



19th Conference of the IHO Hydrographic Commission on Antarctica

National Report by France

Agenda item 07.2Ah

HCA-19, Venice, Italy, 15 – 18 May 2024

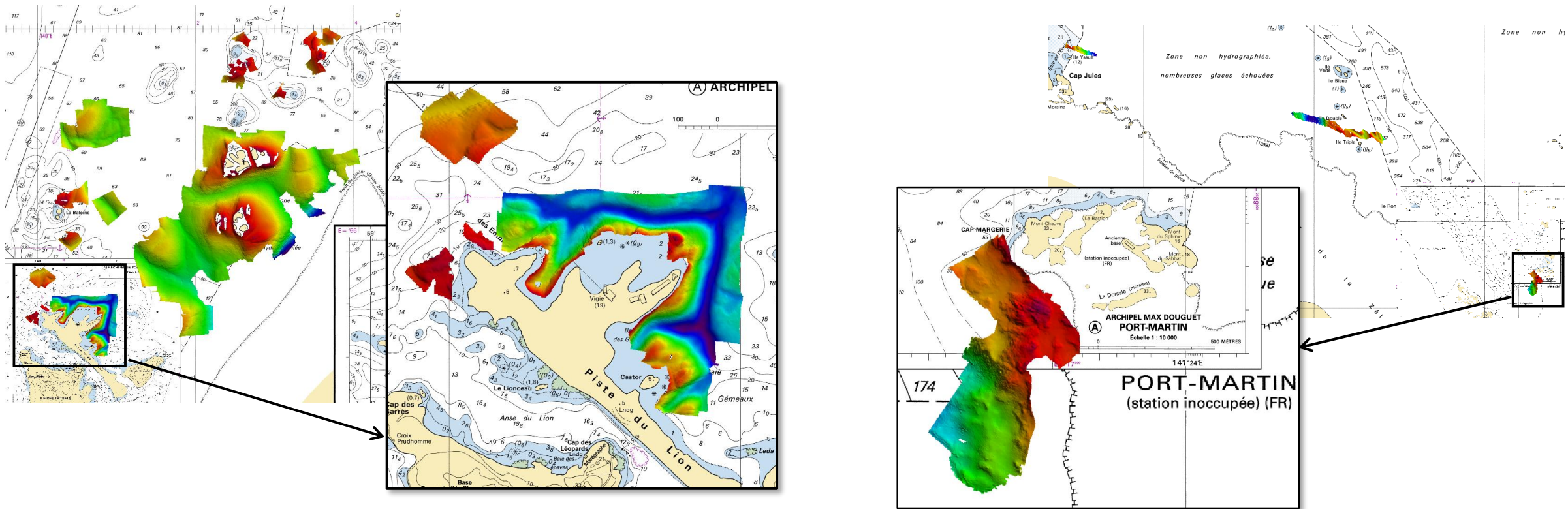


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Surveys progress in Antarctica since HCA-18 (May 2022)

International
Hydrographic
Organization

- Bathymetric surveys were carried out from 23 December 2023 to 27 January 2024 near and off the Dumont-Durville station and Cap Prudhomme, near Port Martin and Cap Denison in Terre-Adélie.



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Surveys progress in Antarctica since HCA-17 (June 2021)

- **Deployed means for the survey**

Deployable MBES hydrographic system

Shom's deployable hydrographic system (designed for surveying in military operations) with a very shallow multibeam sounder (Norbit iWBMSH) and a team of 3 hydrographers



MBES Norbit iWBMSH integrated to Shom's deployable hydrographic system

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Surveys progress in Antarctica since HCA-17 (June 2021)

- **Deployed means for the survey**

French Polar Logistic Icebreaker *L'Astrolabe*

- 72 m long, 16m large, 60 PX, IB5 Class
- TAAF, IPEV & Defence Ministry partnership
- Operated by French Navy
- Christened in 2017 (replaces both NS *Albatros* and supply vessel *Astrolabe*).
- *Not fitted with hydrographic sensors*



→ France has announced in November 2023 that a new polar research vessel, as part of the French Oceanographic Fleet, will be built and in operation in 2025



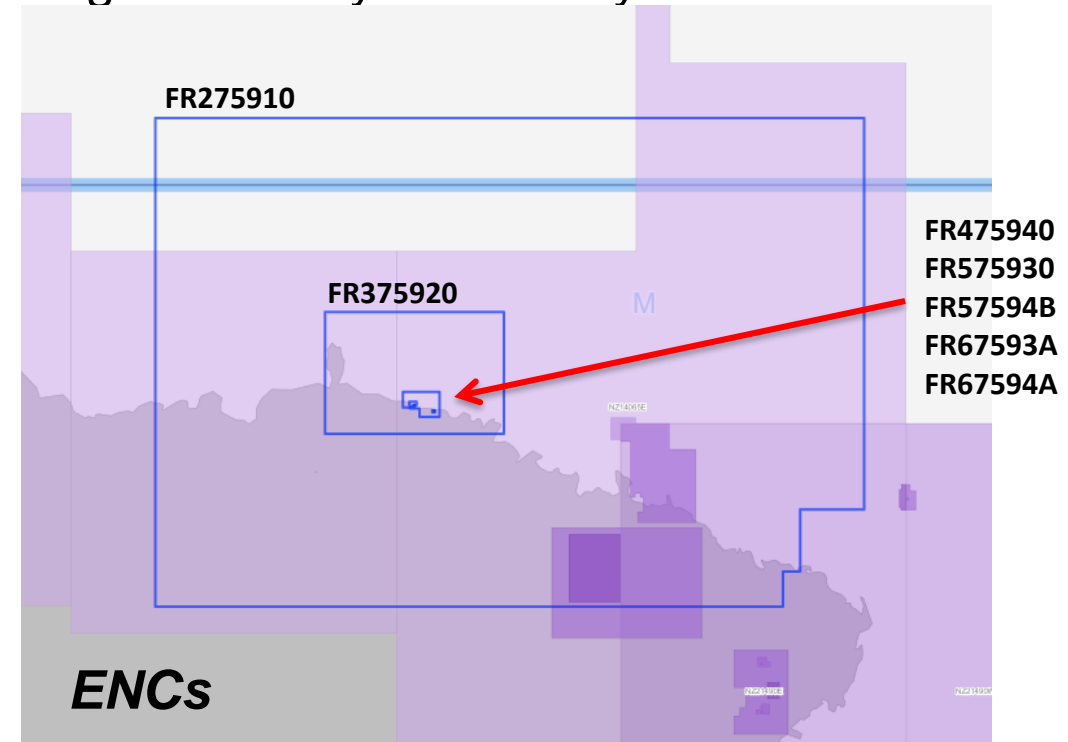
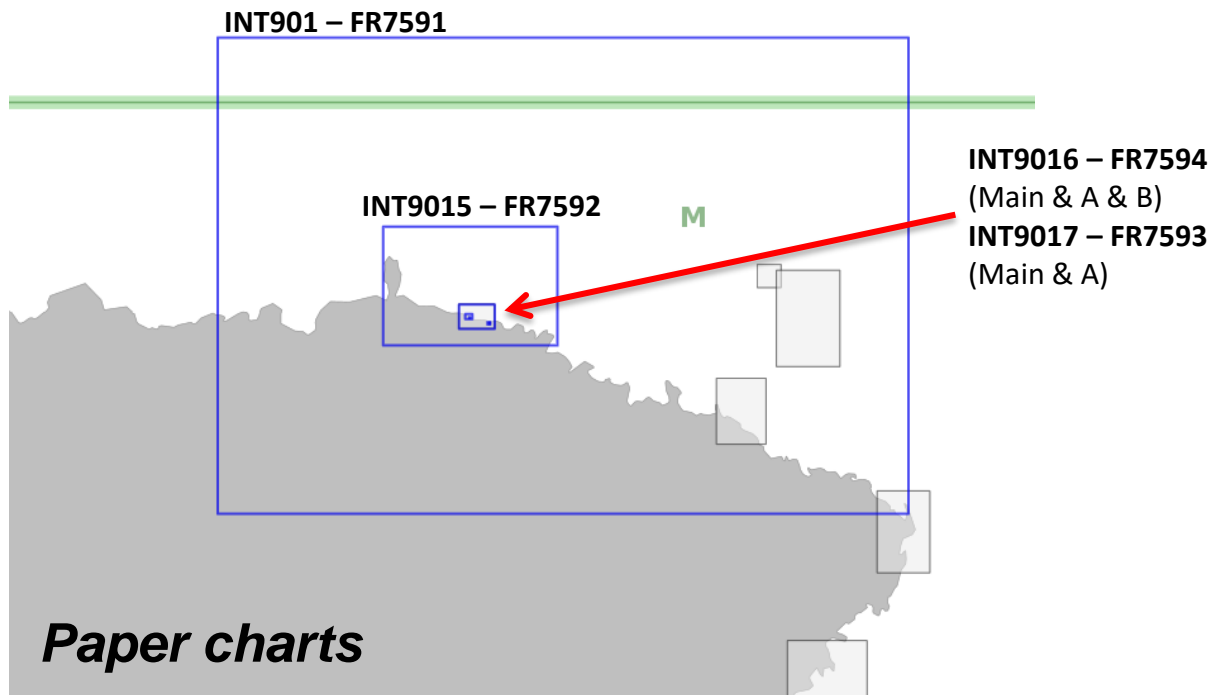
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Charting progress in Antarctica since HCA-17 (June 2021)

- All FR ENC and INT charts produced in region M
- All FR ENC will be converted to S-101 in region M in 2026

7 charts and 7 cells available

Coming up : new editions of charts and ENCs following the survey of January 2022





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Sea level monitoring

- FR Tide gauge in Antarctica - Dumont d'Urville observatory

➤ Part of ROSAME network (South of Indian ocean)

<http://www.legos.obs-mip.fr/fr/share/soa/cgi/getobs/v0.2a/index.pl.cgi?contexte=ROSAME&donnees=MRG&suivi=TPS-REEL&env=COTIER>

<http://refmar.shom.fr/en/partenaires/producteurs-de-donnees/reseau-maregraphique-rosame>

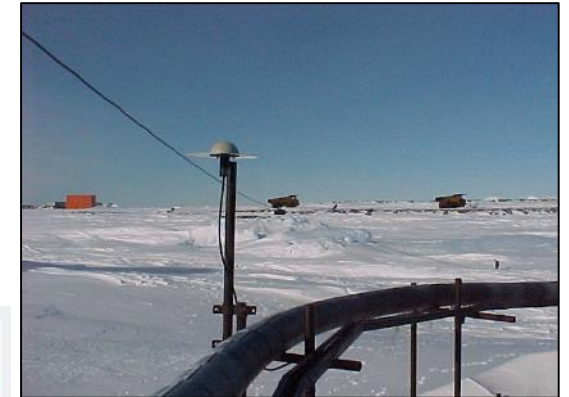
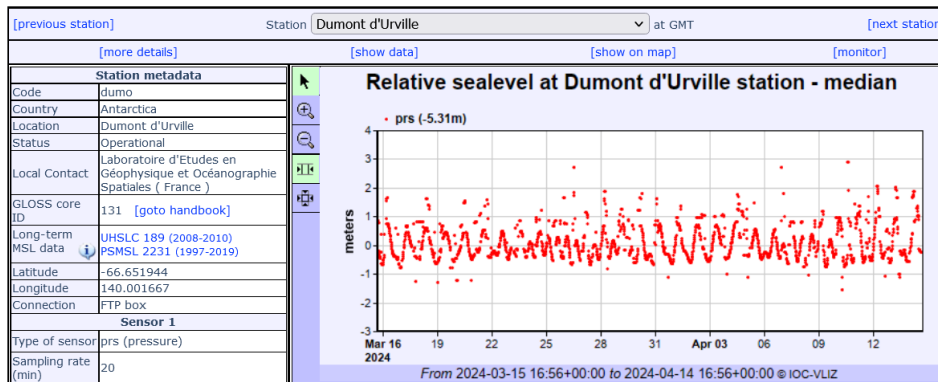
<https://data.shom.fr/donnees/refmar/108>

➤ ARGOS real-time transmission



SEA LEVEL STATION MONITORING FACILITY

Intro Map Station lists Station details Services & FAQ GLOSS Catalog



(Source: CNRS)



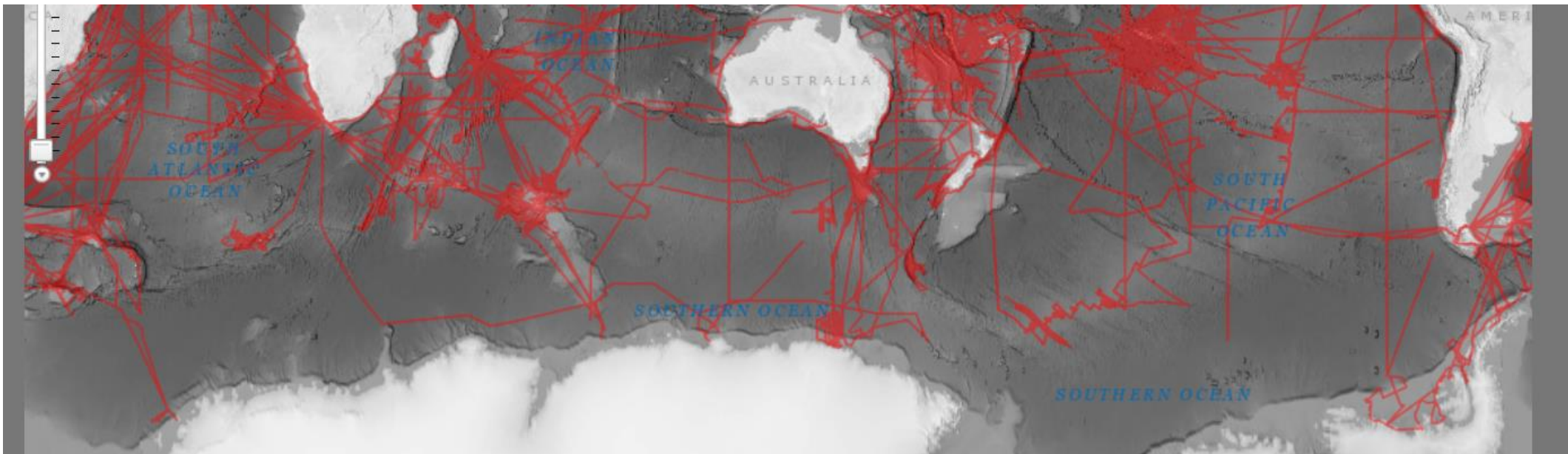
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Relations with Other Organizations

International
Hydrographic
Organization

- Hydrographic data received from other organizations
NTR
- Hydrographic data provided to other primary charting
authorities and/or GEBCO

Shom and Ifremer bathymetric data are within EMODnet
data accessible to the IHO DCDB



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Planned Activities for 2024-2025

International
Hydrographic
Organization

- New charts, new publications
NTR

- New surveys
NTR

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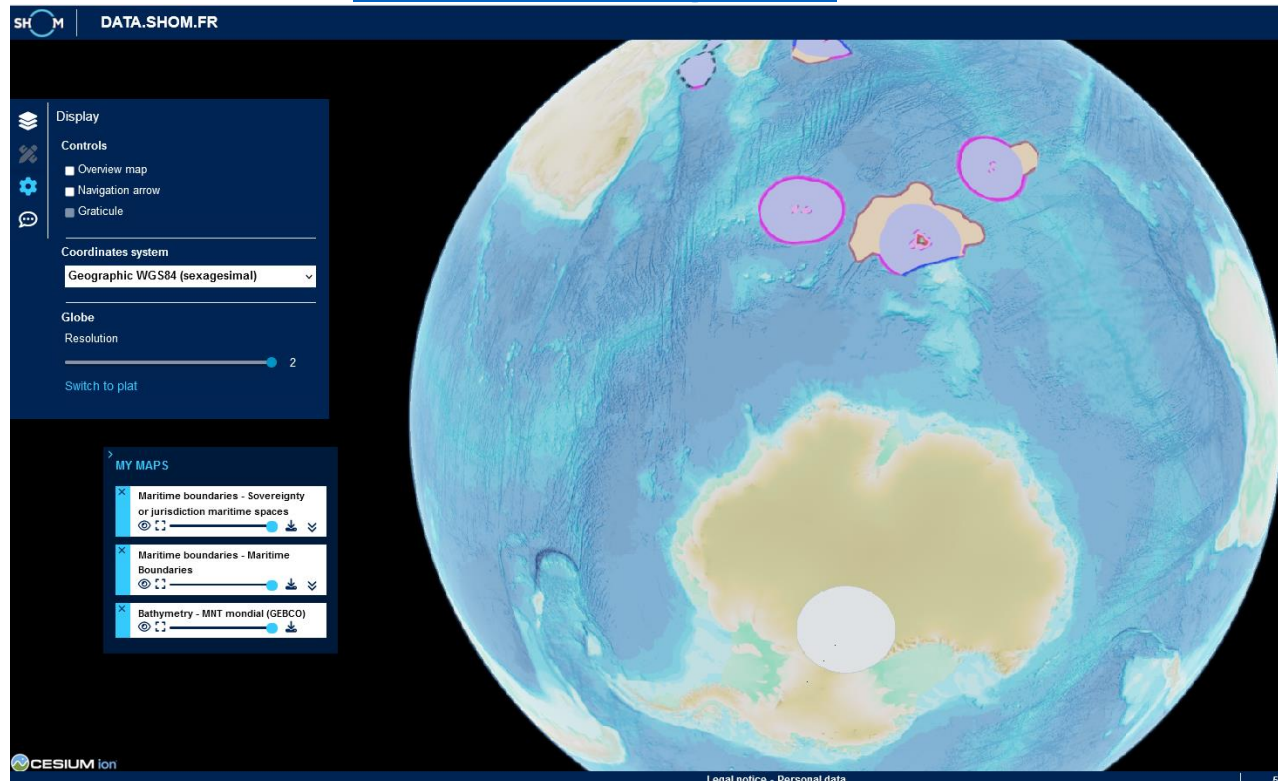
Marine Spatial Data Infrastructure 1/2

International
Hydrographic
Organization

data.shom.fr and diffusion.shom.fr

Latest evolutions:

- New ergonomics of Shom's online shop diffusion.shom.fr
- Aids to navigation (AToN) (edition including French overseas territories)
- Sovereignty or jurisdiction maritime spaces (new). Also available on maritimelimits.gouv.fr
- Maritime areas – charts 8510CX & 8502CX (edition)
- Marine Altimetric Reference (edition)
- Global coastline (edition)
- GEBCO worldwide bathymetric DTM (edition)
- Wrecks and obstructions (edition)
- Bathymetric surveys (edition)
- Tidal tables calculation (edition)
- On demand tidal table calculation (update)





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Marine Spatial Data Infrastructure 2/2

International
Hydrographic
Organization

maritimelimits.gouv.fr

The official French maritime boundaries portal

- A new version was released in February 2023
- Includes new ergonomics and information is now organized into 5 themes:

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...



[limitesmaritimes.gouv.fr](https://maritimelimits.gouv.fr)
Portal of French official maritime limits

EN - English

Search

Home Themes News Glossary For more information

The official French maritime boundaries portal

Placed under the authority of the General Secretariat for the Sea, this portal is intended for all those seeking legal and geographical information concerning French maritime boundaries.

Discover the portal



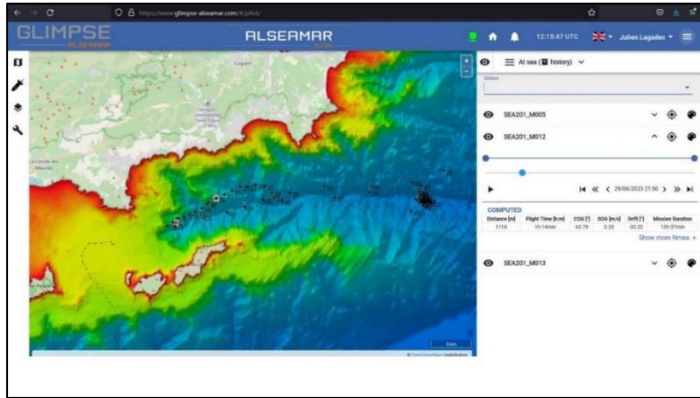
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Future hydro-oceanographic capacities

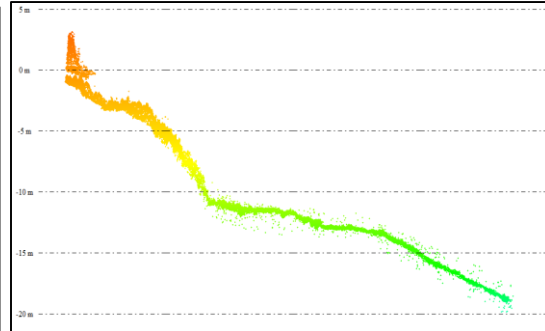
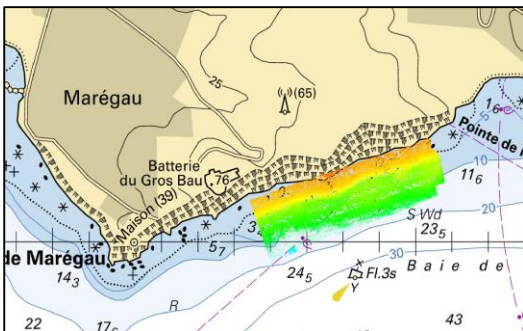
International
Hydrographic
Organization

Latest experiments

- August 2023 – 2 gliders Sea Explorer (Alseamar)



- October 2023 – 1 USV DriX (eXail)



- Dec 2023 – 1 UAV S100 (Schiebel) / Lidar VQ840G (Riegl)

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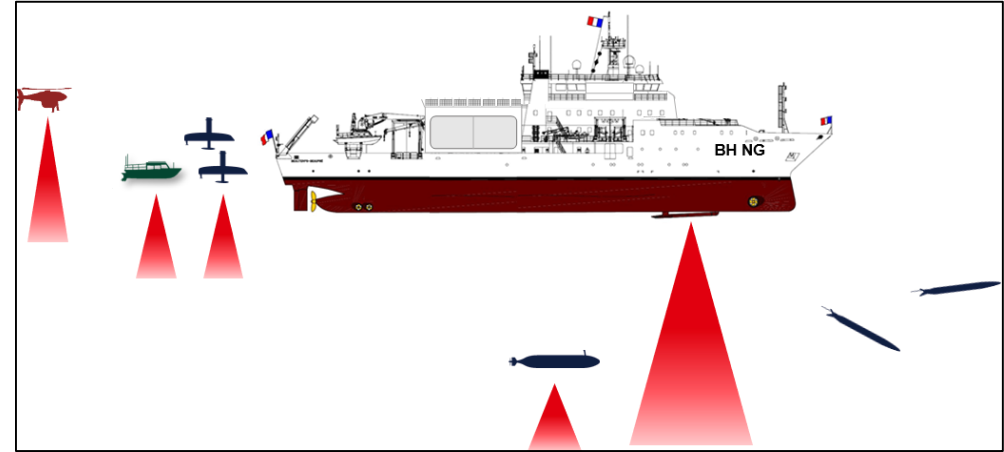
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Future hydro-oceanographic capacities

International
Hydrographic
Organization

Sketch up of France's two future vessels

- **Ship Dimensions (range)**
 - Length: 90 metres
 - Gross tonnage: 3,000 tonnes
 - Average operating speed: 10 knots
 - Maximum crew : 80 (29 for specialists)
- **Full hydroacoustic suite**
 - MBES, SBP, SBES, ADCP, ...
- **Scientific facilities**
 - Handling equipment
 - Laboratories (humid and air-conditionned)



- **Mobile vehicles**
 - 2 USV
 - 1 hydrographic survey launch
 - USV oceanic (not on board)
 - Gliders
 - 1 AUV 6000
 - 1 UAV



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Capacity Building 1/2

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Organization

- **Project management assistance for the construction of hydro-oceanographic vessels**

- **Studies to define**, on the basis of an expression of need, **the complete specifications in terms of hydro-oceanographic equipment**, as well as the fitting out of premises and scientific spaces of hydro-oceanographic ships
- **Equipment acceptance and integration**: supervision of equipment integration (mechanical, interfacing, metrology, etc.), acceptance tests in the factory, in port and at sea
- **Training and assistance**: training of personnel who will implement the equipment, but also of personnel who will maintain the systems, transfer of skills, handling of warranty calls after delivery of the vessel to the end customer



Nigerian hydrographic ship Lana built by the French shipyard OCEA with the support of Shom (Source: OCEA)

Recent assistance : Nigeria > following the delivery of the hydrographic vessel Lana in January 2021, secondment of a Shom's hydrographic engineer for 18 months to NNHO to train and support the survey team.



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Capacity Building

2/2

International Hydrographic Organization

• FIG-OHI-ACI courses

- category B for hydrographic surveyors (Shom / Brest)
- category B for nautical cartographers (Shom / Brest)
- category A course for hydrographic surveyors (ENSTA Bretagne / Brest)

L'école du Shom

Des formations de référence en hydrographie et sciences de la mer



Formations longues

L3 BS HYDRO	C SYSRES-HOM	CSUP-HYDRO	PRÉPARATEUR CARTO
Licence / Brevet supérieur d'hydrographe	Certificat d'administrateur Systèmes et réseaux d'Hydrographie, d'Océanographie et de Météorologie	Certificat Supérieur d'hydrographe	Technicien préparateur en cartographie marine
 15 officiers mariniers/civils/étrangers 10 mois pour civils, 14 mois pour officiers mariniers Sur dossier Certification internationale de technicien hydrographe	 2 à 5 officiers mariniers 9 mois Sur dossier Certificat délivré par la marine nationale	 2 à 5 officiers mariniers hydrographes 4 mois Sur dossier Certificat délivré par la marine nationale	 2 à 8 civils / étrangers 9 mois Sur concours TSEF (Technicien Supérieur Études et de Fabrication) Certification internationale de cartographie marine

Homologations et équivalences

Homologations en catégorie B par le comité internationale FIG/OHI/ACI* :

- BS Hydro
- Technicien préparateur en cartographie marine

Enregistrement au niveau II au RNCP** de la formation CSUP Hydro pour l'obtention du titre de « Superviseur hydrographe ».

* Fédération internationale des géomètres / Organisation hydrographique internationale / Association cartographique internationale
** Répertoire national de la certification professionnelle

Plateforme e-learning



Catalogue de l'offre de formation

Formations courtes
Cycle de formation Afhy
Formations longues



www.shom.fr







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The French Polar Institute Paul-Emile Victor

International
Hydrographic
Organization

THE NATIONAL PUBLIC AGENCY IMPLEMENTING SCIENTIFIC RESEARCH IN POLAR AND SUB-POLAR REGIONS

A PUBLIC INTEREST GROUP , based at Brest

- 7 partners:
 - Ministry of Research,
 - Ministry of Foreign Affairs
 - CNRS, CNES, Ifremer, Meteo-France, TAAF
- 50 permanent employees, ~200 short-term contracts
- Budget : ~16 millions €



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Where do we work ?

International
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AWIPEV Station, Svalbard

Subantarctic Islands
Crozet, Kerguelen, Amsterdam

Antarctica
Adélie Land, Concordia



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International
Hydrographic
Organization

MISSIONS :

- ✓ Selection of projects (independent committee)
- ✓ Financial and human support (logistics, VSC)
- ✓ Handling of research stations and field camps
- ✓ Organization of expeditions
- ✓ Support of long term observatories
- ✓ Communication and outreach
- ✓ National representation in polar institutions

In 2023 :

- ✓ **93** projects
- ✓ **360** scientists (+**33** VSC/VI) deployed in polar fields
- ✓ **+ 40 000** man.days in the field (technical staff included)



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The French Polar Institute Paul-Emile Victor For what science ?

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Earth / Universe

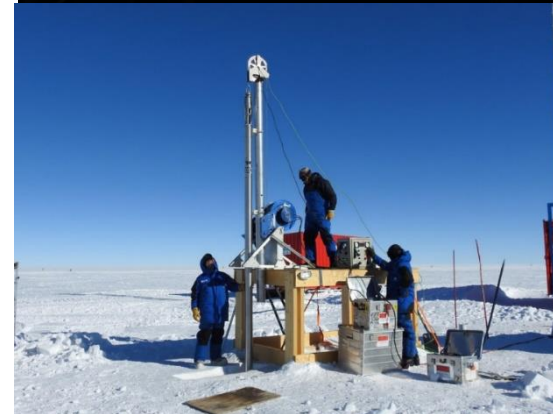
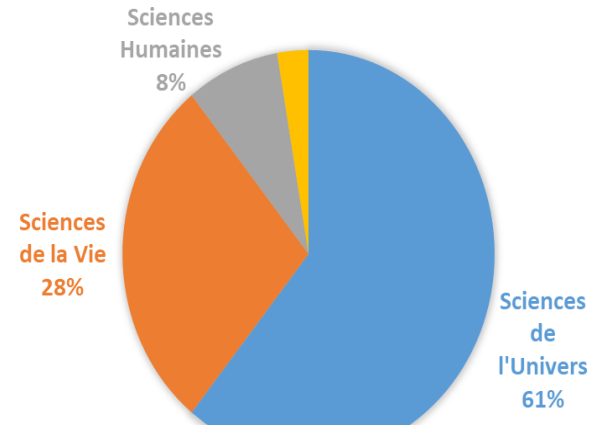
- Geophysics
- Atmosphere (physics, chemistry)
- Glaciology
- Astronomy
- Sea level

Life sciences

- Biology and ecology
- Biodiversity
- Bio-medicine

Human sciences

- Anthropology / Ethnology
- Geography





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Particular issues that may require HCA consideration

International
Hydrographic
Organization

- MSs wishing to exchange with Shom on METOC support for ice navigation, are kindly invited to contact :
stm-cfud-d@shom.fr & dmi-rex-d@shom.fr
- Take note of this report



Thank you for your attention

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