

Interactive comment on “Recent climate change affecting rainstorm occurrences? A case study in East China” by M. Domroes and D. Schaefer

Anonymous Referee #2

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Rain storms are extreme weather events important for society. The manuscript presents the climatological mean and trend of rain storm occurrence over China east of 105E, based on daily precipitation observations for a 25-year period of 1976–2000. As it stands, the manuscript does not merit publication in a reputable scholarly journal because of its neglect of an extensive literature in Chinese and international journals, technical deficiencies, and lack of necessary physical interpretation, as detailed in comments below.

Major comments 1. There are extensive publications in the climatology and secular trend of precipitation over China but the authors were either unaware of or decided to ignore them. Of 10 references cited in the paper, nine were from the authors. It is the responsibility of the authors to cite relevant publications and prove to the referees

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and readers that their analysis contains enough new results meriting publication in a peer-reviewed journal like *Climate of the Past*. For your information, I list one recent paper on the same topic:

Wang, Y., and L. Zhou, 2005: Observed trends in extreme precipitation events in China during 1961-2001 and the associated changes in large-scale circulation. *Geophys. Res. Lett.*, 32 (9), L09707, doi:10.1029/2005GL022574.

2. As the authors acknowledged, rain storms of >50 mm/day are rare so the sample size for analysis is small. Did you investigate the sensitivity to the choice of the threshold?

3. Related to 2, are 25-year data robust enough to detect a reliable trend? The above study of Wang and Zhou used 41-year data? Have you tested the sensitivity to the length of data record?

4. Presenting precipitation and temperature trends side by side is interesting but the authors made no attempt to relate them in one way or another. Analysis for the current manuscript is by no means a substantial effort but the authors appear unwilling to do some substantial analysis. For example, they suggested that typhoons may be responsible for the summer rainfall increase in East China but why do not they find this out by analyzing typhoon track data? The rainfall increases reaches as west as Hunan Province but I never heard that typhoons affect rainfall that much inland. More careful analysis and interpretation are necessary.

Minor comments 1. Figs. 6 and 7 appear based on a different dataset but this is unclear in the manuscript.

2. Page 296, line 15. The authors claimed that temperature changes in subtropical China are rather small. The temperature drop in central East China is definitely not small, amounting to -0.3 C/decade.

Interactive comment on *Clim. Past Discuss.*, 4, 289, 2008.

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