MARINE CARTOGRAPHY OF THE CONTINENTAL MARGIN

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1 Introduction

In the Common Fisheries Policy reform, the Ecosystem Approach has become one of the most relevant proposals, and for the marine environment, the International Council for the Exploration of the Sea (ICES) has defined it as the "integrated management of human activities, based on best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and maintenance of ecosystem integrity".

2 Summary

In the Continental Margin, very important economic activities take place, so it is essential a precise knowledge of the marine environment in order to carry out an adequate integral, rational and sustainable management of the resources, and to be able to adopt the necessary measures for their protection, which will ensure compliance of the ecosystem integrity.

3 Objetive

Systematic investigation of the characteristics of the seabed through high resolution geophysical technology and sampling of the seabed in order to obtain a high precision bathymetric cartography as well as a better knowledge of the seabed qualities and their distribution.

4 Material and methods

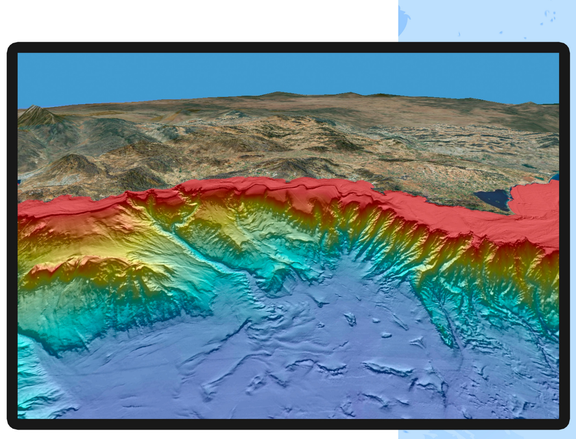
The course of the vessel is carried out at speed that allows obtaining the optimum quality of the information. The navigation lines are projected so that the overlap between them (minimum of 25%) allows obtaining 100% coverage of the seabed. The determination of the horizontal coordinates and depth measurements is made within the accuracy specifications determined by the IHO (International Hydrographic Organization).

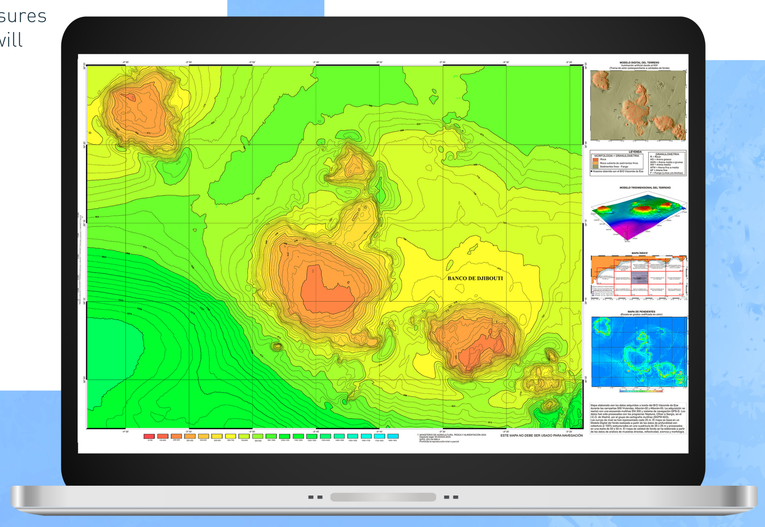
Periodic measurements of the speed of sound in water are made to maintain maximum accuracy in the measurements of the sounders and to obtain a general idea of the characteristics of the masses of water in the zone.

The navigation will be carried out with differential GPS with a signal with centimetric precision, for the acquisition of positioning data.

Equipment:

- Multibeam echosounder
- GPSD
- Parametric system - TOPAS
- Side Scan Sonar
- Singlebeam echosounder
- Synchronization Unit
- Dredges
- Sound Speed Sensor in water
- Supporting computer systems

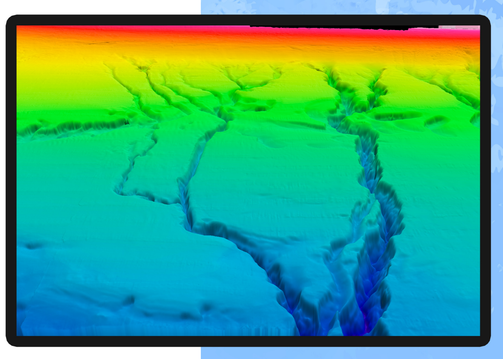


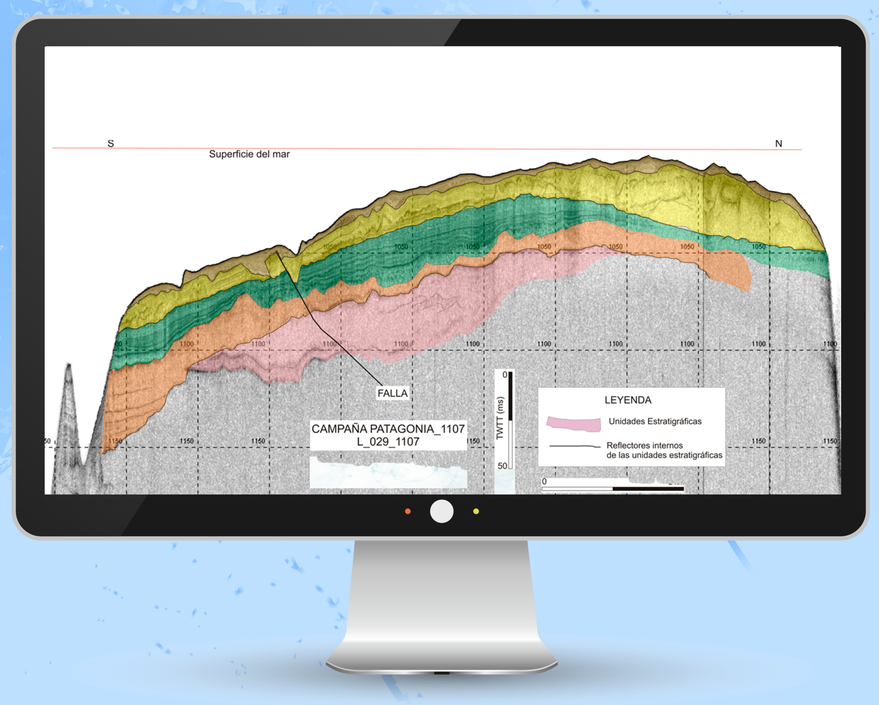


5 Results and conclusion

Knowledge of the seabed characteristics is basic information for the management of the marine environment. Greater knowledge of the environment contributes to the appropriate decision-making in:

- Fisheries agreements promoted by the European Union
- Selection of aquaculture sites
- Closure of fishing areas for the conservation of vulnerable species
- Location of reefs
- Use of geomorphology for engineering works
- Identification of marine habitats and selection of Marine Protected Areas
- Protection of breeding and spawning grounds areas
- Identification of possible geological hazards, of great importance for the laying of submarine cables and pipelines.
- Creation, regeneration and recovery of beaches based on the knowledge of sedimentary dynamics, location and power of deposits of gravel, sand and silt.
- Morphological characterization and associated biological communities, in order to respond to the demand of the European Commission, which, through Council Regulation (EC) No 1967/2006, of 21 December 2006, urges Member States to obtain the scientific information necessary to identify and describe the habitats which should be protected.





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