

Interactive comment on “Modelling past and future permafrost conditions in Svalbard” by B. Etzelmüller et al.

Anonymous Referee #2

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I believe that this article is a very good contribution to the field and should be published. I do not have any significant issues with the paper, but would like to suggest the following to the authors.

- 1) On page 1879 line 3 of the background the word "of" should be inserted between archipelago and Svalbard.
- 2) In the methods section please indicate the elevations of the meteorological stations.
- 3) In section 3.2 please give a bit more information on the empirical statistical downscaling of the GCM's by Benestad (2008). I think this will provide context that is needed to make the reading of the paper better.
- 4) In section 3.3 the authors should indicate what the current measured lapse rate in

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the areas is in °C/km.

- 5) In the discussion there are more comments on lapse rates on page 1890 line 2, at this point a reference should be added. Also is there any data on lapse rate differences between winter and summer months? Also please comment on how you believe lapse rates have changed through time, and what impact will the changing of lapse rate have on ground conditions.

Interactive comment on The Cryosphere Discuss., 4, 1877, 2010.