

Interactive comment on “Short communication: Driftwood provides reliable chronological markers in Arctic coastal deposits” by Lasse Sander et al.

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Received and published: 16 November 2020

The paper of Sander et al. looks at using the dendrodating and radiocarbon dating of driftwood in two Arctic coastal sites in Siberia. The authors are able to date past Holocene deposits using radiocarbon dates on the driftwood. Modern deposits are apparently dated only using dendrochronology. I have some minor comments.

1. In the introduction figure S1, the uncertainties in driftwood 14C ages from various other publications are presented. It seems that these data give more information that could be useful in the authors' analysis, but they just summarize them here. As the authors note about line 51, a big unknown in the assumptions of the dates presented in this paper is the duration of the time when the tree falls and the wood is transported

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by a river system to the sea. Although figure S1 suggests 50-100 years is reasonable, this depends to some extent on the nature of the forest and the authors note it could be several centuries. 2. The results discussed in table 1 and figure 2 suggest that one can assign a radiocarbon date probability distribution to various discrete events. For example, BY1 and BY2 overlap well, as are MA-27, 28 and 29. A problem with figure 2 is that the images on the right are practically unreadable for the site locations – especially if one has a B&W image. I recommend these images be improved. 3. In section 3.2, no radiocarbon measurements appear to have been made on the “modern” driftwood. This seems like an important oversight. Although the authors dendrodated 4 Larix samples successfully, it would be interesting and useful to see the 14C bomb spike in the wood sequences, for example for the other species, as this would give some information also useful to the hypothesis presented.

Interactive comment on Geochronology Discuss., <https://doi.org/10.5194/gchron-2020-28, 2020.>

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