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THE BANANAL ISLAND AREA

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The Araguaia river present at this area a low sinuosity channel with tendency to form meanders. Sandy bed load play an important role in the channel morphology The river run from the CENAQUA base to the Javaes River in a S-N direction. At that point the river turn in a NW direction, forming the south border of the Bananal island.(Figure 1)

The closest gauging station to the study area is that of Luis Alves city. At this point the drainage area is 117,580 km^2 and the river mean discharge (1994-1996) is 1,750 m^3/s. The maximum mean daily discharge in the recorded period was 4,403 m^3/s (21/02/95) and the minimum mean daily discharge was 378 m^3/s in 05/09/96. The channel is very mobile and changing year to year. Channels cross section at the Luis Alves station are showed in figure 2. The width /depth (W/D) ratio is 80 (figure 2).

Two well differentiated units can be identified in the alluvial plain: Late Pleistocene sediments? and Holocene sediments. As in the Cocalinho area, the Late Pleistocene? sediments are composed by ferruginous coarse sands (stop 2,figures 1, 3). The Holocene sediments shows lateral accretion facies, floodplain deposits, and sandy channel bar facies.

Stop 1: Middle channel bar. Sand with planar cross bedding dominant.

Stop 2:Coarse to conglomeratic sands, indurated by the presence of a ferralithic crust. Planar cross bedding, planar parallel beds, lateral accretion deposits and fine floodplain massive deposits are present (figure 3).

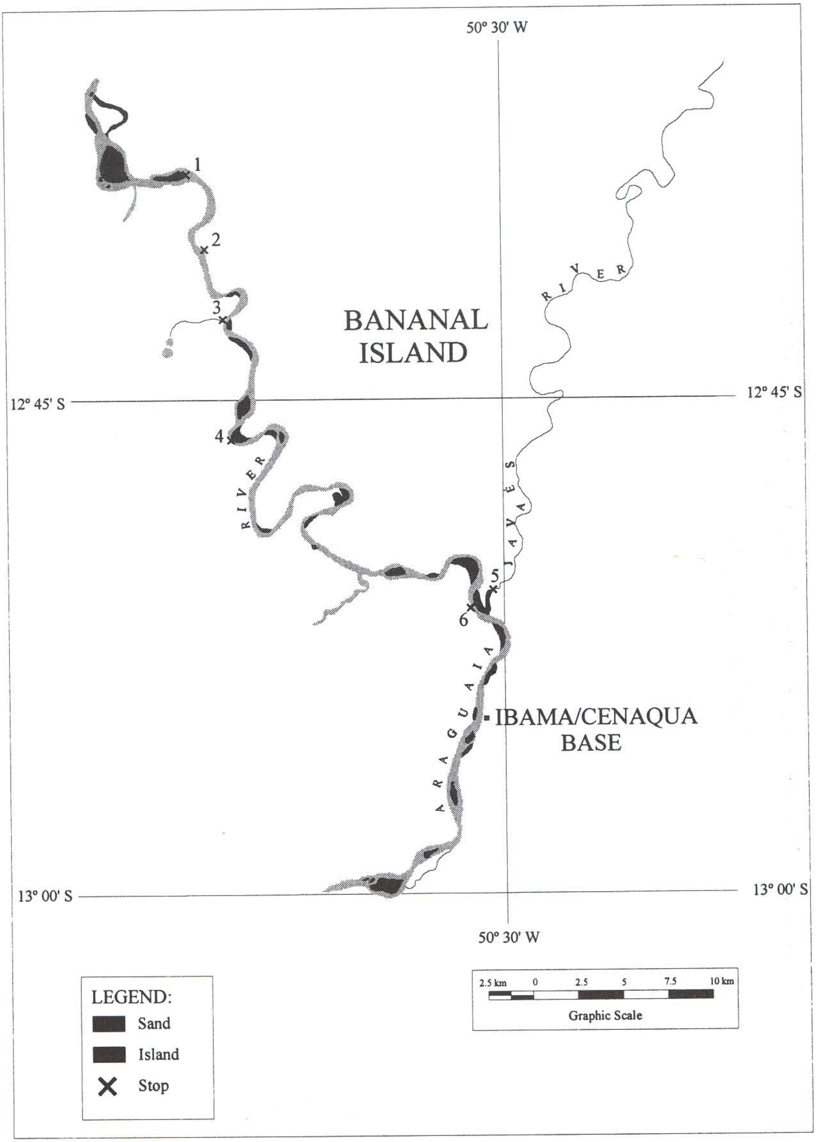
50° 30' W
1
2
3
BANANAL
ISLAND
RIVER
12° 45' S
12° 45' S
4
RIVER
JAVAES
5
6
ARAGUAIA
IBAMA/CENAQUA
BASE
13° 00' S
13° 00' S
50° 30' W
LEGEND:
Sand
Island
Stop
2.5 km 0 2.5 5 7.5 10 km
Graphic Scale

Figure 1

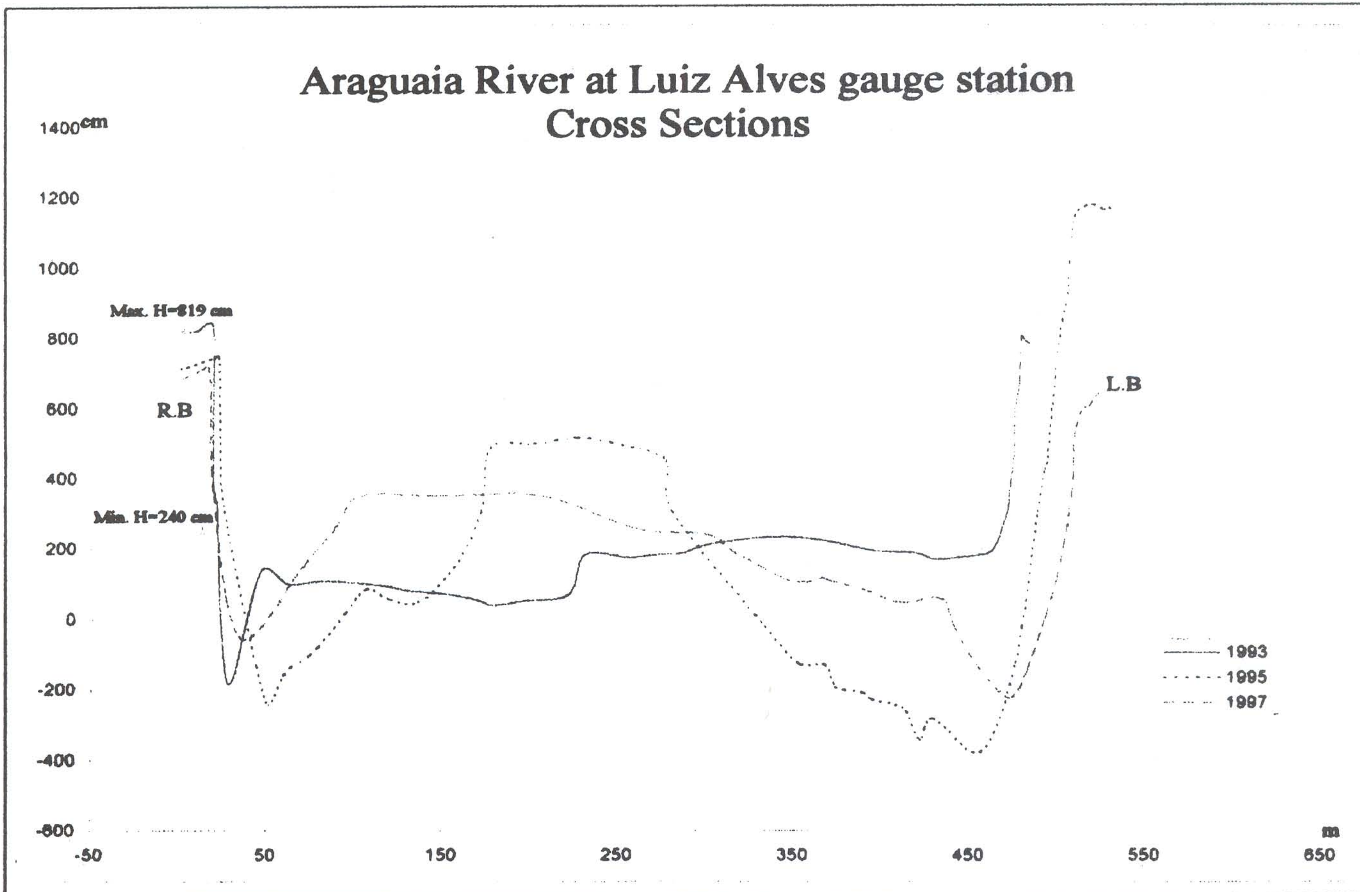

Figure 2 (data source: CPRM/AANEL)

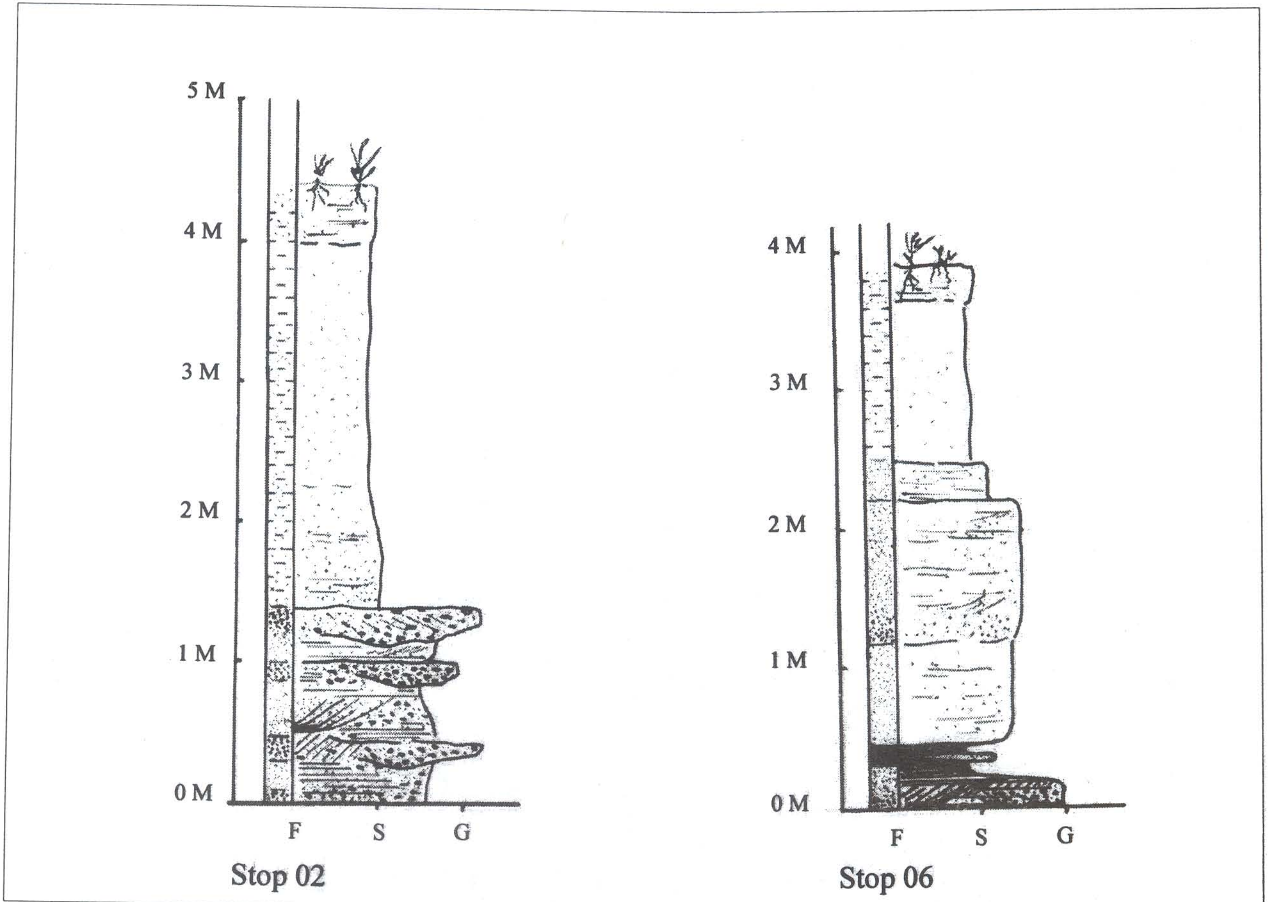

Figure 3

Stop 3: minor floodplain tributary channel, suspense in relation to the lower water level of the river. The Bananal Plain is flooded seasonally by local waters (pluvial waters and saturation of the phreatic level). This stop illustrate the mechanisms of water inflow into the main channel during falling stages and indicate the period of evacuation of water into the river from the Bananal plain (figure 4a).

Stop 4: Point bar deposits. Sandy platform forming a lower point bar. The lower point bar is characterised by sandy bars oriented along the dominant direction of the main flow on the meander curve. On this deposits an upper point bar is formed. These are the typical lateral accretion landforms associated in the surface to a ridges and swales topography. The upper point bar deposits are interpreted to be a mix of lateral accretion and vertical accretion on the sandy platform (figure 4b).

Stop 5: Sand deposition in the Javaes Rivers, east side of the Bananal Island. The Javaes river is interpreted to be a paleochannel of the Araguaia River which run now in a NW direction without a well developed alluvial plain in that reach. At this point are visible the phenomena of paleochannel fill by sandy bed load, entering and blocking the entrance to the Javaes River.

Stop 6: Point bar deposits. O the lower point bar formed by the sandy platform (coarse sand in part conglomeratic sand) remain organic waste (steams and leaves) indicating a period of short stability and non deposition on the sandy platform. On this unit the upper point bar developed with a fining upward sequence, which indicate a complex phase of lateral/vertical accretion (figure 3).

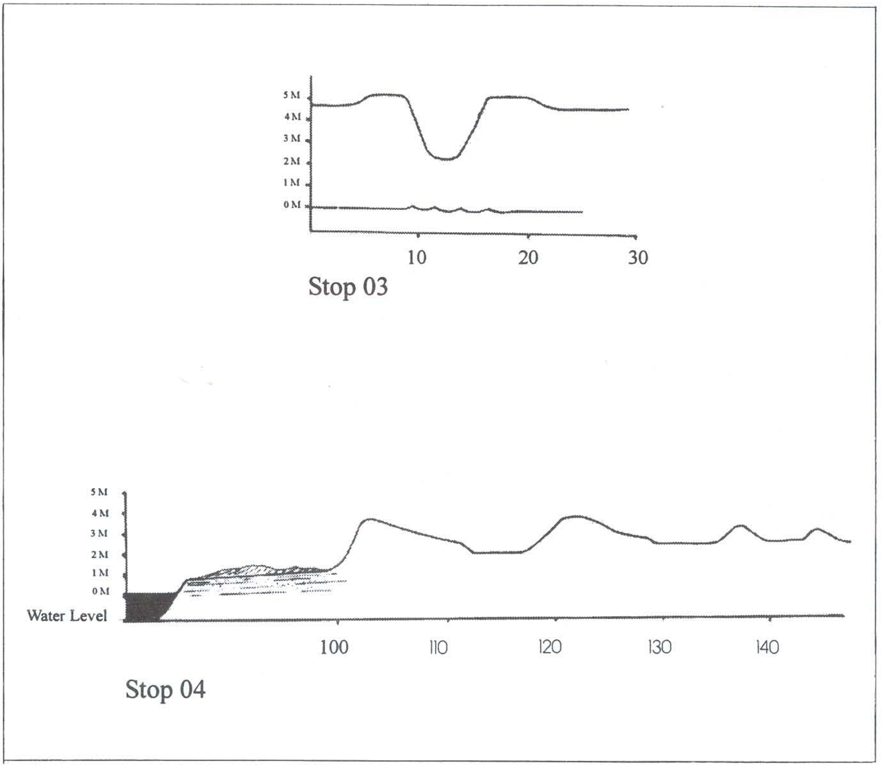

Figure 4. Stop 3 = Water Level of September 1998. Stop 4 = Point bar deposits.