



## **Sediment Transport and Channel Morphology of the Kosi River, North Bihar Plain (India)**

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The Kosi River of the northern Bihar plain, India and Nepal, is well-known for the frequent lateral shift of its course. In the last two centuries, it migrated more than 150 km westward (Gole and Chitale, 1966; Wells and Dorr, 1987; Sinha.R, 2008). This westward shift produced a megafan of an area about 16,000 Km<sup>2</sup>. Today the river shows a braided networks of streams of various magnitude. The large dimension of the Kosi river, its sandy bed, and its avulsive nature makes it an ideal field site to understand sediment transport in large braided rivers.

We report measurements of discharge, velocity, width and depth across channels of the Kosi river within its embankment. ADCP measurements were performed during the high flow period in late July to early August 2012. First-hand analysis of the ADCP data shows order-of-magnitude variations of channel aspect ratio, discharge and velocity. We use these measurements to evaluate whether individual threads are close to the threshold for the sediment movement, and to evaluate the relationship between channel shape and discharge. This represents a first step towards the establishment of sediment budgets in a large sandy braided river.