Geoscientific Model Development Discussions

Geosci. Model Dev. Discuss., referee comment RC1
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Comment on gmd-2022-128

Anonymous Referee #1

Referee comment on "stoPET v1.0: a stochastic potential evapotranspiration generator for simulation of climate change impacts" by Dagmawi Teklu Asfaw et al., Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2022-128-RC1, 2022

- P6L8: What is the format of skewed normal distribution? Please express the distribution. Why do you choose distribution? Is that common for PET? If yes, include the references. Otherwise, statistical test must be performed to ensure the distribution. Is it possible that noise ratio can be negative? If not, other distribution must do better job such as gamma.
- There is no full equation that explains the stochastic simulation model of PET including sine +noise+annual variability. Each element is explained in separate sections. Combined model description must be provided.
- The overall comparison between hPET and stoPET is not acceptable since the hPET was employed to build the stoPET model. Naive or other stochasitc model must be used for comparison.
- Double cycle of seasonal variability shown in Africa of A4 (Figure9) does not seem perform good. Please describe the potential reasons.
- Explanation of the program and data must be provided. Provide specific steps to download the data.
- Fig12: stoPET is the stochastic simulation model. One might have wrong implication that the model was not performed good. Separate panels can be used instead of overlapping.
- For example of Method 1 and 2, isn’t it better with different user-defined-changes at each year. This reviewer suggest that the authors reasonably set up the scenario to change the annual variation.