18th Conference of the IHO Hydrographic Commission on Antarctica

National Report by France (Shom)

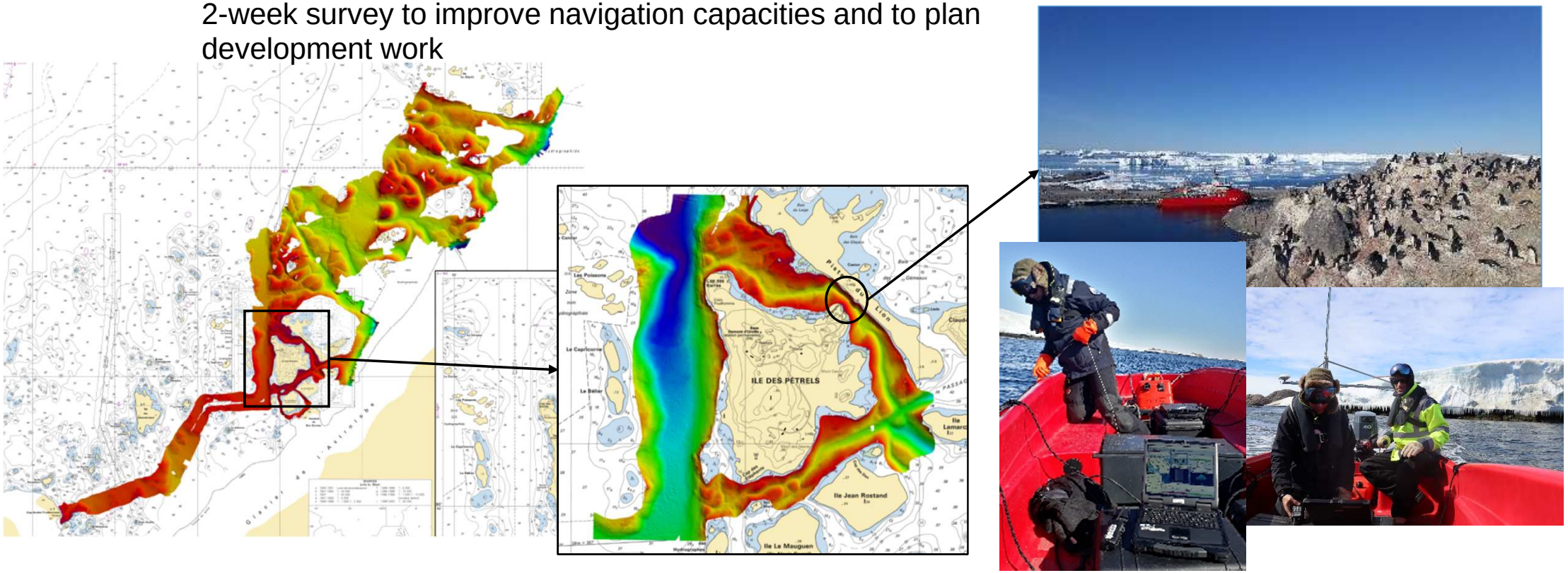
Agenda item 07.2h

HCA-18, Berlin, Germany (hybrid), 24 – 26 May 2022

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

- Survey in January 2022 in Terre Adélie (*Dumont D'Urville base*) with the new deployable MBES system

2-week survey to improve navigation capacities and to plan development work

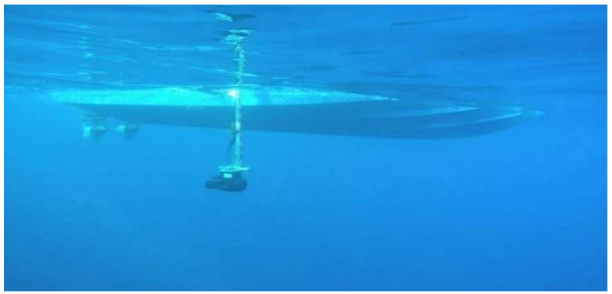


Surveys progress in Antarctica since HCA-17 (June 2021)

- **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

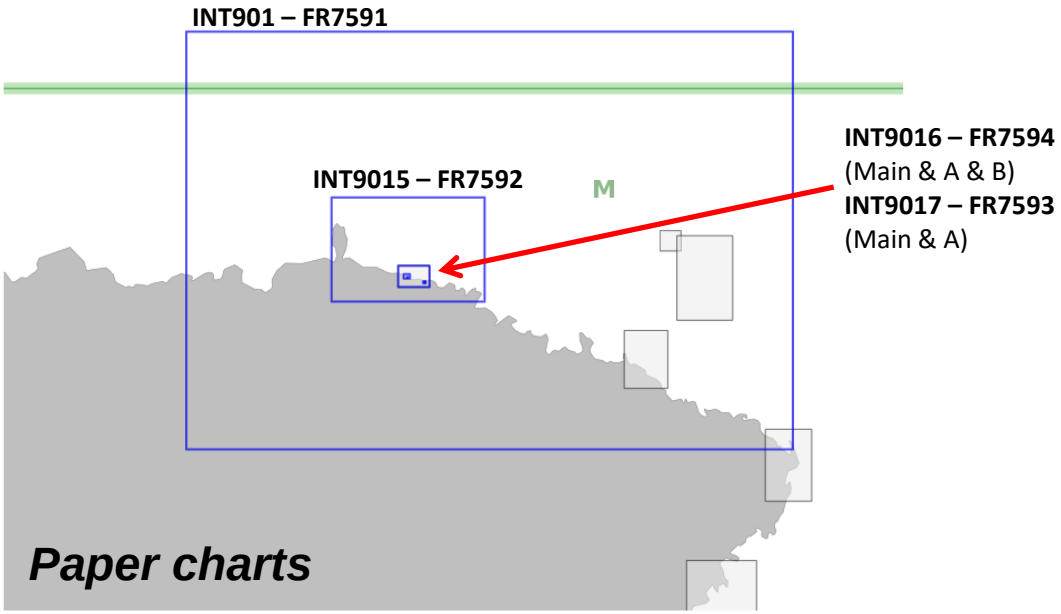
French Polar Logistic Icebreaker *L'Astrolabe*

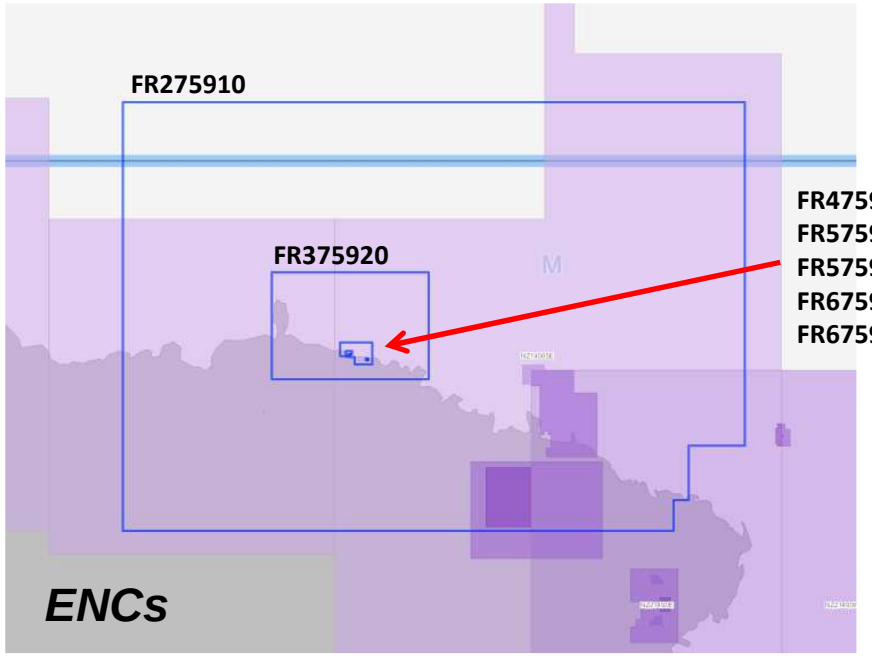
- 72 m long, 16m large, 60 PX, IB5 Class
- TAAF, IPEV & Defence Ministry partnership
- Operated by French Navy
- Christened in 2017 (replaces both NS *Albatros* and supply vessel *Astrolabe*).
- Not fitted with hydrographic sensors

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

- All FR ENC and INT charts produced in region M

7 charts and 7 cells available
Coming up : new editions of charts and ENCs following the survey of January 2022



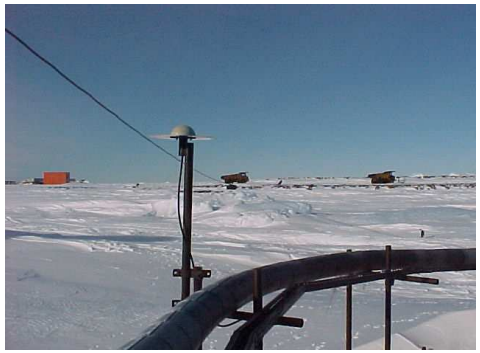


Sea level monitoring

- 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

(Source: CNRS)

Sea level monitoring

International Hydrographic Organization

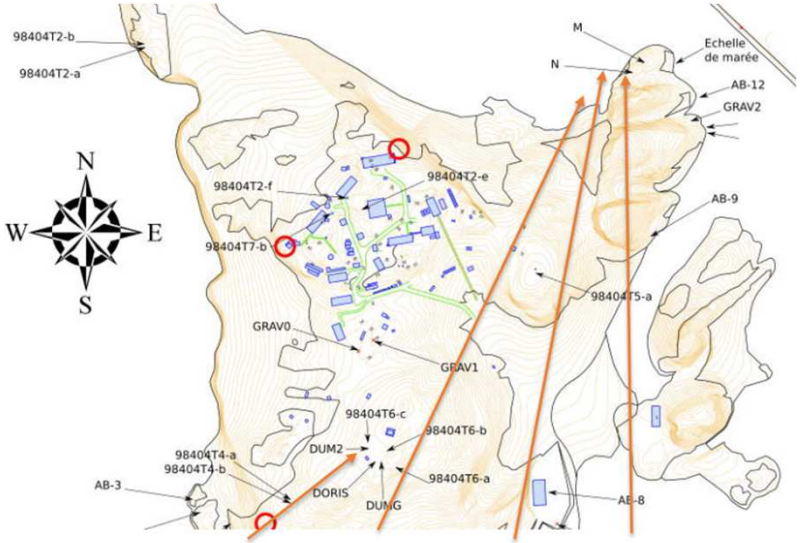
- FR Tide gauge in Antarctica - Dumont d'Urville observatory

➢ Mission *NIVMER DDU 2022*

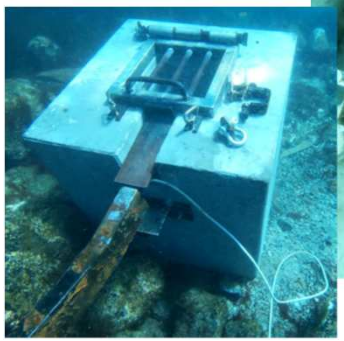
✓ carried out by CNRS – INSU (14 Dec. 2021 – 22 Jan. 2022)

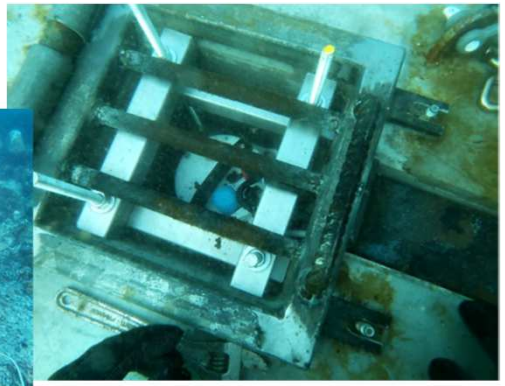
✓ 2 objectives : reinstallation of the tide gauge station + installation of a stand-alone tide gauge

(Source: CNRS)



GNSS Antenna *stand-alone tide gauge* *Tide gauge station* *Benchmark N*





(Source: CNRS)

Tide gauge station

stand-alone tide gauge *(Source: CNRS)*

(Source: CNRS)

IHO

International Hydrographic Organization

Relations with Other Organizations

- Hydrographic data *<u>received</u>* from other organizations

  NTR

- Hydrographic data *<u>provided</u>* to other primary charting authorities and/or GEBCO

  Shom hydrographic data (soundings, DTM) are available under open data licences on Shom portals :

  data.shom.fr & diffusion.shom.fr

  (Older data will be available as and when digitization is required)

Planned Activities for 2022-2023

- New charts, new publications
  NTR

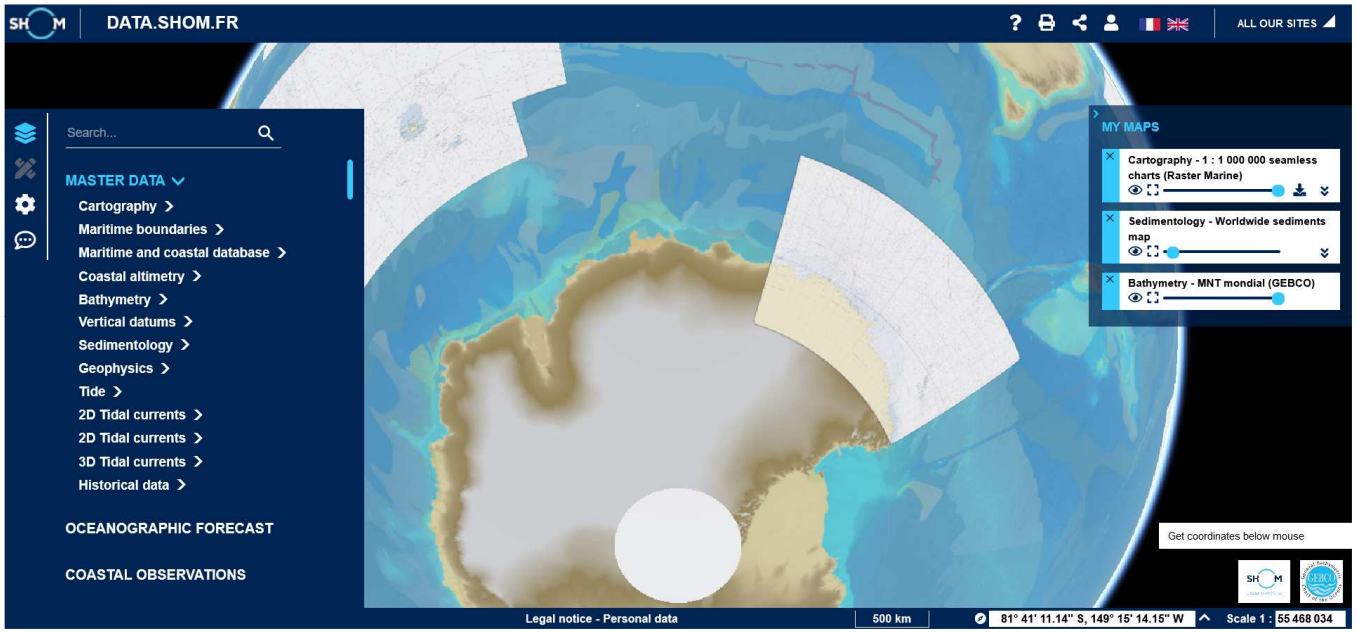
- New surveys
  NTR

Marine Spatial Data Infrastructure

- **MSDI – data.shom.fr : updated layers + new ergonomics**

Latest evolutions:

- Updated layers :
  - Worldwide sediments map (edition)
  - Multi-scale seamless charts (weekly edition)
  - Marine Altimetric Reference (edition)
- New tools and services (https://services.data.shom.fr/support/fr)
- New ergonomics of data.shom.fr portal
- Redesigned drawing tool



Future hydro-oceanographic capacities

- **French national program “CHOF”**

➢ **latest experiments**

Experiment of USV DRiX deployed from BHO Beautemps-Beaupré

- September 2020 – 2 USV DriX (iXblue)
- January 2021 – AUV Gavia (Teledyne)
- May 2021 – USV Inspector (ECA)
- June 2021 – AUV A18D (ECA)
- August 2021 – 2 gliders Sea Explorer (Alseamar)
- October 2021 – AUV HUGIN Superior (Kongsberg Maritime)

Experiment of AUV HUGIN deployed from BHO Beautemps-Beaupré

Capacity Building 1/2

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

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

- **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

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

IHO 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)

Particular issues that may require HCA consideration

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

Thank you for your attention