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Hydrology and Earth System Sciences Discussions

Interactive comment on "Evolutionary geomorphology: thresholds and nonlinearity in landform response to environmental change" *by* J. D. Phillips

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This paper has its genesis in an invited presentation at a conference/workshop on thresholds and nonlinearity in environmental responses to climate change, in which I was specifically asked to address the issue from a geomorphological perspective. Thus it is indeed a synthesis of previous work, as the referee indicates. I appreciate Dr. James' supportive comments, as well as her corrections of mistakes in the text.

The comments about more in-depth discussion of the examples are well-taken. As indicated in the paper, I am reluctant to hold up my own work as an examplar, but I also feel it is in important when advocating a particular approach to indicate a willingness (and if possible ability) to "walk the walk" rather than merely "talk the talk." I am

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also wary of self-plagiarization, and of duplicating material already in print. Thus the revised paper represents a compromise. I have expanded the discussion of the case studies, with specific attention to the lessons of the paper, but perhaps not as much as the referee would have liked (I also eliminated figure 2, which was not essential to the discussion). The key point, highlighted by Dr. James (item 13), relates to demonstrating the utility and relevance of an evolutionary approach, as defined here, in concrete, real-world problems.

Finally, I would expand a bit on Dr. James' comments in item 2. The issues of thresholds, nonlinearity–and the related problems posed by historical and geographical contingency–are strongly relevant to geomorphology and hydrology, independently of the extent to which my paper makes any headway toward dealing with them. These problems are also encountered in ecology, palaeoclimatology, and indeed any field with significant historical and geographical components. Predicting environmental responses to climate and other change–or even making sense of them after the fact–depends on how well we can address these issues.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 3, 365, 2006.