

## RESPONSE OF AMAZON SEDIMENT RUNOFF TO GLACIAL CHANGES IN ATLANTIC MERIDIONAL OVERTURNING CIRCULATION

Stefan Mulitza<sup>1</sup>, David Heslop<sup>2</sup>, Matthias Prange<sup>1</sup>, Jennifer Kuhr<sup>1</sup>, Aline Govin<sup>1</sup>, Cristiano Chiessi<sup>3</sup>, Matthias Zabel<sup>1</sup>

<sup>1</sup>- MARUM-Center for Marine Environmental Sciences, University of Bremen, Germany

<sup>2</sup>- Research School of Earth Sciences, The Australian National University, Canberra, Australia

<sup>3</sup>- Escola de Artes, Ciências e Humanidades, Universidade de São Paulo, Brazil

The influence of the Atlantic Meridional Overturning Circulation (AMOC) on Amazon rainfall is poorly constrained because of the shortness of the observational record. Using the geochemical composition of bulk sediments we reconstruct the history of fluvial sedimentation on the continental slope off North-eastern South America during the past ~80,000 years. The data is compared to sites located off the West African Sahel in the eastern Atlantic, at the northern rim of the modern tropical rainbelt. Our preliminary data indicate that abrupt multi-millennial long reductions in river suspension input from the West African Sahel were coeval to increased suspension input from the Amazon Basin. This east-west contrast is strongest during the Heinrich Stadials and teleconnected to increased ice rafting and cold sea surface temperatures in the North Atlantic. We study the physics behind this pattern by means of a freshwater-hosing experiment with a fully coupled climate model.