Geophysical Research Abstracts
Vol. 18, EGU2016-9289-1, 2016
EGU General Assembly 2016

Preliminary results on a promising long paleoclimatic archive for the Near East: the lacustrine sequence of Acigöl (Anatolia, Turkey).

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A 601 m long core was drilled in Lake Acigöl located in an extensional basin in SW Anatolia (Turkey). The alternation of carbonates relatively rich in evaporites, siliciclastic particles and fossils (ostracods, gastropods and bivalves) gives to the sequence a high potential for palaeoclimatic record. The Acigöl sequence is younger than 3.4 Ma, the oldest age determination recorded for lacustrine successions elsewhere in SW Anatolia (van den Hoek Ostende, 2015). The first paleomagnetic investigations show numerous reverse polarities implying that two third of the sequence is older than 0.78 Ma (Brunhes/Matuyama transition) with a base dating back to 1.7 Ma or more. Indeed, although Jaramillo subchron (from 0.9 to 1.06 Ma) is well recorded, uncertainty remains for the Odulvaï subchron (from 1.78 to 2 Ma) which is not yet robustly identified. The age model will be soon completed by radiometric dating of a tephra found in the sequence and by authigenic 10Be/9Be dating. Detrital proxies (such as magnetic susceptibility) versus biological proxies will allow discrimination between tectonic and climatic signals and may reveal the response of terrestrial ecosystems to the mid-Pleistocene climatic transition. This research is supported by a two-year bilateral cooperation between CNRS-INSU and TUBITAK (grant number 114Y723).

Reference:

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