



Climate reconstruction based on planktic and benthic foraminifera from a short core from the Gulf of Taranto, Mediterranean Sea

Anna-Lena Grauel (1), Inigo Mueller (1,2), Stefano M. Bernasconi (1), and Gert J. De Lange (3)

(1) ETH Zürich, Geological Institute, Earth Science, Zürich, Switzerland (anna.grauel@erdw.ethz.ch), (2) Max Planck Institute for Marine Microbiology, 28359 Bremen, Germany, (3) Institute of Earth Science, Utrecht University, 3584CD Utrecht, Netherlands

The MOCCHA Project (Multidisciplinary study of continental/ocean climate dynamics using high-resolution records from the eastern Mediterranean) aims at reconstructing climate change from high sedimentation rate sediments in the Gulf of Taranto. Being highly affected by riverine input as well as being influenced by marine water masses, this region is a very promising site for reconstructing Holocene climate variability, especially in the context of anthropogenic influence on climate. Here we present a dataset based on stable isotope measurements of planktic and benthic foraminifera from a short sediment core covering the last two centuries. The comparison with regional historical temperature and precipitation records covering the last hundred years and with global temperature reconstructions emphasize the potential of this site for climate and environmental reconstructions. Based on a previous calibration study on an extensive set of surface sediments taken around the southern Italian coast we established that the planktic foraminifera, while being highly affected by different salinity and nutrient distributions related to circulation patterns of major water masses, dominantly record summer temperature conditions. Furthermore, the isotopic composition of the benthic species allows to reconstruct carbon cycling, bottom water properties and the organic matter fluxes to the seafloor. The present short-core study allows to continue our calibration of geochemical signals on a longer time scale and to gain further insight in the climate and environmental evolution in the Mediterranean.

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