



25,000 years of moisture variability at Lake Nakuru, Central Kenya Rift

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Lake Nakuru in Kenya, located south of the equator on the East African Plateau, is one of the many modern, shallow saline lakes in the East African Rift System (EARS). Despite today's lake composition throughout the EARS, many of these lakes were instead deep, freshwater lakes 15,000 to 5,000 years ago during the African Humid Period (AHP), due to a change in earth's precession causing increased moisture throughout the region. This sensitive reaction to even moderate moisture changes categorizes these lakes as "amplifier lake" systems, but beyond the existence of such lakes during the AHP, little is known about them. This is especially evident in the lack of understanding regarding their transitional speed in and out of wet phases as well as their internal stability/instability during the AHP. Here we present a high-resolution multiproxy record for the last 25,000 years including diatom identification and geochemical and physical parameters. Samples were retrieved from the upper 8 m of two duplicate, 17 m drill cores taken by the Lake Naivasha Coring Project (LNCP) in 2004. The chronology of the cores is based on 11 AMS ^{14}C ages measured on charcoal and two $^{40}\text{Ar}/^{39}\text{Ar}$ ages from separate tephra layers. Beyond providing a new high-resolution record of paleolimnological changes at Lake Nakuru over the past 25,000 years, this study will contribute to knowledge regarding the impact of moisture changes both during and along the transitions of dry-wet-dry cycles on the amplifier lake systems of the EARS. Furthermore, the new record will resolve a regional data gap of the synchronicity of lake level changes and its associated impact on past humans and their migrations.