Authors' general response. The response is shown in blue.

General response

We would like to extend our gratitude to the three referees for a thorough and constructive criticism of the manuscript. The referee' comments will be used to significantly improve the manuscript in a revision.

We have addressed all points raised by the referees one by one in the comments to referees.

One point common to two of the reviews is that we should improve the explanation of the difference of the expert and user surveys. We will clarify this in chapters 2.1.1 and 2.1.2 by explaining that NAWS personnel participated in the expert survey, while all types of users participated in the user survey: Participants in the expert survey were NAWS experts (personal invitation only) and participants in the user survey were users (open invitation, anyone could participate). User survey participants included all types of users (various degree of competence and experience, from beginners/novices to experts; various types of use, from recreational to professional and preparedness). Expert survey participants included only forecasters and observers in NAWS, all trained in the same system. We will improve the description of results in Chapters 3.1 and 3.2 (and Chapters 4 and 5 where applicable), by referring to

- "users" and "user respondents" instead of users, participants, recreational users and experts

- "NAWS experts" and "NAWS expert survey" instead of experts

Any spelling errors detected will corrected, e.g. on page 26, line 18, we will remove «+» and on page 17 line 26 we will replace "Statham, 2012" with "Statham et al., 2006".

Additional feedback

We also received a direct feedback from Frack Techel, an avalanche forecaster and researcher at the SLF avalanche warning service, which we would like to address:

- I read with great interest your manuscript "Communicating public avalanche warnings - what works". From my perspective, particularly interesting findings were that the danger assessment (the text description!) and the avalanche problems ranked higher in importance than the danger level. This is quite different than the order shown in the EAWS information pyramid. This ranking also differs from what users knew / used in forecasts in Steiermark (Steiermark, 2015; Figure 14) or Switzerland (Winkler and Techel, 2014; Figure 5). Any idea why this seems to be different in Norway than in the Alps?

  Selection of samples could influence the results here (this is also related to the comments of RC2 under 2. Methods and data collection). The users who chose to participate in our study survey are probably above average interested in the avalanche warning. Users who check the danger level only, may be less interested in the topic and thus less likely to participate. An implication of this is that future research should explore representative samples of users of the warning in order to compare results from different user groups. Other explanations for the differences could be: (1) The Norwegian users have only five seasons (2013-2017) of experience with a public forecast and routinely use of a danger rating in Norway, while users in the Alps have decades of experience and focus on using the danger rating when discussing avalanche danger, doing avalanche training, etc. (2) The wording of the questions asked could give rise to differences. (3) The users are gradually moving from putting a major weight on the danger rating to using the

avalanche problem in the forecast, and thus not giving the rating that much importance. This may especially be the case in Norway, as the service was established at a time when the avalanche problems became popular for many services worldwide. The avalanche problems were included from the very beginning of NAWS. (4) NAWS has focused on communicating the avalanche problem and how to identify and manage the hazard, rather than the rating only. This has been natural as the mountain guides play an important role in NAWS, and use this approach in their daily work as well as their training. We will add some text discussing this in Chapter 4.1.

- I wonder whether the danger assessment being ranked so high suggests that the danger assessment is also being read frequently? Could this be related to the large percentage of experienced and professional survey respondents?

  This could be an explanation. Another possibility is that many users read the assessment in order to learn more about avalanche danger, which factors are important and what causes the danger and changes in danger (this is based on feedback from several user surveys we have done previously).

- You state that these rankings also persist when you stratify by user experience This is somewhat in contrast to Hallandvik et al., 2017 (Table 3) who showed that novices ranked danger level more than avalanche problems, and experts vice versa. Maybe you could comment on this when revising the manuscript.

  We agree, there is a difference in our results. The Hallandvik study was based on "an online survey conducted during an ad-hoc avalanche seminar in Sogndal on January 31, 2015, four days after a significant avalanche cycle with several naturally and human triggered avalanches occurred in the area. Sogndal is a popular area for backcountry and freeride skiing in Western Norway". Our study is based on an open invite, not targeting a specific group of people at one geographical location. The Hallandvik study was conducted after 2.2 seasons of public forecasting in Norway, while our study was conducted after 5 seasons of public forecasting. These factors may affect the sample of respondents available for the surveys, and the results. We will add some text discussing this in Chapter 4.1.

- Considering the expert respondents, the avalanche problem was considered by a very large proportion as important (79%). What was the importance frequency of the danger level in this group?

  It was 25 %. We will add results from NAWS expert survey for comparison.

The authors.