

Interactive comment on “Recent human impacts and change in dynamics and morphology of ephemeral rivers” by J. A. Ortega et al.

Anonymous Referee #1

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GENERAL COMMENTS

The topic of the paper (i.e. hazard in ephemeral streams) is of great interest and the comparison between two different streams is very helpful to better understand channel processes and making prediction on future channel dynamics. That said, I have several concerns about this work. My main points of concern are: (1) The overall quality of presentation is quite low; several parts are hard to follow and some parts could be more concise; (2) Overall the work is very descriptive, while several aspects could be presented and discussed by a quantitative approach. (3) What is the novelty of this work? I think that to conclude that “. . . natural channels are much more adapted for floods than human modified sections. . .” (page 23) is not new. The authors should be stressed more clearly the novelty of their work.

C373

English needs a significant improvement.

SPECIFIC COMMENTS

Several specific comments were reported on the .pdf file.

Abstract. It should be more to the point. A better explanation of case studies, methods, and results is needed.

Page 14. The title of this section (4.2) could be “River response to flood events”. The present title is very similar to that of section 4.1.

Page 15-16. This part is a crucial one since it describes results in the Rivillas River. Description of erosion and sedimentation should be more accurate. I think that Figure 9 and Table 1 are not sufficient in such description. My main concern is that quantifying erosion and sedimentation in terms of area may imply significant limitation in understanding of channel processes. From such data (e.g. Table 1) it is not possible to assess if a specific reach underwent erosion or sedimentation: is it possible to make some estimates of volumes? Besides, it should be important to have more specific information about erosion and sedimentation: for instance, did erosion occur with similar or different intensity on the banks and on channel bed?

Figure 1. Meaning of “s” and “v” needs to be explained in the figure caption.

Figure 10. “Water flow disturbance” sounds as a strange term; could you find another term for this?

Figure 10. It should be explained the meaning of the different estimate of stream power (i.e. left margin, right margin, etc.).

Figure 10. Parameter used on “Y” axis should be “unit stream power”; in (a) and (c) should be “Wm⁻²” instead of “Nm⁻²”.

Please also note the supplement to this comment:

C374

<http://www.nat-hazards-earth-syst-sci-discuss.net/1/C373/2013/nhessd-1-C373-2013-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 917, 2013.

C375