

PENULTIMATE GLACIAL-TO-INTERGLACIAL TRANSITION IN NORTHEASTERN SOUTH AMERICA AND THE ADJACENT OCEAN

CAMPOS, MARILIA C. (1); SAWAKUCHI, ANDRE O. (1); CHIESSI, CRISTIANO M. (2)

1. Instituto de Geociências da Universidade de São Paulo. Departamento de Geologia Sedimentar e Ambiental
marilia.carvalho.campos@usp.br; andreos@usp.br
2. Escola de Artes, Ciências e Humanidades da Universidade de São Paulo
chiessi@usp.br

RESUMO

The Atlantic meridional overturning circulation (AMOC) plays a fundamental role in the oceanography and climate of the Atlantic realm. A potential shutdown of the AMOC would cause major changes in surface heat distribution in the Atlantic Ocean, strongly affecting tropical South American precipitation. Thus, a comprehensive understanding of the response of the Atlantic Ocean to changes in the AMOC intensity on different time scales is a key issue. Glacial-to-interglacial transitions are unique targets for past climate reconstructions not only because these periods were characterized by major changes in the strength of the AMOC, but also because of the marked changes in atmospheric carbon dioxide and sea level, with the associated impacts on continental hydroclimate. Here we propose to assess the impacts of the penultimate glacial-to-interglacial transition on northeastern (NE) South America and the adjacent western equatorial Atlantic, in unprecedented temporal resolution. Through this research proposal, we expect to: (i) characterize the changes in NE South American hydroclimate, as well as determine the changes in the western equatorial Atlantic upper water column structure and bottom water ventilation during the penultimate glacial-to-interglacial transition; and (ii) subsidize the debate of possible impacts that future changes in AMOC may have over the NE South America and the adjacent western equatorial Atlantic.

Palavras-chave: Mudanças Climáticas; Célula de Revolvimento Meridional do Atlântico; Nordeste da América do Sul; Precipitação pretérita; Luminescência