



Physisch-geographisches Forschungskolloquium Leipzig SoSe 2023

Mittwoch 24.05.2023, 17.15-18.45
Institut für Geographie, Johannisallee 19a, R. 0.06 (Werkstatt)

The first Holocene-long chironomid record from North Africa

Alex Bolland
(*Universität Leipzig*)

Globally, Western Mediterranean North Africa (WMNA) is one of the world's most sensitive regions to anthropogenic climate change. It is characterized by projections of increased heat stress and large decreases in precipitation, making the region susceptible to droughts with strong socio-economic impacts expected to take place in Morocco. To date, studies of Holocene hydro-climatic change in WMNA have focused on changes in the precipitation to evaporation (P:E) ratio, but there is no clear indication of how summer temperature developed during the Holocene and modulated the P:E ratio and plant available moisture. Therefore, it is necessary to develop new proxy records of palaeo temperature change from Morocco. Chironomidae (Diptera), a family of two-winged flies that live during their larval phases in lakes, have previously been used to reconstruct past summer temperatures in a variety of regions including Switzerland, Norway and Svalbard, Finland, Iceland, Canada, northern Russia, Tasmania and New Zealand. Here, we present the first Holocene-long record of chironomid assemblage change from North Africa, one of only three Holocene-long records from the entire African continent. We use this record, as well as the remains of additional aquatic invertebrates including *Ceriodaphnia*, *Ostracoda*, *Pulmatella* and *Chaoboridae*, to reconstruct environmental change in Sidi Ali, a Middle Atlas mountain lake.

