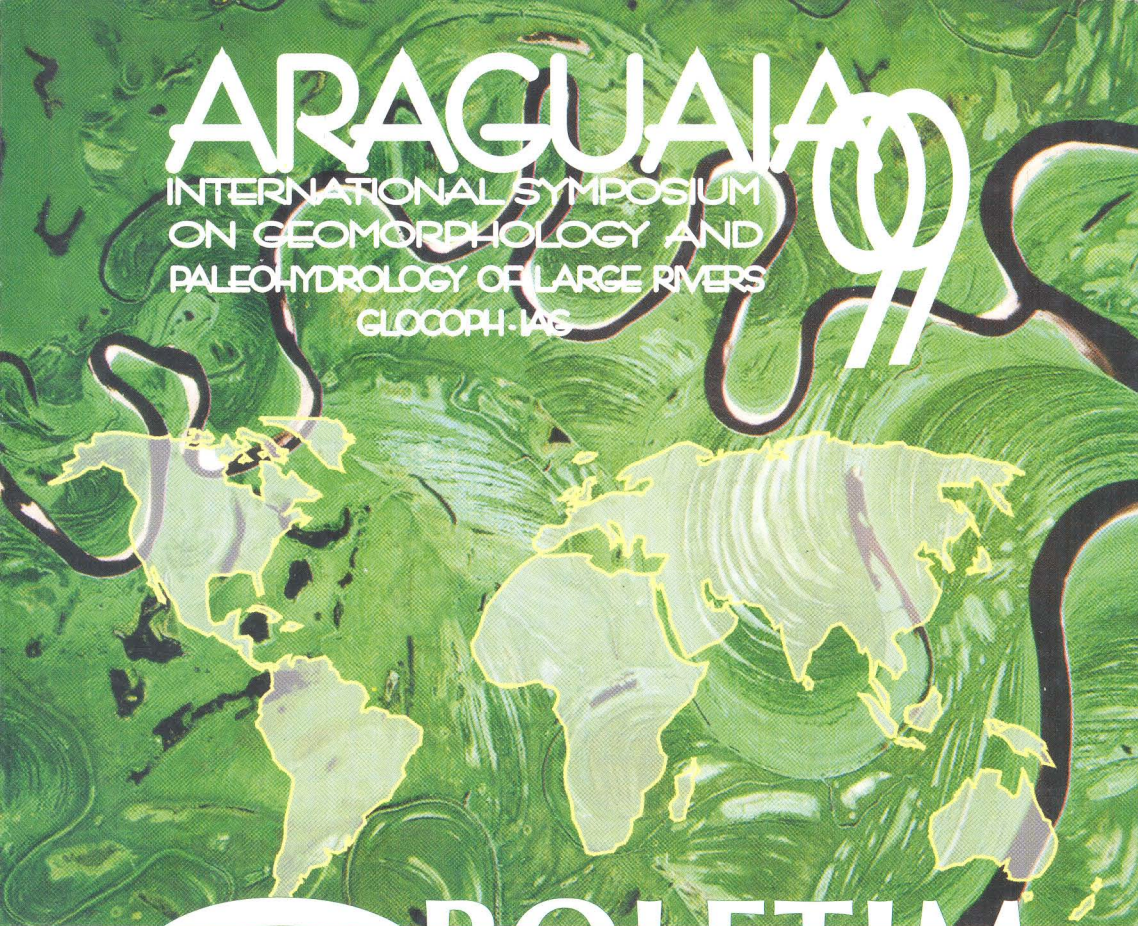


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TECTONIC FAULT CONTROL OF WETLAND DISTRIBUTION IN THE CENTRAL AMAZON REVEALED BY JERS-1 RADAR IMAGERY

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A mosaic of JERS-1 L-band synthetic aperture radar (SAR) images was used to investigate the influence of tectonic faults on wetland distributions in ~200,000 km² of central Amazon lowland (0 - 4° Lat. S., 60 - 64° Long. W.). The geographic distribution of flooded wetland was clearly evident on the mosaic due to the unique characteristics of L-band radar. Two distinct linear boundaries were encountered limiting the northern distribution of wetlands, one north of the Negro river main channel and west of the Branco river, oriented WNW-ESE, and one south of the Negro main channel and east of the Branco, oriented NW-SE. The orientations and positions of these boundaries were consistent with the prevailing tectonic fracture pattern in the region. Geophysical, pedological and geomorphological data supported the hypothesis that these boundaries are tectonically controlled. The ecological, economic

and biogeochemical implications of the observed wetland distribution were considered. The distributions of wetland-dependent biota were expected to be severely limited north of the Negro main channel. Fish production, wetland timber yields and methane emissions were also predicted to be exceptionally low in this region.