Reviewers: Red highlights

Title: Employing the Generalized Pareto Distribution to Analyze Extreme Rainfall Events on Consecutive Rainy Days in Thailand's Chi Watershed: Implications for Flood Management

In their study, the authors have put forth the application of the Generalized Pareto Distribution (GPD) as a means to characterize the extreme rainfall data. They have estimated the distribution's parameters through both maximum likelihood and linear moment estimation methods. However, it is worth noting that relying solely on the GPD may be insufficient. It would be beneficial to incorporate additional distributions for comparative analysis. Furthermore, enhancing the analysis by taking into account spatial and temporal dependencies within the model could prove valuable.

No	Comments	Reply
1.	Regarding the selection of the threshold "u," is it possible to treat it as a model parameter and estimate it directly from the data?	Thank you for comments, the u value is used for the GP. This value is set to a constant value and the observed data with values greater than u (that is, $X > u$). Thus, the cumulative distribution function of GPD is $\Pr(Y = X > u \mid Y \leq y)$. Therefore, the value of u cannot be considered as another parameter in this distribution. But it is treated as the mean of the raw observed data when estimating the return level. The value of u must be large enough to obtain the maximum observed data and have an appropriate sample size. It is possible to treat u as a model parameter and estimate it directly from the data. We will consider about your recommendation in our future work.
2.	There appears to be some confusion regarding the notations used in equation (2) and in the negative log likelihood function, particularly on line 150 of page 9, and in several other instances.	Thank you for comments, we have corrected in equation 2. $$H(y) = 1 - \left(1 + \frac{\xi y}{\tilde{\sigma}}\right)^{-\frac{1}{\xi}},$$ defined on $y > 0$, where $\tilde{\sigma} = \sigma + \xi(u - \mu)$ is the scale parameter and $-\infty < \xi < \infty$ is the shape parameter. In the case $\xi = 0$, leading to $$H(y) = 1 - exp\left(-\frac{y}{\tilde{\sigma}}\right), y > 0$$ And check in line 150 of page 9 as recommended.
3.	How can you ensure the convergence of estimates when using Maximum Likelihood Estimation (MLE)? Have you experimented with different initial values in the R functions employed for estimation?	Thank you for comments, we have implemented the suggested modifications outlined on page 10, specifically within the range of lines 158-159, through the addition of references. How can you ensure the convergence of estimates when using Maximum Likelihood Estimation (MLE)? There are some references such as Dupuis and Winchester, 2001; Papukdee et al., 2022., presented one potential disadvantage of the L-ME is that Newton-Raphson type algorithms used to solve systems of L-moments equations may sometimes fail to converge. And one more reason is about sample size which the L-ME is employed due

No	Comments	Reply
		to its higher efficiency in small samples compared to the MLE (Hosking, 1990). Have you experimented with different initial values in the R functions employed for estimation? Reply: We experimented with Nelder-Mead method in the "ismev" package in R program.
4.	While the authors have conducted model diagnostics and assessed goodness-of-fit, it would be advisable to include information criteria such as AIC and BIC to facilitate the selection of a more suitable model. Additionally, providing insights into prediction accuracy for each model would be beneficial.	Thank you for comments. We give more detail of step of model conduction by using diagnostics and assessed good-of-fit. In addition, we have incorporated the BIC results into Tables 4 and 5 and has provided additional explanations in accordance with the recommendations.
5.	How have you verified the stationarity of the data, and what measures are taken if it is found to be non-stationary? Have you considered incorporating external variables, such as temperature or others, into the model to enhance the accuracy of the analysis?	Thank you for comments, we performed data analysis using the Mann-Kendall (MK) test, as displayed in Table 2. For non-stationary case, we applied five models which effected to each parameter, showed in Table 3. In recently research, we analysis focused only on a single variable, namely, time. However, in the future, the we intend to develop models and explore additional variables.