



19th Meeting of the Southern African and Islands Hydrographic Commission

National Report by France (Shom)

[SAIHC Member State]

SAIHC19, 29 – 31 August 2023



IHO

TOP ACHIEVEMENT DURING THE YEAR

International
Hydrographic
Organization

Hydro-oceanographic surveys

- No survey carried out in the SAIHC Region since SAIHC-18
- BHO *Beautemps-Beaupré* will be deployed in the SAIHC Region in August 2023, off Mayotte and Madagascar





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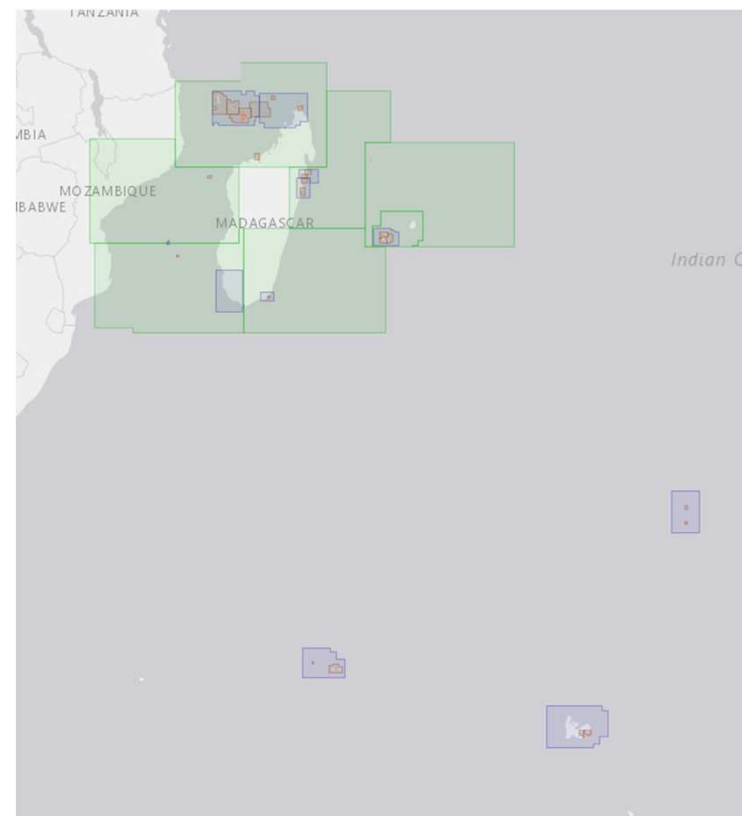
International
Hydrographic
Organization

Charting

- ENC
 - 1 new cell produced (*Mouillage d'Itapère*)
 - 71 FR ENCs available in Region H (out of a total of 110 cells planned)
- INT Charts
 - No new edition
 - FR INT scheme complete for Region H
- Nat CHARTS
 - 3 new editions (*FR7222, FR7240 & FR7328*)

MSI

- No change (no NAVTEX station in French overseas territories, MSI warnings are broadcast through SafetyNet network)





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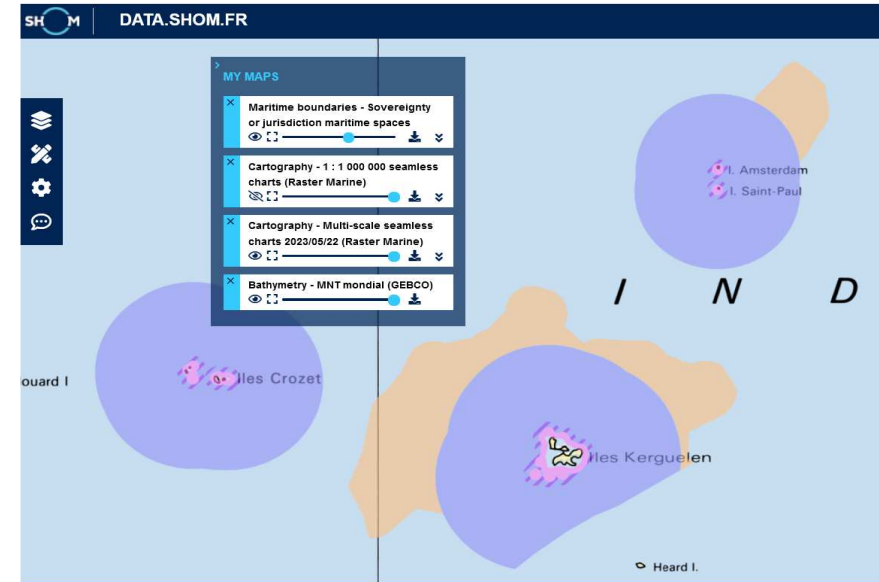
MSDI

- data.shom.fr

Latest evolutions:

- New layer
 - Sovereignty or jurisdiction maritime spaces (surfaces)
- Updated layers
 - Wrecks and obstructions
 - Aids to Navigation (AtoN)
 - Bathymetric measurements
 - Maritime altimetric references
 - Tidal table calculations

- diffusion.shom.fr > new ergonomics





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MSDI

- French national portal for maritime limits (maritimelimits.gouv.fr)

consultation and dissemination of the official elements used to delimit maritime areas under the sovereignty or jurisdiction of the French Republic, in particular legal references and digital data

Themes



French maritime areas

This theme brings together information on maritime delimitations: straight baselines ;...

Traffic and shipping

This theme gathers information on the limits that regulate maritime traffic and...

Limits of competence and reporting

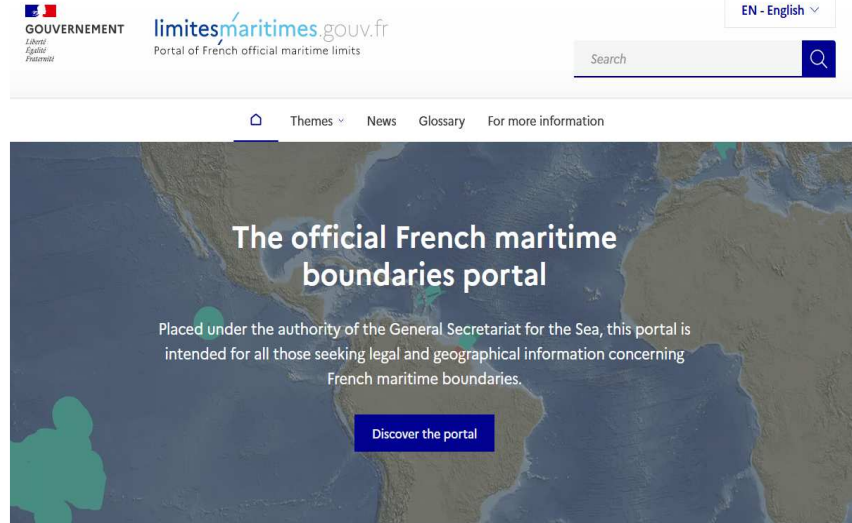
This theme gathers information on administrative boundaries establishing jurisdiction or...

Occupation and use of the maritime domain

This theme gathers information relating to the limits regulating occupations (e.g. ports,...

Environmental protection

This theme brings together information on geographical data relating to the protection of...



A new version of this portal was released in February 2023. This new version includes new ergonomics and information is now organized into 4 themes:

- French maritime areas;
- Traffic and shipping;
- Limits of competence and reporting;
- Occupation and use of the maritime domain.



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Evolution of tidal services

Previously

3 products :

- Annuaire des marées
- Horaires de marées (calculés pour 100 ports)
- Prédications à la carte (disponibles pour 1000 ports)



Currently

1 service :

- Marées à la carte

<https://diffusion.shom.fr/marees/horaires-des-marees.html>

Available functions of this new service:

- Calculation of the hours and heights of high and low tides, combined with coefficients (Tide directories)
- Calculation of water level at a given time step (1, 5, 10, 30 and 60 minutes)
- Threshold calculation (search for time slots for which a water level is above or below a given threshold)





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TOP CHALLENGES AND /OR OBSTRUCTIONS

International Hydrographic Organization

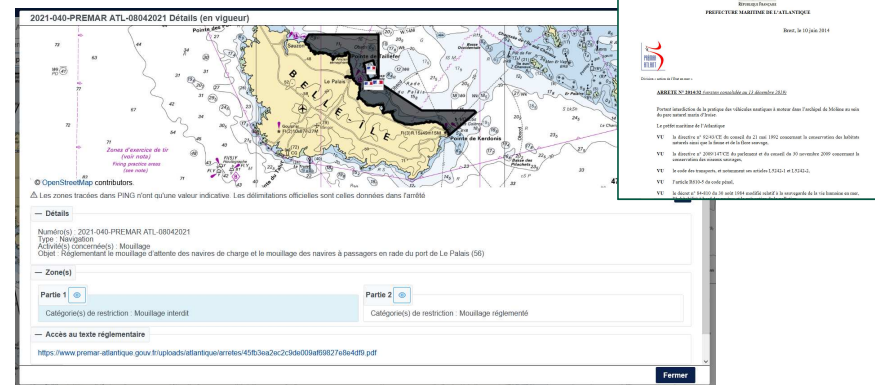
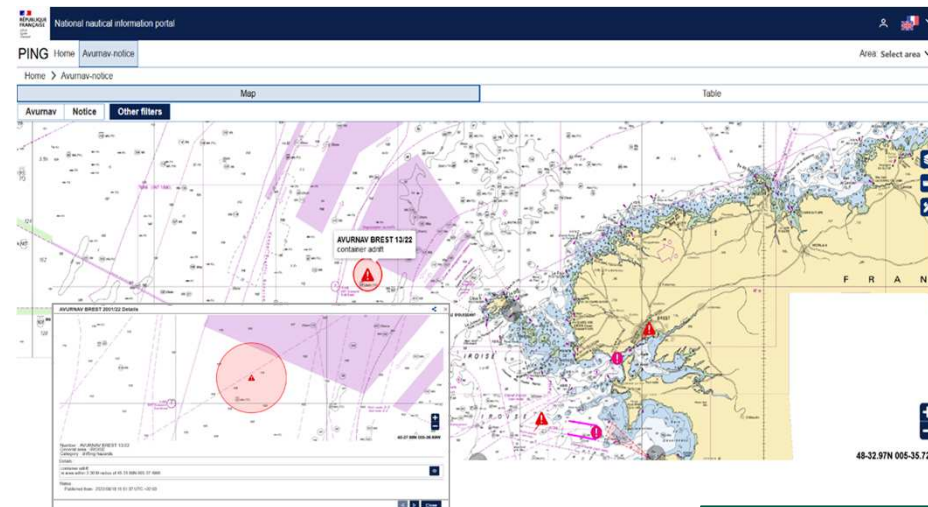
S-124 – French national nautical information platform PING

Shared information system for the transmission, formatting, digitization and posting of nautical information on the Internet

This platform is structured around 3 modules:

- ❖ production and diffusion of navigational warnings,
- ❖ transmission of source information by maritime services and users in order to contribute to nautical information,
- ❖ production and diffusion of maritime regulations in a spatialized form.

Production and dissemination of navigational warnings in compliance with S-124 (as soon as the specification standard is operational) with compatibility with the current NAVTEX and EGC systems





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Crowdsourced bathymetry - CSB

- 22 November 2022, Publication of an instruction of the French Prime Minister on crowdsourced bathymetry
- Data from crowdsourced bathymetry in French waters are transmitted as a priority to the Shom, or alternatively to one of the following trusted third parties :
 - the European Marine Observation and Data Network EMODnet, via its "Data Ingeneering" portal EMODnet, via its Data Ingestion Portal (<https://submission.emodnetingestion.eu/>);
 - the IHO Data Centre for Digital Bathymetry (DCDB - <https://www.ngdc.noaa.gov/iho/>).
- CSB data : in accordance of the IHO B-12 publication, collected with **standard navigation instruments** (No MBES or other scientific equipment) during **routine manoeuvres**
- CSB data in FR waters to be transmitted to Shom by the trusted nodes before dissemination. Only the validated data sets transmitted by Shom can be distributed through EMODnet Bathymetry and DCDB



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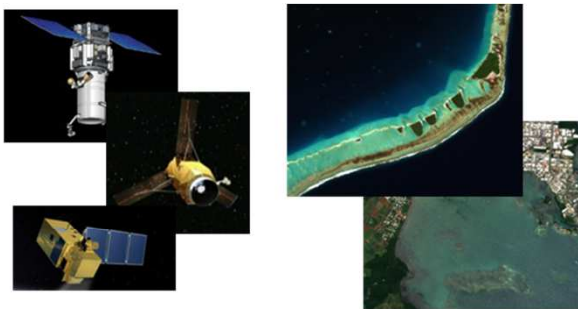
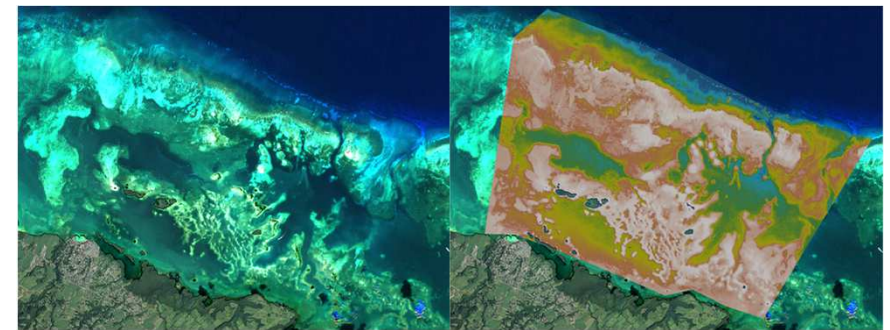
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Satellite-derived bathymetry - SDB

Development of new SDB modeling chain > Bathysat Project

- As efficient and automated as possible
- Producing SDB without any in-situ bathymetric data
- Being able to estimate the reliability of the products
- Being in control of the overall system



Orthorectified satellite images
(multispectral sensor)



Bathy product

Map of uncertainties

Metadata





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Satellite-derived bathymetry - SDB

Progress of the Bathysat Project

- 2020: research part completed
- September 2022: development part completed
 - Acquisition of a prototype of the future production line with the following operating concepts:
 - ❖ to develop, on a case-by-case basis, charting products in remote areas (in the absence of conventional hydrographic surveys)
 - ❖ to generate seabed morphology products (DTMs) useful in particular for hydrodynamic modelling
 - ❖ to have a tool for rapid recognition of the coastal environment: estimation of bathymetric characteristics, turbidity, coastline
 - ❖ to detect, on a case-by-case basis, possible morphological changes of the seabed in the coastal strip (high revisit rates) in order to prioritise hydrographic surveys (decision support tool)

Projections

- 2023 : Performing of the industrialization part
- End of 2024: fully operational solution
- In the meantime: test of the new SDB products in Mayotte Lagoon for comparison with existing bathymetric surveys + assessment of seabed evolution



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ACTIONS REQUESTED FROM SAIHC19

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1. To take note of the French national report



Thank you for your attention

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