

## **Revision notes on** Manuscript No. NHESS-2023-180

First of all, the authors thank the Editor for considering our manuscript and providing constructive comments to help us improve the quality of our work. We have accordingly revised the manuscript by carefully addressing or answering the comments point-by-point, summarized as follows. Following the revision, we hope we have clarified all of the points summarized by the Editor.

### **Responses to the Comments Raised by Editor**

1. I have reviewed your manuscript and noted that it has been significantly improved by addressing many of the points raised by the referees. However, I believe the conclusions should better highlight the limitations of the work. As one of the referees mentioned, it is important to call for further measurements to validate the proposed approach. Although the approach is designed for data-scarce cases, the more data available for validation, the more robust the assessments of the model's performance. Currently, you use only a few events for this purpose, so additional studies should be conducted to better assess the validity of the proposed model.

### **Authors' reply:**

Thank you for your positive comments. The authors have revised the conclusions and highlighted the limitations of our work as below:

*“However, there are still some limitations of this work. The main limitation is that the proposed framework was tested on only one debris flow event and a few non-debris flow events. Further measurements are needed to validate the proposed approach comprehensively. Although the approach is designed for data-scarce cases, having more data available for validation will make the assessments of the model's performance more robust. Therefore, additional studies should be conducted in similar catchments to better evaluate the validity and reliability of the proposed model in the future.*

The Editor can also find the changes in Lines 797-803 in the revised MS.

2. Additionally, the figures should be improved to ensure consistency (e.g., same font

type and size for all figures).

**Authors' reply:**

Thank you for the comments. We have revised the figures in the manuscript to ensure consistency, adjusting the font type and size to be uniform across all figures. The Editor can also find the changes in the revised MS.