Dear Editor and Reviewers,

We would like to thank you once again for your work on this manuscript and as well the reviewers for their valuable feedback. Following their comments, the following changes have been implemented in the updated version of the manuscript:

- Lines 5-6, since I have changed my working place, I have updated the affiliation and email correspondence.
- Lines 59-61, following the reviewer 1 comments we have updated the sentence as following: "In this paper, the focus is on developing a framework that accounts for uncertainties due to short observation lengths and non-representativeness of point measurements for spatial dependencies of extremes."
- Lines 90-94, following the reviewer 1 comment 2 we have updated the sentence as following: "It is widely accepted that the kriging system can capture only the local uncertainty (providing information at one location at a time conditioned to other observations in the vicinity) and not the spatial one (providing a measure of uncertainty about the un- sampled values taken altogether in space rather than one by one), the estimated uncertainty is dependable on the data configuration rather than on the value itself, and lastly it fails to preserve the high spatial variability of the target variable"
- Lines 103-105 were added following the comment 2 from reviewer 1:
  "Another advantage of stochastics simulations is the ability to compute directly the confidence intervals for the target variable, while in kriging interpolation the confidence intervals are computed from the kriging variance assuming a normal distribution of the errors."
- Lines 190-197 were added following the comment 1 from reviewer 1:
  "The decision to fix the shape parameter at 0.1 was made based on existing literature and previous analysis that we have conducted on the data set in Germany. For more information regarding the choice of generalisation or shape parameter, the reader is directed to our previous study (Shehu et al., 2022). Keeping the shape parameter as fixed can be a reasonable choice to reduce the high uncertainty that is associated with the extreme values analysis at single stations. As shown in (Shehu et al., 2022), for return period higher than 20 years, the uncertainty from a free shape parameter is much higher than the uncertainty from keeping the shape parameter fixed at 0.1, which will cause the interpolation of extreme rainfall to be less certain."
- Lines 309-311 were added following the comment from reviewer 1:
  "Only 133 values from all the stations were sampled here, to address the uncertainty in computing the variogram from a small dataset that corresponds with the number of the long recording stations that were used to compute the variogram for the KED interpolation."
- Lines 321-325 were added following the comment from reviewer 1:
  "In other words, for the known locations where there are observations, either the nodes are not resampled (as in the case of simulated annealing) or the nodes are allowed to vary according to the variogram nugget when compared to the observations (as in the case of the sequential Gaussian simulation). The spatial simulations are conditioned to the location of the 133 long recording stations (LS) since they are the main input for the regionalization are considered the ground truth."
- Lines 377-378 were updated following the comment 3 from reviewer 2:

"Redo step 3-4, until a maximum number of swaps is reached, or if a maximum number of accepted swaps is reached. If this is the case, the temperature t is reduced by a multiplicative factor Ω (here as 0.1)."

- Lines 474-475 were added following the comment 3 from reviewer 1:
  "The parameters are varying greatly in space, and that is why when sampling from space (spatial simulations) the prediction intervals are higher than for the bootstrapping case (or the other cases)."
- Lines 521-526 were added following the comment 2 from reviewer 2:
  "Some outliers are present in the accuracy plot (lower row Figure 10) however expect for one location, these outliers are within the maximum RMSE manifested by the direct regionalisation. The behaviour of these outliers emerges both from parameter outliers and from looking at the quantiles. They are present at locations where parameters are considerably different from the neighbour long observations (as in the case of singular stations in the Black Forest or the Alps), or where a parameter outlier is located (as in the case of Münster City where a very rare extreme event in 2014 causes a high value for the scale σ parameter) and are not geographically clustered."
- Line 534 was updated following the comment from reviewer 1:
  "This parabolic behaviour over the different duration levels is…"
- Figure 12 was updated following the comments of reviewer 1 (see below).
- We have corrected all the technical comments suggested by both reviewer 1 and 2.
- We have not change Figure 14. Actually, the reviewer 2 has advised to have the same colour scaling for the three experiments and durations, however we find that the spatial structure, which is important to see, will be lost. In our response to the reviewer #2 we have inserted a version of the figure with same colour scaling; however we would prefer to keep the Figure 14 as it is in the actual version of the manuscript.
- Throughout the manuscript we have tried to keep the term consistent for LS as long recording stations and for SS as short recording stations.

with kind regards,

Bora Shehu

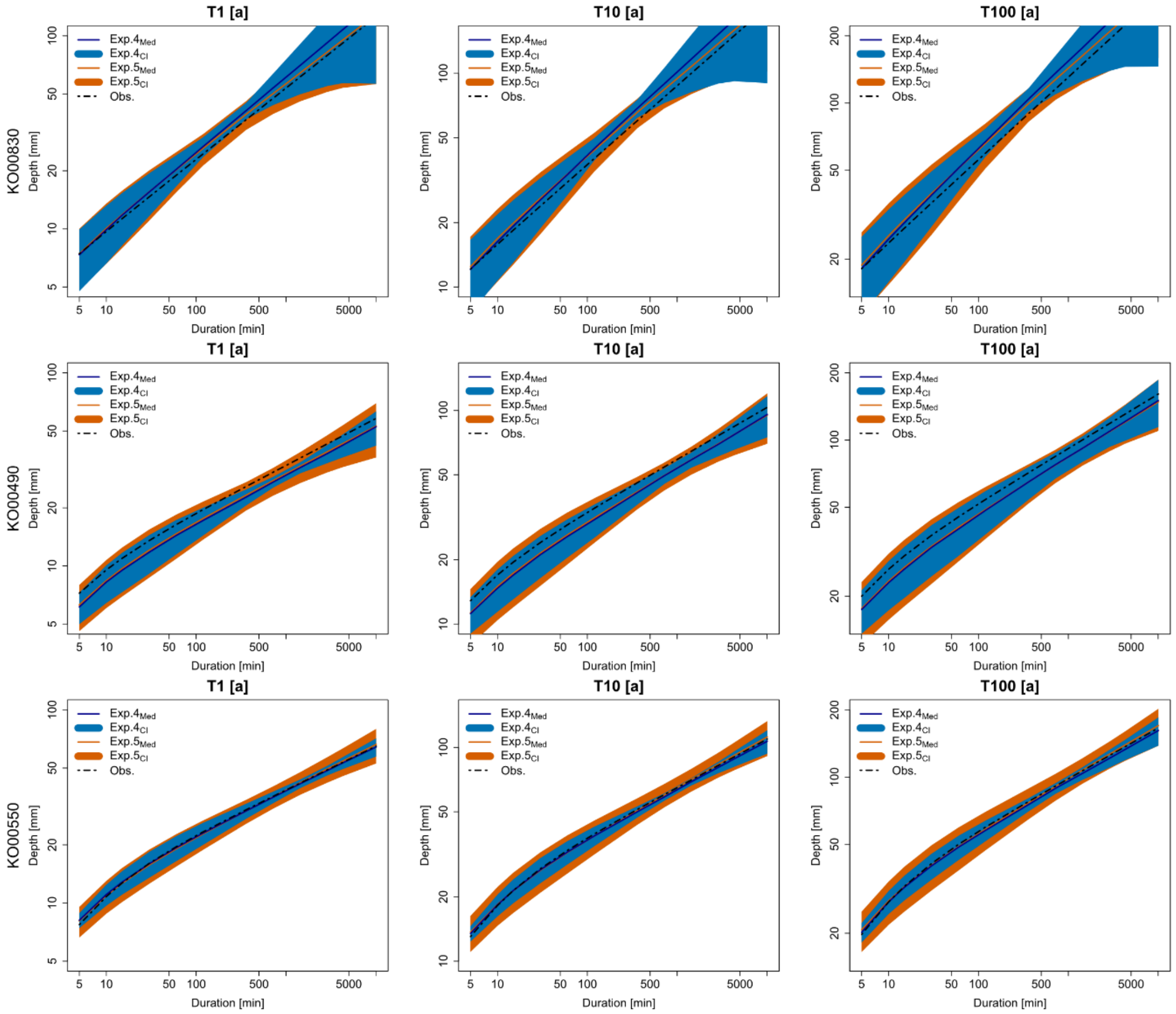

Figure 12 Examples of DDF estimates from observed data and predicted by simulations of Exp. 4 and 5 in a cross-validation mode: as median over all simulations and as 95% tolerance ranges from all simulations: upper row for return period T=1years, middle row for T=10years and lower row for return period T=100years. Three stations are shown here: K000830 located in the German-Alps, KO00490 location in Lower Saxony, and KO00550 located in Black Forest.