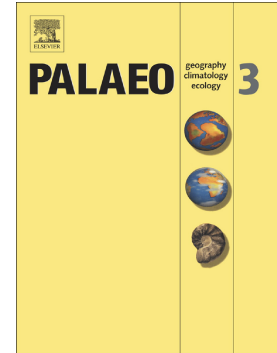


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## Late Quaternary changes in climate and land cover in the Northern Horn of Africa and adjacent areas

Sil Lanckriet <sup>a\*</sup>, Haripriya Rangan <sup>b</sup>, Jan Nyssen <sup>a</sup>, Amaury Frankl <sup>a</sup>

<sup>a</sup> Department of Geography, Ghent University, Krijgslaan 281 (S8), B-9000 Ghent, Belgium.

<sup>b</sup> School of Geography, The University of Melbourne, VIC 3010, Australia.

\* Corresponding author: sil.lanckriet@ugent.be

### ABSTRACT

Most studies of landscape dynamics in the Ethiopian Highlands offer linear relations of population pressure and periodic droughts as causes of environmental degradation. Such views rely on limited historical information of one or two centuries, which is inadequate for understanding the longer term effects of climatic shifts on landscape dynamics and environmental change in the Highlands. In this study, we conducted a “meta-analysis” of long-term climate and biogeographic change and landscape dynamics during the Holocene using multi-proxy evidence from lacustrine (n = 10), marine (n = 5), geomorphic (n = 13) and vegetation (n = 7) records from the highlands and the wider Horn of Africa and western Indian Ocean region. Based on the datasets, we discern Late Pleistocene dry phases in the region during the Last Glacial Maximum, the Heinrich 1 event and the Younger Dryas. Additionally, we recognize at least six dry phases during the Holocene (after 6500 BCE, 4900 BCE, 3700 BCE, 1000 BCE, 450 CE and 1750 CE). The hydroclimatic shifts seem associated with changing equatorial Atlantic and western Indian

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