



MINISTÈRE DE LA DÉFENSE



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SERVICE HYDROGRAPHIQUE ET
Océanographique DE LA MARINE

Directorate of Policy, Plans &
External Relations

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**French national report to the 10th meeting of the North Indian Ocean
Hydrographic Commission (NIOHC)**

1. Hydrographic Office: General

Since the 11th of May 2007 SHOM, whilst keeping its name, has become an *Établissement Public*, i.e. a national establishment endowed with a legal personality distinct from the French Administration. SHOM's new organisation, missions and responsibilities were developed in the previous national report.

2009 was a very active period for SHOM which focused on meeting the objectives set out for surveys, research, development and production in SHOM's three core missions, i.e. national hydrographic service, environmental support to defence and support to maritime and coastal public policies. All the year round, no efforts were spared to improve the visibility of SHOM's capabilities and activities as well as to strengthen our partnerships, with the steadfast will to meet the many and various requirements.

2009 confirms the positive appreciation on the change of statute as foreseen in 2008. The course bearing for a new passage is set up from now on. However, the speed remains to be determined through the "objectives and means" contract, the construction of which takes longer than expected in this difficult period marked by a comprehensive review of public policies and the current financial crisis.

SHOM remains devoted to seafarers, civilian and military, and to all categories of sea users, far beyond our national boundaries, with the shared objective to contribute at its level and in its domains of excellence to the sustainable development and the protection of Planet Ocean.

2009 was also marked by the establishment of the new French maritime policy. In July 2009 in Le Havre, the President of the French Republic gave a very important political speech introducing this policy which relies on the recommendations made throughout a 4-month brainstorming process namely "*le Grenelle de la mer*", involving many stakeholders including SHOM. Last December, the French Blue Book on the national maritime integrated policy was approved.

.../...

The protocol of amendments to the IHO Convention was ratified by the French Parliament on the 28th of July 2007.

For information, a list of SHOM's involvement in IHO activities is provided in the Annex.

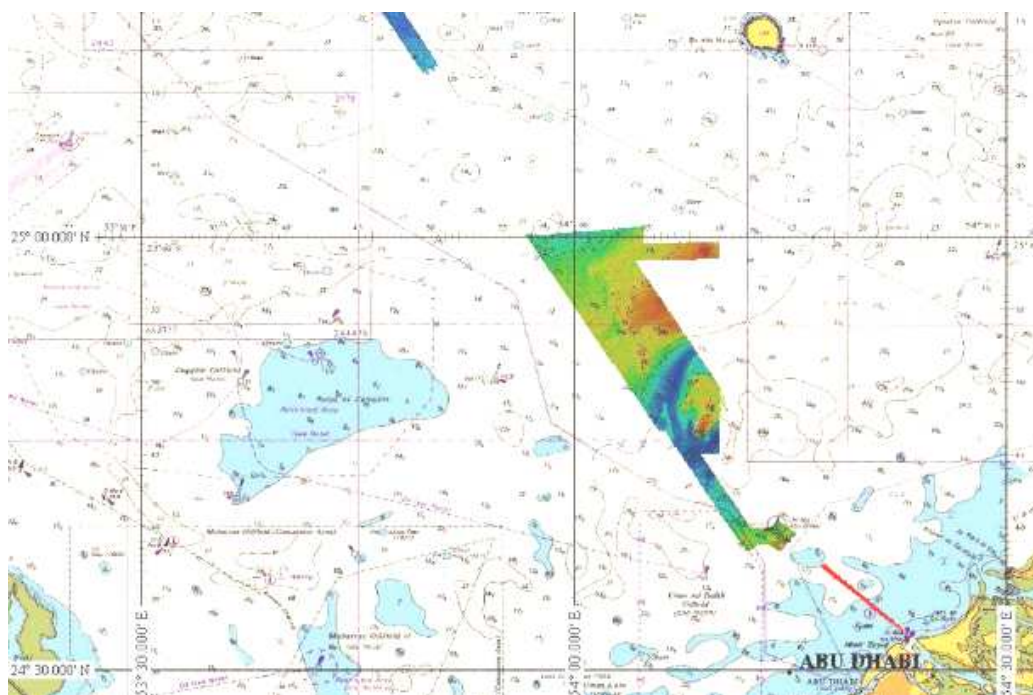
2. Surveys

2.1 Coverage of new surveys

Surveys conducted in the NIOHC area are related to SHOM's long term commitment in those areas where France has traditional links. By comparing what exists in the bathymetric database, requirements and operational constraints, a long term survey plan is being drafted for approval by SHOM's Board of Directors and the French authorities. The objective is to collect nautical information with a view to improve SHOM's chart portfolio along the following activities:

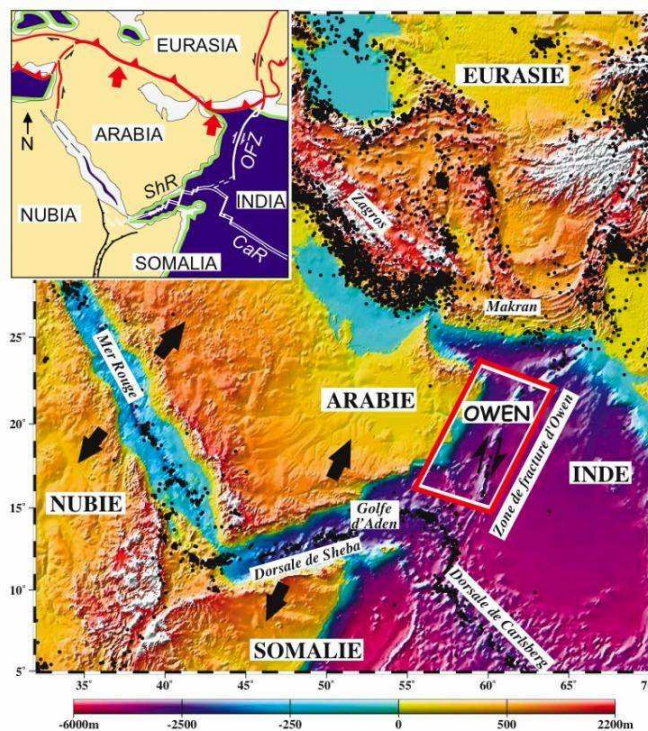
- Cataloguing of all existing information.
- Hydrographic surveys (bathymetry, geophysics, sediments, etc.) and production of charts and nautical documents.
- Oceanographic modeling (tides, currents, swell, etc.), eventually in liaison with IOC initiatives if any.
- Use of remote sensing (SPOT, ERS, airborne surveys, etc.) to improve the coastal cartography.

Since the previous conference (February 2009), SHOM conducted the following activities. In Djibouti, several measurements have been performed in order to complete a survey conducted in 2007. In the adjacent ROPME sea area, a survey was conducted by the French hydrographic vessel *Beautemps-Beaupré* in the approaches of the UAE-French military base in Abu Dhabi.



Survey of approaches of Abu Dhabi

The *Beautemps-Beaupré* vessel conducted two geophysical surveys in the Arabian sea in order to characterize the boundary between the Somalian, Arabian and Indian tectonic plates.



Location of the Owen area

In the frame of the West Indian Ocean Marine Highways project, surveys in the Mozambique Strait will be performed in 2010.

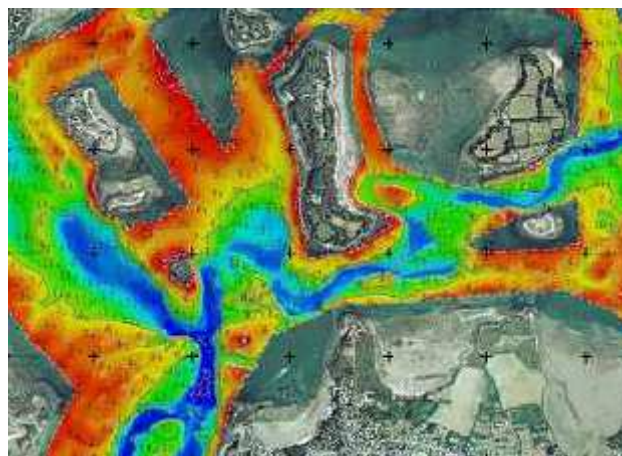
2.2 New technologies and / or equipment

MSDI: the INFRAGEOS-H project

To meet the recommendations of the EU Blue Book on maritime spatial planning, SHOM is implementing a cross-cutting GIS to handle Navaid, tidal and bathymetric databases in compliance with international standards (INSPIRE, IHO...) and dissemination policies.

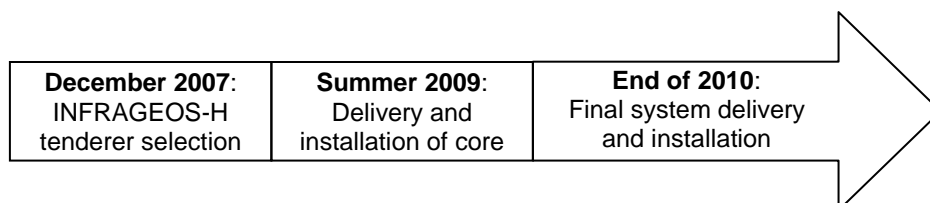
The INFRAGEOS-H functionalities comprise:

- a core of interoperable databases (GIS);
- a control and transfer system of hydrographic information;
- a workflow control system;
- a set of management and processing solutions (multilayer display, vector, raster data...);
- some tools to support web publication.



CARIS Bathy DataBase ®

The provisional schedule of implementation is as follows: It is expected that the use of INFRAGEOS-H will boost data management 60 times faster.



INFRAGEOS-H will provide SHOM with a next-generation set of tools for tackling ever-changing information and products requirements. It is the first step in a broader process consisting of grouping together within a coherent Geospatial Infrastructure all SHOM databases.

2.3 New ships

NTR.

2.4 Problems encountered

As many other IHO member states, France is tasked with collecting nautical information and surveying areas that would otherwise remain uncharted. It happens from time to time that SHOM only learns by accident of surveys performed by private companies, or even other HOs, in its areas of charting responsibility, and has to insist to obtain communication of IHO-compliant data relevant to INT charts and nautical information.

In the interest of the international maritime community, it is reminded that survey results should be automatically communicated to the IHO recognised charting authority (in compliance with M-3, RT A1.15 § 2 as amended¹).

In addition, provision should be made in all contracts awarded to private survey companies to the effect that hydrographic data pertinent to the safety of navigation be communicated to the IHO recognised charting authority.

3. Charts and Publications:

a. Charts

a.1 New charts & updates

Produced since the 9th NIOHC conference:

N° National	N° INT	Scale 1:	Title
6947		1 080 000	<i>Abords et partie Est du Golfe d'Aden</i> (new surveys)

Planned in 2010:

The INT 7115 chart (*Abords et port de Djibouti*, national number 7520), published in 2003 will be replaced by INT7120 (national number 7546) and INT7115 (national number 7547).

N° National	N° INT	Scale 1:	Title
6987	7004	700 000	<i>Partie Ouest du Golfe d'Aden – Bab-el-Mandeb</i> (miscellaneous updates)
7517		200 000	<i>Approches de Jizan</i> (new TSS) – Fs GB 15
7546	7120	10 000	<i>Port de Djibouti</i> (new surveys and new coverage)
7547	7115	50 000	<i>Abords de Djibouti</i> (new surveys and new coverage)

¹ See IHO CL 29/2009.

Planned in 2011-2013:

N° National	N° INT	Scale 1:	Title
7519	7114	200 000	<i>Bab el Mandeb et Golfe de Tadjoura (new surveys)</i>

The status of INT chart production in the area is:

Scale	Produced	Planned	%
Small (<1:1 000 000)	0	0	N/A
Medium	3	0	100%
Large (>1:100 000)	1*	1	50%
Total	4	1	80%

* The replacement of INT chart 7115 will induce new editions.

a.2 ENC

On the 1st of January 2010, SHOM had produced some 296 ENCs at an approximate rate of 40 per year. The full collection should eventually reach a figure around 900 ENCs.

In line with the WEND task group recommendation, France produces its small scale ENC cells as closely as possible to INT chart schemes.

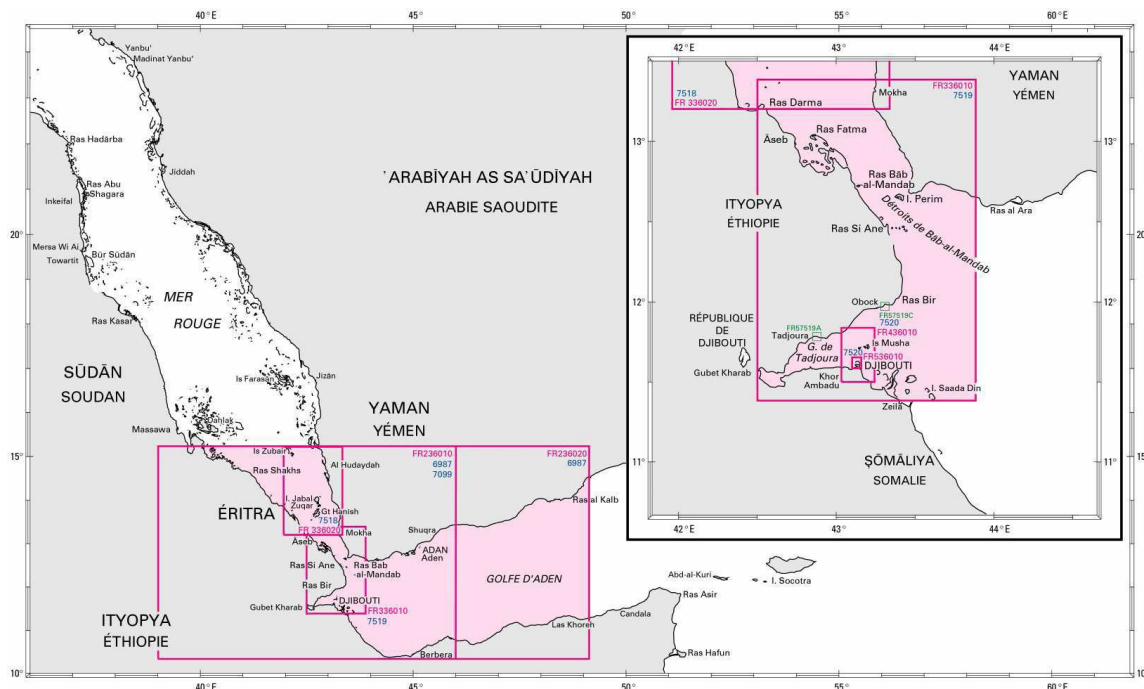
To comply with IMO regulations on ECDIS carriage requirements, France will ensure that all HSC lines in its areas of responsibilities area are covered with ENC by 2010 (except in Comoros).

The status of ENC production in the area is:

Usage band	Produced cells	Planned cells	%
1	0	0	N/A
2	2	0	100%
3	2	0	100%
4	1*	0	100%
5	1*	2	33%
6	0	0	N/A
Total	6	2	75%

* The replacement of INT chart 7115 will induce new editions.

The SHOM ENC coverage of the NIOHC area is depicted in the chartlets below, where existing ENC are represented in dark pink and planned ENCs are in light green (2010 – 2012):



No ENC's have been produced since the last meeting.

The production of the following cells has been planned in 2010-2012:

Area	Usage Band	Fr paper chart Nr	Observations
Djibouti	5 (Harbour)	7519	FR57519C – <i>Mouillage de Tadjoura</i> – Publication
Djibouti	5 (Harbour)	7519	FR57519A – <i>Port d'Obock</i> – Publication
Djibouti	5 (Harbour)	7547	FR575470 – <i>Port de Djibouti</i> – Publication replaces FR536010
Djibouti	4 (Approach)	7546	FR475460 – <i>Approches de Djibouti</i> – Publication replaces FR436010

a.3 RNCs

NTR.

a.4 INT Charts

See item a.1.

a.5 National paper charts

See item a.1.

a.6 Other charts e.g. for pleasure crafts

NTR.

a.7 ENC Distribution method

All French ENC's are distributed by PRIMAR RENC.

a.8 Problems encountered

NTR.

b. Publications

Type	Title
DIV	<i>Tide table 2010 – Vol 2 – Overseas ports.</i>
LL	<i>List of Lights – Vol L Indian Ocean, Australia (edition 2009)</i>

IN: Sailing directions

RSX: Radio stations

LL: List of Lights

DIV: Miscellaneous

CD-ROM with the digital version of RSX signals are now available for the French navy.



RSX CD-ROM

4. MSI

Existing infrastructure for transmission

New infrastructure in accordance with GMDSS Master Plan

Problems encountered

NTR.

5. Capacity Building

5.1 Offer of and/or demand for Capacity Building

France participates in the IHO Capacity Building sub-committee and supports the IHO Regional Hydrographic Commissions of which SHOM is a member, especially the Southern Africa and Islands Hydrographic Commission (SAIHC), the Eastern Atlantic Hydrographic Commission (EAHC), the South-West Pacific Hydrographic Commission (SWPHC), the Meso-American and Caribbean Sea Hydrographic Commission (MACHC) and the Mediterranean and Black Sea Hydrographic Commission (MBSHC). Since December 2008, SHOM is the CBSC focal point for the EAHC.

Bangladesh officially requested the assistance from France in 2009 for training with the long term objectives to meet SOLAS Chapter V Regulation 9 obligations. France is currently assessing the request.

During her deployment in the Indian ocean in 2010, on-the-job training will be provided onboard *Beautemps-Beaupré* for up to 5-7 hydrographers. A circular letter, providing the draft programme is to be issued by the SAIHC Chairman shortly to inform the interested Coastal States on this offer.

5.2 Training received, needed, offered

Initial training capabilities provided by SHOM are described in its yearly report available on www.shom.fr.

France is aware of the language barrier that can create obstacle to technically capable, non-French speakers. Rather than proposing to attend the full French hydrographic course, which lasts about 18 month for FIG/IHO/ICA level B (incl. practical experience at sea) and a minimum of 2 years for category A, SHOM in

liaison with NAVFCO (governmental company dedicated to transfer the French Navy know-how) is preparing short modules in English on dedicated technical fields such as ENC, delineations, military oceanography...

5.3 Status of national, bilateral, multilateral or regional development projects with hydrographic component. (In progress, planned, under evaluation or study)

After Monaco (2005), Djibouti (2006), Morocco and Togo (2008), a new agreement was signed in 2009 with Senegal in order to formalise the existing co-operation and sharing of hydrographic responsibilities in accordance with the SOLAS convention. More agreements are expected to be signed shortly with Western Africa countries .

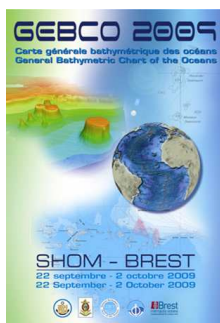
As soon as these agreements are signed, systematic procedures are carried out for comprehensive revision of survey plans, training requirements, assessment of charting issues, C-55 entries (see § 6), on a yearly basis. Therefore, France updates yearly the C-55 for Djibouti.

6. C-55 latest update

The C-55 database for French areas of responsibilities is updated by SHOM on a yearly basis.

Separate entries are now available for France areas in each IHO region. A regular annual updating process has been put in place for periodic updates (last update in May 2009).

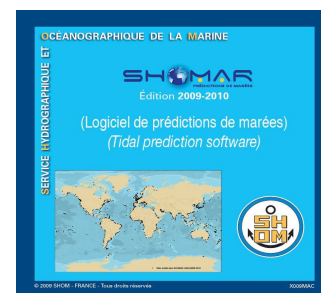
7. Oceanographic activities



As it can be seen at the Annex, SHOM is one of the IHO representatives in the GEBCO Guiding Committee. France hosted the 26th joint IOC-IHO Guiding Committee for the General Bathymetric Chart of Oceans (GEBCO) last October in Brest.

It is worth noting that SHOM is responsible in France for tide predictions, and collect all sea level data available.

A new edition of the tidal prediction software SHOMAR was released by SHOM in 2009. Tide characteristics can be computed for 1075 ports worldwide. In France and in French overseas territories or for major harbours of Coastal States where France has signed SOLAS-type bilateral agreements, this software is considered as an official nautical publication.

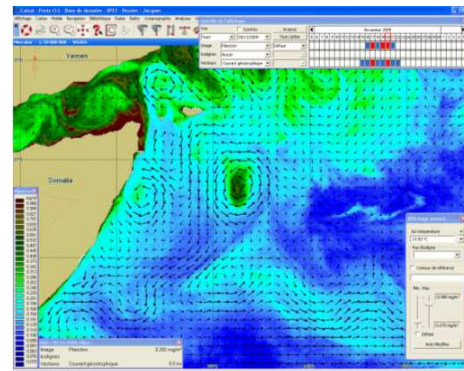


SHOMAR Tide prediction software

In support of this activity, it maintains a digital tide gauge network as part of the French contribution to the IOC Tsunami Alert System scheduled in a first phase for

the Indian Ocean, and meant to be further extended to the rest of the world. Work is in progress to enhance the permanent SHOM's tide gauge performances (real-time data transmission) and to increase the network coverage in more appropriate locations. The tide gauges of Dzaoudzi (Île de Mayotte) and Pointe des Galets (Île de la Réunion) transmit their data in real-time. Under the supervision of the Intergovernmental Oceanographic Commission of UNESCO, the French National Centre for Tsunami warning in the Indian Ocean (CNATOI) further intends to install two other tide gauges in the South West Indian Ocean.

The development of operational coastal oceanography is an important component of the environmental support package to the decision aids on maritime and coastal policies raised in the French Blue Book quoted in chapter 1. Oceanographic previsions and assessed products are now available in Northern Indian ocean with a resolution of a quarter degree.



Previsions in the NIOHC area

New technologies, sensors and demonstrators like Previmer (<http://www.previmer.org/>) now make it feasible. A roadmap for the development of a national service in coastal operational oceanography was elaborated with SHOM partners in 2008 and will be consolidated in 2009-2010: it is planned for instance that SHOM will provide real time services for sea state, sea levels, sea surface currents measured by HF radars... and associated forecasts and predictions. This project is a national complement required under the European initiative of the Marine Services component of the GMES programme. France (Ifremer, Météo-France, SHOM, and other partners) is heavily involved in the development of GMES Marine Core Services through the *My Ocean* project coordinated by Mercator Ocean (http://www.mercator-ocean.fr/html/mercator/collaborations/myocean_en.html).

8. Conclusions

In 2005, NIOHC established a set of recommendations gathered into the IHO response plan to marine disasters (CL59/2005 dated 31 May 2005). It is suggested that the commission invites IRCC to examine this topic common to all oceanic basins and identify a procedure and guidelines (on the basis of inputs from regional hydrographic commissions) so as to be able to provide an immediate and appropriate response to any future disaster affecting coastal areas of the world.

2010 will focus on the implementation of the decisions outlined in the French Blue Book on the national maritime integrated policy (see chapter 1) linked to “knowledge and research” and articulated around three axis:

- cartography of areas of higher interest on the French continental shelf,
- establishment of a high resolution and seamless sea/land coastal digital model,
- development of operational coastal oceanography.

The delimitation of maritime areas established in the frame of the European nature and biodiversity policy will also be taken into account. For example, the lidar surveys conducted in 2009 in Île de la Réunion, Île de Mayotte and Îles Éparses (Northern part of the SAIHC area) will contribute for such an application.

ANNEX

**SHOM's participation in IHO Regional Hydrographic Commissions,
Committees, Sub-Committees & Working Groups**

Name	Chair Vice chair	Member	Observations
FC	✓	✓	Vice-chairman of Finance Committee
HSSC		✓	Hydrographic Services and Standards Committee, formerly known as the Committee on Hydrographic Requirements for Information Systems (CHRIS)
TSMAD	✓	✓	Transfer Standard Maintenance and Application Development
DPSWG		✓	Data Protection Scheme Working Group
DIPWG		✓	Digital Information Portrayal Working Group, former CSMWH
SNPWG		✓	Standardisation of Nautical Publications Working Group
CSPCWG		✓	Chart Standardisation and Paper Chart Working Group
DQWG		✓	Data Quality Working Group -Last meeting in 1996
MSDIWG		✓	Marine Spatial Data Infrastructure Working Group
TWLWG	✓	✓	Tidal and Water Level Working Group
HDWG		✓	Hydrographic Dictionary Working Group
EUWG	✓	✓	ENC Updating Working Group
IRCC	✓	✓	SHOM director general has been elected first chairman of the Inter Regional Coordination Committee at the 4 th Extraordinary IH Conference
NSHC		✓	North Sea Hydrographic Commission
MBSHC		✓	Mediterranean and Black Seas Hydrographic Commission
EA^tHC		✓	Eastern Atlantic Hydrographic Commission
SWPHC	✓	✓	South-West Pacific Hydrographic Commission

MACHC		✓	MESO American & Caribbean Sea Hydrographic Commission
SAIHC		✓	7 th Conference of Southern Africa and Islands Hydrographic Commission to be held in the French Department of la Réunion
NIOHC		✓	North Indian Ocean Hydrographic Commission
HCA		✓	Hydrographic Commission on Antarctica
WWNWS		✓	World-wide Navigational Warning Service Sub-Committee, formerly known as the Promulgation of Radio Navigational Warnings Sub-Committee (PRNW)
CBSC		✓	Capacity Building Sub-Committee
GEBCO		✓	Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO)