

Chronology of Vegetation and Fire Changes in the Lake Victoria area, Eastern Africa

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Lake Victoria is the largest tropical lake on the planet by surface. Located in East Africa at an altitude of 1135 m asl (meters above the sea level), it lies across the limits between two major climatic zones with a strong moisture gradient and associated biomes, the rain forest and the savannah. This lake has demonstrated to be highly sensitive to changes in climate, for instance, it has been hypothesized that it dried up completely twice over the last 20,000 years

In this work, we will focus on the past ca. 14,000 years. A core of 720 cm was drilled in October 2018 for which a ¹⁴C chronology is established, and land cover and regional fire intensity during this time span is assessed.

Small samples of macroscopic charcoal were dated with ¹⁴C AMS (Accelerator Mass Spectrometry), by making use of the gas ion source on the MICADAS system of LARA at the University of Bern.

Vegetation and land use dynamics is reconstructed with pollen, and regional fire intensity is assessed performing macroscopic charcoal analyses as a first approach. On the basis of recent continental-scale calibration efforts and given the size of the lake, it is assumed that these fires must have regional sources (ca. 100 km radius).

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