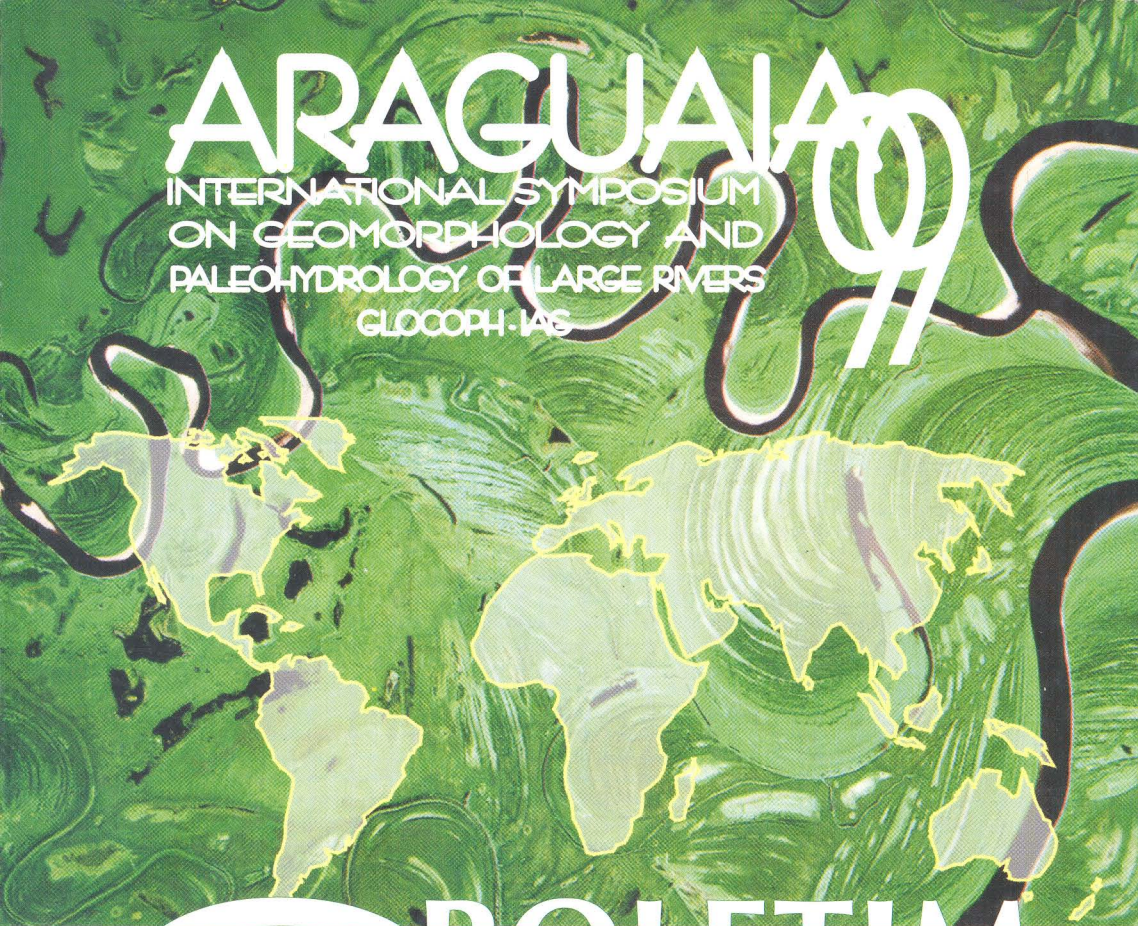


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EVOLUTION OF THE UPPER SÃO FRANCISCO RIVER BASIN DETERMINED BY MORPHOTECTONIC ANALYSES, MINAS GERAIS, BRAZIL

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On the upper course of the São Francisco river, the hydrographic basin of the Candonga river has been studied in detail, which is one of its contributors on the right margin. The Candonga river basin is orientated in the direction SE-NW and widespread on the Limoeiro Mountain range and the São Francisco Depression (PENTEADO & RANZANI, 1973). Hydrographic, geomorphological and geological evidences on this basin reveal the existence, during the Cenozoic, of structural blocks' dislocation and control in the geomorphological evolution by neotectonic, compressive-distensive movements, all of which reflected in the structure of the São Francisco river's upper basin.

The analysis of the drainage pattern showed the presence of fluvial capture in the directions N25E, N50W, N70E and N10W, and abandoned meanders, produced by neotectonic movements which controlled the migrations of the Candonga river. The occurrence of an annular-radial drainage pattern, associated with V-shaped, downcutting and high hydraulic gradient valleys, are signs of intense dissection processes related to the domes uplifting in the upper Candonga basin.

The presence of terrace levels indicate downcutting and demonstrate the change from an aggradational regime to a degradational regime along the Quaternary, due to recent tectonic movements.

The intense dissolution of the Karstic areas of Arcos-Pains, drained by the Candonga river basin, is associated to changes in the base level of

the lower course. This would have benefited vertical dissolution processes and the consequent formation of the limestone massifs present in these areas.

The verification on the area drained by the Candonga river basin of different planation levels (heights 1020m, 780m, 630m) associated to laterite covers with the some mineralogical and structural characteristics, indicated the existence of dislocations of only one levelling surface, by neotectonic movements along the Cenozoic.

The orientation of slope ruptures (knick-points), parallel to the directions of the neotectonic distension axes, indicate the occurrence of depression processes begun by normal failure. Associated to normal faults, the dislocations of clay rocks up to 90m; tilting of structural blocks; control of fluvial courses; and the formation of horsts and grabens, like the Arcos Plateau and the Depression of the Medium Candonga, happened (CAMPOS,1998).

Such evidence permit the conclusion that in the high course of the São Francisco river, compressive-distensive neotectonic movements have conditioned the geomorphological features in the Candonga river basin, and therefore in the São Francisco Depression itself.

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