



January 27, 2021

Chantal Camenisch
Handling Editor
Climate of the Past

Dear Dr. Camenisch,

I have completed my review of the manuscript (cp-2020-49) "Tree-ring based spring precipitation reconstruction in the Sikhote-Alin Mountain Range" by Ukhvatkina et al. I have read the reviews provided by the three reviewers as well as the revised manuscript and believe that the authors have adequately addressed the issues raised by the reviewers. I would like to particularly applaud the authors for their grace in responding to Reviewer #1 who should be admonished for their unprofessional review. I recommend acceptance after minor revision. I offer a few suggestions for potential improvement.

- 1) While the manuscript is certainly readable in its current form, there are places where improvement to the written English could be made if possible. This is not necessary, only suggested.
- 2) The authors consistently refer to the three tree-ring sites in order from south to north. This isn't a problem except that this makes Figure 2 appear visually inconsistent with Figure 1. That is the southernmost site is at the bottom of Figure 1 but top of Figure 2. I suggest reversing the placement of panels (a) and (b) in Figure 2. I also suggest including the tree-ring site codes next to the Met. station names e.g., "Krasniy Yar (NSA)".
- 3) In section 2.2. "Tree-ring chronology development" the authors state on line 104 that "Two increment cores were extracted from living trees (then we used the one with the highest number of tree rings)..." Using only one of two collected cores is very unusual. I can't imagine why the authors would take this approach and any dendrochronologist who reads this will think the same thing. I don't expect the authors to completely redo their analysis but I think they should explain this choice and I would also encourage them to date and measure all the remaining material before contributing the chronologies to the ITRDB.
- 4) Also they stated that 136 cores were collected from 136 trees. This does not match the previous statement (two cores per tree). So did they collect 272 cores from 136 trees?
- 5) In Table 1 the authors appear to indicate that all trees sampled from each site were used in the chronology development. Is that true? It would be somewhat surprising if every tree sampled (longest core only) actually cross dated well enough to use in the chronology (see point 6)
- 6) Reviewer # 3 (point 2)) asked whether all the collected material could be crossdated. The authors response focused on whether material from one site could be crossdated against other sites and noted that it was "rather difficult". I am a little bit confused as to why this was the case when in Figure 6 (and associated discussion) they show the common wet/dry years across the three sites. One would imagine that these common signals would allow crossdating between sites. Also I do not think that was actually Reviewer # 3's question. I think it was more about how much of the collected material could not be cross

dated at all. As I noted it seems unusual for all the material to reliably crossdate.

- 7) I would encourage the authors to show “spaghetti plots” of the raw and detrended tree-ring widths in the Supplementary Materials.
- 8) I really like the layout of Figure 3. It is very well done.
- 9) In the Data Availability statement the authors should add the web address of the ITRDB for those readers who may be unfamiliar.
- 10) I include below a reference that I was surprised was not included.

In closing I found the manuscript to be generally straightforward and reasonably well written. This is interesting and important research for our discipline, and I have no doubt that this manuscript will be a useful addition to the literature.

Please let me know if I may offer any clarification or be of any other assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matthew Therrell', written in a cursive style.

Matthew Therrell
Professor

Refs.

Zhu, H.F., Fang, X.Q., Shao, X.M. and Yin, Z.Y., 2009. Tree ring-based February–April temperature reconstruction for Changbai Mountain in Northeast China and its implication for East Asian winter monsoon. *Climate of the Past*, 5(4), pp.661-666.