



Braided Threads Morphology of the Kosi River, India

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Braided rivers are composed of stream networks of various orders of magnitude in size and discharges. Understanding the morphology of individual threads therefore is a key to understand the dynamics of sediment transport in a braided stream. Previous studies for single thread channel suggests that in absence of sediment transport, channel section adapts to the imposed discharge and the boundary shear stress on the river bed is almost at the threshold to put sediment in motion. This condition selects the river morphology and predicts the width and depth as a function of discharge (Glover and Florey, 1951; Seizilles et al, 2013). Here we attempt to test whether braided threads follow a scaling similar to single threaded streams. In support, we report Acoustic Doppler current profiler (ADCP) measurements of discharge, width and depth for one of the world largest sandy braided river, Kosi in India collected during year 2012 and 2013. The analysis of Kosi threads confirms the similarity between individual braided threads and single channel threads that can be found elsewhere on the fan surface.