



SPAIN

NATIONAL REPORT

<http://www.armada.mde.es/ihm>.



1. Surveys
2. Charts and updates
3. Publications and updates
4. MSI
5. C-55
6. Capacity Building
7. Other activities

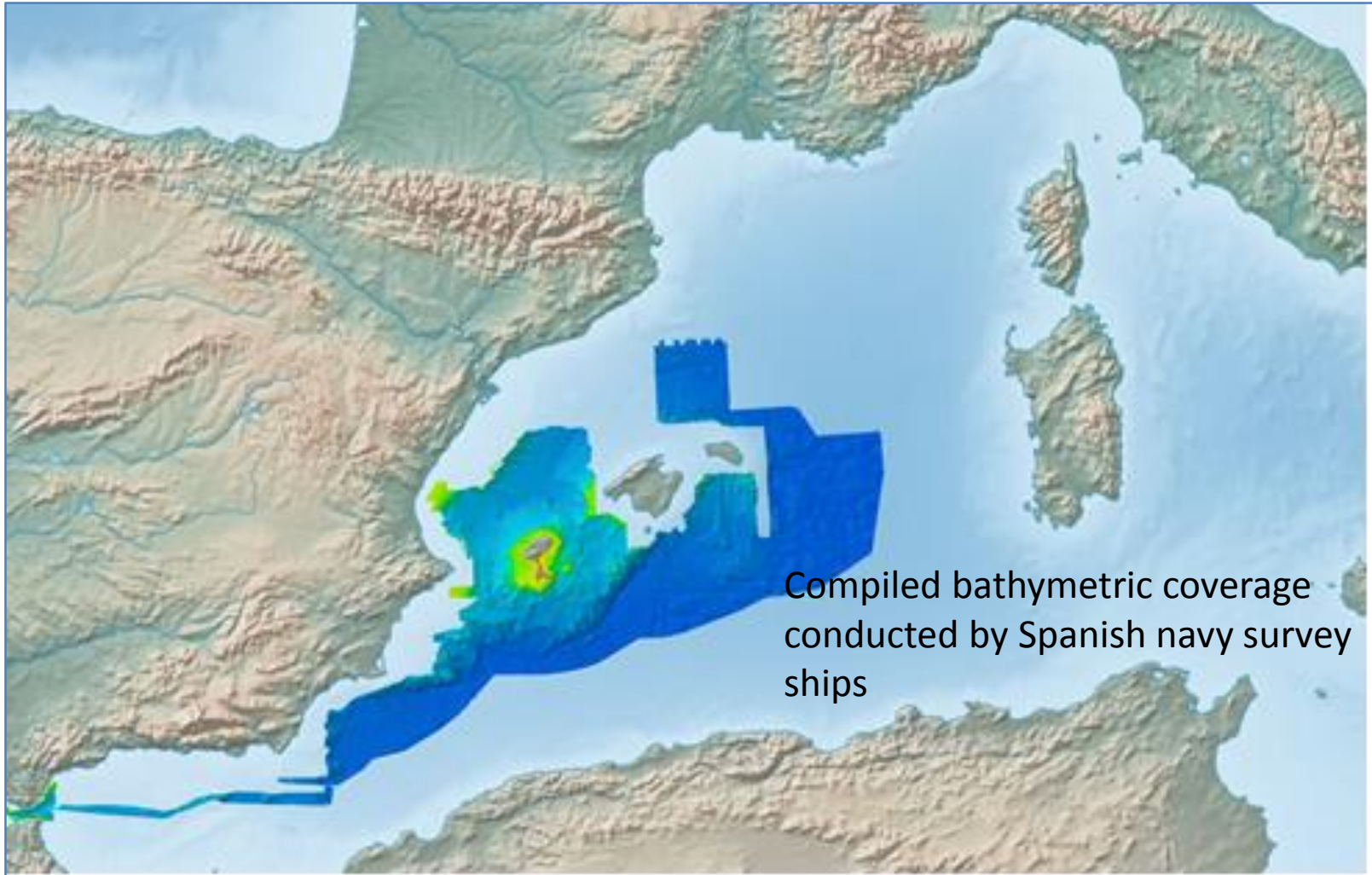


This report covers the period
May 2017 - May 2019.



- 99% of Spanish Mediterranean coastal waters up to 200 m deep have already been surveyed
- hydrographic surveys employing:
 - Multibeam Echosounders (MBES)
 - or interferometric Echosounders (Phase Differencing Bathymetric Sonars PDBS).
 - New MBES (EM-2040) and PDBS (Geoswath 500 and 250) were acquired in order to work in shallow waters.

Surveys



Charts and updates



- 158 ENCs within the area of the MBSHC (out of a total of 300 published for all areas).
- IHM has produced 16 new ENCs, 42 new ENC editions.

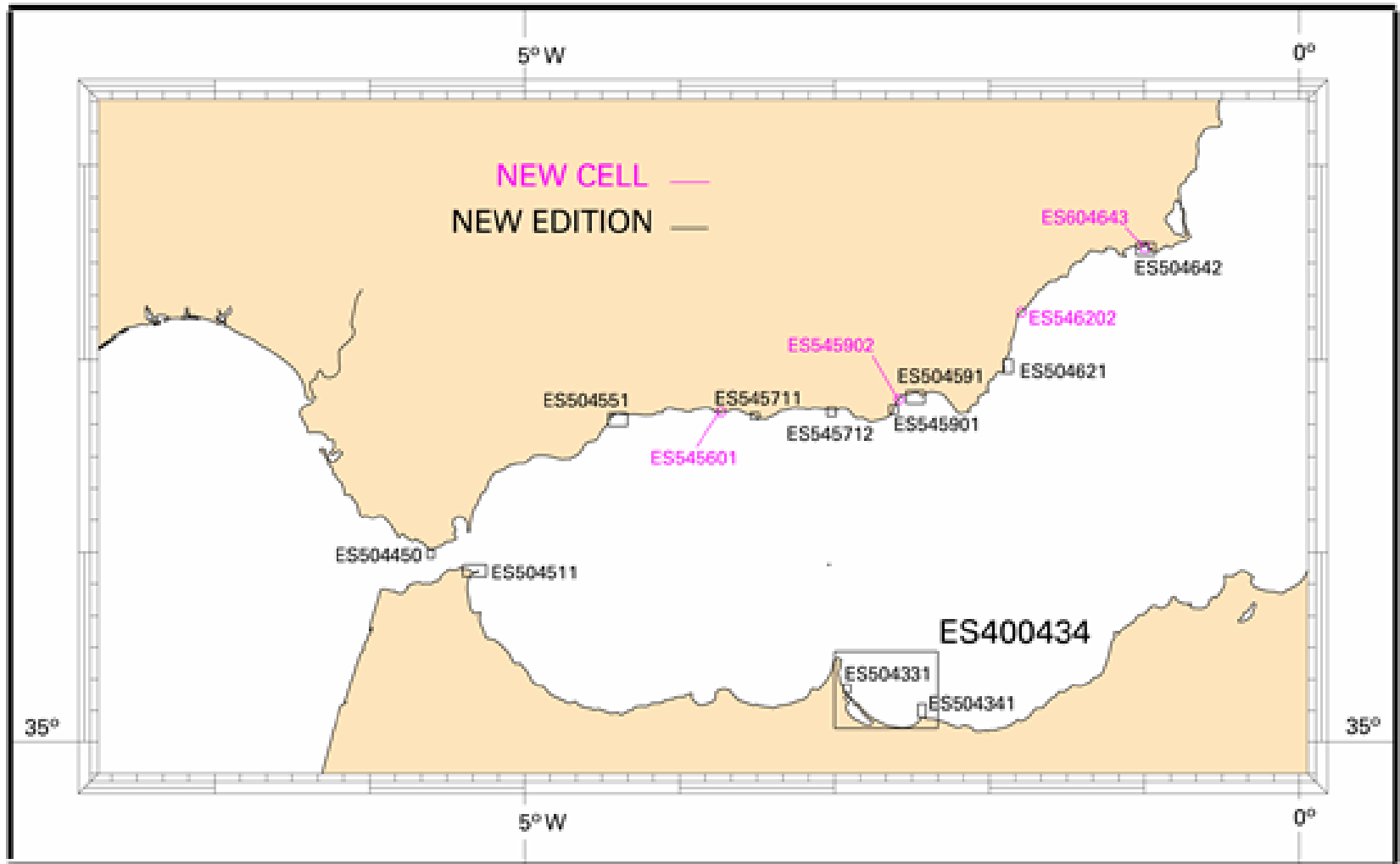
Navigational purpose	Projected	Published
1 - Overview	0	0
2 - General	1	1
3 - Coastal	11	11
4 - Approach	45	45
5 - Harbour	105	101
6 - Berthing	30	1
<u>Total</u>	192	158

Charts and updates



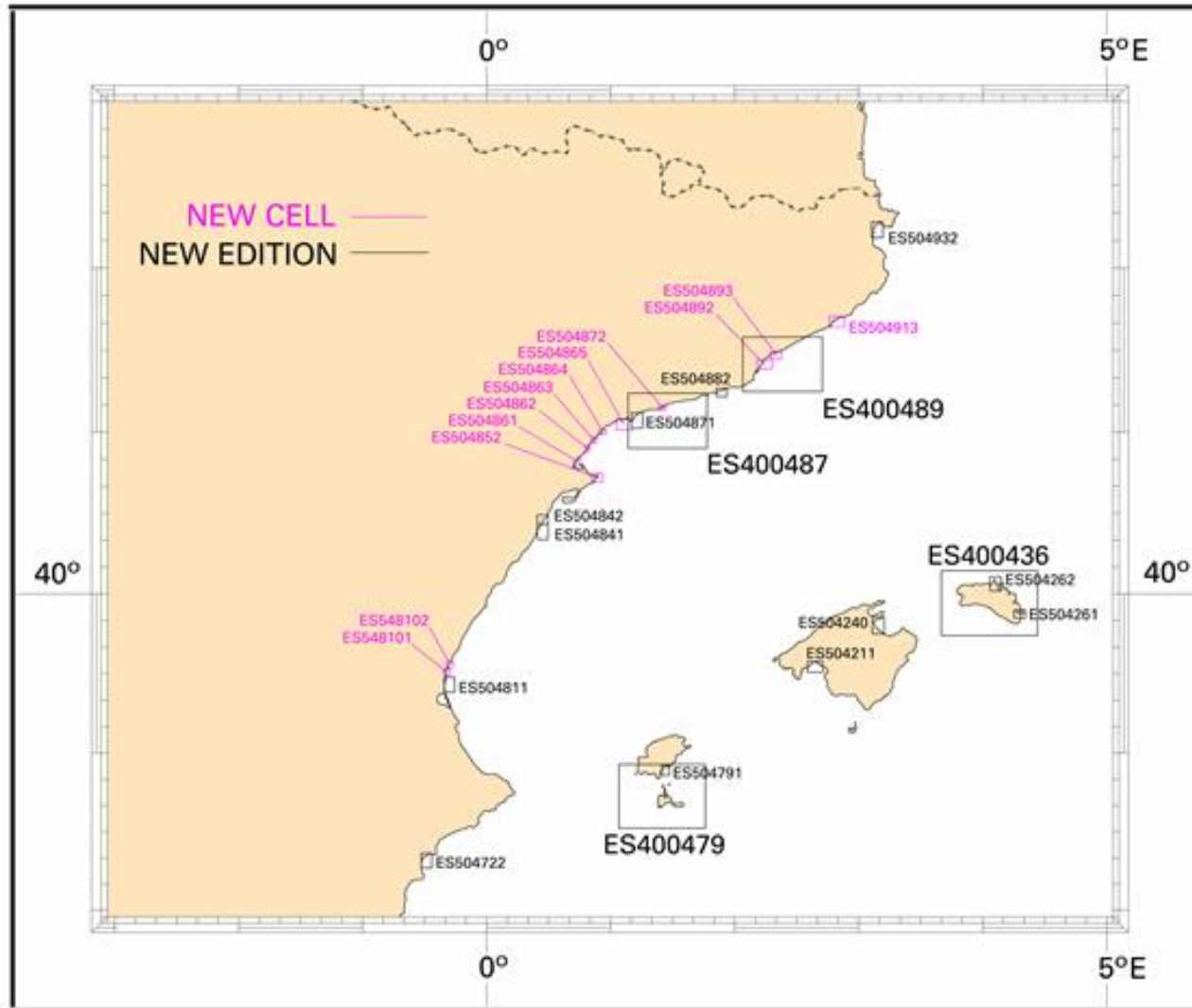
Navigational purpose 2 and 3 ENC production in the MBSHC 2017-2019

Charts and updates



Navigational purpose 4 and 5 ENC production in the MBSHC 2017-2019 Part I

Charts and updates

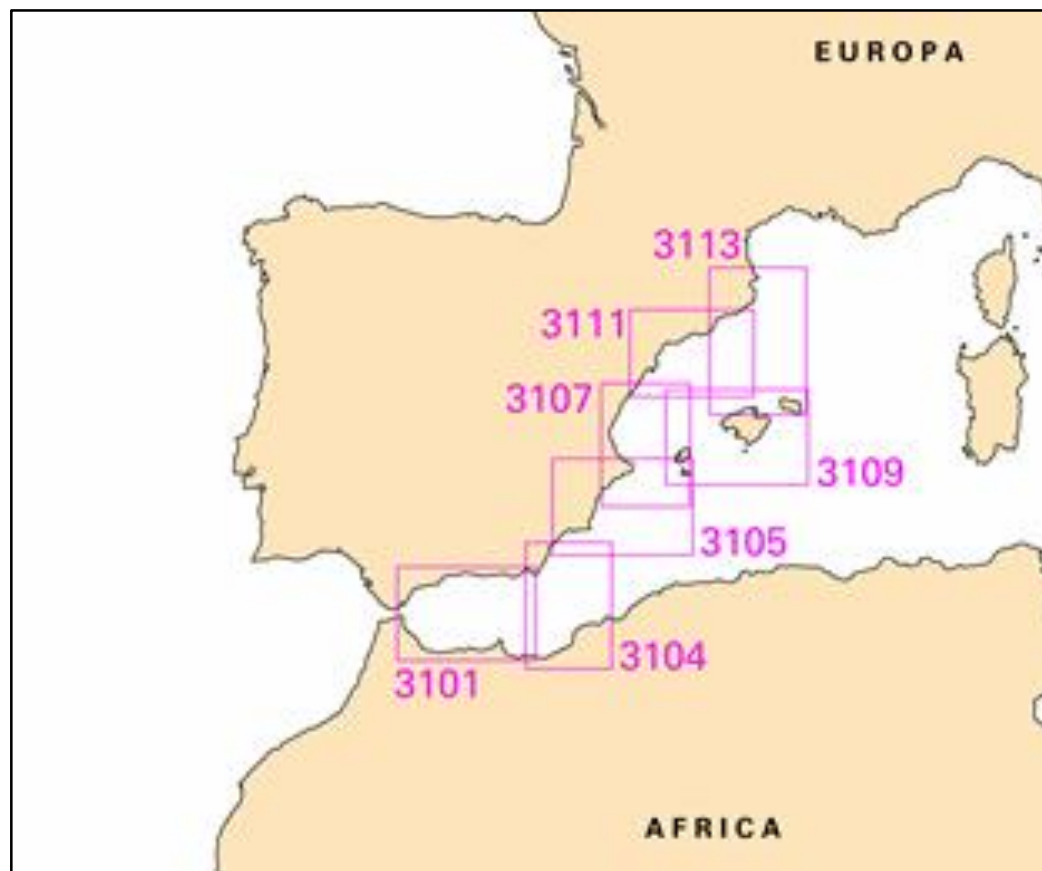


Navigational purpose 4 and 5 ENC production in the MBSHC 2017-2019 Part II

Charts and updates

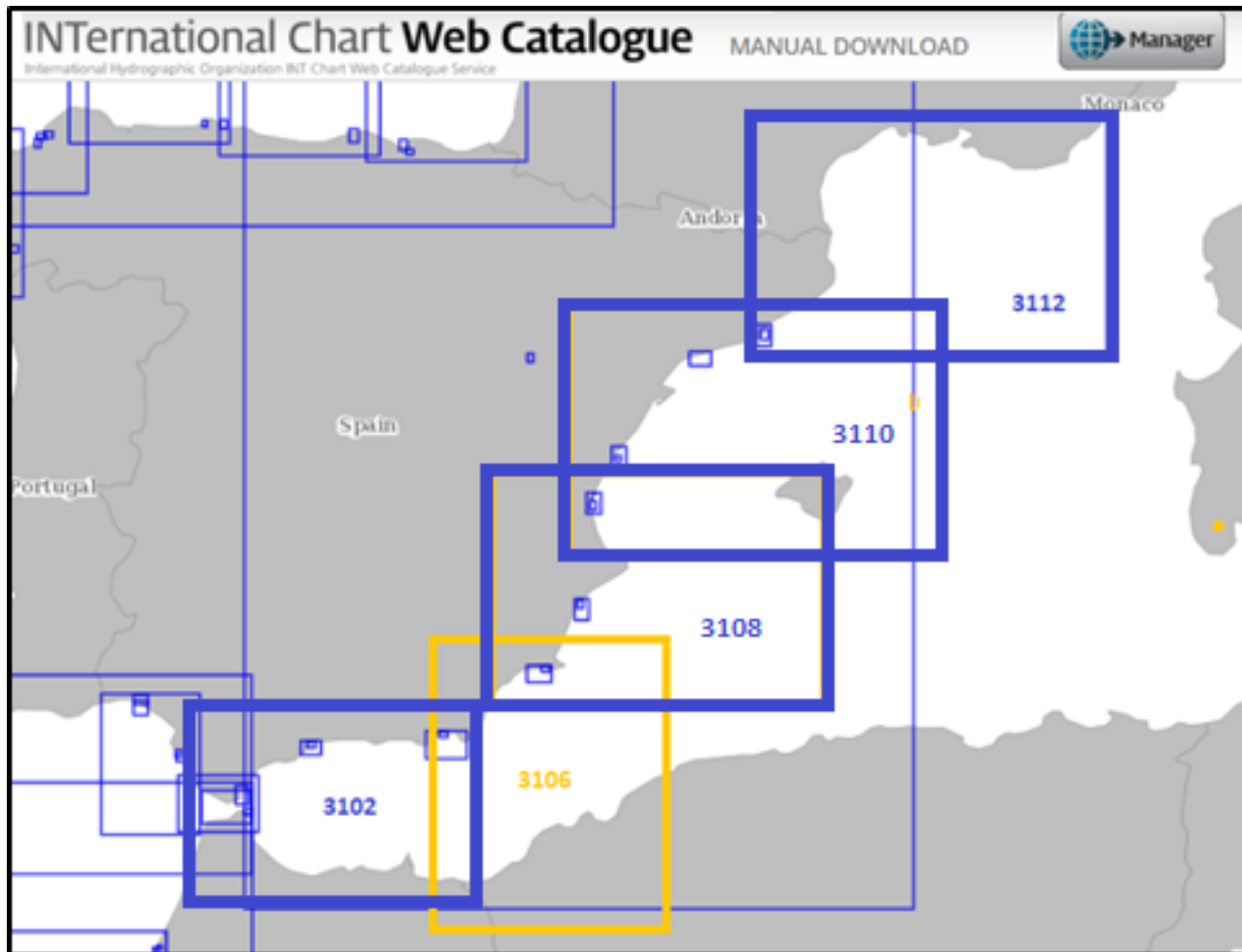


INT charts projected for the 2nd semester of 2019, and 2020/21.





Status of the INT charts production assigned to IHM





Charts and updates

Issues encountered:

Straight of Gibraltar

Discuss point from 2.4.1. to 2.4.4. of the Spanish report region F, ICC WG, 12 June 2019

France, Morocco, UK and Spain

Publications and updates

Since 2018, a new online interactive application for the *Spanish Tidal Predictions* is available

<http://www.armada.mde.es/ArmadaPortal/page/Portal/ArmadaEspañola/cienciaihm1/prefLang-es/02ProductosServicios--045PrevisiondeMareas>





- **NAVAREA III Navigational Warnings**

Coordinator: Spain is NAVAREA III (Mediterranean and Black Seas) Coordinator.

Report IAW Doc. MBSHC21-6.5 Report of NAVAREA III



- **Report** IAW Doc. MBSHC21-6.4.1. Hydrographic survey status in the MBSHC area.



Spanish Hydrographic School, located within the premises of IHM, offers both Category A and B IHO/FIG/ICA hydrography courses: 4 places reserved for foreign students every year for each course (Spanish scholarships)

- Category A: Officers from the Spanish Navy (4)/ Argentina (2)/ Tunisia (1) and Cabo Verde Islands (1).
- Category B: Petty Officers from the Spanish Navy (7).

Capacity Building



The attendance of non-Spanish students is offered through a Collaboration Agreement.

In MBSHC area: Albania, Algeria, Bulgaria, Croatia, Egypt, Georgia, Israel, Lebanon, Libya, Morocco, Romania, Serbia, Tunisia, Ukraine.

The point of contact for these matters is generally the Defence Attaché to the corresponding Spanish Embassy.



The Specialization Program in **Hydrography & Oceanography for Naval Officers (Category A)** was defended the 1st April 2019 to the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, **getting its recognition.**



IHM participate in several national projects and EU project GALILEO as the main researcher of the signals reception tests of the GALILEO GNSS constellation in high latitudes (Antarctica) compared to the others GNSS system during 4 years. The following tests (fifth) will be done in 2020.



Thank you for your attention


 GOBIERNO DE ESPAÑA
 MINISTERIO DE DEFENSA


ARMADA ESPAÑOLA

Geoportál de la Infraestructura de datos espaciales del Instituto Hidrográfico de la Marina



Mapas

- Mapa Base
 - Capa base
 - Marino-Geo
- Cartas Náuticas
 - ENC-completo
 - ENC-propósito 2
 - ENC-propósito 3
 - ENC-propósito 4
 - ENC-propósito 5
- Costa
 - Línea de Costa
- Límites Administrativos
 - Líneas de Base Recta
 - M.Terr. y Z.Cost. (ES-IB)
 - Plataf. Continental
 - ZEE
 - Puntos ZEE
- Catálogo de ENCs
 - Marcos propósito 2
 - Marcos propósito 3
 - Marcos propósito 4
 - Marcos propósito 5
- Catálogo de Cartas

Escala = 1: 10M

Ver coordenadas: EPSG:4326 (Geog)

40°05'51.6"N, 04°26'00.3"O

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