

Dear reviewer,

First of all, thank you for your suggestions and comments that would certainly help us to improve and clarify the final work. For simplicity, each of your suggestions are addressed below and the changes have been marked in the new version of the manuscript.

**1. The authors use a rather sophisticated method to compute the trend of the storm energy content, involving the probability of occurrence but when showing the results they only show the evolution of the probability of occurrence and a linear-derived trend by calculating the mean annual rate of increase/decrease using  $E(t=\text{initial})$  and  $E(t=\text{end})$ . I understand the simplification to show the results in a table format but I would suggest to plot the trend evolution of E as directly calculated as well (like in Fig 7 but showing evolution of E). Even if it is qualitatively, I think it is good to know how the trend might deviate from the linear trend, according to this method, especially if extrapolations or qualitative comparisons with future projections are made.**

As the reviewer mentioned, the tables were selected as a form to show the results for simplicity. In the new version of the manuscript, a new figure has been added (Fig. 8) which includes the resultant trends obtained for the mean and maxima SWH as well as for the mean and maxima  $E_s$  associated to Tropical Cyclone- related events.

**2. A similar methodology could have certainly being used not just for E, but also for # events, since the premises of why using such methodology (rather than a more standard technique) are the same (positive data, many years with zeros). Specially for type of events that are not frequent (ie many years without events), using the linear regressing might lead to meaningless results, for example negative number of events, not just for past extrapolations but also for the period of analysis, as it seems to happen for Cancun (fig 6). An option could be to apply Eq 4 but instead of  $E(t| \text{storm})$ , having # events ( $t| \text{storm}$ )**

Following this suggestion, the time series of the number of Norte and TC-related storm events were analysed using both, simple linear regression and the same methodology than for E and SWH. The largest changes in the analysis were found on the TC time series, mainly in the Cancun, Holbox, Progreso and Tampico nodes, while Paraiso and Coatzacoalcos showed the minimum changes.

The results are introduced on page 7 (Lines 6-8 and Lines 13-19). Additionally, graphical results have been also included in this version of the manuscript on Fig. 5 and 6 and the trends (estimated in the same manner as for E and SWH) where included in Tables 2 and 3.

**3. In the last paragraph of Section 5.4 it is mentioned the results of Perez et al 2014 regarding the projection under A1B scenario. Then it is roughly compared to the study's results and given the disagreement, it is said that this might be related to the different definition of storm used. This is certainly possible but I believe this is not the only factor (probably not even the most important). Two quite different datasets are compared here: (i) past hindcast (in which greenhouse is not explicitly included) and (ii) a future projection (in which a certain greenhouse scenario is explicitly included). Also the time frames are different. I am not saying this cannot be mentioned but given the existing differences such discrepancies are reasonable. I would suggest commenting on that by adding other factors that interfere in such comparison.**

These differences have been specified at the end of the paragraph (Lines 3-5, page 8).

**4. In addition, as a more technical note, I think there is an error at Eq. 3. If E is log-transformed, ie  $\ln E(t|\text{storm}) = at + b$ . Then  $E(t|\text{storm}) = \exp(at+b)$**

It certainly was a typo, the term  $\ln$  was omitted from the first section of the equation but the calculations were correctly made. It has been corrected in the new version of the document.

In this sense, we also changed the nomenclature used in equations 3 and 4 to avoid misunderstandings (E was changed to M so no reference is made to just one of the analysed variables).