



MINISTÈRE DE LA DÉFENSE



Saint-Mandé, 9 October 2009

N° 164 SHOM/DSPRE/NP

SERVICE HYDROGRAPHIQUE ET
OcéANOGRAPHIQUE DE LA MARINE

Directorate of Policy, Plans &
External Relations

Dossier suivi par :

ICETA Yves Guillam

☎ : 33 1 53 66 97 80

Fax : 33 1 41 74 94 25

Mèl : yves.guillam@shom.fr

French national report to the 10th meeting of the MesoAmerican and Caribbean Hydrographic Commission (MACHC)

-

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.

2008 was the first full financial year during which SHOM was operated as a Public Establishment. This annual report confirms the positive appreciation on the change of statute as foreseen in 2007.

2008 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.

The strategic vision which was approved by the SHOM's Board of Directors at the end of the year and the related strategic objectives which were endorsed by its two advisory committees (the users' advisory committee of SHOM's products, surveys and services, and the steering committee on military oceanography) have the ambition to respond to these expectations. 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.

.../...

According to action MACHC 9-11 taken during the last meeting, an information paper on SHOM's new statute was sent to the MACHC Chair for the consideration of MACHC Members.

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.

On 16 July 2009 in Le Havre, the President of the French Republic gave a very important political speech introducing the foundations of the new French maritime policy. This policy relies on the recommendations made throughout a 4-month brainstorming process by a think tank namely "*le Grenelle de la mer*", involving many stakeholders including SHOM.

2. Surveys

2.1 Coverage of new surveys

SHOM's surveys in the MACHC area aim at collecting nautical information with a view to improve the national chart portfolio. 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. This plan may consist of any of the following activities:

- Cataloguing of all existing information.
- Hydrographic surveys (bathymetry, geophysics, sediments, etc.) and production of charts and nautical documents.
- Use of remote sensing (SPOT, ERS, airborne surveys, etc.) to improve the coastal cartography.
- Oceanographic modelling (tides, currents, swell, etc.).

There has not been any new survey in the MACHC area since the last conference (October 2008). A survey cruise by the research vessel *Pourquoi pas ?*, involved in the AF447 aircraft research, is postponed to the end of 2009.

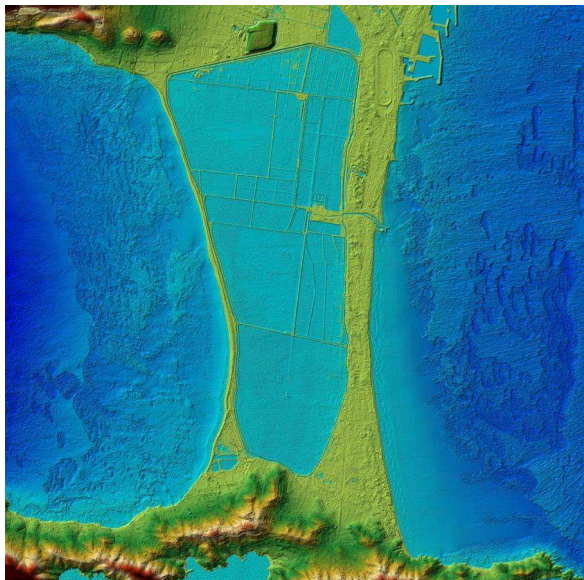
The main objective of the survey is to update bathymetry in the vicinity of Saint-Martin island (Saint-Barthélemy and Anguilla channels).

2.2 New technologies and / or equipment

i Lidar surveys

SHOM is now making extensive use of remote sensing, both satellite and airborne, to improve its chart portfolio. One of its current projects that might be of interest in the MACHC area is the Litto3D ® programme.

The main objective of Litto3D ® is to develop a high resolution DTM foundation, using a combination of MBES and lidar, for integrated coastal management applications. It is carried out by SHOM and the National Geographic Institute (IGN).



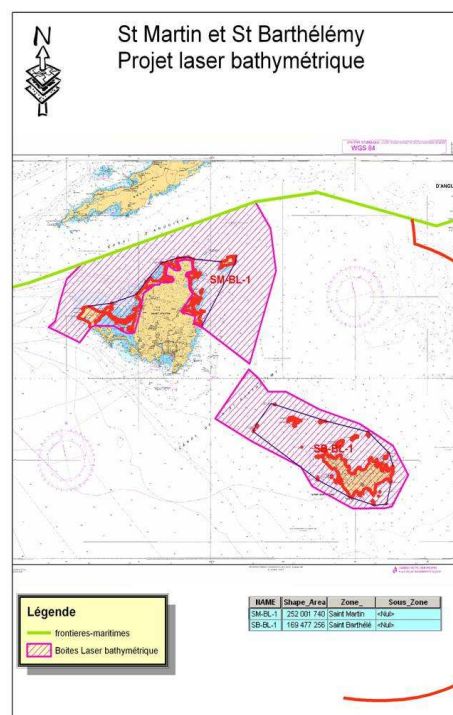
The survey of the Giens peninsula (near Toulon), performed in 2007, demonstrated the capability of bathymetric laser survey to improve the knowledge of the littoral. Bathymetric laser provides a mean to accelerate surveys in very shallow waters, in addition to MBES surveys. With a combination of multi-beam, bathymetric and topographic laser, it is possible to generate a seamless sea/land coastal digital model.

*Litto3D in Giens Peninsula
(vicinity of Toulon)*

The most tangible progress has been the decision to give an open access to the historical seamless data Histolitt® covering the entire coastal areas of France. The detailed coastline is already accessible to the public on the French national Geoportail.

The historical data will be gradually improved by new, more accurate surveys, as the project unfolds over the coming years. Discussions are under progress in the French departments of the Caribbeans and in French Guyana.

Many applications based on Litto3D® foundation are expected: impact of mean sea level raise, storm surges and tsunami warnings, integrated coastal zone management...



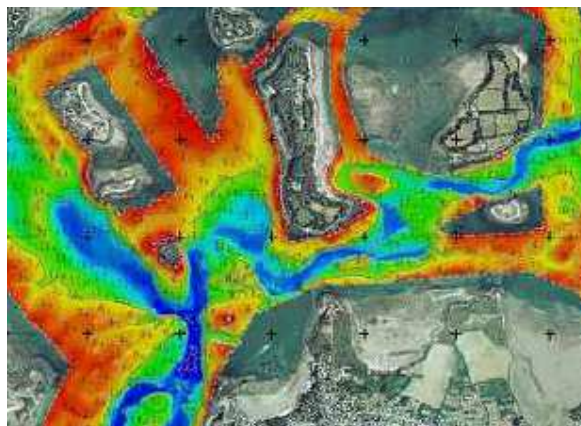
The historical data will be gradually improved by new, more accurate surveys, as the project unfolds over the coming years. It is expected to cover the coasts of Martinique, Guadeloupe in the next years. It is also planned to conduct a similar programme along the coasts of Saint-Martin and Saint-Barthélemy: considering the costs involved to deploy an aircraft in the area, SHOM will approach NL to investigate the ways and means to fund and make possible the survey of the entire area.

ii 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.

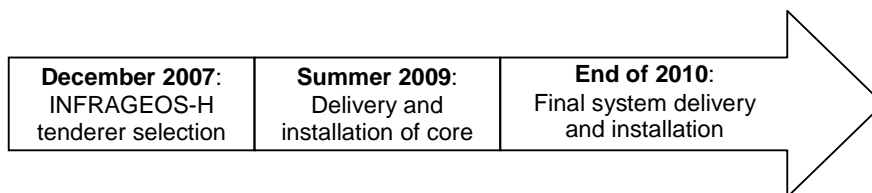
The INFRAGEOS-H functionalities comprise:

- 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).

¹ See IHO CL 29/2009.

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 MACHC conference:

N° National	N° INT	New chart or new edition	Scale 1 :	Title
7087	/	NE	15,000	Havre de la Trinité et Baie du Galion (Conversion into WGS84)
7088	/	NE	20,000	Havre du Robert et Baie du François (Conversion into WGS84)
7100	/	NE	15,000	Guadeloupe – Abords de Pointe-à-Pitre (Conversion into WGS84)
7101	/	NE	15,000	Les Saintes (Conversion into WGS84)
7324	/	NE	20,000	Grand Cul-de-sac Marin (Conversion into WGS84)
7345	/	NE	150,000	Guadeloupe – De Montserrat à Marie-Galante (Conversion into WGS84)
7374	/	NC	500,000	Côte de la Guyane française (supersedes chart number 6131)
7471	/	NE	60,000	D'Anguilla à Saint-Barthélemy
7625	4070	NC	1,000,000	Trinidad to Cabo Orange (ex INT 2001 in area C1)

Planned in 2009 (second semester):

N° National	N° INT	New chart or new edition	Scale 1:	Title
7482	/	NC	60,000	De l'île Caret aux Saintes

All the charts of the area are planned to be converted in WGS84 in 2009 and 2010.

a.2 ENC

On the 1st of September 2009, SHOM had produced some 283 ENC at an approximate rate of 40 per year. The full collection should eventually reach a figure around 850 ENC.

In line with the WEND recommendations and guidelines, 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 the MACHC area are covered with ENC by 2010.

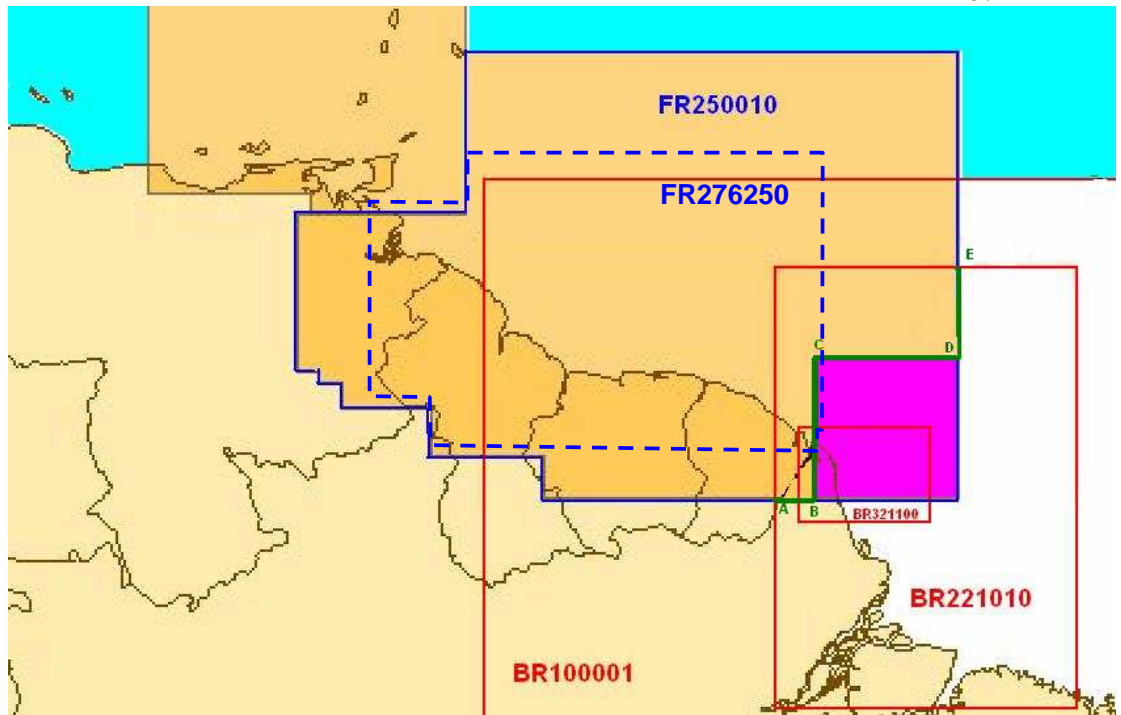
The status of ENC production in the area is:

Usage Band	Produced Cells	Planned Cells	%
1	0	0	N/A
2	2	2	100%
3	2 ²	4	50%
4	6 ³	11	55%
5	8	33	27%
6	1		
Total	19	50	38%

The SHOM ENC coverage of the MACHC area is depicted in the chartlets below, where existing ENC are represented in dark pink and planned ENC are in light pink (2010 – 2011):

² 2 ENC have to be produced for French Guyana.

³ 1 ENC has to be produced for Guadeloupe, 1 for St Martin/St Barthelemy, 3 for FR Guyana.



BR and FR ENC provisional coverage in the area (under consideration in Sept. 2009)

a.3 RNCs

NTR.

a.4 INT Charts

See item a.1.

Scale	Produced INT charts	Planned INT charts	%
Small (<1/1 000 000)	0	0	N/A
Medium	5	5	100%
Large (>1/100 000)	National charts already produced	4 (not included in the INT scheme yet)	N/A
Total	5	5 (9 tbc)	100%

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 proposal was made by PRIMAR at the ENC session of the 4th EIHC to develop a RENC-to-RENC cooperation concept. Views from MACHC ENC producers would be highly appreciated.

a.8 Problems encountered

France takes note of the letters sent by Venezuela to re-consider the assignment of production countries for a number of INT charts in Region B (including INT4070) and the responses made by the IHB. For a number of reasons, INT4070 was assigned to France by this commission and was published in June 2009. Moreover, and in accordance with a decision made by the MACHC, a proposal was sent by France in 2007 to Venezuela to initiate a co-production charting programme. No response has been received to this proposal so far.

Now, in order to avoid any duplication of work (as it was already the case for INT4022, the production of which is now under the responsibility of Venezuela -and which is kindly invited to confirm its availability-), France suggests that the Commission considers attentively the priorities facing it. The first one should be the safety of mariners and the wide availability of charts, compliant with IHO standards. Then, charting production (both for ENC and INT) issues should be addressed considering the IHO commitment to IMO for the provision of adequate ENC coverage. In other words, unless there are very technical reasons to re-assign production assignments, France does recommend to the Commission to focus carefully on shortfalls, gaps, consistency, prior to any “internal” secondary issues that might prevent the IHO as a whole to meet IMO requirements and Coastal States to address their own SOLAS Chap. V obligations.

b. Publications

Type	Title
DIV	Tide table 2009 – Vol 2 – Overseas ports
DIV	Tide table 2010 – Vol 2 – Overseas ports
RSX	92.3 Maritime radiocommunications: America and Antarctica (2008)
RSX	96.2 Marine weather broadcast stations – Southwestern Pacific, America and Antarctica (2009)

IN: Sailing directions

RSX: Radio stations

LL: List of Lights

DIV: Miscellaneous

4. MSI

Coastal and local warnings in NAVAREA IV are broadcasted by French Navy authorities in Cayenne (Guyane) and Fort-de-France (Martinique) acting by delegation of the national MSI coordinator (SHOM), and using INMARSAT/SAFETY NET (A3 Area) and VHF. The development of websites is expected in 2010..

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 (EAtHC), 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).

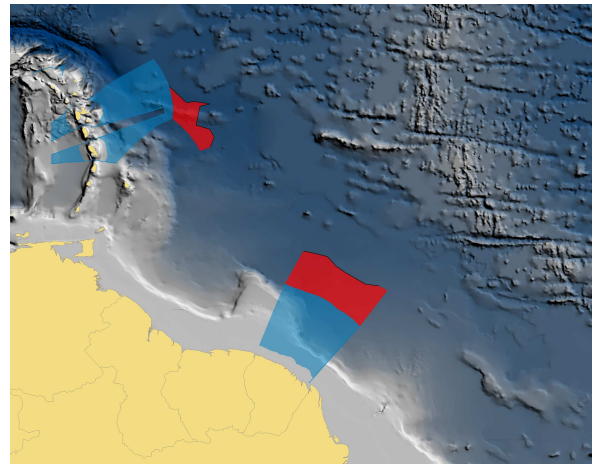
5.2 Training received, needed, offered

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

A request has been received from Haiti to initiate the development of relationship between SHOM and SHOH (SEMANAH). It will be discussed in the margins of the 10th meeting of MACHC.

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

France's extended continental shelf claim has been achieved and submitted to the U.N by May 2009. The partial submission for the area of French Guyana (coupled with New Caledonia) passed through the process of examination by the Commission for the Limits of the Continental Shelf, which adopted a final recommendation in September 2009. This partial submission was built in a context of excellent cooperation and data exchange with Brazil. Exchange of information with Suriname took place as well.



In red: extension submitted to CLCS. In blue: EEZ

The examination of the area of French Caribbean islands will start in 2010. This partial submission set the stage for a good cooperation between France and Barbados.

It is worth to note that the comprehensive national project Extraplac launched by the French government for the extension of the continental shelf under UNCLOS Art. 76 has been an opportunity to collect extensive MBES data in offshore and remote areas.

6. C-55 latest update

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

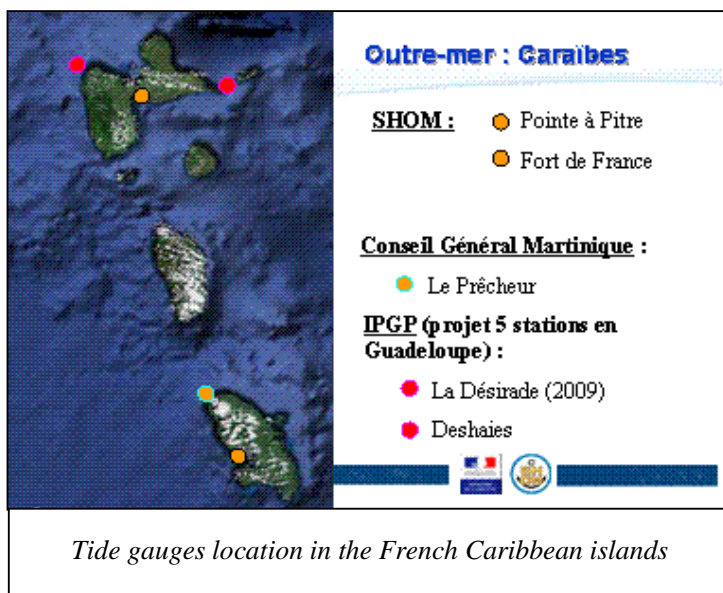
Separate entries are now available for France areas in each IHO region. A regular annual updating process has been put in place for periodic updates (last update in May 2009).

7. Oceanographic activities

As it can be seen at the Annex, SHOM is one of the IHO representatives in the GEBCO Guiding Committee.

It is worth noting that SHOM is responsible in France for tide predictions and chart datums definition, and collects sea level data in the MACHC region. SHOM permanent tide gauges are installed in Pointe-à-Pitre (Guadeloupe), Fort-de-France (Martinique) and Ile Royale (French Guyana).

Moreover, France is involved in the CARIBE-EWS⁴ development and in the corresponding ICG⁵. Martinique hosted the ICG/CARIBE-EWS IV, 2-4 June 2009.

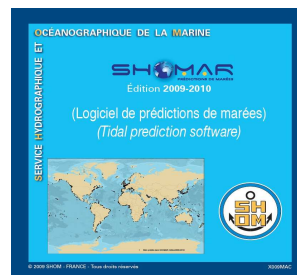


Other French institutes are involved in tsunami tide gauges installations in this area: IPGP⁶ (Deshaies – Guadeloupe, La Désirade – Guadeloupe), Conseil Général de la Martinique (Le Prêcheur – Martinique).

A coordinated project dealing with the French participation in the development of a tsunami warning system in the MACHC region is under consideration by French authorities, following the important governmental

decision made last July to establish a national tsunami warning centre for the North-Eastern and Western Mediterranean sea (IOC expected at the end of 2011).

A new edition of the tidal prediction software SHOMAR was released by SHOM in 2009. Tide characteristics can be computed for 1075 ports in France and in French overseas territories or for major harbours of Coastal States where France has signed SOLAS-type bilateral agreements.



SHOMAR Tide prediction software

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 on the national maritime integrated policy to be published by the end of 2009.

⁴ Early Warning System

⁵ Intergovernmental Coordination Group

⁶ Institut de Physique du Globe de Paris

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

Considering the sensitive charts production coordination issues pending in Region B, it seems that one of the most important challenges the MACHC has to face, is to ensure that a consistent, coherent and comprehensive INT and ENC coverage will be publicly available by 2010 for the main international shipping routes, approaches and harbours. A gap and risk analysis should be conducted as soon as possible in order to identify the most efficient technical ways and means to address them.

ANNEX

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

Name	Chair Vice chair	Member	Observations
LAWG		✓	Legal Advisory Working Group
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
EAtHC		✓	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 Oceans (GEBCO)