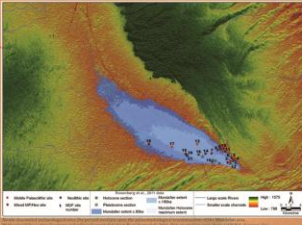


The Arabian Peninsula is a key region for understanding climate change and human occupation history in a marginal environment. The Mundafan palaeolake is situated in the Empty Quarter of Saudi Arabia. Here we report the first discoveries of Middle Paleolithic and Neolithic archaeological sites in association with the palaeolake. We associate the human occupations with new geochronological data, and suggest the archaeological sites date to the wet periods of Marine Isotope Stage 5 and the Early Holocene. The archaeological sites indicate that humans repeatedly penetrated the ameliorated, but somewhat marginal, environments of the Empty Quarter. The sites are probably short term occupations, with the Neolithic sites focused on hunting as indicated by points and weaponry. Middle Paleolithic assemblages at Mundafan support a lacustrine adaptive focus in Arabia. Provenancing of obsidian artefacts indicates that Neolithic groups at Mundafan had a wide wandering range, with transport of artefacts from distant sources.

We associate the Levallerois component in Mundafan with the wet pluvials of MIS 5, most probably during the wetter events of MIS 5e (ca. 125 ka), MIS 5c (ca. 100 ka) and MIS 5a (50 ka), when conditions were more favourable for hominid dispersals. We attribute the Neolithic phase at Mundafan to ca. 8-6 ka BP, i.e. in the 7th-6th millennium cal. BC, or during the Holocene wet phase, usually dating from 10.5 to 6 ka BP. The Mundafan Neolithic appears to represent a different cultural facies compared to the Neolithic site complexes known in Yemen, Oman and the UAE. New environmental studies, remote sensing research and archaeological reconnaissance survey at Mundafan is beginning to shed light on the relationship between climate change and human presence. New interdisciplinary investigations at Mundafan are planned for the near future, with the aim of identifying closer connections between environments and stratified archaeological sites in datable contexts.

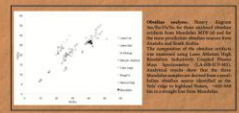


Middle Paleolithic and Neolithic occupations on the Mundafan lakeshore, Empty Quarter, Saudi Arabia

Implications for climate change and human dispersals

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PALAEODESERTS website: <http://www.arch.ox.ac.uk/PALD.html>

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