

# **MONSOON RELATED VARIATIONS IN RIVERINE SUPPLY AND MARINE PRODUCTIVITY ON THE NIGER DEEP SEA FAN: IMPLICATIONS FOR LATE QUATERNARY CENTRAL AFRICAN CLIMATE**

1Wagner, T.; 1Kolonis, S.; 1de Vries, U.; 1Zabel, M.; 1Adegbe, A.; 1Schneider, R.  
R. 1 University of Bremen, Germany

High resolution records from a gravity core recovered on the Niger deep sea fan (2184 m waterdepth) are presented and discussed with regard to their paleoclimatic and paleoceanographic implications for the tropical eastern equatorial region. A detailed stratigraphy is established using stable oxygen and carbon isotopic records determined on foraminiferal shells. Based on comprehensive organic (elemental, pyrolytic, isotopic, microscopic, terrigenous biomarker) and inorganic (ICP-AES) geochemical investigations short-term fluctuations in riverine supply of lithogenic and organic matter are recognized which are attributed to orbital-driven changes in aridity/humidity within the Niger catchment area and the lateral displacement of depositional areas from the shelf (interglacials) to the deep sea (glacials) in response to sea level fluctuations. Terrigenous organic biomarker records (lignin phenols) indicate a mainly non-woody angiosperm origin of the higher plant fraction which may comprise repetitive admixture from C4 plant matter from sahelian grasslands. Riverine supply of strongly oxidized plant tissues (fusinite) probably resembles this specific type of African vegetation thus supporting dryer climatic condition in the continental hinterland.

Barium records reveal pronounced fluctuations in late Quaternary marine productivity off the Niger in response to wind-driven continental upwelling and less important to riverine-nutrient supply. Due to an enforced atmospheric circulation in tropical Africa late Quaternary continental upwelling off the Niger was enhanced during glacial climatic conditions.