



Direction des missions institutionnelles et des relations internationales Division relations extérieures

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FRANCE NATIONAL REPORT TO THE 21TH MEETING OF THE MESO AMERICAN AND CARIBBEAN SEA HYDROGRAPHIC COMMISSION (MACHC)

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 target and performance contract covering the 2017-2020 period, approved by Shom's Board.

In addition to that, 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 (Yearbook) have been submitted using the online system.

2. Surveys

2.1. Coverage of new surveys

No new Shom survey conducted in the MACHC area in 2020. Planned survey works have been rescheduled due to Covid-19.

No third parties' survey has been communicated to Shom since the last conference.

Survey campaigns are planned by Shom on a regular basis in French overseas territories to update nautical charts.

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N° SIRET: 130 003 981 000 11



Shom's national hydrographic survey programme (https://www.shom.fr/fr/qui-sommes-nous/programme-national-dhydrographie-pnh) details the long-term targeted objectives of CATZOC compliant hydrographic surveying in French Antilles, French Guyana and Clipperton Island waters and the current surveys coverage for those three areas.

The survey work related to those areas for the next year is detailed hereafter:

- French Antilles: Opportunity works around Martinique and Guadeloupe in 2021;
- French Guyana: Surveys were carried out along the coasts of French Guyana in 2018. No new survey currently planned for next year;
- Clipperton Island: No systematic surveys scheduled, only opportunity works.

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 combined topo-bathymetric lidar survey of the French Collectivity of Saint-Martin and Saint-Barthélemy took place in March 2019. The products are now 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
 - For Saint-Martin: https://diffusion.shom.fr/pro/risques/altimetrie-littorale/litto3d-st-martin2019.html
 - For Saint-Barthélemy : https://diffusion.shom.fr/pro/risques/altimetrie-littorale/litto3d-st-barth2019.html

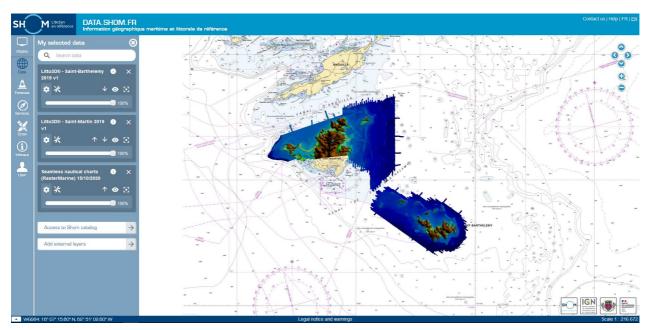


Fig.1: Litto3D® products of Saint Barthélémy and Saint Martin on data.shom.fr

2.3. New technologies and / or equipment

NTR.

2.4. New ships

NTR.

2.5. Crowdsourced and satellite-derived bathymetry - national policy

Crowdsources bathymetry

Shom is currently translating the IHO B-12 (Guidance on Crowdsourced Bathymetry) into French.

Satellite-derived bathymetry

Shom has decided to consolidate his experience on satellite-derived bathymetry with an innovation partnership launched at the end of 2018 and dedicated to the upgrading of Shom's production line including algorithms based on recent methods. This public contract includes 3 stages: research, development and industrialization.

The first step was completed in March 2020 and allowed to define a strategy based on the assessment of accuracy of the different inversion methods evaluated.

The second step will be launched at the beginning of 2021.

2.6. Challenges and achievements

Following hurricane Irma on September 5th 2017, that affected the islands of Saint Martin and Saint Barthélémy, it was necessary to update the hydrographic knowledge of the impacted areas to meet the needs related to the safety of navigation.

This update has been carried out in three steps:

- first of all, emergency surveys in support of post-cyclone operations conducted in October 2017:
- then, a topo-bathymetric lidar survey of the two islands, conducted in March 2019, in order to have a complete view in support of the recovery effort;
- and finally, conventional hydrographic surveys, to be rescheduled after 2021, to provide bathymetric data that meet the most stringent IHO standards in critical areas.

Detailed information about surveys to update IHO Publications P-5 (Yearbook) and C-55 (Status of Hydrographic Surveying and Charting Worldwide) have been submitted using the online system.

3. New charts & updates

3.1. ENC coverage, gaps and overlaps

As of 15th October 2020, Shom has produced 748 ENCs, of which 51 ENCs within region B.

The full collection should eventually reach around 900 ENCs.

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

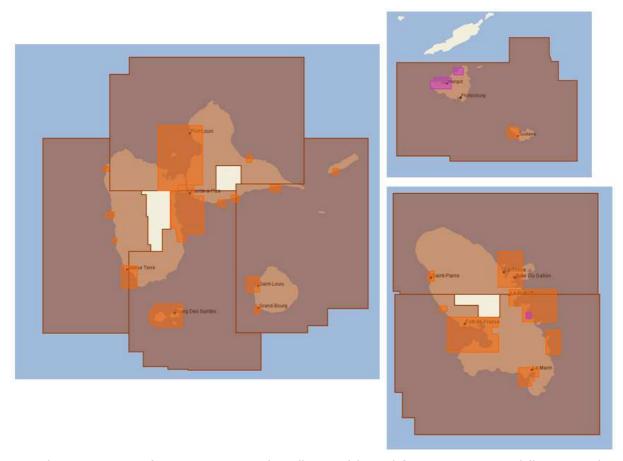
The ENC schema is now complete in region B. Details are provided in the table below:

Usage Band	Produced Cells	Planned Cells	Percentage
1	0	0	N/A
2	3	3	100%
3	5	6	83%
4	10	13	77%
5	5 28		100%
6	5		
Total	51	55	93%

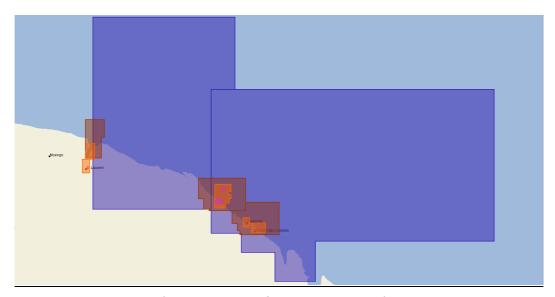
The following figures are extracted from the online PRIMAR catalogue (http://www.primar.org) showing Shom ENC coverage within the MACHC (region B) area:



Fig.2: Shom' ENC coverage within Region B area.



<u>Fig. 3:</u> Shom ENC coverage focus (UB 4-6) in French Antilles (Guadeloupe, left – St Martin & St Barthélemy, top right – Martinique, bottom right).



<u>Fig.4:</u> Shom ENC coverage focus (UB 3-6) in French Guyana.

3.2. ENC distribution method

All French ENCs (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

The overall INT chart production status for the region B (changes in red) is provided below:

Scale	Produced INT charts	Planned INT charts	Percentage
Small (<1/1 000 000)	1	1	100
Medium	4	4	100
Large (>1/100 000)	0	0	/
Total	5	5	100

3.5. National paper charts

Since the last MACHC meeting, the following charts have been edited:

National	INT	Scale 1:	Title
7376	/	60 000	Embouchure du fleuve Maroni
7480	/	10 000	Accès au fleuve Kourou
7481	/	25 000	Approches de Kourou
7484	4192	300 000	De Paramaribo aux Iles du Salut
7485	4193	300 000	Des lles du Salut à Cabo Orange

7750	/	150 000	Approches de l'Île Clipperton
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Following charts are planned to be issued in 2020/2021:

National	INT	Scale 1:	Title
6738	/	60 000	La Martinique
7088	/	20 000	Havre du Robert et Baie du François
7337	/	80 000	Baie de l'Oyapok
7374	/	500 000	Côte de la Guyane française
7379	/	50 000	Abords de Cayenne
7380	/	50 000	Abords de Kourou
7381	/	100 000	De Kourou à Cayenne
7471	/	60 000	D'Anguilla à Saint-Barthélemy
7482	/	60 000	De l'Ilet à Kahouanne aux Saintes
7485	4193	300 000	Des Iles du Salut à Cabo Orange

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's 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 unlimited download of updated versions for 12 months from the date of purchase.

3.7. Challenges and achievements

NTR.

4. New publications & updates

4.1. New Publications

NTR.

4.2. Updated publications

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

4.3. Means of delivery

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

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 <u>bps@shom.fr</u>

4.4. Challenges and achievements

NTR.

5. MSI

5.1. Existing infrastructure for MSI dissemination

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

5.2. Statistics on work of the National Coordinator

See Appendix.

The Shom only plays a control and coordination role of local and coastal warnings issued by its national delegated coordinators (maritime zone commands and JRCC mentioned in §5.3)).

5.3. New infrastructure in accordance with GMDSS Master Plan

There is no NAVTEX station related to French overseas territories, MSI warnings are broadcast through SafetyNet network.

Hereafter are listed the French overseas territories POCs for NAVAREA IV and XII:

AREA	COUNTRY	NAME	TELEPHONE	FACSIMILE	EMAIL
IIV	French Antilles	/ ODG MISTITIMA	+596 (0)5 96 39 50 59 +596 (0)6 96 28 40 82	+596 (0)5 96 39 51 65	opsmer.faa@wanadoo.fr
IIV	French Guyana	/one Maritime	+594 (0)5 94 39 56 69 +594 (0)6 94 26 88 05	+594 (0)5 94 39 57 20	nauticinfo.guyane@netfag.fr
XII	Clipperton (Île)	IR((Lahifi	+689 (0) 40 54 16 16 +689 (0) 40 54 16 15	14680 1111 111 11 20 15	contact@jrcc.pf tahiti.cdq.fct@intradef.gouv.fr

5.4. Challenges and achievements

NTR.

6. C-55 Latest update

France - Clipperton Island

100

The table with the latest information to update IHO Publication C-55 (Status of Hydrographic Surveying and Charting Worldwide) have been provided using the online system:

Survey Status		Depth < 200m					Depth > 200m					
U	pdated October 2020	-	4	В		С		Α		В		С
Α	France - Clipperton Island	77	'.7	5.7	7	16.0	6	3.3		0		96.7
_	France - French Antilles	3	6	37.	1	26.	9	41.8		8.5		49.7
В	France - Guyane	0.	.7	66.	1	33.	2	59.8		0		40.2
	<u>'</u>											
Charting Status			Small (<1 M)			Mediur < / < 10		(>	Large 100 00		Metric	WGS84
U	pdated October 2020	Α	В	С	Α	В	С	Α	В	С		

NA

NA

100

100

100

	France - French Antilles	100	0	NA	100	0	100	100	0	100	100	100
В	France - Guyane	100	0	100	100	0	100	100	0	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

7.1. Offer of Capacity Building



Fig. 5: Courses and training provided at the Shom hydrographic school (source: shom.fr)

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, those courses are provided in French and are open to francophone foreign applicants.

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

7.2. Training received, needed, offered

NTR.

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

NTR.

7.4. Definition of proposals and requests to the IHO CBSC

NTR.

8. Oceanographic activities

8.1. General

NTR.

8.2. GEBCO/IBC's activities

On waters under French jurisdiction in the MACHC 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

Data relative to transits in French overseas waters and DTM of French Guyana, Guadeloupe and Martinique coasts have been provided to GEBCO (see GEBCO Grid and IHO DCDB website).

8.3. Tide gauge network

Shom is the national coordinator and reference authority for the observation of the sea level, managing and issuing the resulting data. Besides, including these 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.

Shom's own network RONIM is present in the MACH region in the French Antilles and in French Guyana.

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

Within the REFMAR network, 10 French permanents tide gauges are located in the region:

Guadeloupe : Pointe-à-Pitre (Shom/Météo-France/DM Guadeloupe), Deshaies (IPGP) and La Désirade Island (IPGP) ;

Martinique : Fort-de-France (Shom/Météo-France/marine nationale), Le prêcheur (CG Martinique), Le Robert (CG Martinique) ;

Saint-Martin: Le Marigot (CT Saint-Martin);

French Guyana : Îles du Salut (Shom/DM Guyane), Îlet La Mère (DM Guyane) and Dégrad des Cannes (DM Guyane).

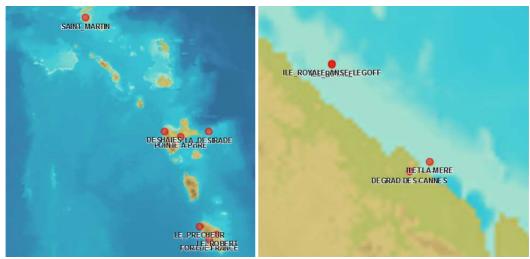


Fig.6: French tide gauges in the MACS region (source: data.shom.fr)

More information about Shom's involvement can be found through the following link: http://refmar.shom.fr/fr/sea level news 2012/t2/coordonner-l-alerte-aux-tsunamis-dans-les-petites-antilles-source-deal-guadeloupe

8.4. New equipment

NTR.

8.5. Challenges and achievements

NTR.

9. Spatial data infrastructures

9.1. Status of MSDI

Shom develops and maintains a MSDI covering all maritime areas under French jurisdiction. The information thus compiled is accessible through 3 portals:

- data.shom.fr
- diffusion.shom.fr
- maritimelimits.gouv.fr

9.2. Relationship with the NSDI

The various maritime geographical information produced by Shom are referenced on the French NSDI (https://www.data.gouv.fr/).

9.3. Involvement in regional or global MSDI efforts

Shom contributes to the MSDI WG. As part of the MSDI Data audit, the different layers available on the Shom portal for the region were referenced.

9.4. National implementation of the Shared Data Principles – including any national data policy and impact on marine data

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.

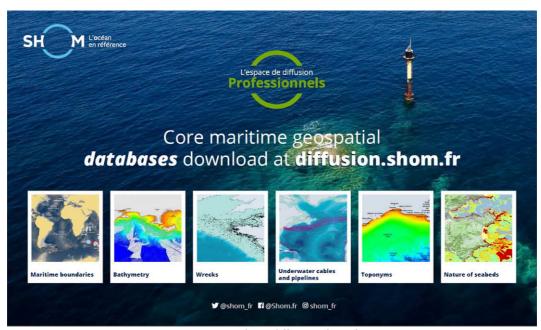


Fig.7: open data (diffusion.shom.fr)

9.5. MSDI national portal

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.

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 MACHC region.

Hereafter are listed some of the latest evolutions:

- Annual edition of wrecks and obstructions layer
- Combined topo-bathymetric lidar survey data of the French Collectivity of Saint-Martin and Saint-Barthélemy (see 2.2)
- Limits related to fishery uses (3 and 100 M)
- Limit of the preventive archeology licence fee (1 M)
- Outer limits of the territorial sea and of the continental shelf of the French Guiana
- New tools and services (https://services.data.shom.fr/support/fr)

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

A detailed description of the portal functions and contents is available on Shom website (https://services.data.shom.fr/support/fr).

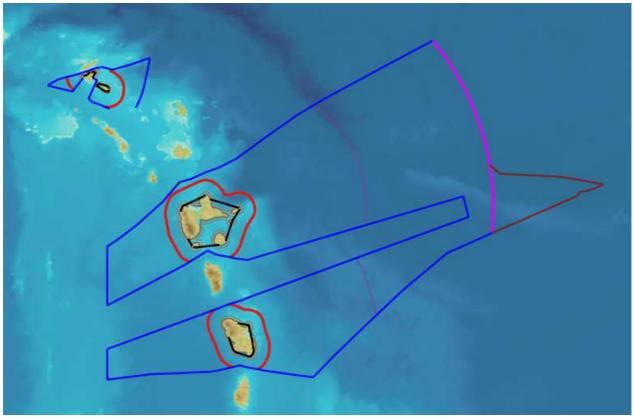


Fig.8: Maritime limits including 1, 3 and 100 M (data.shom.fr)

The maritime limits are also available on the French maritime limits portal: https://maritimelimits.gouv.fr/

9.6. Best practices and lessons learned

NTR.

9.7. Challenges and achievements

NTR.

10. Innovation

10.1. Use of new technologies

As part of the preparation phase for the replacement of the hydro-oceanographic fleet (CHOF project), an agreement was signed with the procurement agency of the French DoD (DGA) for a period of three years in order to conduct experiments and modernise hydrographic data processing techniques. A first experiment was carried out in September 2020 with DriX drones from IX Blue; deep-sea and shallow water AUV, and gliders experiments are also planned in the coming months. Beyond the evaluation of the hydrographic performance of these new platforms, these experiments should make it possible to adapt the organisation and processes in order to get the best out of these new technologies.

10.2. Risk assesment

NTR.

10.3. Policy matters

NTR.

11. Other activities

11.1. Participation of IHO meetings

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		✓	Wold-Wide Electronic Navigational Chart Database
WWNWS		✓	World-wide Navigational Warning Service Sub-Committee

11.2. Meteorological data collection

NTR.

11.3. Geospatial studies

NTR.

11.4. Preparation for responses to disasters

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 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 contributes to tsunami warning for the Caribbean via the Pacific Tsunami Warning Centre (PTWC) which issues, on an interim basis, threat information for the Caribbean. The importance of the development of real-time tide gauges on French coast and operated by Shom, IPGP, CG Martinique, is recognised as a key component for the development of a regional tsunami warning system.

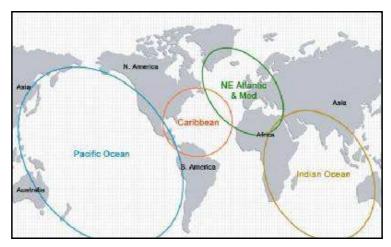


Fig.9: Cooperation areas on tsunami warning system (source COI; UNESCO).

Coastal flooding:

Shom is associated with Météo-France in the provision and improvement of the alert systems against storm surges and tides named Vigilance Vagues Submersion (VVS). This allows for a better anticipation of flooding and protection of people living in French domestic and overseas coastal areas.

Shom provides the tidal predictions, development and expertise on coastal hydrodynamic and wave models, real time tide gauge observations as well as information relative to extreme sea levels and bathymetry. Météo-France's marine forecasters perform a comprehensive analysis of observation and model outputs to produce a forecast, summarized on a map depicting the level of awareness to adopt.

Since 2018, storm surge and coastal waves forecasts rely on multiple runs of state-of-the-art models developed in the framework of the HOMONIM Project, conducted in close partnership with Météo-France:

- the storm surge configurations are based on a 2D shallow water version of the HyCom model implemented on a curvilinear grid with varying resolution of 2,5 km in French Guyana and 900 m around Caribbean islands;
- the wave configurations are based on the spectral wave model WW3 implemented on unstructured computational grids with roughly 200 m resolution on the shoreline of French Guyana and Martinique, Guadeloupe, St. Barthélémy islands.

Upgrades of the wave model configurations have been delayed and are now scheduled in 2021:

- over the Caribbean sea to extend the domain to Haiti, include an updated bathymetry issued by the project and set up hourly wind forcings;
- in Guyana, to include variable granulometry in bottom friction parameterization.

A public release of the forecasts is also scheduled in 2021 through Shom (data.shom.fr) and Météo-France (https://donneespubliques.meteofrance.fr) web data portals.

11.5. Environmental protection

NTR.

11.6. Engagement with the Maritime Administration

NTR.

11.7. Aids to Navigation matters

NTR.

11.8. Magnetic and gravity surveys

NTR.

11.9. International engagements

Within the MACHC region, an agreement has been established in 2014 between the Maritime Authority Suriname (MAS) and the Shom in the field of hydrographic surveys, exchange of hydrographic information and data, and training in hydrography and cartography.

11.10. Others

NTR.

12. Conclusions

Because of the Covid-19 public health crisis, the conventional hydrographic surveys which were scheduled in 2020 have to be postponed after 2021.

Efforts to restore hydrographic knowledge on the islands of Saint Martin and Saint Barthélémy, affected by Cyclone Irma in September 2017, are still topical with the provision of composite DTMs for those two Islands in the French data portal data.shom.fr. A first edition of those DTMS has been produced from the topo-bathymetric lidar surveys conducted in March 2019.

Concerning MSDI, the national portal www.data.shom.fr provides data freely available in a broader scope (bathymetry, nautical chart rasters, wrecks and obstructions, maritime limits and boundaries, administrative limits, fisheries limits...).

In 2020, Shom launched a partnership and a program related to innovation in the frame of satellite-derived bathymetry and the use of drones, AUVs and gliders to experiments other possibilities to conduct hydrographic surveys respecting IHO standards.

National MSI Self-Assessment

Country: FRANCE
Organization: Shom

1. Maritime area

[Describe maritime area including details of the geographic boundaries]

The maritime area includes coastal waters (up to 250 NM) of French Guyana, coastal waters of the French West Indies (Martinique, Guadeloupe, St Martin et St Barthelemy), as well as Clipperton Island in Pacific.

2. Operational Points of Contact for the National Coordinator

INSTITUTION	TELEPHONE	FACSIMILE	EMAIL
Shom, overseas office (dops-psm-na- om@shom.fr) of the "Information and	+33 2 56 312 312		
Nautical publication" department of the "Maritime Products and services" division : na- om-all@shom.fr	+33 2 56 312 273 +33 2 56 312 303	/	na-om-all@shom.fr

3. GMDSS Master Plan

[Report on the status of the GMDSS Master Plan: Is it up to date? When was the last update?]

The French GMDSS Master Plan is compiled in the Shom publication "Maritime radiocommunications" reference n°924-RNC available on-line: https://diffusion.shom.fr/pro/rsx-92-4-radiocommunications-maritimes-systeme-mondial-de-detresse-et-de-securite-en-mer-smdsm.html

The publication is regularly updated (last version October 14^h 2020).

[Specifics of equipment used and software version with date up-dated]

Equipment Type for Ports and Local Area	Software Version	Date of Up-date
No NAVTEX station in French ovserseas territoritories within the MACHC region.		
Coastal warnings broadcasted through SAFETYNET		
Terrestrial rediocommunications HF, MF and VHF means		

[Detail the number of warnings identified as immediate priority (requiring transmission within 30 minutes) and the average elapsed time for passing to NAVAREA coordinator, as reported to the last RHC meeting]:

Year Y-2		Year Y-1		Year Y	
Total	Average elapsed time	Total	Average elapsed time	Total	Average elapsed time
xx	xx.x Mins	xx	xx.x Mins	xx	xx.x Mins

4. NAVTEX Coverage:

[Diagram of NAVTEX stations and service areas within maritime area; Contact details for NAVTEX Stations; Confirm operational status has been validated.]

Not applicable.

Coastal warnings broadcasted by SafetyNET in French overseas territories.

5. Operational Issues:

[New infrastructure in accordance with GMDSS Master Plan; Problems encountered?] No comment.

6. Contingency Planning

[Provide information regarding contingency plans that have been established and future plans where appropriate. Also report on any testing of the plan that has been conducted]

7. Capacity Building

[Demands for Capacity Building, Training requested or received, any offered, status of national, bilateral, multilateral or regional development projects with MSI component]

Not applicable.

8. Other Activities

[Participation in other IHO or IMO Working Groups, Regional Hydrographic Commissions, regional conferences related to MSI over past year]

Shom participates to IHO and IMO Working Groups, Régional Hydrographic Comissions and the regional conferences related to MSI over past year (SMAN11, MSC7).

9. National Maritime Website

[(Address, statistics (if permitted by national legislation; how often is the information on your web site updated? Do you display the date and time of the last update on your web site?]

French overseas territories POCs for NAVAREA IV and XII:

AREA	COUNTRY	NAME	TELEPHONE	FACSIMILE
IV	French Antilles	Commandant de Zone Maritime Antilles	+596 (0)5 96 39 50 87 +596 (0)6 96 39 57 20	+596 (0)5 96 39 51 65
		EMAIL	emia-antilles.ccmoh24.fct@def.gouv.fr	
IV	French Guyana		+594 (0)5 94 39 56 69 +594 (0)6 94 39 56 46	+594 (0)5 94 39 57 20
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10. Recommendations

[If any]

11. Summary

[Please provide a short summary of this paper which will be included in the final report of the meeting.] Shom, as French national MSI coordinator, do not transmit MSI within the MACHC region.

The role of the Shom is limited to the control and coordination of the warning issued by its national delegated coordinators.

Destinataires : MACHC21 Chair (USA) - OHI

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