

Tabelle 1

Reference	Comment
<b>Figure 6</b>	This figure adds great value to the analysis of the rockfall inventory. But the number of rockfall events is over a period of 18 years while all other information are referred to one year. Consequently, the rockfall activity in terms of number of events per year should be shown.
<b>Figure 8</b>	This figure is now more clear since the rainbow colors from the DEM are removed. However, the heat map illustration for the joint measurements makes it less clear. The measurement points were more clear and if a heat map is shown, it should have a legend for the values.
<b>Figure 10</b>	This figure improved regarding the mapping of the runout and with the assignment of the locations. But it is now showing only two of four runout scenarios. The heat map should be removed because it covers the runout and all runout scenarios as well as the roughness should be shown.
<b>Line 67</b>	The term „relative likelihood“ is correctly introduced in this sentence. But it is not linked to the term „susceptibility“, which is crucial in the study. This sentence would offer an opportunity to introduce „susceptibility“ and define it as „relative likelihood“.

Reference	Comment
<b>Line 100</b>	Indeed runout is often simulated and there are gaps in quantifying why and where rockfall occurs. But these gaps are rather related to the susceptibility for failure than to the susceptibility for runout in terms of propagation. It is therefore important to differentiate between these two aspects of the overall susceptibility and to highlight the need for better quantification of rockfall sources and their connection to rockfall runout.
<b>Line 273</b>	The identification of joint clusters by contouring is an established and reasonable approach. Nevertheless, the methodological details for a reproduction are missing. It must be described which tools and which parameters are used to separate the joint clusters.
<b>Line 345</b>	The governing forces considered in RAMMS::Rockfall are now properly mentioned. However, its strength is the complex momentum balance that goes further than a simple energy balance. Even though this includes also an energy balance, its strength of the momentum balance should be highlighted.
<b>Line 351</b>	The results later show that block toppling is way more frequent than planar sliding. Nevertheless, it is not justified in the methods why the source areas for the runout simulations are only based on the block toppling. This should either be already mentioned or being kept general in the methods and justified later in the results.

Reference	Comment
<b>Line 397</b>	The cumulative number of rockfall passages is a good start to quantify the susceptibility for runout. But it should be normalized to be comparable to the susceptibility for failure. Therefore, some type of reach probability should be defined, in the best case by incorporating the susceptibility for failure.
<b>Line 563</b>	The rockfall source density can be an interesting variable to consider in the analysis. But nowhere its exact definition is described. A proper definition should be placed in the methods where also the definition of the roughness is described.
<b>Line 624</b>	Indeed a more advanced treatment of these factors would improve the accuracy of the simulations. But these factors influence the runout while this paragraph is about the failure and the most crucial issue of how about to apply this method with more scattered joint systems remains open. The paragraph should focus on the kinematic analysis and address the issue of how the method could be applied for more scattered joint systems for example with interpolating joint orientations from measurement points.

Reference	Comment
<b>Line 689</b>	<p>Conclusions about which factors influence the rockfall hazard are crucial since it is the central topic. But this should be done more systematic and also the use of an integrated analysis could be better highlighted. Therefore, it should be argued with the geologic and climatic factors investigated in this study, how they are implemented in a integrated analysis and how other concepts like frequency-magnitude relationships could be implemented too.</p>
<b>Manuscript</b>	<p>The manuscript has been clearly improved regarding many small aspect. But the integrated analysis is not rigorously implemented yet, there are still many quantitative analyses and the structure has still some issues. For a publication, at least the integrated analysis must be improved by assigning the susceptibility from the kinematic analysis to the trajectories of the runout modeling and a schematic workflow must be presented and followed, while the qualitative analyses can be kept but as siding.</p>

Reference	Comment
<b>Section 3</b>	<p>The methods applied are promising and now better described. However, there are still many qualitative approaches and the proper coupling of the kinematic analysis with the runout modeling is missing. While the qualitative approaches are acceptable as a side contribution specific to the site, the model coupling is crucial for an integrated analysis as the main contribution with a more general significance.</p>
<b>Section 5</b>	<p>The structure of the discussion has been improved with a more clear narrative. Nevertheless, it is missing critical appraisals and several aspects that are open before but not closed yet. It must be discussed why the rockfall inventory, the geomorphic mapping and runout factors are only analyzed qualitatively, new aspect like the slope and the roughness should be discussed as well and it should systematically address geologic and climatic factor that influence the rockfall hazard.</p>
<b>Section 6</b>	<p>The conclusion has been improved in the sense that some conclusion are now drawn. But it is still missing a systematic answer to the question, which geologic and climatic factor influence rockfall hazard and which questions are still open and require more research for being answered.</p>

Reference	Comment
<b>Subsection 3.1</b>	The overview has been improved by a better description of what is done in the study. However, this overview is still not sufficient regarding that the analysis is rather complex including different aspects. A figure with a schematic workflow would be very helpful for the reader but also as a basis to improve the structure of the study.
<b>Subsection 3.7</b>	The coupling of RAMMS::Rockfall with the kinematic analysis is a promising approach. But a lot of potential is untapped by not incorporating the exact value for the susceptibility for failure and the trajectories of the runout. Since the model provides trajectories as output, the susceptibility for failure of the source could be assigned and by dividing by the number of trajectories per start point, an overall susceptibility for rockfall could be mapped.
<b>Subsection 4.1</b>	The analysis of the rockfall inventory has been greatly improved. Nevertheless, it includes interpretations in the last paragraph that would also require citations. The description of the findings based on the figure should be kept in the results but their interpretation should be placed in the discussion.

Reference	Comment
<b>Subsection 4.4</b>	<p>The presentation of the findings from the kinematic analysis has been clearly improved. But it includes interpretations and could be better structured. The interpretation in the context of the failure criteria equations should be placed in the discussion and the part about the combination with the talus deposits could be in a separate paragraph.</p>
<b>Subsection 4.5</b>	<p>The analysis of the runout modeling has been improved regarding the focus on the runout patterns. However, it is now limited to the two extreme scenarios, which is not understandable and a loss. All four scenarios should be included into the analysis for properly analyzing the influence of the block size and the forest cover.</p>