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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Enhancing Flood Hazard Estimation Methods on Alluvial Fans Using an Integrated Hydraulic and Geological and Geomorphological Approach" *by* Zeinab Mollaei et al.

Anonymous Referee #2

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The paper is not scientifically sound as it is partly based on the old, outdated and widely criticized model FAN.

The interesting part of the paper is the proposed integration between numerical modelling (FLO-2D) and geomorphological approach for the assessment of flood hazard on alluvial fans.

The text lacks of necessary explanations and deepenings (see the commented pdf file) for instance there is no indication on how many years of data have been used for the

hydrologic analysis (Q graphs), on the resolution of maps and fan surface data used as input for model and about the "scoring" system used (paragraph 3.4, table 4). There are errors in figures captions (FAN instead FLO-2d and vice-versa). In table 3 there are data on elevation, temperature, precipitation etc. but there is not an explanation on how those data, a single value for every fan, have been calculated...

It would have been interesting to see a longitudinal section of the fans, rather than a useless "concave" attribute in table 3.

A more deepen description of the geomorphological methodology adopted and of the field investigations is absolutely necessary.

Finally there are some awkward sentences in the text, indicated by an ondulated underline in the nhess-226_Jul2017-corrections.pdf file, together with indications on unclear points or expressions.

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2017-226/nhess-2017-226-RC2-supplement.pdf

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