

RESPONSE OF AMAZON SEDIMENTATION TO DEFORESTATION, LAND USE AND CLIMATE VARIABILITY (AMADEUS)

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RESUMO: With an area of about 5.4 million km² the Amazon represents about half of the world's rainforest and is home to about a quarter of Earth's terrestrial species. The Amazon rainforest plays a vital role for global climate through its influence on the water cycle and atmospheric circulation and its carbon storage. At present, the Amazon rainforest is threatened by deforestation and climate change. So far, about 18% of the original extent has been cleared. In the framework of a German-Brazilian scientific cooperation we performed on February-March 2012 a research cruise between Recife (Brazil) and Bridgetown (Barbados) with the RV M.S. Merian. The main aim of the cruise was to explore the Holocene and Pleistocene climate history of the Amazon River basin in relation to changes in ocean circulation on millennial to decadal time scales as well as the Holocene development of the Amazon submarine delta. During the cruise we sampled sediments and the water column on the continental slope and shelf off northeastern and northern Brazil and French Guiana with gravity corer, multi corer, Rosette/CTD, in-situ and shipboard pump systems. Seismoacoustic data was also gathered with a multichannel seismic system and the ship-mounted echosounder systems. The samples/data retrieved will be used to: (1) document the effect of deforestation on the composition and deposition of Amazon sediments; (2) reconstruct the Holocene history of precipitation over the Amazon basin on decadal time scales; (3) understand the Holocene architecture and development of the Amazon submarine delta in relation to the climate history of Amazonia; and (4) to investigate the relationship between variations in ocean circulation and tropical precipitation on millennial time scales. In our presentation, we will show the outstanding preliminary results of the cruise and correlate them to other available studies.

PALAVRAS CHAVE: PALEOCLIMA, AMAZÔNIA, QUATERNÁRIO TARDIO