tide, could be a key mechanism for lagoon zooplankton enrichment and renewal.

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Spatial structure and diel changes of the zooplankton community along the Garrucha canyon (SW-Spain) as derived from dissecting microscope, ZooImage, and FlowCAM analysis

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The Alborán Sea is the transition region between the Atlantic Ocean and the Mediterranean Sea. Its main circulation pattern is well known as its hydrological eastern boundary is the Almeria-Oran front. It has been the subject of several macroscale oceanographic studies. However, little is known about the mesoscale circulation pattern and the associated distribution of zooplankton, particularly where the Almeria-Oran front approaches the coast, around Cape of Gata. This area is comprised of prominent canyons and seamounts that interact with the front, coastal currents, and eddies, which generate turbulence that might fertilise the water column. In the framework of the CETI (Spanish national project: CTM2008-05695-C02-02), a multidisciplinary mesoscale sampling program with special emphasis on the zooplankton is being carried out around the Cape of Gata.

Four LHPR net hauls (12 layers between 0-400 depth metres) were taken along the main submarine canyon (La Garrucha) with the aim of analyzing the spatial structure and nictemeral changes of the zooplankton community. Additionally, a selected set of samples from the deep chlorophyll maximum are being analyzed using a set of methods including optical microscopy and novel image analysis systems (ZooImage and FlowCAM) for comparison. Preliminary results show qualitative and quantitative differences between the zooplankton community at daytime and nightime as well as at the head (close to the coast) and the mouth (2000m) of the canyon. The results are discussed in the context of the main circulation patterns found at mesoscale.