

Interactive
Comment

Interactive comment on “Adaptive cycles of floodplain vegetation response to flooding and drying” by R. Thapa et al.

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This is an interesting, well-written and worthwhile paper which addresses a useful topic for geomorphologists - i.e. the complex adaptive response of vegetation to flooding. The paper is acceptable for publication following some relatively minor amendments. The most pressing issues are to cut down the rather long discussion section, and to add some clear statement in the discussion about what the findings mean for geomorphology. Some specific suggestions for how to improve the manuscript are:

1. Add one extra sentence to the abstract to explain the relevance of the adaptive cycle model for geomorphology. Will the four fold responses of the vegetation to flooding cycles be reflected in sediment transport and/or deposition patterns? 2. on p. 811, line 16-17 you note that the hypothesis is derived from observations of vegetation produc-

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tivity through one cycle. Could you add something about where the observations come from? How applicable is a hypothesis developed from one site to other locations? Was the hypothesis developed at the same catchment that this paper focuses on? 3. At the bottom of page 811 you introduce the fact that this paper tests and extends the hypothesis by looking at four flood events. You need to explain, briefly, somewhere how you chose the four flood events (which are separated by several years according to figure 3b (1988, 1994, 2004, 2008)). I'm assuming that these are the ONLY flood events within this period of record. Could you also comment briefly on whether you think the long time interval between some floods (up to 10 years) may affect the response of the system (in comparison with shorter intervals between other events)? I think this is probably obvious to the authors, but not entirely obvious to the reader! 4. on page 824, lines 19-20 - you say that 'This study showed that an adaptive cycle of vegetation productivity occurred in the semi-arid Narran floodplain in response to flooding and drying'. Isn't it more accurate to say that the study showed that an adaptive cycle model fitted your data reasonably well? 5. How might these changes in vegetation influence sedimentation and erosion?

Interactive comment on Earth Surf. Dynam. Discuss., 3, 807, 2015.

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