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Climate of the Past Discussions

Interactive comment on "Holocene Proxy Climate Series Should Account for the Site's Elevation, the Variable's Sensitivity to Elevation History and Time-lagged Effects: Three Examples" *by* David A. Fisher

Anonymous Referee #2

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Fisher is presenting a short paper regarding the importance of taking into account site elevation, changes in elevation and other local effects on isotopic records before using them in multi-proxy climate reconstructions over the Holocene or longer periods. Three examples of these local effects are presented, mainly focusing on the Arctic area. Although in a moment where a lot of regional, continental and global paleoclimate reconstructions are attempted, a paper dealing with this argument would be desirable and of high value, the paper fails in its objectives, mainly for not having a paper structure and for not presenting any new data. The paper is presented in the form of a conference

presentation. Would be the paper be a review? Would the paper be focusing on the 4.2 ka event? Other events are presented apart from the 4.2 ka. No new data are apparently presented and a general context is lacking in the introduction, making the readability difficult. Some more specific comments: Page 1, line 15: the introduction must be enlarged and should be well structured. No reference to previous papers on these arguments are presented. A general context is lacking. It should be re-written. Page 1, line 16: what it is reported in the manuscript is not only elevation. Please, add. Page 1, line 23: The title of the paragraph is too long. I would suggest rephrasing into: Stable isotope signatures of the same event at one geographical location. Page 1, line 25: please, take away the parentheses before 18 and after O or explain the reason for having them. Please correct in all the manuscript. Page 1, line 29: "nearby sites" . . .. First a map could be useful, then it should be better specified that here we are dealing with different climate archives and climate proxies having different interpretation and calibrations against present day climate. Page 2, line 34: which is the model? To which simulation you are referring? Which type of simulation is it? Page 2, line 36: after stable isotopes: at which archive you are referring? Page 2, line 42: "as does its nearest . . .": no explanation is reported, probably it is in the original paper. Page 4, line 68: also in this case the title of the paragraph is too long. Please, change it. Page 4, lines 70-80: it seems an abstract of the paper by Vinther et al., 2009. . . Page 5, line 82: has caused some investigators: please add references. Page 5, line 96: paragraph title to be changed. Page 5, line 98: ". . . subject of this conference. . .": please change this sentence. Page 5, line 100: +ve: should this means positive? Please modufy. Page 5, line 101: modify "stack" into record. Page 5, line 101: . . .. the red vertical shading: what?? Something is missing. Page 6, lines 103-105: If this has already been published, what it is new in the hypothesis reported below? Page 6, lines 107-113: please add some references here, apart from Fisher et al. Figure and figure captions Figure 1a: this figure should be enlarged: the 1835 AD event is not visible at all. Figures 1b and c are not discussed in the text, only at the end. Figure 2 caption, line55: I would change the word "records" into archives. Line 57: "model": which model? Figure 5

caption: line 137: hi-lited: please modify. Line 138: add a reference after “common cold event at 5.4 ka”. This 5.4 ka event is not clear at all in the figure. There are a lot of other similar peaks . . .... what makes this peak interesting against the others? Figure 6: Please add a legend to the figure. I would not recommend the publication of the paper in its present form but only a new resubmission after considering all the comments above, structuring the manuscript as a paper, clearly focusing on the 4.2 ka event (if this is a special issue on this), adding a real introduction and possibly presenting new data or at least considering to make a more robust review of the arguments presented.

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