

**Report of the  
Meso-American and Caribbean Hydrographic Commission (MACHC)  
Technical Workshop  
on the establishment of the first phase of hydrographic capability  
Cartagena de Indias, Colombia, 30 May 2005**

**Annexes:**

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**Background.**

The Second Meeting of the Capacity Building Committee (November of the 2004), based on the experience of the EAtHC and SWPHC, decided to carry out a third Technical Workshop on Phase ONE, specially for the countries in the Meso-American and Caribbean Sea Hydrographic Commission, in conjunction with the 3<sup>rd</sup> CBC Meeting. All countries in the region were invited by the Chairman of MACHC.

**1. Opening.**

- 1.1 Rear Admiral Edgar Augusto CELY, Head of the Hydrographic Service of Colombia and Chairman of MACHC welcomed all delegates to the MACHC Technical Workshop, which focused on Phase I of Hydrographic Capability Building (Gathering and dissemination of hydrographic and safety of navigation information). Representatives from Barbados, Belize, Colombia, Cuba, Guatemala, Honduras, Jamaica, St. Kitts & Nevis, Sta. Lucia, St. Vincent & Grenadines and USA, some members of the IHO Capacity Building Committee and observers from IOC, ACINPA and the Naval Academy “Almirante Padilla” attended the meeting. The List of Participants is given in Annex I.
- 1.2 In his Opening Address, Rear Admiral CELY stressed the effort of the IHO CBC and MACHC to organize the Workshop with a special focus on the Caribbean countries that cannot normally attend the meetings of the Regional Hydrographic Commission and have a forum where sharing experiences on capacity building. He also stated that the development of hydrographic activity should be considered as a long term investment supporting the economic development of maritime countries and wished that the Workshop may encourage developing countries to fulfill their obligations (See Annex 2)
- 1.3 The IHB Director and CBC Chairman, Capt. Hugo Gorziglia explained then background behind this initiative and reminded participants on the need to coordinate efforts directed to improve the safety of navigation in the region, target that could be reached by the Workshop. He strongly encourage the participants to take maximum advantage of this opportunity to identify and agree on actions aiming at improving the provision of hydrographic information and products in their countries.(See Annex 3)

**2. Presentations & Discussion**

The following five presentations were made during the Workshop:

- 2.1 The Importance of Hydrography (by Captain Hugo Gorziglia, IHB) (See Annex 4)
- 2.1.1 Captain Gorziglia presented an informative paper covering the following wide-ranging aspects:
- I. INTRODUCTION
    - What is Hydrography?; Traditional Uses and New Applications of Hydrography
  - II. HYDROGRAPHIC EVOLUTION
    - Positioning; Depth Determination; Hydrographic Data Bases
  - III. NAUTICAL CARTOGRAPHY EVOLUTION
    - Traditional; Computer Assisted; Digital; ENC
  - IV. MODERN CHALLENGES
    - Commercial Approach; Other Products; Cultural Changes; H.O.s Re-Engineering
  - V. INTERNATIONAL SCENARIO

- UNCLOS 1985; U.N. Resolution, 1998; SOLAS Convention Chapter V 2002; U.N. Resolution A/RES/58/240 2003

2.1.2 The Workshop participants noted the importance of U.N. Resolution A/RES/58/240 (2003), wherein the United Nations has raised “Capacity Building”. Hence it was vital for Members to provide input for populating IHO Publication S-55, so as to enable the IHB to report to the U.N. Similarly under SOLAS V Regulation 9 (Hydrographic Services), nations have the obligation to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation.

2.2 The Three Stages of Development of Hydrographic Capability’ (by Ingénieur Général Michel le Gouic, SHOM, France) (See Annex 5)

2.2.1 The paper examined the three phases generally involved in the development of a national hydrographic capability, as follows:

Phases of Development

National Activity

Phase One

The collection and circulation of nautical information, necessary to maintain existing charts and publications up to date.

Form National Maritime Safety Committee  
Create/Improve current infrastructure to collect and circulate information  
Strengthen links with charting authority to enable updating of charts and publications  
Minimal training needed.

Phase Two

Creation of a surveying capability to conduct:  
Coastal projects  
Offshore projects.

Establish capacity to enable surveys of ports and their approaches  
Maintain adequate aids to navigation  
Build capacity to enable surveys in support of coastal and offshore areas  
Requires funding for training & equipment or contract survey work.

Phase Three

Produce charts and publications independently.

Is Phase 3 needed?  
(requires high investment for production, distribution and updating)  
Alternatively, bi-lateral agreements for charting can provide easier solutions and rewards.

2.3 Maritime Safety Information (MSI) and Global Maritime Distress and Safety System (GMDSS)’ (by Mr. Keith Dominic and Mr.Chad Schoene NGA-Navarea) (See Annex 6)

The lecturers made a detailed presentation about MSI y GMDSS. They reminded the obligations that coastal States have regarding the fulfilment with GMDSS in accordance with Regulation 2.1.9. of SOLAS V, permitting ships to receive information about safety of navigation and to send distress messages. A strong recommendation to cover the Caribbean area with NAVTEX was made or an alternative method should NAVTEX implementation was found very expensive, following French example.

2.4 Analysis Publication S-55

This item was presented by Capt. Barritt, CBC Vice-Chairman and IHO co-ordinator for S-55 project. Capt. Barritt stressed the importance of S-55 as a tool to provide strategic information to international and national decision-taking authorities that control the assignation of resources. S-55 allows the assessment of

the weaknesses in hydrography and nautical cartography as well as in safety of navigation facilitating the establishment of joint capacity building projects.

Capt. Barritt referred to the technical visit carried out in 1998 to the Caribbean region, headed by himself, which had a weak follow-up and that the conclusions of the visit were that all the countries in the area needed Phase 1 development and two of them Phase 2 development. He encouraged Caribbean countries to follow-up the study of their development in these areas through the contact with IHB/MACH.

Besides, he identified the following actions:

1. A sub-regional meeting to review S-55 data and to prepare specific submissions to the IHO CBC.
2. To take advantage of the MACHC day of 31 May to exchange experiences between the region.
3. To urge their authorities to fulfil SOLAS V obligations, bringing this matter to the attention of their governments.

## 2.5 'The Importance of Accurate Nautical Information'

**2.5.1** Capt. Barritt also made this presentation, which highlighted the importance of obtaining accurate and timely information in order to maintain charts for safety of navigation. He outlined the importance of making safety information available to the maritime community as rapidly as possible noting, that local authorities can ensure prompt collection and timely promulgation of important navigational information. There are different kinds of information and different kinds of notification and it is important to establish a maritime information organization . With a view to funding an information system, governments should be lobbied on the importance of these matters and technical visits may help to raise this points before national authorities. Capt. Barritt finished his presentation giving examples of information that can be communicated to the NAVAREA coordinator. (see Annex 7),

## 3. Presentations from countries

Cuba, France, Guatemala, Jamaica, Mexico, UK and USA, MACHC members presented their reports, as well as Belize, Honduras and Sta Lucia, MACHC associated members. The following observers also made presentations: Barbados, Saint Kitts y Nevis y Saint Vincent y Grenadines. Theses presentations are included in Annex 8.

A summary of the presentations and some points raised is given below:

### 3.1. CUBA

The report from Cuba mainly addressed the status of the hydrographic surveys (in accordance with S-55 parameters) and their cartographic plan. Training is being considered an important topic and efforts are being done to obtain the international recognition from the International Advisory Board for their courses in hydrography. The IAB will support Cuba with the visit of its Secretary, Capt. Bermejo, to help them to build up those courses in accordance with the current standards of competence.

### 3.2. USA

The report from USA described the work carried out by the four principal agencies dealing with hydrography: NOAA, NAVOCEANO, NGA (before NIMA) and the Coast Guard.

It emphasized the experience of the NAVOCEANO Mobile Training Team (N-MTT) as well as cooperative surveys carried out with Dominican Republic, Ecuador, Honduras, Mexico and Panama. The Project "Gulf of Honduras" was also explained, although it was given special consideration during the MACHC day, on 31 May.

### 3.3. FRANCE

The French representative addressed mainly the cooperation of SHOM with African countries. Former surveys carried out in Martinique and St. Martin are now almost updated, except some areas of poor navigation. The French report also stated that the intention of SHOM is to concentrate on ENC and not consider for the moment being the raster charts. France is now covered with ENC and work will start in Djibouti, Senegal and other areas of the Indian Ocean in early 2006.

#### 3.4. GUATEMALA

The representative from Guatemala stressed the fact that there are people trained, even at Category A level, but there is no equipment to carry out surveys, even if a hydrographic vessel (the Gucumatz) is well conditioned for those tasks. The formation of a National Hydrographic Committee is progressing and in this respect, the visit of the IHB representatives, in March 2005 had been very important. He stated that the recently approved “Gulf of Honduras” project could be a good means to obtain the necessary equipment. He also stated that the continuity in the high administrative posts was an essential factor for developing these areas.

#### 3.5. JAMAICA

This country started hydrographic work in the 60s with a small team of surveyors that created a “Survey Department”. In mid 80s, this Department was developed with the support from Canada. A Programme to re-survey mainly ports and approaches is now in development, with the support of NAVOCEANO. The Port Authority has small boats to carry out some surveying and the staff is trained but not professional. The government of Jamaica wishes to re-build the hydrographic capacity of the country. Outsourcing of surveys is not possible due to its cost.

#### 3.6. MEXICO

The development of hydrography in Mexico has been very successful and now DIGEMAR is responsible for all matters related to hydrography, nautical cartography and safety of navigation. The presentation describes the Mexican Hydrographic Service and its work, emphasizing the hydrographic work. At present, a survey vessel is being fitted to carry out oceanographic tasks. It is also soon expected to start the direct production of ENCs. Training of staff was done in Spain, Chile, USA and IMA (Trieste). In recent years, the Mexican Hydrographic School has developed and 25 officers have already graduated from it. They offer support with scholarships to other countries, such as Jamaica.

The Mexican representative informed that the Plan Puebla Panama is dormant for the moment being, but other projects, such as “Escalera Náutica” are in development.

#### 3.7. UK

The UK representative focused mainly on the support provided to the Caribbean countries and in their territories still dependant from UK (Virgin Islands, Montserrat etc.). He explained that the UK support is either material (funds) or by means of business relations such as exchange of data etc. He encouraged countries to ask for direct support from UK.

#### 3.8. BELIZE

All hydrographic work in Belize has been carried out by UKHO and USA through agreements with the Ministry of Defence. The Port Authority is responsible for safety of navigation, approaches and S.A.R.

They have no surveying capability and the last survey was executed in 1998 by UK. The representative of Belize also stated that the “Gulf of Honduras” project will be an important tool to develop hydrography.

The representative of Mexico informed that surveys have been projected in the Bay of Tucumán (shared waters) and that this could be a starting point for a closer cooperation between Mexico and Belize.

#### 3.9. HONDURAS

Honduras has bilateral agreements with USA since 1967 and receives the support of NAVOCEANO (staff and equipment). They apply S-44 standards since 1996. Surveys were carried out in cooperation with HYCOOP in Puerto Cortés (98-99), San Lorenzo (2000) and Bahia Trujillo (2001) and now in La Ceiba and Tela. The visit of the IHB delegates in March 2005 was very important to raise the importance of hydrography and SOLAS obligations with the authorities of Honduras.

The Mexican delegate also offered their support to carry out joint surveys.

#### 3.10. STA LUCIA

They have no hydrographic capability and it is not forecasted in a near future. Canada and Trinidad & Tobago carry out hydrographic surveys on their behalf. Their charts are dated 1990 and their updating is difficult by lack of infrastructure. The Port Authority is responsible for Aids to Navigation and they are well maintained.

### 3.11. BARBADOS

Barbados has been receiving support from the UKHO and has charts dating from 1995. The Coast Guard has 2 vessels that could be used for hydrographic surveys and various agencies are responsible for safety of navigation. The Port Authority (who was present at the meeting) informed that they are at present carrying out works of dredging for construction of a new port and have the assessment of the UKHO. GMDSS depends on the Ministry of Communications and the Coast Guard.

Barbados plans to establish a "National Hydrographic Committee" grouping the various agencies dealing with these items and they need the support of the IHO to explain national authorities the importance of hydrography and fulfilment with SOLAS.

### 3.12. ST. KITTS & NEVIS

Hydrography is just now becoming important for this country and they need to have survey capability to ensure safety of navigation in their waters. The delegate from St. Kitts & Nevis pointed out some problems as given below:

1. Some areas of the country are not surveyed and some updating has been made in others but a lot is missing.
2. They have bordering problems with the adjacent islands and no limits have been established.
3. A Maritime Department has been created last year.
4. Dependence exist from France and UK for Navigational Warnings
5. There is not enough funding to maintain a Hydrographic Office but they need to create a focal point for Hydrography
6. They would like to receive the visit of experts to assess areas of importance for hydrographic surveys and to set up the EEZ and territorial waters boundaries.

### 3.13. ST. VINCENT & GRENADINES

This country, formed by more than 30 islands, has not any hydrographic capability and depends on UK for all hydrographic work. The Port Authority is the responsible for safety of navigation and has the support of UK for Notices to Mariners. Safety of navigation is a very important item, as the country's waters are very busy, with a transit of more than 5,000 ships and developed yachting. France (Martinique) takes care of GMDSS.

## 4. Discussion

After the countries' presentations, an open discussion was allowed by the Chairman and the following points were highlighted:

- 4.1. SOLAS is a key element for the development of hydrography in all the countries of the region, which must decide the way to fulfill their obligations issuing from the signature of SOLAS.
- 4.2. Regional cooperation is also an important element. The IHO has implemented this cooperation within the structure of its Regional Hydrographic Commissions and therefore, being an IHO member is rewarding for this cooperation.
- 4.3. No coordination at international level can be agreed if previously there is no national coordination. All countries should nominate a responsible for hydrographic matters and therefore the establishment of a National Hydrographic Committee is essential.
- 4.4. Port Authorities, Navies and Cartographic authorities are actors that should play a national role.
- 4.5. Training is always necessary but its level can be different depending on the country concerned. In some cases, special-tailored courses may be required. Countries should identify their needs and communicating with the IHO CBC for possibilities to have such a training funded.
- 4.6. Seminars and Workshops, as well as Technical visits to countries are essential to raise the importance of hydrography with national authorities.
- 4.7. The CBC has scheduled a Seminar for Chairmen of National Hydrographic Committees or similar in the second semester of 2006. These seminars could be a good opportunity to build up development projects to be presented to a major funding Agency.
- 4.8. Training, infrastructure are very important factors, but to have them, funding is required and should be worked in cooperative form by countries and Regional Hydrographic Committees.

## 5. Conclusions

5.1 The Workshop provided an excellent opportunity for representatives from the Meso-American and Caribbean nations, the IHB and observers to gain a greater insight into the MSI issues in the region and also discuss the way ahead for developing hydrographic capability in the region. The participants were appreciative of the very comprehensive presentations, which covered a broad scope ranging from strategic to technical aspects.

5.2. Collective support should and can be given within the region. For this, communication between countries is a factor that must be improved to obtain results. Meetings are also a means to hear the needs and to discuss common efforts and offers of support.

5.3. There are in the MACHC region some countries with a high level of hydrographic development, other countries smaller but with all the necessary capacities as well as others with no hydrographic development at all. These last countries were the most benefited from the Workshop, which helped the awareness to establish, at least, the first Phase of Hydrographic Capacity Building.

5.4. In view of the differences between countries it should be important to establish bi-lateral or multi-lateral agreements to develop the other phases of hydrography, after having drawn the interest of national authorities about such a development, and the wish and need to invest on these phases, in accordance with the particular needs of each country.

5.5. It was also felt that the IHO Capacity Building Committee was a permanent supporting body to raise the matter with the national authorities and to approve projects submitted through the MACHC to develop hydrography in benefit of the safety of navigation.

5.6. One way to stress MACHC efficiency may be the organization of technical visits to the relevant authorities of the countries in the region to raise with them the importance of hydrography but this also requires national effort to prepare the visit and to obtain good results.

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