



# Instituto Hidrográfico

National Report by Portugal

17th Meeting of the Southern African and Islands  
Hydrographic Commission (2021)

IHPT | João Vicente | Hydrographic Division Head

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**ANOS DE  
CONHECIMENTO  
DO OCEANO**



4 de fevereiro de 2021



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Hydrographic  
Organization

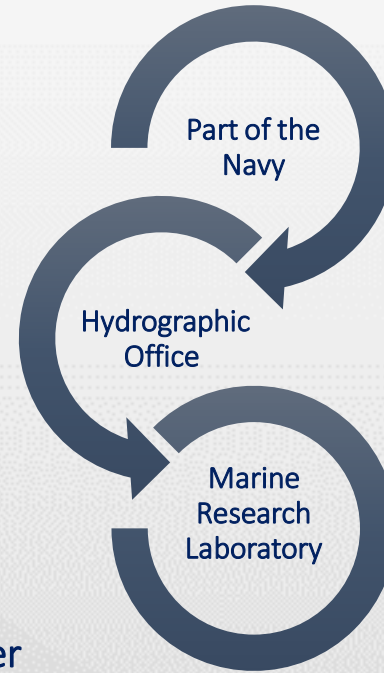
# Instituto Hidrográfico

## Legal Framework

Portuguese Navy body with administrative and financial autonomy

Hydrographic Office and Research Lab integrated in the Portuguese Research Laboratories Network

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



Headquarters, Lisbon



Hydrographic Base, Seixal (river Tagus south bank)





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Ensuring activities related to science and techniques of the sea, with a view to their military application and contribute to the country's development (science and protection of the marine environment).

# IHPT Technical Areas & Main Programs



## 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





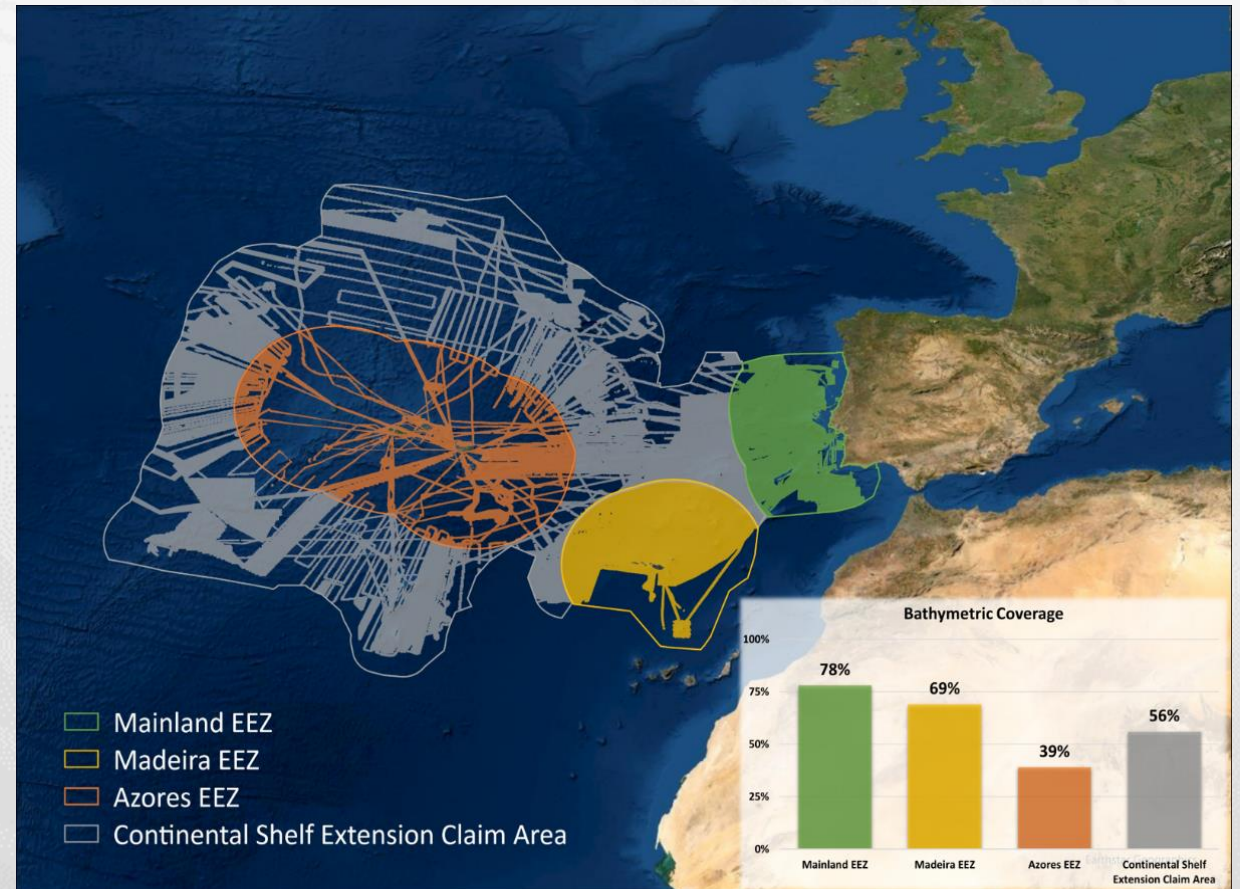
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# SEAMAP 2030: Mapping of the Portuguese Sea Program

- The Hydrographic Institute's SEAMAP 2030 program aims to contribute to the global knowledge of the morphology of the seabed (SEABED2030), completing the high-resolution mapping of national maritime spaces by 2030.
- Program webpage: <https://www.hidrografico.pt/iprojeto/16>
- Map Story: <https://storymaps.arcgis.com/stories/334290c8d2b345c78ac7c3f5e0fcb5e2>

Actual multibeam coverage: 55%





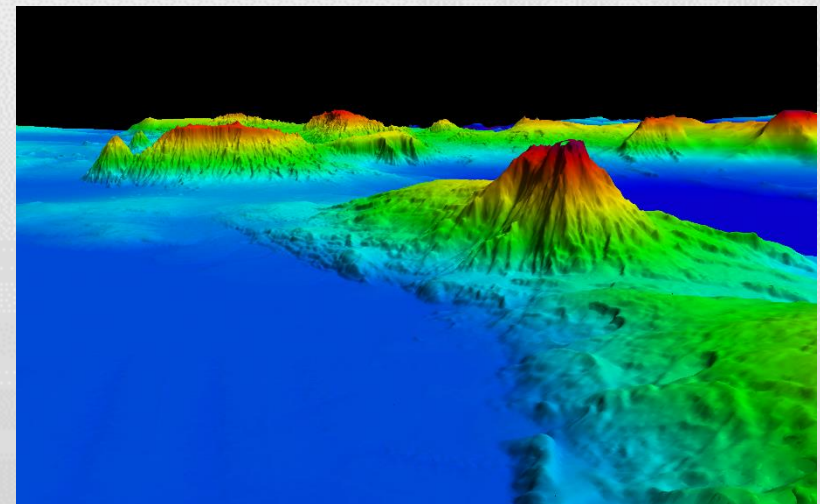
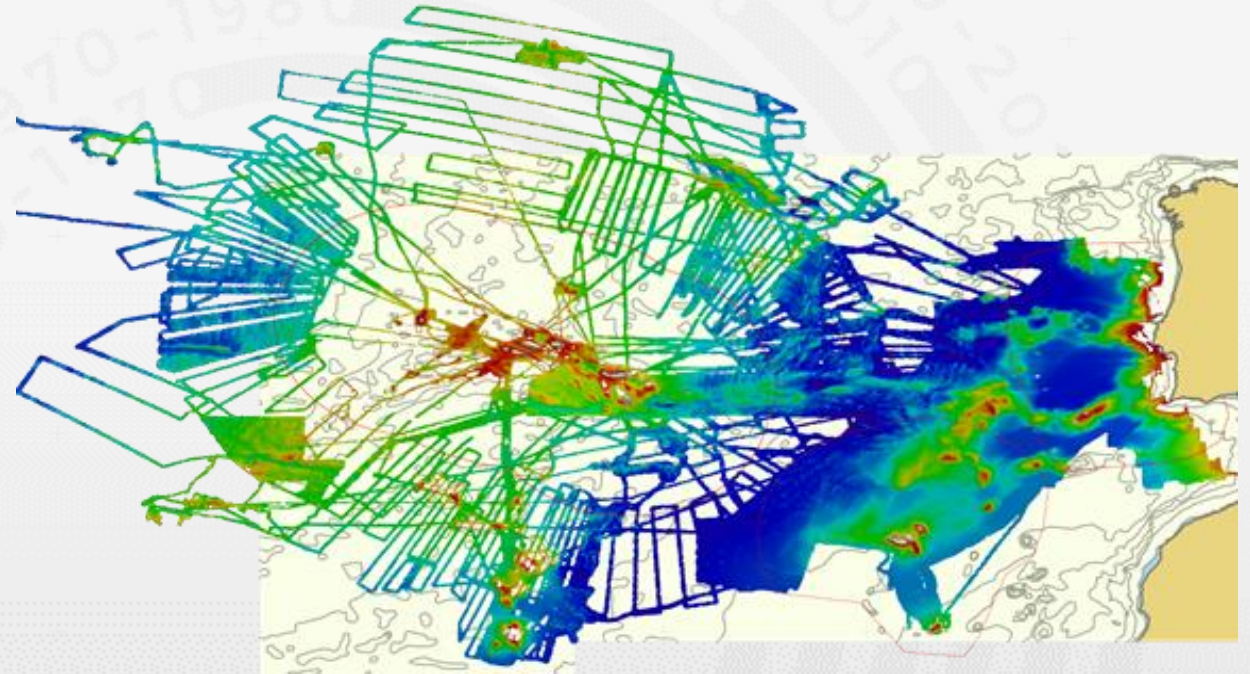
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# SEAMAP 2030: Mapping of the Portuguese Sea Program

- Until 2030:
  - 100 survey days / year (EEZ)
  - 180 survey days / year (Continental shelf proposal)
- Perhaps less, IF:
  - Organizations share with IHPT information acquired by scientific cruises in national waters
  - NOAA, BSH and NIOZ already share with us some data
  - Contacts to be done in 2021: other organizations, namely SHOM/IFREMER

Paper submitted for publication in the International Hydrographic Review : “Program SEAMAP 2030  
100 % of the national maritime spaces mapped by 2030”.





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# Nautical cartography

- IHPT produces Nautical paper Charts (NC) and Electronic Navigational Charts (ENC) in vector format. Regarding NC production in the areas of Portuguese responsibility, both national and international, production programs were created to insure the coverage of these areas.
- IHPT also produces NC and ENC, including some charts of the International Portfolio (INT), for Portuguese speaking African countries

210 Paper charts

44 INT Charts



117 ENC



PORTUGAL

**173**



Paper **75** (34 INT)



ENC **98**

Portuguese  
Speaking African  
Countries

**154**



Paper **135** (10 INT)



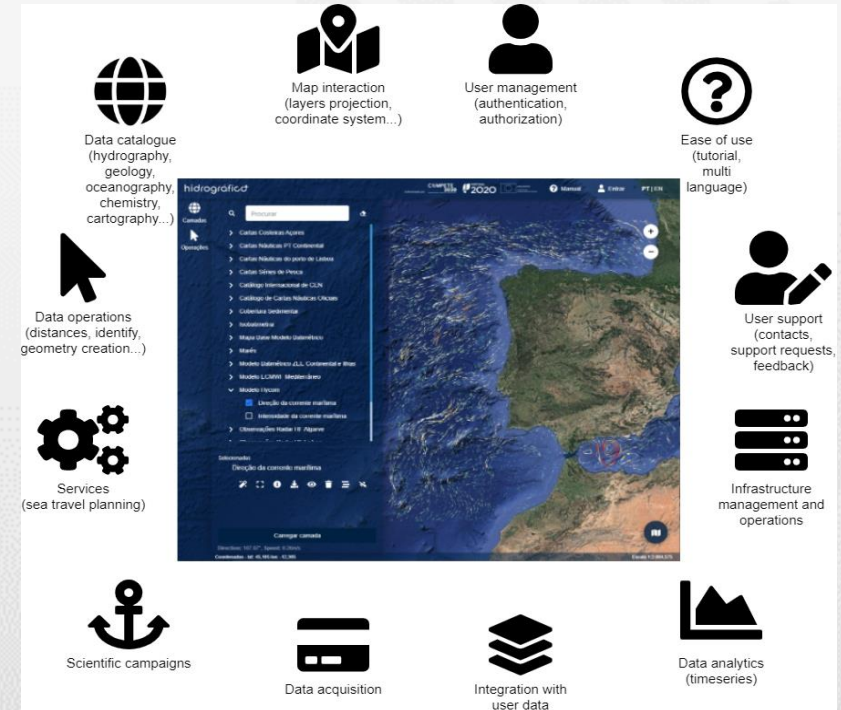
ENC **19**



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- The IHPT geoportal **Hidrografico+** is still under development with periodic deployment of new functionalities and data layers.
- The users recognize the potential of this new tool as an organizational asset capable of support diverse scientific projects and clients.
- The MSDI (Beta version) is available in the URL <https://geomar.hidrografico.pt>



IHPT has the aspiration to be the National primary MSDI and Oceanographic Data Center.



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# Top achievement (SAIHC region)

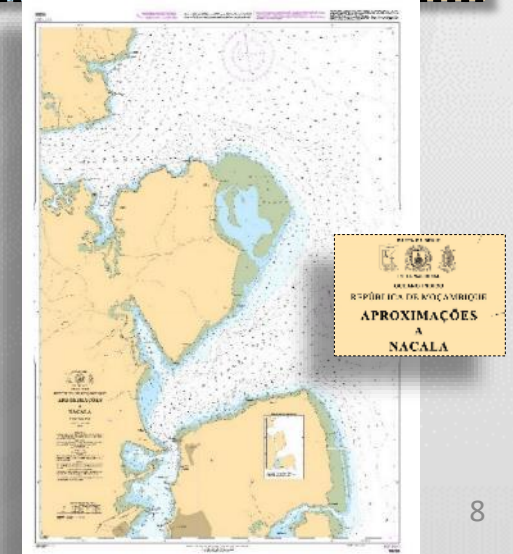
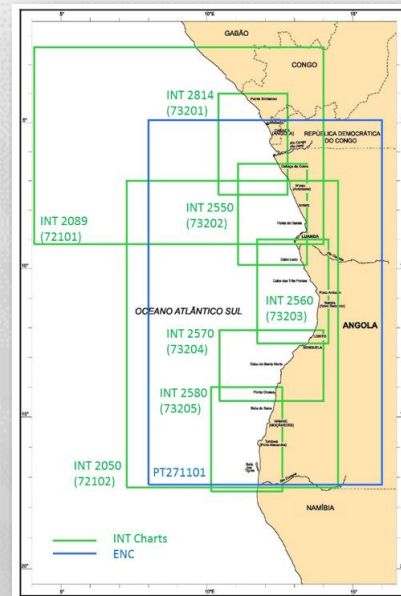
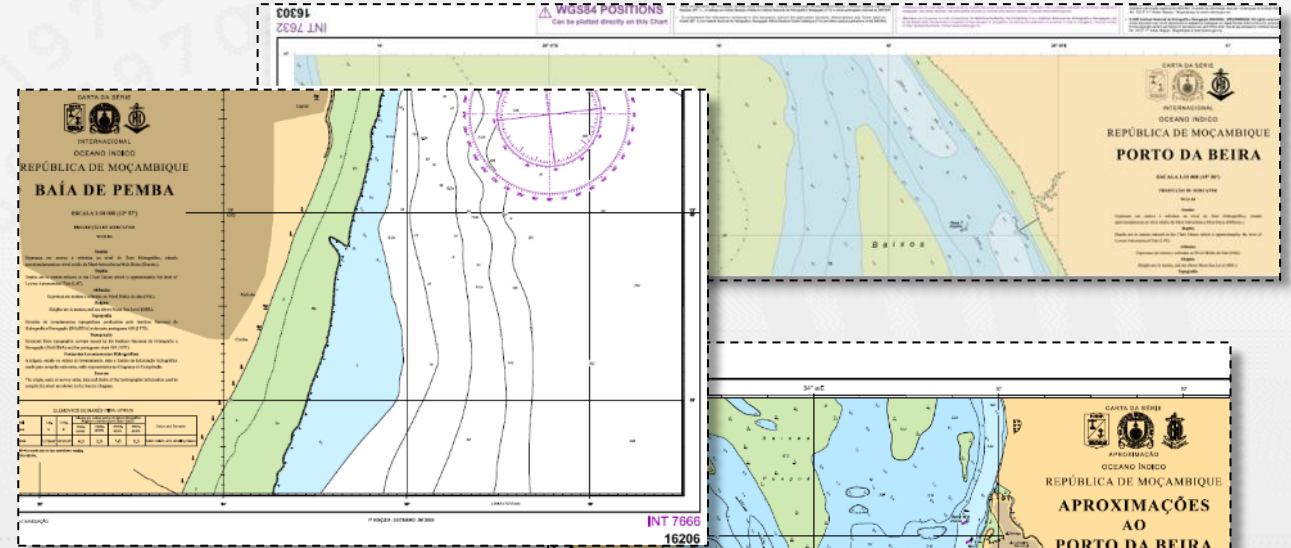
## Charts coproduction



- IHPT and INAHINA are cooperating in nautical charts co-production:
  - INT 7661 “Aproximações a Nacala” – Published 2019
  - INT 7666 “Baía de Pemba” – Published 2020
  - INT 7632 “Porto da Beira” – Published 2020
  - INT 7631 “Aproximações ao Porto da Beira” – final stage CQ/Revision



- Since the last SAIHC, Portugal didn't produce new ENC cells in Angola Region but issued updates to the PT271101 cell
- In a joint effort with the Angolan authorities, IHPT has maintained updated, throughout Notices to Mariners (NtM), the 7 INT charts in the region







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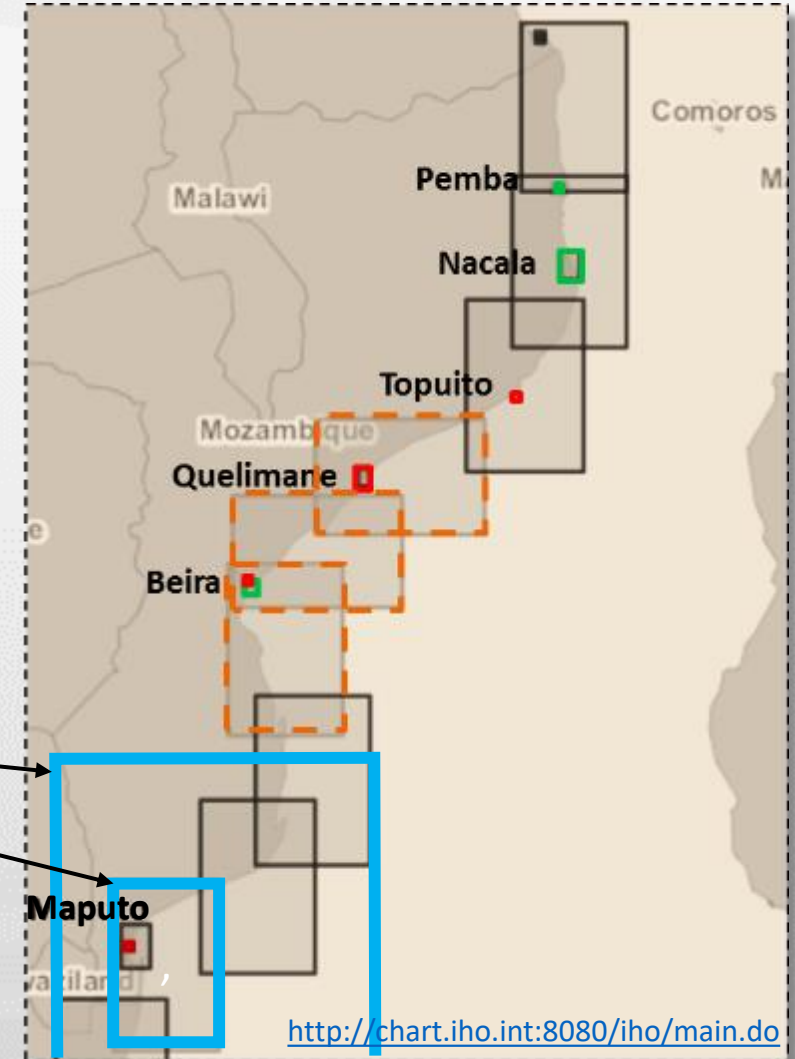
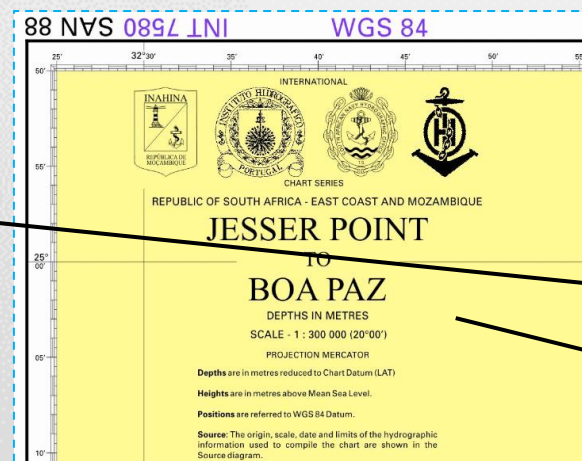
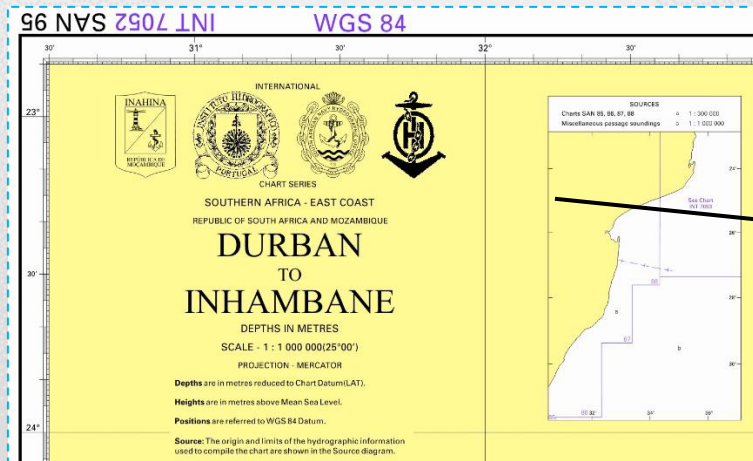
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# Top achievement (SAIHC region)

## Charts coproduction



- SAN/IHPTMZ INT chart coproduction:
  - INT 7052 (Durban to Inhambane)
  - INT 7580 (Jesser Point to Boa Paz)



<http://chart.iho.int:8080/iho/main.do>





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# Top achievement (SAIHC region)

B-6 translation

- The IHO has 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 English /Portuguese version is the result of a productive cooperation and input from Brazil (DHN) and Portugal (IHPT).
- [https://iho.int/uploads/user/pubs/bathy/B-6\\_e4%20%200\\_Eng\\_Por\\_versao-final\\_17Dec2020.pdf](https://iho.int/uploads/user/pubs/bathy/B-6_e4%20%200_Eng_Por_versao-final_17Dec2020.pdf)

<b>B-6</b>	
<p><b>Standardization of Undersea Feature Names</b></p> <p><b>Guidelines Proposal Form Terminology</b></p> <p><b>Edition 4.2.0 – October 2019</b></p> <p><b>English/Portuguese Version</b></p>	<p><b>Padronização dos Nomes das Formas/Feições do Relevo Submarino</b></p> <p><b>Diretivas Formulário de Proposta Terminologia</b></p> <p><b>Edição 4.2.0 – Outubro 2019</b></p> <p><b>Versão Inglês/Português</b></p> <p><i>Tradução realizada pelos Serviços Hidrográficos de Portugal (Instituto Hidrográfico) e do Brasil (Diretoria de Hidrografia e Navegação)</i></p>
<p>International Hydrographic Organization</p> <p><b>IHO</b></p>	<p><b>OHI</b> Organização Hidrográfica Internacional</p>
<p>Intergovernmental Oceanographic Commission</p> <p></p>	<p>Comissão Oceanográfica Intergovernamental</p> <p>Published by the International Hydrographic Organization</p> <p>Publicado pela Organização Hidrográfica Internacional</p> <p>4b quai Antoine 1<sup>er</sup> Principauté de Monaco Tel: (377) 93.10.61.00 Fax: (377) 93.10.81.40 info@iho.int www.iho.int</p>





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## Top challenges and obstructions (SAIHC region)

- **Challenges:**

- The good evolution of the cooperation with Mozambique has allowed the co-production of INT charts
- Build ENC production capacity in Mozambique for 2021/22
- Regarding the S-100, the implementation of the production of S-101 ENC will be the great challenge in the near future

- **Obstructions:**

- 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
- A protocol proposal was sent to the Instituto Hidrográfico e de Sinalização Marítima de Angola (IHSMA). This agreement aims to enable/capacitate hydrography and cartography activities in Angola.
- COVID 19 causes the postponement of several capacity building and cooperation actions





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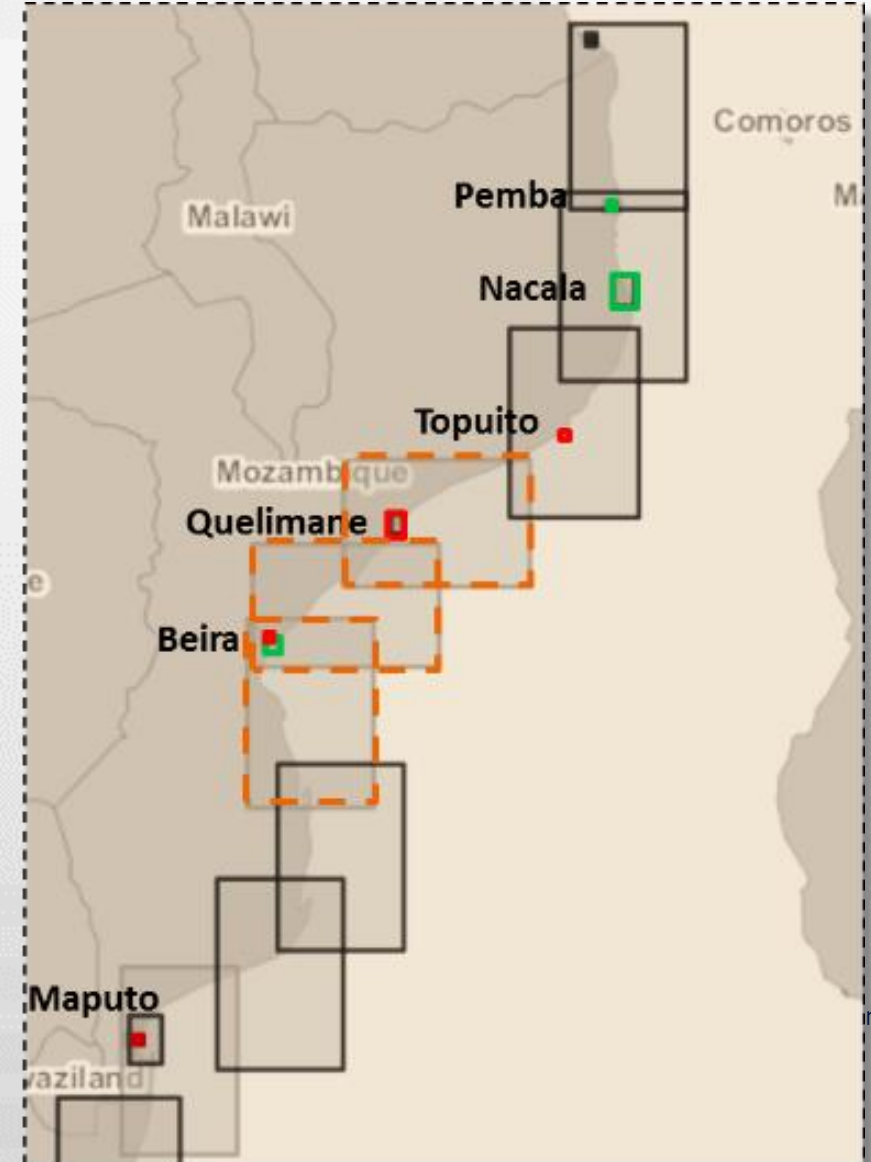
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# Top plans (SAIHC region)

Charts , surveys



- 2021 IHPT/MZ INT chart coproduction:
  - INT 7631 “Aproximações ao Porto da Beira” – final stage CQ/Revision
  - INT 7583 (Approaches to Port of Maputo & A - Port of Maputo) - Under compilation
  - INT7641 (Quelimane Harbour Approach)
- 2021 – Production planned
  - INT 7620 (Cabo São Sebastião à Beira)
  - INT 7630 (Beira ao Rio Zambeze)
  - INT 7640 (Rio Zambeze à Ilha Epidendron)





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# Top plans (SAIHC region)

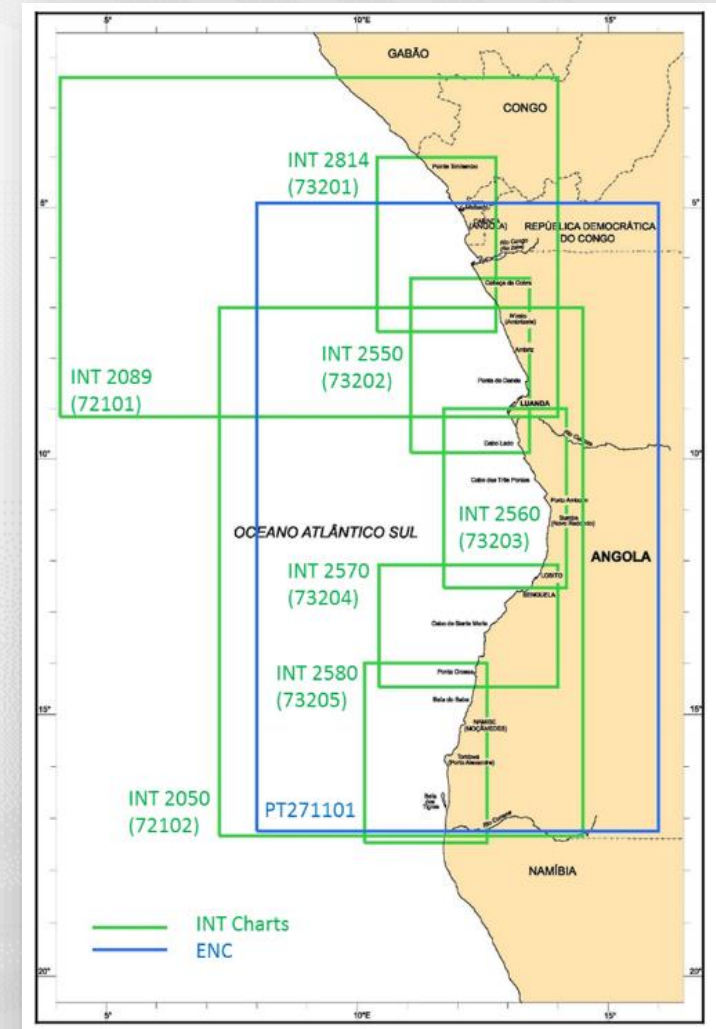
Charts , surveys



- IHPT is going to publish New Editions with new information provided by the Angolan Government (surveys and coastline)

INT Charts	Producers: UK/PT
2089 "Gamba to Luanda"	2 General
2050 "Luanda to Baía dos Tigres"	
2814 "Point Tchitembo to Cabeça da Cobra"	5 Coastal
2550 "Cabeça da Cobra to Cabo Ledo"	
2560 "Cabo Ledo to Lobito"	
2570 "Lobito to Ponta Grossa"	
2580 "Ponta Grossa to Foz do Cunene"	

ENC	Usage Band	Nº of Cells
Along coast of ANGOLA	2	1





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# Top plans

## S-44 translation

- IHPT & Hydrography and Navigation Directorate of the Brazilian Navy have a new TASK FORCE in order to translate the 6<sup>th</sup> edition of S-44 - Standards for Hydrographic Surveys
- To be published in the 1<sup>st</sup> semester of 2021

S-44 Edition 6.0.0



International Hydrographic Organization  
Standards for Hydrographic Surveys

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# Capacity Building

## Mozambique

- Actions done/planned:

### TECNICAL VISITS/FORMATION

DATE	PLACE
Mar2020 - Postponed	Mozambique
2021 (to be defined)	To be defined

### COURSES/FORMATION

Training	PLACE
INT Charts Production	By correspondence
2021 (?) - ENC Training (IHO CB)	Mozambique

Project	Description	Responsible	Amount	Lead	Status
P-25	ENC Training for Mozambique	SAIHC	8 550 €	Led by Dates	Not funded yet

PT and MZ proposed to 2021 a training for cartographic technicians of INAHINA in the production of ENCs aiming for the development of the country in ENC production capability.

Although this action does not currently have financing, we consider that it will have to be carried out ASAP in order to capacitate INAHINA in the production of ENC.



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# Capacity Building

## School of Hydrography and Oceanography

- School of Hydrography and Oceanography is a department of the IHPT
- <https://www.hidrografico.pt/op/23>
- Next courses :

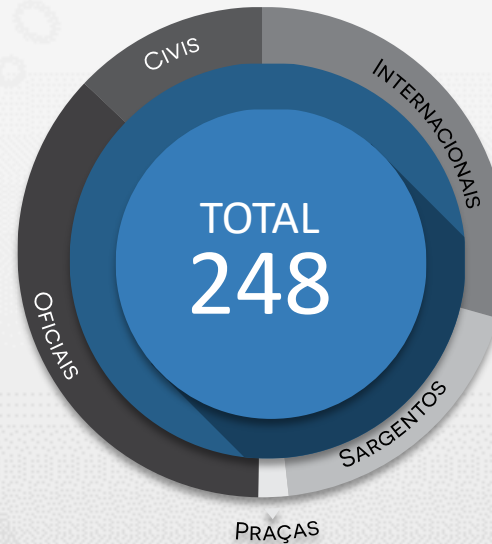
 CAT A Hydrography Course

**Start September 2021**

 CAT B Hydrography Course

**Start September 2022**

Students (since 1983)



International students- 75



INTERNATIONAL FEDERATION OF SURVEYORS



INTERNATIONAL HYDROGRAPHIC ORGANIZATION



INTERNATIONAL CARTOGRAPHIC ASSOCIATION



International recognition since 1983







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# ICCWG Actions List

ICCWG-8 Action 8	NT 7645 – the Scheme has been proposed and is in process. As soon as the limits have been established, they are to be forwarded to the chairman for inclusion in S11.	Portugal Mozambique	MZ has confirmed chart limits (S-11). Awaiting new survey data. Ongoing	
ICCWG Action 9/1	INT 7583 (Maputo) - survey in progress and chart production to start as soon as possible.	Portugal Mozambique	Ongoing	
ICCWG Action 9/2	INT 7631 (Beira Harbour Approach) - chart production in progress.	Portugal Mozambique	Ongoing	To be closed soon
ICCWG Action 9/3	INT7641 (Quelimane Harbour Approach) – new survey planned during first quarter of 2021. New edition of chart in discussion.	Portugal Mozambique	Ongoing	
	Production: INT 7620 (Cabo São Sebastião to Beira) INT 7630 (Beira to Rio Zambeze) INT 7640 (Rio Zambeze to Ilha Epidendron)	Portugal Mozambique UKHO		New action



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## Actions requested from SAIHC17

### Action Requested of SAIHC:

- a) Note this report.
- b) Consider the recommendations on Capacity Building, namely the relevance of ENC training proposed in INAHINA.
- c) IHPT recommends a strong commitment to the training of SAIHC members in the development and production of the new generation of S-100 products and services. These activities should be coordinated in the next years by the Region in order to include as many participants as possible, as well as to influence the standardization of training.
- d) Take any other actions as considered appropriate

**Thank you very much!**



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