

Interactive comment on “Morphology of meandering and braided gravel-bed streams from the Bayanbulak Grassland, Tianshan, China” by F. Métivier et al.

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This paper statistically compares the morphologies of channel threads in braided gravel bed river systems with the morphologies of isolated meandering gravel bed channels. In keeping with previous findings related to sand bed channels, the analysis shows that, when braided and meandering gravel bed streams coexist in the same climatic and geological environments, the morphologies, in particular the width and depth, of the channels are statistically indistinguishable.

This is an excellent paper. Adding significantly to the data base on morphologies of gravel bed rivers and providing a sound statistical analysis techniques for comparing

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stream morphologies.

Further strong points in the paper include:

A very informative comparison of the current data with data from previous gravel river studies, see (Fig 4) and Table 2.

Repeating the analysis with both d50 and d90 adds robustness to the findings.

The work provides a nice example of how the threshold theory can be effectively used to detrend stream morphology data.

The conclusions do a very good job of explaining the possible consequences of the findings for ongoing laboratory and modeling studies.

I note some very small points that the authors may like to correct:

For total clarity in the 2nd line of 1292 it might be a good idea to provide the definition of the aspect ratio (W/H).

In the first line of 1293 is the adjective “gently” required since the slope $S \sim 0.01$ is given.

It appears to me that the ordering of the figures and tables do not follow their citation in the text (e.g., see placement of Fig 5).

Perhaps the sentence

Various species of grass dominate the vegetation over the entire basins, and their influence on the morphology of the streams is certainly only mild

could be reworded, I would suggest something like

Although a variety of grass species make up the basins vegetation their relative influence on the channel morphology can be assumed to be small

In the last line of 1299, would the word “segmented” work better than “rumpled”

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