

Interactive comment on “High resolution modelling of snow transport in complex terrain using simulated wind fields” by M. Bernhardt et al.

M. Bernhardt et al.

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Comments on Reviewer 2 (S. Déry): Comment 1: Page 517, Line 23:: The used model is very well known in literature. All of the topics mentioned by the Reviewer are widely discussed within the papers of Liston and Sturm 1998 and Liston and Elder 2006. It seems to be inadequate to repeat the total model description of a well known model in here. Hence, the corrections suggested by Reviewer 1 were implemented in this case. Furthermore, more citations were included for clarify the origins of the used formulations. Page 518: The needed information was included Page 524, Lines 15-23: The needed information was included Page 524, Line 24: corrected Pages 526-528: SWE and snow depth are discussed within the text. SWE is the decisive variable if we are talking about a gain of SWE to the glacier area and if we compare the results to the satellite images. Snow depth is used when we compare our results with snow depth

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measurements. We have made aspect clear in the current version. Page 529, Lines 1-29: done Pages 539-556: We have excluded some figures Technical Comments: Page 515, Line 5: done Page 517, Line 5: clarified Page 517, Line 5: A reference to the original set of formulas is given. Page 518, Line 4: A reference to the original set of formulas is given. Page 518, Line 5: A reference to the original set of formulas is given. Page 518, Line 9: corrected Page 518, Line 10: done Page 518, Line 15: A reference to the original set of formulas is given. Page 518, Lines 21-22: done Page 520, Line 14: done Page 520, Lines 18-19: clarified. Page 523, Line 21: done Page 524, Line 12: done Page 524, Lines 22/23: clarified. Section 4 was reorganized. Page 524, Line 4: Avalanche are not considered within the model version which was used. We have had no avalanche activity at the two test site during the observed winter seasons. Page 525, Line 24: done Page 526, Line 18: done Page 527, Line 1: done Page 527, Line 17: done Page 527, Lines 19-20: Because the number of usable areas declines with the reduction of the snow covered area. Page 532, Line 6: corrected Page 533, Table 1: done Page 534/5, Tables 2/3: done Page 536, Table 4: done Page 537, Table 5: done Page 538, Table 6: clarified Page 540, Fig. 2: Done Page 542, Fig. 4: The intention was to test no transport conditions at the center of Kühroint. That’s why we have had no gauges within the wooded areas. Nevertheless, there are gauges within the woods at Reiteralm. Page 546, Fig. 8: Done Pages 547/548, Fig. 9/10: shown Page 551, Fig. 13: clarified Page 552, Fig. 14: clarified Pages 553/554, Fig. 15/16: done

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