

## ***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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Reply to the anonymous referee #2 The paper is interesting and worth to be published in CP. The authors reconstructed mean minimum temperature from the previous December to the current June from the beginning of 1873 AD, which was the first one for the region and also the general focus is more often the reconstruction of summer temperatures. However, I also agree with Paul Krusic that the Ed Cook Paper and the PAGES 2k Consortium paper is missing in the introduction, although these are summer reconstructions, but should be mentioned here. In general, the paper is easy to follow and statistics and analysis well described.

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[Reply] Thank you very much for your valuable feedbacks. We have mentioned these two papers in the revision. See Line 69-70.

General: English in the abstract might be checked, but afterwards it seems to be fine. (the Central Planes). The current knowledge: : it seems as the authors deleted several to fit a certain number of words! Should be it in general” the central planes” The authors start a sentence often with “to + verb”. E.g. To reconstruct; to determine I learned preferably another sentence order and would suggest changing the order from time to time.

[Reply] We changed all these problems. See the text.

The letters of the figures are often cut off at the lower part. Please change the spacing that all the letters become visible

[Reply] We have changed.

Detailed comments: Line 10 By using tree rings, series of temperature (Gou et al., 2008; Liang et al., 2008; Liu et al., 2009a, b, 2013; Cai et al., 2010, 2013; Bao et al., 2012; Li et al., 2013; Zhang et al., 2013) have been elucidated in China ! rewrite

[Reply] We have changed this sentence to “Based on tree rings, many temperature series have been reconstructed in different regions of China, mainly on the Tibetan Plateau (Gou et al., 2008; Liang et al., 2008; Liu et al., 2009a; Zhu et al., 2008), Loess Plateau(Cai et al., 2010, 2013; Li et al., 2013; Liu et al.,2009b), northeastern China (Bao et al., 2012; Chen et al., 2013; Liu et al., 2013), southeastern China (Chen et al., 2012; Duan et al., 2013). Integrated temperature studies in Asia have been carried out as well (Cook et al., 2013; PAGES 2k Consortium, 2013).” See Line 66-70.

Line22 page 862 recovered ! maybe better extracted or taken

[Reply]We have changed “recovered” into “taken”. See Line 118.

Line 12 page 863” Departures” I would suggest to replace the word

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[Reply] We have changed. See Line 135.

Combine Fig 6-7 if possible

[Reply] Figure 6 and 7 were combined into one figure.

Fig 10 I do not see a dashed line here and again the letters are cut off

[Reply] In this figure, the bold line is the 95% confidence level.

First part of the discussion:Page 869 Line 5 frost damage instead of cold damage?!

[Reply] Changed. See Line 298.

Following part: “On the other hand, relatively higher minimum temperature in spring may result in increasing soil water and extending growing season, which would produce a wide ring. Why because soils are less frozen and can contain more water? Usually higher temperatures should result in less water due to higher evaporation? Or do I miss a point here. And also rephrase:an extended growing season due to earlier: : :

[Reply] We have rewritten this paragraph. See Line 299-303.

Page 869 Line 17-18: “The values of high and low Tmin\_DJ in the reconstruction were 17 and 21,” maybe rephrase “ e.g. 17 and 21 temperature values were below or above these threshold: : :

[Reply] We have changed this sentence to “17 and 21 temperature values were above and below these thresholds, accounting for 12.2% and 15.1% of the entire series, respectively.” See Line 316-318.

Page 869 line 28 increased 870 line 21 “the conclusions are supported by the significant correlation between the Tmin\_DJ in the Yaoshan region and “other times of the year???” Seasonal time periods?

[Reply] We have rewritten this sentence. See Line 348-349.

Fig 10 Maybe you can add some more information to the figure caption that it becomes

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clear that the numbers are the global cycles.

[Reply] We have detailed explanation about these numbers in the text (See Line 398-410). It is too long to be a figure caption. Thank you very much.

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

**CPD**

10, C712–C715, 2014

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