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SERVICE HYDROGRAPHIQUE
ET OcéANOGRAPHIQUE
DE LA MARINE

DIRECTION DES MISSIONS
INSTITUTIONNELLES ET DES
RELATIONS INTERNATIONALES

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**FRENCH NATIONAL REPORT
TO THE 5TH MEETING OF THE ROPME HYDROGRAPHIC
COMMISSION**

1. Hydrographic Service: General

In the end of last year, SHOM has issued its new targets and performance contract for the 2013-2016 period, which outlines its main orientations in the forecoming years. Those next commitments rely on France's National Maritime Strategy, which is declined in different themes, in the scope of an national integrated policy:

- Environment protection
- Risk assessment and coastline management
- Knowledge, research and innovation
- Sustainable development of maritime and littoral economy
- Involvement in International and European policies



It is worth noting that this contract includes a new prioritized-4-years-sliding-survey plan for all the waters under French jurisdiction. This plan is designed to meet together new IHO standards and mariners requirements.



Fig.1a (left)/b (right): SHOM's National Hydrographic Plan for the 2013-2016
(Special Order in orange, Order 1A in green, 1B in blue and Order 2 in clear blue)

SHOM contributes actively to this momentum without neglecting its three core missions: the national hydrographic service, the environmental support to defence and the support to maritime and coastal public policies.

2.

3. Surveys

3.1. Coverage of new surveys

Since the last RSAHC conference, SHOM has conducted some surveys in the United Arab Emirates waters in order to meet joint UAE-FR defence requirements. Relevant maritime safety information is provided to primary charting authorities.

A deployment of the French Hydrographic Ship *Beautemps-Beaupré* in the Indian Ocean is planned for 2014.

3.2. New technologies and /or equipment

After the hydrographic ship *La Perouse* in 2011, the hydrographic ship *Borda* had its Kongsberg multibeam echo-sounder EM1002 replaced during the winter 2012-2013 by the EM710. For the record, this system will allow the ship to perform deeper surveys, up to 1 600 meters, with an increased resolution. The data quality achieved is presented below on the images of the *Katingo* wreck off the French coast at a depth of 60 meters (picture from *La Pérouse* MBES EM710 dataset):

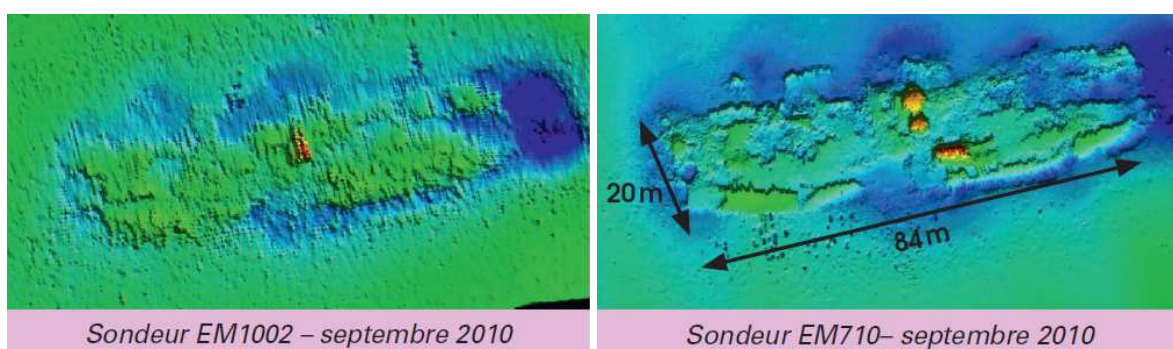


Fig.2a (left)/b (right): Comparison between EM1200 and EM710 multibeam echosounder.

3.3. New ships

NTR.

3.4. Problems encountered

NTR.

4. New charts & updates

SHOM does not produce any paper chart or ENC in the ROPME area.

5. New publications & updates

5.1. New Publications

Since the last RSAHC conference, the following publications have been issued:

- Admiralty direction L4 : Persian Gulf and approaches – 2011,
- RSX 92.2 : Maritime radiocommunications: Africa – Asia - Australasia (2011),
- RSX 92.4 Worldwide Navigation Warning Service (2011).

5.2. Updated publications

NTR.

5.3. Means of delivery

NTR.

5.4. Problems encountered

NTR.

6. MSI Existing infrastructure for transmission

Since 2012, a new link is now in place on the SHOM website homepage to access all NAVAREA information. This link is shown on the figure below.



Fig.3: NAVAREAs link on SHOM website homepage (source www.shom.fr)

6.1. New infrastructure in accordance with GMDSS Master Plan

6.2. Problems encountered

7. C-55 Latest update

The C-55 database for French areas of responsibilities is normally updated by SHOM on a yearly basis. Separate entries are now available for French areas in each IHO region.

8. Capacity Building Offer of and/or demand for Capacity Building

8.1. Training received, needed, offered

Initial training capabilities provided by SHOM, described hereunder, are also presented in its annual report available on www.shom.fr.

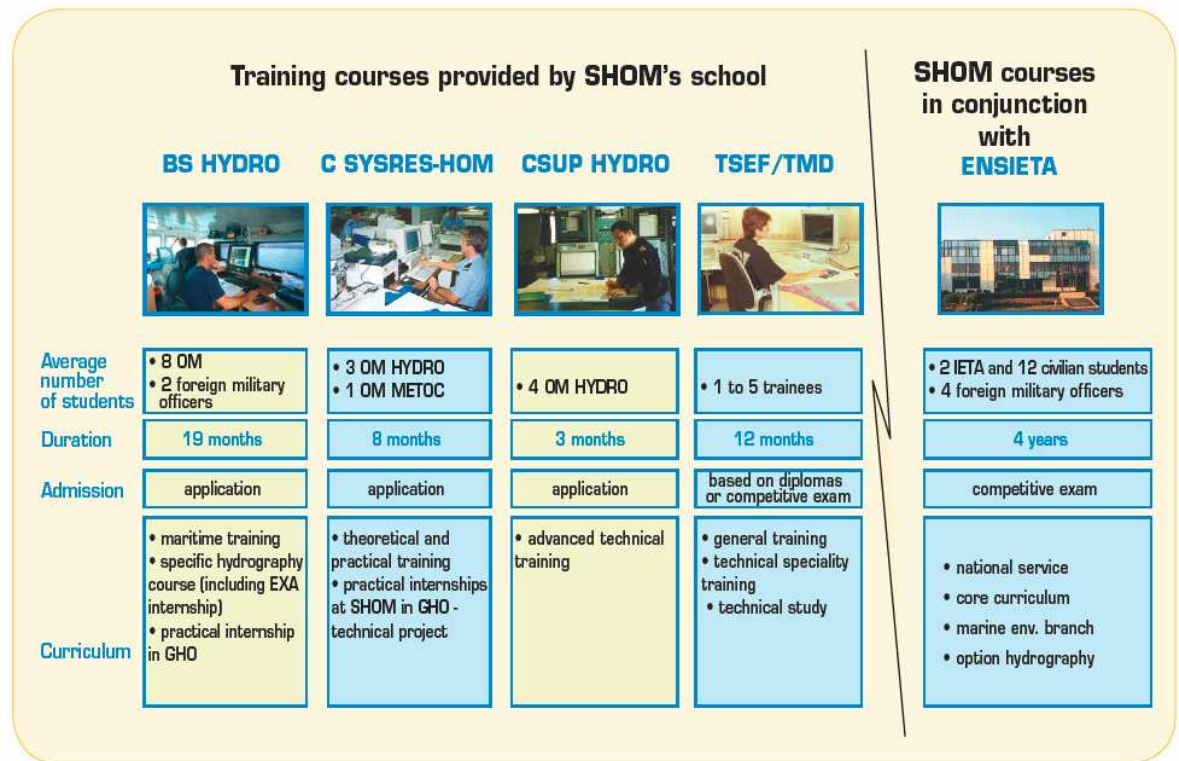


Fig.4: Courses and training provided at the SHOM hydrographic school.

8.2. Status of national, bilateral, multilateral or regional development projects with hydrographic component

A dedicated team is now appointed to transfer the SHOM know-how to coastal states willing to get new hydrographic and oceanographic capabilities (Point of contact: Patrice Laporte, patrice.laporte@shom.fr)

8.3. Definition of bids to IHOCBC

NTR.

9. Oceanographic activities

9.1. GEBCO/IBC's activities

9.2. Tide gauge network

From 2010, SHOM is the French national coordinator and reference authority in the field relating to the observation, management and release of sea level data.

These missions are carried out under the REFMAR programme. Real time and processed tide gauge measurements are now accessible on the web <http://refmar.shom.fr> in all areas around the world under French jurisdiction, as shown hereunder:



Fig.5: SHOM global tidal network, REFMAR (source shom.fr).



SHOM edition of the tidal prediction software SHOMAR (for 150 metropolitan France harbours and more than 1 000 overseas and foreign harbours). Each SHOMAR edition is usable for 2 years. The current version 2013 January 1st, is valuable up to 2014 December, 31st. SHOMAR exploitation system is efficient on Windows® NT, 2000, XP, Vista and Seven.

In 2012, SHOM's first smartphone application for tide predictions has been launched for IOS and Android. The user can choose a port, ask for tide predictions and display the tide graph or moon phase. For offshore users who do not have access to Wifi or 3G network, it is possible to pre-download the one-year tidepredictions for selected ports.



9.3. New equipment

NTR.

9.4. Problems encountered

NTR.

10. Other activities

10.1. Meteorological data collection

NTR.

10.2. Geospatial studies

NTR.

10.3. Disaster prevention

- **Tsunami :**

SHOM is maintaining a large real time tide gauge network RONIM which is recognized as an important tool for coastal operational oceanography, risk assessment, studies on the evolution of the mean sea level, etc. Having tide gauges in Europe and in the Franc territories all over the world, SHOM is contributing to Tsunami warning in Pacific Ocean, Indian Ocean, Caribbean Sea and Mediterranean Sea.

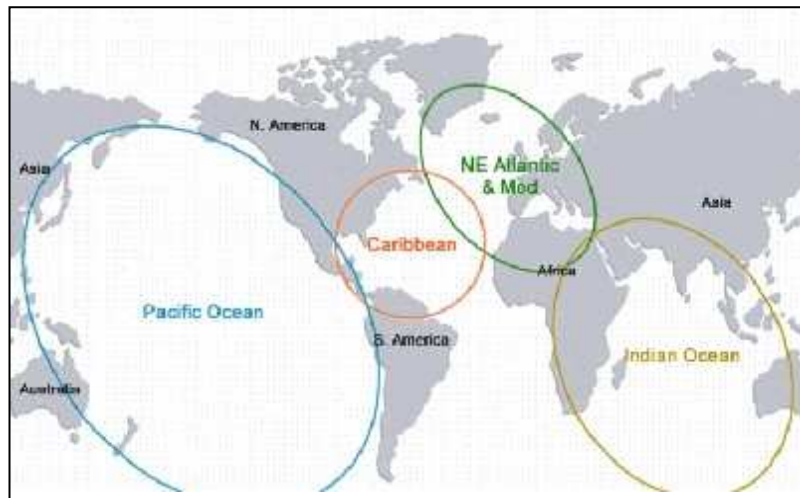


Fig.6: Cooperation areas on tsunami warning system (source COI ; UNESCO).

France may also have Navy ships in the RSAHC region ready to provide support in case of an emergency. France also provides technical support and has a rapid response capacity for environmental data in case of a disaster.

The point of contact at SHOM in case of a disaster is the head of the maritime safety information division. His division can be reached 24/7 by fax +33 298 221 665 or email coord.navarea2@shom.fr.

- **Coastal flooding :**

SHOM is associated with *Météo-France* in the provision of an alert system against coastal flooding named *Vigilance Vagues Submersion*. This allows for a better anticipation of this destructive phenomenon and protection of the populations living in the littoral area of Metropolitan France.

SHOM provides the tide predictions, expertise in coastal hydrodynamics and real time tide gauge observations as well as information relative to extreme sea levels and bathymetry. *Météo-France*'s marine forecasters examine and compile the data and produce a map depicting the level of coastal flooding threat together with the risk of tall waves for each French metropolitan department:



Fig.7: Vigilance Vague Submersion link on SHOM website homepage (source www.shom.fr).

- **Oil spills:**

SHOM is an active member of the inter-agency drifting committee which is activated by the maritime prefecture every time there is an oil spill. The POLMAR safety plan for the sea was signed on 23rd November 2004 and aims at enabling France to face in a reactive manner a potential wide spread of marine pollution, by ensuring the efficient coordination of national operations and support from public services.

10.4. Environmental protection

NTR.

10.5. Astronomical observations

NTR.

10.6. Magnetic/Gravity surveys

NTR.

10.7. MSDI Progress

Since 2007 SHOM has undertaken the construction of a spatial data infrastructure through the INFRAGEOS-H® project which has since then been dealing with the evolution of the hydrographic databases, and paved the way to metadata management and view web services.

Late 2011, a second SDI step has been launched with the ENTREPOT® project. its objectives are to identify and distribute non-navigational products and their metadata through a portal based on web services. This platform also intends to provide specific services like dynamic cartography, vertical reference change....

At this stage, the SDI construction has reached the following results:

- Hydrographic databases migration to the new systems is partially achieved as tide, submarine cables and wrecks are currently managed in SHOM SDI. What is more, 90% of the bathymetric surveys have also been migrated to the SDI ;
- A first set of metadata sheets has been written and is available on the French geocatalogue (www.geocatalogue.fr). To go further, a metadata working group has been created to spread good practices at SHOM.
- Last January, SHOM opened its maritime and coastal geographic information portal which offers a large set of view and download services at <http://data.shom.fr>. All the services are compliant European directive INSPIRE.

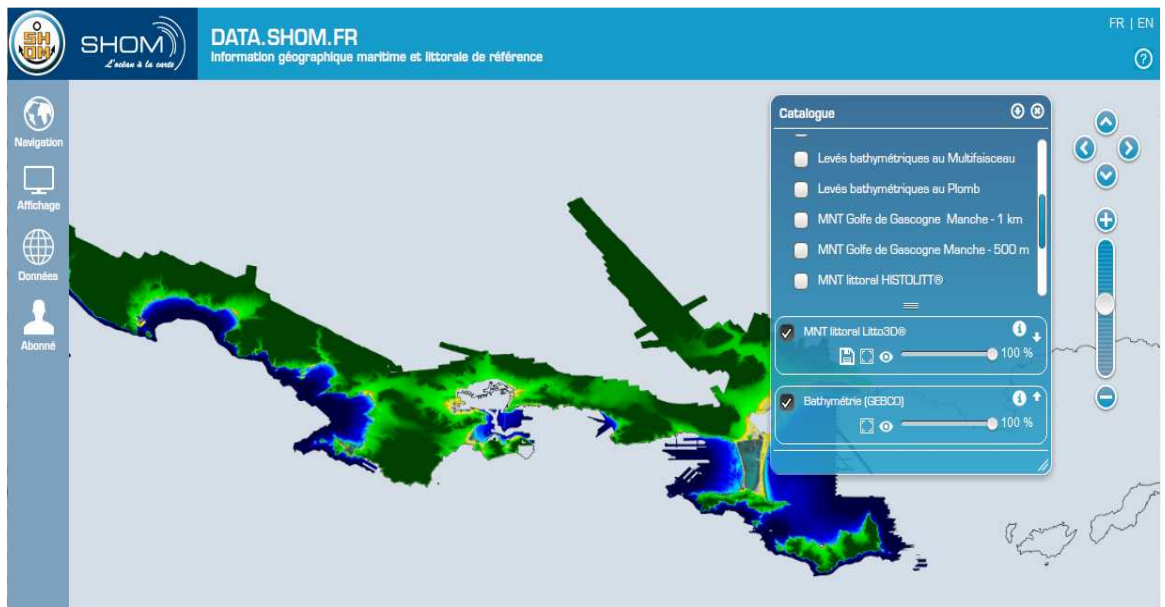


Fig.8: SHOM's data portal (data.shom.fr)

A detailed description of the portal functions and contents is available on SHOM website (<http://www.shom.fr/les-services-en-ligne/portail-datashomfr/>). A list of actual available layers is given on the following figure.

Nowadays, the SDI construction remains active with the development of new web services to be provided in 2013, and the extension to all SHOM thematics.



Fig.9: Layers available on SHOM data portal (source data.shom.fr)

[Main topics of the catalogue: tides, tidal currents, bathymetry, cartography, maritime and littoral databases]

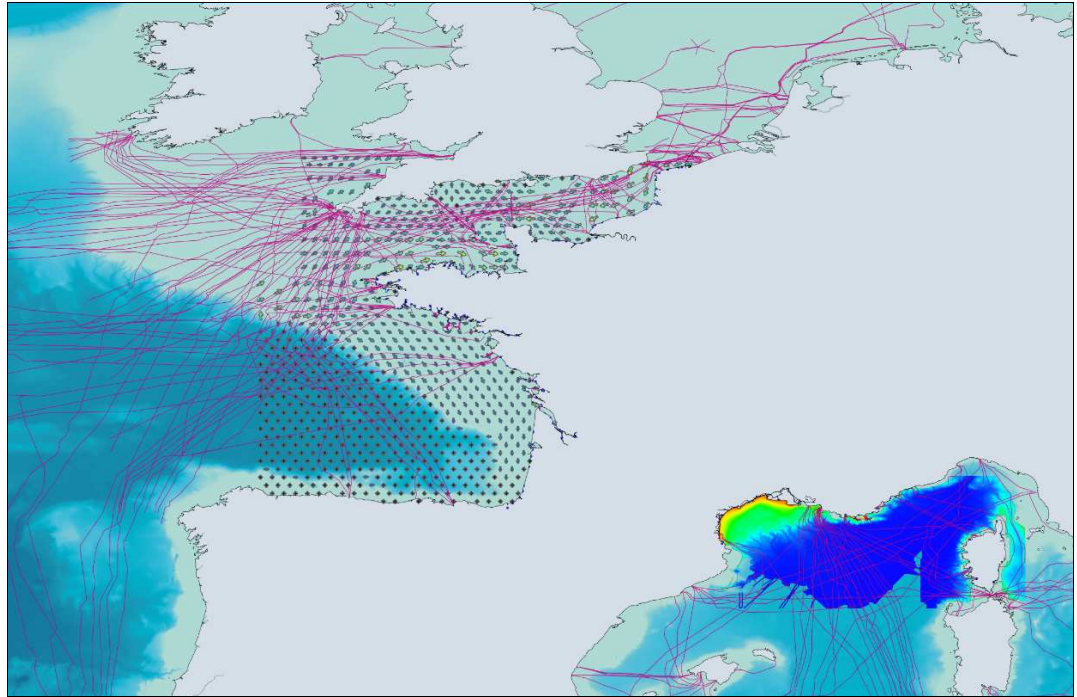


Fig.10: Visual of SHOM data portal (source data.shom.fr)

[Layers displayed: submarine cables and pipes, tidal currents, GEBCO bathymetry, SHOM refined bathymetric DTM]

10.8. International

Because of its overseas territories and primary charting responsibilities, France, represented by SHOM, is a full member or an observer in 9 commissions amongst the 15 organized by the IHO.

The detail of SHOM’s involvement in IHO activities is listed in the table hereafter:

Name	Chair / Vice chair	Member	Observations
CBSC		✓	Capacity Building Sub-Committee
CSPCWG		✓	Chart Standardisation and Paper Chart Working Group
DIPWG		✓	Digital Information Portrayal Working Group, former CSMWH
DPSWG		✓	Data Protection Scheme Working Group
DQWG		✓	Data Quality Working Group -Last meeting in 1996
EAtHC	✓	✓	Eastern Atlantic Hydrographic Commission
FC		✓	Vice-chairman of Finance Committee
GEBCO		✓	Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of Oceans (GEBCO)
HCA		✓	Hydrographic Commission on Antarctica
HDWG	✓	✓	Hydrographic Dictionary Working Group
HSSC		✓	Hydrographic Services and Standards Committee, formerly known as the Committee on Hydrographic Requirements for Information Systems (CHRIS)
IRCC		✓	Inter Regional Coordination Committee
MACHC		✓	MESO American & Caribbean Sea Hydrographic Commission
MBSHC		✓	Mediterranean and Black Seas Hydrographic Commission
MSDIWG		✓	Marine Spatial Data Infrastructure Working Group

NIOHC		✓	North Indian Ocean Hydrographic Commission
NSHC		✓	North Sea Hydrographic Commission
RSAHC		✓	ROPME Hydrographic Commission
SAIHC		✓	Southern Africa and Islands Hydrographic Commission
SNPWG		✓	Standardisation of Nautical Publications Working Group
SWPHC		✓	South-West Pacific Hydrographic Commission
TSMAD		✓	Transfer Standard Maintenance and Application Development
TWLWG	✓	✓	Tidal and Water Level Working Group
WEND		✓	World-Wide Electronic Navigational Chart Database
WWNWS	✓	✓	World-wide Navigational Warning Service Sub-Committee, formerly known as the Promulgation of Radio Navigational Warnings Sub-Committee (PRNW)

For the many countries benefiting from French support to meet the hydrographic services requirements spelled out by the SOLAS convention, France has implemented a mechanism of gradual transfer of responsibilities through State-to-State administrative arrangements. This mechanism relies on training at SHOM facilities and the formalisation of the respective responsibilities for maritime safety information, hydrographic and charting activities.

11. Conclusions

More than ever, Hydrographic Offices are at the core of largely diversified missions. Hydrographic data, information and products do not only provide navigation safety but also contribute to environmental projects, Blue Economy development or even coastal management matters, to name but a few. Eventhough, some coastal states deciders do not seem to be convinced by Hydrography as an asset of maritime empowerment. Therefore SHOM, side by side with the IHO, continuously thrives to promote Hydrography in nowadays context by reinforcing international cooperation and the capacity building of hydrographic services world wide.

