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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Exploring the relationship between avalanche hazard and large-scale terrain choices at a helicopter skiing operation – Insight from run list ratings" *by* Reto Sterchi et al.

Anonymous Referee #1

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The authors provide a study on the relationship between avalanche hazard conditions and ski terrain choices based on a general linear mixed effects model using data from a mechanised skiing operator in Canada. Based on an avalanche hazard rating and eight variables describing the type and severity of avalanche problem, as well as observed decisions on a set of ski runs originating from the commercial skiing operator, the authors show that the effect on hazard conditions on the run list codes (and therefore the question of whether or not paid operation can be undertaken on a specific run during a specific day) depends on the type of terrain being evaluated. Moreover, some

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Discussion paper

other insightful results are shown, such as the re-opening of runs based on recent (accident-free) experience of a guide having run the location before. The topic is on the interface between snow avalanche science and practice, suitable for the target journal and therefore, publication is recommended.

I only have some minor comments that may be addressed before acceptance:

- The tile uses the expression “large-scale”; I recommend the use of “regional” here so that it becomes clear that a large scale (1:10,000 or so) is meant, or “detailed assessment” if this should be the focus, but not – as this expression is quite often also used in NHESS – a nation-wide assessment.

- In the abstract as well as in the main text body the authors repeatedly address the term “acceptable risk level”, from the overall scientific discussion and concept behind risk and vulnerability, I am wondering what exactly is meant by “acceptable” (death rates below a certain percentage? Number of ski runs without avalanche accident?) and if some explanatory sentences could help here to avoid confusion.

- The authors address multiple times the “mechanised skiing operation” but are using data from one operator; maybe the wording could be “mechanised skiing operator” to avoid confusion (e.g., page 1, line 11; page 20, line 11).

- On page 2, lines 1-22 the author describe the procedure of assessing avalanche hazard and establishing the run list, it would be useful to underpin this by a Figure showing the different steps by e.g., boxes and arrows in between.

- Please check references for updates, and provide a doi for those references that are in press.

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