Dear Anonymous Referee #1,

We would like to thank you for your thoughtful and considered comments, which will ultimately improve our paper. We have addressed each of your comments *(in blue)* below and will make the following additions/amendments to the revised paper *(in red).*

Comments: Abstract

1. *Page 1 – Line 10: When you say "numerous" are you referring to the three TC databases and if so, this word should be changed to "three". If not, and there really are many TC databases, then it is fine.*
   Response: Numerous refers to many databases (not just three, as outlined in Table 1).

2. *Page 1 – Lines 18-19: Please give an example of an environmental condition here as you cannot find this out in the abstract. The abstract should be self-contained.*
   Response: The authors will note the conditions that are suitable for tropical cyclogenesis. This section of the abstract will be reworded as follows: "These SPEArTC events do occur under environmental conditions conducive to tropical cyclogenesis, including, negative 700hPa vorticity (VORT), cyclonic 700hPa winds, low values of Vertical Wind Shear (EVWS) and negative 700-hPa geopotential height (GPH)."

Comments: Introduction

3. *Page 1 – Line 27: The extra term "change" is not necessarily needed. It is fine with "….between climatic variability"*
   Response: This will be reworded in the revised manuscript.

4. *Page 1 – Line 31: By "magnitude" do you mean intensity? If so, this might be a better term here*.
   Response: The authors agree that "intensity" should replace "magnitude". This will be amended in the revised manuscript.

5. *Page 2 – Line 23-25: You should also briefly mention, as you did in the abstract, how technological methods have changed between these eras.*
   Response: This will be reworded in the revised manuscript. In particular, lines 23-25 will read, "The aims of this study are to: (i) provide a spatio-temporal comparison of three TC BT databases and explore any differences between them (and any associated implications); and (ii) investigate if there are any spatial, temporal or statistical differences between pre-satellite (1945-1969), post-satellite (1970-2011) and post-geostationary satellite (1982-2011) era TC data given the changing observational technologies with time".

Comments: Review of Best-Track Databases

6. Page 2 – Line 36: "There" should be "their"
7. Page 3 – Line 6: Should be "(e.g. Chand and Walsh,….")
8. Page 3 – Line 19: Should be written as: "(e.g. Liu and Chan, 2012…"
9. Page 3 – Line 20: Take out the comma after SPEArTC
10. Page 3 – Line 27: Put a colon after "studies" instead of the comma
    Response: These changes will be made to the revised manuscript accordingly.

Comments: Data

11. Page 3 - Lines 30-36: I would suggest to take out the links for the three TC databases and place them in the acknowledgements. Also, I would recommend to take out all the text of section 2, deleting the title of section 2, and placing it all under section 3.1. This would then become section 2.1 and son on. The new section 2.1 could be "Review of Best-Track Databases" or just simply call it, "Tropical Cyclone Data". Lines 36-39 from page 3 and lines 1-6 page 4 could then be left as is after those paragraphs.
    Response: The authors have taken on board the suggestion to amalgamate Section 2 "Review of Best-Track Databases" with Section 3. As such, Section 2.1. will be titled, "*Review of Best-Track Databases"*. The subsequent section (Section 2.2) will be titled, "*Tropical Cyclone Data used in this study",* which will summarise the TC databases used in the analysis, the source of each and the seasonality of the SWP TC season. The authors believe that the links to where the data came from are necessary, and should feature in the main body of text (which is a standard approach in most publications).

12. Page 3 - Lines 37: Please insert "to" between "November" and "30th" and insert "of" between "April" and "the"
Response: This will be amended in the revised manuscript.

13. Page 3 – Lines 36-37: The TC database of Lourensz (lines 35-36) and its purpose in the paper should be introduced or mentioned briefly somewhere when talking about the databases in the introduction.
Response: The Lourensz TC database and its purpose in the paper will be clarified in section 2.2 of the data section.

14. Page 3 - Line 39: Take out "So" and start the sentence with "For example…."
Response: This will be reworked in the revised manuscript.

15. Page 4 – Lines 1-2: Does this also apply to the other two databases as well?
Response: This has been deleted to avoid confusion.

16. Page 4 – Line 10: "and is" should be inserted between "per day" and "ideal"
Response: This will be added to the revised manuscript.

17. Page 4 – Line 16: Why have you chosen to investigate the EVWS instead of the wind shear using only zonal winds (i.e. u200 – u850 hPa) as defined in the literature (e.g. Goldenberg et al., 2001 and Zhang and Delworth, 2006).
Response: As highlighted in many studies (e.g. Gray 1968; Paterson et al. 2005; Nolan and McGauley 2012), low values of absolute EVWS are most suited to TC genesis. However, zonal winds are also an important environmental factor that can influence TC genesis (Nolan and McGauley 2012). As such, Vertical Shear of Zonal winds (VSZW) has been calculated and will be included in the revised manuscript alongside the other environmental conditions analysed within this paper.

18. Page 4 – Line 19: Is there a reference that the geopotential height is a condition that favour TC genesis?
Response: As outlined by Diamond and Renwick (2015) and Goebbert and Leslie (2010), geopotential height can modulate the spatio-temporal variability of TC genesis. These references will be added to the revised manuscript. Further, references for the other conditions that favour TC genesis will also be added.

19. Page 4 – Line 23: Which parameters are you referring to? Do you mean the ones above? It is not so clear here.
Response: We are referring to the parameters discussed above. This sentence will be clarified in the revised manuscript.

20. Page 6 – Line 31: When you refer to "exact matches" are you referring to also the date, latitude and longitude as you did in (ii)? Please be more specific in the text. Please also go into more detail here what you mean by "unique events"
Response: By exact matches, the authors mean, where temporal/spatial data of TC genesis (date, latitude and longitude) are identical in each TC database. By unique events, the authors mean, an event that is only recorded in one TC database. This will be clarified in the text as follows: "For these two TC seasons, each TC event was categorised into one of three distinct TC categories: (i) exact matches, where temporal/spatial data (date, latitude and longitude) are identical in each TC database, (ii) matched TCs with inconsistent temporal/spatial data and (iii) unique events (i.e. an event that is only recorded in one TC database)".

21. Page 7 – Line 1: Can you verify is this is either eight TC events as you have written or seven from Figure 4c
Response: Figure 4c summarises the TC genesis points for eight TC events, not seven.

22. Page 7 – Line 22: Should be "most suited for TC genesis"
Response: This will be rectified in the revised manuscript

23. Page 8 - Line 30: The word "be" should be inserted between "might" and "explained"
Response: This will be rectified in the revised manuscript.

24. Page 8 - Line 32: Please in addition give a more recent reference here such as Basher and Zheng (1995)
Response: This reference will be included in the revised manuscript.

25. Page 8 - Line 33: The words "in the" should be taken out after activity
Response: This will be rectified in the revised manuscript

26. Page 8 - Line 39: Please see Camargo et al. (2007) and Evans and Allan 92009) as they find TC genesis shifting eastward during an El Nino and westward during a La Nina in the Southwest Pacific. With this information you should try to verify, through the literature if possible, if you think there were more El Nino events in the post-satellite era causing this eastward shift.

Response: The reviewer is correct that El Niño/La Niña results in an north-easterly/south-westerly modulation of TC activity in the SWP (Kuleshov et al. 2008; Ramsay et al. 2008; Chand et al. 2013; Diamond et al. 2013). However, based on the National Oceanic and Atmospheric Administration (NOAA) Climate Prediction Centre definition of ENSO events using the Oceanic Nino Index (ONI), a fairly equal number of El Niño (15) and La Niña (14) events have occurred since 1970 (source: http://www.cpc.noaa.gov/products/analysis_monitoring/ensostuff/ensoyears.shtm). Therefore, there it is not clear if ENSO has played a role in this eastward migration. We are currently looking into a range of climatic drivers that may help explain this phenomena, however this will form a separate paper. As such, this section of the manuscript suggests that the easterly migration of the post-satellite MCC may be a result of increased observational power towards the east or climatic variability (ENSO/IPO).

Comments: Tables

27. Table 1: Please enlarge all the text inside this table to make it easier to read

Response: The authors will liaise with the typesetters to ensure the table can be easily read.

Comments: Figures

28. Figure 5: Is there a colorbar here that is missing? You should also write the panels as "(a)" after "for" and before "TC" and "(b)" between "and" and "TC #7". The same applies to Figure 6 regarding the "(a)" and "(b)". In figure 6, please insert information as you did for Figure 5 about "blue – negative" and "red – positive".
29. Figure 7: The same applies for the "(a)" and "(b)" here as labeling the panels in this caption

Response: Please note, that Figure 5-7 will been reworked to be consistent with the supplementary material. However, Figure 5 is not missing a colour bar, as the contours and wind barbs are self-contained within the figure and an explanation given in the caption. The manuscript will be reworked to incorporate suggested changes to the caption wording.

30. Figure 8: Please insert "Eastern Region" and "Australia" when referring to the coordinates before or after them so that it becomes easier for the reader to identify the regions

Response: The caption will be reworked accordingly.

31. Figure 10: You should include the purpose for the boxes here as seen in all three panels

Response: The caption will be reworded accordingly to describe the inset maps.

32. Figure 11: MCC should be defined in this caption:

Response: This definition will be inserted into the caption.

References

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