

How do braided river dynamics affect sediment storage?

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Braided rivers, with their continuously changing network of channels, are highly dynamic systems. Four mechanisms of channel change and evolution are considered the classic mechanisms of braided river formation: development of central bars, conversion of single transverse bars to mid-channel braid bars, formation of chutes, and dissection of multiple-braid bars.

There have been few studies on how each of these braiding mechanisms contributes to changes in sediment storage and to the dynamics of a river. In one of the first field studies on the topic, Wheaton et al. analyzed repeat topographic surveys conducted over a 5- year period of the River Feshie, an active, braided, gravel-bed river in the United Kingdom.

They find that collectively, the four classic braiding mechanisms accounted for most of the change in sediment storage. However, their results highlight the critical role that bank erosion and other non-braiding mechanisms play in facilitating net increases in sediment storage by braiding mechanisms through providing an important local supply of sediment to feed those braiding mechanisms and through creating accommodation space where central bars can develop.

More information: Morphodynamic signatures of braiding mechanisms as expressed through change in sediment storage in a gravel-bed river, *Journal of Geophysical Research-Earth Surface*, [doi:10.1002/jgrf.20060](https://doi.org/10.1002/jgrf.20060), 2013 [onlinelibrary.wiley.com/doi/10 ...](http://onlinelibrary.wiley.com/doi/10.1002/jgrf.20060)

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