

Interactive comment on “Dominance of climate warming effects on recent drying trends over wet monsoon regions” by Chang-Eui Park et al.

Chang-Eui Park et al.

sujong@sustc.edu.cn

Received and published: 18 July 2017

1. Authors needs to bring sense of using their study at regional scale where opinion 'dry gets drier, wet gets wetter' does not fit. It cannot be a generalised statement as it is proved over some other regions.

[Answer] Thank you for your comments. We will modify the sentence and clarify the target region of this study by mentioning the inconsistency of the paradigm over the analysis region.

2. How about role of precipitation on humid region is it only evapotranspiration which is controlling?

[Answer] In humid regions, precipitation change always acts to decrease dryness in

both analysis periods (1961-1983 and 1984-2010). We already described the role of precipitation on dryness trends over the humid area at section 3.2. In the early period, the influence of precipitation is much larger than that of other climate variables, whereas, precipitation is secondly important variable for dryness change in the later period. Then, we wanted to highlight the importance of evapotranspiration over the humid regime in the later period.

3. 'Our results suggest that enhanced atmospheric water demands caused by warming can threaten water resources in wet monsoon areas and possibly in other warm and water-sufficient regions' - This process is well understood based on physical laws- then why authors want to claim it that way.

[Answer] As you mentioned, warming-induced atmospheric water demand increases are the well-known process. However, we want to signify the influence of warming on long-term changes in dryness over wet monsoon area, not the physical law. "Over the monsoon regions, dryness increase due to warming is out of interest in previous studies on dryness trends due to large variation of precipitation". Our results first emphasize the importance of the increase in water demand due to warming for dryness trends over monsoon regions based on site observations, especially in humid areas. We will change this sentence for clarifying the conclusion.

4. All set of equations are from published work and hence need not to part of the main text and can go in the supplementary material. If so, then methodology needs to be simpler for better understanding of common researcher.

[Answer] Thank you for your suggestions, we will move the equation set to supplementary like Han et al. (2012) and Fu and Feng (2014).

Interactive comment on *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2017-40>, 2017.

Printer-friendly version

Discussion paper

