

### **general comments:**

The Scientific Significance of the presented paper is good. The paper clearly shows that winter processes significantly contribute to soil redistribution in mountainous areas. The relative importance in comparison to runoff processes should be developed more clearly both in the conclusions and in the abstract.

The applied methods are excellent and clearly described and discussed. Some specific comments could help for a clearer understanding.

The presentation quality is good. Few technical corrections are to be commended.

### **specific comments:**

page8537 line6: The Hypothesis was to compare the relative importance of soil erosion related to snow movements with that of runoff processes, but runoff processes have not been discussed anyway.

page8539 line6: As the release and track areas were calculated with GIS on the basis of the georeferenced pictures taken after both avalanche events, it surprises, that both events span exactly the same area (Tab.1) page8544 line2: comparable :: identical? page8544 line14: the total area was considered as equal - why?

page8542 line17: A more detailed description of  $h_0$  could be helpful.

page8544 line6 and line17: There probably could be more references than the results of Freppaz et al. (2010) and Bozhinskiy and Losev (1998).

page8563 Fig.9: There is some description missing: blank dark points .. outlier? a .. ?

### **technical corrections:**

page8536 line 17: a homogeneous ...; After deposition, ...

page8538 line 3f.: uniform plant names (*Vaccinium Myrtillus*)

page8538 line20 and page8545 line10 and page8546 lines14ff: uniform units: (0-6000 kBq m<sup>-2</sup>); 1277 kg m<sup>-3</sup> ... 1.28 Mg m<sup>-3</sup>; 1003 kg m<sup>-3</sup> ... 1.0 Mg m<sup>-3</sup>

page8545 line3: The reference site had a ~~total~~ mean total ...

page8546 line3: uniform spelling: caesium (eng.) cesium (am.)

page8548 line 14: ...compared to the rates of two single events (2009 and 2010).

page8548 line 17: ... is the main driving force of soil redistribution in ~~the~~ this specific area.

page8548 line 8: ...yield at the avalanche deposit area

page8559 Fig.5 title: uniform titles: ... in the high deposition area (HAD)

page8562 Fig.5 text:... Soil redistribution rates in the three testsites: