

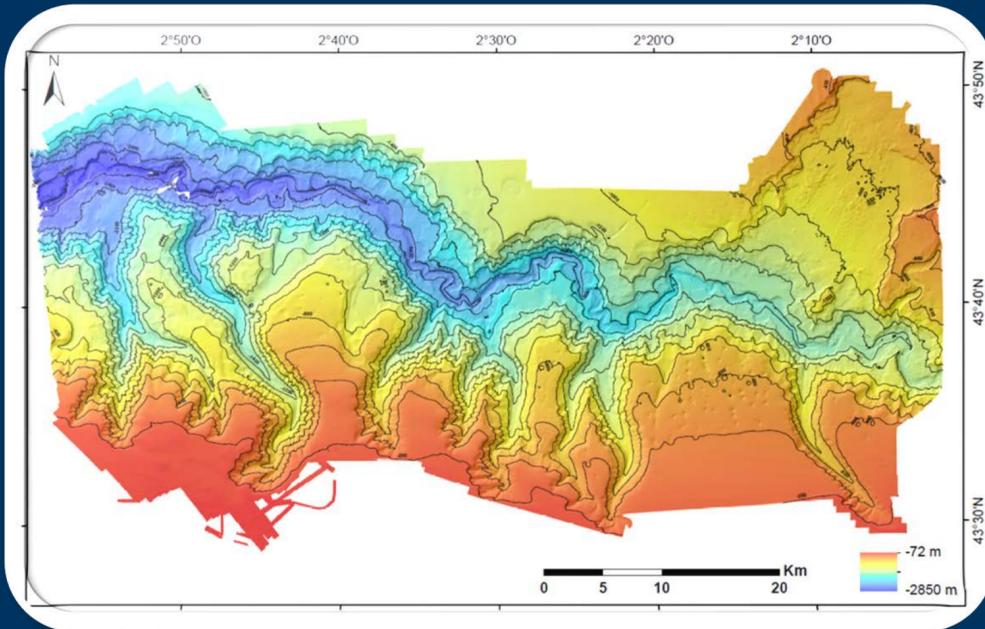
INTEMARES Capbreton Canyon System: an ecosystem multidisciplinary study

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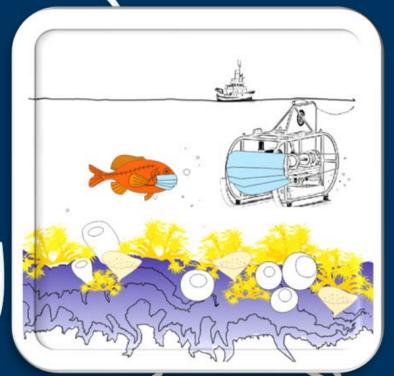
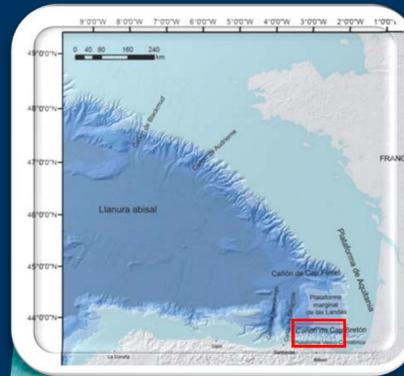
Introduction: What is INTEMARES IP Project?

The LIFE IP INTEMARES project "Integrated, innovative and participatory management of the Natura 2000 network in the Spanish marine environment" aims to improve knowledge of the Natura 2000 network with regards to the marine environment and its species and habitats. Research is a basic tool for decision-making that will allow to manage the network's marine areas in a more efficient and coherent way. Through the carrying out of oceanographic campaigns and surveys we study undiscovered seafloors, as well as the distribution of habitat and species. The information obtained from these surveys will let with the knowledge to **declare new marine protected areas**.



Objectives & Study Area

One of the main objectives of the project is to complete the marine Natura 2000 network in Spanish waters. To accomplish this task, the project includes a multitude of research actions aimed at detecting shortcomings in our Natura 2000 network and increasing knowledge about habitats and species. The final goal is to determine those areas that are likely to be protected according to the criteria of the European Union Directive on Habitats and Birds. Within this framework, the project includes the declaration of at least 9 new marine areas, as well as the preparation and approval of their corresponding management plans. The Capbreton canyon system, located in front of the Basque Country Coast (Bay of Biscay), is included as a study area likely to be declared a new marine protected area (MPA) according to their importance for habitats and species. The main objective of the investigation in this area was to identify and map Vulnerable Marine Ecosystems (VME), in order to increase the knowledge on canyon system functioning in the ecosystems and study their conservation status and threats. This integrated study will contribute to the selection and proposal of protected sites to be included in the existing Natura 2000 marine Network.



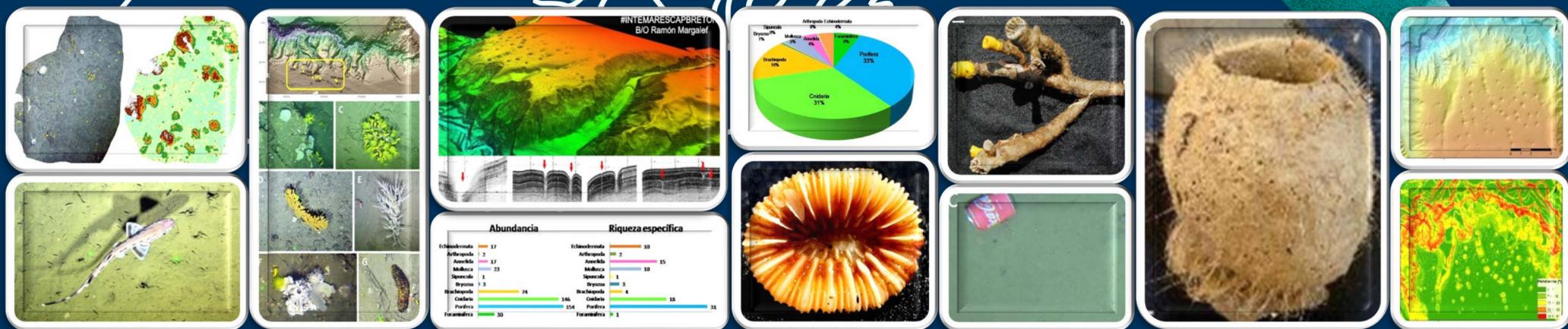
Material & Methods

Following the ecosystem approach, a multidisciplinary methodological investigation was conducted along two oceanographic surveys on board the R/V Ramon Margalef in 2019 and 2020 using different geological to geophysical, physical, biological (benthic and pelagic) and ecological techniques, as the multibeam and parametric echosounder systems and high resolution imagery (video and photographs) recorded with the underwater vehicle ROTV Politolana and Geodia Lander.



Data Analysis & Interpretation

The main results have yielded a mapping of 3850 km² of the seafloor including the main canyon and adjacent shallow platforms that will provide an essential base for understanding and characterizing the presence and distribution of benthic communities and the interaction and processes of the bottom (rotation, patterns). In addition, the shallow structure provides data regarding on the changes that have taken place in time on bottom currents and sedimentation patterns which would affect the settlement of habitats (17) (Reefs) of Community Importance of the Annex I of the Habitats Directive, as well as their potential spatial modeling distribution across the study area.



Preliminary Results in figures

High-resolution bathymetry 3D models and TOPAS parametric profiles have been using to analyze the Capbreton canyon system geomorphology (3850 km² mapped), characterized by a complex tributary canyon system and their adjacent interfluvial platforms with pockmarks fields associated. Using data combination of high-resolution geophysical, imagery data (155h video recording) and direct sampling collected (79 samples) during the two cruises carried out (36 days/24h), the data set integration have analyzed in a detailed study of the area, identifying the infauna (2011 individuals, 188 taxons, 132 species), epibenthic fauna in both soft and rocky bottoms (2689 individuals, 14 taxons, 283 species). More than 30 researchers.