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Interactive comment on "Forward modeling analysis of regional scale tree-ring patterns around the northeastern Tibetan Plateau, Northwest China" *by* X. Gou et al.

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The article is devoted to one of the actual dendroecological problems associated with the study of tree-ring response to recent climate change. In the paper Authors used well-known process-based VS-model and obtained several results corresponding to nonlinear tree-ring response on growth-limiting factors variability. One of them is concerning to an influence of water stress on tree growth during June in the research region. Particularly based on VS-modeling and direct tree-ring measurements Authors shown that an early summer water deficit is responsible for formation of wide/narrow tree-rings in that region.

In general, I think that the paper can be published in the Biogeosciences journal with minor changes.

Specific comments:

1. In the paper Authors have defined narrow (15,9 % of total rings number) and wide rings (15,9%) based on normal distribution properties (see page 9975, line 10). Can Authors test an distribution of actual data (first PC) and include that results in the paper?

2. The authors noted the significant difference between two curves of partial growth rate corresponding to narrow/wide rings and then concluded "... that potential plant water stress reaches its peak in June, broadly influencing the year-to-year variability in radial growth over this study region"(see 9975, line 28). What kind of statistical criteria was used? Can Authors include a brief description of statistical testing in the paper?

3. Error in the formula (see page 9972, line 23): In the right part of formula the hs should be placed instead of cos hs according to Gates (1980)

4. In the Figure 3 grade scale of correlations should be placed to better understand a similarity between two patterns of correlation fields

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Interactive comment on Biogeosciences Discuss., 10, 9969, 2013.