Reviewer 1 comments

February 27, 2015

Thank you for your response and the significant improvements to the manuscript. I just have some minor comments.

In the response you say "Cryogrid 2 is a 1D-model and indeed only simulates vertical heat fluxes, as mentioned in 3.1". Apologies if I missed it but I can't see this mentioned in Section 3.1. Perhaps you could just add one or two words in the first paragraph or so of this section to make it clear.

I am glad that you have put in more details about validation of the snow model. However I find this paragraph slightly confusing. First of all, the discussion moves from snow depth to melt dates, to snow depth again and then back to melt dates. Secondly, I am confused as to why you can't include the manually observed snow depth in the linear regression (why is it just a visual comparison with this data?). Finally, from the regression you state that it explains the 'variability' in snow depth, suggesting that the regression is linear, but that does not preclude biases. Reading this suggests to me there could be overall snow-depth biases and this should be stated either way.

Other than this I am happy that my comments have been answered.

Technical

Last paragraph of conclusion: 'Despite of the complex model approach' → 'Despite the complex model approach'

Ground temperatures paragraph in section 4.1: 'both in negative and positive direction.' → 'both in negative and positive directions.'