



A trans-Atlantic
assessment and
deep-water
ecosystem based
spatial management
plan for Europe

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Vulnerable marine ecosystems and biological features of Gazul mud volcano (Gulf of Cádiz): A contribution towards a potential “Gulf of Cádiz” EBSA

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The Gulf of Cádiz (GoC) represents an area of socioeconomic and scientific importance for oceanographic, geological and biological processes. An interesting feature of the GoC is the presence of a large amount of mud volcanoes (MVs) and diapirs that display different seepage, seabed types, oceanographic settings and biological communities. Detailed exploration of some MVs is still needed for detecting Vulnerable Marine ecosystems (VMEs) that seem to be rare in other areas of the GoC, improving the current knowledge on its biodiversity and ecological attributes. During different expeditions (MEDWAVES-ATLAS, INDEMARES-CHICA 0610 & 0412 and ISUNEPCA 0616) carried out in different years, biological samples and videos were obtained in Gazul MV (Spanish Margin of the GoC). The study of those samples and videos has revealed the presence of several ecologically important VMEs (e.g. 3 species of reef framework-forming corals, coral gardens including solitary scleractinians, gorgonians and antipatharians, as well as deep-sea sponge aggregations and chemosynthesis-related structures) and a large number of species occurring in this MV, including new records for the European margin, threatened species and non-previously described species. The combination of different environmental and anthropogenic factors allowed the present-day persistence of these VMEs in the GoC. Some of Gazul MV biological and ecological attributes fit several criteria of the Convention on Biological Diversity for EBSA description (e.g. 1,3,4,6) that, together with those of other areas of the GoC, may contribute to the future potential nomination of an EBSA in this area of the NE Atlantic.