

# 21<sup>th</sup> Meeting of the South West Pacific Hydrographic Commission

National Report by **FRANCE**



[SWPHC Member]



**IHO**

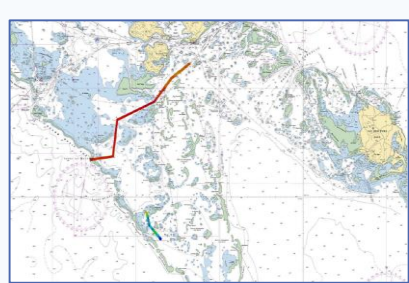
International  
Hydrographic  
Organization

South West Pacific Hydrographic Commission

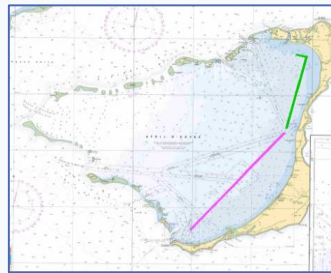


# Main achievements during the year

- **New-Caledonia** : Several surveys of recommended tracks, accesses and passages have been carried out all around New-Caledonia, mainly in the lagoon



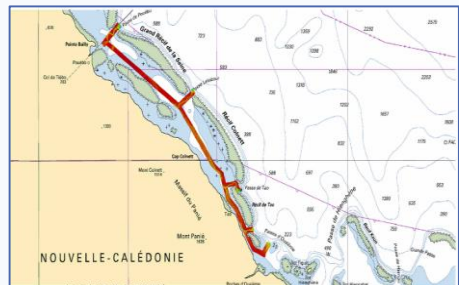
Mato pass and Havannah Channel



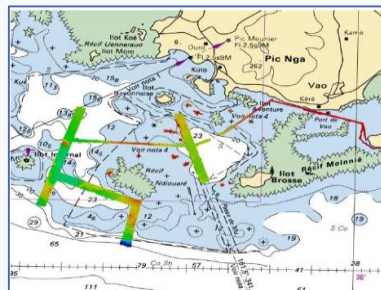
Ouvéa island



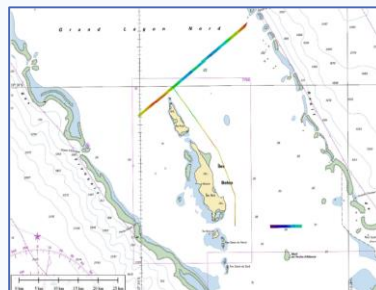
Chesterfields islands



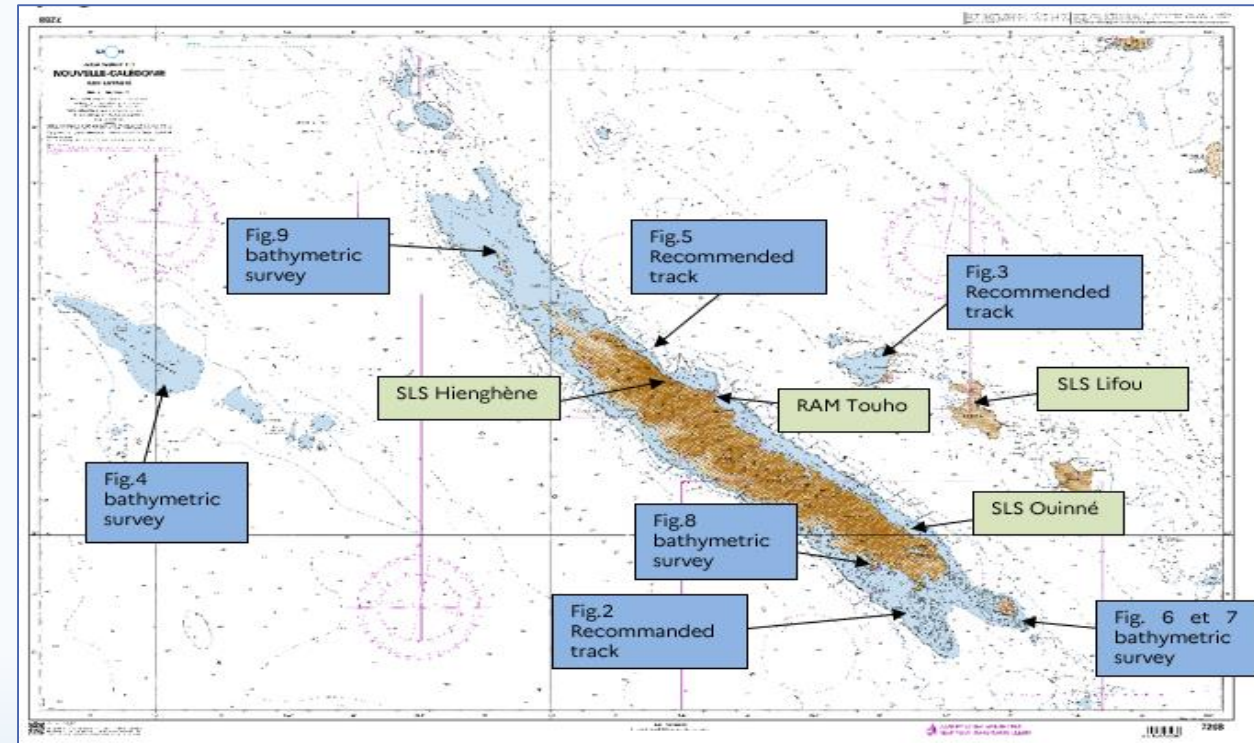
From Pouébo to Oualème passes



Ile des Pins



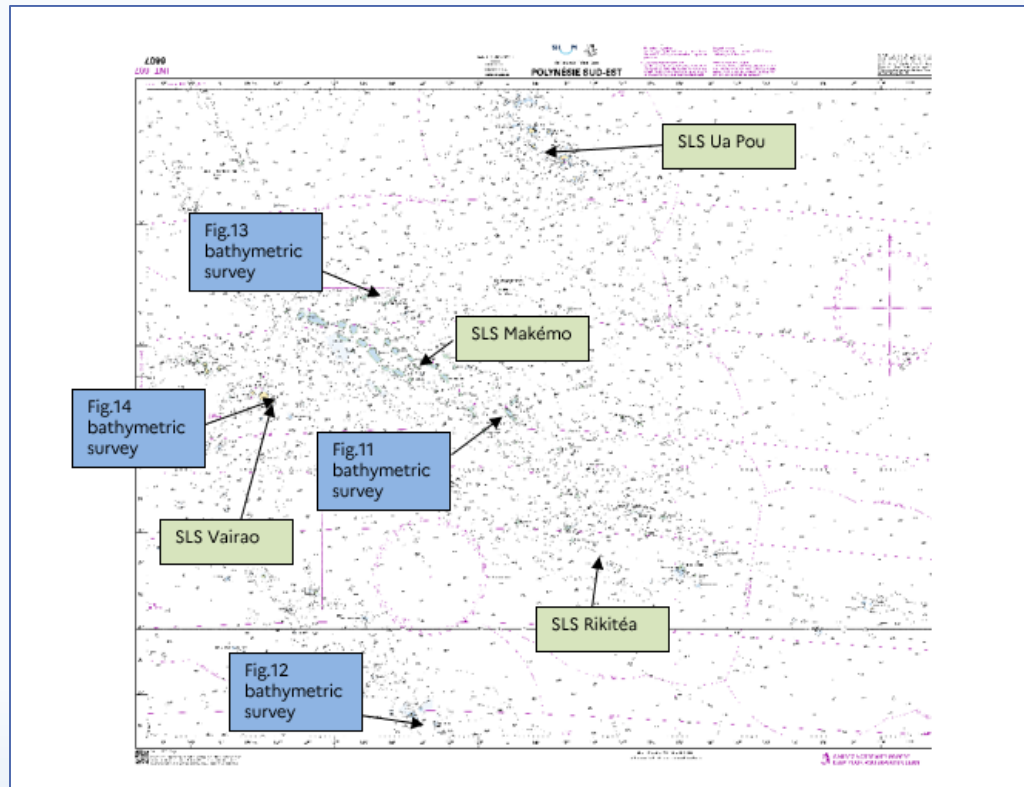
Belep islands



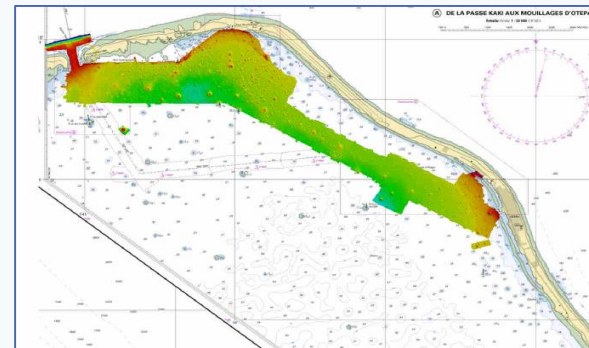
Locations of the hydrographic works realised in 2023 in New-Caledonia

# Main achievements during the year

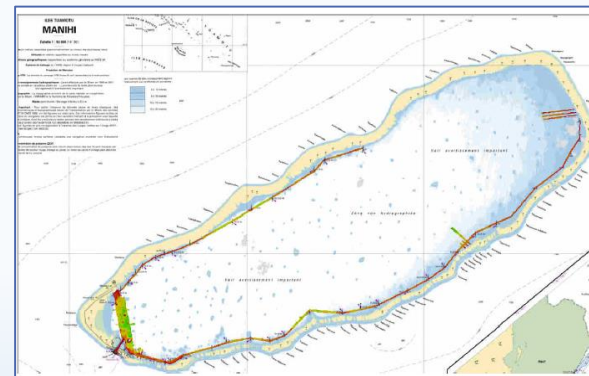
- **French Polynesia** : Several surveys of recommended tracks, accesses and passages have been performed all around French Polynesia



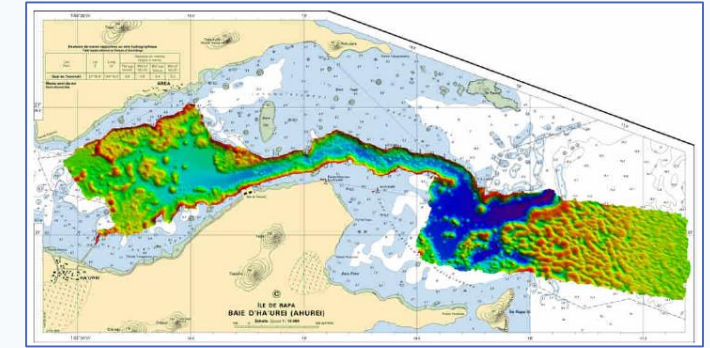
Locations of the hydrographic works realised in 2023 in French Polynesia



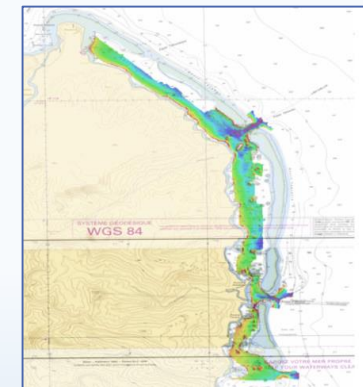
Hao atoll



Manihi atoll



Rapa island



From Tautira to Tehua roto



IHO

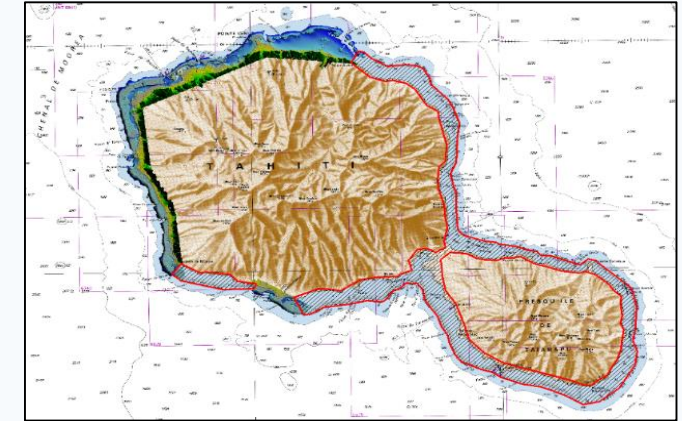
International  
Hydrographic  
Organization



# Main Challenges regarding surveys

- **LiDAR surveys :**

- ❖ Lidar survey in French Polynesia is underway. Field operations are expected to begin by mid-2024.
- ❖ In New-Caledonia a lidar survey around the islands project is pending administrative and financial approval. Airborne surveys are expected in 2025.



*Existing Lidar surveys in Tahiti (French Polynesia) and possible extension project*

- **New survey capacity :**

- ❖ 2024 will see the French Navy new patrol boat Teriieroo a Teriierooiterai allocated to Papeete, French Polynesia. This brand-new ship is equipped with a through-hull well in which the EM2040p used by Shom can be installed.



*French Navy overseas patrol boat Auguste Benebig (Source : Marine Nationale)*



**IHO**

International  
Hydrographic  
Organization



# Main Challenges regarding surveys

---

- **Crowdsourced bathymetry – CSB**

- The 22 November 2022 French Prime minister instruction sets the framework for crowdsourced bathymetry (CSB) in waters of French jurisdiction
  - CSB are necessarily data collected with **standard navigation instruments** (no MBES or other scientific equipment) during **routine maneuvers**
  - CSB must be transmitted as a priority to Shom, or alternatively to one of the following trusted third parties :
    - the European Marine Observation and Data Network EMODnet, via its "Data Ingeenering" portal EMODnet, via its Data Ingestion Portal (<https://submission.emodnetingestion.eu/>);
    - IHO Data Centre for Digital Bathymetry (DCDB - <https://www.ngdc.noaa.gov/iho/>).
  - CSB data to be transmitted to Shom by the trusted nodes **before dissemination**. Only the data sets transmitted by Shom can then be distributed through DCDB and EMODnet Bathymetry



IHO

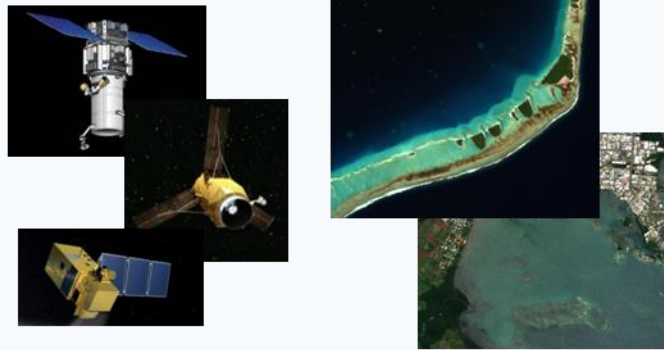
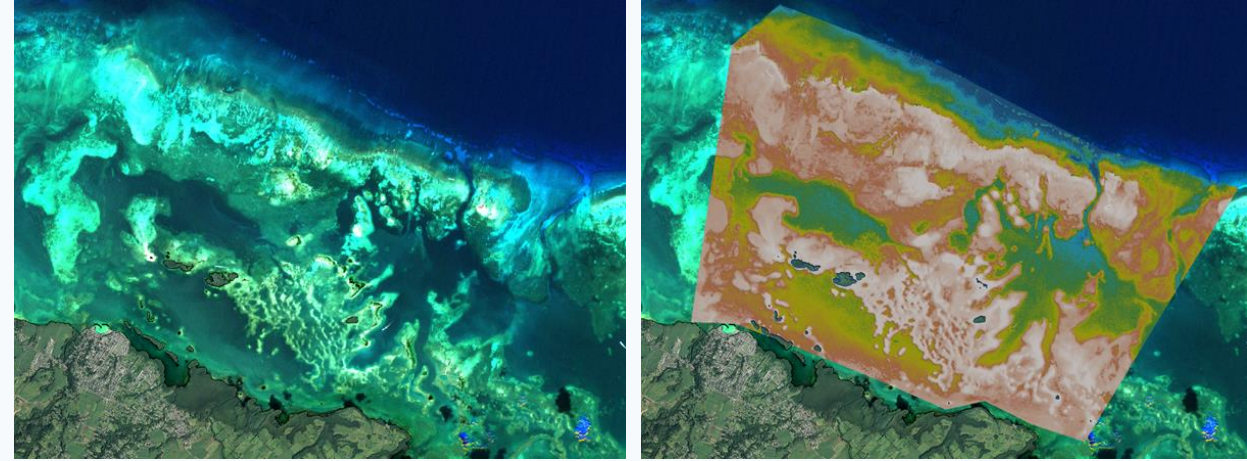
International  
Hydrographic  
Organization



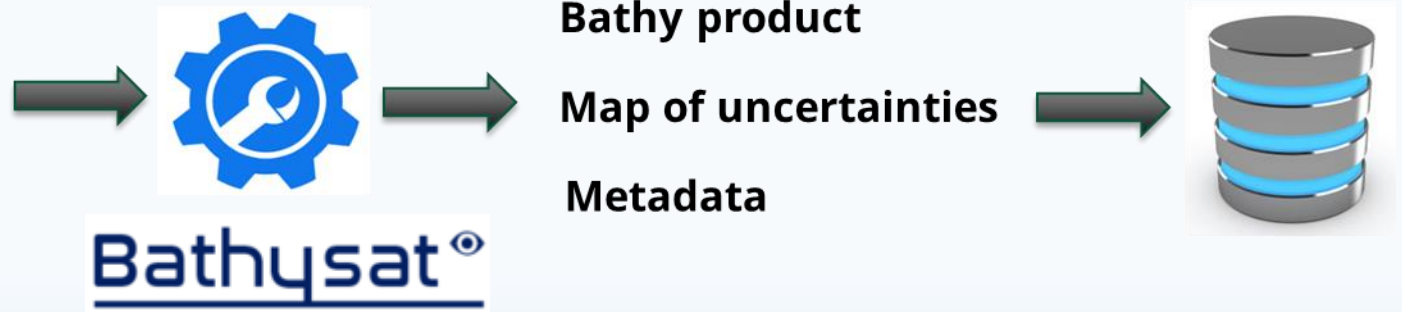
# Main Challenges regarding surveys

- **New Satellite-derived bathymetry (SDB) modeling chain key performances (1/2)**

- High automatization level
- No need for in-situ bathymetric data
- Qualified products out
- Not a black box



Orthorectified satellite images  
(multispectral sensor)



# Main Challenges regarding surveys

---

- **Bathysat project results and perspective (2/2)**

- 2020: research phase
- 2022: prototype
  - 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
    - ❖ 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)
- 2023: trials, ground truth (île des Pins)

## Projections

- **2024** : industrialization → **fully operational solution**



IHO

International  
Hydrographic  
Organization



# Main Challenges regarding new charts

- **UKHO – Shom S-100 ECDIS collaboration**

- > **Project as a risk assessment on the Dual Fuel mode of ECDIS**

- High level goals

- ❖ Develop S-101 understanding, from data production to ECDIS display
    - ❖ Safety case to support IMO approval of the S-100 ECDIS systems
    - ❖ Develop RENC capability and support industry on S-100 ECDIS
    - ❖ Build a testing framework for similar S-100 ECDIS testbed project



- > **3-phase project**

- Phase 1 : Data production

- ❖ S-57 to S-101 conversion
    - ❖ ENC updating
    - ❖ ENC scheming (paper chart vs gridding)

- Phase 2 : Data distribution

- ❖ HO to RENC data delivery
    - ❖ RENC validation
    - ❖ Cybersecurity : encryption, signatures, licensing, compression

- Phase 3 : Data display

- ❖ Sea trials



IHO

International  
Hydrographic  
Organization





# Main Challenges regarding MSI

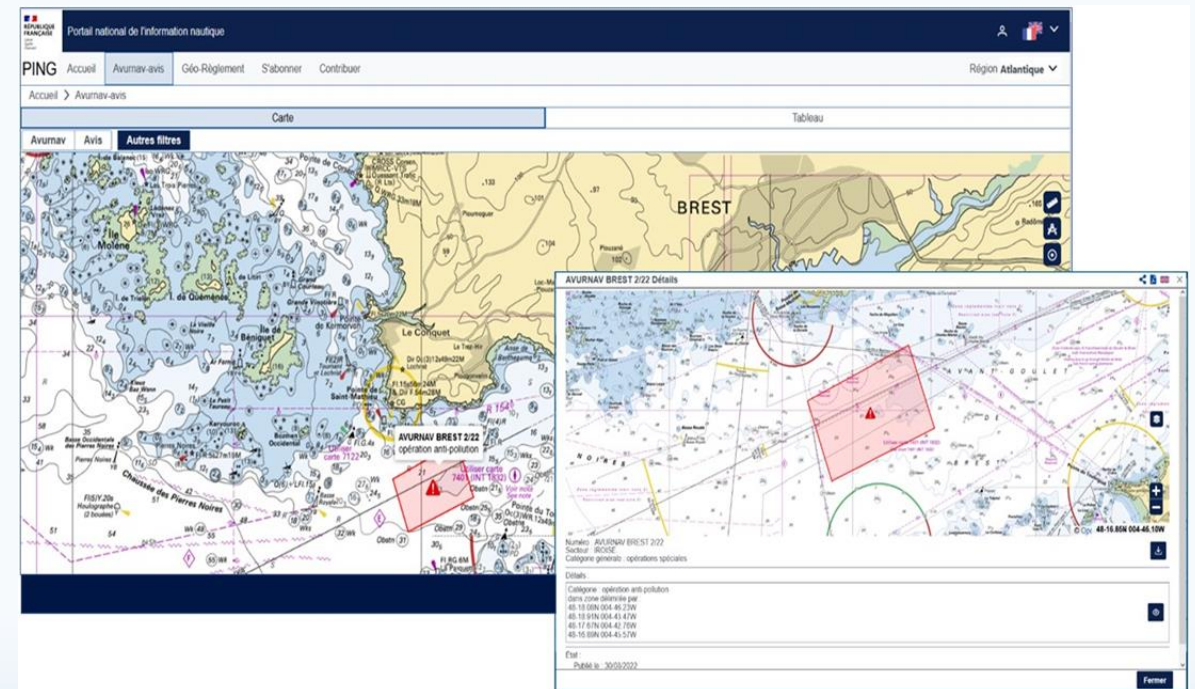
- **French National Nautical Information Platform: PING**

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**



IHO

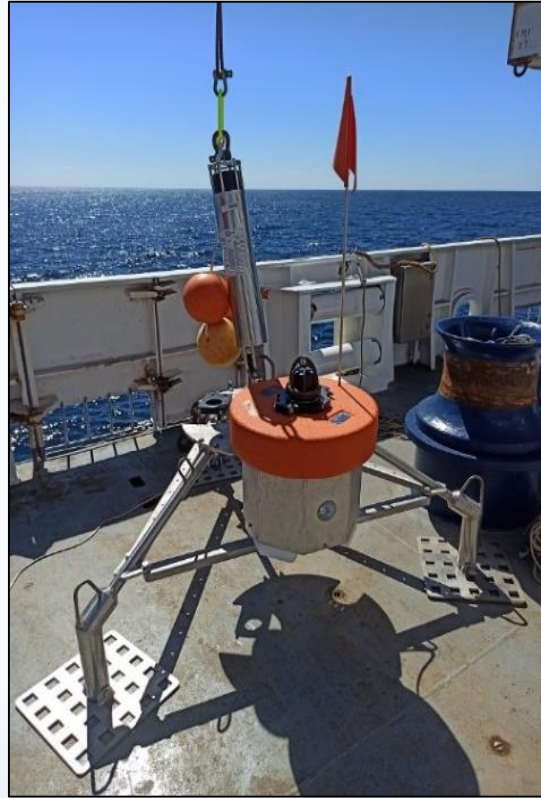
International  
Hydrographic  
Organization



# New frame mooring

---

- **Involved in ecological issue, Shom developed a frame mooring called CATRINE with no loss of deadweight,**
  - ❖ Usable until 150m depth



# Pacific Community - SPC

---

- **Agreement signed between Shom and SPC on the 27<sup>th</sup> of February 2023**

Strengthen cooperation between Shom and SPC:

- ❖ Environmental protection and biodiversity
- ❖ Water-level monitoring
- ❖ Understanding the role of the ocean in climate change
- ❖ Modelling of the ocean
- ❖ Prevention of submersions and tsunamis risks

→ Allows the community to benefit from Shom's expertise





Thank you for your attention  
Any question ?



**IHO**

International  
Hydrographic  
Organization

