



17th Conference of the EAtHC /
17^{ème} Conférence de la CHAtO

National Report / *Rapport National*

Portugal

Agenda Item EAtHC17-06.07A



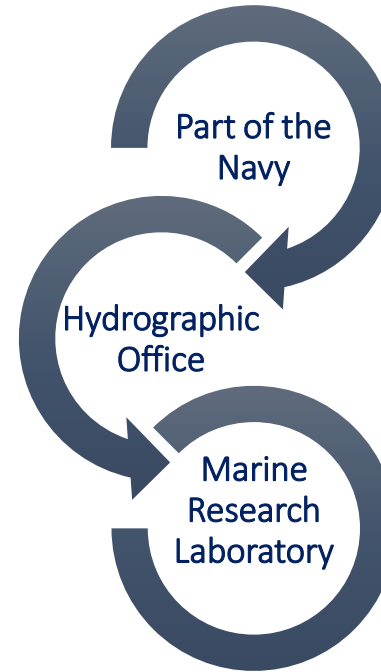
IHO

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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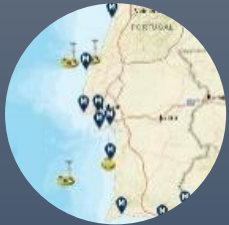
International
Hydrographic
Organization

Activities related to marine science and techniques

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



**Safety of
Navigation**



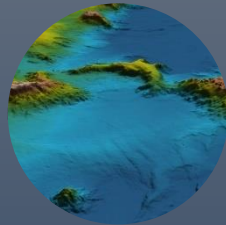
Oceanography



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

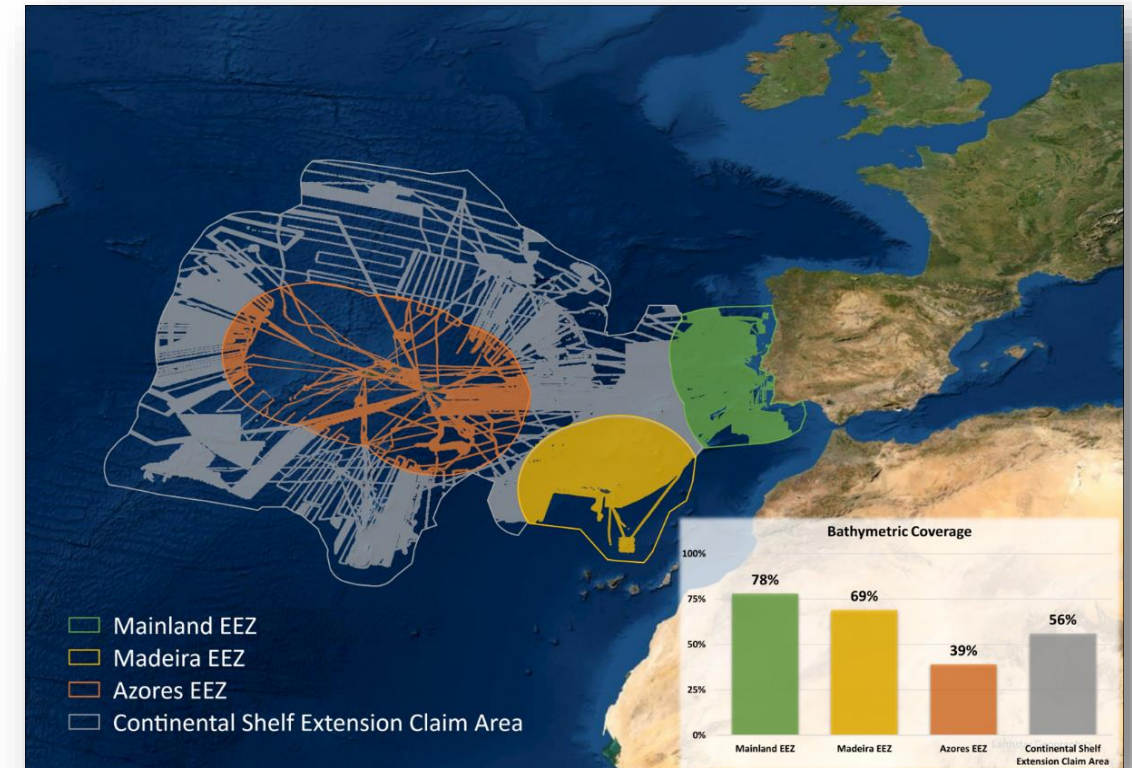
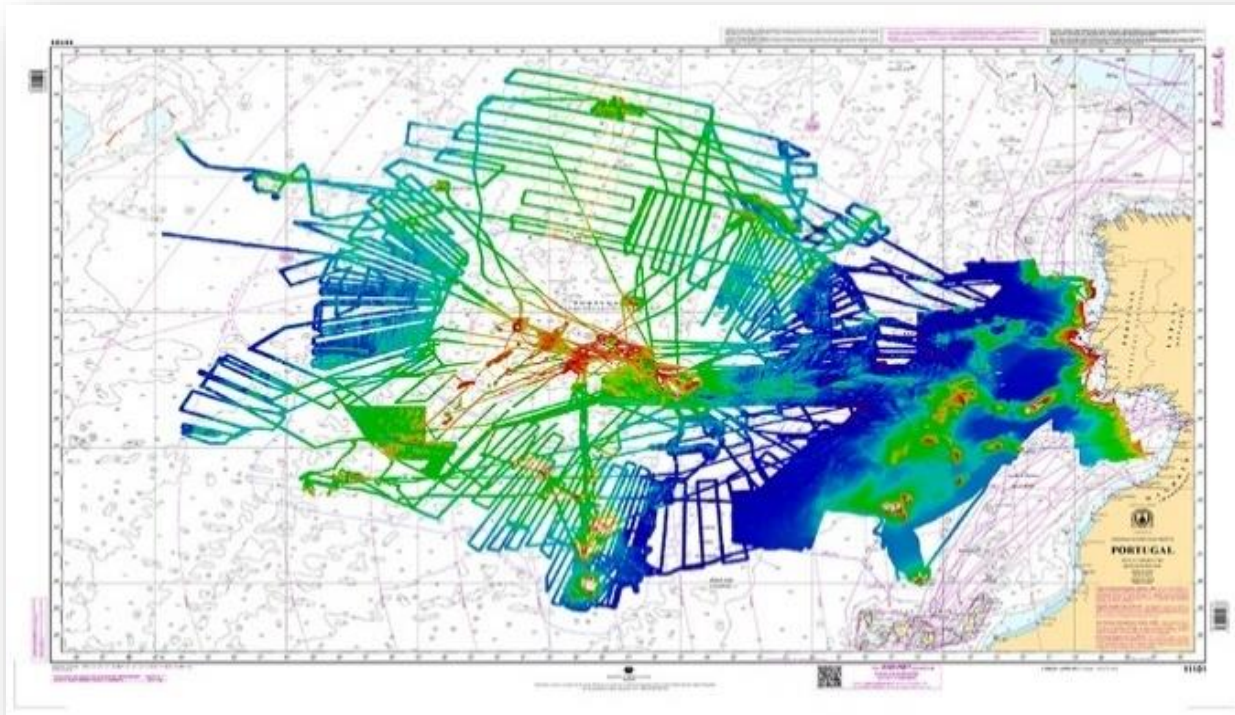


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SEAMAP 2030: Mapping of the Portuguese Sea Program

- Until 2030:
 - 100 survey days/year (EEZ) /
- Downsizing the effort: Data sharing from 3rd parties
 - NOAA, BSH, SHOM and NIOZ already shared data with IHPT



Presently high-resolution coverage: 58%



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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>
- **Download data:** <https://gridmar.Hidrografico.pt>

GRIDMAR Sobre Ferramentas Relevio Submarino

Pedido / Request - Grid:

Grilha / Grid: 36

Nome / Name: Sobrenome / Surname

Email:

País / Country: Portugal Cidade / city: Governo / Use / Use

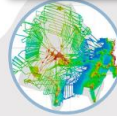
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RESOLUTION(S)

Depth 50m-250m – Res. 32m
Depth 250m-1000m – Res. 64m
Depth 1000m-2000m – Res. 128m
Depth 2000m-4000m – Res. 256m
Depth +4000m – Res. 512m

Metadata



SEAMAP 2030

Mapeamento do Mar Português

<https://www.hidrografico.pt/iprojeto/16>

DATA(S)

Levantamentos Hidrográficos (LH) realizados em:
De 2004 a 2021

SISTEMA GEODÉSICO

Coordenadas Geográficas WGS84 (EPSG 4326)
Latitude N (grau decimal)
Longitude W (grau decimal)

REFERÊNCIA VERTICAL

Nível Médio Adriático (N.A.)
Zero Hidrográfico (Z) – profundidades inferiores a 200m.

RESOLUÇÕES

Prof. 50m-250m – Res. 32m
Prof. 250m-1000m – Res. 64m
Prof. 1000m-2000m – Res. 128m
Prof. 2000m-4000m – Res. 256m
Prof. +4000m – Res. 512m

ORIGEM DOS DADOS

O produto foi consultado com base nos Levantamentos Hidrográficos (LH) do Instituto Hidrográfico (IH), em resultado do âmbito do projeto de mapeamento do Mar Português para o âmbito da Plataforma Continental (PC) e pelos dados adquiridos em cruzeiros científicos.

FORMATO(S)

Lista de pontos, atual na forma: longitude [W], latitude [N], profundidade [m]. O separador é o espaço.

DISCULPES

Os dados fornecidos não deverão ser usados para fins comerciais sem a prévia autorização do IH e da IHPC (Instituto Hidrográfico).

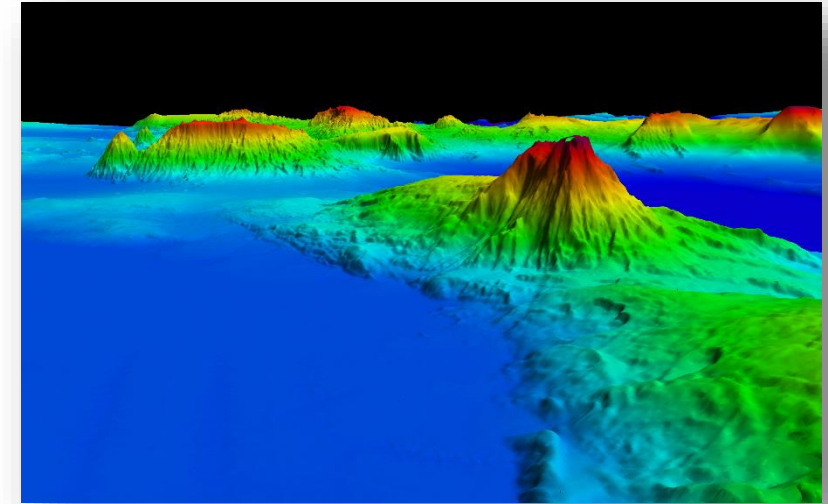
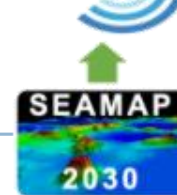
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Rua das Flores, 146
1249-093 Lisboa
PORTUGAL

TEL: +351 217 943 000

<https://www.hidrografico.pt>

<https://seamap.hidrografico.pt>

set/2022





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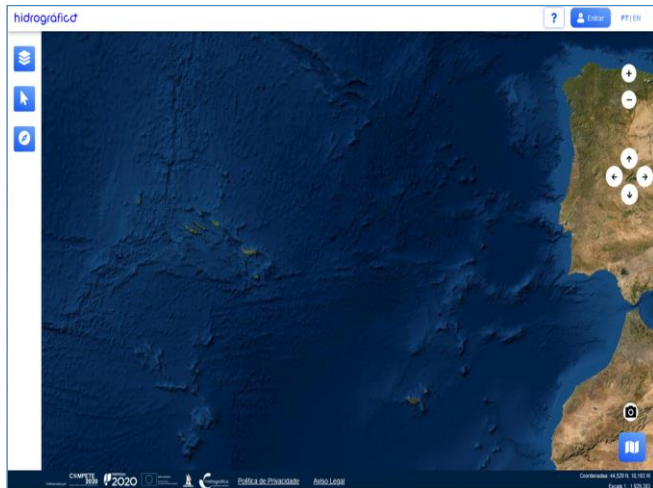
MSDI

hidrográfico

INTEROPERABILITY

MODULARITY

SCALABILITY

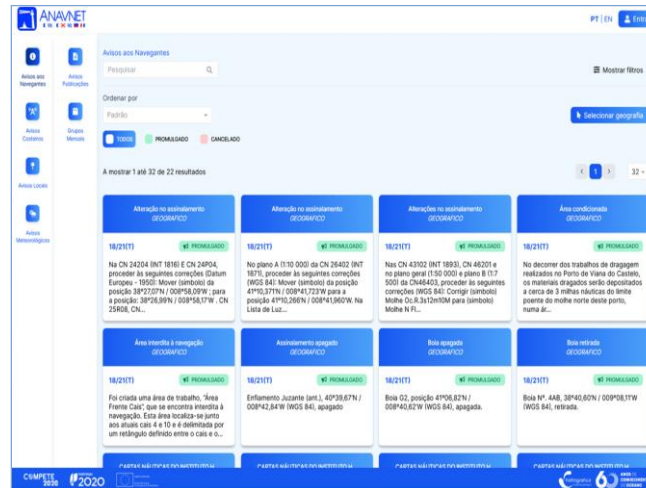


GeoPortal H+

Download
OGC Services
API

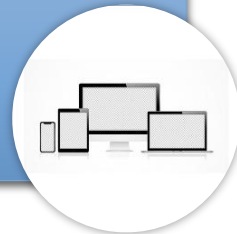


<https://geomar.hidrografico.pt>

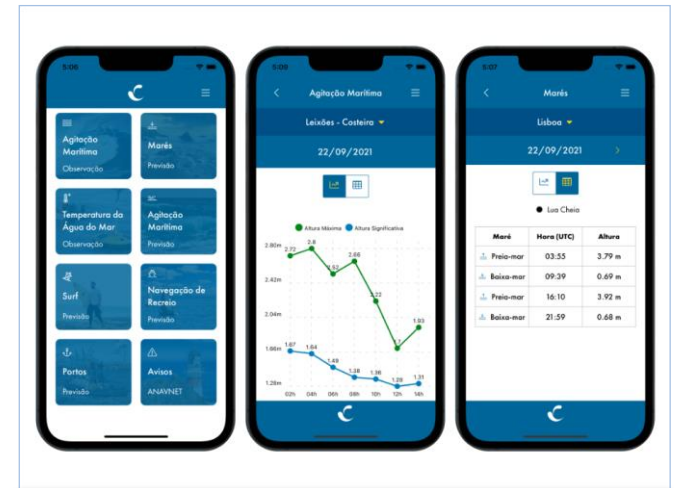


AnavNet

Notices to Mariners
Navigational Warnings
Weather Warnings



<https://geoana2022.hidrografico.pt>



App H+

Sea State / Wind / Tide
Seawater Temperature
AnavNet



Download on the
App Store

Available on the
Google Play

**IHO**International
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Nautical cartography

- 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 Region G

	Portugal	Cape Verde	Guiné-Bissau	São Tomé e Príncipe	Angola	
ENC	78	21 produced + 9 schemed				109
NC/INT	81/35	54/15 (6 produced + 9 schemed)				135/50
Produced INT	100%	45%	25%	0%	100%	
Gaps INT	0%	55%	75%	100%	0%	



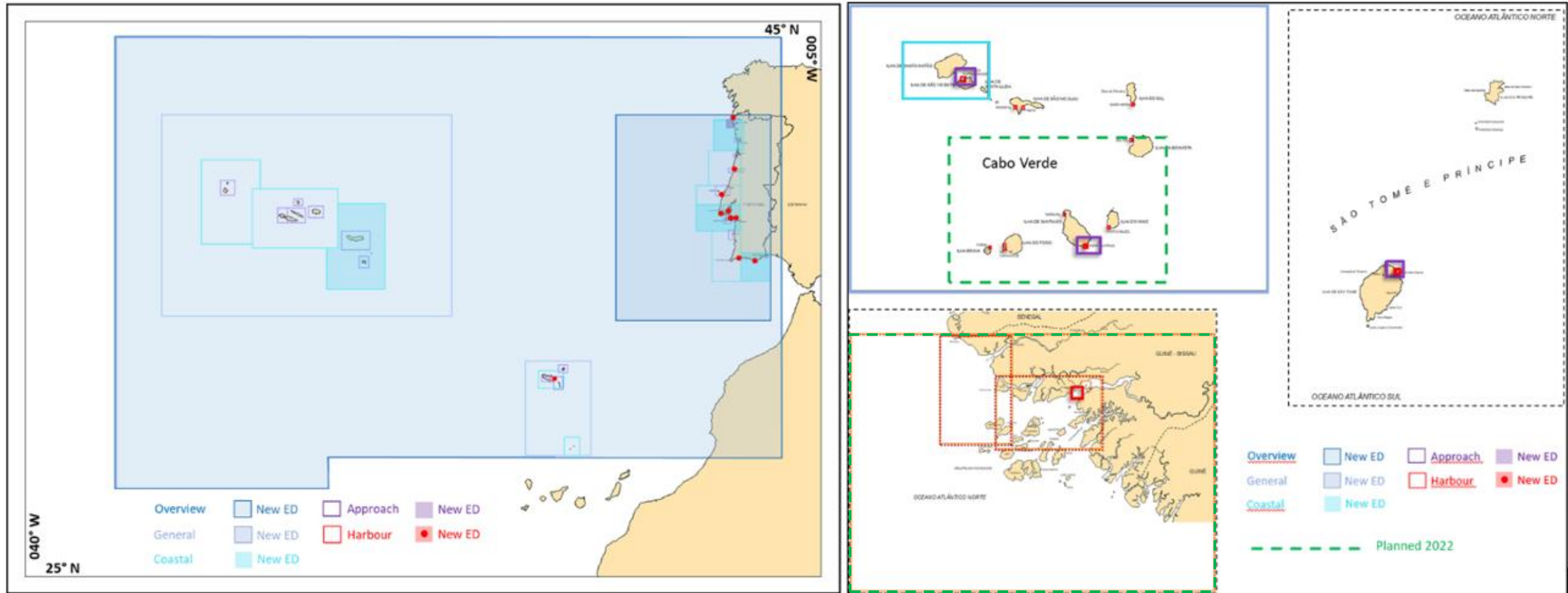
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Nautical cartography

PT ENC coverage for EAtHC region

PT ENC status





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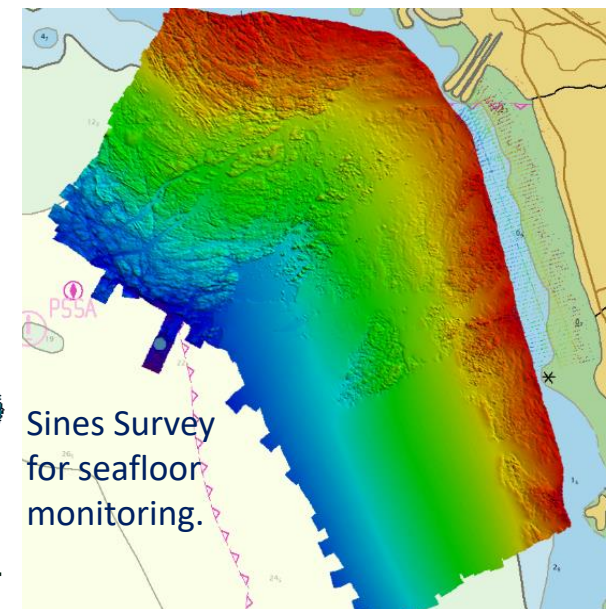
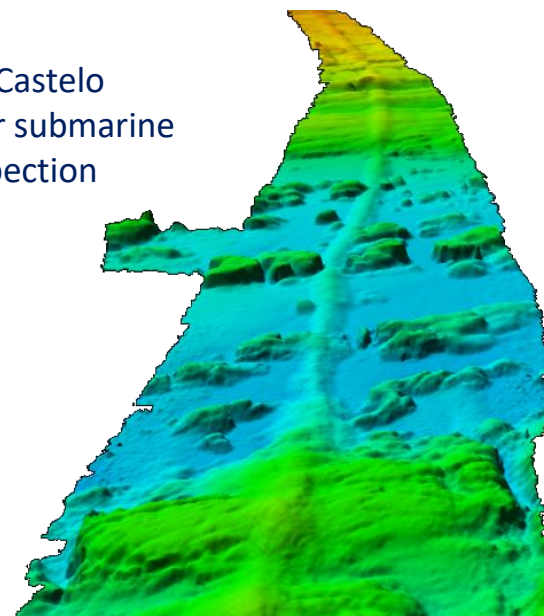
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- MoUs with Port Administrations
- Access to scientific cruises data
- Eurofleets survey

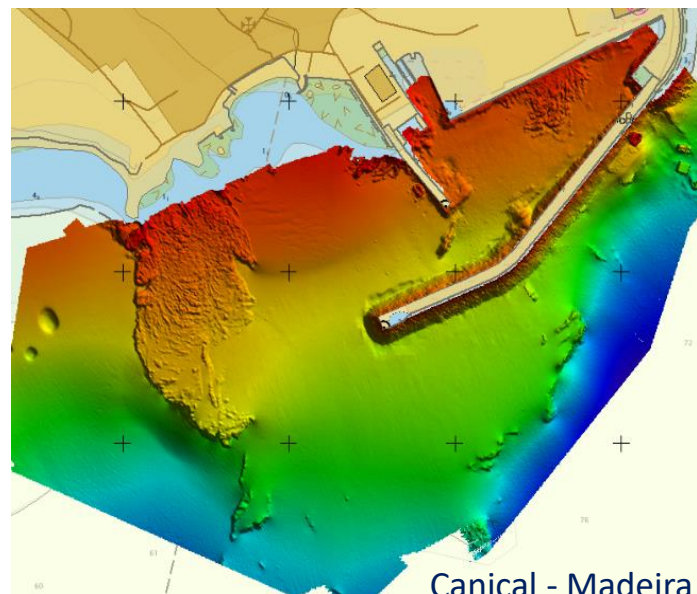
Eurofleets
Azores University and IHPT Project
RV Pelagia



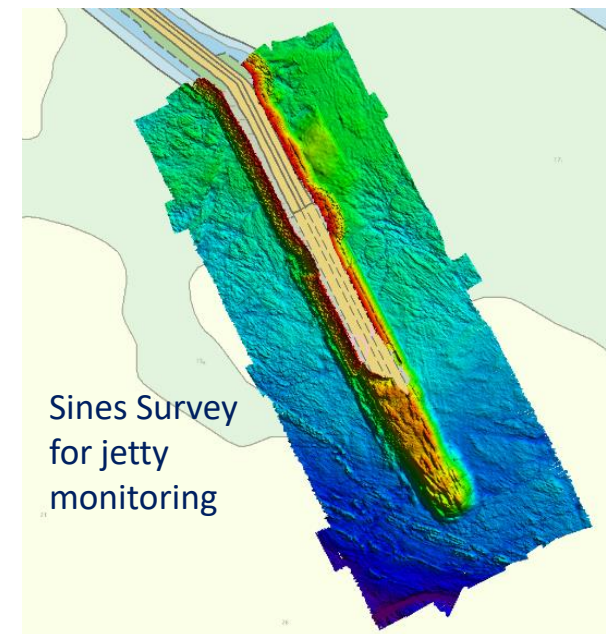
Viana do Castelo
Survey for submarine
cable inspection



Sines Survey
for seafloor
monitoring.

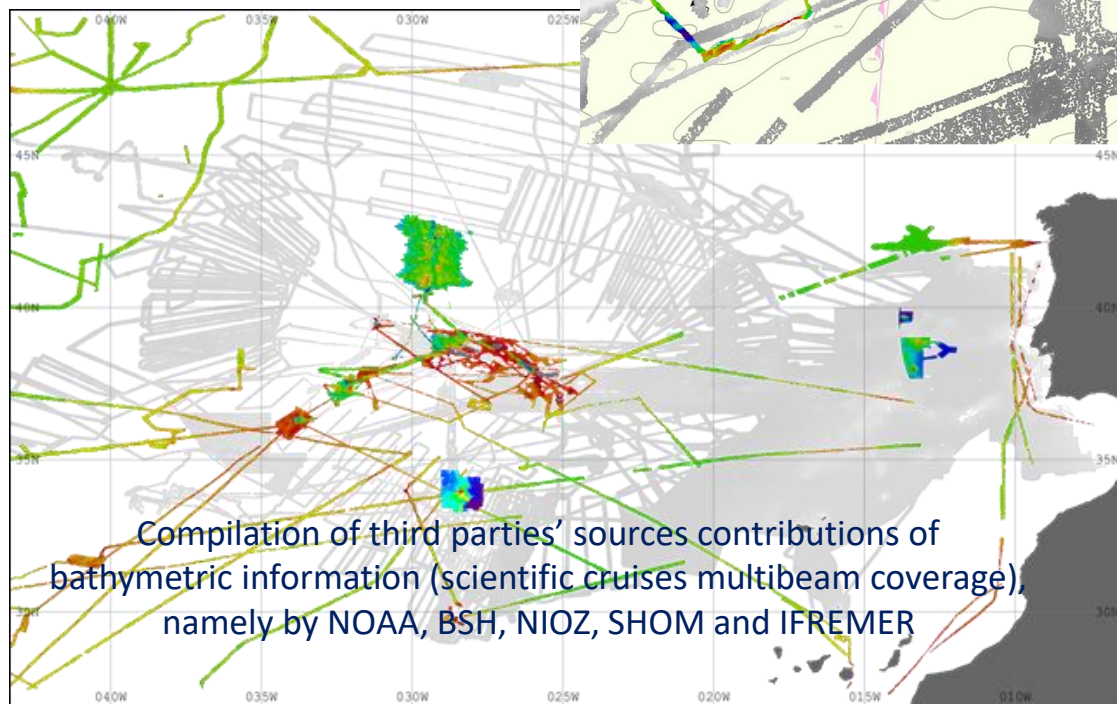


Caniçal - Madeira



Sines Survey
for jetty
monitoring

Compilation of third parties' sources contributions of
bathymetric information (scientific cruises multibeam coverage),
namely by NOAA, BSH, NIOZ, SHOM and IFREMER



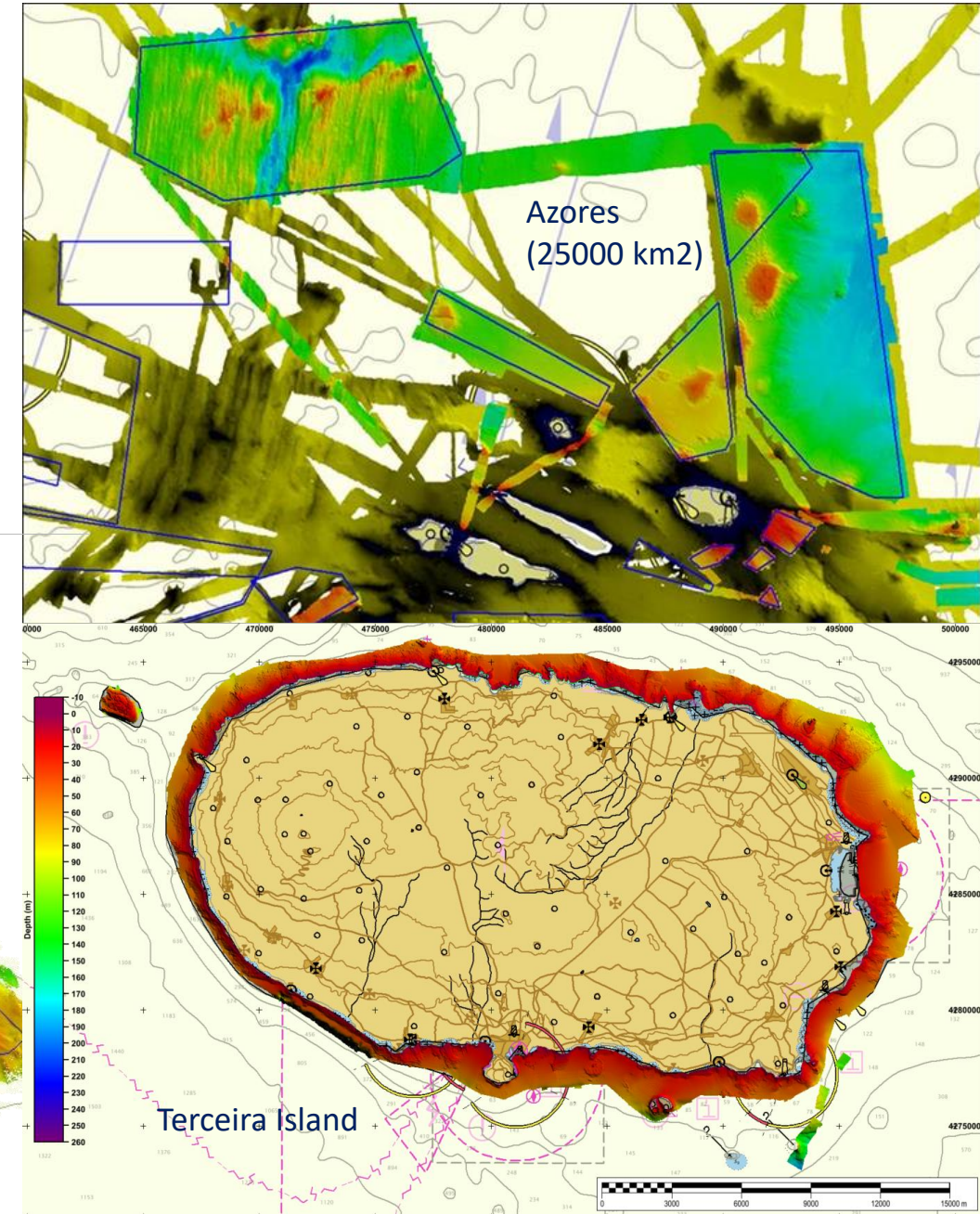
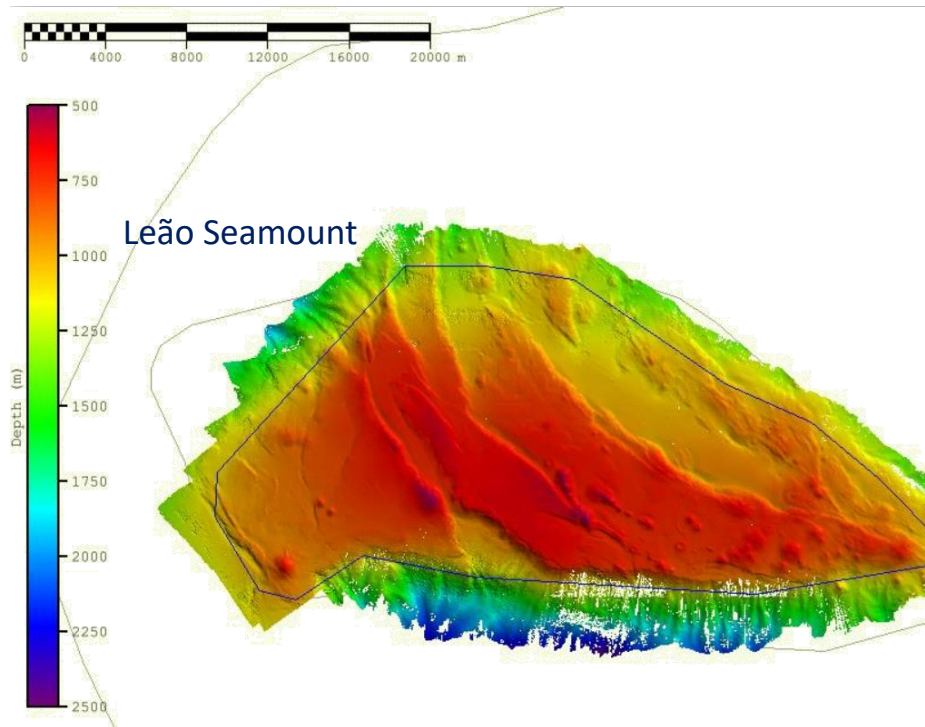
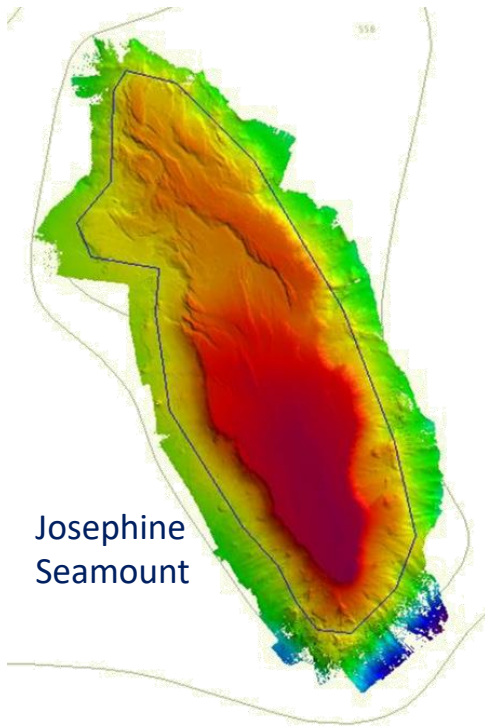


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TOP ACHIEVEMENT SINCE EATHC16: SURVEYS

- MoU with Azores Regional Government
 - Azores Seamounts Surveys
 - Coastal surveys (10-200 m) around the 9 islands (60% done)
- Josephine and Leão seamounts survey
- Eurofleets survey



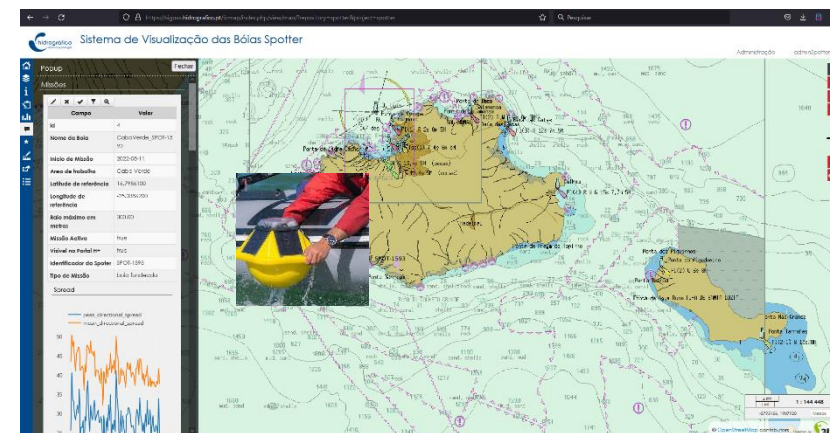


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TOP ACHIEVEMENT SINCE EATHC16: CAPACITY BUILDING

- Protocols (2021) with the Instituto do Mar (Cape Verde) and the Instituto Nacional de Meteorologia (São Tomé e Príncipe)
- Projeto AANCHOR (ALL ATLANTIC RESEARCH ALLIANCE)
- SPOTTER Wave Buoys (SOFAR OCEAN) deployed in Cape Verde and São Tomé and Príncipe
- 1 Cape Verde Hydrographer onboard (NRP D. Carlos I)
- School of Hydrography and Oceanography is a department of the IHPT: <https://www.hidrografico.pt/op/23>
 - 1 Technician from Cape Verde



CAT B Hydrography Course

Started September 2022



CAT A Hydrography Course

Start September 2023

TOP ACHIEVEMENT SINCE EATHC16: PUBLICATIONS

- IHO released an **English/Portuguese version** of the 6th Edition of the **special publication S-44 'IHO Standards for Hydrographic Surveys'**:
 - https://iho.int/uploads/user/pubs/standards/s-44/20211216_S-44_Ed6_2.0.1_Portugues_v2F.pdf.
- Charts and Nautical Publications Catalogue:
<https://loja.hidrografico.pt/?product=catalogo-de-cartas-e-publicacoes-nauticas-digital> (free download)
- Tide Tables
- C55 update
- P5: Portugal and Cabo Verde information was updated



Survey Status (updates aug 2022)	Depth < 200m			Depth > 200m		
	A	B	C	A	B	C
Portugal	100	0	0	99	0	1
Portugal Azores	75	25	0	64	0	36
Portugal Madeira	81	0	19	72	0	28
Angola	1	99	0	52	48	0
Cape Verde	91	0	9	25	0	75
Guinea-Bissau	1	94	5	4	0	96
São Tomé and Príncipe	6	94	0	1	30	69

Observations: Values calculated by IHPT

A: Adequately surveyed / B: Re-survey required / C: Never systematically surveyed



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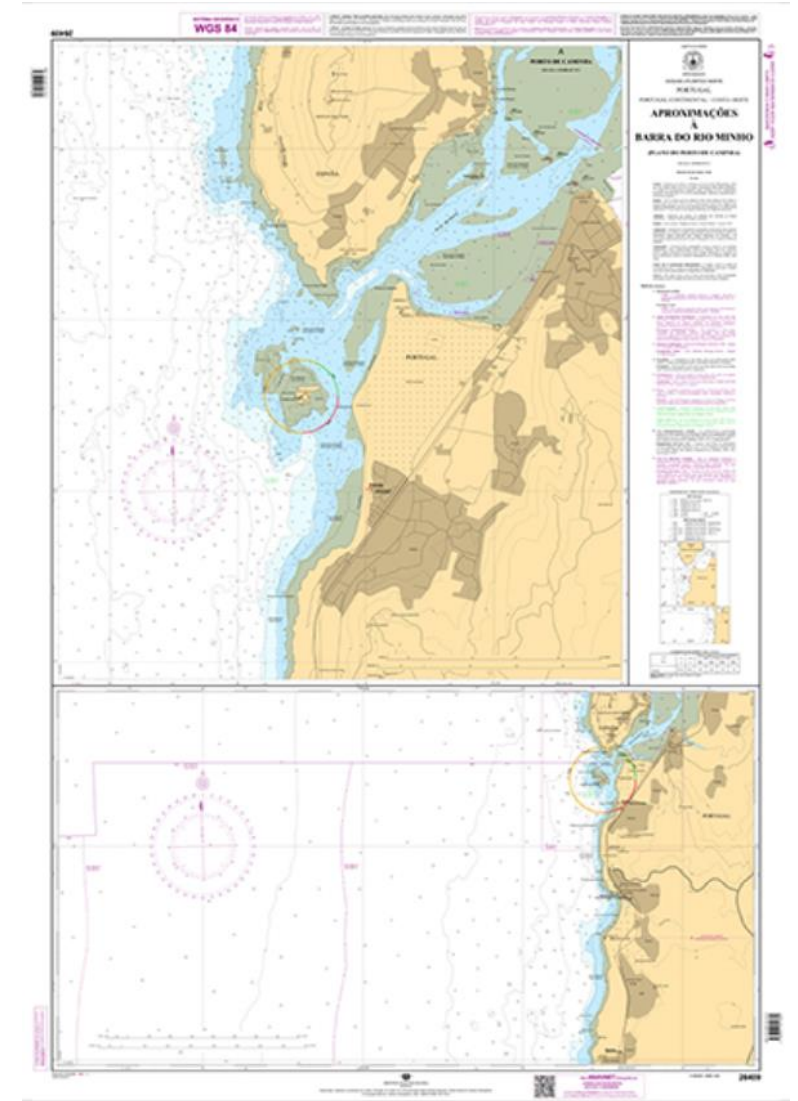
TOP ACHIEVEMENT SINCE EATHC16: ARRANGEMENTS

Bilateral Arrangements:

- UKHO: revised in the end of 2021
- SHOM: probably need revision
- IHM: under revision

IHPT-IHM Joint effort:

- New Chart Edition, April 2022 - IHPT 26409 "Approaches to the **Minho River Bar** (Caminha Port Plan)"
- New Chart, April 2022 - IHM 4171 "A Guarda and Pasaxe Ports".





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- United Nations Conference
- Hydrographic Engineering Conference (7th IHPT / 2nd with Spain – IHM co-organization)
- Hydrographic Conference for the Community of Portuguese-Speaking Countries (CPLP):
 - IHPT hosted the 1st Hydrographic Conference in Lisbon, July 2022

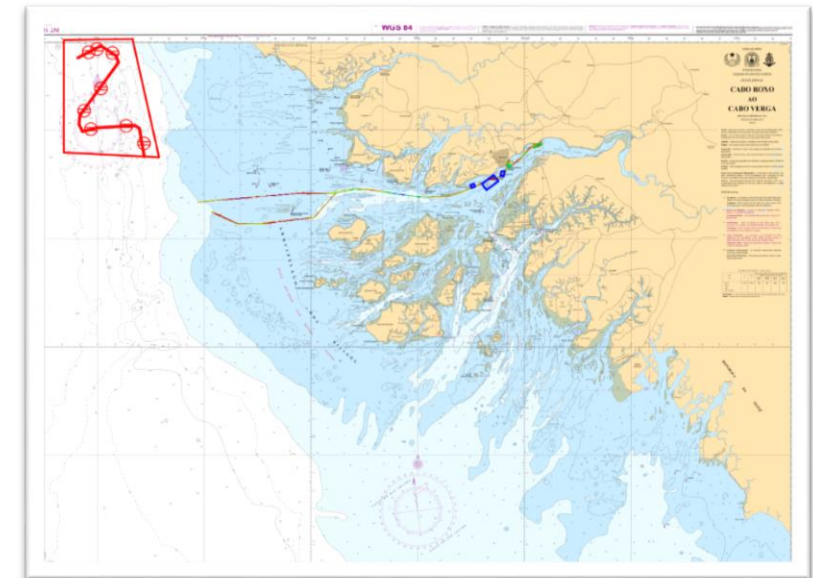
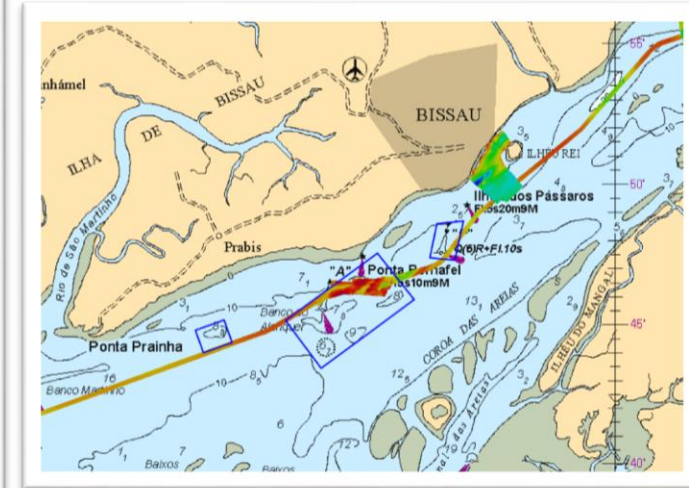


TOP ACHIEVEMENT SINCE EATHC16: INITIATIVES





- Portuguese Speaking African Countries:
 - *Mar Aberto* Initiative:
 - Boavista, Sal and Maio Islands (harbor surveys)
 - João Valente bank
 - Geba approach and Geba banks
- IHO Capacity Building working plan
 - 2022: TV to Guiné Bissau: Particularly the establishment of an efficient M
 - IALA technical visit
 - 2023: TV to São Tomé and Príncipe



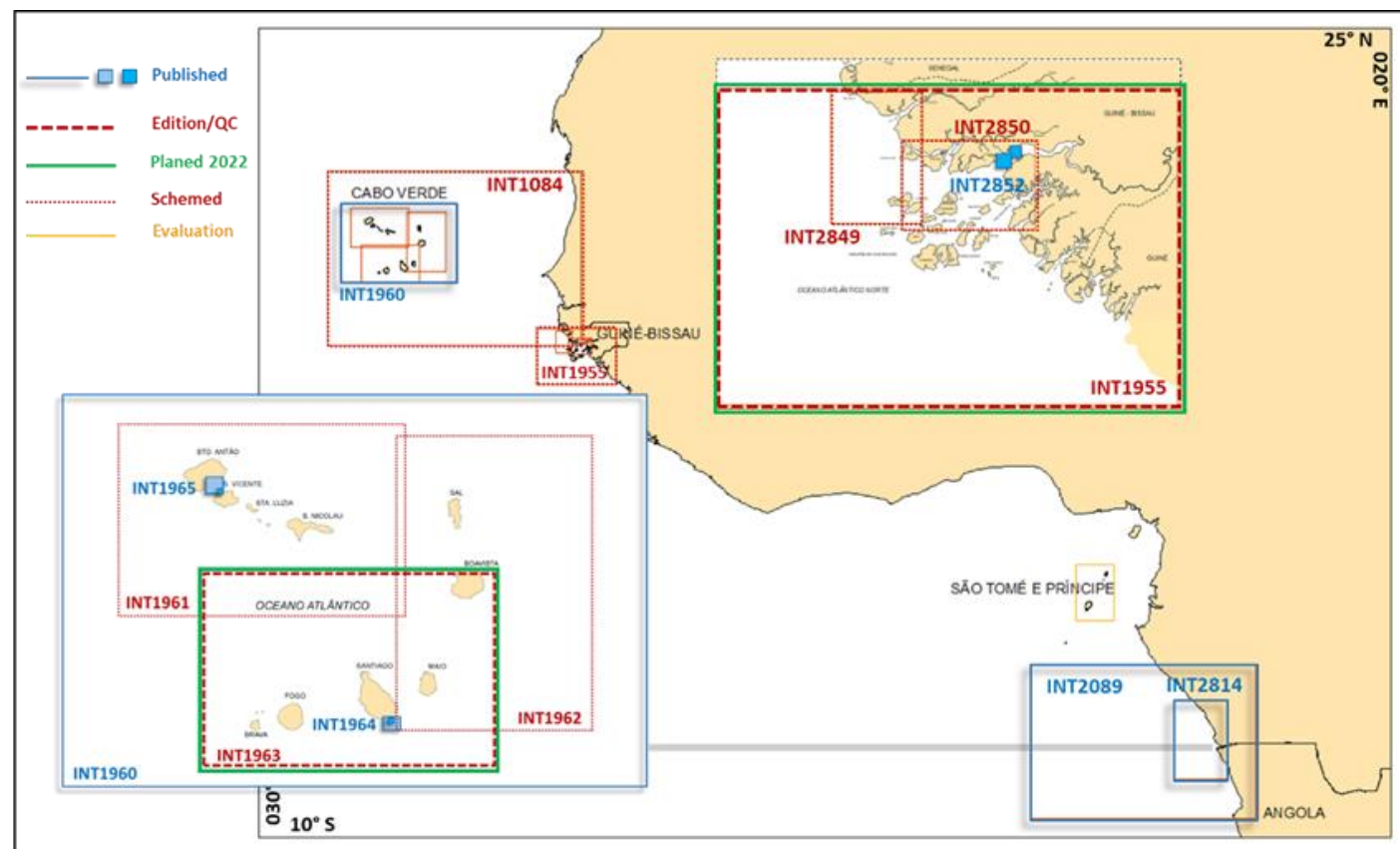


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TOP PLANS THAT AFFECT THE REGION

- Portuguese Speaking African Countries:
 - Complete Cabo Verde coastal 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
- Prepare/plan S-57 to S-101 transition





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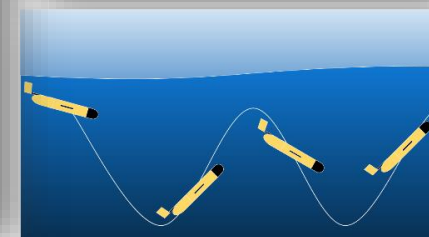
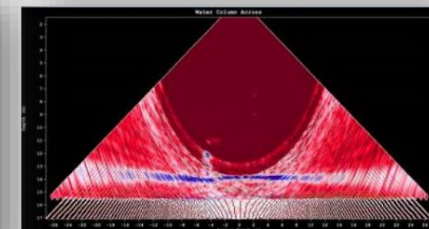
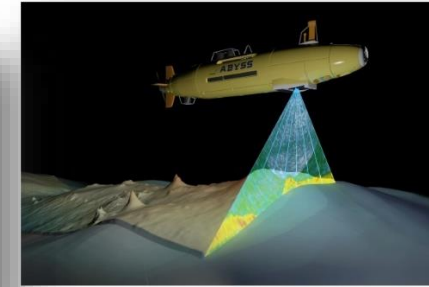
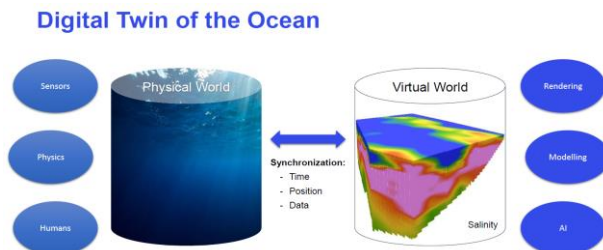
TOP ISSUES OR SHORTFALLS

- Data sharing among several data holders!
 - Access and sharing data of the scientific cruises made in areas of some local countries it is difficult due to National Authorities authorizations bureaucracy or lack of response.
- Planning surveys in Portuguese-speaking African countries:
 - Lack of financing, necessary for its realization
 - Logistics and transportation are still the primary concern for any partnership or support actions
- S-100 implementation namely for non ENC products and services (timetable, data, resources)



- The implementation of the S-100 is expected to be a major challenge:

-





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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 EATHC17

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. Keep capacity building efforts on EAtHC coastal states
4. Take any other actions as considered appropriate

