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SERVICE HYDROGRAPHIQUE  
ET OcéANOGRAPHIQUE  
DE LA MARINE

DIRECTION DES MISSIONS  
INSTITUTIONNELLES ET DES  
RELATIONS INTERNATIONALES

HCA13-08.5.1Af

**FRENCH NATIONAL REPORT  
TO THE 13<sup>TH</sup> MEETING OF THE HYDROGRAPHIC COMMISSION OF  
ANTARCTICA**

Dossier suivi par  
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**1. Hydrographic Service: General**

An important milestones 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 forecoming years. This work culminated in the Minister of Defence's visit to SHOM on the 14<sup>th</sup> of June.



**Fig.1:** Signing ceremony of SHOM's targets and performance contract for 2013-2016 (Brest - June 14<sup>th</sup> 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 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
- 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 HCA meeting, no new surveys were achieved by SHOM's survey fleet.

However, SHOM supported an initiative from Mr. Stephen WILKINS, owner and operator of the adventure yacht *Xplore* who conducted a hydrographic survey in the area of the Antarctic Peninsula in January 2013, using a multibeam echo sounder specially fitted to the vessel. Mr. WILKINS was assisted on board *Xplore* by a qualified hydrographic surveyor provided by SHOM.

The survey data have then been handed over the IHB on the occasion of World Hydrography Day celebration and then disseminated to relevant hydrographic offices in order to update the charts (and the corresponding ENCs) covering the survey area.

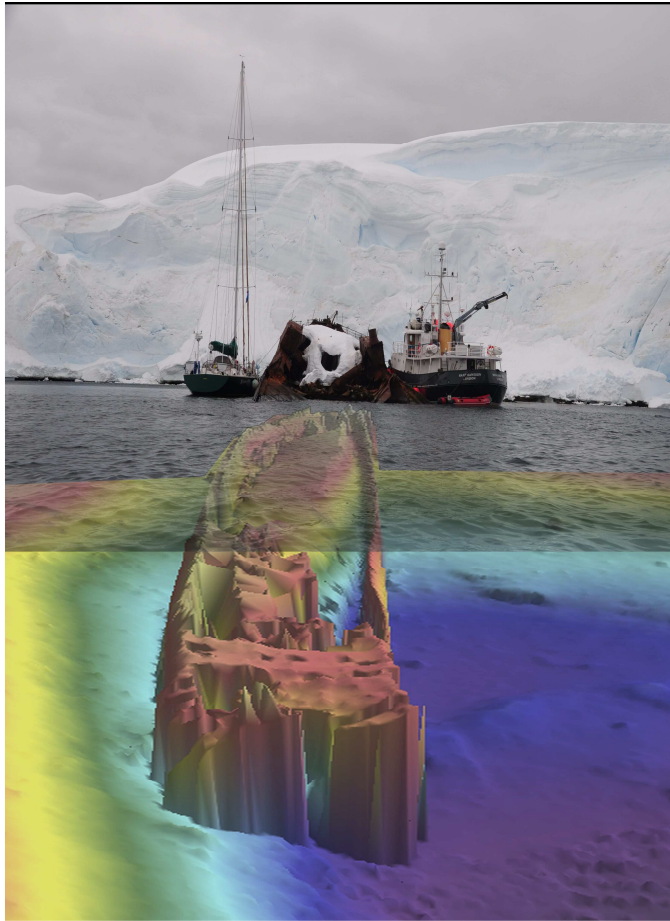


Fig. 3: Xplore survey project– Submerged and emerged part of a wreck.



Fig. 4: Xplore survey project – Data delivery ceremony on WHD 2013.

**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 collection of ENC's has now reached the number of 397 (some ENC's already produced have been merged to better follow the existing paper chart scheme). The approximate rate of production is of 40 ENC's per year. The full collection should eventually reach a figure around 900 ENC's, of which 670 ENC's covering French waters.

In line with the WEND recommendations and guidelines, France produces its small scale ENC cells as closely as possible to INT chart schemes.

The status of ENC production in the area is:

Usage Band	Produced Cells	Planned Cells	%
1	0	1	0%
2	0	1	0%
3	0	0	N/A
4	1	1	100%
5	1	4	50%
6	1		
Total	3	7	43%

Produced cells since the last HCA conference:

New ENC	Scale 1:	Title
FR475940	1 000 000	De la pointe Ebba au cap de la Découverte
FR575930	20 000	De l'île Hélène au Rocher du Débarquement - Archipel de Pointe Géologie
FR67593A	7 500	Archipel de Pointe Géologie

The SHOM ENC coverage in the HCA area is summarised in the chartlet below:

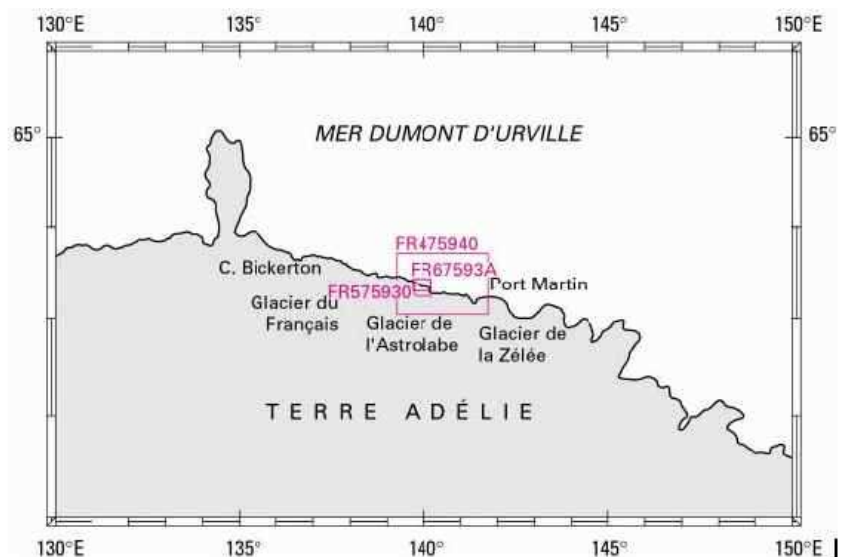


Fig. 5: ENC cells coverage over the Terre Adélie region.

#### 3.2. ENC Distribution method

All French ENC's are distributed to End User Service Providers by PRIMAR RENC. FR is providing its support to the IC-ENC-PRIMAR Cooperation Committee working groups to develop a RENC-to-RENC cooperation concept.

### 3.3. RNCs

NTR.

### 3.4. INT charts

Here is the overall planification for INT chart production:

Scale	Produced INT charts	Planned INT charts	%
Small (<1/1 000 000)	2	2	100
Medium	1	1	100
Large (>1/100 000)	1	1	100
<b>Total</b>	4	4	100

### 3.5. National paper charts

NTR.

### 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 HCA conference, the following publications have been issued:

Type	Nr	Title
IN	L9	Terre Adélie - Iles de l'Océan Indien (partie Sud) - Nouvelle édition 2012

IN: Sailing Directions; RSX: Radio Signals; LL: List of Lights; DIV: Miscellaneous

### 4.2. Updated publications

NTR.

### 4.3. Means of delivery

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/>).

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.

### 4.4. Problems encountered

NTR.

## 5. MSI Existing infrastructure for transmission

**5.1. New infrastructure in accordance with GMDSS Master Plan**  
NTR.

**5.2. Problems encountered**  
NTR.

**6. C-55 Latest update**

The last C-55 update for the region is dated May 2010. A new Region H update has been sent to the IHB on August 26<sup>th</sup> 2013. The C-55 charting and surveying status values regarding Region H areas under SHOM responsibility are summed up in the following tables:

Survey Status	Depth < 200m			Depth > 200m		
	A	B	C	A	B	C
M Terre Adélie	22	11	67	13	4	83

Charting Status	Small (<1 M)			Medium (1M < / < 100 000)			Large (> 100 000)			Metric	WGS84
	A	B	C	A	B	C	A	B	C		
H Terre Adélie	100	0	0	100	0	0	100	0	100	100	100

Fig. 6: C-55 update values for survey status (top table) and charting status (down table)

**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](http://www.shom.fr).

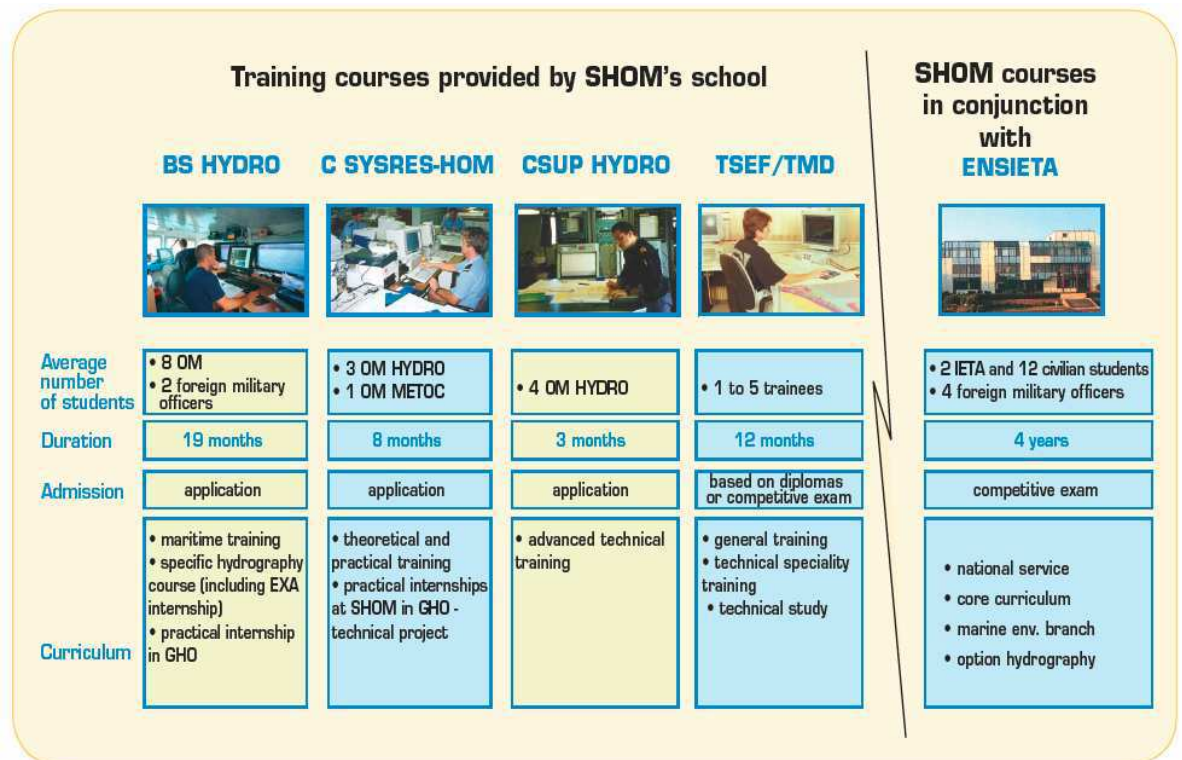


Fig.7: Courses and training provided at SHOM hydrographic school.

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

NTR.

**7.3. Definition of bids to IHOCBC**

NTR.

## 8. Oceanographic activities

### 8.1. GEBCO/IBC's activities

NTR.

### 8.2. Tide gauge network

The Dumont d'Urville observatory, tidal gauge station part of the ROSAME network, was fully reinstalled in January 2012 including new sensors (Oxygen, PAR and Fluo). Unfortunately the data acquisition has been interrupted lately due to a cable problem. Station will be fixed during next maintenance rotation in January 2014.



Fig. 8: Dumont d'Urville tide gauge station.



### 8.3. New equipment

SHOM released an edition of its 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 software is compatible with various Windows® operating systems such as 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 tide predictions for selected ports. A new version has been released so far, including 2013 predictions.

### 8.4. Problems encountered

NTR.

## **9. Other activities**

### **9.1. Meteorological data collection**

NTR.

### **9.2. Geospatial studies**

NTR.

### **9.3. Disaster prevention**

- **Tsunami :**

NTR.

- **Coastal flooding :**

NTR.

- **Oil spills:**

NTR.

### **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 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 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](http://www.geocatalogue.fr)), and the metadata working group created in 2012 is spreading good practices at SHOM.
- Last January, SHOM opened a 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.



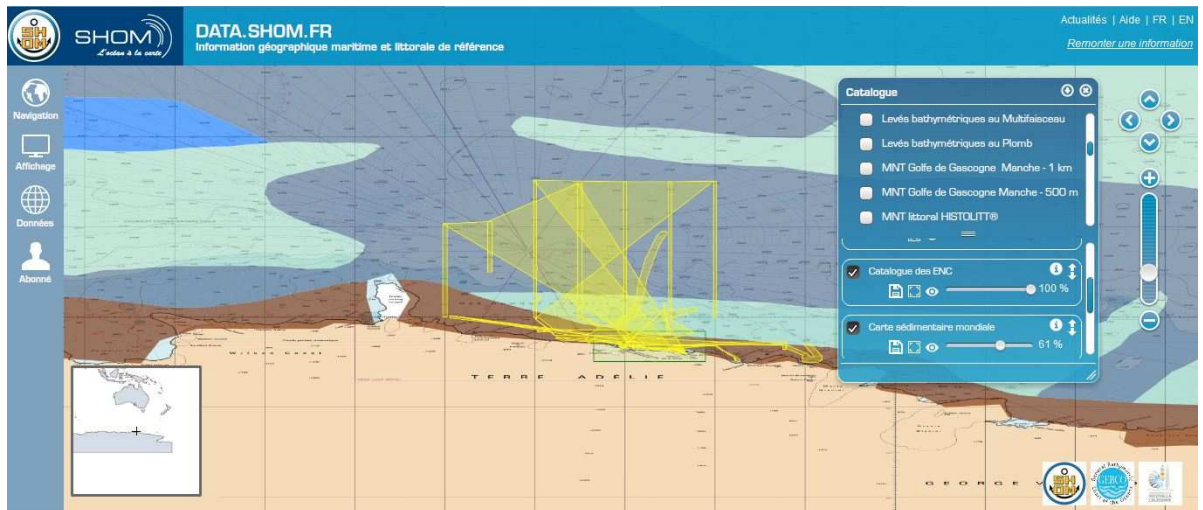


Fig.9: SHOM's data portal (data.shom.fr)

Two additional services have recently been added to this portal:

- a nautical information feedback service ([infonaut.data.shom.fr](http://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](http://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 either full member or observer in 9 hydrographic commissions amongst the 15 organized by the IHO members States.

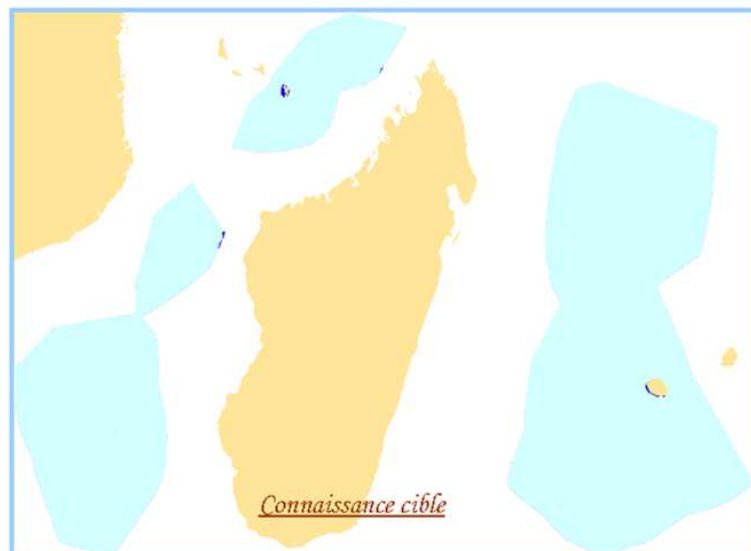
The detail of SHOM's involvement in IHO activities is listed in the table hereafter:

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

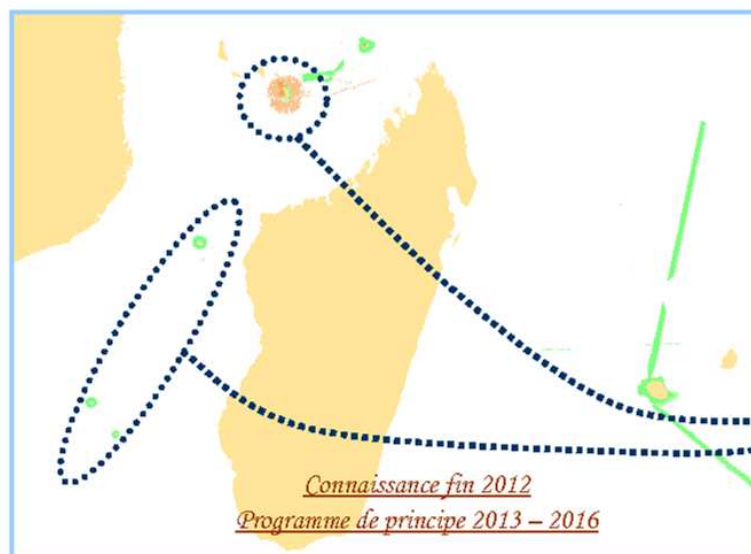
MACHC		✓	MESO American & Caribbean Sea Hydrographic Commission
MBSHC		✓	Mediterranean and Black Seas Hydrographic Commission
MSDIWG		✓	Marine Spatial Data Infrastructure Working Group
NIOHC		✓	North Indian Ocean Hydrographic Commission
NSHC		✓	North Sea Hydrographic Commission
RSAHC		✓	ROPME Hydrographic 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

SHOM remains supportive to any crowdsourcing initiatives that may contribute to reduce the proportion of unsurveyed areas in the Antarctica region or any other region. However, hydrographic offices may not lose sight of what the use of those survey data implies in terms of responsibility. So that it is essential for the hydrographic community to define global terms of use to circumscribe those initiatives so they could really make a difference for the mariners.

**ANNEX I****2013-2016 French survey program for the SAIHC region***La Réunion, Mayotte, îles Éparses*

Répartition de la connaissance cible par ordre S-44 de l'OHI	Surface (km <sup>2</sup> )	Ordre spécial	Ordre 1a	Ordre 1b	Ordre 2
ZEE et extension juridique du plateau continental	1 090 370	/	/	0.1%	99.9%



Répartition de la superficie par niveau de qualité (%)	Levés réalisés après 1980. Qualité généralement conforme aux normes en vigueur	Levés réalisés entre 1950 et 1980. Qualité pouvant nécessiter des reprises partielles (ordre 2 S-44)	Levés réalisés avant 1950. Qualité insuffisante non conforme aux normes en vigueur	Zone non connue
État connaissance fin 2012	2.5%	0.3%	0%	97.2%
État connaissance cible	50.1%	0.2%	0%	49.7%
État connaissance fin 2016	2.6%	0.3%	0%	97.1%

**Programme de principe 2013 – 2016 :**

- poursuite des levés à Mayotte (100 j) ;
- levés d'opportunité dans les îles du canal de Mozambique (20 j).