

# **Geomorphological and Sedimentological Evidence for Holocene Lake Level Changes of Lake Ashengi, Northern Ethiopia**

- Poster -

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Lake Ashengi is located in the highlands of Northern Ethiopia, with the current lake level at an altitude of approx. 2450 masl. Geomorphological and sedimentological features, such as fossil shorelines, beach ridges, lake terraces, stromatolites, and lacustrine sediments testify Holocene lake levels up to 25 m above the present lake level. Whereas nowadays Lake Ashengi has a size of approx. 14 km<sup>2</sup>, fossil lake shorelines indicate that the lake was probably twice as large during the Holocene. The occurrence of lacustrine sediments in a depression south of the lake documents the existence of another lake in this region during the Holocene.

The Holocene lake sediments of Lake Ashengi are predominantly composed of calcareous mud and gyttja, but also of diatomites, stromatolites and clays. Laterally, the ancient lake sediments are intercalated with sheet flood, delta and colluvial deposits. Sedimentological and palaeontological analyses of the ancient lake sediments allow a differentiation of the depositional environments and the climate of the depositional area during the Holocene. Unconformities within the lake sediments point to abrupt lake level fluctuations and might be related to severe climate changes (e.g. precipitation) in the catchment area.

Our geomorphological and sedimentological field data indicates severe changes of the ecology and the hydrochemistry of Lake Ashengi during the Holocene. Forthcoming sedimentological, geochemical, stratigraphical and palaeontological investigations of the lake sediments will help to reconstruct the environment of the highlands of Northern Ethiopia during the Holocene.