
Response to the CC1

Dear Reviewer,

We sincerely thank the reviewer for your support and insightful feedback, which greatly improved our study. We have carefully revised the manuscript in response to your comments, highlighted in red, and provide point-by-point replies below.

Thank you for your time and kind assistance.

Best regards,
Haoyu Jin

CC1

The method of this study raises some questions for me. They use three reanalysis datasets (ERA5, MERRA-2, JRA-55) as historical data and use four CMIP6 models under two SSP scenarios for the future. Firstly, they address the systematic biases between climate model simulations and reanalysis data. They highlight that they performed a simple bias correction on the CMIP6 model output although, they note that, since they are comparing CHWEP events and single extreme events, the precise accuracy of the absolute value is not important for the conclusion. However, this is too short of an explanation in my opinion. Limitations of the bias correction method and explaining it shortly would be more complete.

Response: The authors have added in Section 3.1 a description of how future climate model data were bias-corrected in this study, employing the Quantile Delta Mapping (QDM) algorithm, which preserves the trend characteristics of the original time series. Regarding the comparison between CHWEP events and single extreme events in both historical and future periods, since both types of events are derived from the same time series, their relative differences remain valid regardless of potential uncertainties in the absolute data accuracy, thus ensuring the robustness of the conclusions drawn. Furthermore, the use of a multi-model mean, a 90th percentile threshold, and a 7-day temporal window were all implemented to yield robust results and enhance the reliability of the findings. We sincerely thank the reviewer for your valuable comments and suggestions, which have greatly contributed to the continuous improvement and refinement of this study!