

Paris, 4th August 2011

N° 015 SHOM/DMI/REX/NP

SERVICE HYDROGRAPHIQUE
ET OcéANOGRAPHIQUE
DE LA MARINE

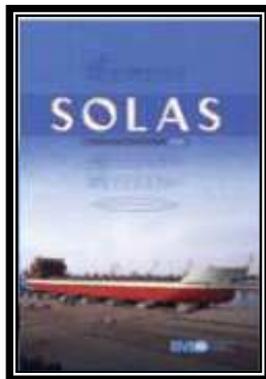
DIRECTION DES MISSIONS
INSTITUTIONNELLES ET DES
RELATIONS INTERNATIONALES

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**FRENCH NATIONAL REPORT
TO THE 8TH MEETING OF THE SOUTH AFRICA AND ISLANDS
HYDROGRAPHIC COMMISSION MEETING**

1. Hydrographic Service: General

SHOM, the French hydrographic service, is the heir of the first official hydrographic service in the world created in 1720. SHOM 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.



SHOM abides by the rules set for France by the International Maritime Organisation, and in particular by the SOLAS convention on safety of life at sea, 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

As shown on the various following images, SHOM has conducted several surveys in the SAIHC region since the last meeting:

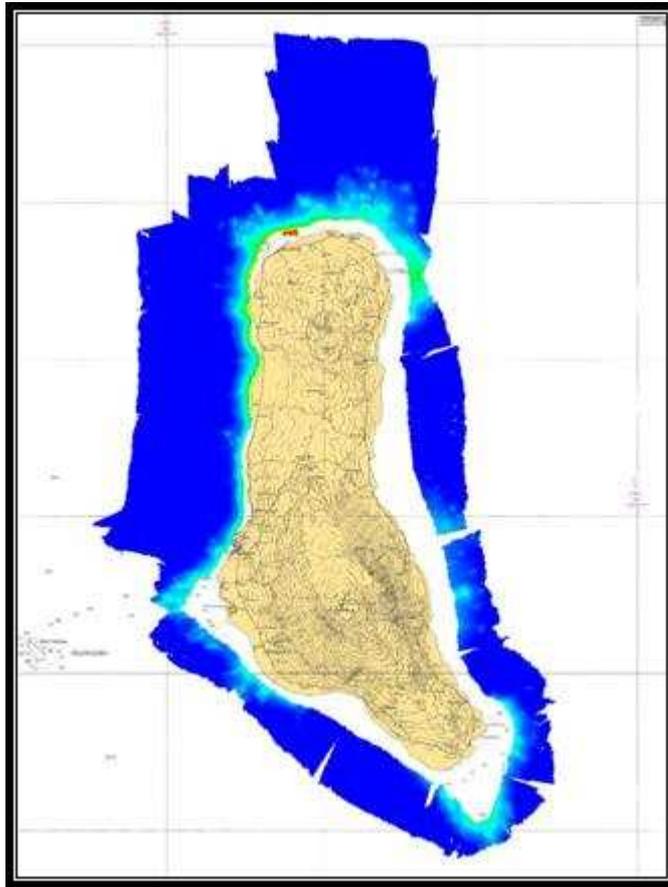


Image 1 : Grande Comore - survey ship *Beautemps-Beaupré* - July 2009

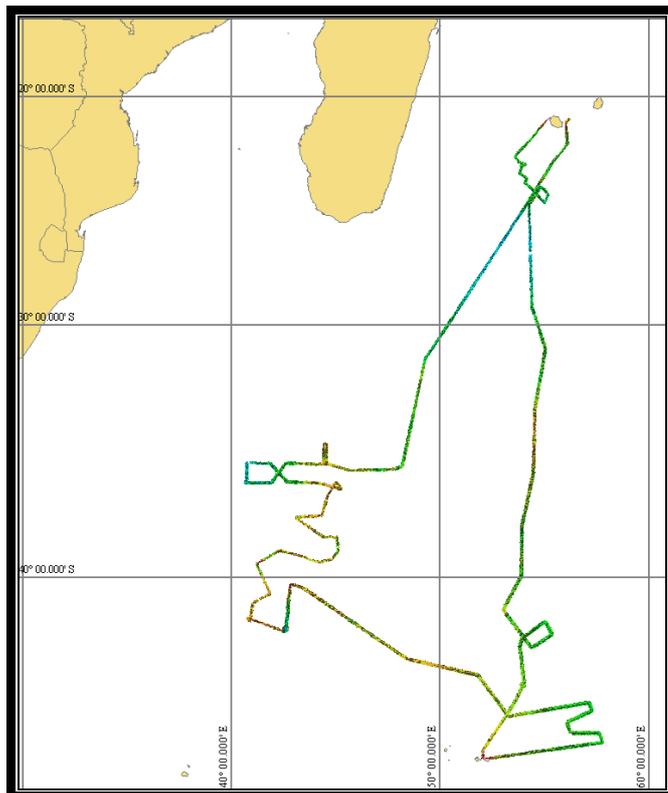


Image 2 : EXTRAPLAC - survey ship *Marion Dufresne* - February 2010

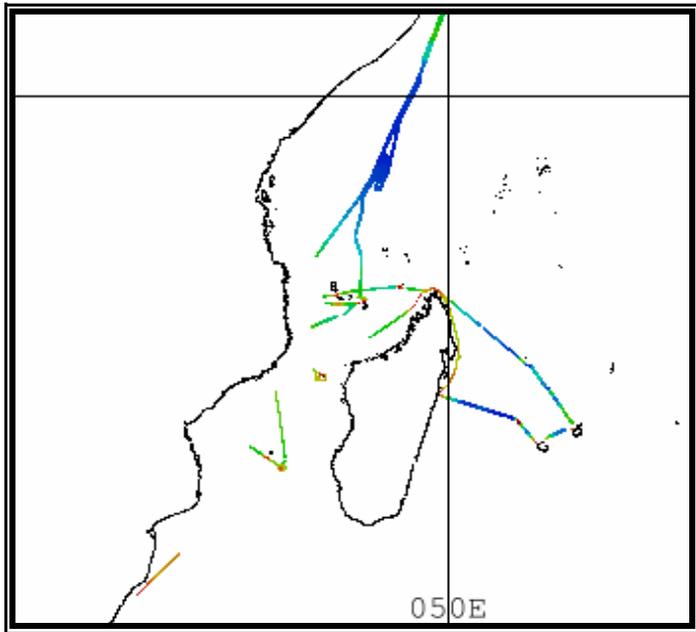


Image 3 : GEBCO - survey ship *Beautemps-Beaupré* - March 2010

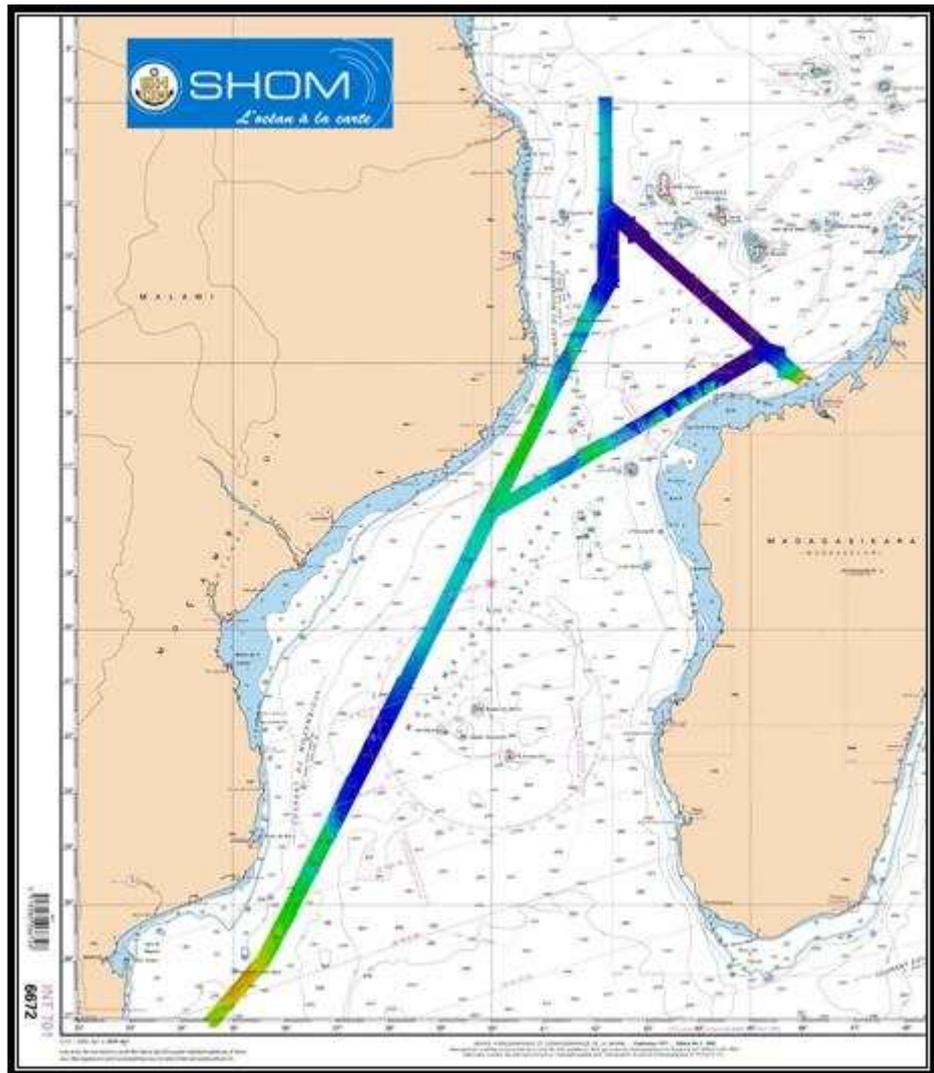


Image 4 : Marine highway - survey ship *Beautemps-Beaupré* - April 2010

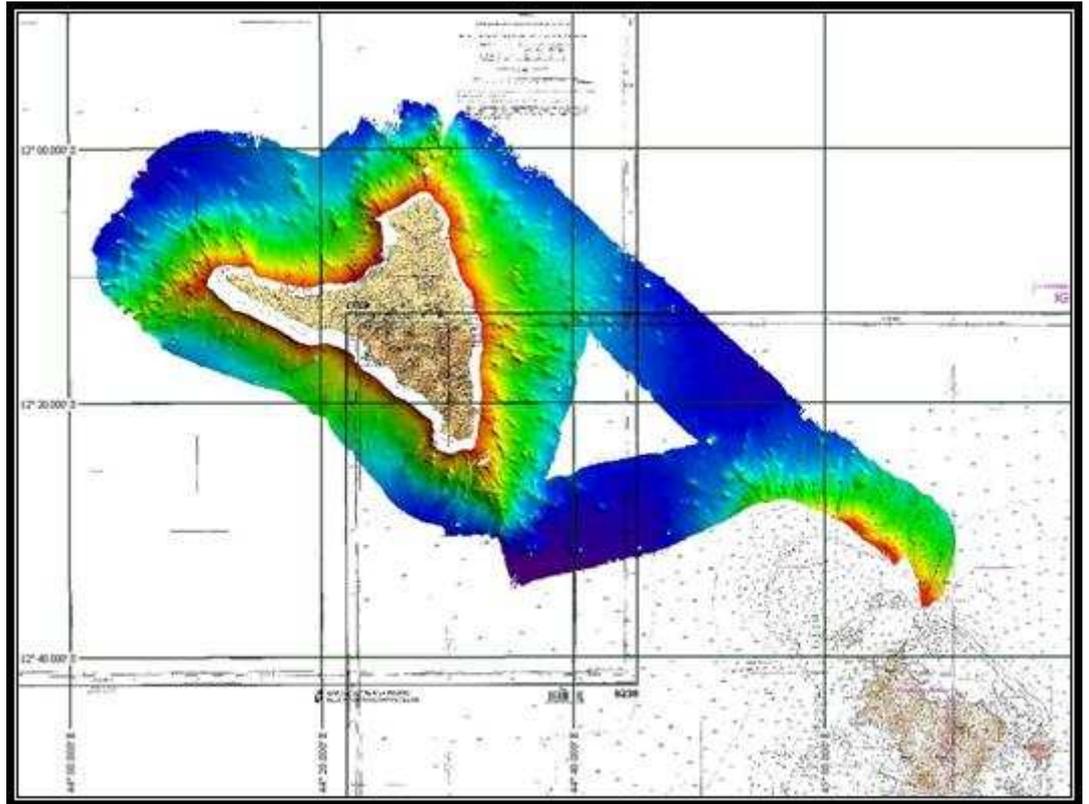


Image 5 : Anjouan - survey ship *Beautemps-Beaupré* - June 2010

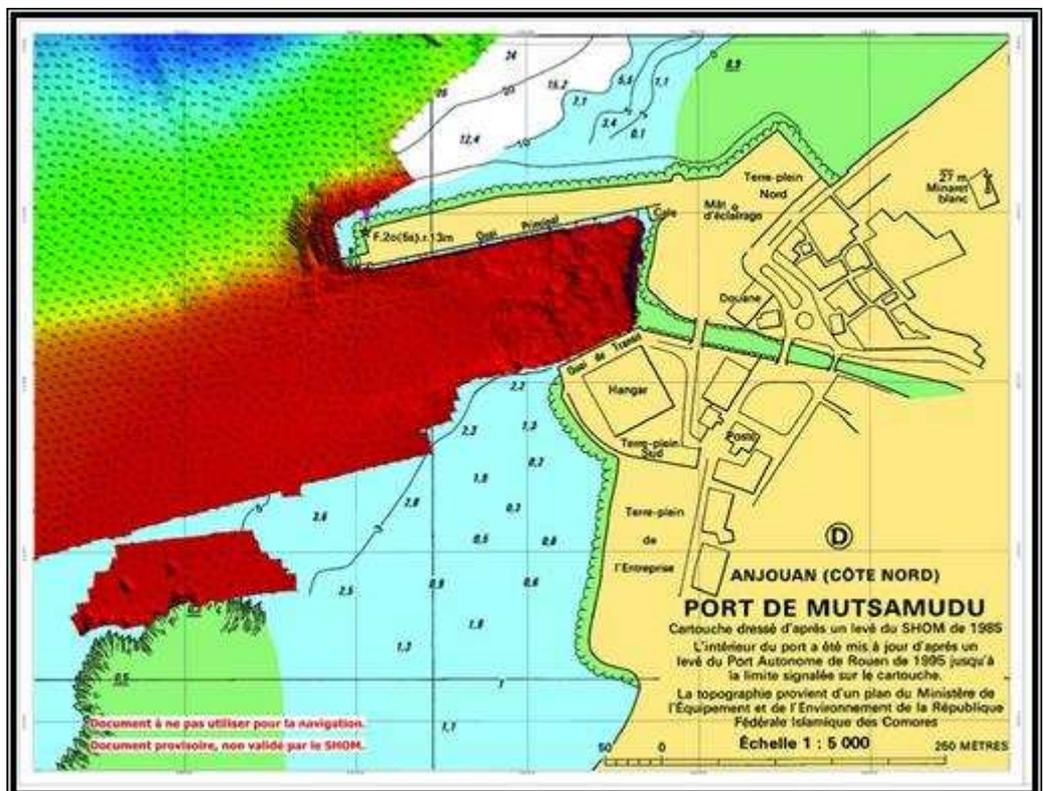


Image 6 : Mutsamudu - survey ship *Beautemps-Beaupré* - June 2010

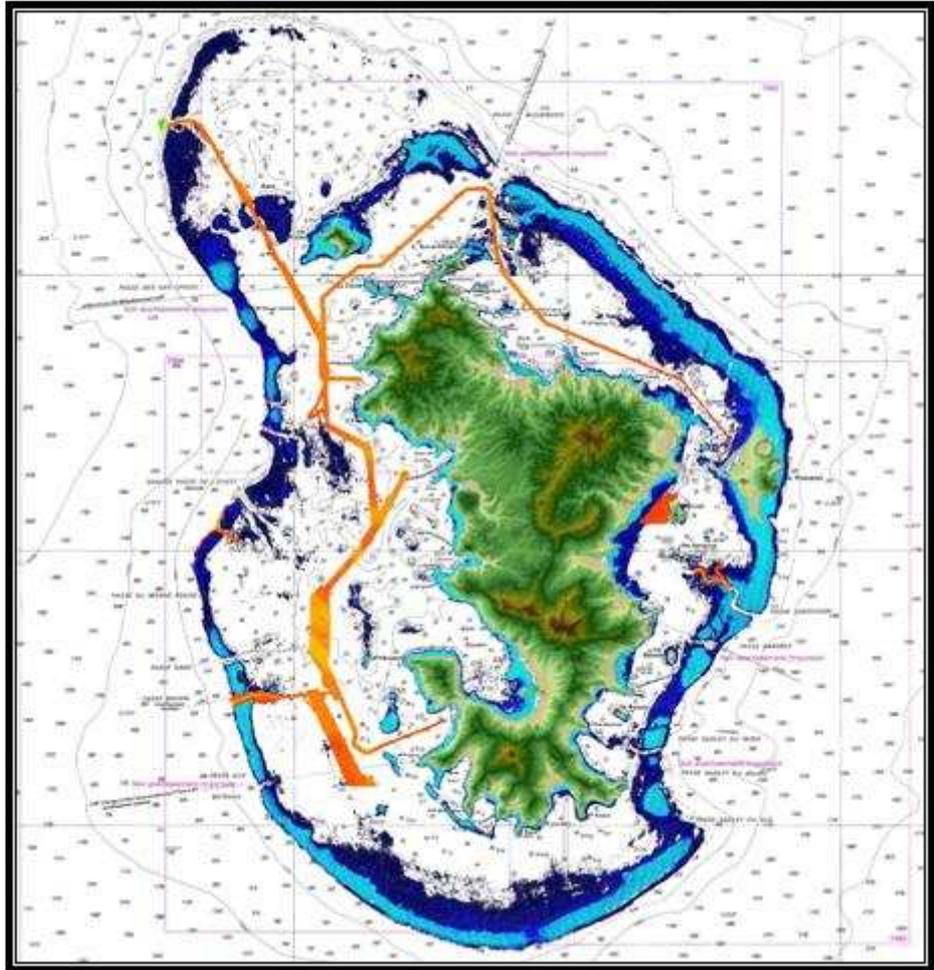


Image 7 : Mayotte - LIDAR and survey ship *Beautemps-Beaupré* - May 2010

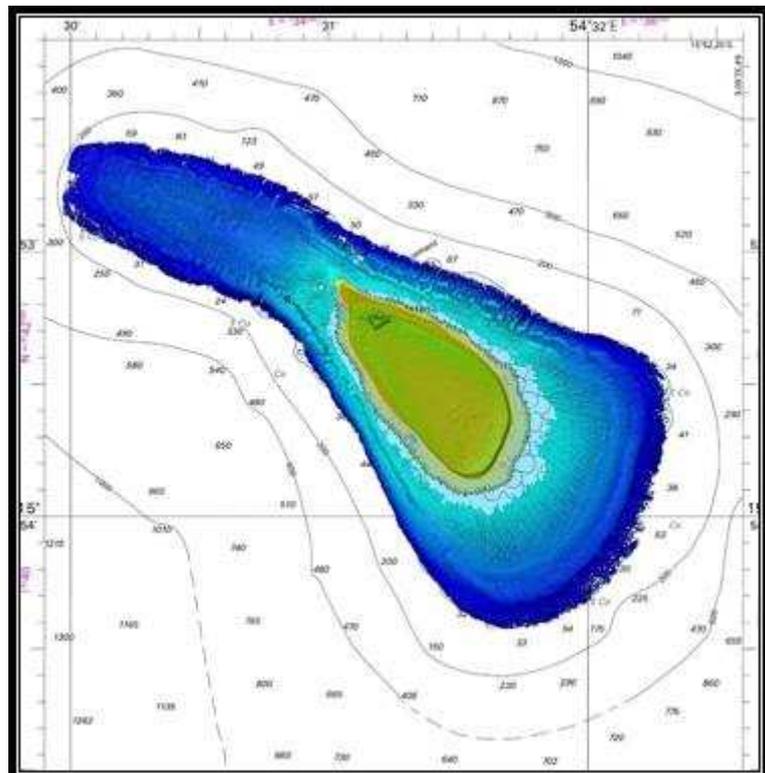


Image 8 : Tromelin - LIDAR survey - 2010

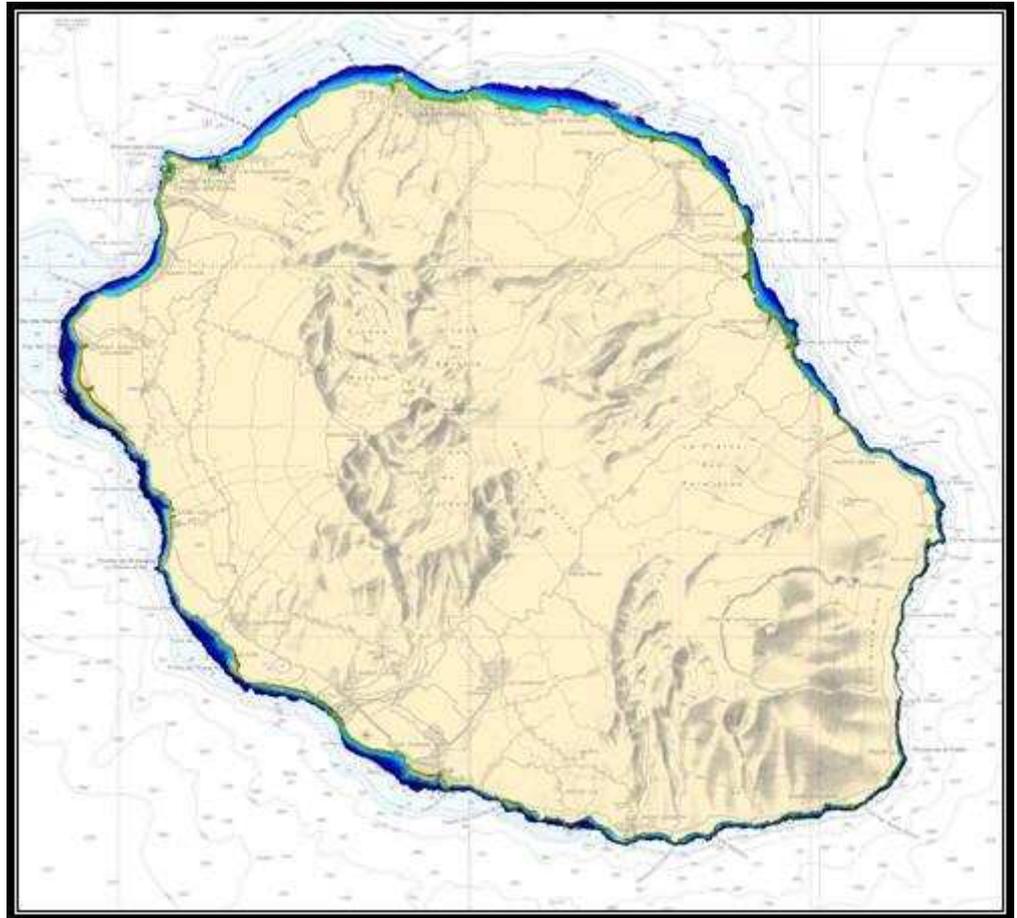


Image 9 : *La Réunion* - LIDAR survey - 2010

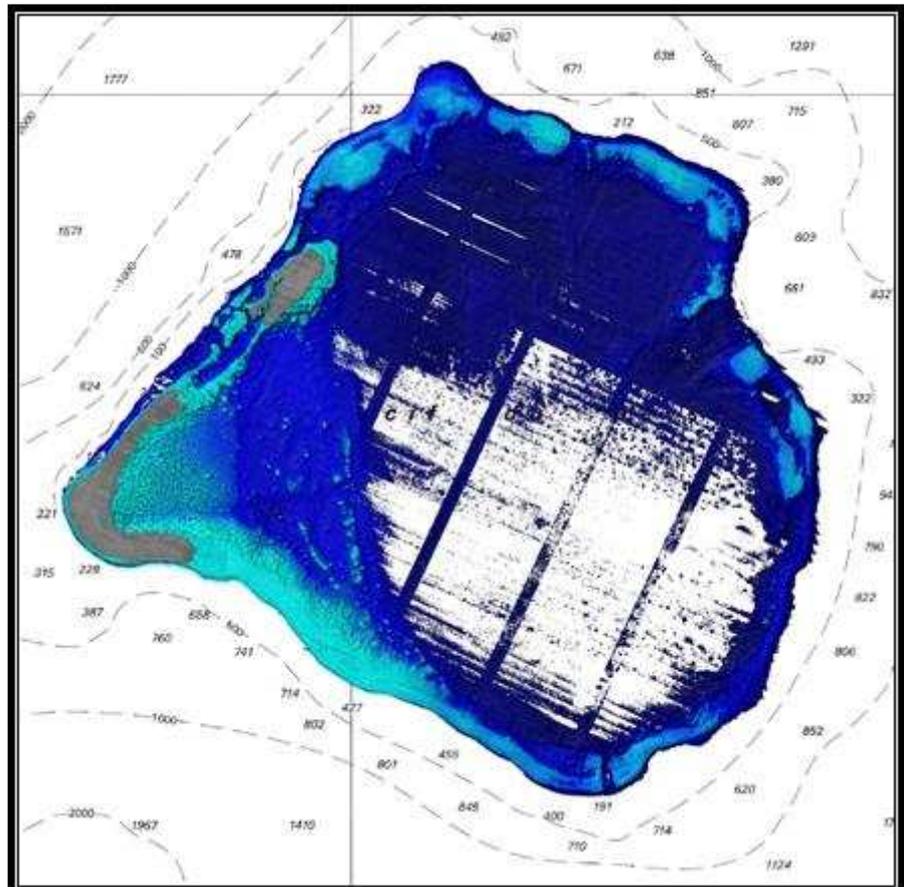


Image 10 : *Récif du Geysir* - LIDAR survey - 2010

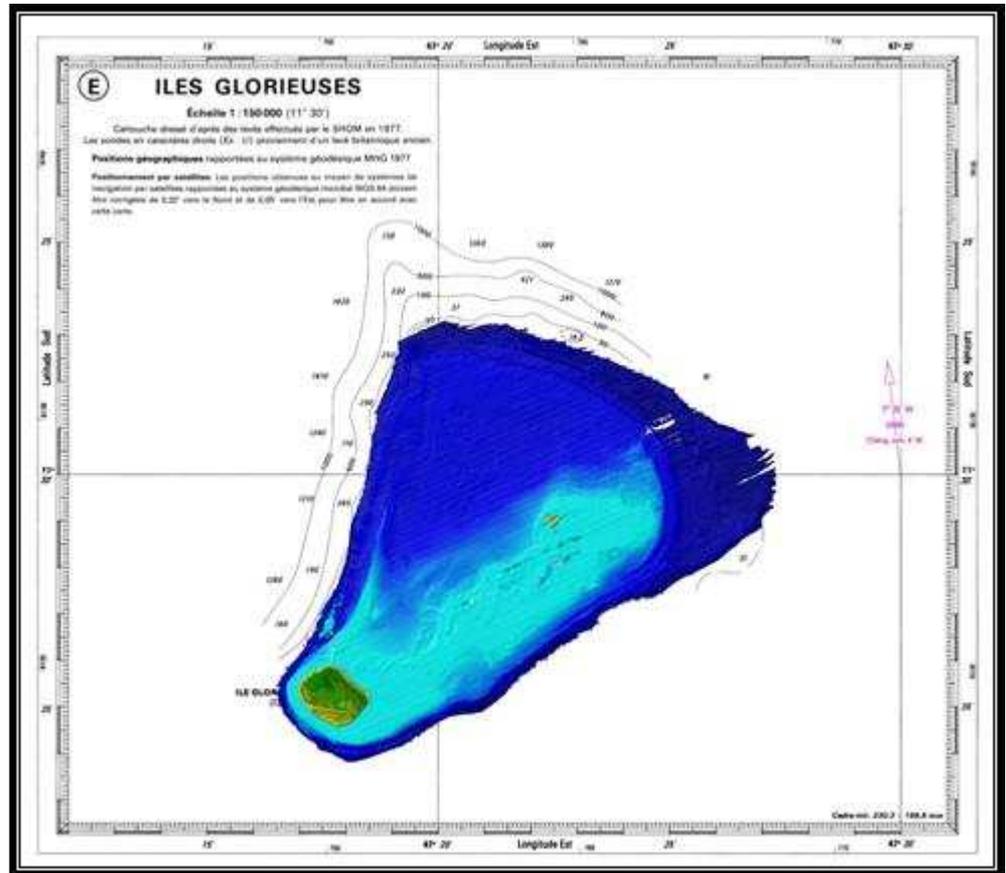


Image 11 : Les Glorieuses - LIDAR survey – 2010

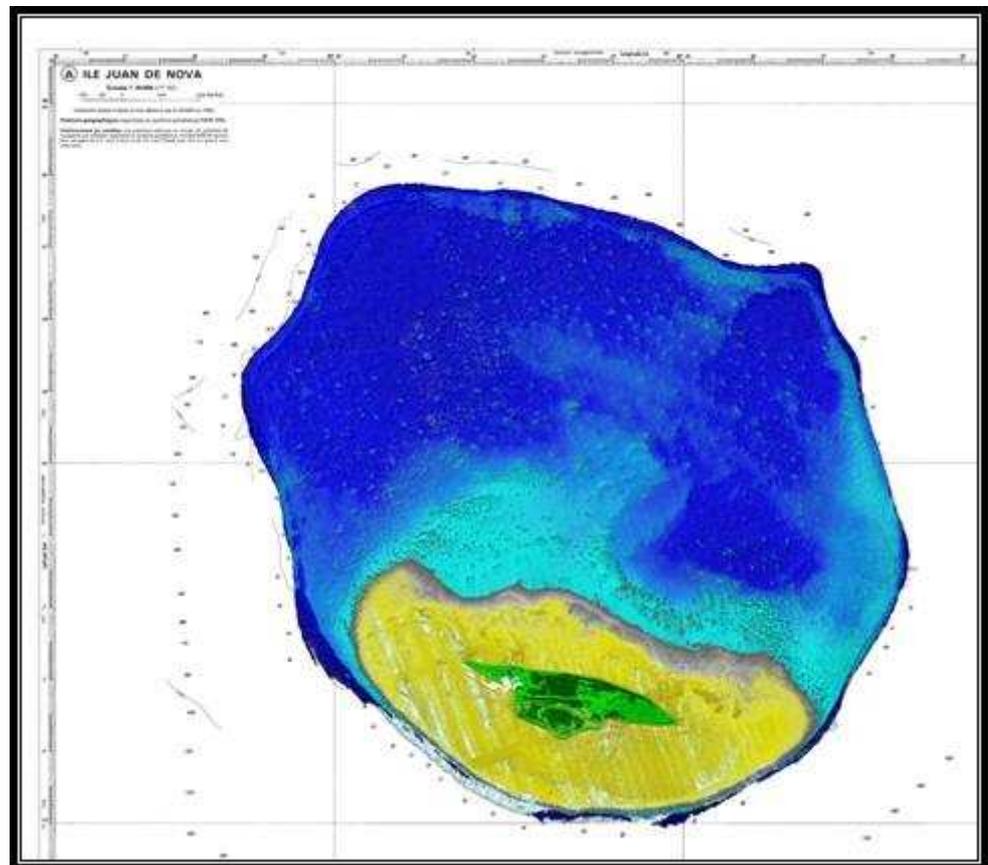


Image 12 : Juan de Nova - LIDAR survey – 2010

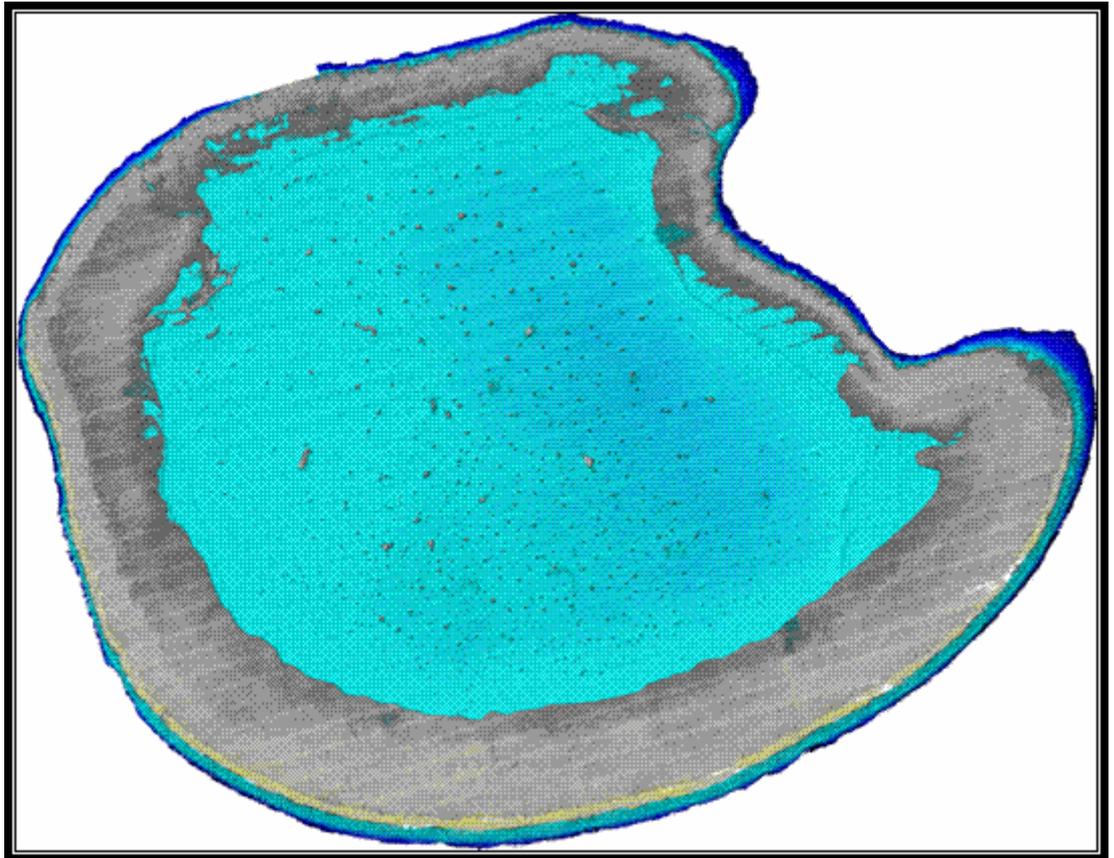


Image 13 : Bassa da India - LIDAR survey - 2010

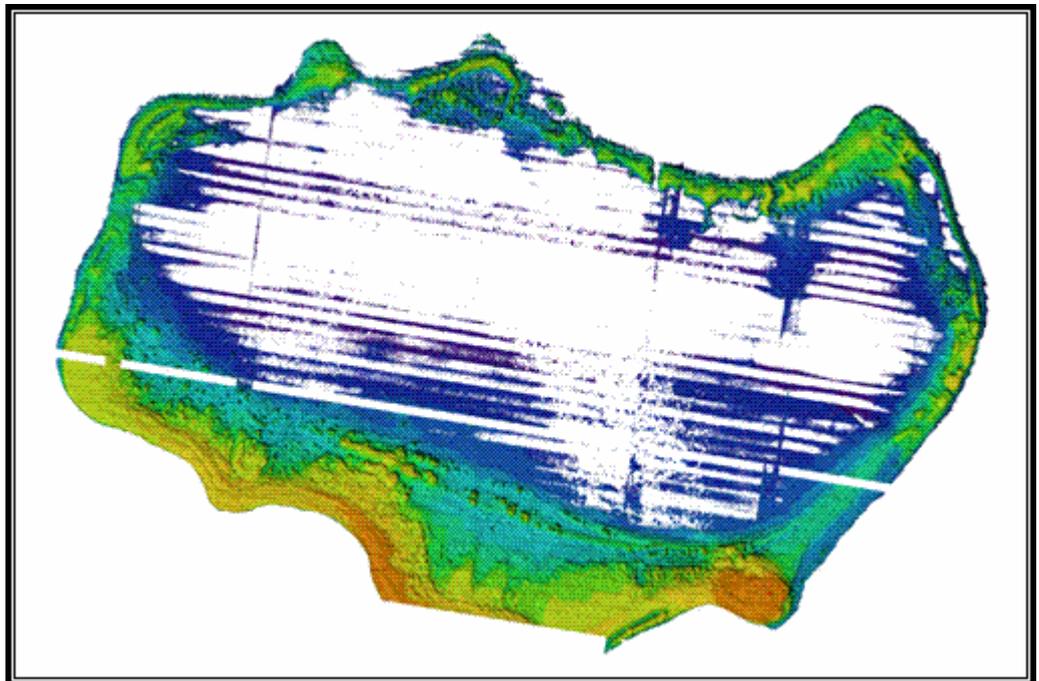


Image 14 : Banc de la Zélee - LIDAR survey - 2010

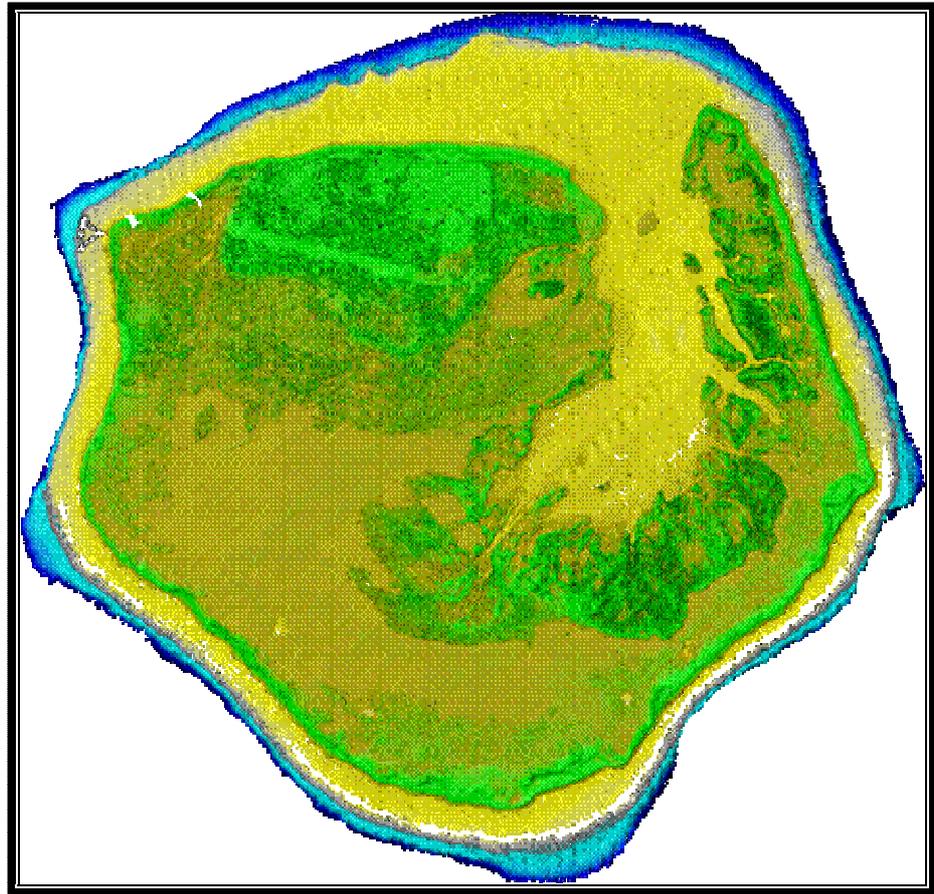


Image 15 : *Europa* - LIDAR survey - 2010

2.2. New technologies and /or equipment

NTR.

2.3. New ships

NTR.

2.4. Problems encountered

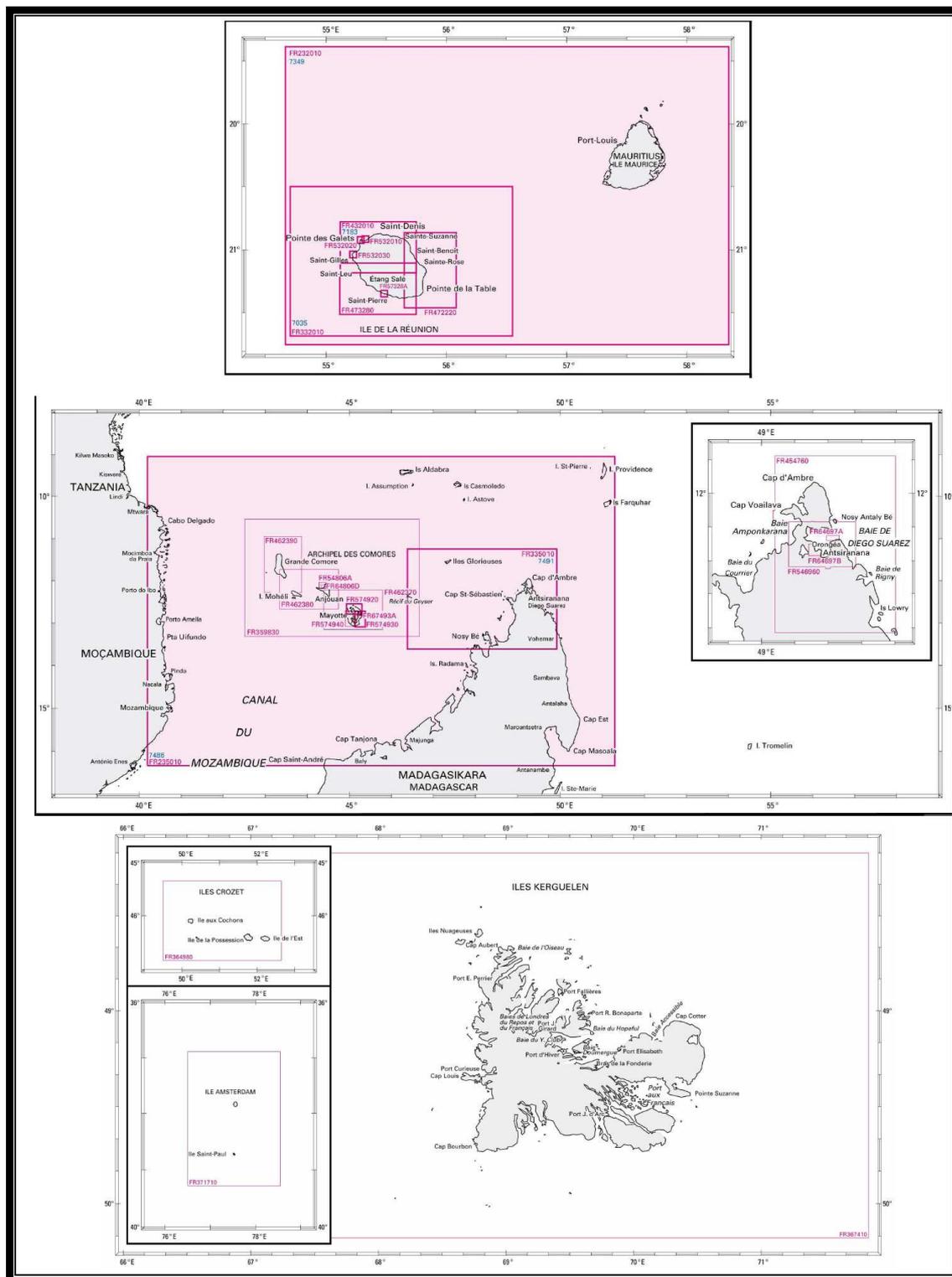
NTR.

3. New charts & updates

3.1. ENC

On the 1st of August 2011, SHOM had produced some 333 ENCs at an approximate rate of 40 per year. The full collection should eventually reach a figure around 900 ENCs. In line with the WEND principles, France produces its small scale ENC cells as closely as possible to INT chart schemes. The French production plan is also compliant with IMO regulations on ECDIS mandatory carriage requirements.

France will ensure that all HSC lines in the SAIHC area will be covered with ENC as soon as possible. The SHOM ENC coverage of the SAIHC area is depicted in the chartlets hereafter, where existing ENC are represented in dark pink and planned ENCs are in light pink.



Produced since the last conference:

N°	Title
FR574920	Île de Mayotte – Partie Nord
FR574930	Île de Mayotte – Partie Est
FR67493A	Île de Mayotte – Mouillage de Dzaoudzi
FR57328A	Ile de La Réunion – Port de Saint-Pierre

Planned in 2012-2013:

Area	Usage Band	FR paper chart Nr	Observations
<i>Île de Mayotte - Comores</i>	4	6237,6238, 6239 (new editions are planned)	High speed crafts
<i>Île de Mayotte - Port de Longoni</i>	6	7492 (inset)	/
<i>Madagascar - Tuléar</i>	4 & 5	4715 et 6063	/
<i>Madagascar - Fort Dauphin</i>	4 & 5	6054 (chart + 2 inserts)	/
<i>Madagascar - Antsiranana</i>	5	4696 (to be replaced by FR7680)	/
<i>Madagascar - Antsiranana</i>	6	4697 (to be replaced by FR7681)	/
<i>Madagascar - Toamasina</i>	4	6318 (new edition is planned)	/

3.2. ENC Distribution method

All French ENCs 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

See next section.

3.5. National paper charts

Produced since the last SAIHC meeting:

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Date	Title
6054		NE	large scales (var.)	June 2010	<i>Abords de Fort-Dauphin (new plan for Ehoala harbour)</i>
7486	7055	NE	1 000 000	Oct. 2010	<i>Canal du Mozambique - Partie Nord</i>
7494		NE	35 000	Dec. 2010	<i>Ile de Mayotte - Partie Ouest, De Chissioua Mbouini à la Baie d'Acoua</i>

Planned in 2011 (second semester):

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Title
7492		NE	35 000	<i>Ile de Mayotte - Partie Nord - De la Passe des Îles Choazil à Dzaoudzi</i>
7493		NE	35 000	<i>Ile de Mayotte - Partie Est - De Dzaoudzi à la Pointe Sazilé</i>

7183	7736	NE	60 000	<i>La Réunion - Partie Nord - De la Pointe des Châteaux à la Pointe de la Rivière du Mât</i>
7328		NE	60 000	<i>La Réunion - Partie Sud - De la Pointe des Châteaux à la Pointe Marcellin</i>
7165	737	NE	125 000	<i>Ile Maurice (Facsimile of UK711)</i>
6664	700	NE	3 300 000	<i>De Port Elisabeth à Maurice (Mauritius)</i>
6672	701	NE	3 700 000	<i>De Maputo à Mogadiscio (Muqdisho) - Madagascar (Madagasikara)</i>
6673	702	NE	3 700 000	<i>De Chagos Archipelago à Madagascar (Madagasikara)</i>

Planned in 2012-2013:

N° Nat.	N° INT	New chart (NC) or new edition (NE)	Scale 1:	Title
7677		NC	156 000	<i>Mayotte - Replaces FR6237.</i>
7678		NC	156 000	<i>Anjouan/Mohéli - Replaces FR6238</i>
7679		NC	156 000	<i>Comores/Mohéli - Replaces FR6239</i>
7490	7710	NC	350 000	<i>Des Comores au récif du Geyser. Replaces FR5983</i>
7680		NC	40 000	<i>Baie de Diego Suarez - Replaces FR 4696 (Madagascar)</i>
7681		NC	15 000	<i>Baie de Diego Suarez – Baie des Français – Port de la Nièvre – Port d’Antsiranana - Replaces FR 4697 (Madagascar)</i>
7682	7722	NC	50 000	<i>Abords nord de Tamatave – Replaces FR6318 (Madagascar)</i>
7683	TBD	NC	15 000	<i>Mouillages et passes de Tamatave – Replaces FR6150 and FR6527 (Madagascar)</i>

See proposal for updating INT charting scheme in region H sent to the region H ICCWG coordinator by letter N°13 SHOM/DMI/REX/NP dated 3rd August 2011.

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

Type	N°	Title
IN	C5	NtM Africa (Western coast) : from Cape Palmas to Cape Agulhas (2010)
IN	L9	NtM Indian Ocean Islands (Southern part) - <i>Terre Adélie</i> (2007) Corrections manual number 4
LL	LC	Atlantic Ocean (East) - Indian Ocean (West) - Pacific Ocean (2011)
RSX	922	Maritime radio communications - Volume 2 : Africa – Asia – Australasia (2009)
RSX	93	Radio communications for maritime traffic monitoring and piloting (2010)
RSX	961	Marine weather broadcast stations - Volume 1 : Europe, Africa and Asia (2010)
DIV	115	Tide table 2009 - Volume 2 - Overseas ports
DIV	125	Tide table 2010 - Volume 2 - Overseas ports

IN : Sailing directions

RSX : Radio stations

LL : List of Lights

DIV : Miscellaneous

4.2. Updated publications

NTR.

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

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 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

Recently, over 20 on job training opportunities have been offered to technicians during the Mozambique channel survey. The programme and the activities provided included for example, an assistant-hydrographer course for English and French speakers, a deep sea multibeam echo sounding survey in harbours, but also watch keeping, data processing and an installation of a tide observatory: the IOC observatory in Toamasina. Sponsors of this activity are the World Bank, UNESCO, the IOC and SHOM, with the kind and very effective support from the SAIHC Chair.

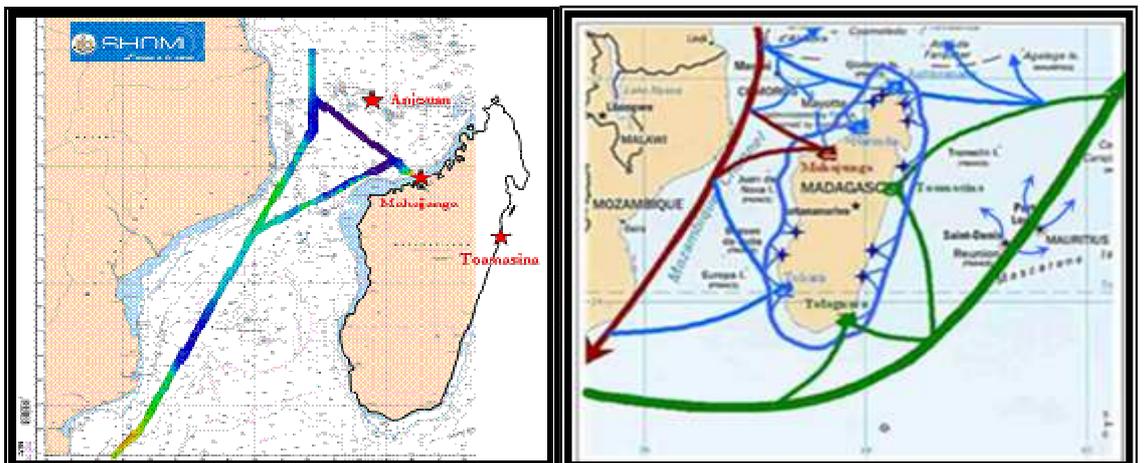


Image 16 : On job training onboard survey ship *Beautemps-Beaupré*

The chairman of the SAIHC was coordinating the project and trainees from Bangladesh, Comoros, Kenya, Madagascar, Maldives, Mauritius, Mozambique, South Africa and Sri-Lanka were all interested and very keen to participate to the on board activities. Initial training capabilities provided by SHOM are described in its yearly report available on www.shom.fr.

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

Following the positive experience of the *St. Lawrence Marine Electronic Highway* (1990), made possible through the latest technological developments (ECDIS, e-Navigation, AIS, etc.), the World Bank and the international maritime organisations (IMO, IHO, IALA) have established two test projects of Marine Highways (MH) in the Malacca and the Mozambique Straits. Significant progress was achieved in the Mozambique Strait project which should now be extended North-Eastward where it will have to deal with the piracy issue, and further up to the Red Sea and the Gulf.



SHOM is planning to deploy a survey ship in the region during the first semester of the year 2013 in order to complete this survey.

SHOM is also currently studying the possibility of creating in Antananarivo an innovative cartographic capacity of satellite chart production in liaison with the commercial international branch of the French National Geographic institute and the local Madagascar firms. This project is also of interest to the World Bank and the European Space Agency.

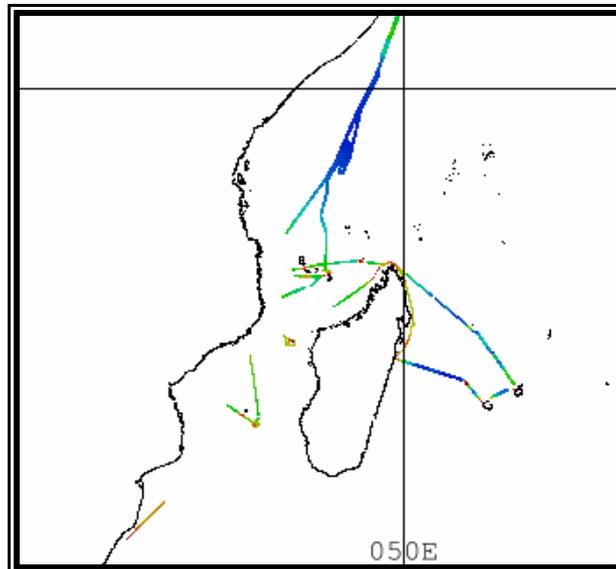
7.3. Definition of bids to IHOCBC

In accordance with the CBSC work programme 2011, SHOM conducted a follow-up technical visit to Madagascar and Comoros early July 2011. The report is in progress.

8. Oceanographic activities

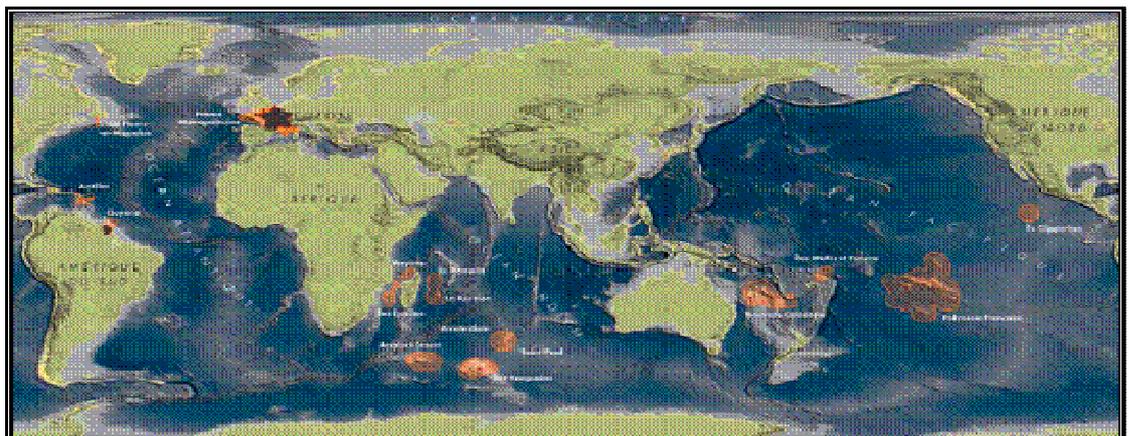
8.1. GEBCO/IBC's activities

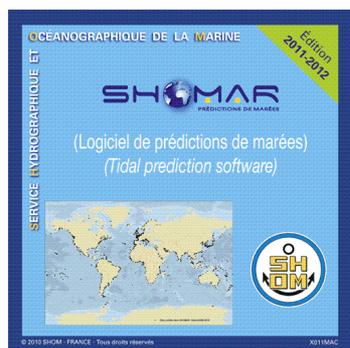
In the SAIHC region and since the last meeting, the following data was collected by the survey ship *Beautemps-Beaupré* in March 2010 on transit as a contribution to GEBCO:



8.2. Tide gauge network

Since 2010, SHOM is officially 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. Since then, 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:





In 2011, SHOM released 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.

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

SHOM contributes to the launching of the national tsunami warning centre for the North-Eastern Atlantic ocean and Western Mediterranean sea. 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 national coordinator of sea level measurements, due to his 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 SAIHC 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

9.4. Environmental protection

SHOM provides expertise and operational support to national civil security projects relative to integrated coastal management and is also part of the *CECILE* project on coastal environmental changes and the impact of sea level rise.



SHOM also works together with several entities responsible for setting the national marine environmental strategy by participating to the operational research and innovation committee of the *Grenelle de la Mer* and contributing to the national environmental alliance *AllEnvi*.

9.5. Astronomical observations

NTR.

9.6. Magnetic/Gravity surveys

NTR.

9.7. MSDI Progress

One of the best ways to raise awareness with regards to MSDI amongst IHO Observers, Associate Member States, and even Member States representatives, would be to invite them to participate in a MSDI workshop organized back-to-back with the RHC conference, provided their expenses (flights, accommodation, visa, etc.) are funded by sponsors such as the CBSC fund.

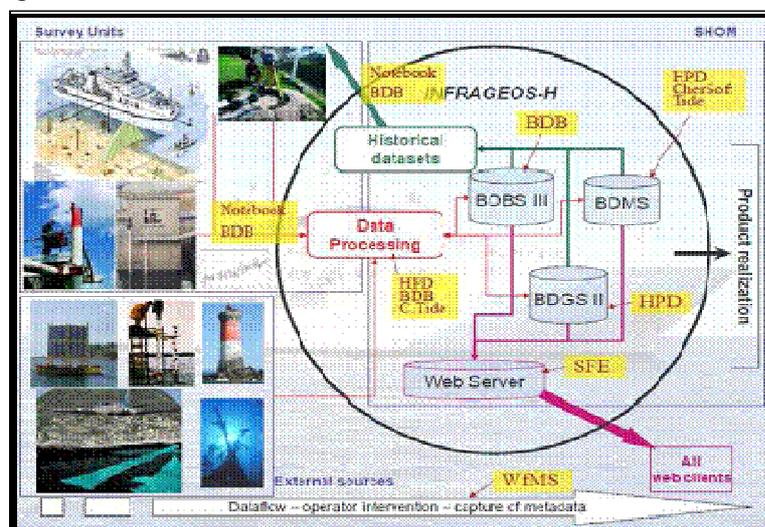
An MSDI workshop would allow reaching other categories of stakeholders than IHO traditional focal points. However, the selection of attendees might then be complicated considering the relationships between different organizations in developing countries and especially those who do not have a National Hydrographic Committee.

Furthermore, it is important to make sure that capacity building in MSDI can fit the current CBSC strategy (Phase 1, 2 and 3), while keeping in mind that support to safety of navigation is the IHO primary responsibility.

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.

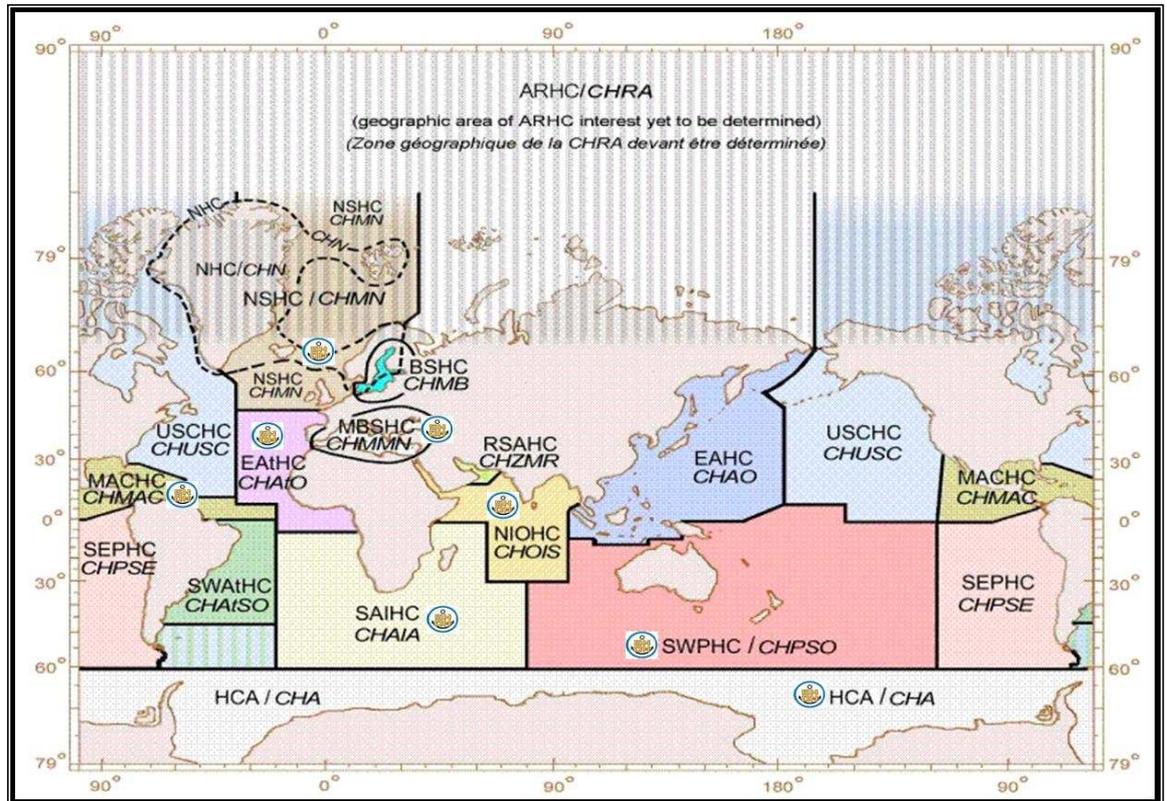
This next-generation set of tools will allow SHOM to tackle the ever-changing information and product requirements, such as new 3D developments. It also enables SHOM to comply with international normalization standards and data dissemination policies such as the INSPIRE European directive or the regulation 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

IHO has paved the way to a structured cooperation between hydrographic services in order to ensure mariners' safety world wide. Reinforcing continuously this cooperation has now become a necessity in order to tackle arising issues such as tsunami prevention or environmental protection. Aware of this evolving context, SHOM has conducted a number of significant actions towards safety of navigation and capacity building for other nations in the region.