

Interactive comment on “A 424-year tree-ring based PDSI reconstruction of *Cedrus deodara* D. Don from Chitral HinduKush Range of Pakistan: linkages to the ocean oscillations” by Sarir Ahmad et al.

Anonymous Referee #1

Received and published: 17 October 2019

Ahmad et al. contribute a new reconstruction of scPDSI in Northern Pakistan, where such work is still highly necessary. Generally, the manuscript is well organised and the methods are regular and solid, the main conclusions are largely supported by the results. I would be happy to see the work published in CP, but only after some of following concerns well addressed.

Major comments:

1. The compared reference reconstruction Treydte et al. (2006) are generally in oppo-

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site phases in the history, but not well explained. It is also controversial to the statement in the abstract (L28-30).

2. More explanations should be provided for the linkage between the climate reconstruction with these ocean oscillation indices in the discussion part.

Specific comments:

L57: What kind of production? Food?

L64: “an essential archive of dendroclimatic research” A lot of tree-ring work done there? Do you really mean this?

L117-119: The drought index described here is not consistent with the results in the Fig. 8a.

L169-170: It is not clear why not comparing with reconstructions in the study area but with that outside of the study region. Please add more explanations.

L181-2: Not clear which criterion was used? EPS or tree No.?

L236: What do you mean by the “point years”? Not mentioned before.

L247-266: I suggest providing the compared reconstructions in the figure if possible.

4.2 The linkage of drought variation with the ocean oscillations: It is a bit stretching to relate the periodicity results to the ocean oscillation indices, more direct proof should be provided, such as direct comparison or, at least, previous work on the actual connections between local climates and there synoptic indices.

Fig 1: This is a very nice figure but the statement on the copyright is quite confusing. Please consider remove or revise it properly.

Fig 2: I suggest provided error bars for the mean values of the climate variables.

Fig 3: I suggest switching the Y-coordinates of the chronology and the sample depth. Besides, I suggest replacing “Tree number” by “The number of trees”.

Fig 4: You should explain the meaning of the “previous” and “current” because it is not that self-explaining for every reader. The colors of the two types of the columns are too close, please consider change into other colors.

Fig 6: The location of the Treydte et al. (2006) should be provided in the Fig.1.

Fig 7: The “MTM” should be referred as the full name.

Fig 8: The sentence “The value for $p > 0.05$ were masked out” should be clearly pointed to the Fig. 8a. Again, it is very confusing about the copyright statement.

Table 1: The figure caption should be expanded with more information input to make it be able to stand alone. The stats, such as RE and CE, should be explained in detail here too.

Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2019-62>, 2019.

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