ARAGUAIA 99

INTERNATIONAL SYMPOSIUM ON GEOMORPHOLOGY AND PALEOHYDROLOGY OF LARGE RIVERS

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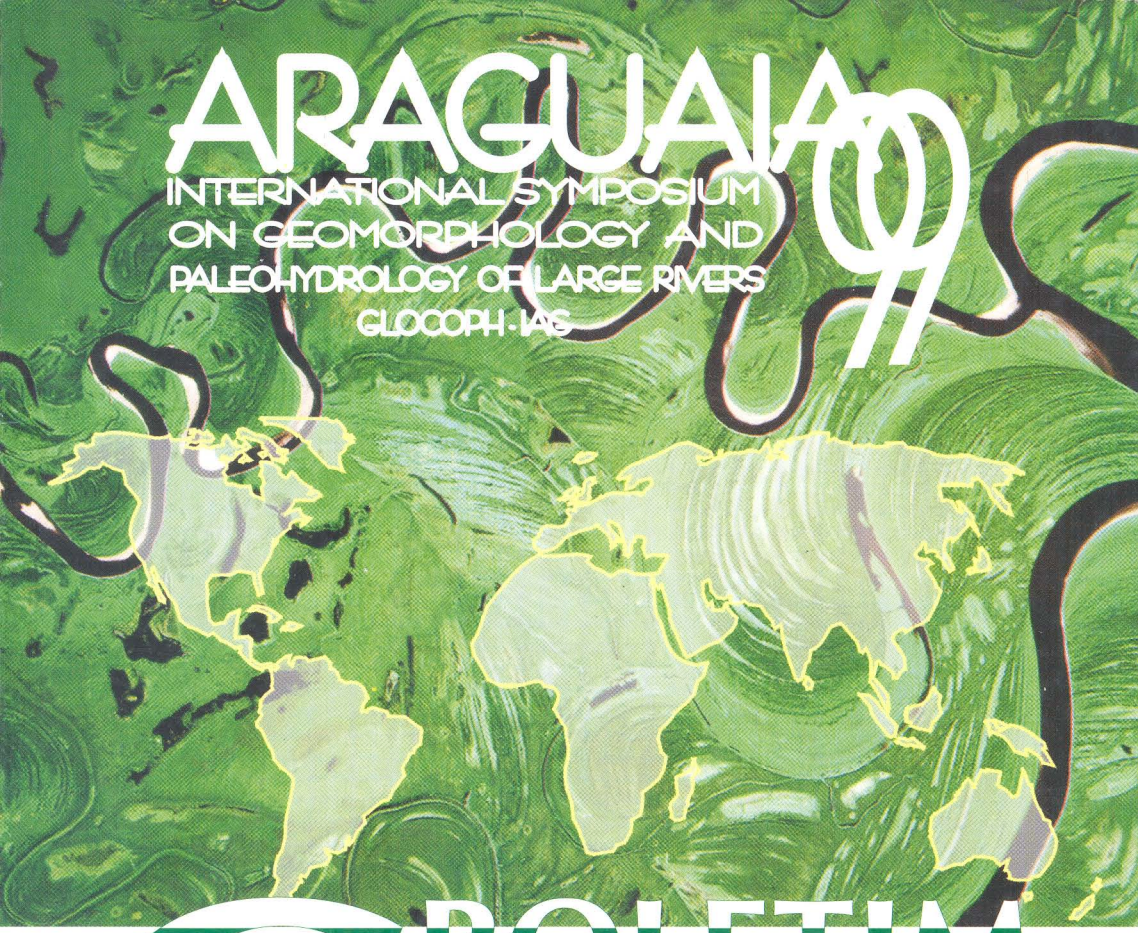

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ESTIMATION OF DESIGN FLOOD FOR SAPTAKOSHI RIVER BRIDGE OF NEPAL USING HISTORICAL FLOOD EVENTS

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Saptakoshi river is biggest river in Nepal. The Saptakoshi river catchment up to India - Nepal border lies at the mountains hill areas and plain area of Eastern and mid-region of Nepal and southern port of Chinese territory and have a drainage area of 61,000 sq.km.

The catchment encompasses both the Himalayan and Mahabharat mountains, which ranges with wide range of elevation from 8.848 m in the Himalayas to 100 m where it flows in the Terai zone (plain zone). The proposed site for the bridge is just 100 m upstream of the Hydrometric gauging station Chatara and the total catchment area up to the bridge site is 54,100 km2. For the statistical analysis, the high flood data were available from 1948 to the present.

The major flood events for Saprakoshi river were that of 1954, 1968 and 1980 with flood discharges of 24,217; 25,853 and 23,600 m3/s respectively.

From the analysis of different statistical distributions, Log Pearson Type III distribution is fitted with observed flood values and recommended as design flood for the bridge.