

# **Testing the validity of continental paleo-climatic reconstructions from marine sediments by isotopic analyses of plant waxes in African soils and lakes**

Enno Schefuß

MARUM - Center for Marine Environmental Sciences, University of Bremen, Germany

To further our understanding of relationships between changes in atmospheric and oceanic circulation and continental climatology potentially affecting human societies during present and future climate change, investigations of marine sedimentary archives can be used to unravel changes in past continental climate conditions in direct comparison with ocean circulation and sea surface temperature changes. For this purpose, molecular-isotopic analyses of plant lipids extracted from continental-margin sediments supply a powerful tool to assess changes in continental vegetation types and hydrologic conditions. Due to the novelty of the applied parameters, especially those based on D/H compositions of lipids, however, questions persist on their significance for large-scale continental hydrologic reconstructions. In this presentation, compound-specific isotope data of plant lipids in African soils and lake surface sediments covering large hydrologic gradients will be discussed to characterize source signals on an ecosystem scale and make inferences on their interpretation for (paleo-) hydrologic reconstructions. If time allows, examples from different depositional settings around Africa (dust- or river-dominated, lake sediments) will be presented and implications discussed.