Nat. Hazards Earth Syst. Sci. Discuss.,
doi:10.5194/nhess-2016-68-RC1, 2016

Natural Hazards and Earth System Sciences
Discussions
Open Access
EGU

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

Anonymous Referee #1

Received and published: 11 April 2016

The paper on risk assessments in ski resorts introduces a way to assess the risk in ski areas. The focus is on the risk on slopes. Reading the abstract rises great interest, but the paper does not hold what the abstract promises. In the last sentence of the introduction (page 2 line 15) the authors state that "the analysis of this information is valuable for further research, creation of avalanche risk classifications and for protection measures development ". I believe that only the first point applies – the work presented is valuable for further research, however, the uncertainties in the applied methods are far too high that the approach needs to be adapted before it can be applied. The greatest shortcoming is that the authors did not define clear objectives and mix different risk assessment approaches. There is lots of literature available and should be used by

Printer-friendly version

Discussion paper

the authors to align their research. Anyhow, the idea to calculate the risk for "sportsmen" on slopes is worthwhile considering, when discussed appropriately. The main questions in the methodology from my side are: - What is your objective? Once you talk about ski resorts in general for construction purposes, but then you only look at sportsmen on the slopes - Why did you choose a 100 year return period? - How did you consider that some avalanches may reach the slope every year, other only every 50 years? - The discussion on the density of sportsmen on the slope is a bit arbitrary. How did you consider that in time you would expect a 100 year avalanche the weather might be poor? No visibility? Even the good skier cannot ski fast enough to escape the avalanche (which is a factor a bit questionable anyway)? - How did you consider that faster skiers, usually ski more runs per day and in the end may be in total be more exposed than bad skiers? - Are you only looking at natural avalanche activity? More skiers may die in avalanches they trigger by themselves not on a slope, but off-piste - The average avalanche may reach 100 km/h (you look at a 100 year avalanche event) – the 60 km/h you assume for good skier does not help - How do the sportsmen know that he is endangered by an avalanche and has to speed up? - The speed is terrain specific and should be estimated for each avalanche catchment - I believe that you should more consider the individual avalanche path - It would be better for the reader to have more figures and pictures instead of tables - Even though the text is understandable, the English needs polishing - Why don't you distinguish between the risk to infrastructure and the risk to people? The latter one should also consider the time people spent in e.g. restaurants or in lifts. - Why do you not use more scenarios or sensitivity analysis? - ..... All in all I believe that the paper could be improved by defining clear objectives and based on these a better structuring. For now, the work is a good scientific exercise, however the practical significance is debateable.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-68, 2016.