

QUATERNARY HISTORY OF THE LARGE BRAZILIAN FLUVIAL SYSTEMS

STEVAUX, J.C.¹

¹University Guarulhos, Guarulhos, SP, Brazil jcstevaux@prof.ung.br

LATREUBESSE, E.M.²

²Universidad Nacional de La Plata, La Plata, Argentina

SANTOS, M.L.³

³Universidade Estadual de Maringá, Maringá, PR, Brazil

ASSINE, M.L.⁴

⁴UNESP/Rio Claro, Rio Claro SP, Brazil

ABSTRACT

Quaternary history of the large Brazilian rivers is resumed. The Pleistocene deposits of the Amazonian rivers are associated with the Pleniglacial when annual rainfall ranged between 1000 to 500 mm. During the Tardiglacial, river discharges were seven times less than the present. In the Holocene Amazonian rivers were affected again by climatic oscillations reaching an extreme in aridity during the Hypsithermal (7.0 to 4.5 ka B.P.). The Paraná River in Brazil has wide floodplains, terraces, islands and sandbars. The alluvial terrace (10m over water level) is composed by gravelly and sandy facies deposited in braided system under arid climate (32-40 ka B.P.) associated with eolian deposits. The present floodplain has 6-5 ka B.P. and was constructed under a climate wetter than the present (Hypsithermal). A short period of semi aridity was identified between 3.5-2.5 ka B.P. The Pantanal (Paraguay River) was formed by tectonic reactivation of the Andean forebulge (around 2.5 M.y.) and has about 550 m of alluvial sediments. The present morphology and dynamics were settled out around 10 ka B.P. under wet climate. The present floodplain and channel dimension of the Araguaia-Tocantins River were established since the Middle Holocene. Nowadays river dynamic is changing by the intensive agricultural occupation of its upper and middle basin. The Uruguay River in Brazil practically runs over basalt rocks of the Serra Geral Formation and the most of the Quaternary history came from its tributary rivers. An arid period was identified in the Touro do Passo Formation (Upper Pleistocene) was followed erosive event up to the Middle Holocene. The main Quaternary records of the São Francisco River are the eolian deposits of its middle course. Eolian activity occurred in the area since 28 to 0.9 ka B.P. During the Holocene area was submitted to several short wet periods.

Keywords: Quaternary of Brazil, Amazonian Rivers, Paraná River, Pantanal, São Francisco River, Uruguay River, Araguaia River, Tocantins River