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des relations internationales
Division relations extérieures

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FRANCE NATIONAL REPORT TO THE 21TH CONFERENCE OF THE MEDITERRANEAN AND BLACK SEAS HYDROGRAPHIC COMMISSION (MBSHC)

1. Hydrographic Service: General

Shom is pursuing the achievement of its different commitments based on the National Maritime & Littoral Strategy and the Strategic Review of Defence and National Security according to a 4 years targets and performance contract covering the 2017-2020 period, as approved by Shom's Board.

Survey works are being conducted according to the prioritized 4-years survey plan for waterways under French jurisdiction.

Detailed information to update IHO Publication P-5 is regularly transmitted to IHO secretariat.

2. Surveys

2.1. Coverage of new surveys

Since the last Conference, Shom has conducted the following survey works in 2018:

- In Corsica, around the following harbours: Ajaccio, Propriano, Bonifacio, Porto-Vecchio, Macinaggio and Sant'Ambroggio by BH2 *Laplace* (fig.1 to 6);
- Oceanographic campaign "PROTEVS SWOT" by the BHO *Beautemps-Beaupré*;
- POSA and MEPELS campaigns in Western Mediterranean sea by BH2 *Laplace*.

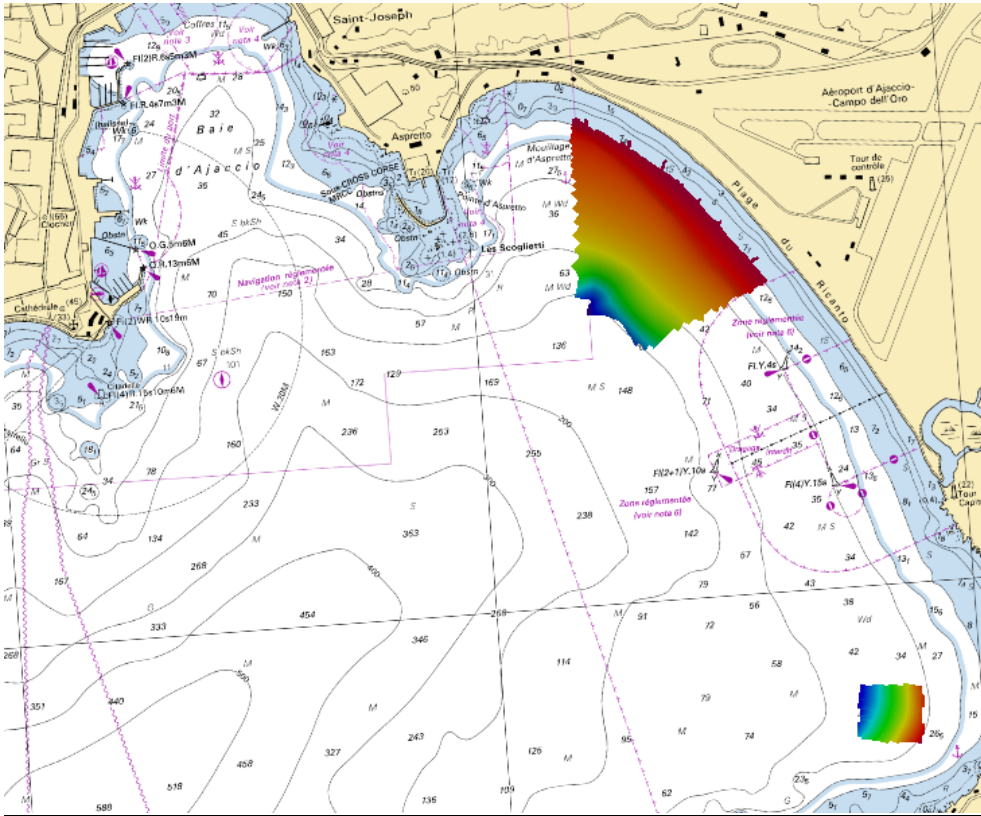


Fig 1: Survey of Ajaccio in 2018 by BH2 Laplace

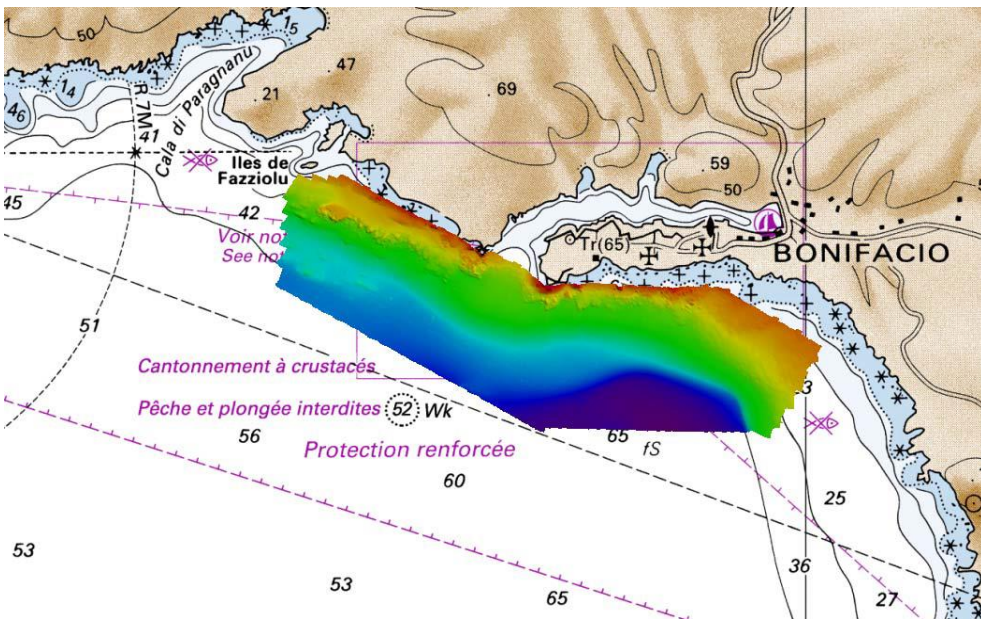


Fig 2: Surveys of Bonifacio in 2018 by BH2 Laplace

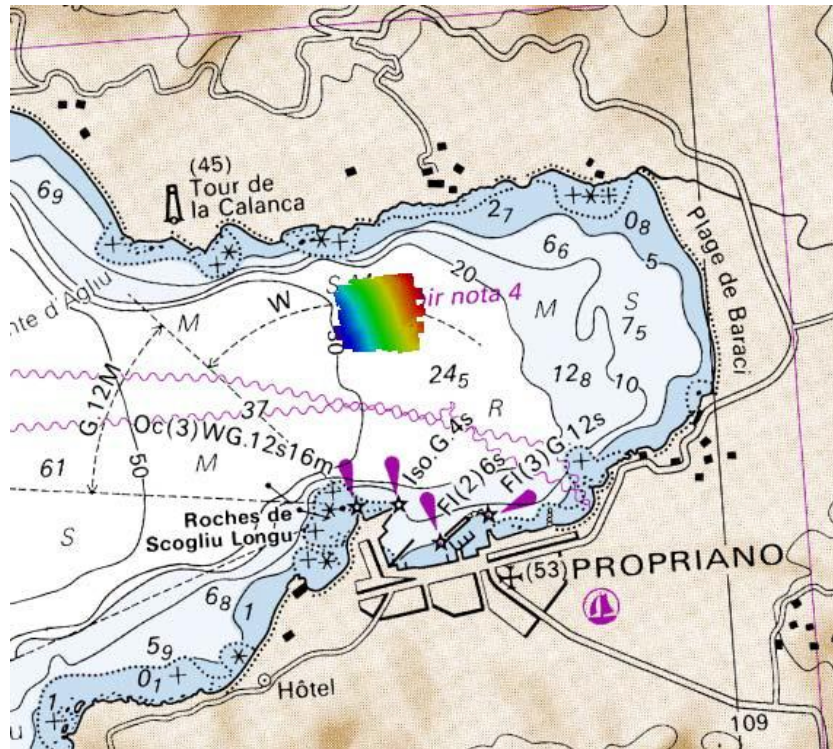


Fig 3: Survey of Propriano in 2018 by BH2 Laplace

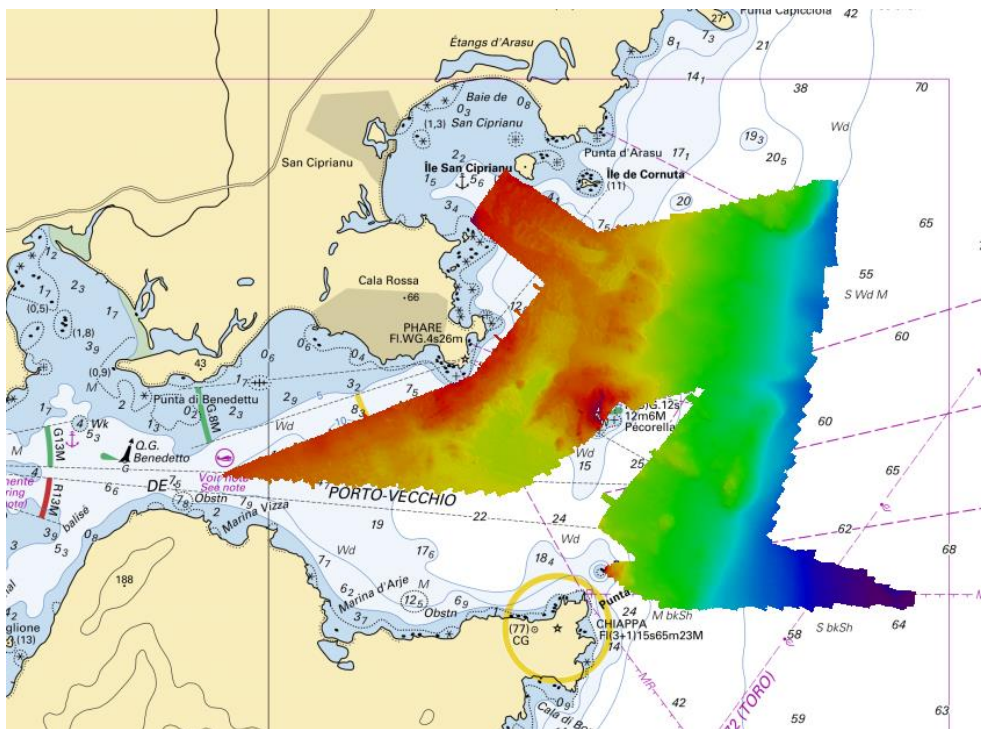


Fig. 4: Survey of Porto-Vecchio by BH2 Laplace in 2018

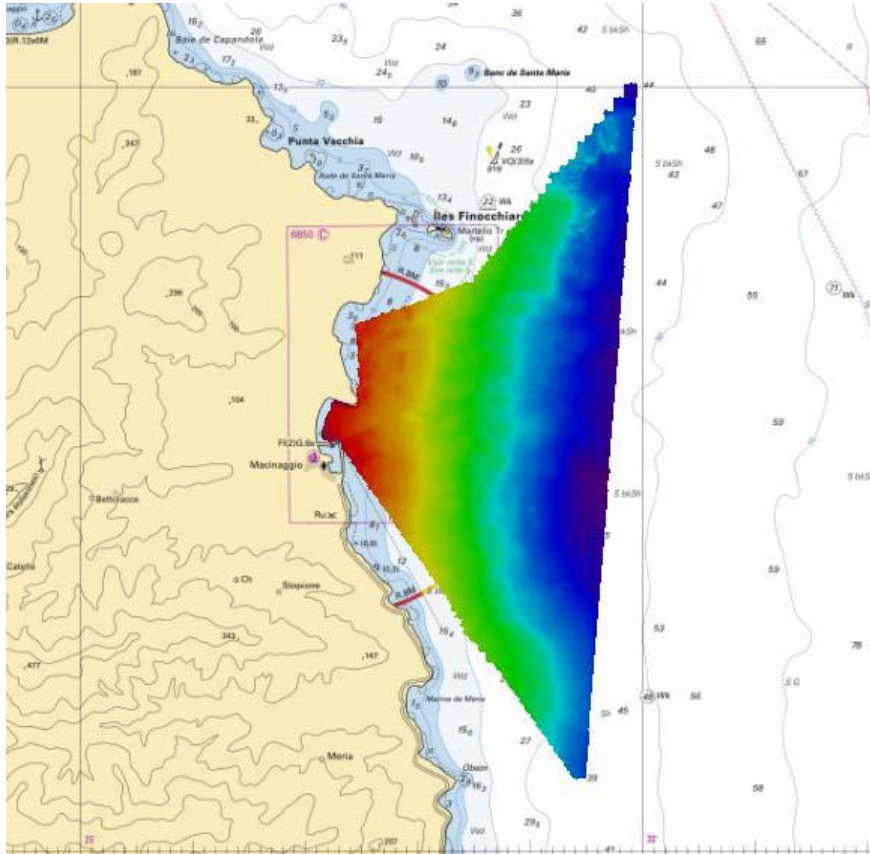


Fig 5: Survey of Macinaggio by BH2 Laplace in 2018

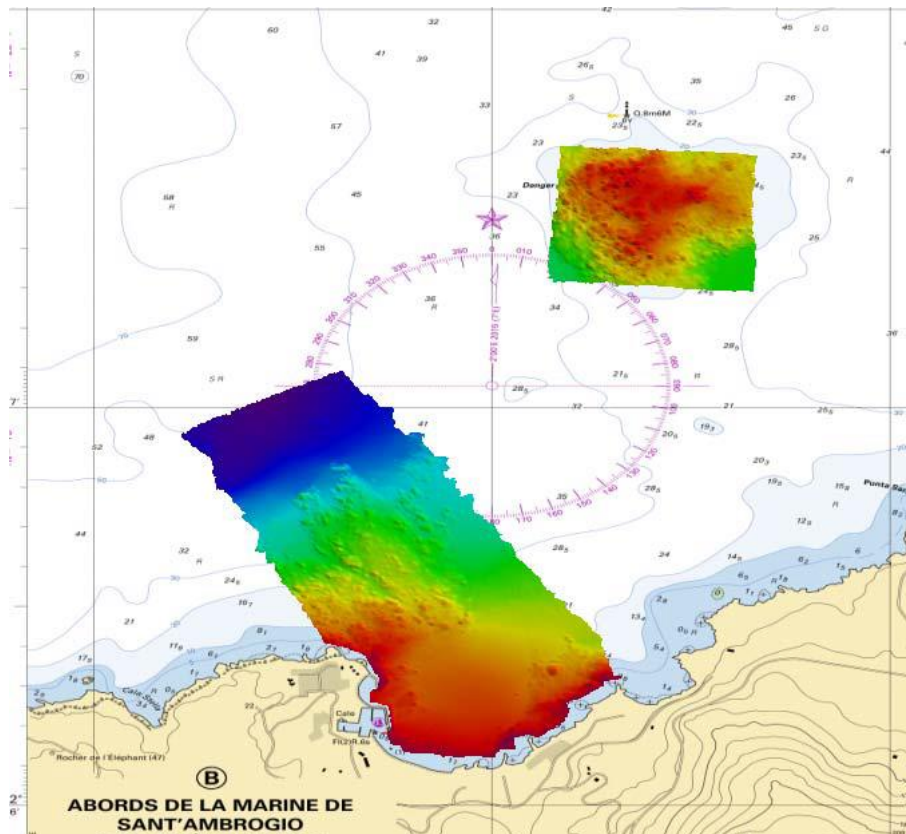


Fig 6: Survey of Sant'Ambrogio by BH2 Laplace in 2018

2.2. LIDAR Surveys

LIDAR surveys are conducted within the framework of Litto3D® programme. This national programme, based on a partnership between Shom and the National Institute of Geographic and Forest Information (IGN), aims to provide a very high resolution Sea-Land digital terrain model (DTM) of metropolitan and overseas French coasts.

A new topographic-bathymetric lidar survey covering the Corsica region has been completed in 2018. Data will be freely accessible and should be released in 2020.

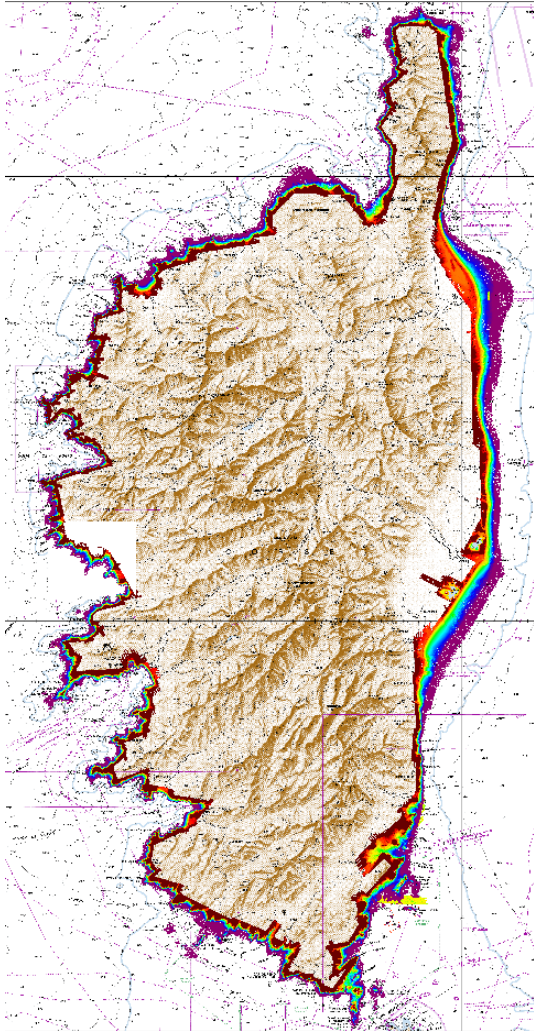


Fig.7: Lidar Survey of Corsica - 2018

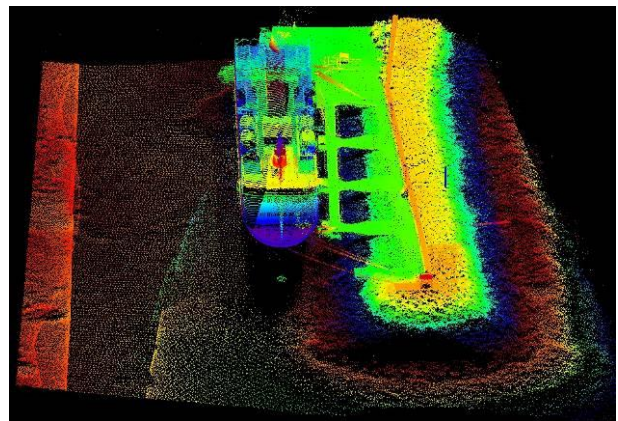


Fig.8: Lidar Survey of Corsica – 2018 / Bastia harbor

All Litto3D® products are freely available through Shom's data portals:

Data.shom.fr (Shom catalog / Master data / Coastal altimetry): data.shom.fr

Diffusion.shom.fr: <http://diffusion.shom.fr/pro/risques/altimetrie-littorale.html>

and the French Government open platform for public data: data.gouv.fr.

2.3. Shom's survey programme for the region

The survey programme for the Mediterranean area for the 2019-2020 focuses on:

- coastal surveys in Corsica (approaches) in 2019,
- coastal surveys in Lebanon waters (approaches and harbours) in 2020, subject to agreement by Lebanon government.

2.4. New technologies and / or equipment

Mid-life overhaul of BHO *Beautemps-Beaupré* has been conducted (between end 2017 and beginning 2018). When in dry dock the following hydro-oceanographic systems have been installed: EM712 0,5x1° multibeam echo sounder, SBP27 sub bottom profiler and EA640 single beam echo sounder from Kongsberg Maritime, POSIDONIA-2 deep water & long range USBL system and HYDRINS inertial navigation system from iXblue, Ocean Surveyors 150kHz and 38 kHz vessel mounted ADCP and RapidCast profiling system from Teledyne RDI, SBE21 thermosalinograph and SBE38 temperature sensor from Seabird, MK21 Ethernet data acquisition system from LM Sippican KSS32M marine gravity meter from BGGs, CG5 portable gravity meter from MicroG Lacoste, ACXC80 video monitoring system from Black Box, a complete network system from Hewlett Packard and Quantum, a deployment system for the Kullenberg piston corer from CNNMCO, Bretagne Hydraulique and ENAG.

After sea-trials in February 2018, BHO *Beautemps-Beaupré* is operational to conduct surveys.

2.5. New ships

NTR.

2.6. Problems encountered

NTR.

3. New charts & updates

3.1. ENCs

As of 1st May 2019, Shom has produced 687 ENCs, of which 115 ENCs within region F.

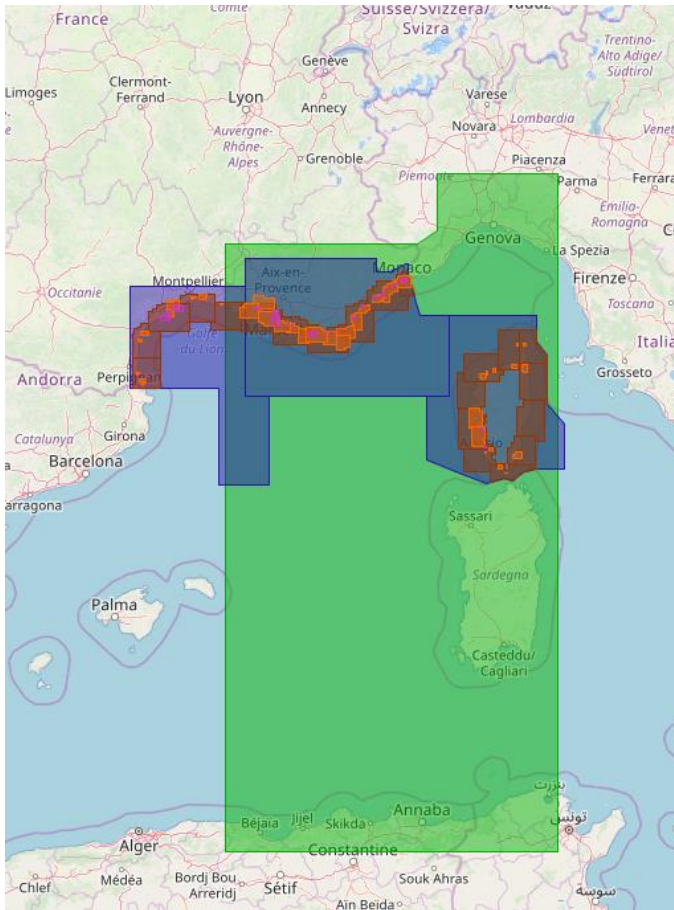
The full collection should eventually reach around 900 ENCs, with an approximate rate of 50 new cells per year.

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

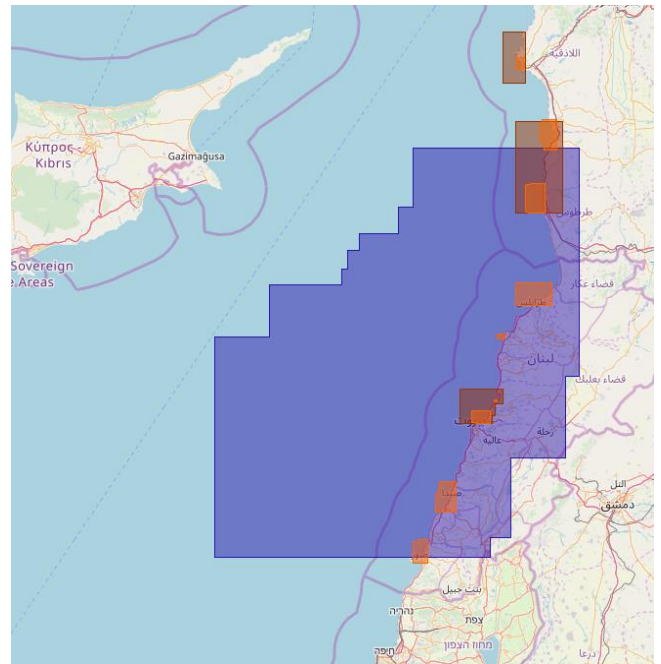
The ENC schema is now complete in region F. Details are provided in the table below:

Usage Band	Produced Cells	Planned Cells	Percentage
1	0	0	/
2	1	1	100
3	4	4	100
4	24	24	100
5	48	86	100
6	38		
Total	115	115	100

The following figures are extracts from the online PRIMAR catalogue <http://www.primar.org> showing Shom ENC coverage within the MBSHC (region F) area:



Western part



Eastern part

Fig.9: Shom ENC coverage within Region F

Some ENC's were produced since the last conference:

Number	Scale 1:	Title
FR57003D	12 000	South coast of France - Gruissan
FR57436C	12 000	Approaches to Bastia – Bastia harbour
FR47513A	90 000	Baniyas and Tartoûs approaches
FR47513C	45 000	Ports of Syria – Al Ladhiqiyah approaches
FR57513B	12 000	Al Ladhiqiyah harbour
FR57513D	22 000	Tartoûs approaches
FR57513E	22 000	Baniyas approaches

No new cells are planned in 2019-2020.

3.2. ENC Distribution method

All French ENC's (S-63 encrypted format) are distributed to End User Service Providers by PRIMAR RENC. France is providing its support to the work plan of the WEND working group for improving the implementation of WEND principles.

3.3. RNCs

NTR.

3.4. INT charts

Here the overall INT chart production status for the region B (*changes in red*):

Scale	Produced INT charts	Planned INT charts	Percentage
Small (<1/1 000 000)	1	1	100
Medium	5	5	100
Large (>1/100 000)	17	17	100
Total	23	23	100

See next section (3.5) for details (charts produced and production plan for the period 2019-2020).

3.5. National paper charts

Since the last MBSHC conference, the following charts have been produced or edited:

National	INT	New chart (NC) or new edition (NE):	Scale 1:	Title
7436	3345	NC	div	Approches et Port de Bastia - Ports d'Ajaccio et de Propriano
7025	3302	NE	250 000	Île de Corse
6929	/	NE	50 000	Abords de Porto-Vecchio
6811	/	NE	15 000	Golfe de Porto-Vecchio
7162	/	NE	50 000	Du Cap Muro au Cap de Feno
6980	/	NE	div	L'Île-Rousse, Sant'Ambrogio et Calvi
6850	/	NE	div	Saint-Florent, Centuri et Macinaggio
6951	3118	NE	250 000	De Fos-sur-Mer à Capo Mele
7442	3191	NE	20 000	De Villefranche-sur-Mer à Menton
7441	3190	NE	7 500	Abords et Ports de Monaco
7408	/	NE	50 000	De Cavalaire-sur-Mer à la Rade d'Agay
7407	/	NE	50 000	De Toulon à Cavalaire-sur-Mer
6615	/	NE	25 000	Îles de Port-Cros et du Levant
7282	/	NE	25 000	Rade d'Hyères
7091	3197	NE	25 000	Abords de Toulon
7093	3198	NE	10 000	Rade de Toulon
7406	/	NE	50 000	De Marseille à Toulon
7391	/	NE	12 500	Abords Sud de Marseille
7390	3196	NE	10 000	Port de Marseille
7054	/	NE	50 000	De l'embouchure de l'Aude à Sète
6693	/	NE	50 000	De Saintes-Maries-de-la-Mer à Port-Saint-Louis-du-Rhône

6844	/	NE	50 000	De Port-Barcarès à l'embouchure de l'Aude
7053	3189	NE	50 000	De Sète à la Pointe de l'Espiguette
7003	/	NE	div	Le Cap d'Agde, Saint-Cyprien, Banyuls-sur-Mer et Gruissan
3976	/	NE	514 000	Mer Adriatique
4314	/	NE	328 000	De Bône à Tunis
5696	/	NE	10 000	Port de Mostaganem
<i>Fac simile charts :</i>				
7661	3110	NE	425 000	De Cabo de la Nao à Barcelona et Islas Baleares (fs ES48)
7660	3108	NE	350 000	De Cabo Tiñoso à Cabo Canet (fs ES47)
7658	3102	NE	350 000	Détroit de Gibraltar et Mer d'Alboran (fs ES45)
7504	3160	NE	10 000	Puerto de Almeria (fs ES4591)
7503	3252	NE	10 000	Baie et Port de Ceuta (fs ES4511)
7642	3165	NE	10 000	Puertos de Cartagena et Escombreras (fs ES4642)
7299	307	NE	1 175 000	Du Cap Bon (Ras At Tib) à Ra's At Tin (fs GB176)
7333	3500	NE	300 000	De Al Burullus à Al 'Arīsh (fs GB2573)
7544	3548	NE	50 000	Approches de Port-Saïd (Bur Sa`id) (fs GB241)
7543	3549	NE	25 000	Abords de Port-Saïd (Bur Sa`id) (fs GB240)
7676	/	NE	100 000	Approches de Malta et Għawdex (Gozo) (fs GB194)
7675	/	NE	50 000	Malta (fs GB2538)
7540	3793	NE	25 000	Du Cap Drépanon au Port de Chaniá (fs GR433/1)
7536	/	NE	div	Abords et Ports d'Irákleion (fs GR443 et GR443/1)
7526	3493	NE	10 000	Approches et Port de Kérkyra (Corfou) (fs GR212/1)
7692	3474	NC	15 000	Rijeka (fs HR15)
7693	/	NC	4 000	Port de Rijeka (fs HR18)
7695	3477	NE	15 000	Split - Kastelanski Zaljev (fs HR47)
7291	3310	NE	250 000	De Piombino à Fiumicino et côte Est de Corse (fs IT913)
7699	/	NE	250 000	De Punta Alice à Torre Canne et Canale d'Otranto (fs IT920)
7508	3304	NE	250 000	De Capo Caccia à Capo Sant' Elia (fs IT911)
7778	/	NE	100 000	De Capo Cozzo à Capo Milazzo et Stromboli (fs IT13)
7362	/	NE	100 000	De Capo Circeo à Ischia (fs IT9)
7529	/	NE	div	Abords et Port d'Ancona (fs IT209 et IT210)
7528	3392	NE	30 000	Abords de Palermo (fs IT255)
7506	3361	NE	10 000	Port de Genova (fs IT54)
7287	/	NE	30 000	Isole Pontine (fs IT126)

7773	/	NE	25 000	Îles de Capraia et Gorgona (fs IT116)
6804	/	NE	30 000	Abords de Cagliari (fs IT299)
7516	/	NE	div	Abords et port de Livorno (fs IT62 et IT120)
7227	/	NE	10 000	Venezia – Porto di Lido (fs IT226)
7226	/	NE	10 000	Venezia - Porto Marghera (fs IT225)
7243	310	NE	1 200 000	Mer Noire (fs TR10)

The following charts are planned to be published in 2019-2020:

National	INT	New chart (NC) or new edition (NE):	Scale 1:	Title
7255	3606	NE	250 000	De El Ladhiqiyeh à Soûr
7256	3608	NE	250 000	De Soûr à Al Arish
6822	/	NE	50 000	Abords Nord de Bastia
6823	/	NE	50 000	Abords Sud de Bastia
7436	3345	NE	div	Approches et Port de Bastia - Ports d'Ajaccio et de Propriano
7392	3195	NE	25 000	Du Cap Couronne au Cap Croisette - Golfe de Marseille

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

Shom provides georeferenced marine charts in GeoTiff and S-57 format when produced. These digital marine charts are now available through Shom online store <http://diffusion.shom.fr> under various licenses¹ according to the purpose of use. These data can be used with GIS or cartographic software for commercial or private purposes.

A S-57 license² allows download of updated versions for 12 months from the date of purchase.

3.7. Problems encountered

NTR.

4. New publications & updates

4.1. New publications

NTR.

4.2. Updated publications

Publications are updated weekly in accordance with Shom Notices to Mariners.

¹ Internal reuse, commercial reuse, documentary use or end user.

² Each license allows internal reuse of the data for up to 5 workstations. For more information, contact bps@shom.fr

4.3. Means of delivery

All nautical publications are available in digital format only (pdf files) on Shom online shop (diffusion.shom.fr).

5. MSI

5.1. Existing infrastructure for transmission

Shom's notices to mariners (GAN) are exclusively available under digital formats on Shom website: <http://diffusion.shom.fr/gan>.

5.2. New infrastructure in accordance with GMDSS Master Plan

NTR

5.3. Problems encountered

NTR.

6. C-55 Latest update

The latest overall C-55 update has been transmitted to the IHO Secretariat on April 26th 2019 for the Survey Status.

C-55 charting and surveying status updated values regarding Region F areas under Shom responsibility are summed up in the following tables :

Survey Status Updated December 2018		Depth < 200m			Depth > 200m		
		A	B	C	A	B	C
F	France Méditerranée	21.2	78.0	0.8	86.6	0.0	13.4
	Liban	6.1	50.6	43.3	89.1	0.0	10.9
	Monaco (Principauté de)	75.8	24.2	0.0	95.0	0.0	5.0

Charting Status Updated May 2019		Small (<1 M)			Medium (1M < / < 100 000)			Large (> 100 000)			Metric	WGS84
		A	B	C	A	B	C	A	B	C		
F	France Méditerranée	100	/	100	100	/	100	100	/	100	100	100
	Liban	100	/	NA	100	/	100	100	/	100	100	75
	Monaco (Principauté de)	100	/	100	100	/	100	100	/	100	100	100

C-55 values for survey status (top table) and charting status (down table). Updated values are highlighted in red.

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

7.1. Training received, needed, offered

Initial training capabilities provided by Shom include the following FIG-OHI-ACI courses: category B for hydrographic surveyors and category B for nautical cartographers. So far, these courses³ are provided in French and are open to francophone foreign applicants.

A category A course for hydrographic surveyors is provided at ENSTA Bretagne.

³ Training offer: <http://www.shom.fr/le-shom/formation-emplois-stages/formation/>
Modalities: drh-for-eco@shom.fr

SHOM L'océan en référence

TRAINING COURSES PROVIDED BY SHOM SCHOOL

BS/L3+ HYDRO*

Average number of students
Duration
Admission
Curriculum

- 2 to 8 petty officers/ 2 foreign students/ 10 students UBO
- 14 months
- based on application file
- manoeuver and navigation Training
- specific course on hydrography and oceanography
- on board end-study project

C SYSRES-HOM

- 2 to 5 hydrographers petty officers
- 9 months
- based on application file
- information technology theoretical and practical training (application to hydrography IT)
- Practical internships in SHOM IT department and survey unit (GHOA)

C SUP HYDRO***

- 2 to 5 hydrographers petty officers
- 4 months
- based on application file
- advanced technical training on hydrography
- team management training

NAUTICAL CARTOGRAPHER TRAINING COURSE*

- 2 to 8 trainees
- 9 months
- based on diplomas or competitive exam
- general training on hydrography and geosciences
- specific training on nautical cartography
- end-study technical project

SHOM school support to L'ENSTA Bretagne

HYDROGRAPHIC ENGINEER**

Average number of students
Duration
Admission
Curriculum

36 months (+12 months for French military students)
 based on diplomas or competitive exam
 see: www.ensta-bretagne.fr

Accreditation logos: Cti, EUR-ACE, FIG, ICA, CACP

www.shom.fr
 @shom_fr | shom.fr | shom_fr

Fig. 10: Courses and training provided at the Shom hydrographic school (source: shom.fr)

Hereafter are listed the training courses provided to foreign trainees from the MBSHC region since the MBSHC20 conference:

Country	Course	Year	Student
Morocco	Cat B. Hydrographic course	2017-2018	1
Morocco	Hydrographic, oceanographic, meteorological network and system administrators course	2017-2018	1
Morocco	Training on demand : cartographic data validation	2018	1
Morocco	Training on demand: hydrographic data validation	2017-2018	1
Morocco	Cat B. Hydrographic course	2018-2019	1
Morocco	Cat A. Hydrographic course (ENSTA Bretagne)	2016-2018	1
Morocco	Cat A. Hydrographic course (ENSTA Bretagne)	2017-2019	1

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

For the countries benefiting from Shom support to meet their hydrographic services obligations spelled out by the SOLAS convention, France fosters 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.

7.3. Definition of bids to IHO CB Work Programme

NTR.

8. Oceanographic activities

8.1. GEBCO/IBC's activities

On waters under French jurisdiction in the MBSHC region, Shom's bathymetric data are accessible:

- in the form of regional or coastal bathymetric DTMs:
<http://diffusion.shom.fr/pro/risques/bathymetrie.html?p=1>
- in the form of bathymetric datasets (soundings):
<http://diffusion.shom.fr/pro/amenagement/bathymetrie/lots-bathy.html>

8.2. Tide gauge network

Shom is the national coordinator and reference authority for the observation of the sea level, collecting, managing and distributing the data, including those produced by Shom tidal network, RONIM.

These missions are carried out under the REFMAR programme. All real time and processed tide gauge measurements collected under that programme are freely accessible on the web <http://data.shom.fr/#donnees/refmar> for all areas under French jurisdiction.

This network is recognized as an important tool for coastal operational oceanography, risk assessment, studies on the evolution of the mean sea level, etc.



Fig.11 : Real time measurements from REFMAR tidal network on Shom's web portal (data.shom.fr)

Since 2018, Shom is collecting and distributing data provided by the HTMNET Network. This network is operated by the Mediterranean Institute of Oceanography (MIO) under the Ministry of Research. 11 new stations were added to the REFMAR coordination. Shom is working to improve qualification of these stations by carrying field levelling campaigns.

From 27 to 29 March 2019, the Shom organised, with the support of the French Ministry of the Environment, the third edition of the "Journées REFMAR", an international French-speaking conference on the theme of sea level observation, in Paris. From the MBSHC region, representatives from Morocco, Algeria and Tunisia were able to participate in this conference and present their activities related to sea level observation.

The program of this 3-days conference focused on the themes of "Sea level and coastline", "Sea-level observation for research", "Thematic workshops on Tide prediction / Data rescue / Sea level & MSDI / Experience sharing", and "Observation technology" - <http://refmar.shom.fr/en/journees-refmar-2019>.

The event was widely acclaimed for the quality of presentations and the opportunities it gave for multilateral exchanges.

The conference was followed by a 3-day course on sea-level observation, including basics in tide gauge operation theory and field station controls activities. 50 participants were involved (with participants from Algeria and Morocco); the course was free of charge except for travelling and accommodation.

8.3. New equipment

NTR.

8.4. Problems encountered

Marseille tide-gauge has lost real-time transmission capability since the end of 2018. Correction is underway.

9. Other activities

9.1. Meteorological data collection

ntr.

9.2. Geospatial studies

ntr.

9.3. Disaster prevention

France may have Navy ships in the MBSHC 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 marine disaster is the head of the maritime safety information division. This division can be reached 24/7 by fax +33 298 221 665 or email coord.navarea2@shom.fr.

- **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.

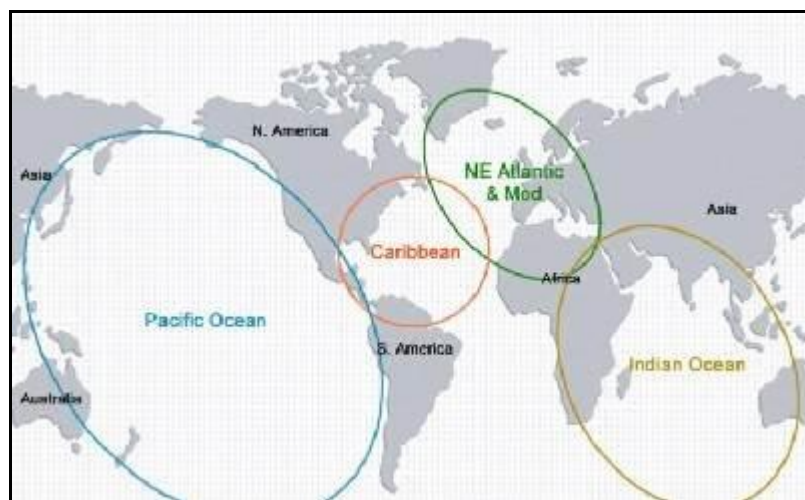


Fig.12 : Cooperation areas on tsunami warning system (source COI; UNESCO).

- **Coastal flooding:**

Shom is associated with *Météo-France* in the provision and improvement of an alert system against storm surges and tides named *Vigilance Vagues Submersion (VVS)*. This helps for a better anticipation of coastal flooding risks and protection of the populations living in the littoral area of Metropolitan

France. An extension of that alert system towards French overseas departments is currently under work.

Shom provides the tidal predictions, real time tide gauge observations as well as information relative to extreme sea levels and bathymetry. Shom is also strongly involved in the continuous process of improving numerical modelling and forecast capabilities through the *HOMONIM* Project conducted in close partnership with Météo-France.

As an outcome of this project latest up-to-date capacity for coastal flooding forecast over the area is operational since June 2017. This modelling capacity relies on :

- a storm surge model, based on barotropic version of Shom's HyCom model, with a 1 to 3 km resolution grid over the Mediterranean basin ;
- a coastal wave models based on WaveWatch-III, with a 200m-resolution unstructured grid along the domestic French coast.

The models are operated by Météo-France up to provide 3-day forecasts of storm surges as well as the significant height and the period of wind waves and swell. Model outputs are available on both Shom (data.shom.fr/catalogue/oceano) and Météo-France (donneespubliques.meteofrance.fr) data portal.

Météo-France's marine forecasters also perform a comprehensive analysis of observation and model outputs to produce a forecast, summarized on a map depicting the level of awareness to adopt along French metropolitan departments.

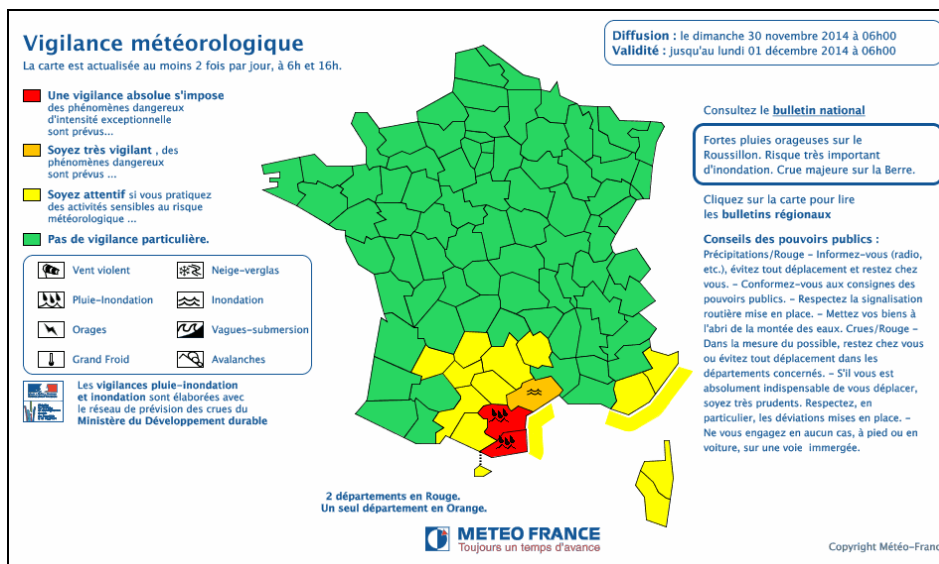


Fig.13: An example of coastal flooding alert (yellow level). Costs subject to alert are underlined according to the alert level (source www.meteo.fr).

• **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 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 the launch of Shom's maritime and coastal geographic information portal data.shom.fr, further developments have been implemented with new online services data layers on a regular basis. Hereafter are listed some of the latest evolutions:

- Improved content for oceanographic data : finer description of swell characteristics, automatic and tailored oceanographic report
- Improved cartographic tools
- Timeline function : time synchronisation of layers to produce animated features
- New layer on administrative limits
- New bathymetric terrain models
- Maritime archives: old charts and survey sheets have been scanned and are now available on the web site

Since December 3rd 2017, in accordance with France open data policy, Shom has widely opened up access to its core data: bathymetric data, wrecks, cables, bottom types, maritime limits, and toponyms databases are distributed under Creative Commons « CC-BY-SA 4.0 » licence.

Those evolutions can all be followed via Shom's Twitter account (@shom_en & @shom_fr).

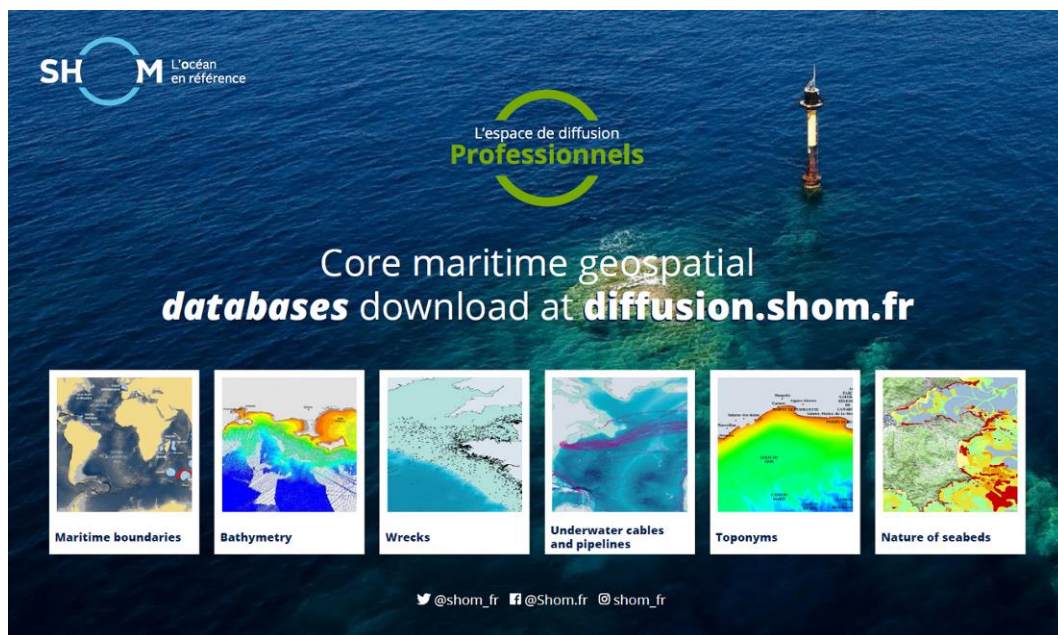


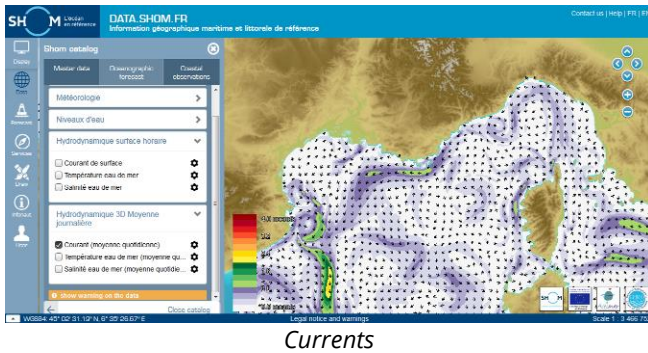
Fig.14 : open data (diffusion.shom.fr)

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

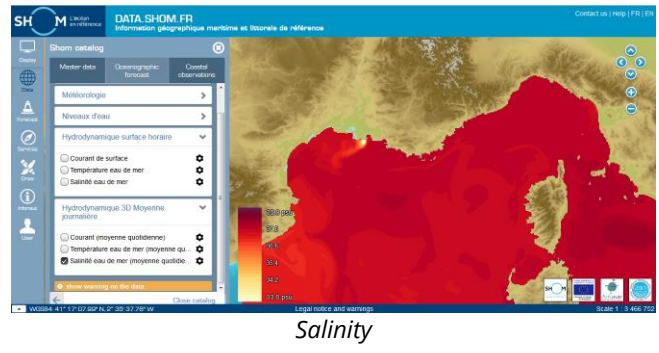
Data available on that portal are organised according to the following topics:

- Master data: *charts, maritime boundaries, maritime and coastal databases, coastal altimetry , bathymetry, vertical datums, sedimentology, tides and currents and marine archives ;*
- Oceanographic forecast : *sea state, meteorology, sea level, hydrodynamic ;*
- Coastal observations : *HF radar and tide gauge data*

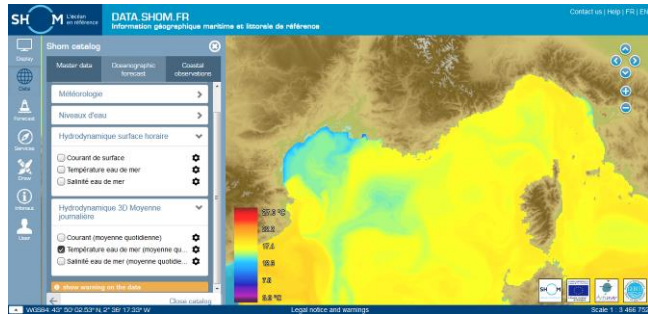
Not all these information are available on MBSHC region.



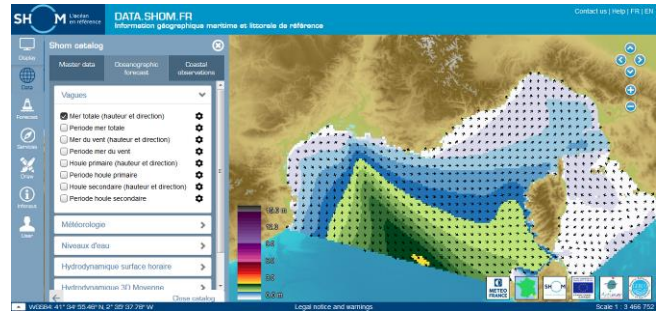
Currents



Salinity



Sea temperature



Waves

Fig.15: Oceanographic forecasts on Shom's data portal (data.shom.fr)

Fig.16: First results of the lidar survey of the Corsican coast (diffusion.shom.fr)

On Friday 8th June 2018, on the occasion of World Ocean Day, the Shom and the General Secretariat for the Sea (SG Mer) opened the French maritime limits portal: <https://limitesmaritimes.gouv.fr/>

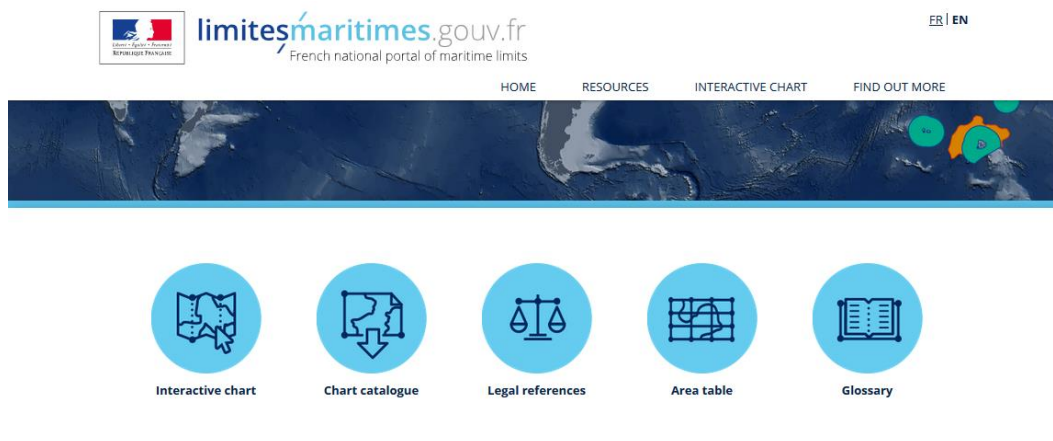


Fig.17 : French maritime limits portal

Operated by Shom as the national expert and reference body for maritime delimitation, this portal is coordinated under the umbrella of the SG Mer. It aims to be the national site for consultation and diffusion of the official information on the maritime delimitations of France, particularly the legal references and digital data.

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
ENCWG		✓	ENC Standards Maintenance Working Group
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
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
NSHC		✓	North Sea Hydrographic Commission
RSAHC		✓	ROPME Hydrographic Commission
S100WG		✓	S-100 Working Group

SAIHC		✓	Southern Africa and Islands Hydrographic Commission
HSPT	✓		S-44 Hydrographic surveys Project Team
SWPHC		✓	South-West Pacific Hydrographic Commission
TWCWG	✓	✓	Tidal, Water Level and Currents Working Group
WEND		✓	World-Wide Electronic Navigational Chart Database
WWNWS		✓	World-wide Navigational Warning Service Sub-Committee

10. Conclusions

In line with the work achieved by the IHO-EU Network, France is fully supportive to the build-up of larger maritime geospatial projects opportunities within this region, and wishes such discussion to continue at the forthcoming MBSHC Conference.

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