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# Climate change and paleolandscape evolution during the Later Stone Age to Neolithic transition in the Central Afar region (Ethiopia & Djibouti)

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## Résumé

Throughout the last 20 ka, tropical Africa has been affected by climatic oscillations of humid and centennial hyper-arid events that caused drastic transformations in hydrological catchments and in landscapes patterns. The rainfall regime of the African Monsoon both provided favourable ecosystems, but also produced arid environments that may have restricted human exploitation of the landscape. Abhe lake basin, in the Central Afar region (Ethiopia & Djibouti), is the endorheic receptacle of freshwater and terrigenous inputs from Ethiopian Highlands (major precipitation area). It is a sensitive monitor of climate change and the object of substantial geomorphological modifications. Currently Abhe Lake attains a surface of 370 km<sup>2</sup>, while during the second phase of the African Humid Period (10 – 8.2 ka BP) Lake Abhe covered the Lower Awash (Ethiopia) and Gobaad (Djibouti) valleys and attained a surface of over 6000 km<sup>2</sup>. Since 2014, the VAPOR-Afar and PSPCA programs in Ethiopia and Djibouti respectively, have intensified scientific investigations with the objective of reconstructing the evolution of the landscape and human occupation around Lake Abhe from the Late Pleistocene to the Holocene. Within this context, previous and recent lacustrine core analyses (paleolimnology), coupled with geomorphological (stratigraphic

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analysis) and geoarchaeological (micromorphology, sedimentology, geochemistry) data, highlight the links between continental paleoclimatic rhythms, paleolandscape reactivity and the morphosedimentary patterns of prehistoric occupations during the transition from a dominantly hunter-gathering way of life (15000-5000 yrs BP) to a Neolithic one (5000-2000 yrs BP) around Lake Abhe in the Central Afar region.