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Natural Hazards and Earth System Sciences
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Discussions

Interactive comment on "A hydro-sedimentary modelling system for flash flood propagation and hazard estimation under different agricultural practices" *by* N. N. Kourgialas and G. P. Karatzas

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The authors investigated the effect of different agricultural practices on flash flood propagation. It is one of the methods for decreasing of flood wave in small rivers. The modelling system from 3 models is correctly used for this purpose. The paper is well prepared and could be useful for scientist from many countries. Therefore I'd like to comment some details. The last sentence of "Introduction" is: "The proposed modelling system can be used as an effective tool for the fast estimation of flood hazard ...". Why do the authors think that it is "tool for the fast estimation"? I think that modelling with 3 models is not "fast process". The research object in this paper is the water-

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shed which extends from the White Mountains (highest altitude 2041ma.m.s.l.) to the coastline. As I understand - the slope of this river is very big. Could the geographical situation of the river catchment influence on the modelling results? The authors could explain more widely the relation between the cutting area and Manning coefficient (p. 5864 – 5865: three different weed cutting scenarios were considered . . .: (A) No cutting scenario (using the calibrated Manning coefficient), (B) 40% weed cutting corresponding to a 27% reduction in Manning's coefficient, and (C) 57% weed cutting corresponding to a 62% reduction in Manning's coefficient). The selection of scenario B is not very clear for me (p. 5868). The authors wrote: "Given that heavy sediment load leads to more pronounced riverbank erosion and has a negative impact on riparian ecology, scenario B seems to be preferable, as it provides the best balance among the flood characteristics that affect the flood hazard zones differently". What sediment load is dangerous in this case? I expect that these remarks could be useful for the authors.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 5855, 2013.