
Saharan dust deposited in Lake Bastani, Corsica: the most northern dust record of the African Humid Period ?

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Résumé

Throughout the Quaternary, variations of the insolation received over Africa have governed the monsoon dynamic in this region, generating a recurrence of periods of intense rainfall. These African Humid Periods are characterized by a major transformation of the Saharan hydrological cycle, favoring the development of vast fluvial networks, tropical flora and fauna in a region currently hyperarid. In the present-day context of global warming, the mechanisms as well as the environmental responses associated with these periods of abrupt changes between two extreme climatic contexts remain crucial to understand to improve climatic projections. Many studies have investigated the mechanisms associated with the last AHP that occurred at the beginning of the Holocene, but this subject remains very controversial in despite of all these efforts (e.g., influence of high latitudes versus regional forcing, vegetation feedback...). In this work, we propose to improve our understanding of the Holocene African Humid Period by studying the Saharan dust deposited in a sedimentary record located in the western Mediterranean, in Lake Bastani located over 2000 m altitude in Corsica. The study of this terrigenous material emitted from the Sahara, and more particularly the characterization of its sedimentological, mineralogical and geochemical composition that are particularly dependent of the environmental conditions prevailing in its source areas (aridity, vegetation...), will allow to propose the reconstruction of the most northern response of the Saharan hydrological cycle changes during this key climatic transition.

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