

Late Cenozoic moisture history of Africa and its implications for human evolution

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Lake sediments in ten Ethiopian, Kenyan and Tanzanian rift basins suggest there were three humid periods there at 2.7-2.5 Ma, 1.9-1.7 Ma and 1.1-0.9 Ma BP superimposed on the longer-term aridification of East Africa (Trauth et al., 2005). These humid periods correlate with increased aridity in NW and NE Africa and significant global climate transitions (de Menocal 1995; 2004). These episodes could have had important impacts on the speciation and dispersal of mammals and hominins because a number of key species, such as the origin of the genus *Homo* and *Homo erectus*, evolved in this region when it contained extensive deep lakes. Recently submitted evidence by Deino et al. and Kingston et al. suggests these lakes were not permanent features of the landscape but rather ephemeral feature forced by precessional variations. Hence extensive deep lakes existed for half a precessional cycle (<10 kyrs) and then rapid disappeared (<1 kyrs). This repeated wet and drying may have provided the extreme environmental variability required for speciation (Potts, 1998). In addition I will hope present some very new biomarker data showing C3-C4 plant variations over the last 4 million years from SW Africa.