

Interactive comment on “Tree-ring inferred glacier mass balance variation in southeastern Tibetan Plateau and its linkage with climate variability” by J. Duan et al.

Anonymous Referee #2

Received and published: 17 September 2013

The paper of Duan et al. is of high scientific relevance since it brings observation on recent glacier shrinkage and short-term glacier mass-balance measurements into a longer time perspective by using tree rings as palaeoclimate proxies. Glaciers in the monsoonal realm of the southeastern Tibetan plateau respond to similar climatic forcing (i.e. summer temperature) than latewood density of high-elevation conifers (MXD) and so the long-term trends of MXD can be seen as a proxy for glacier mass-balance changes. The methodology is sound and the tree-ring data are reliable as indicated by the statistics and the known context of relationships between MXD and summer climate conditions on the Tibetan plateau. The graphics are nice, however, the usage of English needs refinement, unclear and odd expressions like e.g. "Understanding of

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such knowledge is limited..." or "However, a whole out of phase occurred..." should be clarified. The introduction should include more recent regional studies about glacier recession, e.g. Bolch et al, Science 2012.

Interactive comment on Clim. Past Discuss., 9, 3663, 2013.

C2038