

## RESPONSE TO REVIEWER 2

REVIEWER COMMENTS	RESPONSE OF AUTHORS
<b>1 Overall Recommendation</b>	
<p>The manuscript by Delfino et al., explores the influence of global warming on three different tropical cyclones (TCs) in a past, present and future climates, imposed by different set-ups contemplating the role of SST, atmospheric temperature and relative humidity at different configurations and resolutions. This is a complete research going from the changes in precipitation rates and other characteristics of the TCs, to addressing possible reasons for the observed super Clausius-Clapeyron behavior in the Philippines. However, I would suggest major revisions to help clarify some aspects of the manuscript.</p>	<p>We sincerely thank the reviewer for the valuable comments, which has greatly helped improve the quality of our manuscript. We appreciate the reviewer's recognition of our study's contribution and agree with the recommended revisions.</p> <p>We have provided point-by-point responses to the comments and describe the corresponding revisions made to the manuscript.</p>
<b>Major comments</b>	
<p>1. In the experimental design please be more concise about the prescribed conditions. How are you defining pre-industrial and future conditions? What global warming level are you defining for the future? This sentence in line 110 "Monthly mean deltas from CMIP6 (2070–2099 minus historical)" is not clear enough as to what are those years referring to.</p>	<p>Thank you for this comment. We have revised the methods section to clearly define these.</p>
<p>2. About the analysis done for the rainfall percentage change summarized in Fig 6. From the text, I understand that the change (%) is done for the difference between (Future – Current) and (Pre-industrial – Current) conditions. This arises an issue to me when comparing to the 7% / K reference. Since it is not clear in the text what is the difference in SSTs between Future and Current times, I can't tell if this change is equivalent to the reference. For instance, if the difference in SSTs between Future and current is 2K, the change in rainfall shown in Fig. 6 corresponds to X% / 2K. The same applies to the pre-industrial. Have they been scaled by the difference between scenarios, or are they absolute differences? Please specify it, in that</p>	<p>We have revised the calculations following the comments by Reviewer 1 above and updated Figure 6 and its corresponding discussions including:</p> <ol style="list-style-type: none"> <li>(1) Scaled difference between the scenarios and percent change was calculated per degree K change.</li> <li>(2) The discussion on the scaled changes (X% / K) has been updated and expounded.</li> </ol>

case that they have not been scaled, the comparison to CC is not directly valid. I advise discussing it in more detail, since this is one of the main results.	
3. Is there a reason why the 3Km simulation of BOPHA (Fig1b) has no change in precipitation in the pre-industrial setting? This differs largely from the difference seen in the 5Km simulation.	We have updated the figure and discussion regarding this. TY Bopha under the pre-industrial setting shows lower total accumulated precipitation in both the 3km and 5km simulations within the 1 and 2.5 degree radius.
4. There are a lot of experiments, please include a table describing them.	Thank you. Indeed, we have added a table to provide an overview of the experiments.
5. Please revise the figures, many of the labels and text are too small to be read. Also, some are missing the subplot labels (a,b,c...)	We have updated all the figures to have better labels and proper subplot labels.
<b>Minor comments:</b>	
1. Disagree with lines 216-217, for Mangkhut the upper tail does increase in frequency, but there is a shift towards decreasing rates in the future (Fig 5).	Revised
2. Line 39: Typo. Tropical cyclones (TCs) are a major source	Revised
3. Line 46: Add citation to IPCC.	Revised
4. Line 47: Define CCS or leave as CC scaling.	Already defined in Line 48 as Clausius-Clapeyron scaling (CCS)
5. Line 51: space missing before '. However'.	Revised
6. Lines 104-105: Cite CMIP6 and PWG method.	Revised
7. Line 110: define years set for historical period.	Revised
8. Line 112: '(3) SST, temperature, and humidity (FULL)'. Specify atmospheric temperature.	Revised
9. The text in Fig 1 is too small.	Revised
10. Line 150: What does CU and NoCU stand for in the experiments?	Added in the methods section

11. Line 168: Typo, there is a double dot.	Revised
12. Line 424: Typo, there is a double dot.	Revised
13. Please check the bibliography, some references are missing DOI.	Updated the entire reference list to ensure consistency and DOIs are indicated
14. References also have different formats in the bibliography.	Updated the entire reference list to ensure consistency and DOIs are indicated