

Interactive comment on “The large-scale assessment of avalanche risk for ski resort areas in Northern Caucasus region” by A. Y. Komarov et al.

A. Y. Komarov et al.

ankom9@gmail.com

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Thank you for your interest to the article. We believe that your comments and remarks are reasonable and valuable, so we will take them into account in order to compile the final version of the article. We agree that the objective of the article is not clear enough, so we will do our best to make it more understandable.

The main objective of this article is to develop the large-scale risk assessment method (for people, not for infrastructure) and to appropate it using factual data from new Caucasus ski resorts. We understand that such characteristic as density of people in avalanche-prone area is debatable and depends of many factors (such as time of day, date, weather, economical conditions, policy of resort an so on). Of course each

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of these factors should be analyzed appropriately in order to increase the accuracy of risk assessment method. However, the main purpose of this research is to create and appropate the basic formula, that may be refined and developed further using additional factors and clarifications. We use 100-year return period for our RAMMS model, the maximum appropriate people density on slope and an assumption that the resort will be open in order to show the maximum risk for such a catastrophic situation. We understand that it may only be regarded as one of the components of risk and shall be refined further.

As for the sportsmen\avalanche speed and the possibility to escape the avalanche, we believe that these factors shall only be mentioned in this article as one of the additional parameters, that may be valuable for further clarifications. However, you are absolutely right about the fact that the speed is terrain specific and should be estimated for each individual avalanche path, so we are going to cover this topic in the next article in order to make it more clear for the reader. The question of sportsmen/avalanche speed and possibility to escape the avalanche is very debatable. It should be regarded as an important component of risk estimations but and require a separate detailed research. We will try to do our best to re-structure an article and to make it more clear for the reader. First of all we are going to check each of your remarks and to fix all the inaccuracies including maps, climate characteristics and citations. We are going to review all the formulas and to make some clarifications in accordance to your comments.

PS We also excuse for poor english and ask you to take into consideration that this is the first international article for the author (Komarov A, junior research scientist)

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