164

##### Muiruri, V.M., Owen, R.B., Lowenstein, T.K., Renaut, R., Rabideaux, N.M., Luo, S., Deino, A.L., Sier, M., Dupont Nivet, G., McNulty, E.P., Leet, K., Cohen, A.S., Campisano, C.J., Deocampo, D., Huang, C.Y., Billingsley, A.L., and Mbuthia, A., 2018 [PP22B-03 Quaternary Diatom and Palynomorph Stratigraphies and Palaeoenvironments of the Koora Graben and Lake Magadi Basin, Kenya Rift Valley](https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/407334). AGU Fall Meeting, Washington, D.C.

Two cores from the southern Kenya Rift (Koora and Magadi basins) were recovered through the Hominin Sites and Paleolakes Drilling Project and the Olorgesailie Drilling Project. Each contains a detailed environmental history of up to ~1 Ma that correlates with much of the 1.2 Ma outcrop sedimentary record of the neighboring Olorgesailie Basin. The Magadi core, MAG14-2A, reached trachyte at 194 m and includes zeolitic, laminated and massive clay and silt, calcareous mud, limestone, chert and trona. The Koora core (OLO12-1A) extended to depths of 166 m and contains laminated and massive diatomites, fine to coarse sands, lime and siliciclastic mud, with pumice-rich gravels. The two cores are particularly important because they fill erosional gaps in the environmental history of the Olorgesailie Basin, which includes important evidence for changing hominin cultures and evolution.

Diatoms are present in much of the Koora and Magadi basin sediments. These are dominated by a variety of planktonic *Aulacoseira, Cyclotella*and *Thalassiosira*taxa in both basins. These and other taxa provide a detailed record of lakes that fluctuated in depth, extent and chemistry, and reveal the presence of wetlands, freshwater and saline lakes. Diatom transfer functions indicate that the water bodies fluctuated widely in conductivity between ~200 to >20,000 μS cm−1, with pH changing between about 7.5 and 11.5. The palaeolakes also periodically exceeded diatom tolerance limits and intermittently dried out. Pollen are generally lacking in the Koora basin sediments, but deposits in the Magadi core contain common pollen that document a wide range of habitats, including forests, woodlands and grasslands that could have supported the presence of hominins and their activities in the region. Fungal spore data support pollen inferences and indicate periods when large mammals might have been common.