Referred to Track changes' Manuscript:

Teddy-Tool v1.1 performed satisfactorily for all variables except precipitation and windspeed. Considering the limitations of the methodology, I recommend a minor revision. I encourage authors to include the following comments and suggestions.

Reply: Thanks a lot for your detailed further comments that we appreciated very much!

Comments & Suggestions:

1. a) Comparison of absolute error (AE) of each variable between the reference/observed and climate model datasets seems not enough for choosing "the most similar meteorological day". For instance, AE compared only the rainfall amount between daily reference/observed and climate model datasets, but it ignores the characteristics such as intensity and frequency such as heavy (in ISIMP) and light (aggregated daily WFDE5) rainfall events.

Reply: Using the absolute error to rank the daily variables is a well justified approach, which is also applied within the 'Method of Fragments' (Li et al., 2018; Pui et al., 2012; Sharma et al., 2006). We emphasize that the choice of error metric (e.g. AE or MSE/RMSE) does not play a role, as the ranks of errors are the same for AE and (R)MSE.
Intensity and frequency characteristics of rainfall are consistent between WFDE5 and ISIMIP, as these characteristics have been aligned within the bias adjustment (Lange 2019). Hence, we do not have to compare overall characteristics of rainfall or other variables. We clarified this within the text: "The bias-adjusted hourly WFDE5 data is globally available for the time period between 1979 and 2019 at 0.5° spatial resolution. It is consistent with the bias-adjustment procedure within ISIMIP (Lange, 2019) and thus provides a consistent hourly reference data for Teddy."

2. b) How do authors justify with a minimum sum of ranks has the "most similar meteorological day"?

Reply: This is a defined assumption of this approach (see line 330: "In this context, we define 'the most similar meteorological day' as the day with the minimum sum of ranks"). We add references for justification: "The approach works under the assumption that similar daily values would have a similar sub-daily profile (Li et al., 2018; Pui et al., 2012; Sharma et al., 2006)". As shown by the evaluation results, this assumption can be regarded as well suitable for many applications.

L134 add the sentence to the previous paragraph. It's confusing with Table 1.

Reply: Thank you. Done.

L223-228- justify. Why filtration of statistical population based on precipitation state based on three days (i.e., 8 options)?

Reply: The main reason for considering the precipitation state of the contiguous days is to improve the inter-day connectivity. Without this filtration there would be an increased probability to "cut off" rainfall events between days. This would induce jumps for rainfall (but also other connected variables) between days, as these can be chosen

from different time periods. Therefore, we implemented this filtration step as also suggested by Li et al. (2018) and Poschlod et al. (2018). This justification is reflected in the text: "This step is included to better reproduce the inter-day connectivity of precipitation (Li et al., 2018)".

L232- Why do we consider an equal weightage for each variable? Does the correlation among each variable as indicated in L345-346 have any significant effects on it?

Reply: We weight all variables equally because we are interested in an overall representation of the meteorological conditions for the corresponding day. Generally, a user could modify the weightage dependent on the specified further use. However, in this general model description, we would not want to imply different importance of variables.

L234- elaborate on the term statistical similarity meant.

Reply: We use a statistical approach. This was meant by 'statistical similarity'. We change the term to "statistically derived similarity" in order to emphasize that our approach considers the similarity in a statistical manner. The methodological elaboration on this statistically derived similarity is given in the previous lines (L201 – 234). The justification of this assumption is given by the references to Li et al., 2018; Pui et al., 2012; Sharma et al., 2006 in L235/302 directly thereafter.

L508-509- paraphrase

Reply: Done.

Fig1: check whether the chart needs to include the portion of L305-307

Reply: Thanks a lot, we included that to the chart in Figure 1 (hourly value = hourly profile * daily mean value of the climate model).

Fig: 9- r value between which parameters? (Same as Fig 5 & 6)

Reply: Thank you for indicating this, we added this information to the figure caption of Fig. 5, Fig. 6, Fig. 7 and Fig. 9.

Table 1- check the subscripts & include the full name of variables such as Precipitation (pr)

Reply: We added the full names of the variables to Table 1.

- include the ISIMIP data description in the manuscript's data section as provided in the response section.

Reply: We included the ISIMIP data description in the manuscript's data section as provided in the responses.

- Rename the 4.3 section

Reply: Done.

- L562- “Discussion and summary” seems appropriate.

Reply: Thank you!