

## ***Interactive comment on “Enhanced cold-season warming in semi-arid regions” by J. Huang et al.***

**Anonymous Referee #4**

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Based on regional historic records, this study concluded that the semi-arid regions witnessed more significant warming comparing with other regions. The study also revealed the negative regional correlation between warming and mean precipitation. The authors suggested the enhanced semi-arid warming (ESAW) concept to explain the data. The concept includes a comprehensive analysis of contributing physical processes that may have lead ESAW.

The paper is well written. The arguments are sufficiently supported by the data. The figures are clear and easy to understand. I would suggest the paper to be published with minor revisions.

Minor revisions

1. Page 4628, line 3: remove the comma.

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2. Page 4628, line 10: change “accounting contribute by 27%” to “contribute”.
3. Page 4628, line 12-13: change “may cause these regions to become drier and warmer” to “may suggest drier and warmer trend of these regions”.
4. Page 4628, line 22: change “; but dynamic” to “. Dynamic”.
5. Page 4629, line 21: please consider add a sentence summarize the source (and quality, if possible) of the data (model outputs? observations? combinations?)
6. Page 4631, line 15: change “climates” to “regions”.
7. Figure 5 and 6: it will be nice if you can add some sort of error bars in the plots.
8. Page 4634, line 25: change “The effects of these factors” to “The primary factors” or “The leading factors”.
9. Page 4635, line 6: change “Susan” to “Solomon”.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 4627, 2012.