

## **Neotectonics and climatic changes in Holocene evolution of Pantanal region**

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The Pantanal basin and its highland source areas are located over a long and curved forebulge of the Andean foreland basins, following the Andes orocline at Bolivia. The Arequipa continental block works like an indentator against Brazilian continental plate. The latest important depositional system of the Pantanal basin was composed by the giant Taquari alluvial fan, made itself of (from?) five successive lobes. The present day climate is humid to semi-humid. In eastern ranges source area there are many paleosurfaces partially preserved, sometimes covered by surface deposits. Two striking features are very interesting ones: first, the giant alluvial fan system, constituted of fine-medium clean white sands, terraced relatively to the present day meandering plain and Taquari Novo crevasses lobe; second, the Transbrasiliano lineament, a continental lineament, crossing obliquely the basin, changing basin geometry, paleodrainage network including a fifty kilometer migration of the Paraguay river. Fracture measurements and earthquake solution indicate a right lateral displacement along the NE fault zone, coherent with Arequipa indentator. Deposits found in terraces and ramps correlative with alluvial fan white sands contain levels with abundant coal and gray paleosoils dated back to 8000y. By geomorphic correlation, tufas in bajada and playa paleoenvironment have the same age. So this age and a semiarid climate are attributed to deposition of Taquari alluvial fan system. Holocene tectonic and climatic changes aside human occupation, impose rapid changes in the natural dynamic of Pantanal region. (Pantanal-Chaco Project, European Union Research Fund)