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Coccolithophore and benthic foraminifera distribution patterns in the Gulf of Cadiz and Western Iberian Margin during Integrated Ocean Drilling Program (IODP) Expedition 339.

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Abstract

For the first time during an Integrated Ocean Drilling Program (IODP) Expedition (Exp. 339, Mediterranean Outflow) water samples for living coccolithophore distributions and mudline samples for coccoliths, benthic foraminifera, and geochemical analyses in the underlying surface sediments were collected. In total, 14 water samples (from 5 and 20 m water depth) and 7 mudline samples were gathered at the drill sites. Coccolithophore distributions show spatial variations in species diversity. In particular, assemblages that characterize the Western Iberian Margin differ from those in the Gulf of Cadiz, indicative of oceanographic and environmental controls on the community in the upper ocean (0-20 m depth). Comparison of the living assemblages to those in surface sediments shows differences in the presence of some species, suggesting the influence of post deposition sedimentary processes. Other factors such as the season of sampling and the limited