

Paris, le 15 novembre 2011

N° 020 SHOM/DMI/REX/NP

SERVICE HYDROGRAPHIQUE  
ET OcéANOGRAPHIQUE  
DE LA MARINE

DIRECTION DES MISSIONS  
INSTITUTIONNELLES ET DES  
RELATIONS INTERNATIONALES

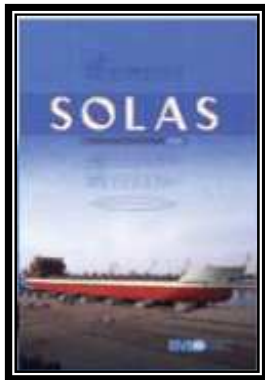
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**FRENCH NATIONAL REPORT  
TO THE 12<sup>TH</sup> MEETING OF THE MESO AMERICAN AND CARIBBEAN  
SEA HYDROGRAPHIC COMMISSION MEETING**

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**1. Hydrographic Service: General**

SHOM, the French hydrographic service, was created in 1720 and used to report to the French Navy. It became a public service in 2007 with goals and budget set by a board of directors composed of representatives from various French ministries and organisations. A contract of targets and performance between SHOM and the Minister of Defence covering 2010-2012 will be superseded to cover 2013-2016.



SHOM abides by the rules set for France by the International Maritime Organisation, and in particular by the SOLAS convention, specifying the obligation for coastal States to provide navigators with hydrographic services. SHOM is dedicated to guaranty the quality and the availability of information describing marine physical environment, along the coast and offshore, while coordinating its collection, filling and release. SHOM continuously ensures that public, civilian and military needs are satisfied at the lowest possible cost.

SHOM fulfils the missions of a national hydrographic service, supports defence and provides expertise to maritime policies. As a public service, SHOM can interact with other French geography, meteorology and oceanography specialists as well as with its European and international counterparts.



## 2. Surveys

### 2.1. Coverage of new surveys

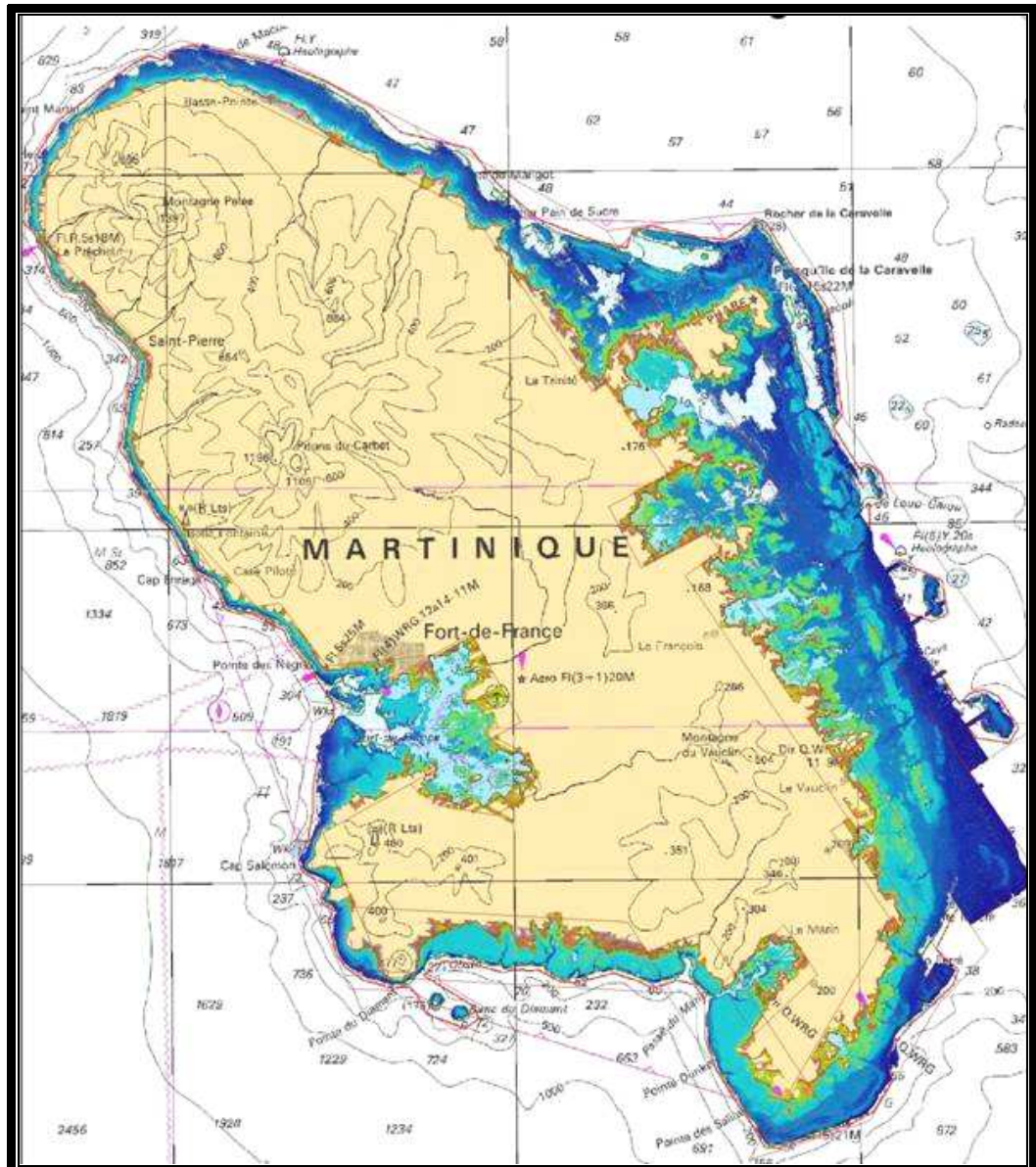
The new surveys in the area since the last meeting are presented in the next paragraph.

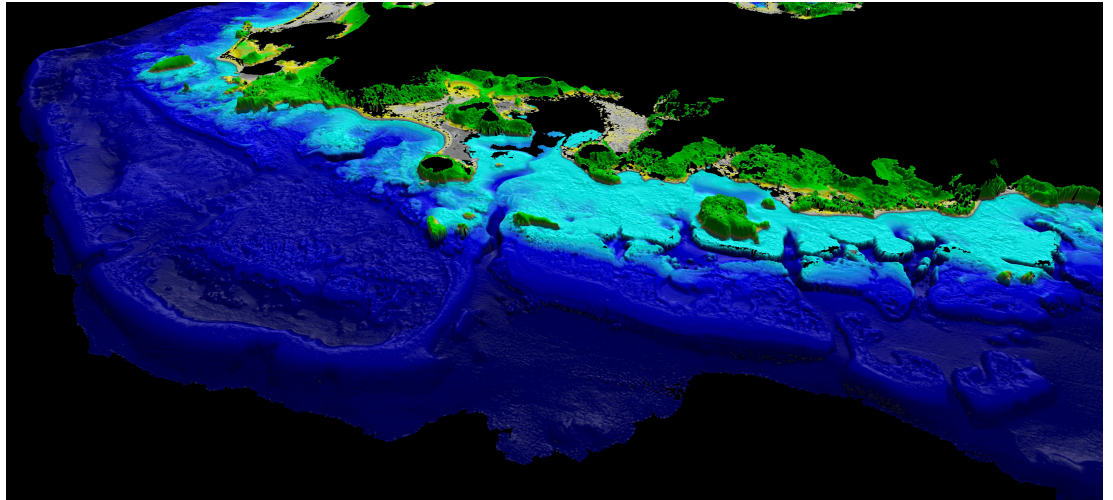
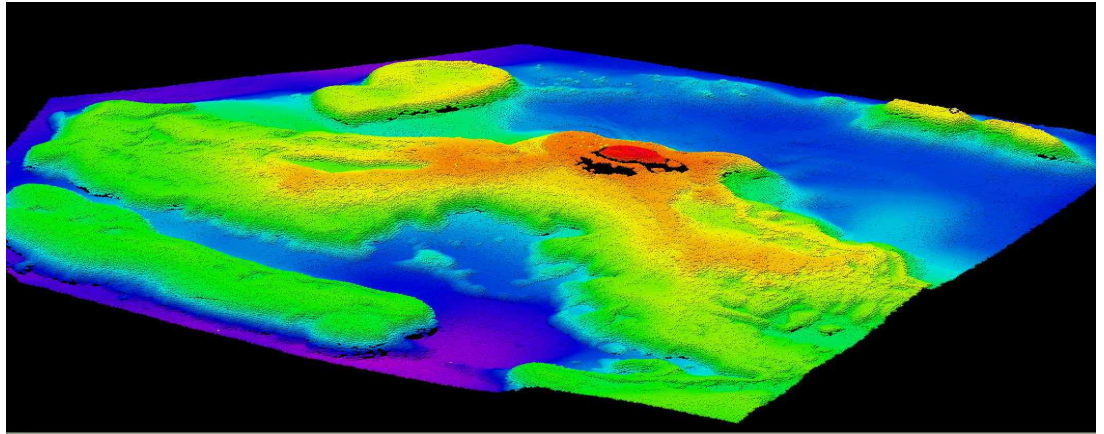
### 2.2. New technologies and /or equipment

The French National Geographic Institute (IGN) and SHOM were tasked by the Prime Minister to join efforts to produce a seamless, precise topographic and bathymetric model, of the entire French coast.

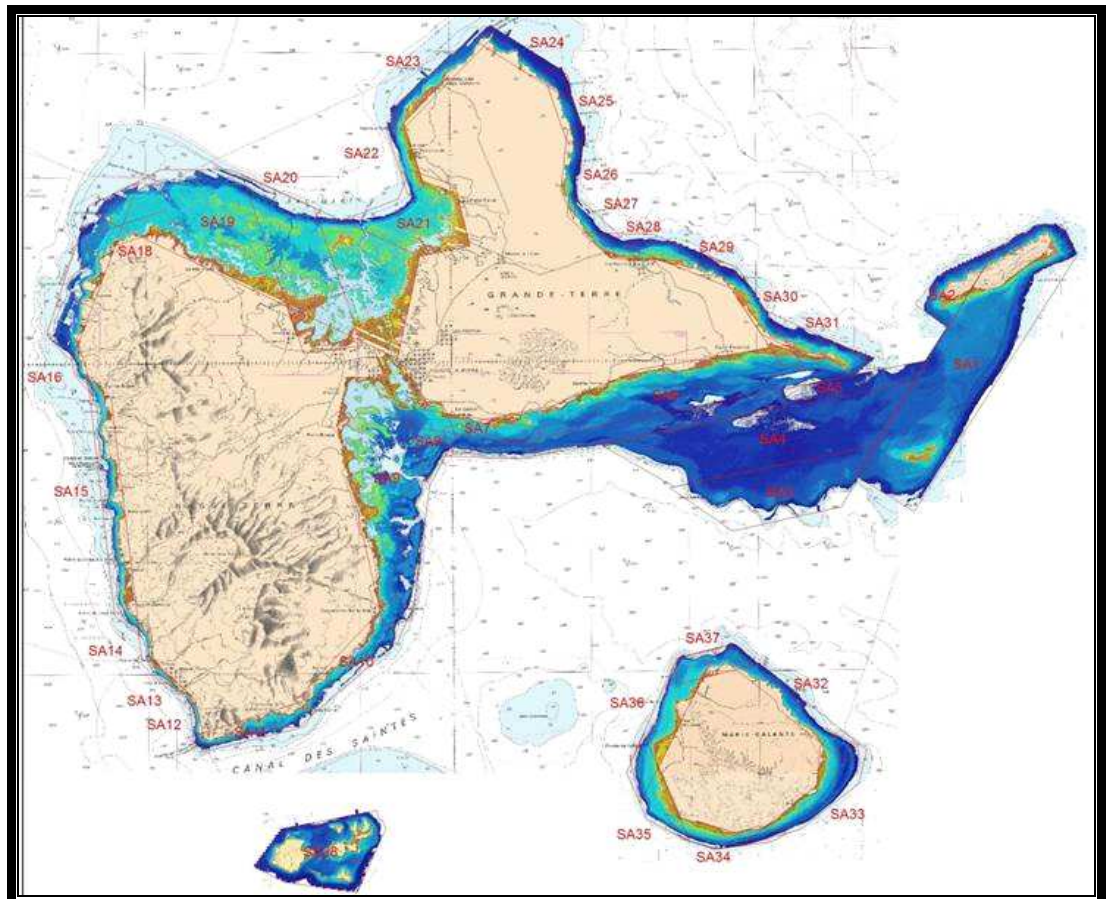
The Litto3D® project was then created to meet more than hundred requirements expressed by coastal managers concerned with the protection and exploitation of the littoral, and by users of geo-referenced data.

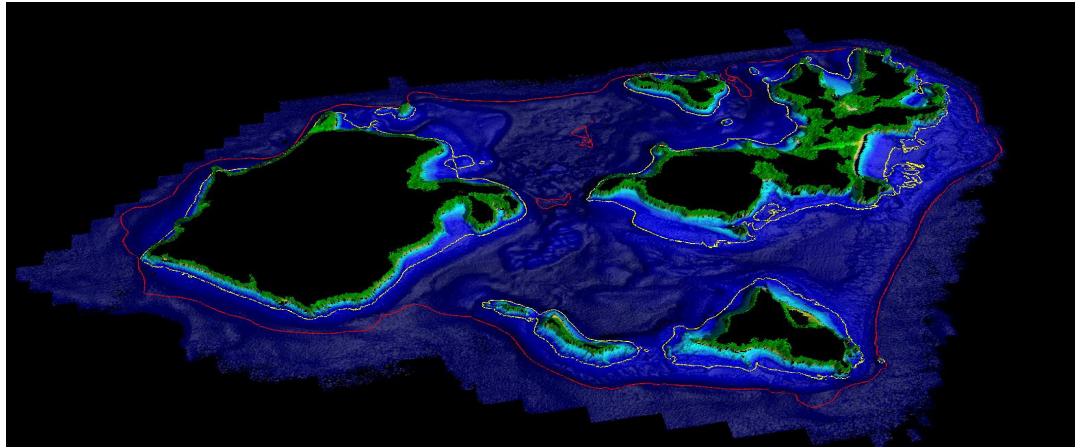
Hereunder are some results of bathymetric and topographic LIDAR in Martinique:





For Guadeloupe, the survey results are as follows:





Should you require more information please contact [litto3d@shom.fr](mailto:litto3d@shom.fr)

### 2.3. New ships

NTR.

### 2.4. Problems encountered

NTR.

## 3. New charts & updates

### 3.1. ENC's

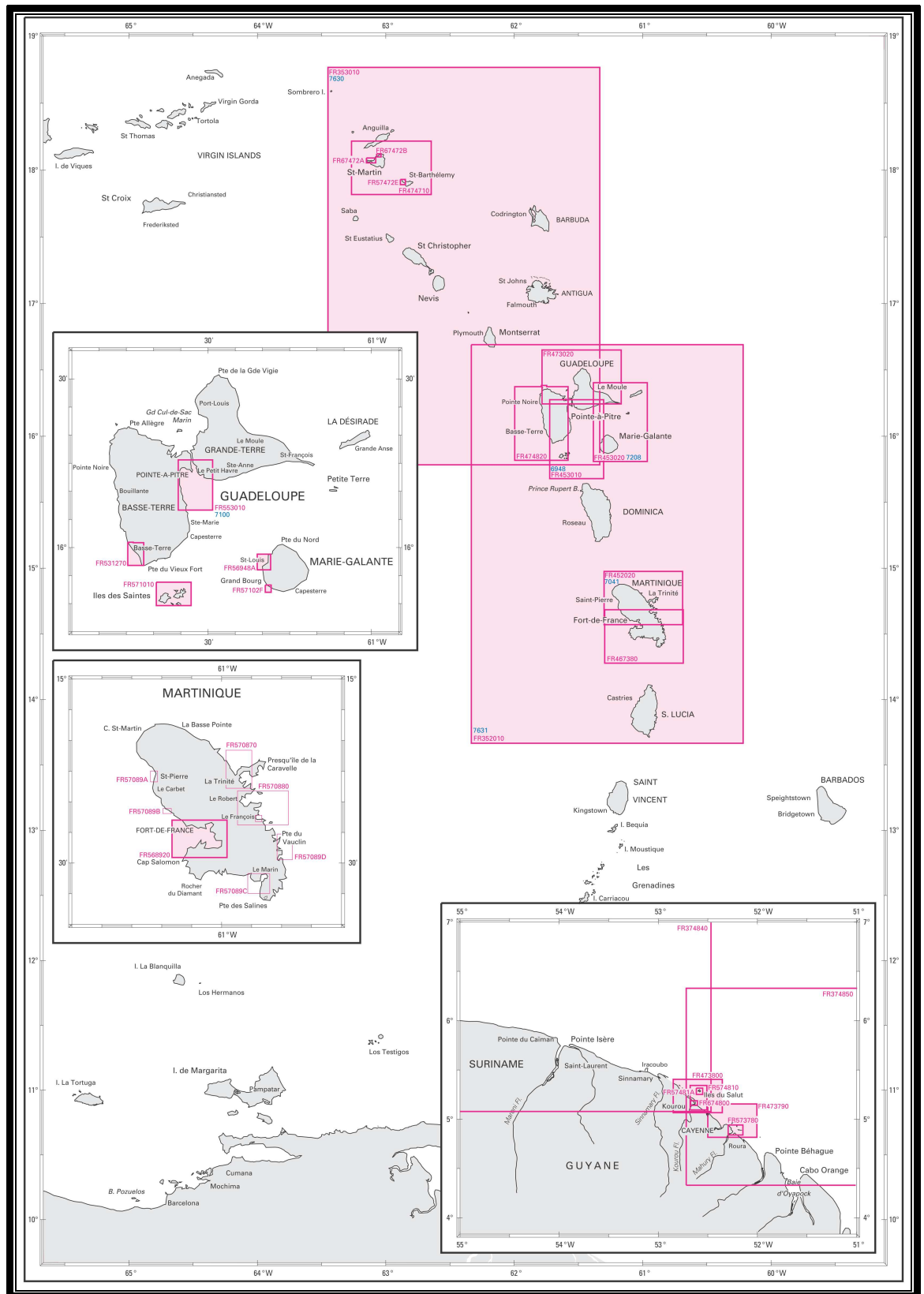
SHOM's collection of ENC's has now reached the number of 335 (some ENC's already produced have been merged to better follow the existing paper chart scheme). The approximate rate of production is of 40 ENC's per year. The full collection should eventually reach a figure around 850 ENC's.

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	0	N/A
2	2	3	66%
3	4	4	100%
4	8	11	73%
5	9	33	33%
6	2		
Total	20	50	40%

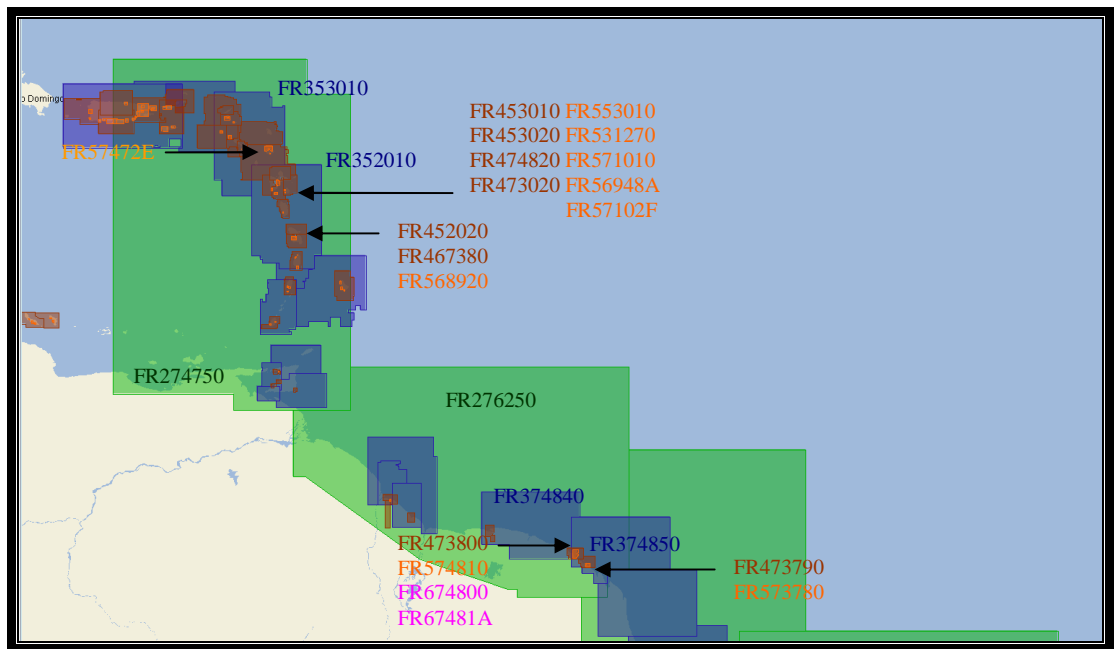
The SHOM ENC coverage of the MACHC area is depicted in the chartlets hereafter, where existing ENC's are represented in dark pink and planned ENC's for 2015-2019 are in light pink.



FR277510 ENC (Clipperton Island in the Pacific Ocean) not depicted in the chartlets above, is also planned for 2015-2019. This ENC will be clipped to the existing ENCs.

Since the last MACHC conference, ENCs FR374840, FR374850, FR474710, FR474820 and FR67481A have been produced.

Following is an extract of the online PRIMAR catalogue <http://www.primar.no> :



### 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

NTR.

### 3.4. INT charts

See next section.

### 3.5. National paper charts

No new chart has been produced since the last meeting.

A new chart FR7751 covering the French Clipperton Island (scale 1: 1 570 000) is currently being prepared and the equivalent ENC cell is planned to be produced in 2015-2019.

No paper chart in the MACHC region is planned to be produced next year. However, possible new editions of the charts FR7377 (scale 1: 10 000 - *Ports du Larivot et de Cayenne*) and FR7378 (scale 1: 15 000 - *Accès à Dégrad des Cannes*) could be undertaken.

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

NTR.

### 3.7. Problems encountered

As many other IHO member states, France is responsible for 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 hydrographic offices, 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 and primary charting authority (in accordance with M-3 resolution 1/2006 and S-4 resolution A-402.1 and B-635.4).

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.

#### **4. New publications & updates**

##### **4.1. New Publications**

NTR.

##### **4.2. Updated publications**

The new edition, released in 2011, of the list of lights entitled LD has a reduced coverage compared to the former publication: it covers *Antilles, Guyane* and *Saint-Pierre-et-Miquelon*.

##### **4.3. Means of delivery**

SHOM aims at generating by digital means its entire paper production. This should be achieved by using international standards such as XML and following closely the recommendations of experts such as the IHO Standardization of Nautical Publications Working Group (SNPWG) in which SHOM participates.

##### **4.4. Problems encountered**

An important regulation corpus has been developed for the establishment and use of ENC's while the equivalent standardisation for nautical books is still lagging. As a result, the rules of use of these documents are not clearly established.

#### **5. MSI Existing infrastructure for transmission**

Available information about lights and beacons along the Maroni river was sent on request to the Surinam authorities.

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

NTR.

##### **5.2. Problems encountered**

NTR.

#### **6. 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.

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

##### **7.1. Training received, needed, offered**

SHOM provided to Haiti a hydrography and nautical cartography training course, at *Ouanga Bay* beach hotel in *Carriès* on the 5th and 16th of September 2011. This workshop was part of the Haitian cartographic service reconstruction, after the earthquake of January 2010.

The goals of this workshop were:

- The training of a surveyors team able to autonomously realize a single beam and side scan sonar survey, in order to update existing nautical charts in Haiti;
- The training of a nautical cartography team able to update an existing ENC covering Haiti area (ENC derived from a pre-existing DNC1).

The number of person trained to hydrography during the workshop reached a total of 18. All trainees proved their great interest and motivation for the training, and their will to improve

their knowledge in hydrography and cartography as well as to develop the SHOH (*Service Hydrographique et Océanographique de Haïti*).

Hereunder are photographs taken of the hydrography (left) and the cartography (right) trainees with the SHOM staff sent to provide the tuition:



The Haiti coast guard provided for the workshop a launch together with its own crew, usable as a survey launch after installation of the EA400 on a pole:



An extensive report on this topic was sent by SHOM to the CBSC chair last month (see report N°174 SHOM/DRH/FOR/NP dated 10<sup>th</sup> October 2011).

Initial training capabilities provided by SHOM are described in its yearly report available on [www.shom.fr](http://www.shom.fr).

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

SHOM is participating in the deployment of instruments for the benefit of the future Caribbean Tsunami Warning Centre through the INTERREG IV programme. It is financed by the European FEDER budget and SHOM is associated with the *Institut Physique du Globe* of Paris, Martinique's general council, *Météo-France* and the Seismic Research Centre of the University of West Indies (see paragraph 9.3).



In order for this centre to receive tide gauges measurements in real time, satellite beacons will be installed beginning of 2012 on the existing SHOM tide gauges in *Fort-de-France (Martinique)*, *Pointe-à-Pitre (Guadeloupe)* in the *Salut islands (Guyane)*. A draft preliminary agreement was sent to Suriname for their consideration.

### 7.3. Definition of bids to IHOCBC

NTR.

## 8. Oceanographic activities

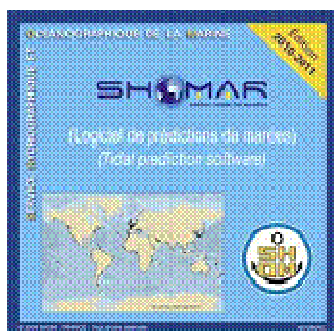
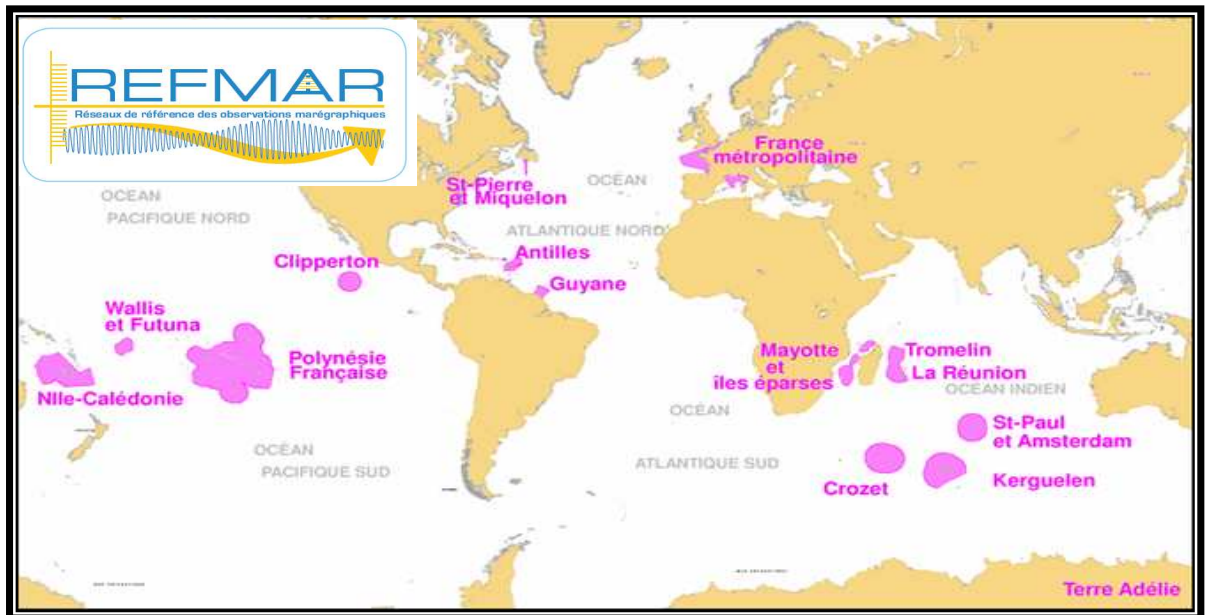
### 8.1. GEBCO/IBC's activities

NTR.

### 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 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:



SHOM released in 2010 a new edition of the tidal prediction software SHOMAR (for 150 metropolitan France harbours and more than 1 000 overseas and foreign harbours). SHOM also provides real time services for sea state, sea levels, sea surface currents, associated forecasts and prediction on [www.myocean.eu.org](http://www.myocean.eu.org).

### 8.3. New equipment

NTR.

### 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 contributes to the launching of the national tsunami warning centre for the Caribbean. The importance of the expansion of the real-time SHOM tide gauge network named RONIM is recognised as a key component for the development of a national tsunami warning system.

SHOM currently acts as the French national coordinator of sea level measurements, due to its national responsibility to conduct surveys, to maintain RONIM and to make and distribute the official tidal predictions. RONIM is recognized as an important tool for coastal operational oceanography, risk assessment, studies on the evolution of the mean sea level, etc. This role was materialised in 2009 with the launch of the CRATANEM project, which aims at setting up a national warning centre for tsunamis for the North Eastern Atlantic and the Mediterranean. SHOM is a partner of this project with four other French agencies.

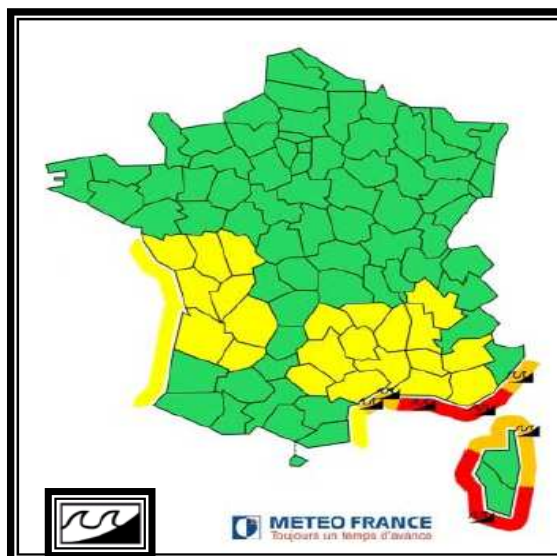
France may have Navy ships in the MACHC region ready to provide support in case of an emergency. France also provides technical support and has a rapid response capacity for environmental data in case of a disaster.

The point of contact at SHOM in case of a disaster is Cdr Bertrand Menanteau. His division can be reached 24/7 by fax +33 298 221 665 or email [coord.navarea2@shom.fr](mailto: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*' 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:



- **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 23<sup>rd</sup> November 2004 and aims at enabling France to face in a reactive manor 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**

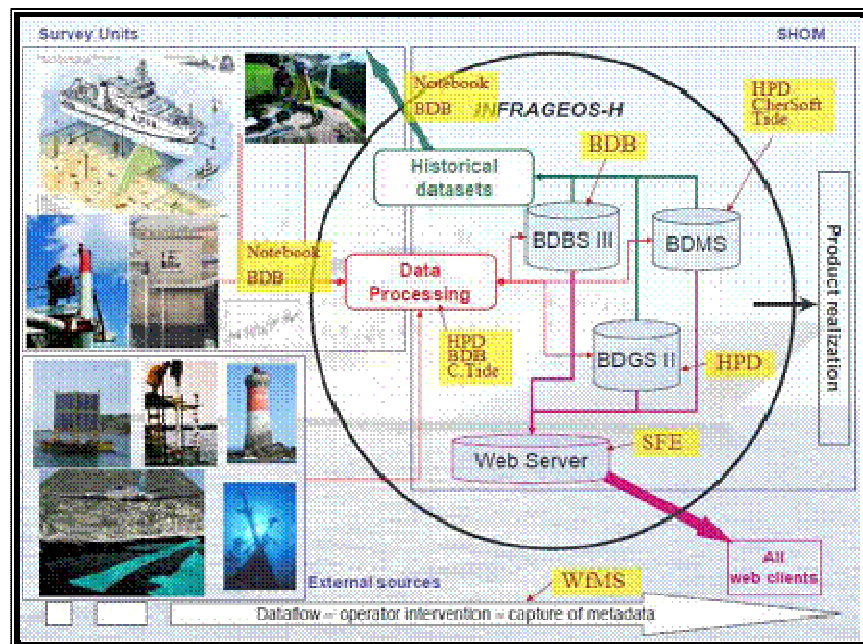
NTR.

**9.7. MSDI Progress**

To fulfil its responsibilities, SHOM currently operates an assortment of heterogeneous systems to stock, manage and exploit collected hydrographic data (navigational aid, soundings, tidal components...). The INFRAGEOS-H® project aims at procuring an interoperable database management system, providing better access to optimised geo-referenced databases and improving information processing.

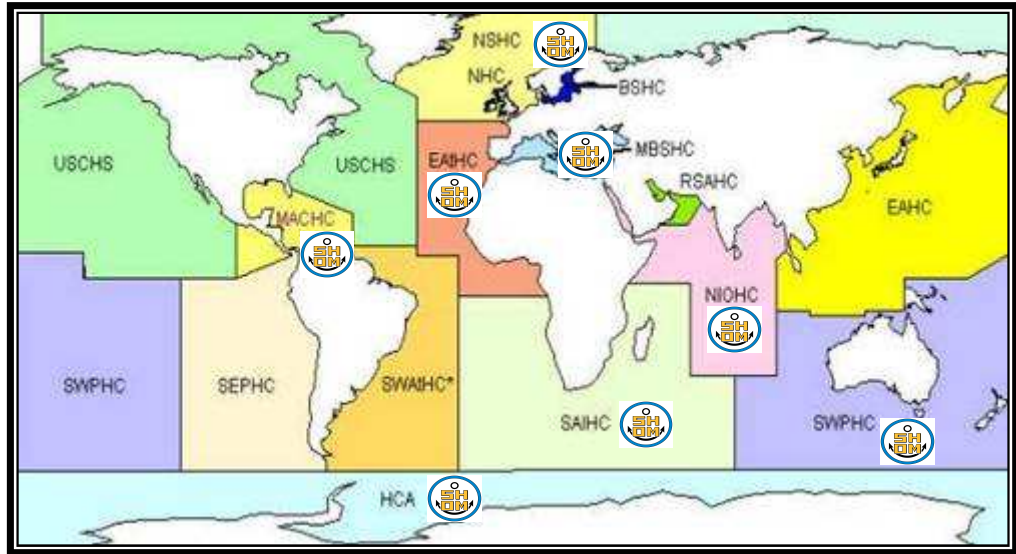
This next-generation set of tools will allow SHOM to tackle the ever-changing information and product requirements, such as new 3D developments. It also enables SHOM to comply with international normalization standards and data dissemination policies such as the INSPIRE European directive or the regulation set by the IHO. INFRAGEOS-H® paves the way to an all-inclusive system.

The results achieved with the hydrographic component will be capitalized and enhanced. The Geospatial Infrastructure covering all themes is as shown on the following diagram:



## 9.8. International

Because of its overseas territories and primary charting responsibilities, France, represented by SHOM, is a full member or an observer in 8 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
EAHC		✓	Eastern Atlantic Hydrographic Commission
EUWG	✓	✓	ENC Updating Working Group
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		✓	Mr. Gilles Bessero, former SHOM director general, is chairman until the next IH Conference
LAWG		✓	Legal Advisory Working
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
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.

### **10. Conclusions**

More than ever, HOs 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, tsunami warning systems, disaster relief and coastal management, to name but a few. Hydrography has proven itself essential to the empowerment of coastal States. Therefore SHOM, side by side with the IHO, continuously thrives to reinforce international cooperation for the security of mariners and the capacity building of hydrographic services world wide.

