

***Interactive comment on “Baseline characteristics of climate, permafrost, and land cover from a new permafrost observatory in the Lena River Delta, Siberia (1998–2011)” by J. Boike et al.***

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I believe this is a useful paper that will be cited often by scientists who conduct research at this station, but I don't think it is a really important paper, which is a shame, because it could be. The authors state several times that the purpose is just to provide a summary of the conditions at this site and to provide information for others to make comparisons. I find no problems with the presentation of that information, but I don't think this paper will be valued by readers who are not specifically interested in conducting research at that site. This paper could much more. One of the main questions most readers would ask is “Why Samoylov Island?” Why is this site important? Does this site actually

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represent northern Siberia? Is it so dominated by the marine influence that it does not represent continental Siberia? Or is it uniquely situated such that it can be considered as model for both the Laptev Sea and northern Siberia? I also wonder about the consequences of a site on a delta? Does it just represent a delta site? Does the deposition of so much sediment make this site uniquely different from the highly organic soils of non-fluvial plain sites? I hope my questions do not imply that I question the value of a site at Samoylov Island; I just think this paper could be of more value if it went beyond simple numeric comparisons of temperatures or rainfall and addressed the more important question of representativeness. What does this site represent and why is that important? At present, the paper does accomplish what the authors intended, but it could do so much more if they attempted to go beyond a simple iteration of measurements into an analysis of what they mean.

There are a few other minor issues that I think may make the paper more reader friendly. I would suggest adding a figure of the soil profile(s) that indicate soil properties and characteristics. Perhaps they could make one plot that shows the temperature max and min range and then for various depth ranges, label thermal conductivity, carbon content, heat capacity, etc. . . Also, I think some of the tables are a bit much for the article. I am not certain if Biogeosciences allows appendices, as some on-line journals now do, but if so, I would suggest moving detailed tables like 4, 5 and 6 to an appendix and just present the essential information in the text.

I think there are a few more meaningful comparisons that could be made. . . with respect to water balance, it would be good to consider these:

Killingtveit, Å., Pettersson, L.E. and K. Sand, 1994: Water balance studies at Spitsbergen. In: Sand, K. and Å. Killingtveit (Eds.), 1994: Proceedings of the Tenth International Northern Research basins Symposium and Workshop, Spitsbergen, Norway, August 28 – September 3, 1994. pp. 77–94.

Kane, D. L., and D. Yang. 2004. Overview for Water Balance Determinations for High

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Latitude Watersheds. Int. Assoc. of Hydrological Sciences Publication 290. pp. 1-12.

Mendez, J., L.D. Hinzman, D.L. Kane. 1998. Evapotranspiration from a wetland complex on the arctic coastal plain of Alaska. *Nordic Hydrology*. 29(4/5):303-330.

Other concerns...

Page 13631, line 28... What about Tiksi? Is that not considered the delta? Probably still worth mentioning there are several stations relatively near.

Page 13631, line 14... You say "in summer" but obviously more true in winter

Page 13633, line 28... You say "polygon rims", but this is true for the whole network.

Finally, there are some minor mistakes, which I suspect the editor will catch, but I'll point them out for completeness...

Page 13638, line 10... The word "under" is confusing.

Page 13643, line 28... Pond should be capitalized

Page 13652, line 16... obvious problem

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