



16th Conference of the EAtHC /
16^{ème} Conférence de la CHAtO

National Report / *Rapport National*

Portugal

Agenda Item EAtHC16-06f

EAtHC16, Hybrid, Lisbon, 29 September – 1 October 2021



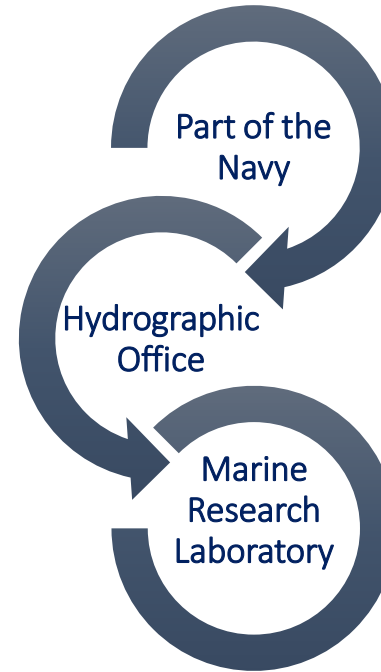
IHO

International
Hydrographic
Organization

Portuguese Navy organization with
administrative and financial autonomy

- National Hydrographic Office
- National Research Lab (I&D)

- Minister of Defence
in articulation with the
- Minister of the Sea
- Minister of Science, Technology and Higher Education



Instituto Hidrográfico

Legal Framework



Headquarters, Lisbon



Hydrographic Base, Seixal (river Tagus south bank)





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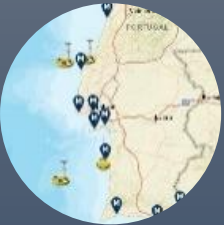
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Activities related to marine science and techniques

- Research and Development
- Protection of the marine environment
- Environmental support to naval and maritime operations



Safety of
Navigation



Oceanography



Chemistry



Geology



Hydrography

Data Management

GEOMETOC Support to Naval & Maritime Ops

IHPT Technical Areas & Main Programs



Navy



Research
Labs



Universities



Industry

Ocean Mapping

Hydrographic Surveys

Hydrographic and Nautical
Cartography

Seafloor characterization, Seismic
surveys & ROV

Ocean Observation

Observation & Environmental
Monitoring

Marine Chemistry and Pollution

Ocean Forecasting

GEOMETOC maritime operations
support

Support to mariners



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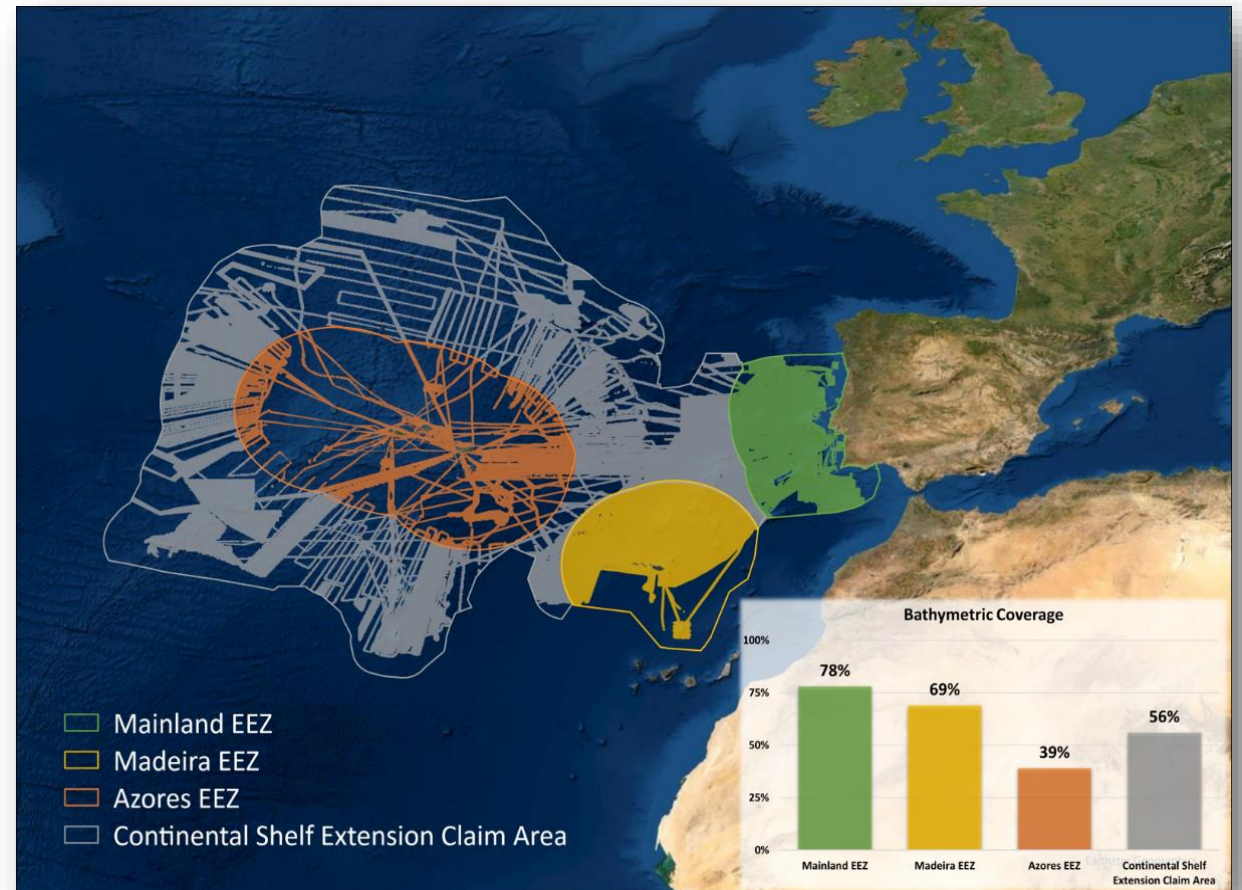
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SEAMAP 2030: High-resolution Mapping of the Portuguese Sea

- SEAMAP 2030 in line with SEABED 2030
- Webpage: <https://www.hidrografico.pt/iprojeto/16>
- Map Story:
<https://storymaps.arcgis.com/stories/334290c8d2b345c78ac7c3f5e0fcb5e2>



Presently high-resolution coverage: 55%



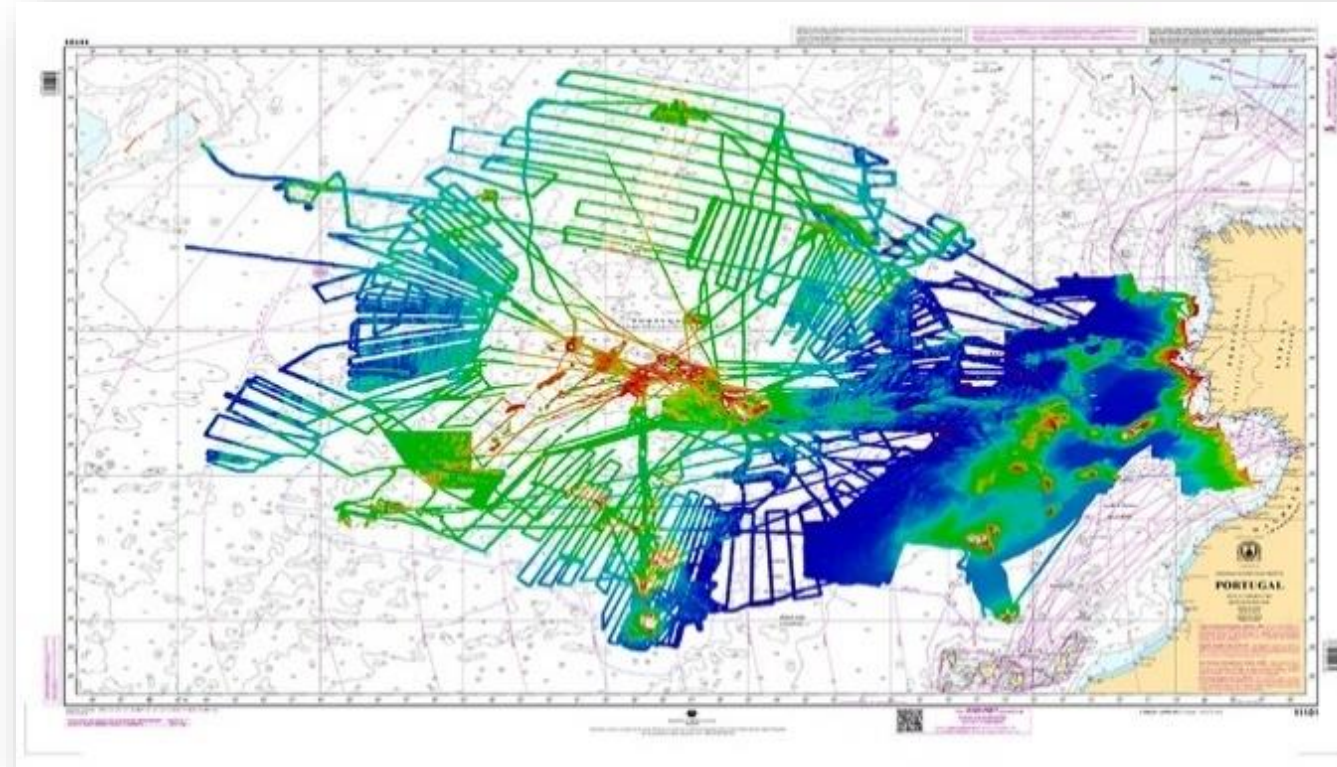


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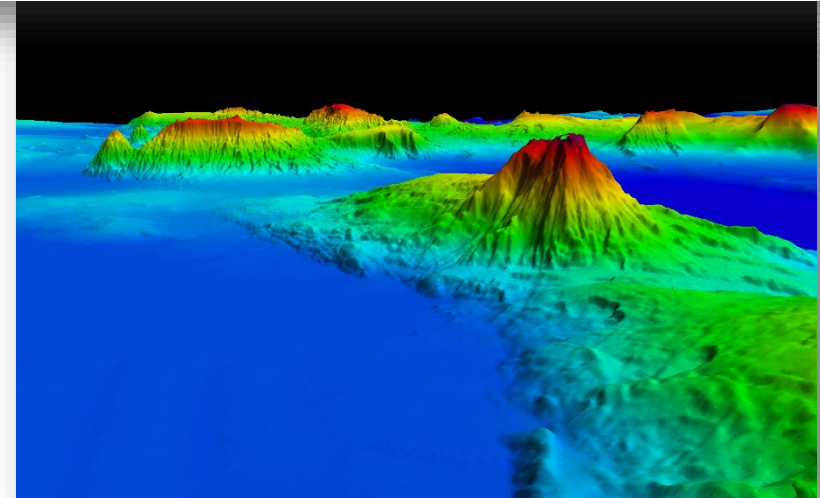
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SEAMAP 2030: Mapping of the Portuguese Sea Program

- **Until 2030:**
 - 100 survey days/year (EEZ)
 - 180 survey days/year (continental shelf claim)
- **Downsizing the effort:**
 - Data sharing from 3rd parties
 - NOAA, BSH and NIOZ already shared data with IHPT
 - Exploring other data holders (p.e. IFREMER)



International Hydrographic Review:
“Program SEAMAP 2030 - 100 % of the
national maritime spaces mapped by 2030”





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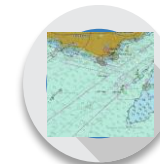
Nautical cartography

- IHPT
 - Nautical paper Charts (NC) and Electronic Navigational Charts (ENC)
 - NC production in the areas of Portuguese responsibility, both national and international
 - NC and ENC, including some charts of the International Portfolio (INT), for Portuguese speaking African countries' areas of interest

Portuguese Folio



203 NC
46 INT NC

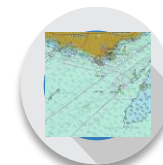


119 ENC

Portuguese Folio Region G



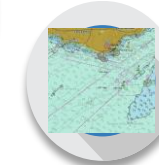
74 NC
34 INT NC



77 ENC



40 NC
10 INT NC



18 ENC

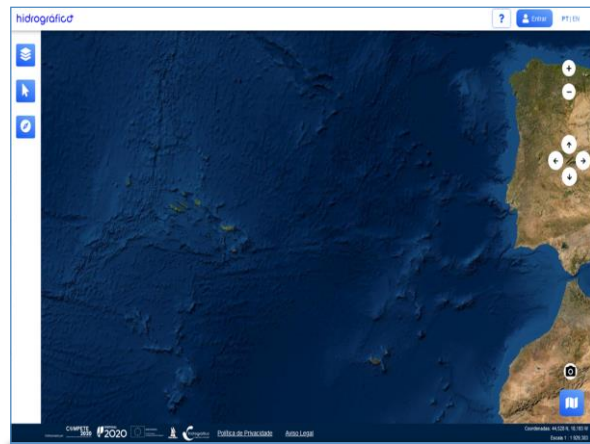


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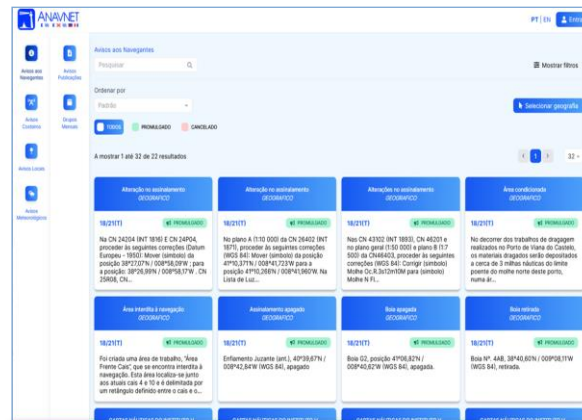
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MSDI

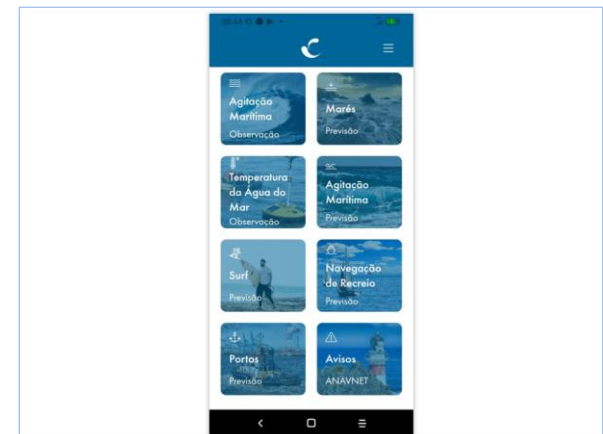
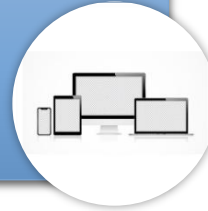
- The new IHPT geoportal **Hidrografico+** : <https://geomar.hidrografico.pt>



GeoPortal H+
OGC Services
API



AnavNet
Notices to Mariners
Navigational end
Weather Warnings



App H+
Sea State / Wind
Temperature / Tide



IHPT in the process to become a National primary MSDI and Oceanographic Data Center.



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Top achievement: Publications

- IHO released an English/Portuguese version of the guidelines for the Standardisation of Undersea Feature Names (IHO publication B-6)
 - These guidelines explain the process to submit proposals for undersea features names and provide necessary information for them to be adopted by the GEBCO Sub-Committee on Undersea Feature Names (SCUFN)
- This version is the result of a productive cooperation between **Brazil (DHN)** and **Portugal (IHPT)**
https://iho.int/uploads/user/pubs/bathy/B-6_e4%202%200_Eng_Por_versao-final_17Dec2020.pdf
- Portugal and Brazil are now working on the translation to Portuguese of the recent 6th Edition of the **special publication S-44 'IHO Standards for Hydrographic Surveys'**. Final revision.

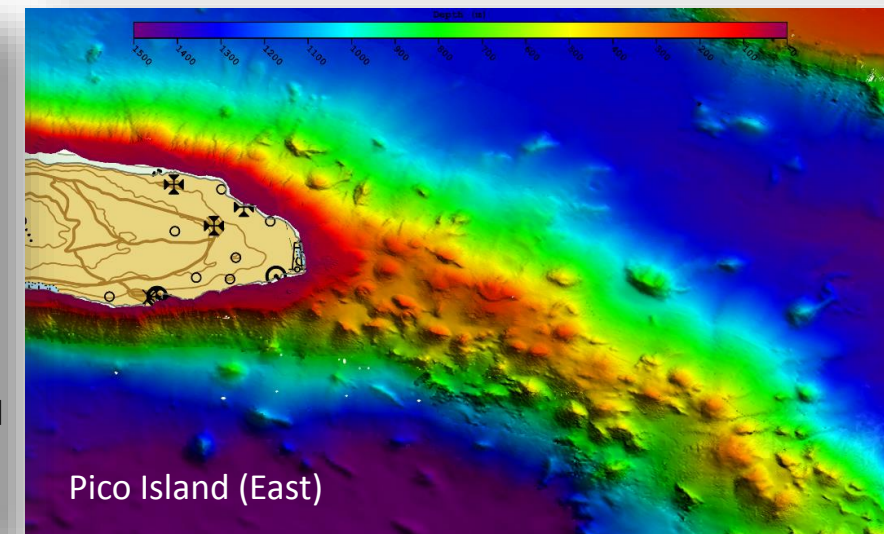
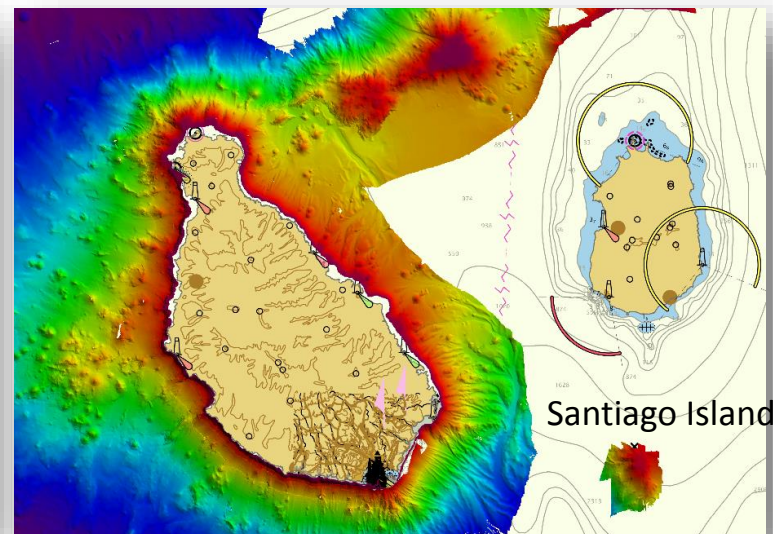
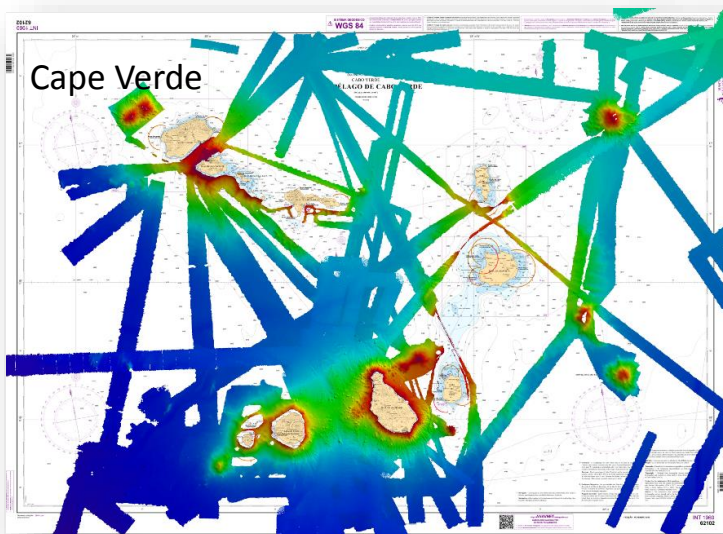




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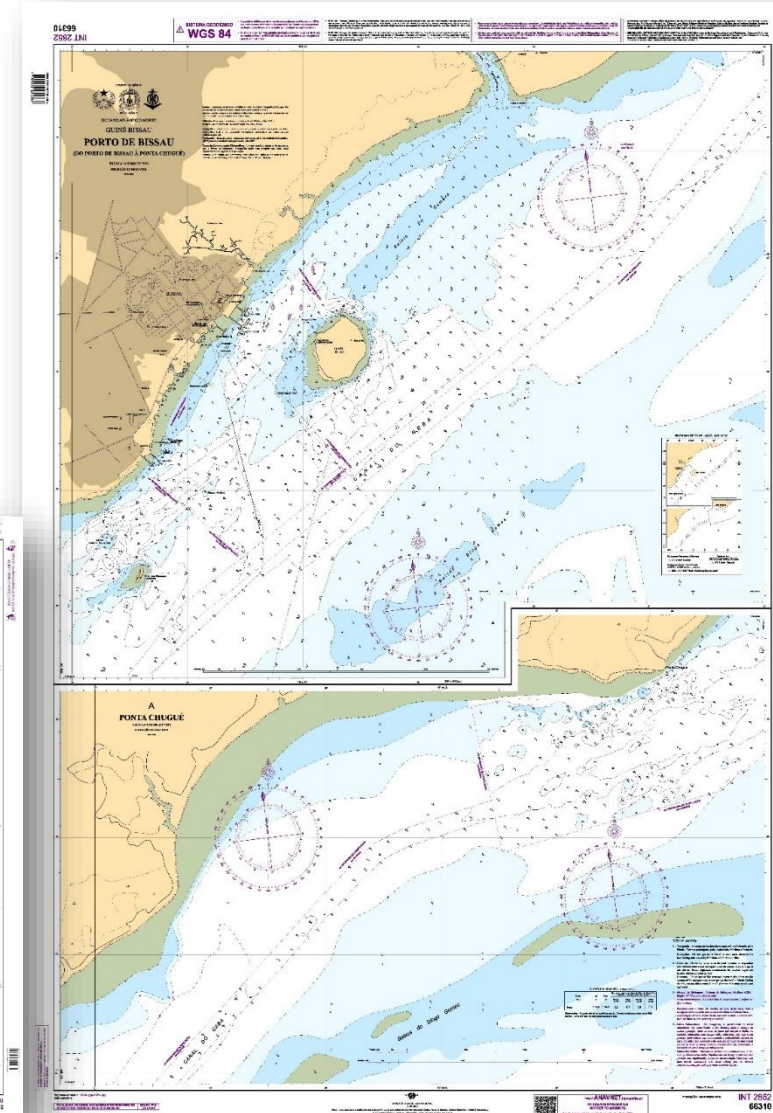
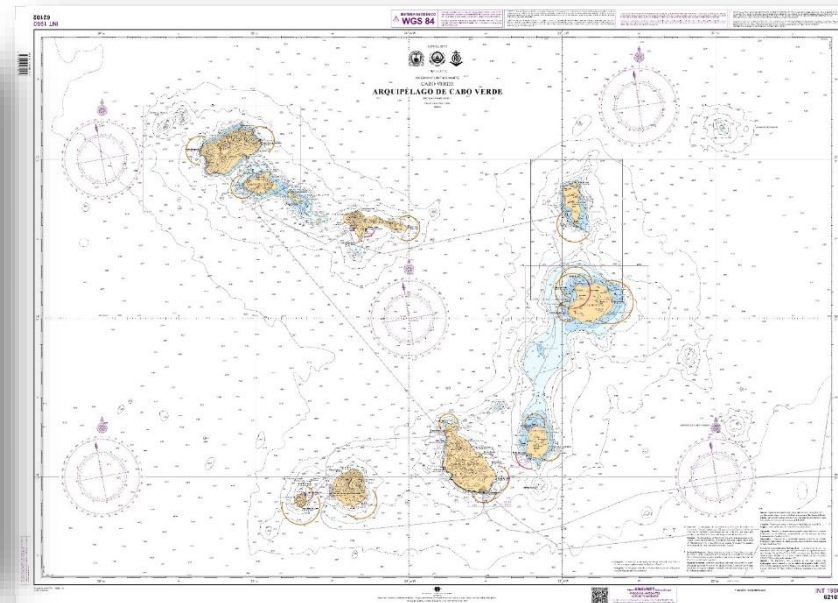
TOP ACHIEVEMENT SINCE EATHC15: SURVEYS

- MoU with Azores Regional Government
 - Azores Seamounts Surveys
 - Coastal surveys (10-200 m) around the 9 islands (35% done)
- Access to Port Administrations' data
- Inland Surveys (Douro and Guadiana Rivers; next: Tagus)
- Cape Verde
 - UNTieD project (Unlocking the megaTsunami Deadlock)
 - Cooperation with Instituto Marítimo e Portuário
 - Data shared from several scientific cruises multibeam data





- Cape Verde Archipelago e Bissau Harbor Charts
- Adjustments made to Portuguese Speaking African Countries folio/INT Coverage
 - It is the intention of the IHPT to prepare/redefine a new coverage scheme for the Cape Verde area, as new data becomes available
- Cape Verde ENC coverage resizing: Overlaps with GB cells were solved





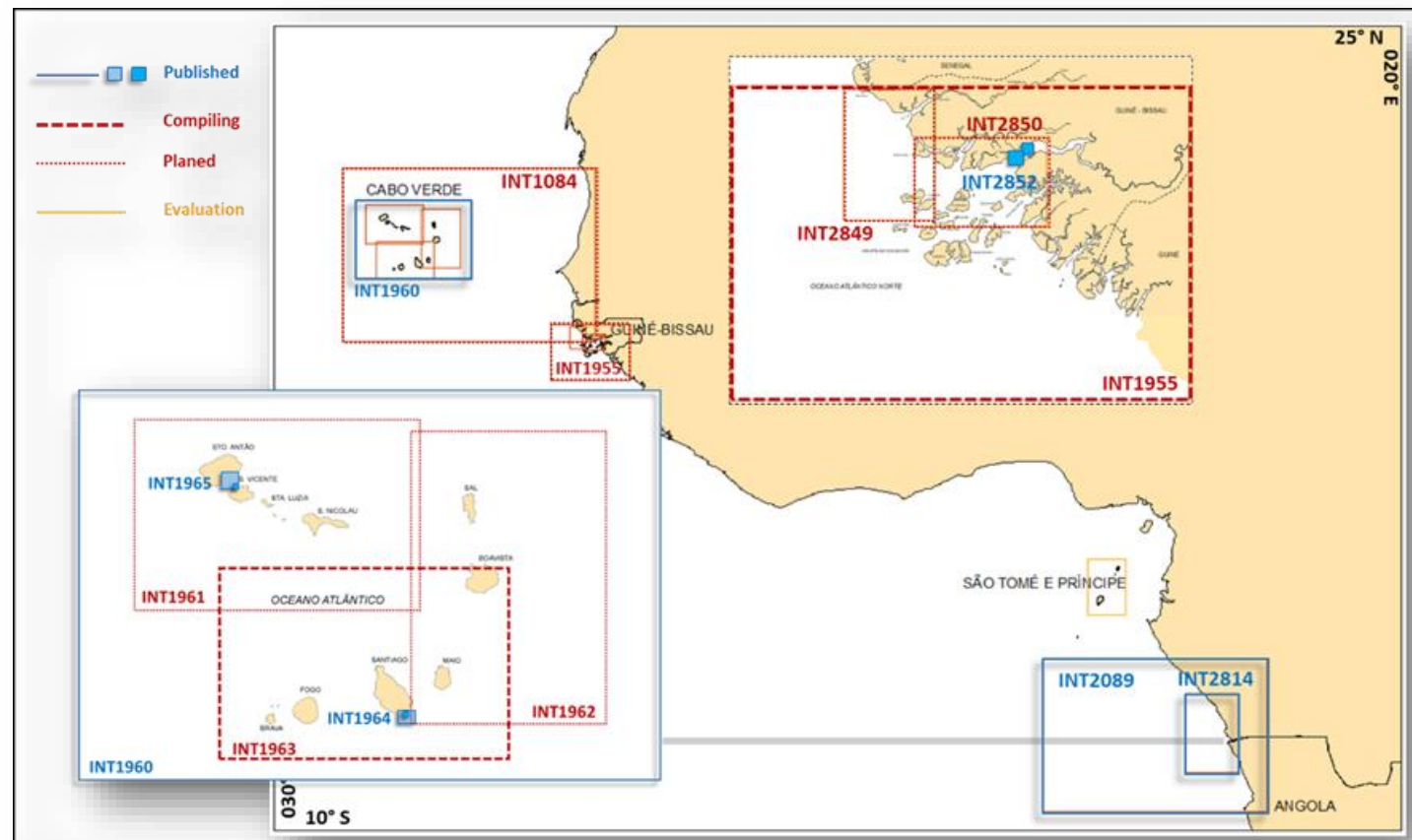
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TOP PLANS THAT AFFECT THE REGION

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- Portuguese Speaking African Countries:

- New surveys (*Mar Aberto* missions)
- Complete Cabo Verde general chart coverage
- Following up on the production of new charts from Guinea-Bissau and São Tomé and Príncipe
- Complete the INT charts coverage in order to eliminate the gaps that still exist
- Rescheming ENC Coverage (grid coverage)
 - Prepare/plan S-57 to S-101 transition





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TOP ISSUES OR SHORTFALLS

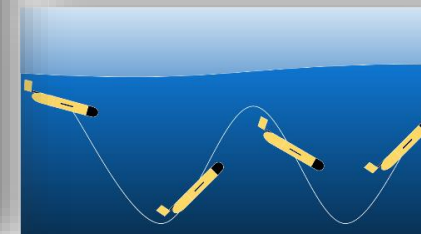
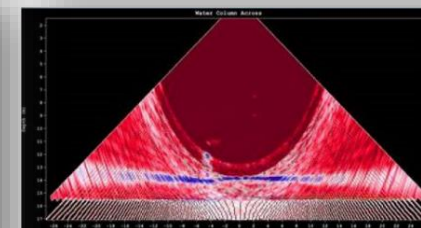
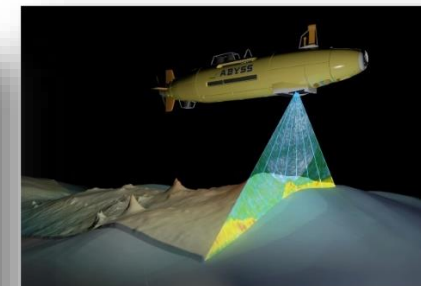
- Data sharing among several data holders!
- Capacity building costs/funds
- Surveys in Portuguese-speaking African countries:
 - Lack of financing
 - Logistics and transportation are still the primary concern for any partnership or support actions



The gaps reported in charts are directly linked to the difficulty of obtaining data that allows the compilation of the nautical cartography.



- The implementation of the S-100 is expected to be a major challenge:
 - S-57 to S-101 transition and the production of S-101 ENC's (Specifications / Production Software / QC / Validation / National Procedures)
 - S-101 ENC's schemes
 - The transition period
- National Capacitation: ships, equipment's modernization, new platform's (UAV, SUV, AAV,..), new technologies
- MSDI ➔ NODC





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Top challenges

•Programs/Projects for
2021-2030, aligned with:

- IHO Strategic Plan for 2021-2026
- United Nations Decade of Ocean Science for Sustainable Development (2021-2030)
- SEABED 2030 programme (global knowledge of ocean morphology):



- **Mapping** of the Portuguese sea (full coverage) - **SEAMAP 2030**
- Implementation of the S-100 standards - internal plans for the transition process and production of S-101 ENC's as a first step
- Support for **capacity building** in marine sciences and techniques and updating nautical cartography in Portuguese Speaking African Countries



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ACTIONS REQUESTED FROM EATHC16

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1. Note this report
2. IHPT recommends a strong commitment to the **training** of EAtHC members in the development and production of the new generation of S-100 products and services
3. Take any other actions as considered appropriate

