

Reviewer's Comments:

An intercomparison of tropical cyclone best-track products for the Southwest Pacific by Andrew D. Magee, Danielle C. Verdon-Kidd, Anthony S. Kiem

This manuscript is an interesting study on assessing and intercomparing three different TC databases in the Southwest Pacific for their common period 1945-2011 in terms of their spatial and temporal differences and how technological changes have influenced their quality over time. Out of the three TC databases, the Southwest Pacific Enhanced Archive of Tropical Cyclones (SPEARTC) had the most complete records of TCs for this region and had been checked with environmental conditions that favour TC development. They also show that with different techniques applied over time from 1945, the number of TCs for SPEArTC between different periods remained fairly consistent, and thus, can be used for studying the long-term variability of TC frequency and genesis locations but not TC intensity. The manuscript would add important information to the fields of tropical cyclones with the important usage of TC records prior to the satellite era, i.e. 1945-1969. Though the methods are presented well and with clear results, the manuscript still needs further revision before it can be publishable. The comments, however, were mostly minor as seen below. As a recommendation, it would be easier to review if the authors would place line numbers consecutively throughout the paper instead of starting each line number on each page.

Abstract

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.

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.

Introduction

Page 1

Line 27: The extra term “change” is not necessarily needed. It is fine with “... between climatic variability”

Line 31: By “magnitude” do you mean intensity? If so, this might be a better term here.

Page 2

Line 23-25: You should also briefly mention, as you did in the abstract, how technological methods have changed between these eras.

Review of Best-Track Databases

Line 36: “There” should be “their”.

Page 3

Line 6: Should be “(e.g. Chand and Walsh,”

Line 19: Should be written as: “(e.g. Liu and Chan, 2012...”

Line 20: Take out the comma after SPEArTC.

Line 27: Put a colon after “studies” in stead of the comma.

Data

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.

Lines 37: Please insert “to” between “November” and “30th” and insert “of” between “April” and “the”.

Lastly, 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.

Line 39: Take out “So” and start the sentence with “For example.....”

Page 4

Lines 1-2: Does this also apply to the other two datasets as well?

Line 10: “and is” should be inserted between “per day,” and “ideal”

Line 16: Why have you chosen to investigate the EVWS instead of the wind shear using only zonal winds (i.e. $u_{200} - u_{850}$ hPa) as defined in the literature (e.g. Goldenberg et al., 2001 and Zhang and Delworth, 2006)?

Line 19: Is there a reference that the geopotential height is a condition that favours TC genesis?

Line 23: Which parameters are you referring to? Do you mean the ones above? It is not so clear here.

Results and discussion

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”.

Page 7

Line 1: Can you verify if this is either eight TC events as you have written or seven from Figure 4c.

Line 22: Should be “most suited for TC genesis”.

Page 8

Line 30: The word “be” should be inserted between “might” and “explained”.

Line 32: Please in addition give a more recent reference here such as Basher and Zeng (1995).

Line 33: The words “in the” should be taken out after “activity”.

Line 39: Please see Camargo et al. (2007) and Evans and Allan (2009) 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.

Tables

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

Figures

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”.

Figure 7: The same applies for the “(a)” and “(b)” here as labeling the panels in this caption.

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.

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

Figure 11: MCC should be defined in this caption.