

# ***Interactive comment on “Uncertainty analysis of the rate of change of quantile due to global warming using uncertainty analysis of non-stationary frequency model of peak-over-threshold series” by Okjeong Lee et al.***

## **Anonymous Referee #2**

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The current manuscript presents the nonstationary frequency analysis based on the POT precipitation data. The presented manuscript sounds interesting and contains the novelty. However, the assumption they made was not clearly explained and its still further explanation must be included. Therefore, I recommend that the current manuscript needs major revisions before publication. Detailed comments are attached.

L111 Specific information and references must be added to support the selection of DPF as a covariate. Physical relation must be also included between dpt and extreme rainfall.

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L158-162 please make it italic and also for  $x$  throughout the paper. All the symbols must be italic unless matrix or vector.

L172 This one paragraph is not sufficient to set nonstationary model only for shape parameter. Detailed description must be included with more references.

L194 detailed description and references must be added to validate that these factors are meaningful.

L331-334 The sentence must be improved

L804 The range for (a) and (c) must be changed as shorter than 0-100. It seems that scale parameter has very accurate and small variance. However, in reality it is not.

L829 is y-axis 'relative frequency' or pdf? 'relative frequency'= $n_i/N$  while pdf = $n_i/(N \cdot dx)$ . Check it.

L840 circle black line and blue line are not explained properly.  $F(DPT)$  does not seem to be empirical cumulative probabilities (see blue and red lines). It is just cumulative distribution function.

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