Geophysical Research Abstracts
Vol. 16, EGU2014-2134, 2014
EGU General Assembly 2014


# A new node on the SE Asian paleoclimate map: the alkaline crater lakes of central Myanmar

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SE Asia is climatically a key region where the Asian monsoon system connects with the Indo-Pacific warm pool and from where much (latent) heat gets transported to higher latitudes. We recently obtained sediment cores from four crater lakes located in Central Myanmar, with the aim to further colour the still largely white space on the SE Asian paleoclimate map.

The chain of volcanic craters extending northeast to southwest in the vicinity of the lower Chindwin River in central Myanmar have been known for a long time. These craters are aligned west of the Sagaing Fault, which is a continental transform fault between the Indian and Sunda continental plates. Four of the craters still contain lakes, while several of the smaller craters are drained and used for agriculture.

The region has a tropical Savannah climate, with warm temperatures throughout the year. Precipitation is almost absent during the dry season but increases to an average monthly precipitation of 100-134 mm per month during the monsoon season (May through October).

Three of the four lakes, named Twin Ywa (30 m depth), Twin Taung (60 m), and Twin Pyauk (8m), are highly alkaline (pH 10-11), support extensive cyanobacterial blooms and are anoxic below a few meters water depth. Their sediments are composed of highly organic and laminated algae gyttjas. The shallower (2m), oxic and more neutral (pH 7.5) Lake Leshe contains organic-lean clays but with clear variations in colour and bulk density that likely mark changes in humidity though time.

The lake levels of the relatively small crater lakes are solely regulated by precipitation and evaporation, and their limnology and water isotope compositions are therefore sensitive to changes in monsoon intensity. We will present limnological data including water isotopic compositions, and initial bulk sedimentary data as well as preliminary age determinations. These will form the basis for more extensive multi-proxy analyses that should result in an improved insight in SE Asian paleoclimate variability, particular from a paleo-hydrological perspective.