Climate
of the Past
Discussions

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.

p. krusic

paul.krusic@natgeo.su.se

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RE Introduction:

"tree growth is affected by environmental variables, such as temperature, precipitation and light" pjk - I would call these, with the exception of light, mainly climatic variables. Environmental variables are more local to the tree, e.g. slope, aspect, soil, elevation, etc.

"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." pjk- This sentence could be written more

clearly.

"However, these documents have many disadvantages, for example, somewhat artificially effects caused by the recorders resulting in that the documents could not reflect the real natural climatic changes (Liu et al., 2001, 2003, 2007)." pjk - This sentence should also be re-written.

"This would be the first time to reconstruct the seasonal mean minimum temperature using tree rings in the CPC, which is helpful to understand the mechanism of climate change and evaluate its social and economic effects in the vast CPC region. This research is also vital to establish the tree ring network in China." pjk - Though the authors may be correct naming this study as the first to reconstruct Min.Tmp at their site, it certainly is not the first attempt to reconstruct CPC temperatures from tree-rings.

In the past year there have been two significant tree-ring, temperature reconstructions published for the same region. Cook, et al., 2013 (Climate Dynamics) produced a summer temperature reconstruction for 585 grid-points (coverage includes the area of this study) and Kaufman et al. (PAGES Consortium, 2013, Nature Geoscience) published an Asia-regional reconstruction of MinTMP, AveTMP and MaxTMP, all derived from tree-ring chronologies, and centered primarily over China.

ftp://ftp.ncdc.noaa.gov/pub/data/paleo/pages2k/DatabaseS1-All-proxy-records.xlsx
ftp://ftp.ncdc.noaa.gov/pub/data/paleo/pages2k/DatabaseS2-Regional-Temperature-Reconstructions.xlsx   ftp://ftp.ncdc.noaa.gov/pub/data/paleo/pages2k/auxiliary-information

I would like some explanation why these two publications are not mentioned nor their reconstructions utilized in this study?

Secondly, I am curious to know how this study contributes to creating a tree-ring network in China? Of the extant 65 Chinese contributions in the ITRDB the single largest contributor (over 2/3rds) is the PAGES consortium (Kaufman, et al. 2013 Nature Geo-

science). I cannot find any contributions by the authors of this article??? Please explain or remove.

RE Sampling: "According to the standard of the International Tree-Ring Data Bank (ITRDB), two cores were recovered from each individual tree." pjk - This is not true (see: http://www.ncdc.noaa.gov/paleo/text/tringguide.html).

The ITRDB sets no standard for the number of cores from a tree. As a matter of fact the ITRDB goes to great lengths to make submissions as painless as possible, which may be why it is the largest open access database of its kind, a fact the International Tree-Ring community is very proud of. The ITRDB's only requirement for submissions is measurements be cross-dated and accompanied by the sample's location (lat, lon, elev), species and some authoring authority, individual or group.

RE Chronology Development: "The curve obtained by averaging these series year by year reflected age-related biological noise." pjk - age-related biological growth "trend" would be better.

RE: Figures Fig.10. There is no 95% CL (dashed line) visible.

Fig.9. It would be interesting to see how spatially significant the correlations are after accounting for trend in both datasets (eg. a plot of first-differenced or detrended correlations). I am assuming these are the significant correlations (p>10%). As an additional note, CRUts3.2 supersedes 3.1. Both are available for use on KNMI.

-pjk Stockholm. May 8, 2014

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