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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 14TH MEETING OF THE NORTH INDIAN OCEAN
HYDROGRAPHIC COMMISSION**

1. Hydrographic Service: General

An important milestone of the past months has been the approval by SHOM Board of its new targets and performance contract for the 2013-2016 period, which outlines its main orientations and objectives in the forthcoming years. This work culminated in the Minister of Defence's visit to SHOM on the 14th of June 2013.



Fig.1: Signing ceremony of SHOM's targets and performance contract for 2013-2016 (Brest - June 14th 2013).

From left to right: SHOM's general director Ingénieur Général Bruno Frachon, Minister of Defence Jean-Yves Le Drian and Naval Chief of Staff Admiral Bernard Rogel, chairman of SHOM Board.

SHOM's next commitments rely on France's National Maritime Strategy and its Defence Policy, which is declined in different themes, in the scope of a national integrated policy:

- Environment protection
- Risk assessment and coastline management

Destinataire : BHI MONACO

Copies intérieures : DG – DMI/REX - Archives (DMIDSD/2.015)

- Knowledge, research and innovation
- Sustainable development of maritime and littoral economy
- Involvement in International and European policies
- Defence support

It is worth noting that in the meantime, a new prioritized 4-years survey plan for all the waters under French jurisdiction has been approved.



Fig.2a (left)/b (right): National Hydrographic Plan for the 2013-2016

2. Surveys

2.1. Coverage of new surveys

Since the last NIOHC conference, SHOM has not conducted any surveys in the region. However, a deployment of the French Hydrographic Ship *Beautemps-Beaupré* in the Indian Ocean is currently in progress, including a period of work within the region at the end of 2014's first trimester.

2.2. New technologies and /or equipment

NTR.

2.3. New ships

NTR.

2.4. Problems encountered

NTR.

3. New charts & updates

3.1. ENC's

SHOM's ENC collection has reached the number of 403 by January 2014. The approximate rate of production is of 40 ENC's per year. In line with the WEND recommendations and guidelines, France produces its small scale ENC cells as closely as possible to INT chart schemes.

In the region, one ENC cell has been produced since the last conference:

Number	Scale 1:	Title	Comment
FR475470	50 000	Abords de Djibouti	replaces R436010

The actual ENC production plan does any cell release within the region for the next 3 years. The status of ENC production in the area is described by the following figures:

Usage Band	Produced Cells	Planned Cells	%
1	0	0	N/A
2	2	2	100
3	2	2	100
4	1	2	50
5	1	8	12,5
6	0		
Total	6	14	43

French ENC cells available in the NIOHC region can be visualized with the online PRIMAR catalogue <http://www.primar.org>, as shown in the following illustration.

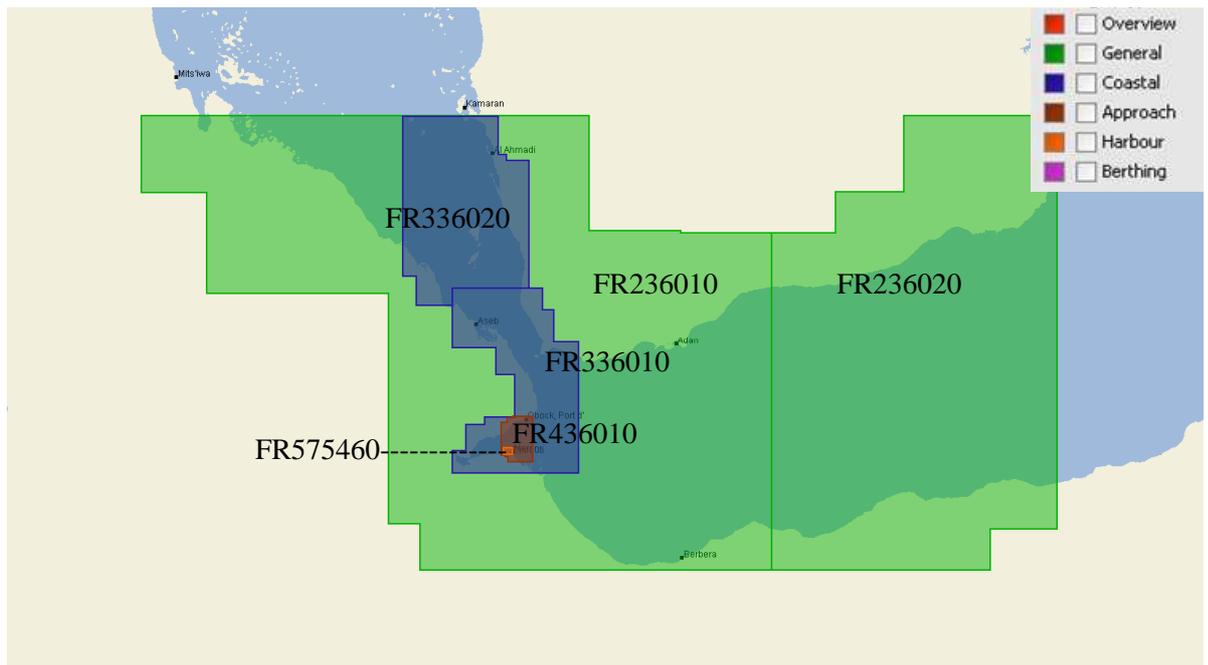


Fig.3: French ENC cells with the NIOHC region (source: www.primar.org)

3.2. ENC Distribution method

All French ENCs are distributed to End User Service Providers through PRIMAR RENC. France is providing its support to develop a RENC-to-RENC cooperation concept, within the WEND-WG, following the tasks carried out by the IC-ENC-PRIMAR Cooperation Committee.

3.3. RNCs

3.4. INT charts

See next section for chart details.

The 10 INT charts planned by SHOM in the region have all been produced, as detailed in the following table:

Scale	Produced INT charts	Planned INT charts	%
Small (<1/1 000 000)	0	0	N/A
Medium	3	3	100
Large (>1/100 000)	2	2	100
Total	5	5	100

3.5. National paper charts

No chart has been produced since the last conference.

A new chart is planned for 2014:

National	INT	Scale 1:	Title
7546	7120	10 000	Port de Djibouti

3.6. Other charts, e.g. for pleasure craft

NTR.

3.7. Problems encountered

NTR.

4. New publications & updates

4.1. New Publications

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

- RSX 92.2 : Radiocommunications maritimes: Afrique – Asie - Australasie (2013),
- RSX 96.1 : Stations Radiométéorologiques – Europe – Afrique – Asie (2013).

4.2. Updated publications

NTR.

4.3. Means of delivery

NTR.

4.4. Problems encountered

NTR.

5. MSI Existing infrastructure for transmission

SHOM continues to increase the production of its digital nautical publications. From now, publications are still available in paper form but most of them are now available, by subscription, in digital format (weekly updated pdf files) on SHOM's online store which opened in June 2013 (<https://www.shom.fr/boutique/>).

Besides, since January 1st 2014, SHOM's notices to mariners (GAN) are exclusively available under digital formats, either downloadable on shom.fr or by annual subscription (CD-rom).

On the other hand, SHOM launched in July 2013 a new MSI report service: this new website (<http://infonaut.data.shom.fr/>), accessible to all mariners, allows them to report directly any discrepancies between the field and SHOM's product.

5.1. New infrastructure in accordance with GMDSS Master Plan

5.2. Problems encountered

6. C-55 Latest update

The C-55 database for French areas of responsibilities is normally updated by SHOM on a yearly basis. The latest overall C-55 update has been transmitted to the IHB on August 26th 2013.

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

7.1. Training received, needed, offered

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

Training courses provided by SHOM's school					SHOM courses in conjunction with ENSIETA
	BS HYDRO	C SYSRES-HOM	CSUP HYDRO	TSEF/TMD	
					
Average number of students	• 8 OM • 2 foreign military officers	• 3 OM HYDRO • 1 OM METOC	• 4 OM HYDRO	• 1 to 5 trainees	• 2 IETA and 12 civilian students • 4 foreign military officers
Duration	19 months	8 months	3 months	12 months	4 years
Admission	application	application	application	based on diplomas or competitive exam	competitive exam
Curriculum	<ul style="list-style-type: none"> maritime training specific hydrography course (including EXA internship) practical internship in GHO 	<ul style="list-style-type: none"> theoretical and practical training practical internships at SHOM in GHO - technical project 	<ul style="list-style-type: none"> advanced technical training 	<ul style="list-style-type: none"> general training technical speciality training technical study 	<ul style="list-style-type: none"> national service core curriculum marine env. branch option hydrography

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

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

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

Besides, a dedicated team is 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).

7.3. Definition of bids to IHOCBC

NTR.

8. Oceanographic activities

8.1. GEBCO/IBC's activities

8.2. Tide gauge network

SHOM is the French national coordinator and reference authority in the field relating to the observation of the sea level and the management and issue of the resulting data.

These missions are carried out under the REFMAR program. Real time and processed tide gauge measurements are now accessible on web <http://refmar.shom.fr/home/> in overseas areas under French jurisdiction..



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



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

8.3. New equipment

SHOM has recently inaugurated *aquarium*, its new operational production supercomputer. This calculator, characterised by a theoretical power of 13 Flops (13,000 billions float operations per second), will be dedicated to oceanographic applications

mainly. It will provide a calculation area of 576 Intel Sandy Bridge 2.6 GHz cores, mainly for such as ocean circulation modelling (HYCOM model) and wave forecasting simulations through SHOM's PREVAG system.



Fig.6: SHOM's new supercomputer *Aquarium* inauguration ceremony (Toulouse, January 14th)

8.4. Problems encountered

NTR.

9. Other activities

9.1. Meteorological data collection

NTR.

9.2. Geospatial studies

NTR.

9.3. 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 overseas, SHOM is contributing to Tsunami warning in Pacific Ocean, Indian Ocean, Caribbean Sea and Mediterranean Sea.

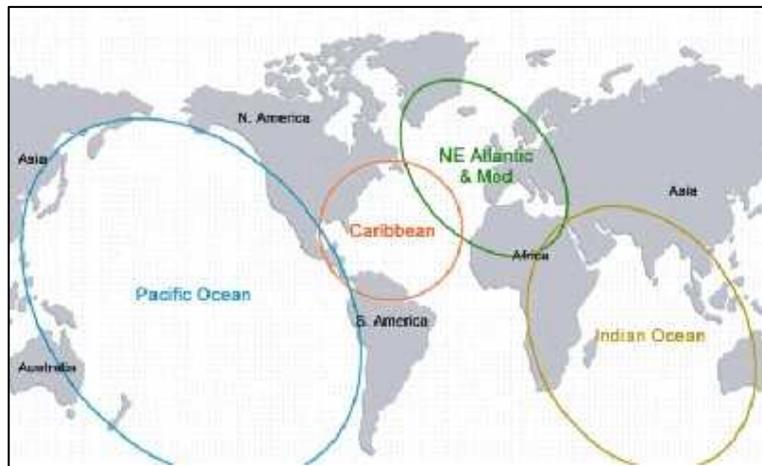


Fig.7: Cooperation areas on tsunami warning system (source COI ; UNESCO).

France may also have Navy ships in the NIOHC region ready to provide support in case of an emergency. France also provides technical support and has a rapid response survey capacity 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 potentially destructive phenomenon and for 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.8: 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.

9.4. Environmental protection

NTR.

9.5. Astronomical observations

NTR.

9.6. Magnetic/Gravity surveys

NTR.

9.7. 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 ENTREPÔT® 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 or vertical reference information.

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

- Hydrographic databases migration to the new systems is nearly achieved as tides, submarine cables, wrecks, bathymetry and administrative limits are currently managed in SHOM SDI. The migration of the last two layers (landmarks and beacons) will take place in September.
- Most products have their metadata written and available on the French geocatalogue (www.geocatalogue.fr), and the metadata working group created in 2012 is spreading good practices within SHOM;
- The raise, since its launch in early 2013, of SHOM's maritime and coastal geographic information data portal, whose developments can be followed via Twitter (@datashom)

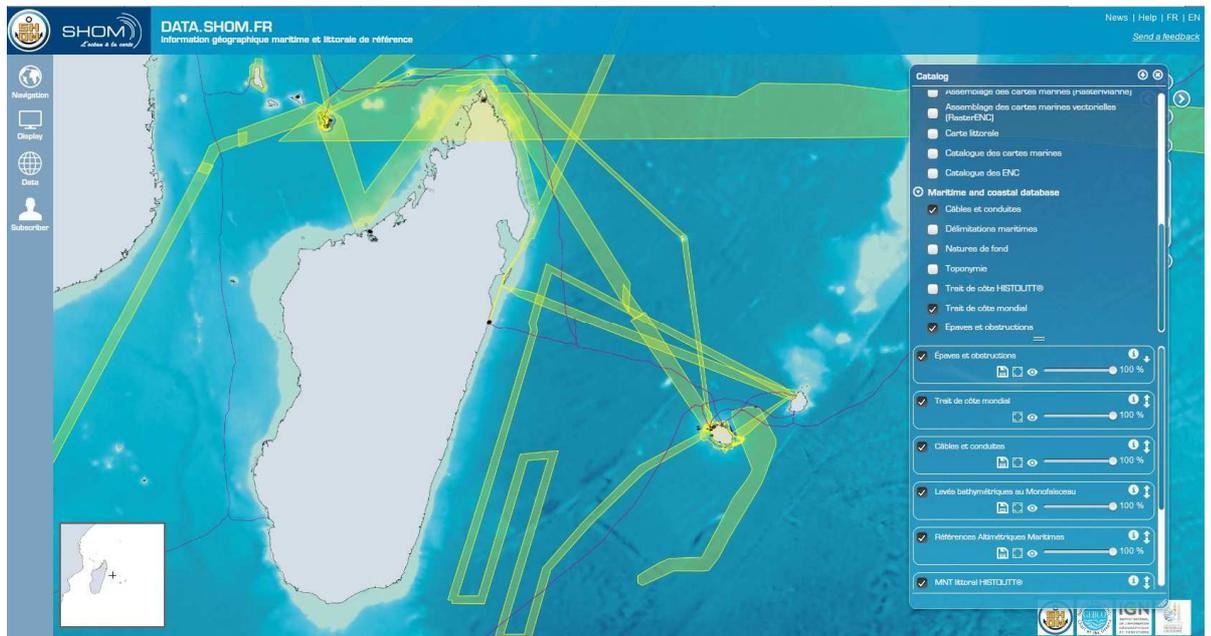


Fig.9: SHOM's data portal (data.shom.fr)

Two additional services have recently been added to this portal:

- a nautical information feedback service (infonaut.data.shom.fr) which allows all users to send back to SHOM any information concerning depth, wrecks, coastlines, buoys,
- a dynamic cartographic environment (cartodyn.data.shom.fr) which allows all users to create their own maps taking benefit from data.shom.fr tools and data.

A detailed description of the portal functions and contents is available on SHOM website (<http://www.shom.fr/les-services-en-ligne/portail-datashomfr/>). Data available on that portal are organised according to the following topics listed below: *tides, tidal currents, bathymetry, cartography, maritime and littoral databases.*

9.8. International

Because of its overseas territories and primary charting responsibilities, France, represented by SHOM, is a member or associate member 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)

10. Conclusions

NTR