reply to a question, the Chairman of the Finance Commission indicated that the recommendations made by the Working Group in 2003 concerning the salaries of the Directing Committee, Professional Assistants and Translators, approved by the Member States, had all been implemented with effect from 1 July 2004 (instead of 1 January 2004) in the following manner:
 - o Alignment of the Directors with level D1 (instead of D2 as proposed by the GCS).
 - o Alignment of Category A staff with P4 (instead of P5).
 - o Alignment of Translators at level P1 instead of P2.

However, the indexation of the salaries had been established according to the salaries of the civil servants in Monaco and according to the IHB Staff Regulations.

The Financial Report 2002 – 2006 was unanimously adopted. It will be submitted for approval by the Plenary Session.

2. EXAMINATION OF THE PROPOSED IHO FIVE-YEAR BUDGET FOR THE PERIOD 2008-2012 (CONF.17/F/02-Rev 2)

- The Five-Year Budget had been established according to the present number of shares and did not include the possible accession of new Member States nor the change in national tonnages.
- However, where staff expenditure was concerned, the modifications which would result from the application of the Working Group's recommendations on Directors' salaries under the new IHO structure had not been taken into consideration.
- Over the first three-year period, there would be no increase in the share value, and in the last two years it would be limited to 1.5% in 2011 and to 3% in 2012. Nevertheless, upon establishing the annual budget, both of these increases would be studied again in order to limit the financial impact as far as possible.
- Nonetheless, the budget showed an annual surplus which would decrease over the period.

The comments made by those delegates present concerned the following points:

- It was difficult for certain delegations to approve the budget since the work programme would not be finalized until the plenary session. The Committee Chairman indicated that the draft budget included a well defined work programme. If this latter was to be changed by the Conference, the Budget would evidently be adapted accordingly.
- One delegation enquired whether the number of translators was adequate for the present or future structure's requirements. The Directing Committee indicated that this was indeed the case and if the need arose in the future additional support would be proposed.
- In reply to a question, the President of the Directing Committee pointed out that the draft budget would be able to meet the expenditure related to the implementation of the new structure, both as regards the frequency of meetings (which will be similar: a conference every three years instead of a conference every two and a half years) and as regards translation needs.
- A delegation queried the fact that provisions made for the Capacity Building Fund exceeded the maximum which had been forecasted, i.e. 1.5% and reached approximately 2.35% of the contributions. In response, the Directing Committee pointed out that the draft submitted met the newly identified requirements. However, the overall financial balance was preserved and the programme as presented fulfilled the needs of the moment.
- It was pointed out that, if the Work Programme was modified, the budgetary impact would be evaluated and submitted to the Conference for approval.

Subject to the above condition, the draft budget was submitted to a vote by the delegations who adopted it with a majority, with one vote against being recorded.

**3. EXAMINATION OF THE IHO BUDGET FOR 2008
(CONF.17/F/03)**

The Chairman of the Finance Committee explained that this budget was extracted from the previous five-year budget which had just been approved. He therefore submitted this draft for approval by the delegations who adopted it with a majority, with one vote against being recorded.

**4. EXAMINATION OF THE REPORT OF THE WORKING GROUP ON THE SALARIES OF THE SECRETARY GENERAL AND OF THE DIRECTORS UNDER THE NEW STRUCTURE OF THE IHO
(CONF.17/F/04 & CONF.17/F/05)**

The Chairman of the Working Group presented his group's conclusions:

- A differentiated salary scheme for Secretary General and Directors (ASG for the Secretary General and D1 for the Directors).
- Complete adoption of the UN pay structure which should apply to all the IHO salaries aligned with the United Nations structure (Directors, Cat. A staff, translators) as well as the various advantages mentioned in the documents above.

Several delegations pointed out that the job descriptions should have normally preceded the adoption of the salary scale. The Committee approved this remark and the Working Group Report would be amended by inserting the following text at the end of sub-para. d) of this report :

« In the event that agreement on job descriptions necessitates adjustment to the grading recommended by the Working Group in this report, a new Working Group will reconvene to consider the adjusted gradings and recommend whether the Member States should adopt the adjusted gradings. »

Subject to the above-mentioned reservation, the Working Group's conclusions were submitted to the delegates for approval, who unanimously approved them. This Report would be consequently submitted to the Conference for adoption.

5. REAPPOINTMENT OF THE EXTERNAL AUDITOR

The President of the Directing Committee pointed out that he had received a letter from the present external Auditor (Cabinet Morel) seeking this firm's re-appointment. Taking into account that the Bureau was extremely satisfied with the quality of the Auditor's services, he proposed to the delegates to reappoint this firm for a further period of 5 years. This was unanimously approved.

The Finance Committee Chairman and the members of the Directing Committee thanked the delegations for their active participation and wished a fruitful conference to all the participants.

ELIGIBILITY COMMITTEE

CONF.17/E/REP

REPORT OF THE ELIGIBILITY COMMITTEE AND RECOMMENDATION

CONF.17/E/REP

COMMITTEE MEMBERSHIP

Rear Admiral BR RAO (India), Chairman
Rear Admiral Andres Roque DI VINCENZO (Argentina)
Admiral Willem RAMPANGILEI (Indonesia)
Mr. S. Ali ESTIRA (Islamic Republic of Iran)
Rear Admiral Pierpaolo CAGNETTI (Italy)
Mr. John SPITTAL (New Zealand)
Captain Rachid ESSOUSSI (Tunisia)

MEETINGS

Two meetings of the Eligibility Committee were held on Tuesday 8 May 2007 and Wednesday 9 May 2007. It was pointed out by the Chairman that the Committee's task was to refer to the relevant article of the General Regulations and to ascertain the eligibility of the 6 candidates for the election to the Directing Committee of the International Hydrographic Bureau, after considering their Statement of Service.

CANDIDATES

The statements of services of all 6 candidates had been distributed by Conference Circular Letters and as CONF. 17/E/01. The Committee Members had reviewed these documents.

RECOMMENDATION

The Committee Members, after consulting legal and technical experts, was unanimous in their conclusion that all six (6) candidates nominated for the election to the Directing Committee of the IHB are eligible and therefore recommended to the Conference that they should be confirmed as eligible for election to the Directing Committee for the period 2007-2012.
