

PP23A-2311: How Dry was too Dry? Evaluating the Impact of Climatic Stress on Prehistoric Human Populations in southern Ethiopia.

Tuesday, 13 December 2016

13:40 - 18:00

📍 *Moscone South - Poster Hall*

What role did abrupt climate shifts play in human evolution and the dispersal of *Homo sapiens* within and beyond the African continent? How did gradual climatic transitions on the other hand affect cultural and technological innovations in the source region of modern humans? In order to evaluate the effect of environmental instability on human evolution, with their cultural and technological innovations, and with their expansion out of Africa, it is essential to understand how the east African climate switches from dry to wet and back to dry. Determining the timespan of both long-term transitions and climate flickers eventually provides the much needed environmental information how much time early humans had to react (evolution, migration, adaptation) to the profound changes in their living environment. As a contribution to providing an environmental context to these central questions on human-climate interaction, the Hominin Sites and Paleolakes Drilling Project (HSPDP) has successfully completed coring five fluvio-lacustrine archives of climate change during the last ~3.5 Ma in East Africa. The five high-priority areas in Ethiopia and Kenya are located in close proximity to key paleoanthropological sites covering various steps in evolution.

Here we present a comparison between the youngest part of our continuous climate reconstruction (temporal resolution of up to 3 years) from the Chew Bahir site in southern Ethiopia and the available archaeological record of human presence in the source region of modern humans for the past 20 ka. The results contribute to test hypotheses on the impact of climatic stress on migration, the role of human decision-making and environmental thresholds (Foerster et al., 2015, 2016). Furthermore, we match key technological innovations in the area with the profound environmental changes during the highly debated mid-Holocene wet-dry transition. Finally, we give a first overview over possible phases of climatic stress during the last >500 ka in the first homeland of modern humans, as a time interval that comprises the transition into the Middle Stone Age as well as the origin and dispersal of *Homo sapiens*.

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