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Climate of the Past Discussions

Interactive comment on "Recent climate change in Japan – spatial and temporal characteristics of trends of temperature" *by* D. Schaefer and M. Domroes

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We would like to thank for the valuable comments made by two anonymous referees and we have worked hard to consider same in our revised version. Therefore, we have rewritten parts of the paper - on the basis of the given comments.

The anonymous referees asked to pay more attention to recent literature on recent climate change in Japan. Therefore we have collected and discussed recent publications and have updated our list of references (see list of publications in the updated article). We have focussed especially on the detailed studies of Fujibe (1995 and 2007) about recent climate change in Japan. Both papers enrich the discussion about recent climate change in Japan and can be regarded as basic references about the topic.

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However, the topics/aims of the mentioned studies varies from our paper. Additionally, the number of stations and observation period varies. (1) The study of Fujibe (1995) focuses on recent climate change in Japan analysing the data of 60 stations; the observation period of the data ends 1992; therefore the warm years of the 1990s are missing in this paper. (2) In the paper of Fujibe (2007) the data were updated until 2005; however, only 17 stations (not including the large cities) were analysed in this paper.

We analysed recent climate change in Japan in our paper by analysing monthly temperature data of a high number of stations of Japan (136 stations). Our aim is not to quantify climate warming at urban and non-urban stations, although this is a very interesting and important question. Anyway, we think, that it is - from the statistical point of view - difficult to filter out and quantify the urban heating effects of the station data. Our aim is to analyse a large number of stations with a dense spatial coverage stations and compare the results with the global trends. With other words we analysed the data with a geographic (spatial and temporal) perspective. As a result we identified the warming at almost all stations in Japan. Additionally, we found out that the observed trends are higher than the global temperature trends. We think that it is an important finding that the warming can be manifested for the large number of stations (136 stations) under study.

Summarized, we want to present and provide a reliable climate diagnosis, by analysing comprehensively climate data on the basis of approved and internationally applied statistical methods (IPCC). The results were discussed against the background of the latest IPCC reports. Therefore we think that our paper is an important contribution to the discussion on recent climate change in Japan.

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