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## Lake Chala 2k: the last two millennia of environmental change in equatorial East Africa

Inka Meyer<sup>1</sup>, Irina Papadimitriou<sup>1</sup>, Dirk Verschuren<sup>2</sup>, and Marc De Batist<sup>1</sup>

<sup>1</sup>Ghent University, RCMG-Renard Centre of Marine Geology, Department of Geology, Gent, Belgium (inka.meyer@ugent.be)

<sup>2</sup>Ghent University, Limnology, Department of Biology, Gent, Belgium

In order to disentangle natural climate variability from anthropogenically caused variations, environmental reconstructions of the past 2000 years have gained renewed scientific interest during the last ~20 years. Whereas climatic and environmental changes during this period, such as the Medieval Climate Anomaly (MCA) and the Little Ice Age (LIA) are fairly well expressed in western Europe and the North Atlantic area, knowledge about equivalent changes in African climate and environment (e.g. changes in temperature and precipitation, monsoonal activity and resulting vegetation feedbacks) can be much improved. Here we present new results from Lake Chala, a crater lake in equatorial East Africa, based on sedimentary grain-size distributions. Notwithstanding the relatively minor clastic mineral component, we are able to discriminate between different aeolian and fluvial sources of terrigenous material and to reconstruct temporal trends in their contribution to the sediment. This can be linked to both local environmental dynamics and changes in the large-scale monsoonal systems over the East African landmass. Our findings point to arid conditions during the MCA and humid conditions during the LIA, in support of regional hydroclimate history as reconstructed from other moisture-balance proxies. The results of this study form an important piece of the puzzle to better understand past changes in African environments, which is a key aspect in the debate about future climate change in one of the most climate-sensitive regions on the planet.