



The imprint of sea-level changes in the Southeastern Iberian continental shelf, Western Mediterranean Sea

Andrea Pinna (1), Galderic Lastras (1), Juan Acosta (2), Araceli Muñoz (3), and Miquel Canals (1)

(1) GRC Geociències Marines, Universitat de Barcelona, E-08028 Barcelona, (2) Instituto Español de Oceanografía, E-28002 Madrid, Spain, (3) TRAGSATEC S.A., E-28006 Madrid, Spain

A detailed morphologic analysis of the Southeastern Iberian continental shelf, Western Mediterranean Sea, between the Mar Menor and the Gulf of Almería, based on swath bathymetry data, has revealed a number of seafloor features that we attribute to the imprint of sea-level changes since the last glacial maximum. The continental shelf has been divided in four different domains with contrasting characteristics: the Mar Menor sector, the Mazarrón and Vera sector, the Gata Cape shelf and the Gulf of Almería shelf. The Mar Menor sector displays an up to 40 km wide shelf with a very low slope gradient, which contrasts with the Mazarrón and Vera shelf, with a width ranging between 0.4 and 5 km, severely incised by the different branches of the Garrucha submarine canyon.

On each of these sectors, a variety of morphologies such as crests and escarpments have been identified. Most of these crests and escarpments can be followed for distances exceeding 15 km, and are located at constant, characteristic water depths. We interpret these structures as the result of relatively short-lived sea-level still-stands and thus as palaeo-coastlines. Taking into account subsidence, we have correlated their bathymetric position with published post-MIS-5 Mediterranean sea-level evolution curves, allowing the attribution of an approximate age for each interpreted palaeo-coastline. The last sea-level regression is partially registered in the smooth Mar Menor shelf, where different crests and escarpments are cut by a LGM palaeo-channel, whereas all the sectors display structures related to the last sea-level transgression. The continuity of these structures along all the sectors has allowed reconstructing the evolution of the coastline during the last sea-level transgression, and thus inferring the palaeo-landscape of this sector of the Southeastern Iberian coast at different stages since 18 ka BP until the present.