Seafloor mapping of the southeast Iberian continental slope and western Algero-Balearic abyssal plain

M. Canals, Galderic Lastras, C. León, E. Elvira, L. Pascual, A. Muñoz, E. de Cárdenas, J. Acosta

1GRC Geociències Marines, Universitat de Barcelona; 2Tragsatec S.A., Madrid;
3Dirección General de Recursos Pesqueros y Acuicultura, Ministerio de Agricultura, Alimentación y Medio Ambiente, Madrid;
4Instituto Español de Oceanografía, Madrid

We present the multibeam bathymetry and derived maps of the southeast Iberian margin, Western Mediterranean Sea, from Cape of Palos to Cape of Gata, 37°35’N to 35°45’N and 2°10’W to 0°20’E, from the coastline down to the Algero-Balearic abyssal plain at depths exceeding 2,600 m. Data were obtained during different surveys in 2004, 2006 and 2007 on board RV Vizconde de Eza with a Simrad EM300 multibeam echo-sounder, as part of the CAPESOME Project, a collaboration between the Spanish Institute of Oceanography (IDO) and General Secretariat of Fisheries (SGP), aiming at creating maps of the fishing grounds of the Mediterranean continental margins of Spain. The edition of the maps has been carried out within the Complementary Action VALORPLAT (Scientific valorisation of multibeam bathymetry data from the Spanish continental shelf and slope), funded by the Spanish Ministry of Economy and Competitivity. Multibeam bathymetry data from the continental shelf obtained within the ESP2ES project, also in a cooperative frame between IDO and SGP, completes the whole picture from the coastline to the deep abyssal plain.

The southeast Iberian margin displays a relatively narrow continental shelf with abundant geomorphic features indicative of past sea-level changes. The continental slope to the north is composed by the Palomares and Mazarrón (A) tectonic escarpments, which are pervasively carved by short canyons and gullies, including Palos, Tiflis, East and West Cartagena submarine canyons. The continental slope to the west is more sedimented and cut by Águilas, Almánsora-Álvar-Garrucha (B) and Gata canyon-channel systems. Other prominent structures are the Abulucer and Maimonides ridges (D) in the Iberian margin, and the Yusuf ridge in the North African margin. The Al-Mansour seamount is located in the connection with the Alboran sea to the west. Numerous halokinetic deformation structures (C) scar the otherwise smooth Algero-Balearic abyssal plain.

The map series is constituted by a general map at 1:400,000 scale and 14 detailed maps at 1:75,000 scale, which include inset maps on slope gradients and seafloor nature (rock or sediment type), the later obtained with rock dredges and Stipex sediment dredges. Both the detailed maps and the general map are available in paper print (see examples below), and the whole collection is also distributed in an edited USB.

The edited maps are available from the MAGRAMA (Ministerio de Agricultura, Alimentación y Medio Ambiente) publication store and http://publicacionesoficiales.boe.es

Contact: glastras@ub.edu