Thank you for your careful analysis of our manuscript and your detailed feedback. In response to your precise suggestions and comments, the corresponding response is provided as follows.

1. *Lines 47 and 48: "However, these pure variant models are…preprocessing. " Please consider citing some previous studies to support your statement.*

We agree on the importance of backing up our statements by citing previous studies and emphasise the originality of our contributions since they aim to overcome current limitations by proposing an original combination of ML with Variational Mode Decomposition and multifractals. The preceding paragraph of this sentence (Line 47-48) has discussed these pure variant models. However in order to make it clear, we will cite these previous studies again.

2. *The second to last and third to last paragraphs in the Introduction section should be in the Method section. They went into details about either a model or an evaluation index, rather than focusing on the context and motivation of this study.*

The suggestion regarding the placement of two paragraphs, currently in the Introduction, is duly noted. They were positioned in the Introduction because these two paragraphs describe how our work differs from others' studies and clarify the contribution of our work. We will therefore split their content between the Introduction (more on motivations) and the Methods (more on the details) sections.

3. *I suggest that the authors elaborate on their motivation and clarify the contribution of this work. Based on the current introduction, the model is not new, and the dataset is not new. It's okay if this work is focused on applying a method to a dataset and this application has not been documented in previous research. But you will need to justify your decision with appropriate citations. For instance, why is that application important? It could be because of limitations from previous approaches or the good performance of some new approaches, and so on. You just need to justify this work by elaborating why it is important.*

We appreciate your suggestion to elaborate more on the motivation and contribution of our work. As replied to the second comment, we will improve the introduction section by providing a more comprehensive description to emphasise the importance of our work, although we have explained our work is different and meaningful in the Section 3.1. We will clarify again in Introduction that it is mainly due to overcoming limitations of current applications of ML to rain forecasting by combining ML with Variational Mode Decomposition and Multifractals.

4. *Maybe I missed something, but why do you need steps 3 and 4? I suggest that the authors explain why they want to generate sub-sequences on combined sequences with both training and non-training sequences and then clip to get the non-training ones instead of generating the non-training sub-sequences using directly the non-training original sequences.*

We thank you for bringing up this point. Steps 3 and 4 are included in our method due to the fact that directly decomposing the non-training original sequences will result in the leakage of future data from the testing set. Because rainfall time series is observed daily or hourly, the decomposition process is repeated with daily or hourly rainfall data of the next step appended. This approach can mitigate the risk

of exposing future data during the decomposition of non-training time series. We will add part of this discussion to clarify the methodology.

5. *Sub-section 3.3 open sources. The title of this sub-section is weird to me. Maybe consider using titles like Model Settings and Implementation*

The comment about the title of subsection 3.3 is taken into account. The subsection primarily introduces the open-source software used in this study. The suggested title 'Model Settings and Implementation' seems to be in the good direction, despite we do not implement a model in the classical sense, but set together different open-access softwares.

6. *Result analysis. Since for each testing sub-sequence several RNN models were used and only the best result was kept for result aggregation, it will be really helpful to add a summary table showing the result of each RNN model on each sub-sequence. This will not only allow readers to understand how the eventual result was aggregated but will also bring insights into which model is the best, and so on.*

It's totally agreed that your suggestion to add a summary table showing the results of each RNN model on each sub-sequence. We will include a summary table as you suggested to improve the clarity and interpretability of our results.

7. *I feel that the Result section is not very well elaborated. So far there are only results but no discussion, which damaged the value of this study. How will readers benefit from reading this paper? To me what's more important is the insights behind specific results. For instance, why are some models better than others? In what circumstances? What insights can I gain regarding model selection and tuning after reading this work? etc. I suggest the authors add more in-depth discussions (please also refer to my 6th comment) to improve the quality of this section.*

We also agree with your feedback on the Result section. We will therefore strive to provide in-depth discussions to explain the significance of our model and the contribution of our work in the field of hydrology.