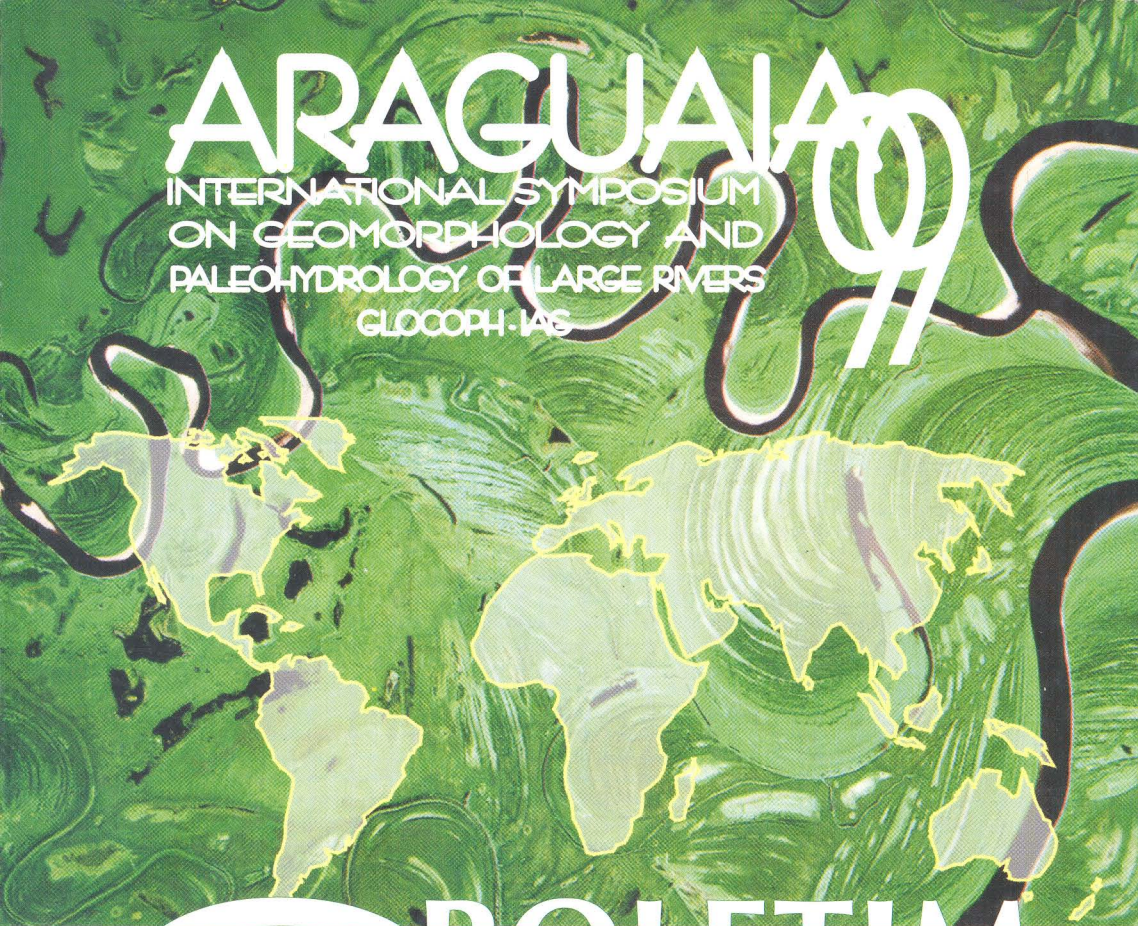


# ARAGUAIA

INTERNATIONAL SYMPOSIUM  
ON GEOMORPHOLOGY AND  
PALEOHYDROLOGY OF LARGE RIVERS  
GLOCOPH-1AS



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## THE COCALINHO AREA

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The Cocalinho region can be used as a representative area for the Bananal plain and, the road MT-326 permits to have a W-E cross-section along its main morphological units.

The Bananal sedimentary basin is formed by a complex of sunken and uplifted blocks on the substrate so that the sedimentary evolution of the basin was controlled by tectonics. The main fractures could be normal faults but compressive faults were also identified in the field (for example in Serra do Calcáreo). However, a horst and graben tectonics was postulated for the basin

In the Cocalinho area we found : a) Regional Planation Surface; b) The Peixes River and Araguaia alluvial plains and terraces; c) The Bananal Plain (figure 1).

### **The regional planation surface (pediment)(stop 1) :**

The regional planation surface extends along the east border of the basin. It was developed on Precambrian rocks (mainly quartzites) of the Brazilian Shield and at the present it is non-active. The pediment surface has a very gentle dip. In some sectors outcrops saprolites and quartzites. It is current the presence of inselbergs on the planation surface level. The "in transit alluvium" on the pediment surface is very thin, no more than 1 meter in thick and it is formed by a conglomerate with gravels of variable sizes. An angular population of quartz and quartzite gravels came from the residual products of the saprolite and the shield's rocks. The thin alluvial "in transit" sediments of the pediment suffered

laterization, which results in a duricrust formation during a subhumid climate. The conglomerate on the pediment was eroded and it is present as a dismantled ferricrete or duricrust. The crust was dissected and for that reason is discontinuous forming isolated fields of blocks on the pediment surface.

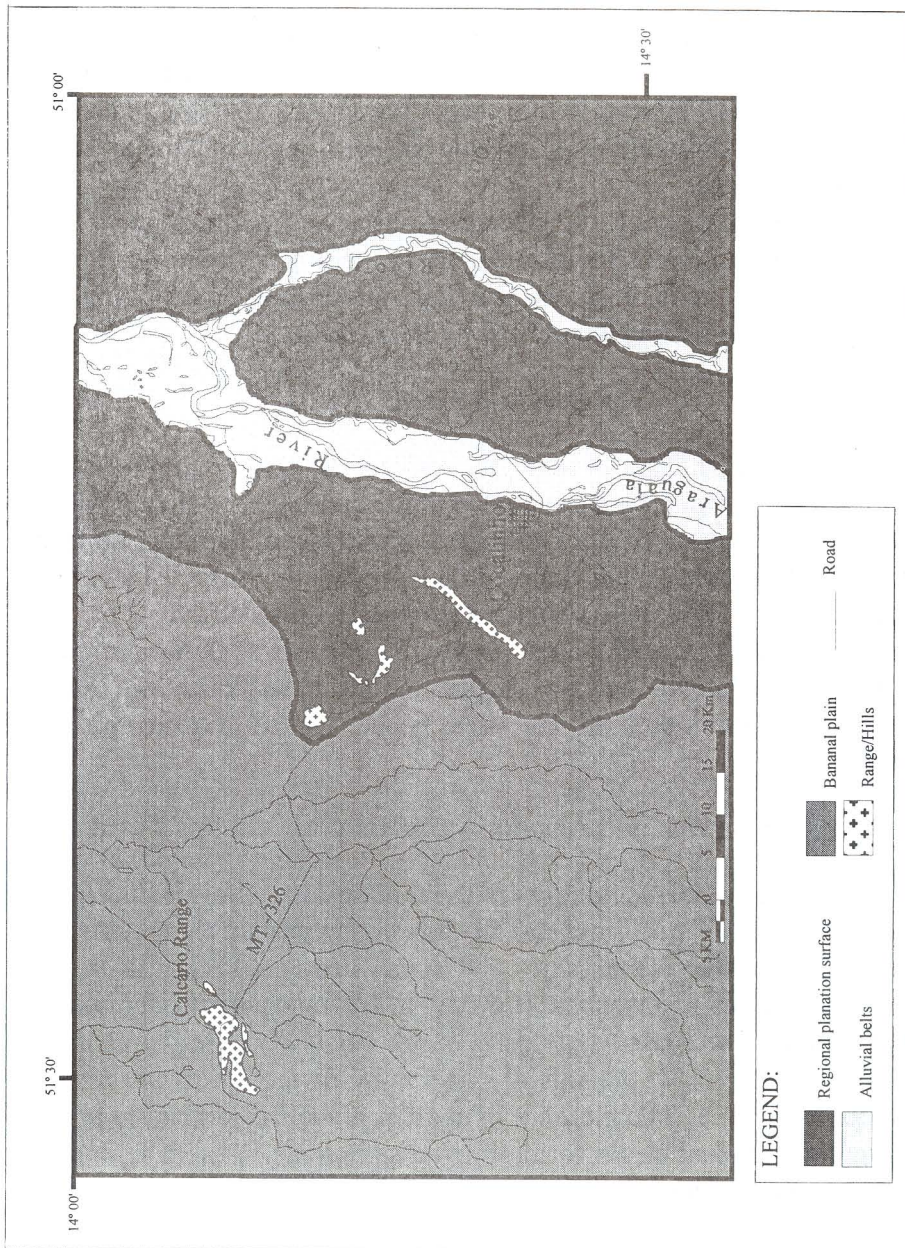
The installation on the planation surface of a drainage network produced dissection. Alluvial and colluvial sediments were deposited in the valleys. In the main rivers, alluvium are formed by conglomeratic, sandy and fine sediments mottled by lateritization..

### **The Bananal Plain (stop 3):**

The Bananal Plain is cover for widespread Quaternary sediments. Part of this sediments were included in the confusedly defined Bananal Formation, which includes Quaternary sediments of different units and ages. The Bananal Plain deposits are principally formed by alluvial sediments and this extensive plain is temporarily flooded during the rainy season by local rainfall waters (figure 2). The age of this sediments is until now unknown but we suggest a Late Pleistocene age for the outcropped sediments in the area to be visited during the field conference.

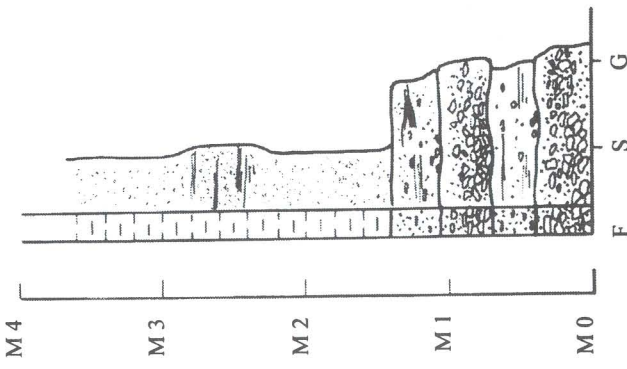
### **The Peixes river and Araguaia alluvial plains (stops 2 and 4):**

The rivers show a complex alluvial plain formed by Holocene and Late Pleistocene(?) sediments. The older sediments are characterised by the presence of conglomerates and sandy deposits highly lateritized, forming a kind of duricrust (figure 2). We interpret this episode of sedimentation as a period of aridity in the basin where high quantity of sediments entered to the fluvial systems by dissection of the regional planation surface . The presence of angular gravels is indicative of short transport and local origin for the fluvial sediments. A more arid period of lower waters level can be interpreted from the lateritization of that sediments.

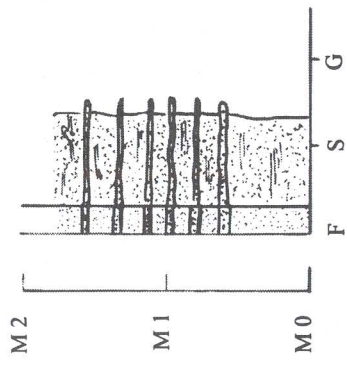


**LEGEND:**

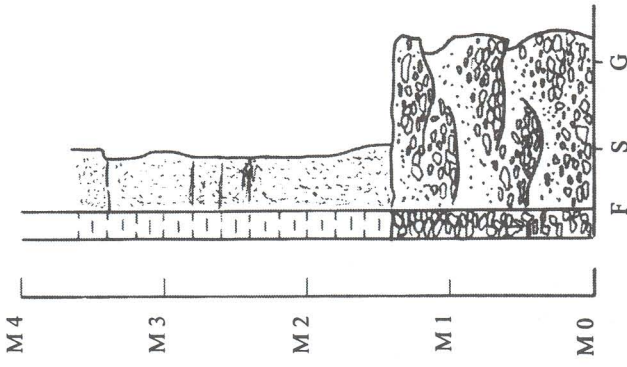
- Regional planation surface
- Banamal plan
- Range/Hills
- Alluvial belts
- Road



Profile 01: Peixe River  
Stop 02



Profile 03: Bananal Plain  
Stop 03



Profile 02: Araguaia River  
Stop 04

Figure 2