

**Coastal zones recording sea level and climatic changes during and since the Last Deglaciation: Atlantic-Mediterranean region, Spain**

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Geomorphological mapping, sedimentology, palaeontology (macro and micro fauna, and pollen), soil studies, supported by chronological data (OSL and radiocarbon) allows to reconstruct sea level and climate change during and since the Last Deglaciation in Southern Spain. In the Atlantic estuaries, the global sea-level rise is particularly well achieved, while small fluctuations occurred during the highstand phase are best recorded in beach barrier system from Mediterranean uplifted coasts. The obtained records of sea-level rise and sedimentation rates shows two steps: a first rapid sea level rise between ca.13–10 and ca.6.5 cal ky BP, with a maximum marine influence at ca.8 cal Ky BP, that promoted important vertical aggradation; and a following phase of decelerated sea-level rise dominated by lateral progradation during the last 6.5 cal ky BP. However, there is not any signal of sea level fall or stillstand during the Younger Dryas period, as it has been previously suggested by studies on continental shelf. Present sea level was reached at ca.5 cal ky BP, and since then small sea level fluctuations never deviated more than 1m. Concerning climate changes in these coastal settings, there is no any evidence of changing temperature but in pluviosity and wind intensity and velocity, at least preserved in the stratigraphic record. Cold episodes and cool events reported in the North Atlantic region as well as in Sea Surface Temperature record from Southern Iberia, are recorded in coastal areas as arid episodes, marked by reduced rainfall and increased wind intensity and velocity. This chronological coincidence has been demonstrated in some cases, particularly during the Holocene period. Two episodes of increased humidity occurred during the Bølling – Allerød interstadial and the Holocene Climatic Optimum.

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