



## **Lateral erosion of a bedrock river: Liwu River, Taiwan**

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Lateral erosion of bedrock rivers is an important control on the cross-sectional channel shape, and the coupling of channels and hillslopes. At the Lushui station on the Liwu River, Taiwan, lateral incision is driven by large floods, while vertical incision is driven by small and medium flows (Hartshorn et al., *Science*, 2002). Similar links between the variability of discharge and lateral cutting have been observed in other, sinuous mountain channels (Barbour and Stark, AGU Fall Meeting, 2005) and in numerical models (Stark, AGU Fall Meeting, 2005). We propose two mechanisms to explain this link, (i) based on a competition between cover and tools effect in bedrock abrasion (Turowski et al., AGU Fall Meeting, 2005), and (ii) based on changing shear stress distributions within the channel with varying flood level. We assess these processes for the Liwu River and conclude that the cover/tools effect mechanism dominates the partitioning of lateral and vertical incision at the Lushui station.