Response to Anonymous Referee #3's Comments:

General Comments:

This is the second time that I review this paper. Sadly, the authors chose to ignore most of my feedback. They have stated their reasons in their rebuttal. However, I do not find their arguments particularly convincing. Since the authors and I clearly disagree about the novelty, originality and quality of this work, I do not see any point in continuing this review and kindly ask the editor to invite another, impartial reviewer to replace me and continue the review process in the best, most objective way.

Reply: We thank the referee for having agreed to review our manuscript again and for acknowledging that our rebuttal was in fact rather factual. We have therefore not ignored the arbitrator's comments, particularly when we counter-argued them. We can only regret that the referee limited themselves to stating that we disagree and resign without specifying what those disagreements actually are and we are unfortunately at a loss to respond any further.

Specific Comments:

For the record: here are the 4 major issues that I think need to be addressed before publication: 1. Limited scientific significance. The paper does not really represent a major contribution to scientific knowledge. At best, it represents a (moderately novel) application of UM cascades to the simulation of conditional rainfall time series. The authors have a tendency to overstate the importance of the work. 2. Low writing quality. The English is neither fluent or precise. The text is difficult to read. There are a lot of long, complicated sentences. A major effort needs to be done in terms of writing. 3. The abstract needs to be completely rewritten to clearly explain what this paper is about. It should be more concise and clearly mention the main results. 4. There should be more details about the implementation of the method to make sure people can replicate the results. Ideally, example codes and/or datasets for testing ad comparing the method should be provided. It is not sufficient to refer to previous publications. Everything should be findable, accessible, interoperable, and reusable (FAIR). I have many more comments. But as I said above, I think it's not worth mentioning them here since the authors and I clearly disagree on the major issues.

Reply: Comments 1,3 and 4 are simply reiterations of the referee's earlier remarks which we had already responded to. Unfortunately, the referee hasn't given any scientific reason why those replies weren't convincing enough, therefore we see no point in putting forth the same arguments again. Comment 2 on the other hand is a relatively minor one, and following the referee's suggestion we have simplified lengthy sentences in the revised manuscript.

Response to Editor's Comments:

General comments:

As I read again the revised manuscript, I must agree with the general reviewers' comments that it is still too long, poorly written, and difficult to follow. "Scientifically", I believe the manuscript is fine (though not very novel) but I'm not convinced a non-expert in UM (most HESS readers) would understand and be interested in reading it in its current form. The following are some minor suggestions from my side, but I think you should revise the text considerably to improve its readability beyond my comments (see also the last reviewer's comments). I leave this to your judgment, but perhaps it would be helpful to ask a non-expert colleague for their thoughts on enhancing clarity. Please upload a revised version of the manuscript, which will be evaluated again by myself (it will not go to external review).

Reply: We thank the editor for reading our manuscript, his positive remarks, his decision for a minor revision and providing suggestions for it. We respectfully disagree with the editor's remark on the paper's novelty, since we are unaware of earlier studies that have proposed similar procedures to simulate realistic reference rainfall scenarios. Some parts of the revised manuscript have been rewritten to make the text a bit easier and more interesting for HESS readers.

Specific suggestions:

1. *The abstract is too long and should be more concise.*

   Reply: We make it as concise as possible in the revised version, but long enough to clearly point out the paper's novelty. We feel this is indispensable given the fact that referee #3 and the editor (as he mentions in his recent general comment) have often been rather doubtful regarding this.

2. *There are many repetitions in the text that can be removed (e.g., lines 107-108).*

   Reply: Thank you for this comment, which we are taking care of.

3. *Line 153. TM is mentioned for the first time. Please check other abbreviations for the same issue.*

   Reply: Thank you again, same answer.

4. *Appendices should be presented as supplementary information, in a separate file.*

   Reply: Thank you again, same answer.

5. *Table 2 can be presented in the supplementary material. Also, the table is unclear - these are thresholds for what type of design?*

   Reply: We respectfully disagree. This table is important as it provides the governmental guidelines for reference rainfall obtained from regional rainfall zoning documents. Buildings/plots irrespective of the design or type of their storm-water management infrastructure are required to comply with certain drainage/discharge rules during the occurrence of such reference rainfall events.

6. *Figure 1 - consider also moving to the SI.*

   Reply: We feel it would be more informative near the introduction.

7. *Figure 5 and in the text. I would be more specific mentioning that the simulations are all temporal and not spatial.*

   Reply: Thank you for this comment, which we are taking care of.

8. *It will be beneficial for the readers to see an example of the analysis/model on GitHub or another repository as an example. In the text, you can refer to it, and simplify some of the explanations.*

   Reply: We partly agree with the referee, and are currently developing a consolidated Python library (MultiFractal Python Library) on GitHUb that will be dedicated to doing this and much more. However, we don't feel the need to focus on such software related issues

within the current scientific paper that is focused on the methodology, which is quite novel.