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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Climatic and extreme weather variations over Mountainous Jammu and Kashmir, India: Physical explanations based on observations and modelling" *by* Sumira N. Zaz et al.

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Responses to the reviewer (Dr. Reyaz Dar, reyazsopore@gmail.com) short comments (Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-201) of our manuscript (manuscript # acp-2018-201) titled "Climatic and extreme weather variations over Mountainous Jammu and Kashmir, India: Physical explanations based on observations and modelling" by Sumira Nazir Zaz, Romshoo Shakil Ahmad, Ramkumar Thokuluwa Krishnamoorthy, and YesuBabu Viswanadhapalli submitted for possible publication in the journal, Atmospheric Chemistry and Physics, an

open access European Geophysical Union publication

General response:

We express our sincere thanks to the reviewer for his interesting comments on our manuscript, which helps us to understand the importance of extending the data analyses up to 2018.

Specific response.

Author's query: The study has been undertaken in a well defined pattern where first local temperature and precipitation has been understood and then validated and predicted with the downscaled WRF model and then finding its linkages with the local topography and global phenomena. My suggestion in this regard would be to run the WRF model at least up to 2018 so that further insight into the phenomena will be understood.

As suggested by the reviewer, in the revised manuscript, all the results (including WRF simulations and NAO index data), figures and tables have been updated to 36 years up to December 2016 and we have not found any significant changes in trends. Because of the availability of both the observed and WRF data, at present we could update only to 2016. In the near future, we will try to update it as suggested by the reviewer.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-201, 2018.

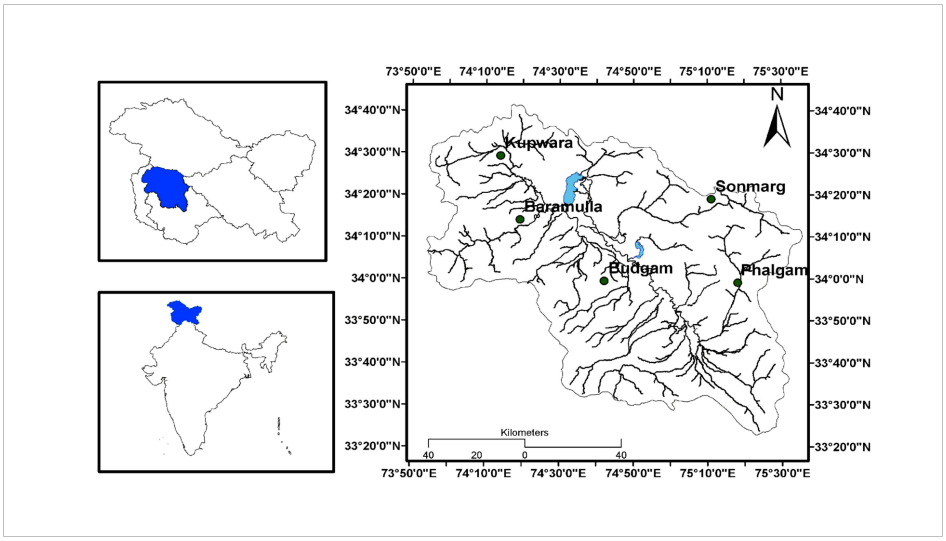

Fig. 1. Fig. 1.Geographical setting and topographic map (elevation in meter is above mean sea level) of the Kashmir Valley along with marked locations of six meteorological observation stations: Srinagar, Gul

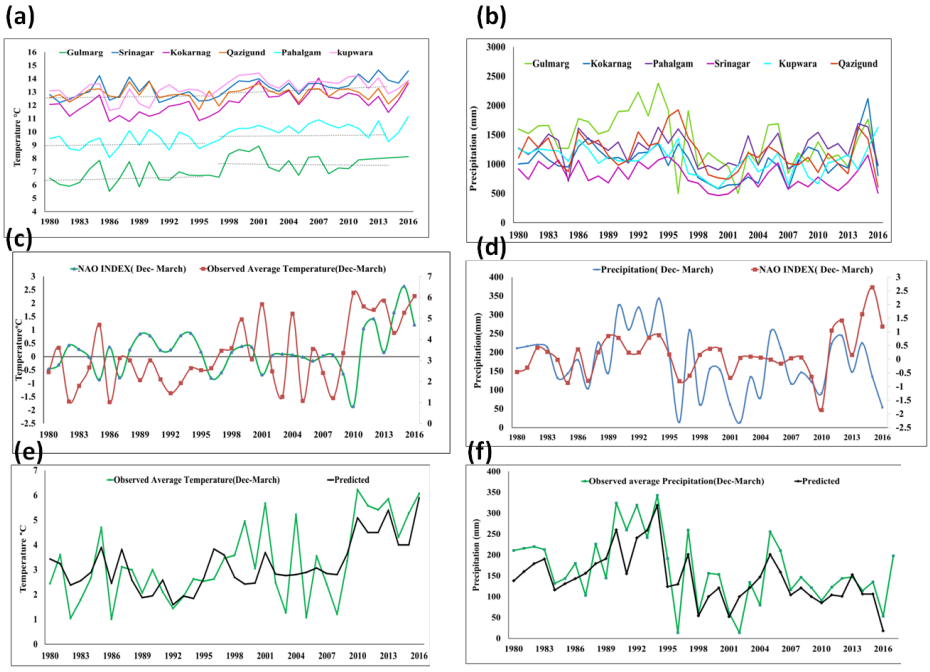

Fig. 2. Fig. 4 (a).Cumulative testing for defining change point of temperature (averaged for all the six stations of the Kashmir valley), (b) same as (a) but for precipitation, (c) Comparison of trends of Kas

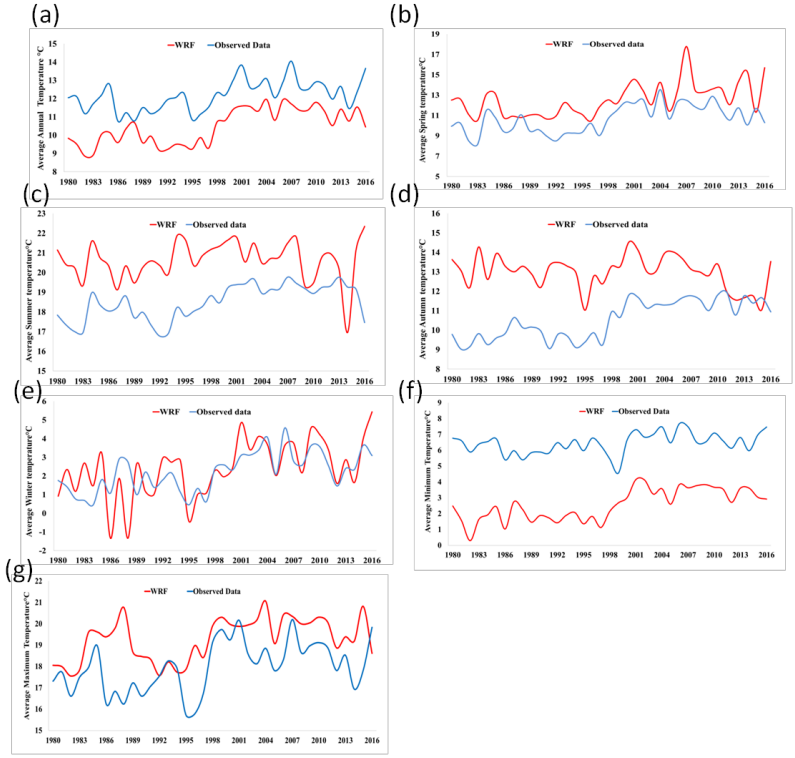

Fig. 3. Fig. 5. (a). Comparision between observed and WRF model (location of Kokarnag is considered) simulated annually averaged temperature (averaged for all the stations) variations for the years 1980-2016,

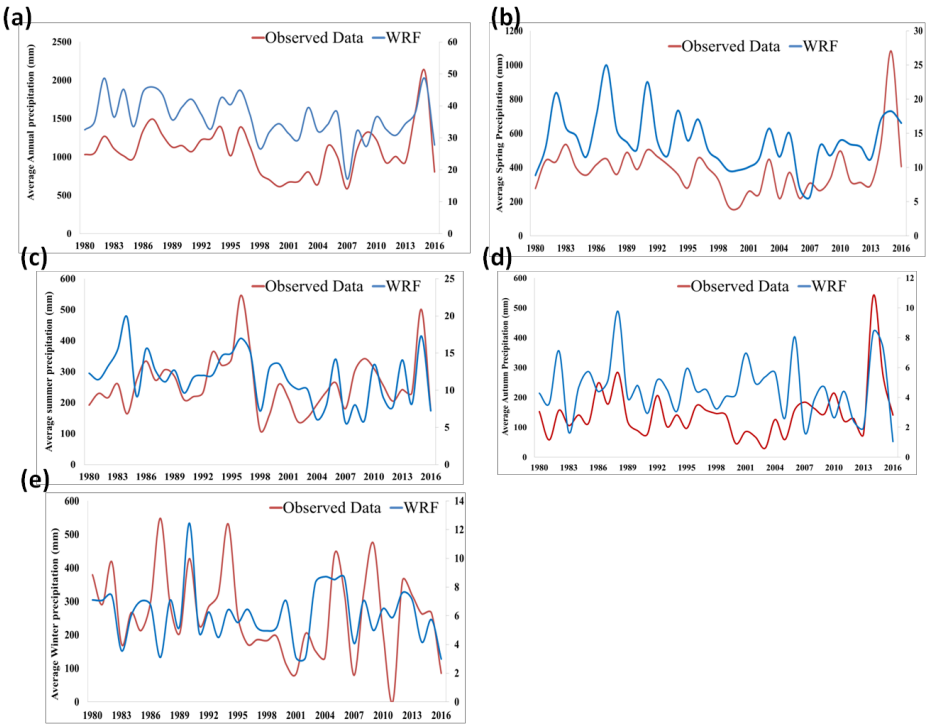

Fig. 4. Fig. 6. Same as Fig. 5 but for precipitation. Here the minimum and maximum precipitation are not considered because it cannot be defined them properly in a day.