

Answer to the Editors and referees

Editor comment:

Dear Authors,

the revised version of your manuscript upgrades the previous one. The suggestions followed have increased the comprehension.

However, both reviewers agree on the possibility to further improve this paper. In particular, "Results" and "Discussions" still need a review. The current section "Results" reads more as an explanation of the dataset used in input to the HIRESSES model (as also stated at line 236). On the other hand, lines from 246 to 273 of the "Discussion" basically describe the results obtained by the model. Finally, the "Conclusions" need to be improved and extended, because the first part (lines 293-299) reads more as a summary.

For the above mentioned reasons, I return the paper to you for the last revision. Please, review the manuscript accordingly to these instructions. As a suggestion you could consider to change "Results" into "Geotechnical and hydrological characterization of the case study area". Then, you can move forward to upgrade: "Results", "Discussions" and "Conclusions".

Specific comments:

I would suggest to slightly modify the title in: "Application of a physically-based model to forecast shallow landslides at a regional scale".

Line 285: I guess It should be Figure 11C

Answer to the Editor:

Dear Editor,

We thank you for the careful revision of our manuscript and for the relevant advises. We have revised again the manuscript taking into account your comments and suggestions but also the comments and suggestions of the referees from the first revision and second revision.

We would like to highlight anyway that partially the comments of the Editor contradict with the comments of Referee 2 of the first revision, with particular reference to the results of the geotechnical soil characterization.

Anyway we have tried to solve the problem as follows (hoping that this solution fits the editor requests):

- Results: we have divided the section 4 (Results) into two subsections: 4.1 HIRESSES input data and 4.2: HIRESSES simulation. The section 4.1 includes the results of the input data preparation, that are an essential part of our work and influence the performance of the model. Section 4.2 include the results of the HIRESSES simulation. In this section we have moved the original discussion session since we agree with the editor and the referees that the old discussion section was actually a description of the results.*
- Discussion: this section has been completely rewritten and it deals with the major drawbacks of the model application, especially concerning the problems related to the model validation and to the uncertainties of the input data.*
- Conclusion: Usually in scientific papers conclusions should summarize the whole work in a concise manner, highlighting the results achieved. For this reason, we have added few sentences at the end of the conclusion, regarding a critical summary of the discussion of the results. We hope that this modification meets the editor requests.*

Editor comment:

Specific comments:

I would suggest to slightly modify the title in: "Application of a physically-based model to forecast shallow landslides at a regional scale".

Line 285: I guess It should be Figure 11C

Answer to the Editor:

We agree with editor's suggestion and we have modified the title .

We have corrected the reference to figure.

Anonymous Referee #2

Please detail the acquired time, spatial resolution and other characteristics of the DEM used in the model.

Answer:

We have included in the text the information related to the resolution and the year. We don't have information about other characteristics.

The revised discussion does not solve my concern raised last time.

Please detail your changes in your response and avoid vague responses to changes you made.

Answer:

We have modified again the discussion section. In particular we have tried to analyze the major drawbacks of the model application with particular reference to the problem related to the model validation and the uncertainty of the model input data.

Anonymous Referee #3

Dear authors, I read carefully your text.

you have considered the requests of the reviewers and I congratulate you for this work. Nevertheless, as it stands, your text still suffers from some gaps.

If the introduction, the description of the test site and the model correspond to the expected standard, this is not the same thing for the results and the discussion paragraphs. I think there is still confusions between the two parts.

Please find my comments in the pdf file and try to take into account for these.

best regards

Answer:

We have modified the text according to the referee comments, with particular reference to the Results and Discussion sections. We have taken into account the suggestions of the referee in the pdf file.