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Interactive comment on "Warming permafrost and active layer variability at Cime Bianche, Western Alps" *by* P. Pogliotti et al.

Anonymous Referee #1

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The manuscript "Warming permafrost and active layer variability at Cime Bianche, Western Alps" by Pogliotti et al. describes a record of measurement results of permafrost properties. In general, the methods are sound, and the manuscript is written in a clear and well-structured way. From a technical point of view, the manuscript is state-of-the-art. The presented data basis is a bit at the edge of what deserves to be published in "The Cryosphere", and "new" effects or processes are not described. I nevertheless recommend it for publication subject to some revisions. I am of the opinion that such baseline studies deserve to be published in a journal like The Cryosphere since they provide well-documented in-situ observations which will be of high value for many years to come.

Major Comments:

1. The autors basically only describe results from one single area. While they do put it in the context of other monitored areas in the Alps, the authos should describe in more detail why the results from Cime Bianche are relevant. If there are three similar installations on other mountains close by which behave similarly, the findings would definitely not warrant publication. Does this site fill a geographical gap within the Alps? Maybe a map with other borehole sites in Switzerland/France/Italy would be helpful. Is it meant to be a baseline study for a permanent permafrost observatory?

2. The authors should check once again the english language. While it is generally good, there are a few sentence fragments and other minor errors.

3. Sect: 4.3 The authors should briefly discuss why the trends are only statistically significant belwo a certain depth. This most likely has to do with the stronger interannual variability of the ground temperatures above. However, they of course do not behave independently, but temperatures at deeper depth are influenced by a much longer period. Therefore, trends in the deep layers represent longer-term trends of the surface forcing, which, if present, can be secured statistically more easily.

Minor comments:

P4038, l18: This sentence is unnecessary, this is also a result of this study. The information on permafrost in the area is published in this manuscript for the first time, so a reference to unpublished data is unnecessary.

P4044, l6: Reword the second part of this sentence.

P4053, l24: phenomenon

Interactive comment on The Cryosphere Discuss., 8, 4033, 2014.