



**Regional Awareness Seminar
Working with NAVAREA II and your Primary Charting Authority**

26 and 27 September 2022

**Working with your *Primary Chart Authority (PCA)*
INternational Cartography
Portugal**



IHO

International
Hydrographic
Organization

Agenda

Regulations and Standards

Nautical Charts versus PCA Role

Examples



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The PCA Role

- **Tasks:**

- Assist in meeting SOLAS obligations for hydrographic services
- Provide hydrographic surveying services
- **Provide charting services**
- Provide technical assistance and advice
- Provide capacity building
- ...

Challenges:

- **S-101 ENC**s
- **Future of Paper Charts**



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SOLAS Chapter V (Segurança da Navegação)

Regulation 2

*"Nautical chart" or "nautical publication" ... that is **issued officially** by or on the **authority of a Government, authorized Hydrographic Office or other relevant government institution** and is designed to meet the requirements of marine navigation.*

Regulations 9 and 4

... require each coastal State to ensure that hydrographic and Maritime Safety Information (MSI) services are provided ...

Regulations and Standards

IHO - Publication M-2

(The need for National Hydrographic Services)

OHI - Publication S-4

(Regulations for International (INT) Charts and Chart Specifications of the IHO)

OHI - Publication S-11

(Guidance for the Preparation and Maintenance of International (INT) Chart and ENC Schemes and Catalogue of International (INT) Charts)



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Regulations and Standards

IHO Publication S-4

Produtores (A-203)

... “Producers of medium- and large-scale **international charts** will normally be the hydrographic offices **with a national responsibility** for the waters concerned” ...

... “Where an international chart is desired which will cover waters of a **nation which is not a member** of the IHO, the **producer nation** will be agreed by the IHO Regional body concerned with International charts. It is not necessary to seek the approval of the non-member nation but consultation on other aspects of charting its waters is recommended.” ...

Avisos aos Navegantes (B-611)

“... In certain circumstances, **another hydrographic office** may **act as** the **Primary Charting Authority**, for example where:

- there is **no** national hydrographic office; or ...”

IHO Publication S-11

Allocation of Producers (3.11)

... For most medium- and large-scale **INT charts**, the **Producer Nation will be the IHO Member State** with responsibility for charting the waters covered by these charts. ... Nations may collaborate in the production, the resulting chart carrying both nations’ seals (crests). ...

Where a chart has been included in the INT scheme, but the national hydrographic office is unable to effect its production within an acceptable timescale, its production may be undertaken, with the agreement of the national hydrographic office concerned, by a potential Printer Nation.

....

<https://iho.int/en/miscellaneous-publications>

<https://iho.int/en/standards-and-specifications>

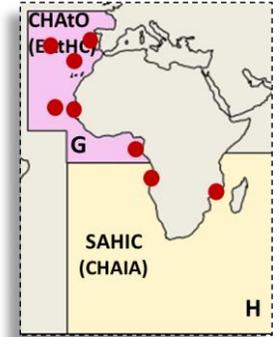


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Primary Chart Authority (PCA) NAUTICAL CARTOGRAPHY

- ❖ The term PCA refers (in practice), to the role of an Nation's "Hydrographic Service", or Charting Authority can play/fulfil for another Nation, which does not publish its own charts.
- ❖ The needs of a Nation and what can be provided by a PCA are often formalized by Bilateral Arrangements or other kind of Agreement.



Communication



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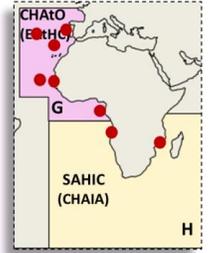
Primary Chart Authority (PCA) NAUTICAL CARTOGRAPHY

International
Hydrographic
Organization

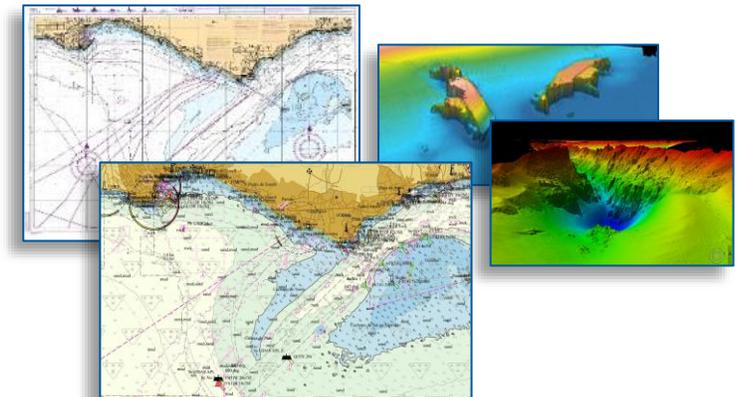
EAtHC

Portugal as PCA for:

Angola; Cabo Verde; Guiné-Bissau; São Tomé e Príncipe



- ❖ Assist in the fulfillment of SOLAS obligations
- ❖ Provide services/assistance relating to:
 - **Nautical cartography (CN, ENC)**
 - Hydrographic surveys
- ❖ Provide technical assistance and advice
- ❖ CB



Comunication

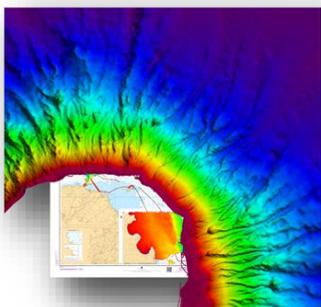


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Primary Chart Authority (PCA) NAUTICAL CARTOGRAPHY

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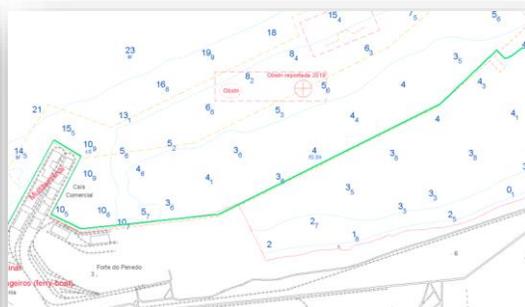
❖ Information and Data Exchange; Metadata



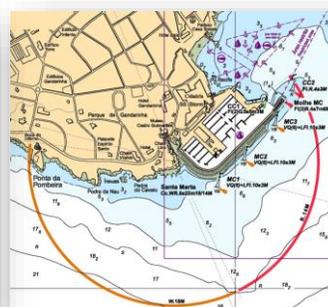
Surveys



Tides



Port infrastructures



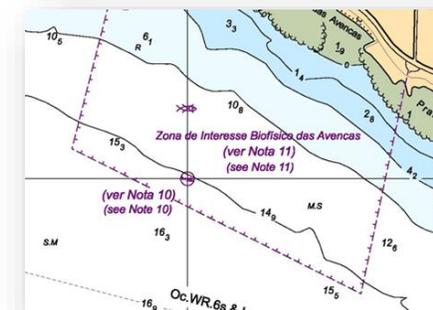
Aids to Navigations



Dredge Areas

Projection	ME	Central meridian	33-00-00.000W
Scale	30000.00	Scaling lat 1	26-00-00.000N
Scaling factor	1.000000	Scaling Lat 2	N/A
Ellipsoid	WG84	Vertical datum	MSL

Chart Parameters



Maritime Protected Areas

❖ The Needs - Identification....

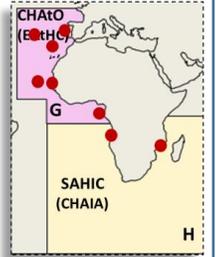
A PCA can help a country to fulfill obligations, but it does not take away your responsibility.



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Primary Chart Authority (PCA) Nautical Cartography

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- ❖ Keep contacts updated
- ❖ Identify a POC and Keep **relation with POC**
- ❖ Meetings and **Data Exchange with regularity**
- ❖ Promote Arrangements
- ❖ ...

Comunication



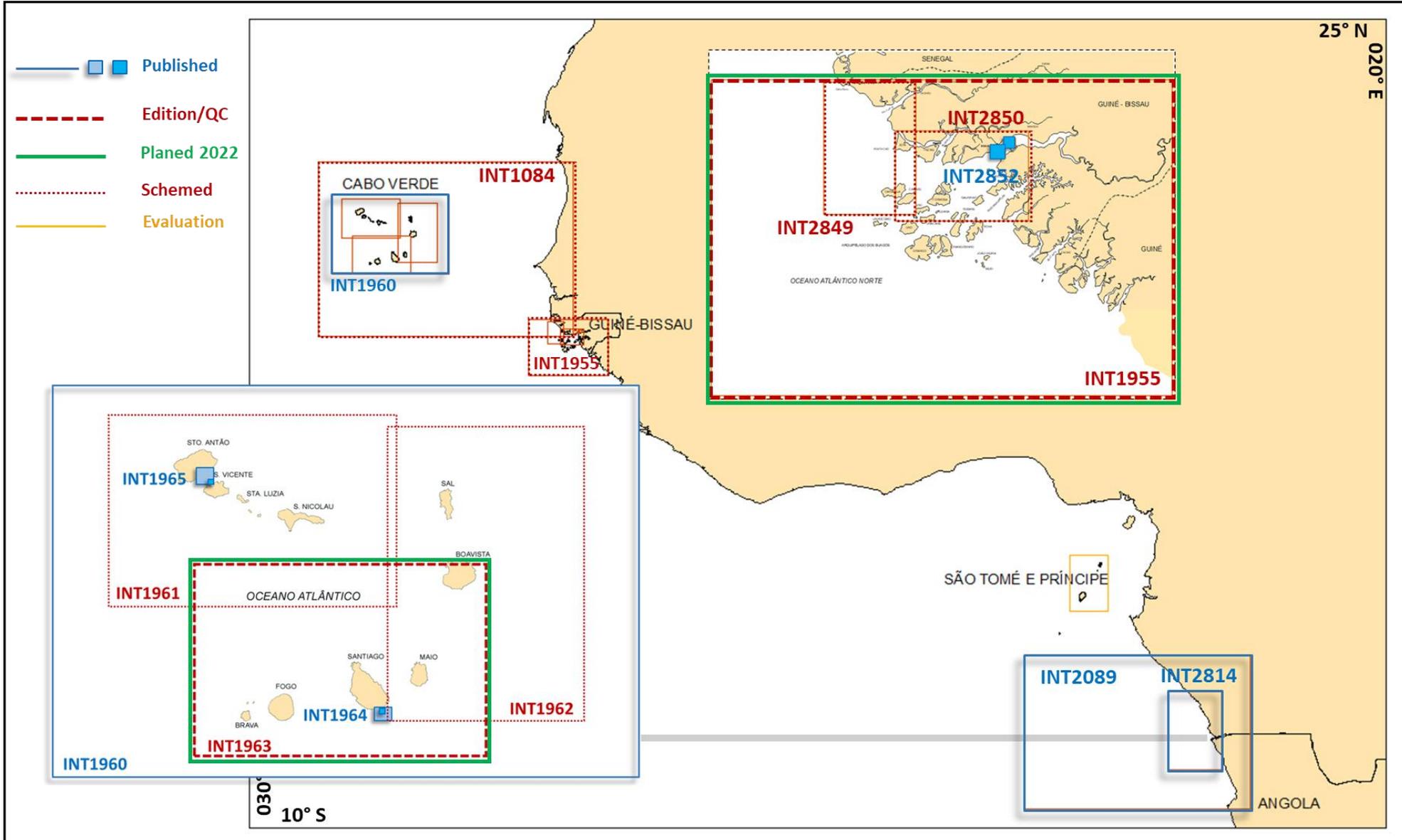
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PORTUGAL (PCA)

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- Over the last years, taking advantage of a number of opportunities, considerable steps have been taken, regarding hydrographic surveys, **the production of nautical cartography** and supporting the development of capabilities in marine sciences and techniques, on the Portuguese-speaking African countries.
- This is currently one of the most relevant programs and of notable effort by the IHPT

To publish New nautical Charts (paper and ENCs), and thus increase the safety of navigation, is necessary to obtain up-to-date quality data





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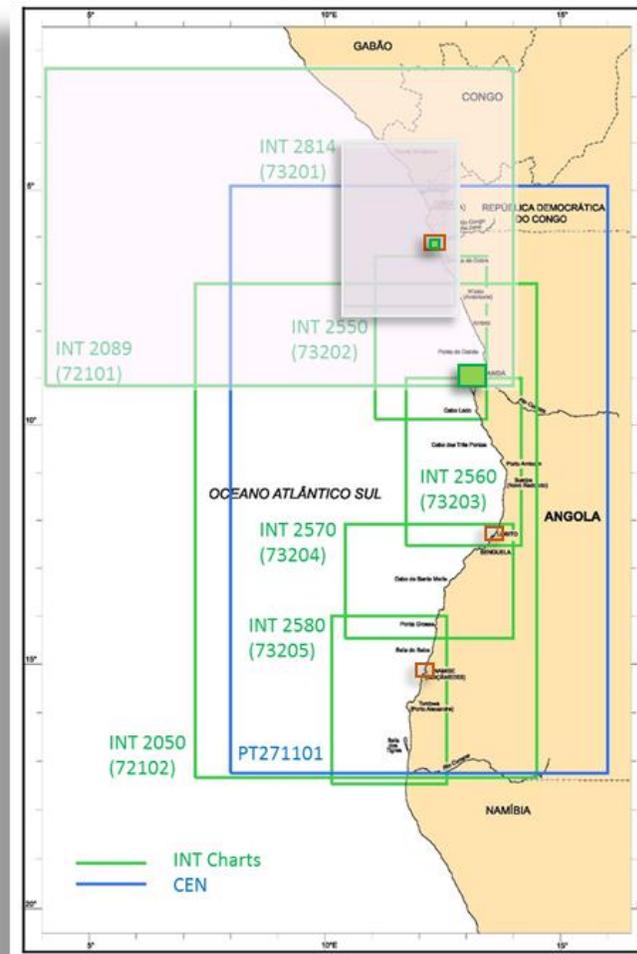
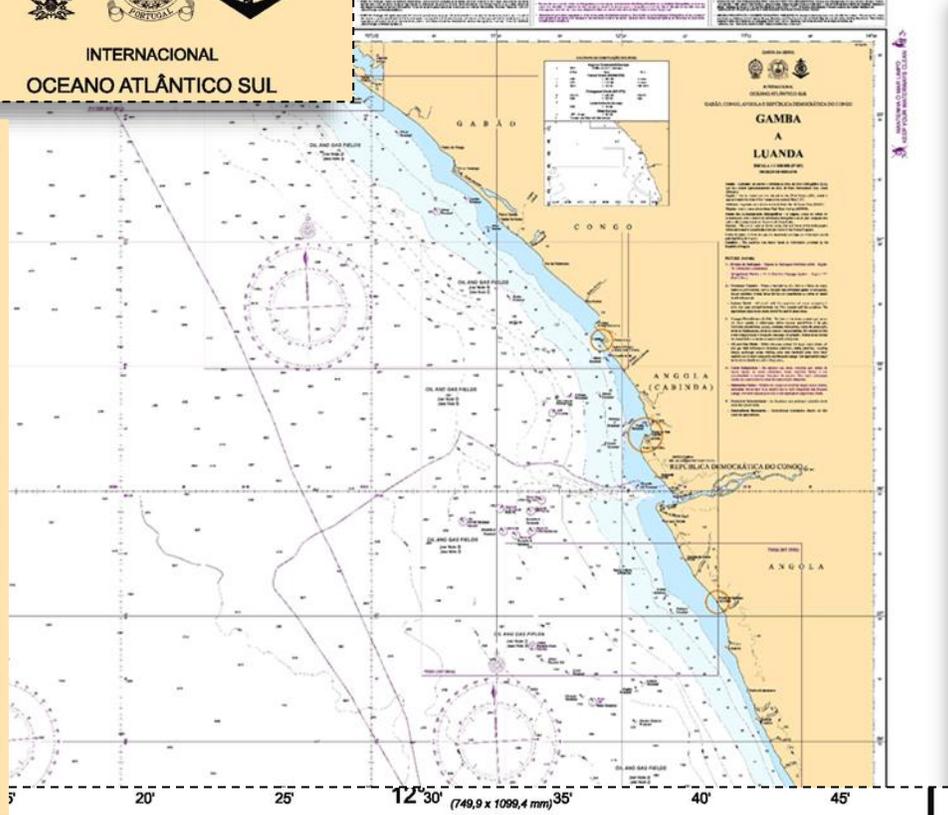
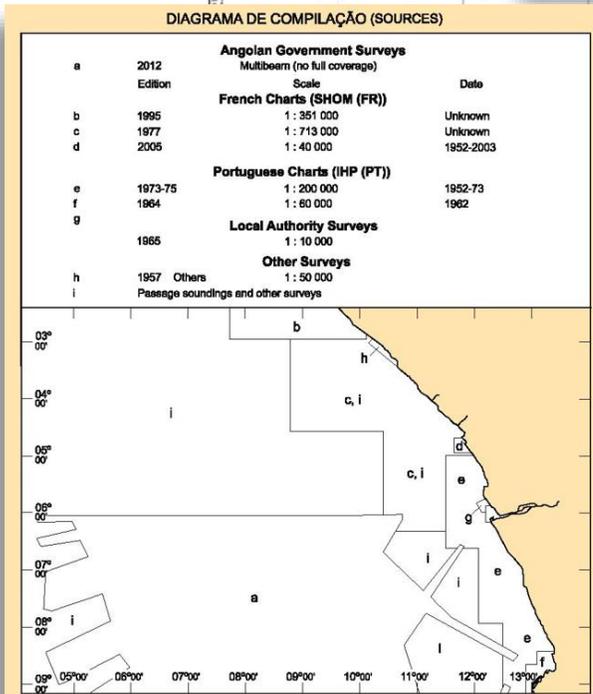
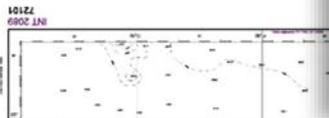
PORTUGAL (PCA) ANGOLA

International
Hydrographic
Organization

CARTA DA SÉRIE



INTERNACIONAL
OCEANO ATLÂNTICO SUL




<http://ANAVNET.hidrografico.pt>

AVISOS AOS NAVEGANTES
NOTICES TO MARINERS

- Consulte os Avisos aos Navegantes em vigor para a Carta Náutica 73201 (INT 2814).
- See the Notices to Mariners in force for the Portuguese Nautical Chart 73201 (INT 2814).

2ª EDIÇÃO - MARÇO 2021

INT 2814
73201

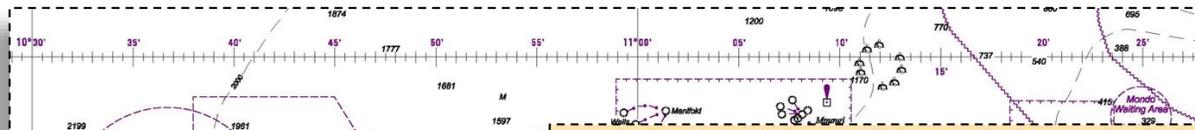
46 CN; 12/8 INT



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PORTUGAL (PCA) ANGOLA



4 - Terminais no Mar - Apenas os navios que utilizam os fundeadouros terminais nomeados devem entrar nas áreas restritas representadas. Os outros navios devem manter, pelo menos, um resguardo de 3 milhas náuticas.

- Offshore Terminals - Only vessels using the tanker berths at the offshore terminals should enter the restricted areas shown. All other vessels should remain clear of all offshore terminals.

5 - Campos Petrolíferos e de Gás - As plataformas de produção e estruturas associadas, incluindo amarração de navios tanque, navios cisternas e plataformas de armazenamento, geralmente assinaladas por luzes Mo(U), luzes de obstrução aérea e sinais de nevoeiro. É obrigatório, para toda a navegação não autorizada, manter-se a uma distância de 500 metros destas estruturas.

- Oil and Gas Fields - Production platforms and associated structures, including moorings, storage tankers and platforms on pipelines, generally marked by Mo(U) lights, aircraft obstruction lights, and audible fog signals. Unauthorized navigation within 500 meters of all such structures.

6 - Cabos e Condutas Submarinas - Os navegantes, na proximidade das cabos e condutas submarinas, são aconselhados a não fundear, arrastar, rocegar ou usar artes de pesca que atinjam o fundo. As condutas submarinas são geralmente enterradas, pelo que a sua presença pode reduzir significativamente a profundidade indicada na carta. Por outro lado, as secções não assentes no fundo podem prender as artes de pesca, tornando impossível a sua recuperação e colocando em perigo as embarcações.

- Submarine Cables and Pipelines - Mariners are advised not to anchor or trawl in the vicinity of submarine cables and pipelines. Pipelines are not always buried and their presence may significantly reduce the charted depth. They may also span seabed undulations and cause fishing gear to become irrecoverably snagged, putting a vessel in severe danger.

- Submarine Cables and Pipelines - Mariners are advised not to anchor or trawl in the vicinity of submarine cables and pipelines. Pipelines are not always buried and their presence may significantly reduce the charted depth. They may also span seabed undulations and cause fishing gear to become irrecoverably snagged, putting a vessel in severe danger.

7 - Gasodutos - Os navegantes podem ser processados legalmente por fundear ou arrastar perto de um gasoduto e em consequência disso danificá-lo. O gás de um gasoduto danificado pode causar incêndio ou perda de flutuabilidade do navio.

- Gas Pipelines - Mariners risk prosecution if they anchor or trawl near a pipeline and so damage it. Gas from a damaged pipeline could cause fire or loss of a vessel's buoyancy.

8 - Área de Exploração - Dentro das áreas de exploração de petróleo e gás, navios à superfície, submersíveis e mergulhadores podem estar envolvidos na construção e manutenção de instalação. Recomenda-se vivamente a todas as embarcações que se mantenham fora dos limites representados na carta.

- Development Area - Within oil and gas field development areas, surface vessels, submersibles and divers may be engaged in constructing and servicing installation. Other vessels are strongly advised to keep outside the charted limits.

9 - Fronteiras Internacionais - As fronteiras internacionais indicadas nesta carta são aproximadas.

- International Boundaries - International boundaries shown on this chart are approximate.

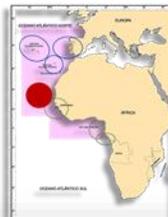
10 - Posições - As posições desta carta não podem ser marcadas diretamente, por latitude e longitude, nas cartas 351, 352, 353, 332, 355. Deste modo, as posições devem ser transferidas por azimute e distância a objectos comuns cartografados.

- Positions - Positions from this chart cannot be marked directly, by latitude and longitude, on charts 351, 352, 353, 332 and 355. A bearing and distance from common charted objects should be used.

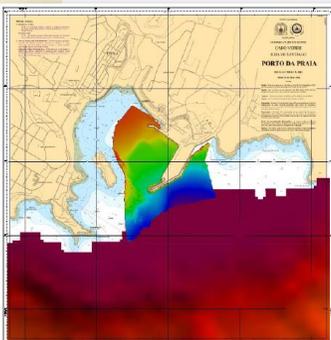


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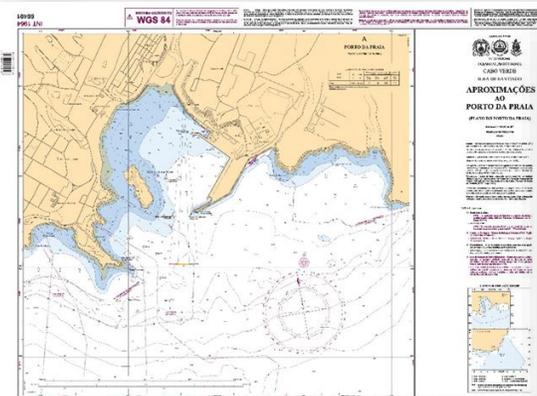
PORTUGAL (PCA) CABO VERDE



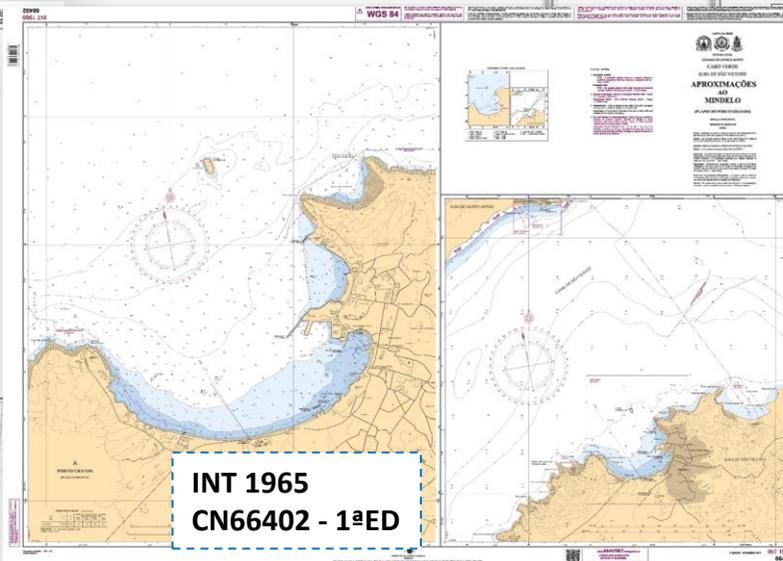
International
Hydrographic
Organization



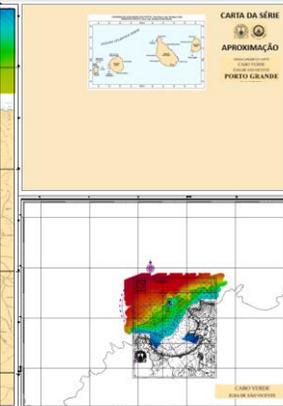
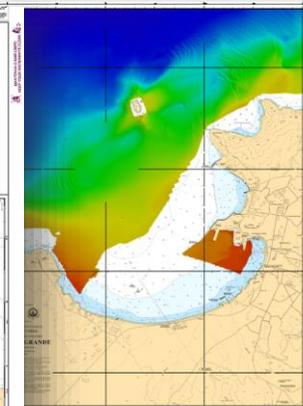
CARTA DA SÉRIE
APROXIMAÇÃO
CABO VERDE
ILHA DE SANTIAGO
PORTO DA PRAIA



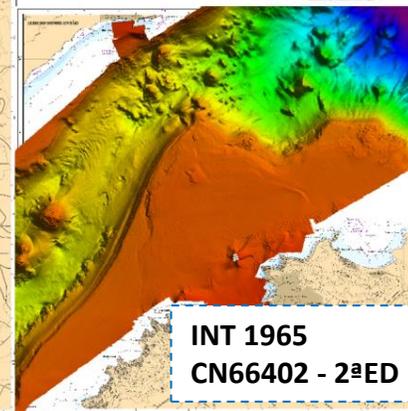
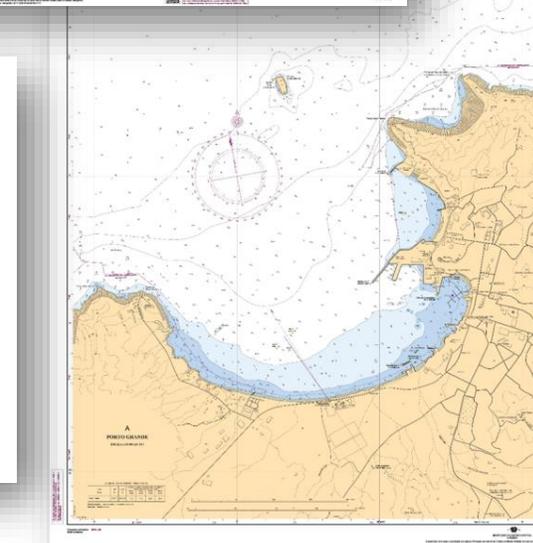
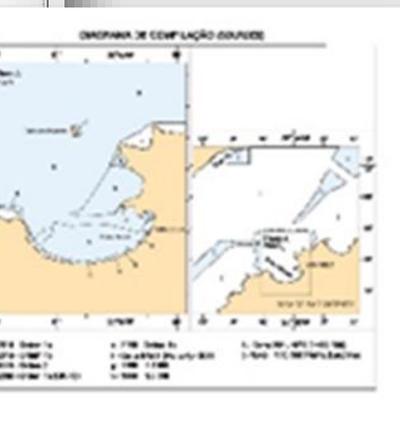
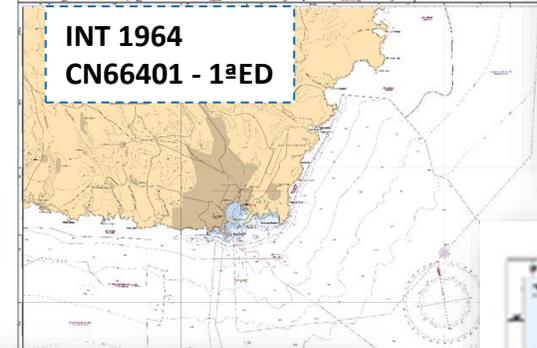
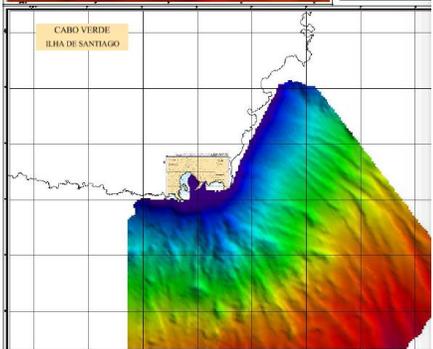
INT 1964
CN66401 - 1ªED



INT 1965
CN66402 - 1ªED



66402



INT 1965
CN66402 - 2ªED

66402

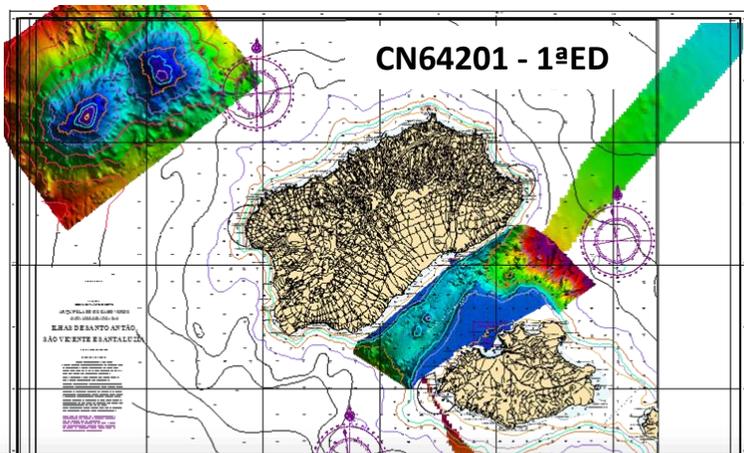
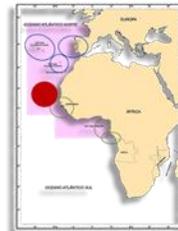




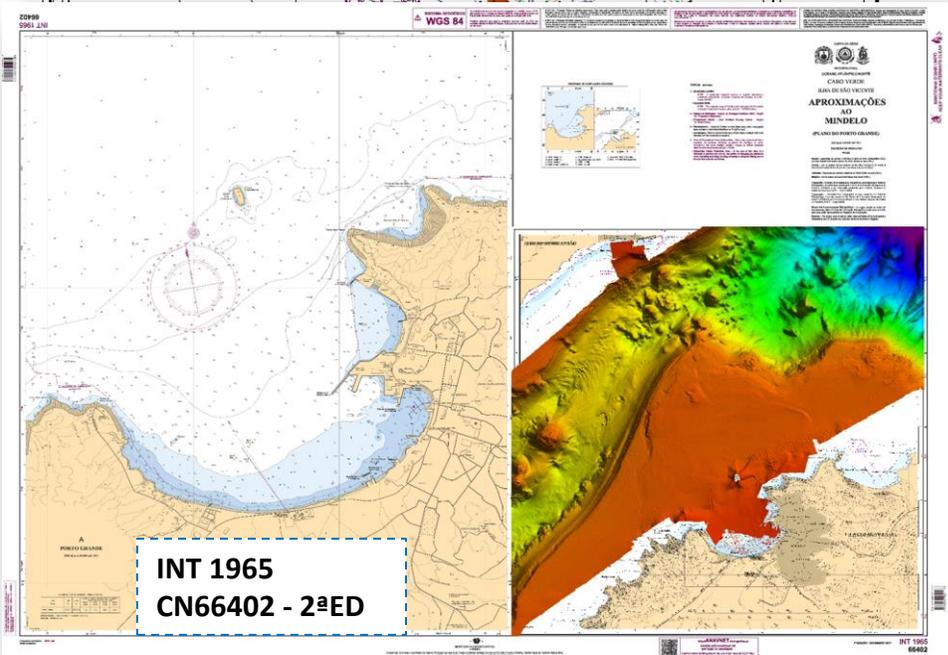
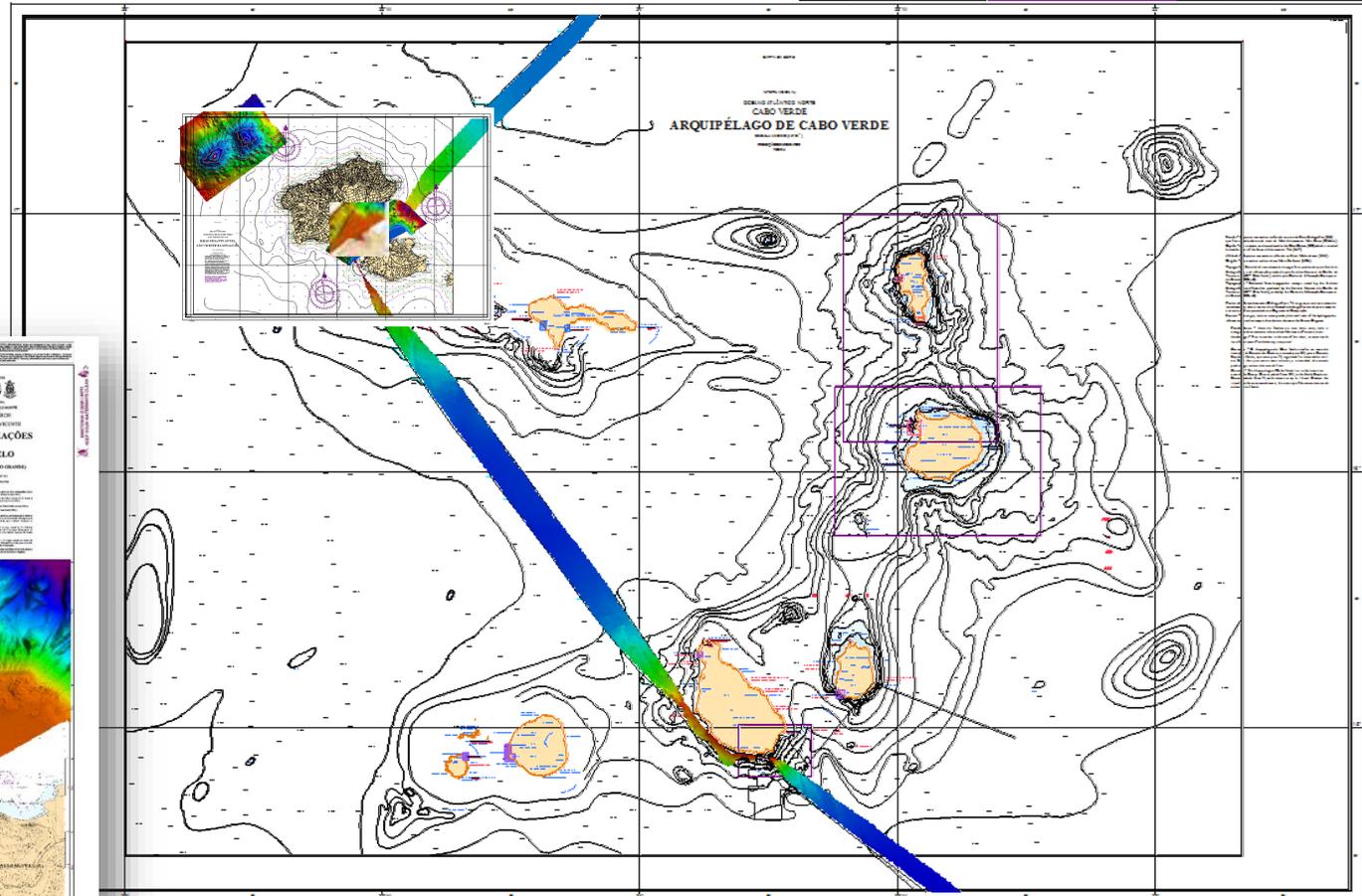
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PORTUGAL (PCA) CABO VERDE



096 I LNI
101 29

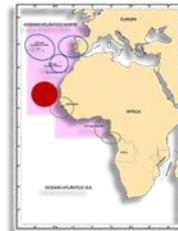


6210
INT 1960

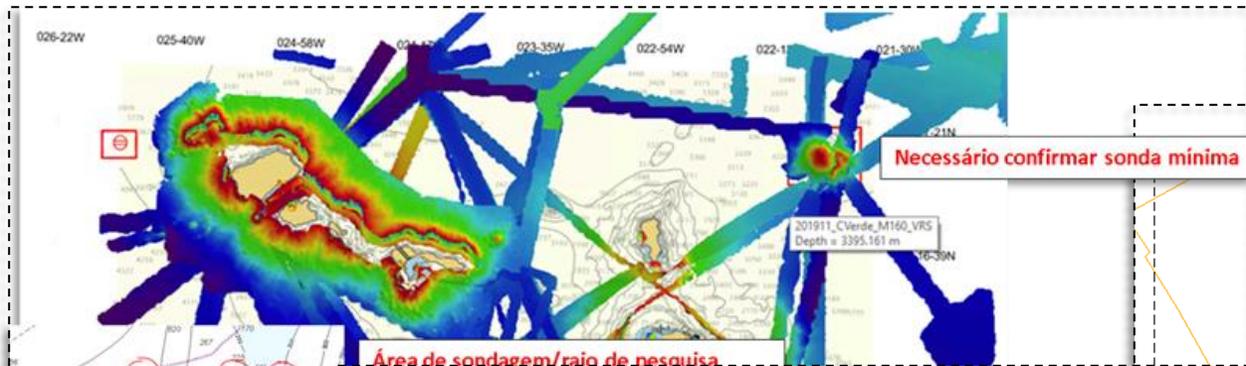


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International Hydrographic Organization

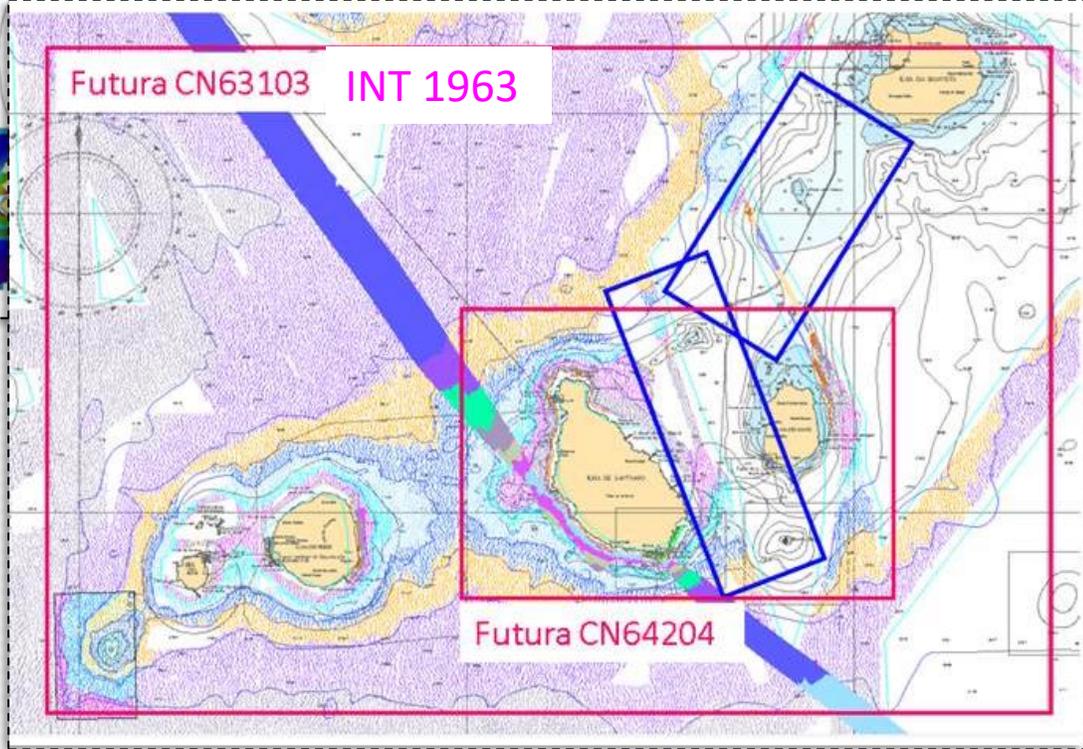
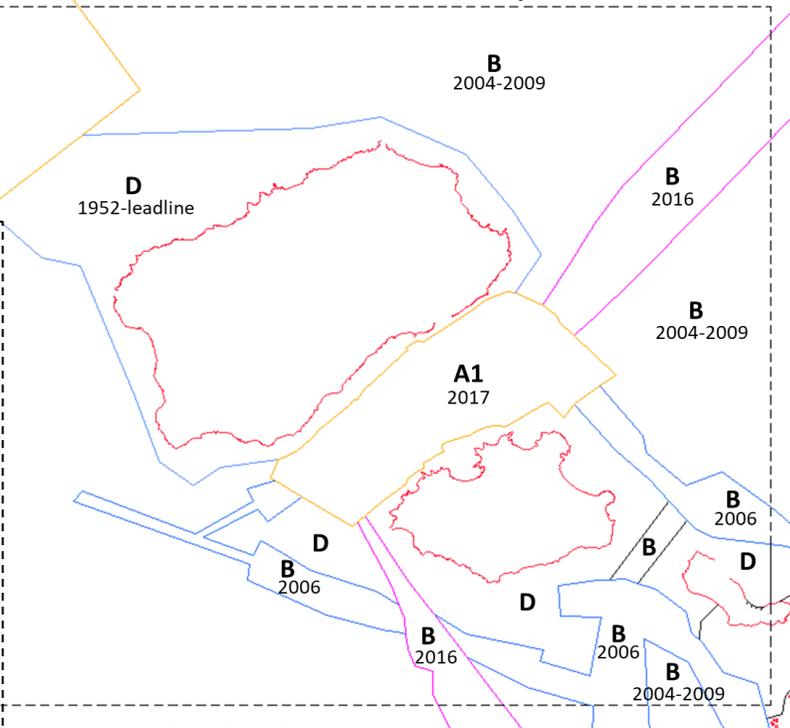


PORTUGAL (PCA) CABO VERDE



A1
2017

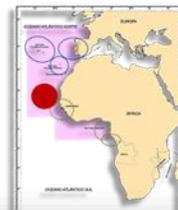
Zones of Confidence - Example



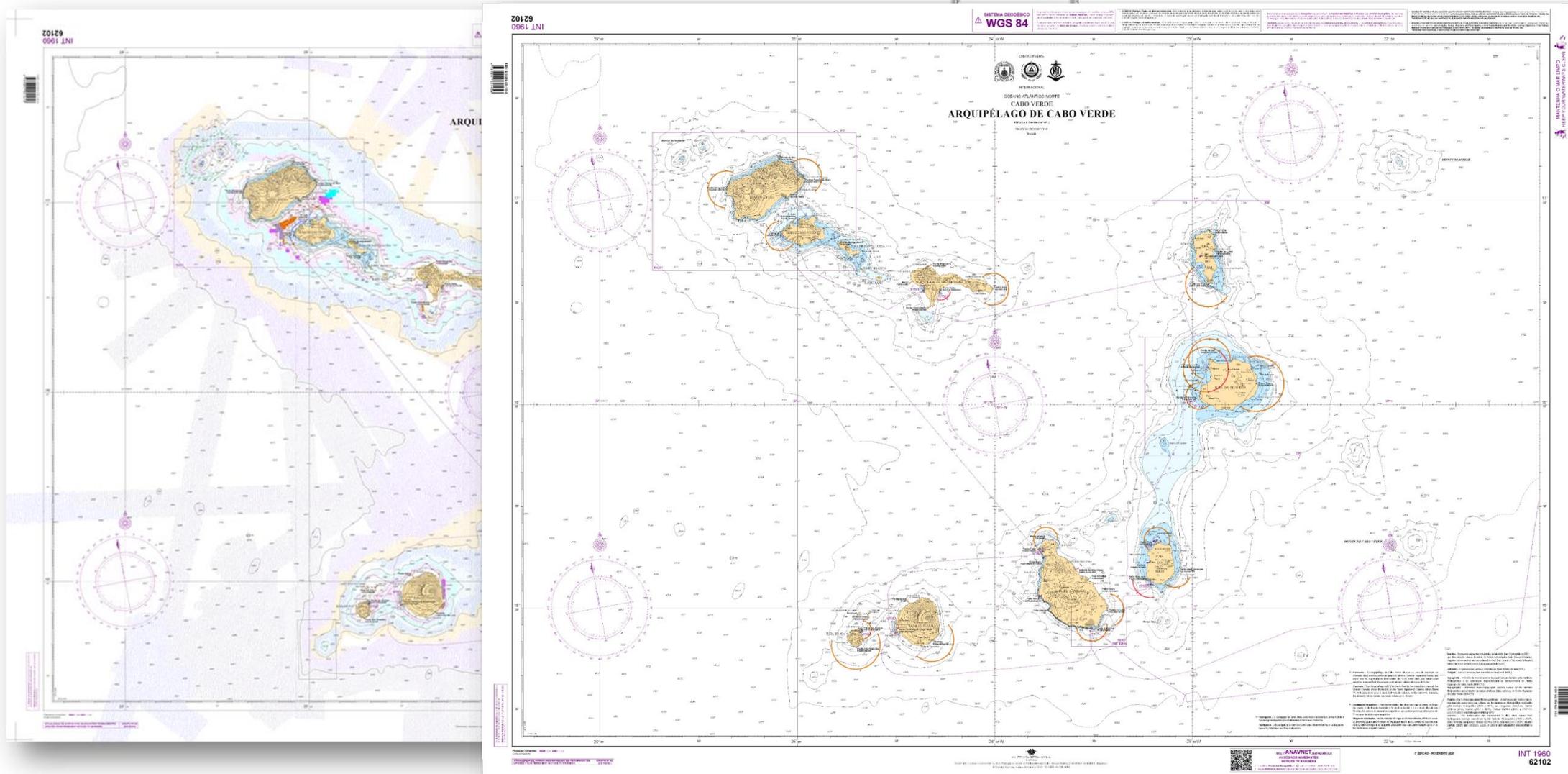


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PORTUGAL (PCA) CABO VERDE



INT 1960
62102



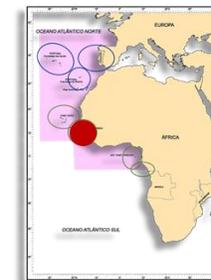
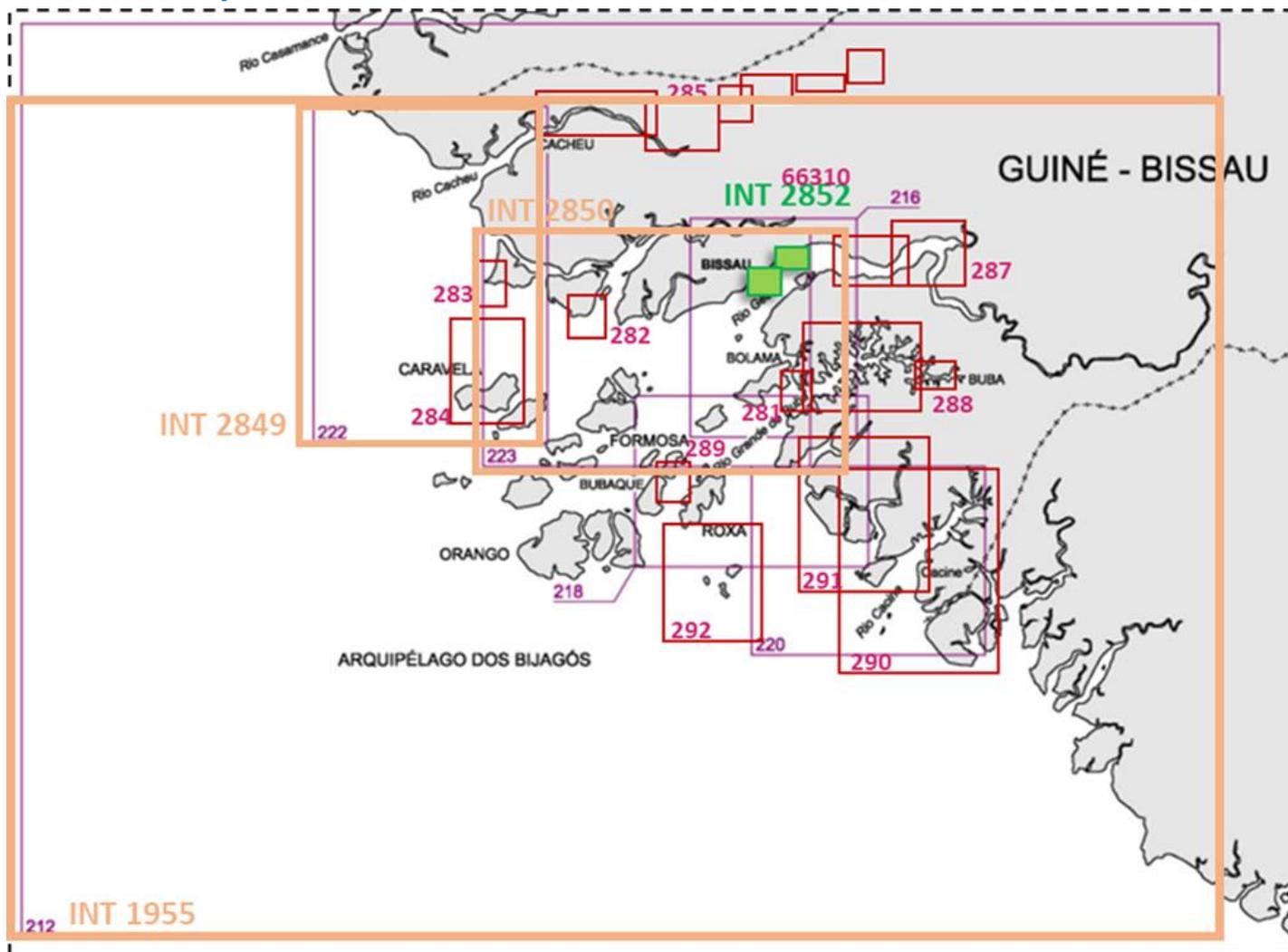
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PORTUGAL (PCA) GUINÉ-BISSAU

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12 CN/1 INT (19 fólio antigo)

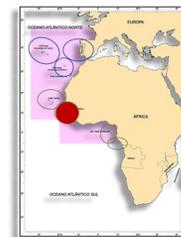
Novo Fólio: 4 INT



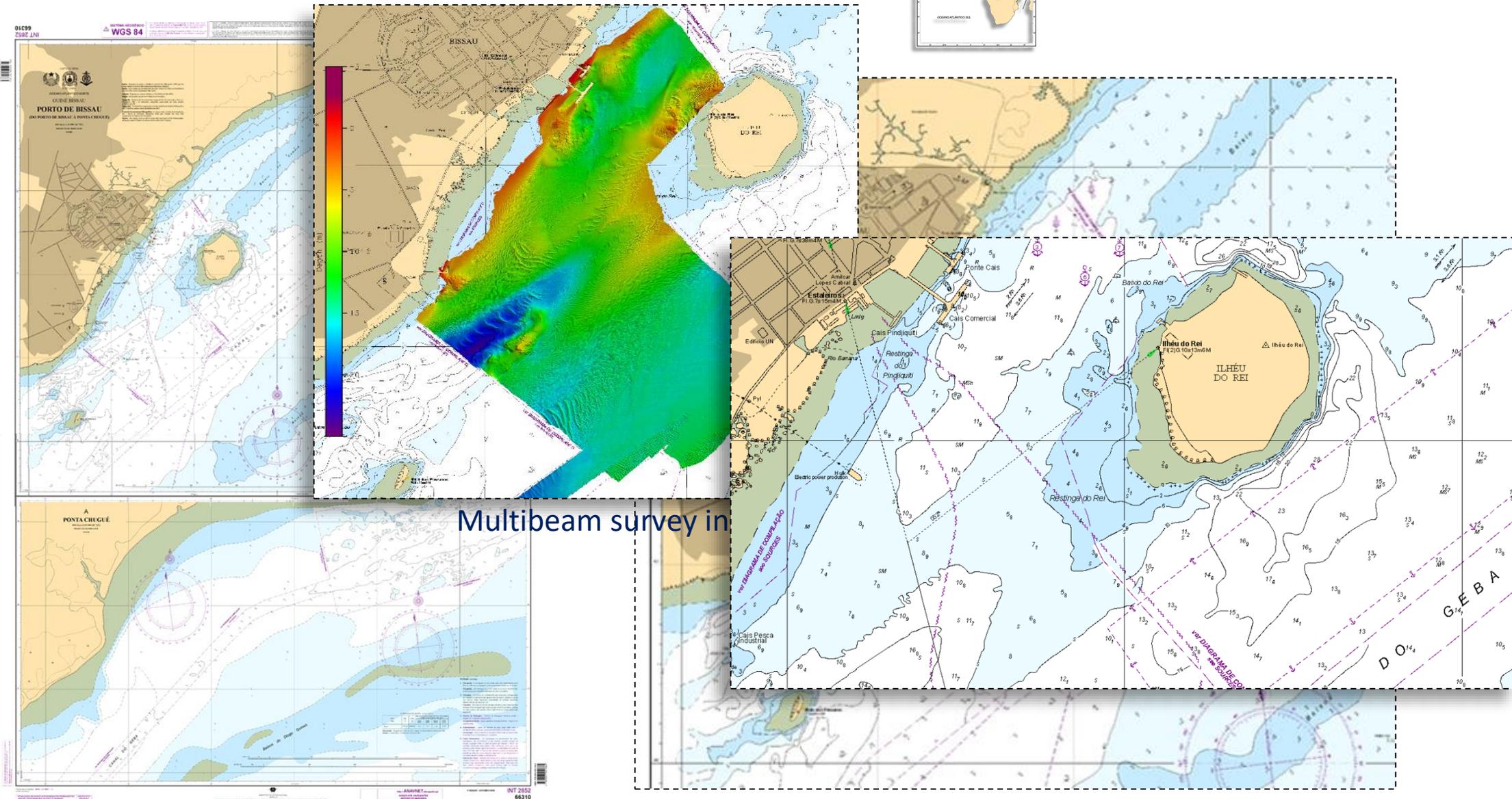


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PORTUGAL (PCA) GUINÉ-BISSAU



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Hydrographic
Organization

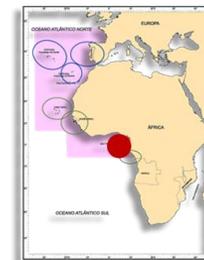




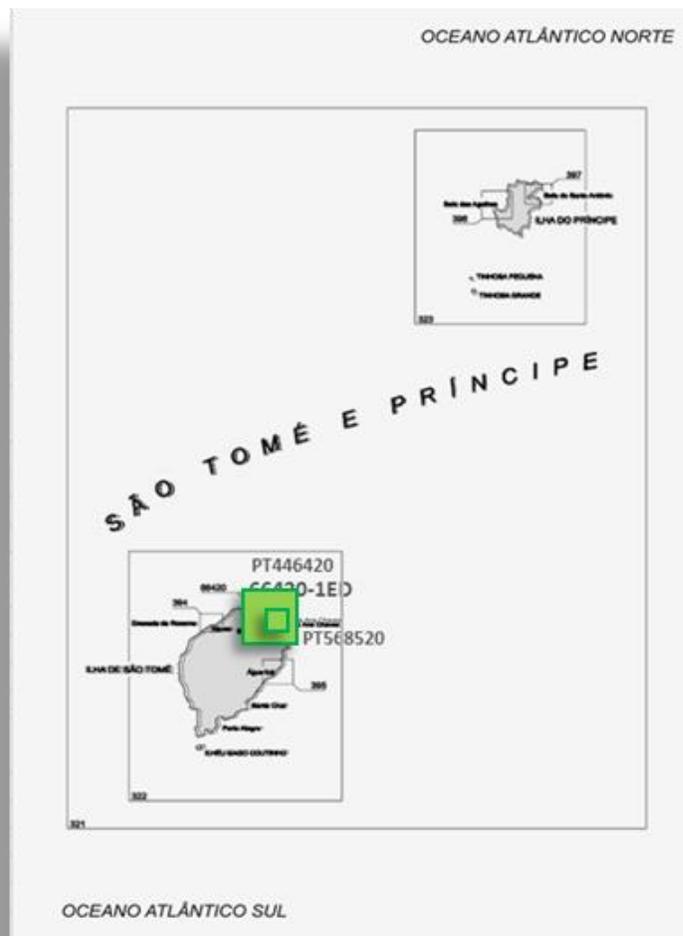
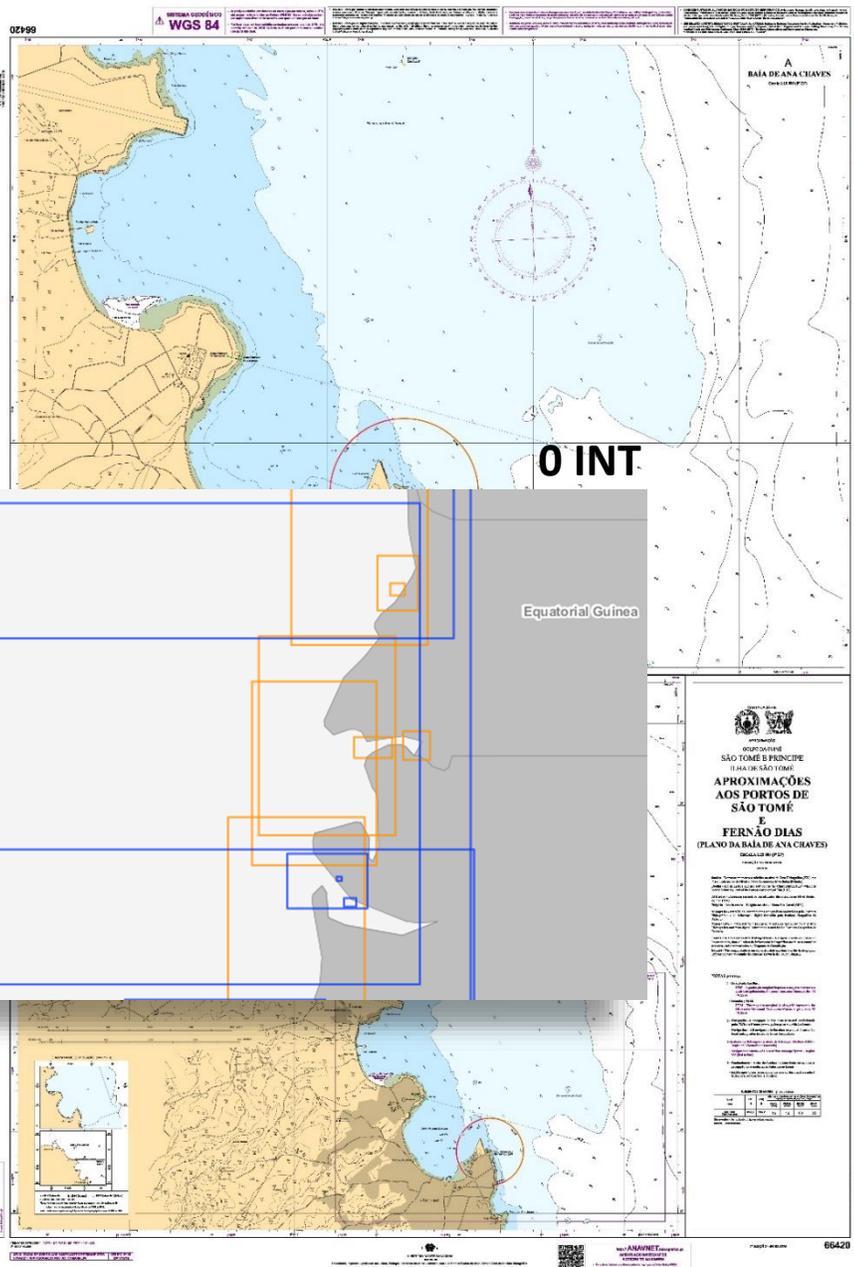
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International Hydrographic Organization

PORTUGAL (PCA) SÃO TOMÉ E PRINCIPE



S-11 da OHI



8 CN (7 fólio antigo)



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PORTUGAL (PCA) SÃO TOMÉ e PRINCIPE

International Hydrographic Organization

Surveys

Levantamento hidrografico efetuado pelo IH 2014, Ordem 1b e Ordem 2

Production of a New Chart

USNavy

baunilha representada na CN 393 transformada para o sistema geocartografico do plano A da CN 66420

Geode

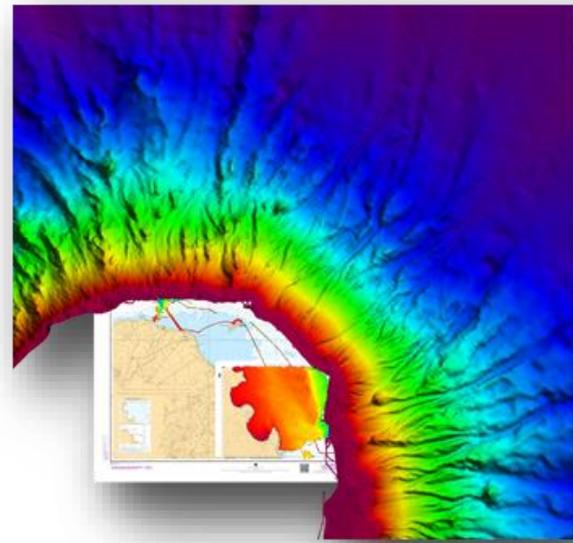
Other data then bathymetry;

Who has the responsibility

Data Acquisition

Rescheme the existing chart

What to do?





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PORTUGAL (PCA) SÃO TOMÉ E PRÍNCIPE

Accident: **June**

Barge that tranships containers from merchant ships, anchored offshore, to the port, run achore and dumped 18 containers overboard some of the containers sank imedeately but others did not

17 containers sunk, 4 of them in known positions;

1 of them partially emerged at low tide;

2 of them were marked;

13 of them are in an unknown position

Information: end of **July**





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PORTUGAL (PCA) SÃO TOMÉ E PRÍNCIPE

Issues

- Time difference between the accident and the communication;
- Entities with responsibility/local coordination;
- Knowledge of the procedure

What do we know ??????

- That São Tomé e Príncipe authorities were, in the field, dealing with the problem;
- That nothing was done related to warnings;
- IHPT knows who can talk to, but not necessarily who is the local authority for this kind of issue;
- That IHPT is PCA;
- That France is the NAVAREA II Coordinator
- That Portugal has an implemented structure for NtM and Navigational Warnings



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What we can/must do ????

PORTUGAL (PCA) SÃO TOMÉ E PRÍNCIPE

- IHPT asked for all the information that could be provided;
- Information Analysis;
- Send it to NAVAREA II Coordinator;
- Issue a Temporary NtM (Notices to Mariners) (waiting for more/better information)

* 280/22(T) - ATLÂNTICO NORTE – SÃO TOMÉ E PRÍNCIPE – ILHA DE SÃO TOMÉ
Baía de Ana Chaves – Perigo à navegação

- Em 241530Z JUN22, à entrada do porto de São Tomé, vários contentores caíram ao mar na posição 00°21.057'N / 006°44.250'E (WGS 84).
- Quatro contentores encontram-se afundados, nas seguintes posições (WGS 84):
 - POS 1: 00°21,129'N / 006°44,059'E;
 - POS 2: 00°21,155'N / 006°44,074'E;
 - POS 3: 00°21,082'N / 006°44,244'E;
 - POS 4: 00°21,070'N / 006°44,268'E.
- Os restantes 13 contentores encontram-se em posição desconhecida.
- A Barcaça que transportava os contentores encontra-se encalhada na posição 00°20,739'N / 006°44,381'E (WGS 84).
- A navegação deve estar atenta e proseguir com muita cautela.

CN afetada - 66420 [177/15; 239/17]
 CEN afetada - PT568520 [260/15; 239/17]
 Origem - Instituto Hidrográfico

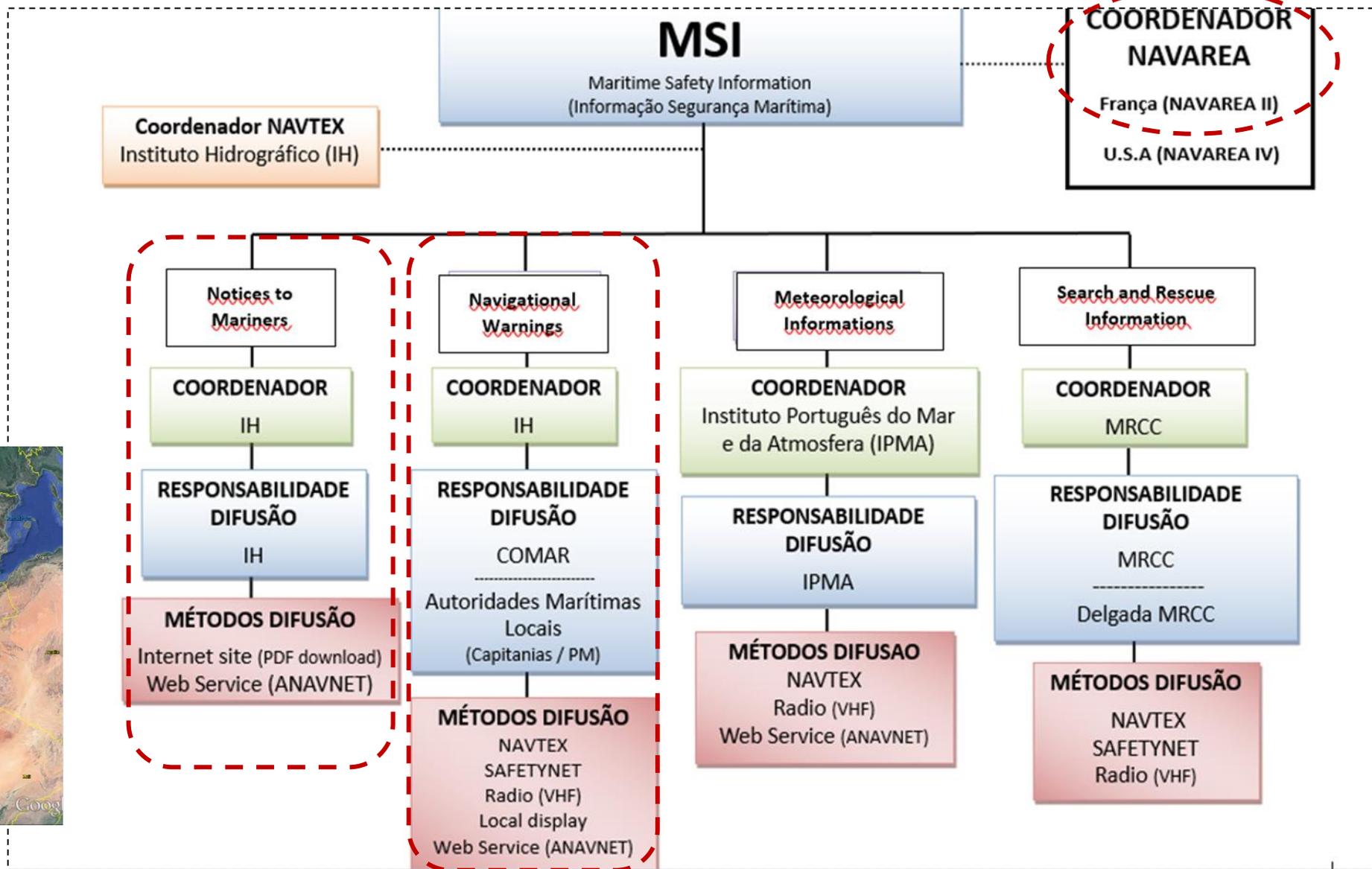
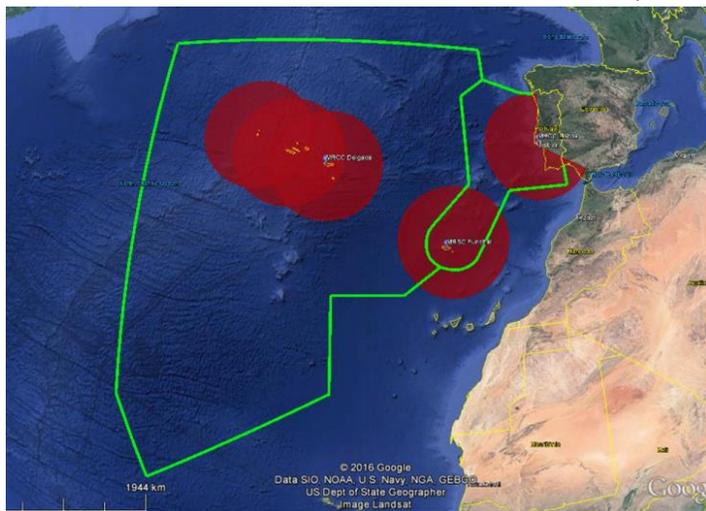
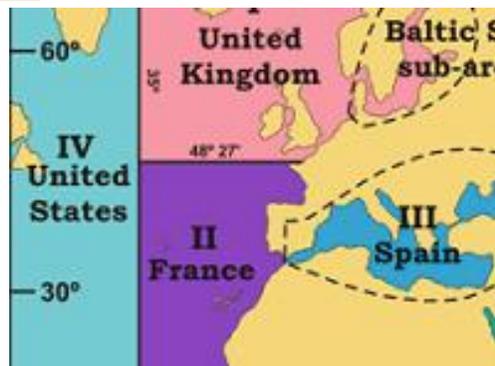




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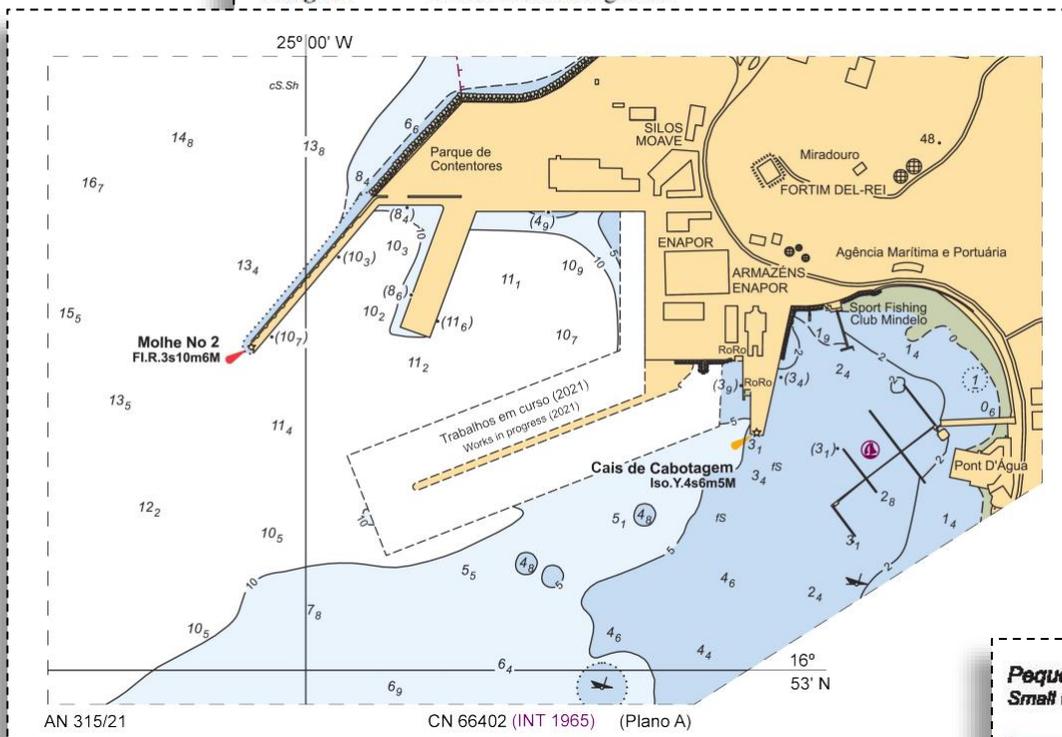
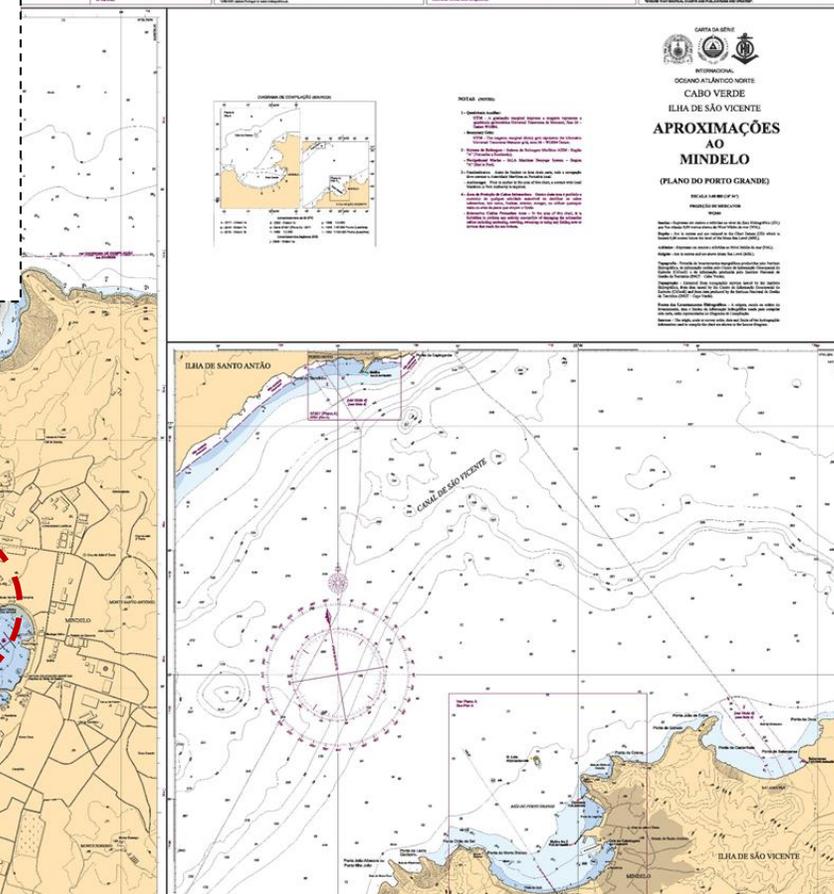
* 315/21 - CARTAS NÁUTICAS DO INSTITUTO HIDROGRÁFICO – CN 66402 (INT 1965) – Correções

No Plano geral (1:40 000) e no Plano A (1:10 000) da CN 66402 (INT 1965), proceder às seguintes correções (WGS 84):

Inserir, por colagem, os anexos gráficos que se encontram na Secção VIII.

- CN afetada** – 66402 (INT 1965) [175/19; 247/21]
- CEN afetadas** – PT466402 [127/20; 247/21], PT568502 [128/20; 128/21]
- Origem** – Instituto Hidrográfico

SISTEMA GEOGRÁFICO
WGS 84



Pequenas correções: 2019 - 175 - 269 2021 - 128 - 247 - 315
Small corrections:

**ATUALIZADA DE AVISOS AOS NAVEGANTES PERMANENTES
UPDATED FROM PERMANENT NOTICES TO MARINERS**

**GRUPO Nº 10
(2021/10/31)**



<http://ANAVNET.hidrografico.pt>
**AVISOS AOS NAVEGANTES
NOTICES TO MARINERS**

Consulte os Avisos aos Navegantes em vigor para a Carta Náutica 66402 (INT 1965).
See the Notices to Mariners in force for the Portuguese Nautical Chart 66402 (INT 1965).



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CHALLENGES AND CONCERNS PCA

- *Gaps in the current coverage scheme*
- *Future of paper Charts*
- *Scheme for worldwide coverage*
- *S-100*

- S-57 ENC – production/maintenance
- INT coverage maintenance
- T S-57 ENC to S-101 ENC Transition;
- S-101 ENC – Coverage scheme;
- *S-101 ENCs – Production and publication;*
- Coordination/cooperation between HOs;
- ***Primary Charting Authority*** (PCA) Role



**Regional Awareness Seminar
Working with NAVAREA II and your Primary Charting Authority**

26 and 27 September 2022

Thank you for your attention

OBRIGADA

