

## ***Interactive comment on “Tree-ring reconstruction of seasonal mean minimum temperature at Mt. Yaoshan, China, since 1873 and its relevance to 20th-century warming” by Y. Liu et al.***

**Y. Liu et al.**

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Received and published: 11 June 2014

Reply to Anonymous Referee #1:

Liu et al. used tree-ring width of Chinese Pine (*Pinus tabulaeformis*) to reconstruction mean minimum previous December to current June temperature since 1873 covered Central Plains of China (CPC). Authors examined that their reconstruction is agree with the report of IPCC (2007) which demonstrated that in the 20th- century global warming began around 1910. The paper is well written and meets the objective for publication in CP after consideration some points as followings.

[Reply] Thank you very much for your valuable feedback.

C705

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Page 5 line 107 delete hyphen between *Betula albo-sinensis*.

[Reply] Deleted. See Line 103.

Page 7 lines 134-145, Authors wrote that 4 meteorological stations surrounding the study site were selected as reference however line 140 authors said that later on only two stations (Xixia and Lushi) were chosen for further analysis. Should authors explain why those two stations which situated only on the west side (Fig. 1) of study site are qualified? And How much distance of both meteorological station to study site?

[Reply] 1) The Xixia and Lushi stations, both in the mountains, have the similar climatic patterns with that of our sampling site. Baofeng and Nanyang stations are located in the big plain and they can not reflect the mountain climate. However, the records from Baofeng and Nanyang stations can be used to test the homogeneity and randomness of the observed meteorological data. 2) Calculations show that there is the highest correlation between the YS RCS chronology and the mean minimum temperature averaged from Xixia and Lushi. Considerate the reasons above, we chose Xixia and Lushi stations for further analysis and the other two just for references. The Xixia and Lushi stations are 82 and 85 kilometers away from the sampling site, respectively. We clarified this in the revision. See Line 132-136.

Page 8 lines 170-172, Should authors check the year for calibration and verification in line 170-172 matches with the year in Table 2, 3.

[Reply] We have changed the calibration periods to 1958–1987 and 1982–2011, and the verification periods to 1988–2011 and 1958–1981. Please see Line 169-171. We also change the time periods in table 2 and 3.

Fig. 13 Authors explains about the good captured of Tree-ring width and El Nino event. I wonder whether the figure 13 presents the very strong El Nino in? If not could authors' explanation.

[Reply] 1997-1998 and 1982-1983 were not accounted in the very strong El Nino events

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in the reference we cited (Gergis and Fowler., 2009).

Interactive comment on Clim. Past Discuss., 10, 859, 2014.

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10, C705–C707, 2014

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C707