



Late-Holocene climate variability in the Adriatic Sea (Central Mediterranean)

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Planktic and benthic foraminifera assemblages from a set of sediment cores, collected on the Adriatic shelf and the Southern Adriatic deep basin, provide compelling evidence of sub-millennial scale environmental changes during the last 6 ka. Repeated peaks in *Globigerinoides sacculifer* represent warm-dry intervals, including the Medieval Warm Period, the Roman Age, the late Bronze Age and the Copper Age. The Last Occurrence (LO) of *G. sacculifer* (550 years BP) approximates the base of the Little Ice Age (LIA). Above this LO, the benthic species *V. complanata* records, on the shelf, the main phases of the LIA, when sediment flux to the inner shelf was at peak. The climatic oscillations recorded by planktic and benthic foraminifers in the Adriatic are consistent with those recognised in other areas within and outside the Mediterranean, suggesting a hemispheric-scale atmospheric connection.

Significant turnovers in the structure of the water column reflect changes in the rate of formation and depth of flow of the North Adriatic Dense Water (NAdDW) and the Levantine Intermediate Water (LIW). About 7.5 ka BP the benthic oxygen isotope records mark the timing when the NAdDW formation intensified on the slope and shifted to its modern route. About 5.5 ka BP, when sea level reached its modern high stand, oxygen isotope records of intermediate planktic dwellers indicate a northward intrusion of the LIW on the slope. The oscillating isotope trends during the last 5 ka document a discontinuous invasion of LIW into the Central Adriatic, possibly reflecting short-term climate changes with weakened LIW production during colder and wetter intervals.