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Comment on essd-2021-309

Shu Fang et al.

Author comment on "Dataset of daily near-surface air temperature in China from 1979 to 2018" by Shu Fang et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-309-AC2, 2021

We would like to thank Dr. Wu and many other users for the good comment on our manuscript and dataset. Maximum, minimum, and average temperatures are the key input parameters of many climate changes and ecological models, which are difficult to obtain and the accuracy of these parameters restricts the operation of models. After our work was completed, many users gave very good affirmation. The data has been downloaded more than 35,600 times (https://zenodo.org/record/5513811#.YY3Dpk5Bw2y).

Compared with other datasets, the advantages of our dataset are as follows.

- Different from previous studies, this study focuses on the estimation of daily maximum, minimum, and average temperatures on long time scales (1979 – 2018).
- The daily maximum temperature and minimum temperature models were constructed according to different weather conditions, and the average temperature was further calculated on this basis.
- In order to further improve the accuracy, we divided China into 6 different regions according to climatic conditions and topography. The observation data is used to construct a region correction model to further improve the accuracy of the dataset. The accuracy of the corrected data was significantly improved. The RMSE of T_{max} decreased by 1.09 °C, the RMSE of T_{min} decreased by 0.79 °C, and the RMSE of T_{avg} decreased by 0.27 °C.

Thank you very much for giving us good suggestions for amendments. We will further improve the quality of the manuscript and dataset.