Mahakam River Drainage Basin
the Sediments Source of the Mahakam Delta*

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The Mahakam River is located in East Kalimantan (Borneo), Indonesia, recognized as a good example of a mixed fluvial and tide-dominated delta. The river supplies sediments to Makassar Strait basin and has built a major delta system at its mouth. The delta plain consists of predominantly fine grained sediments, provided by the fluvial system.

The Mahakam river drainage basin drains the Kutai Tertiary basin. The drainage basin is bounded by the Tertiary uplift in the east, Mangkaliat ridge in the north, and the Kuching High in the west. The northeast-southwest Tertiary ridges separate the drainage basin from the sea. Centripetal, trellis and deranged drainage patterns occur in the basin (Figure 1).

Erosion processes are intensive in this area, due to the tropical heavy rain fall (Figure 2). The fluvial system is also influenced by vegetation, evapotransipration rate and tide. The Kutai Lakes Complex occurrence in the drainage basin and the high evapotranspiration potential affects the sediment supply for the Mahakam Delta. Sediments supplied by the basin consist of predominantly quartz sandstone, shale and organic material. Sedimentological processes in the fluvial system are very active. The Kutai Lakes and the high evapotranspiration potential of the area influence the sediment supply for the Mahakam Delta.

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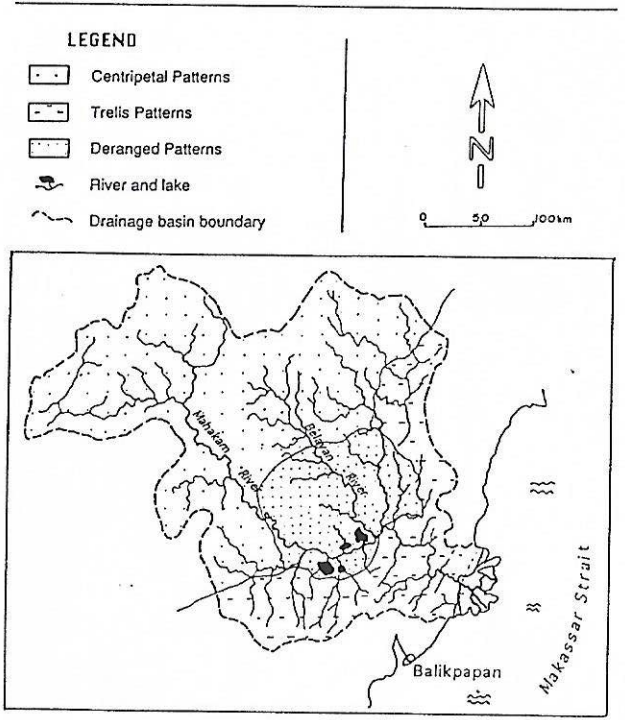


Figure 10
The drainage pattern of the Mahakm River drainage basin.

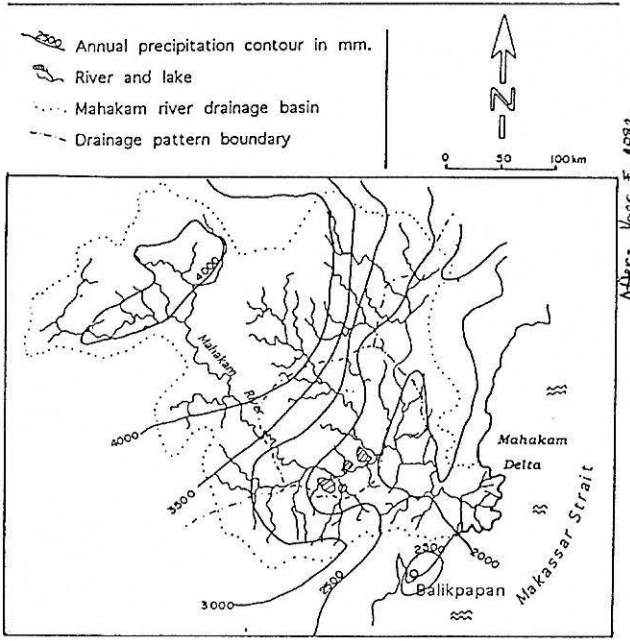


Figure 5.
Precipitation distribution in East Kalimantan.

After: Voss, F, 1982