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Interactive comment on "Deriving customized terrain classes for avalanche risk management in mechanized skiing operations from operational terrain assessments" *by* Reto Sterchi and Pascal Haegeli

Anonymous Referee #2

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The paper presents different analyses made on the data collected in two mechanized skiing operations in Canada, in order" to introduce an alternative method for deriving terrain classes that offer more meaningful insight into terrain decisions in commercial mechanized skiing operations", as written at page 4 as objective of the study.

The paper is well written and clear; it tells a nice and interesting story, which the reader easily follows. In some sections it seems a bit long, but the clarity of the writing makes this not a problem. Though, this story is very much linked to the two case studies where the data were collected; the results are site-specific and cannot easily be transferred

to other places. I would discuss this aspect a bit more, not giving the impression of being too ambitious. Actually, in the discussion this limitations are well presented. . . I would then simply tell, already in the aim, that the objective is to analyse the data from the two sites in order to check if there exist possible relationships between the ski-runs considering all the characteristics listed in table 1. Also the title is ambitious. . . already there I would write something which tells the readers that this paper is based on specific case studies and does not aim at general conclusions.

Though it is case-specific, the paper is interesting as, on the contrary of other approaches (ATES, PRA identification), it used also data – explicitly said – coming from the experiences of expert guides. The used dataset, to my knowledge, is unique and deserve attention. It would be interesting to know how the guides evaluated the results and how the hierarchies will be eventually used in the future in the two mechanized skiing operations; as the paper produced practical outputs, these would be valuable. What would be interesting to check in the future is what is written at page 22 (lines 12-17): "what type of terrain is acceptable under different avalanche hazard conditions"? Maybe this concept might be expanded a bit.

Last, I am not an expert in the statistics used in the paper, therefore I would suggest to send the paper also to a statistician, who for sure will give a detailed review on the statistical methods.