

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

N. N. Kourgialas and G. P. Karatzas

karatzas@mred.tuc.gr

Received and published: 24 January 2014

The authors would like to thank Dr. Kriauciuniece for his valuable hints and critics. We hope that the alterations made to the text with the answers stated in this document will satisfy the Reviewer. Comment 1: The authors investigated the effect of different agricultural practices on 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 ef-

C2381

fective tool for the fast estimation of flood hazard ...”. Why do the authors think that it is “tool for the fast estimation”? I think that modeling with 3 models is not “fast process” Reply: The above concern has been addressed; the word ‘fast’ was omitted from the abstract and introduction

Comment 2: The research object in this paper is the watershed which extends from the White Mountains (highest altitude 2041 m a.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? Reply: The topography of the downstream part of the Koiliaris River basin is mild, see page 5

Comment 3: 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). Reply: This concern has been addressed; see pages 9, 10 and 13.

Comment 4: 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? Reply: The above concern has been addressed; see page 14 and 15.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/1/C2381/2014/nhessd-1-C2381-2014-supplement.pdf>

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

C2382