

The Role of Sediment Supply in Morphodynamics: Bars, Bends, and Planform

0 hours

7 hours

Avulsion

Cutoff

2 m

Abandoned Channel

Flow

We are interested in how sediment supply affects bar morphology and channel planform. This figure shows the combined effects of high bank strength and sediment supply in our alluvial experiments. The green in the photographs are alfalfa sprouts used as model vegetation, the brown is sand (model gravel) and the white is a lightweight plastic (a model sand). The combination of high sediment supply, and high bank strength, lead to a cutoff and channel avulsion in just 7 hours. The avulsion and cutoff exploited areas with low vegetation.