

**Understanding the relationship between climate, rifting, and mammalian evolution during the Miocene (~20-5 million years ago) in the Turkana Basin, Kenya.**

**Gregory Henkes**

How global climate and Earth's tectonic evolution influence the course of biological evolution is a fundamental question in Earth sciences. This requires the integration of many, disparate datasets and the collaboration of scientists from several different disciplines. The Miocene is a particularly exciting geologic epoch in this regard, as a cooling global climate – nearly monotonic until today - is overlain upon the regional topographic consequences of rifting in East Africa. Fossils from sediments within the East African Rift (EAR) are the basis for our understand of how mammals, like the Afrotheres (think, elephants and aardvarks) and other inhabitants of the famous African savannahs, evolved in dynamic terrestrial ecosystems. Those evolving mammals also includes us, humans, and our extinct hominin ancestors! Our origin story also extends back to the Miocene. In this talk I will review the goals, progress, and ambitions of the Turkana Miocene Project (TMP), a large collaborative group conducting geological research in part of the EAR in northern Kenya.

Gregory (Greg) Henkes is an Associate Professor in the Department of Geosciences at Stony Brook University, and uses stable isotope geochemistry to study climate and environment over a wide range of spatial and temporal scales. He is a co-leader of the TMP and maintains formal affiliations on campus with the Turkana Basin Institute and the School of Marine and Atmospheric Sciences (SoMAS). He and his students frequently travel to collect geologic samples from outcropping rock in places like Kenya, but can more often be found in the stable isotope laboratory that he runs along with colleagues in the Department of Ecology & Evolution and SoMAS.