

COMPOSITIONAL ANALYSIS OF PLANKTIC FORAMINIFERA AS A TOOL FOR THE INVESTIGATION OF MIDDLE TO LATE HOLOCENE CLIMATE CHANGES IN THE WESTERN MEDITERRANEAN

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In the last few decades, several studies based on paleontological proxies have been carried out in the Mediterranean area with the aim of reconstructing the Holocene climate changes. However, despite the fundamental progresses gained by the statistical analysis of compositional data (CODA), relatively few studies adopted an approach coherent with the fact that paleontological data are recorded as closed data (Buccianti and Esposito, 2004; Di Donato et al., 2008; 2009; Di Donato and Martín-Fernández, 2008).

The planktonic foraminifera of G93-C9 core, recovered in the central Tyrrhenian Sea, were analyzed in order to reconstruct Holocene paleoclimatic changes in this sector of the Mediterranean. The foraminiferal record was analyzed by means of CODA, with the main aim of reconstructing the changes occurred during the mid-Holocene. Several studies indicate that from the mid-Holocene to the present the Mediterranean region has been characterized by drier condition and the establishment of the present-day Mediterranean climate (Jalut et al., 2000, Davis et al., 2003), however there is still debate on the anthropical contribution to such changes (i.a. Roberts et al., 2011). The reconstructions obtained from CODA of the G93-C9 core were compared with continental records of the western Mediterranean area in order to evaluate if changes in the marine and continental environment occurred simultaneously.

References

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