

Interactive comment on “Temperature changes derived from phenological and natural evidences in South Central China from 1850 to 2008” by J. Zheng et al.

J. Zheng et al.

haozx@igsnrr.ac.cn

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Anonymous Referee #4

1) The authors conclude that they improved the accuracy of reconstruction by using multiple proxy types compared to using a single type of proxy. However, some obvious differences exist between the different proxies (e.g., resolution and trend). How did the authors treat these differences when performed the reconstructions, especially for the different trend existing in the five tree-ring width chronologies owing to different detrending methods were used by different researchers?

We agree. And the stepwise regression was used to perform the reconstruction. And

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the equation with higher explanation variance was used for every year. Please see table 2 for detailed information.

2) The locations of proxies used in the study mainly distributed in the southeastern part of the studying region, but less in the northwestern part.

We agree, since no available proxy data can be found in the northwestern part, but we analyzed temperature coefficient between the regional and grid point, the result was not influenced by the proxy distribution.

3) I agree on the point of the referee #1: comparison of the reconstruction with CRU grid dataset or meteorological record in Shanghai station is necessary to validate further the reliability of the reconstruction.

We agree, and added, please see Figure 4 and text line 279-283.

4) The authors present the calibration equations (Table 2), but not present the statistics of the leave-one-out validation of the regression model.

We agree and added in table 2, including Root mean square error for calibration, and Root mean square error for cross-validation.

5) Except for the earlier extension and the improved accuracy of this reconstruction than the Wang's reconstruction, are there other differences between the two reconstructions? For example, some different cold or warm periods.

Yes, we added, please see the part from line 324-331.

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