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N° 006 SHOM/DMI/REX/NP

SERVICE HYDROGRAPHIQUE  
ET OcéANOGRAPHIQUE  
DE LA MARINE

DIRECTION DES MISSIONS  
INSTITUTIONNELLES ET DES  
RELATIONS INTERNATIONALES

Dossier suivi par  
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**FRENCH NATIONAL REPORT  
TO THE 15<sup>TH</sup> MEETING OF THE NORTH INDIAN OCEAN  
HYDROGRAPHIC COMMISSION**

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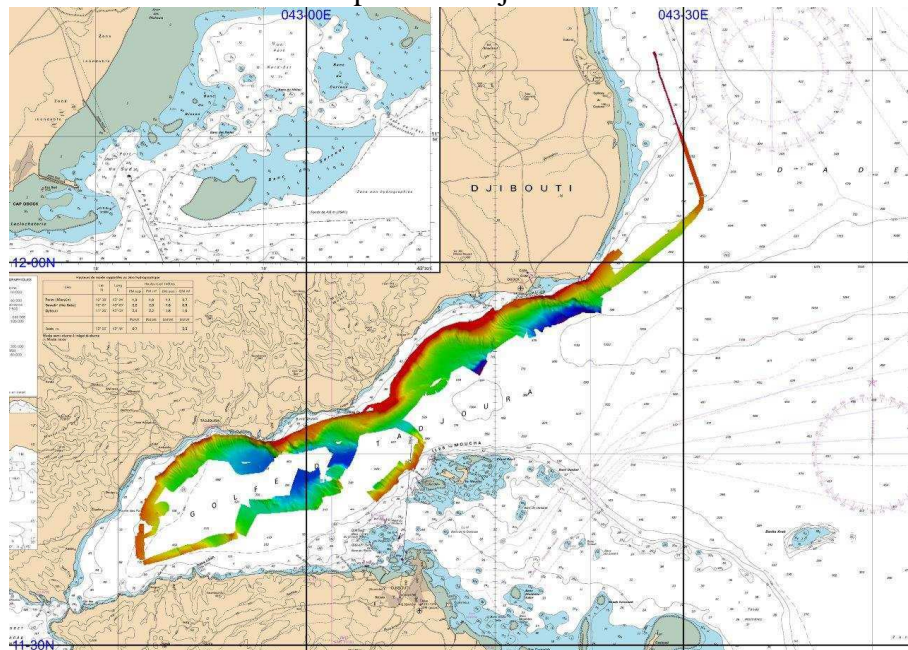
**1. Hydrographic Service: General**

Following up its targets and performance contract for the 2013-2016 period, SHOM is pursuing the achievement of its different commitments based on France's National Maritime Strategy and Defence Policy. Survey works are being conducted according to the prioritized 4-years survey plan for all the waters under French jurisdiction.

**2. Surveys**

**2.1. Coverage of new surveys**

During the deployment of hydro-oceanographic FNS Beutemps-Beaupré in Indian Ocean, survey work in Djibouti waters have been conducted in the frame of the bilateral SOLAS agreement between France and the Republic of Djibouti.



**Fig.1:** Survey work coverage achieved in Djibouti waters.

Destinataire : BHI MONACO

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

## 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's collection has reached the number of 427 in January 2015. 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	Compilation Scale 1 :	Title	Comment
FR575460	8 000	Port de Djibouti	2 <sup>nd</sup> Edition

A rescheme of FR236010 and FR236020 has been achieved in February 2015 by reducing FR236010 cell's western coverage (extension of GB240600) and grouping both into one single cell: FR269870.

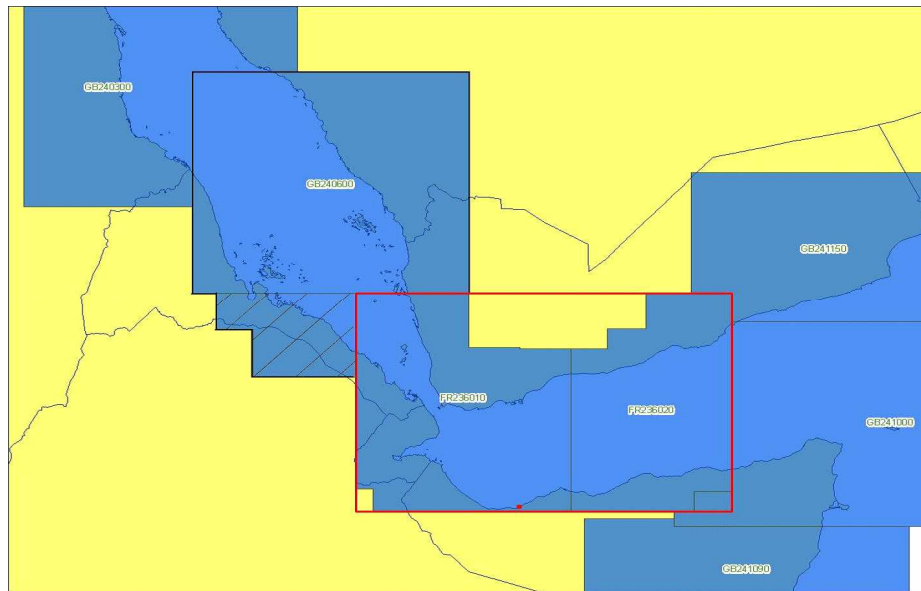


Fig.2: Rescheme of FR236010 and FR236020 into a single cell FR269870.

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	1	1	100
3	2	2	100
4	1	2	50
5	1	8	12,5
6	0		
Total	5	13	38

Following is an extract of the online PRIMAR catalogue <http://www.primar.org> regarding the French ENCs available in the NIOHC region:

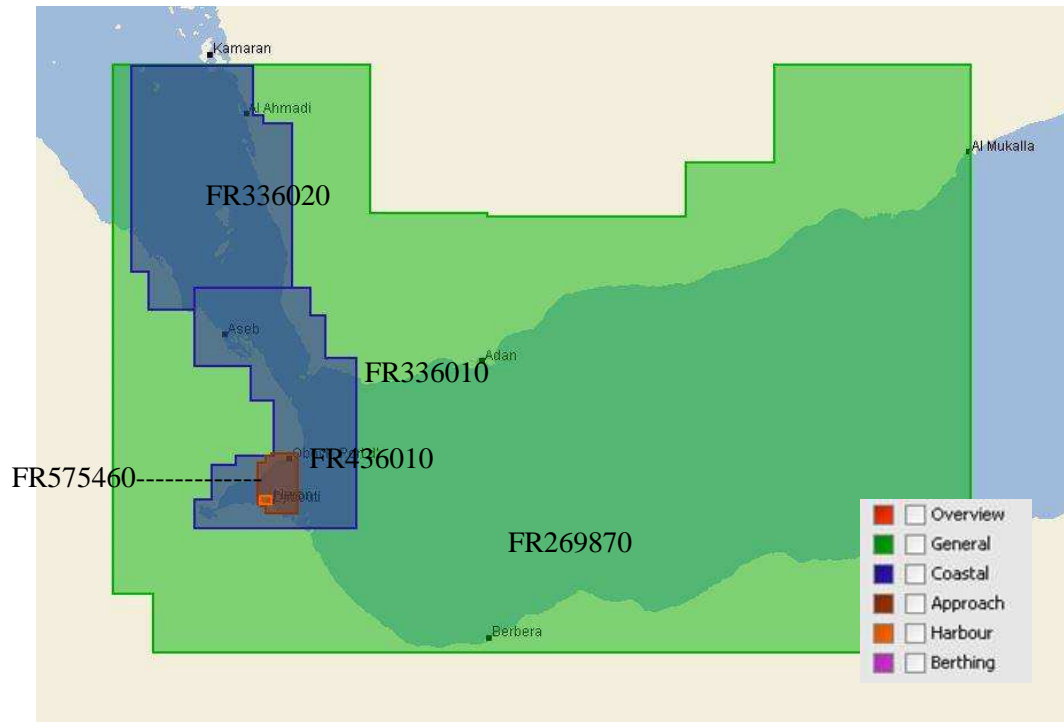


Fig.3: French ENC cells with the NIOHC region (source: [www.primar.org](http://www.primar.org))

### 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

The 5 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
<b>Total</b>	5	5	100

A new edition has been produced since the last conference:

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

### 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

NTR.

### 4.2. Updated publications

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

- Livre des feux et signaux de brume LC : Océan Atlantique (Est) – Océan Indien (Ouest) – Océan Pacifique (2014).

### 4.3. Means of delivery

SHOM continues to increase the production of its digital nautical publications. At the end of 2014, 75 % of SHOM's nautical publications were available in digital format (weekly updated pdf files) on its online store [diffusion.shom.fr](http://diffusion.shom.fr).

### 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 ([diffusion.shom.fr/](http://diffusion.shom.fr/)).

Besides, since January 1st 2014, SHOM's notices to mariners (GAN) are exclusively available under digital formats, either downloadable on [shom.fr](http://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 products.

### 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. The latest overall C-55 update has been transmitted to the IHB on June 24<sup>th</sup> 2014.

Survey status		Depth < 200m			Depth > 200m		
		A	B	C	A	B	C
J	Djibouti	23	76	1	82	18	0

Charting status		Small (<1 M)			Medium (1M < / < 100 000)			Large (> 100 000)			Metric	WGS84
		A	B	C	A	B	C	A	B	C		
J	Djibouti	100	0	NA	100	0	100	100	0	50	100	100

Fig. 4: C-55 updated 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).

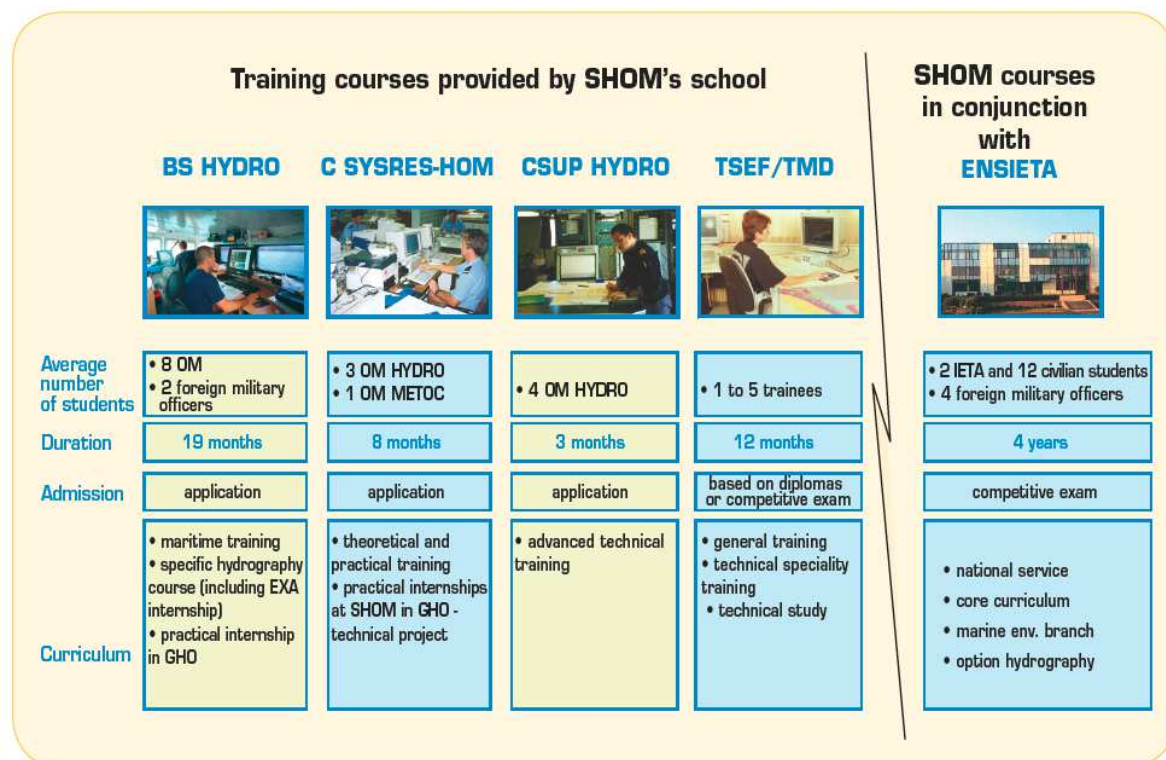


Fig.5: Courses and training provided at the SHOM hydrographic school.



## 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, [dsd-daf-d@shom.fr](mailto:dsd-daf-d@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.

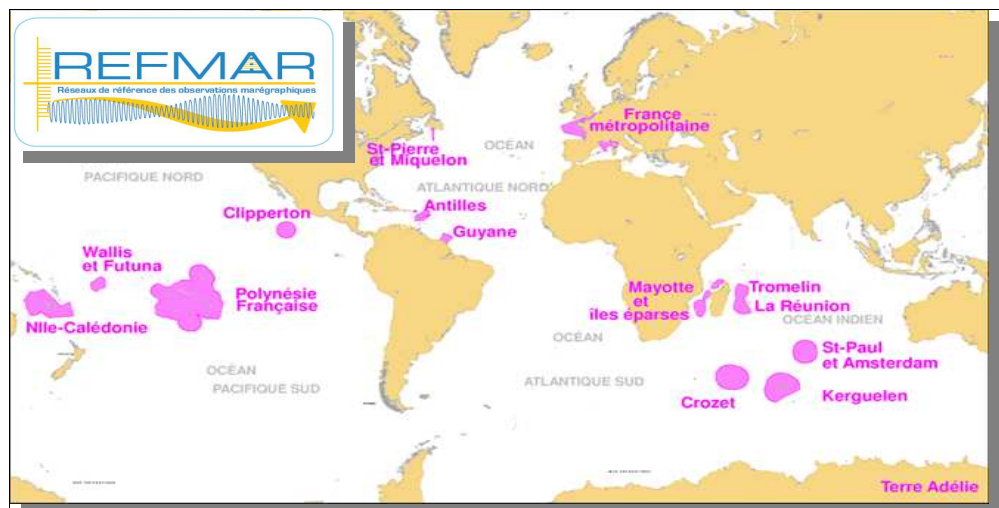


Fig.6: SHOM global tidal network, REFMAR (source shom.fr).

In February 2016, SHOM will organise, in partnership with UNESCO's Intergovernmental Oceanographic Commission (IOC) the 2016 edition of the *REFMAR Days* at UNESCO headquarter in Paris. This event is a 5 days meeting focused on the status of sea level observation and its multiple applications.

### 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 is maintaining a large real time tide gauge network RONIM, 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 French overseas territories, SHOM is contributing to Tsunami warning in Pacific Ocean, Indian Ocean, Caribbean Sea and Mediterranean Sea.

France may also have Navy ships deployed 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](mailto:coord.navarea2@shom.fr).

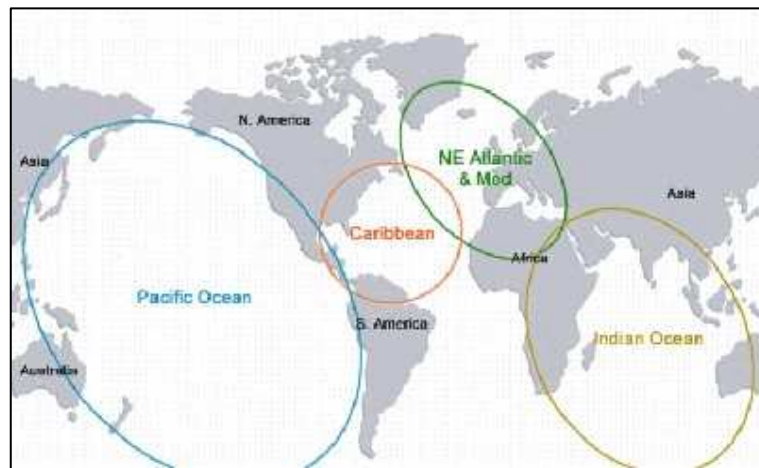


Fig.7: Cooperation areas on tsunami warning system (source COI ; UNESCO).

- **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 tidal predictions, expertise and models 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:

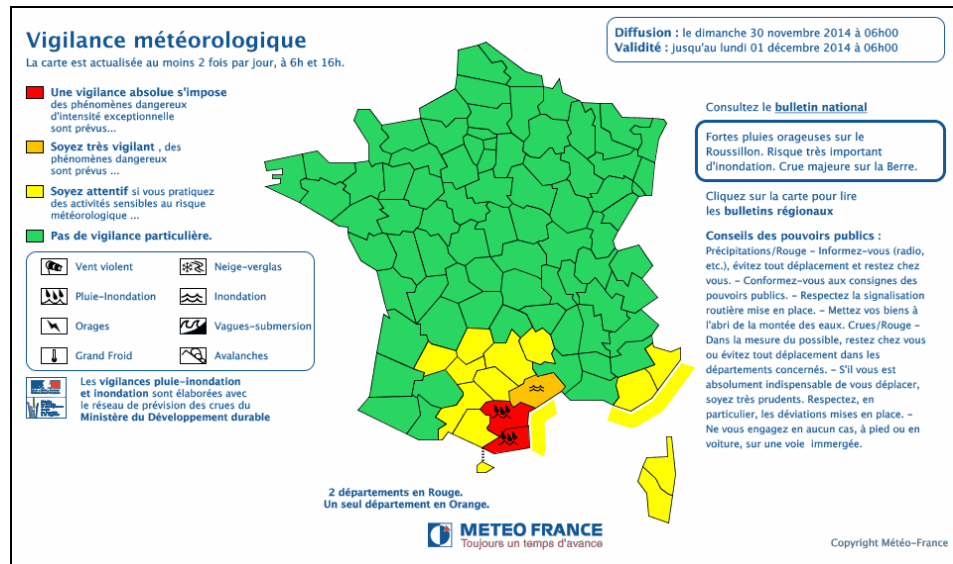


Fig.8: An example of coastal flooding alert over Mediterranean costs (yellow level). Costs subject to alert are underlined according to the alert level (source www.meteo.fr).

- **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 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

Since the launch of SHOM's maritime and coastal geographic information portal [data.shom.fr](http://data.shom.fr), further developments have been implemented with new online services data layers on a regular basis. Hereafter are listed the some of the latest ones:

- <http://zerohydro.data.shom.fr>: online service to edit the vertical datum of your bathymetric dataset,
- An advanced tidal prediction online service to generate tidal predictions at any point, even from external harmonic constants and to perform harmonic analysis of your own observation dataset.
- New seabed, tidal and 3D-currents layers available,
- Vertical reference surface layers generated from geoid/spheroid separation model,
- Raster layer of SHOM's nautical charts completed for large scale;

Those evolutions can all be followed via SHOM's Twitter account (@shom-fr),

Moreover, *ocean modelling forecasts* are available both in visualization and download under Open-Data Licence. Time and Space exploration (5 days timeframe), editable color patterns,



profile extraction and overlaying with other data sources are some of the interactive tools that comes along with those exclusive data.

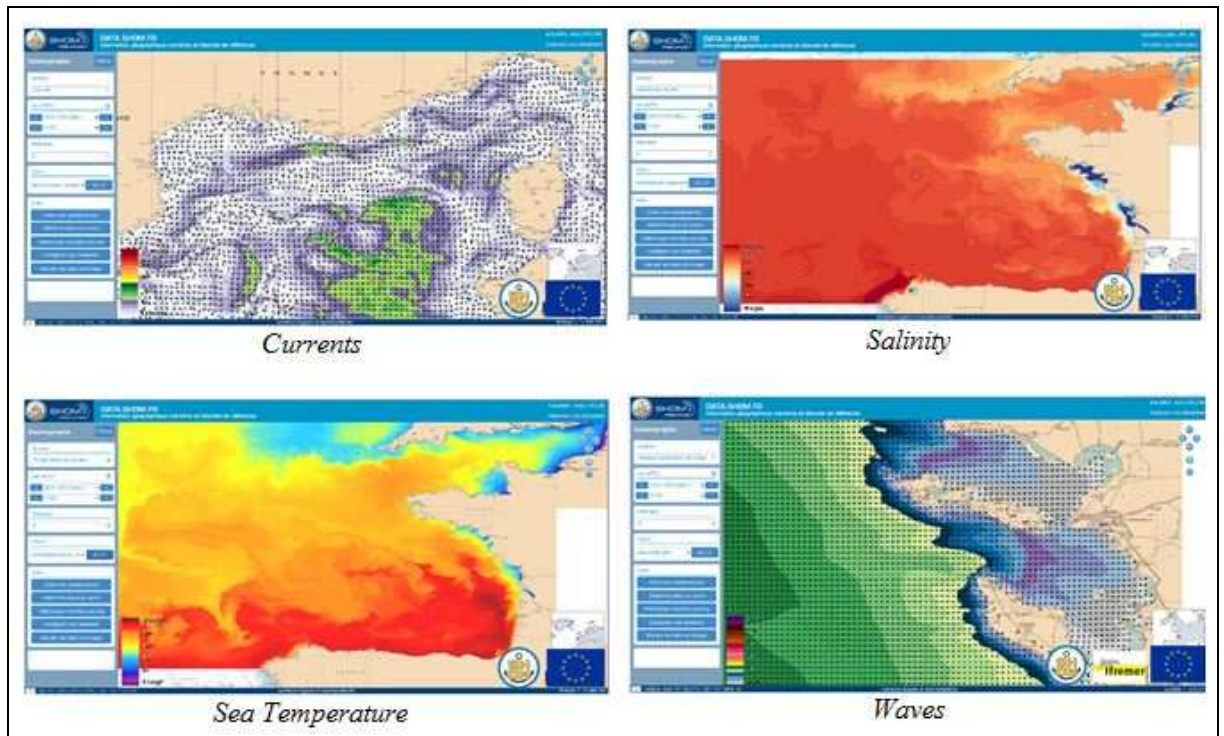


Fig.9: Oceanographic forecasts on SHOM's data portal (data.shom.fr)

A detailed description of the portal functions and contents is available on SHOM website (<http://www.shom.fr/les-services-en-ligne/portail-datashomfr/>). 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 regional hydrographic commissions.

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

Name	Chair / Vice chair	Member	Observations
CBSC		✓	Capacity Building Sub-Committee
NCWG		✓	Nautical Cartography Working Group (former CPSCWG)
ENCWG		✓	ENC Working Group ( former TSMADWG/DIPWG)
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)
IENWG	✓	✓	IHO-European Union Working group
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
NIPWG		✓	Nautical Information Provision Working Group (former SNPWG)
NSHC		✓	North Sea Hydrographic Commission
RSAHC		✓	ROPME Hydrographic Commission
S-100WG		✓	S-100 Working Group (former TSMADWG/DIPWG)
SAIHC		✓	Southern Africa and Islands Hydrographic Commission
SWPHC		✓	South-West Pacific Hydrographic Commission
TWCWG	✓	✓	Tidal, Water Level and Currents Working Group (former TWLWG/SCWG)
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 NIOHC area 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.

On the other hand, co-ordination initiatives with other multilateral organizations, like the IOC in the frame of Marine disasters prevention, could contribute to foster leveraging of resources concerning hydrographic capabilities.