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## **Avulsions and the secret lives of rivers**

One of the most dramatic, yet rarely witnessed, events is when a river avulses (or moves) to a new spot in the adjacent floodplain. Avulsions have caused some of the largest and most deadly river floods in recorded history and over geologic time they build fluvial stratigraphy, yet we cannot predict how they occur. In this talk, I will discuss recent research progress on understanding how river avulsions work. In particular, I will show how recent advances in remote sensing have allowed us to find river avulsions in the satellite record, and understand how they move and spread sediment across the floodplain. Using the remote sensing record, we show how avulsions change depositional style moving away from the mountain front in foreland basins. We then test the hypothesis, with morphodynamic modeling, that this change is due to the tendency for overbank flows to erode or deposit sediment.