

Interactive comment on “Toward a classification of the Central Pacific El Niño” by M. Pascolini-Campbell et al.

Anonymous Referee #1

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This manuscript explores a number of methods that attempt to classify different types of El Niño events. It proposes a “majority statistics” using 10 methods and 5 data sets to identify a “consensus dates” on a particular type of El Niño called “Central Pacific El Niño (CP)”.

Comments:

- This manuscript is an interesting effort but fails to convince it is a contribution of interest to the current efforts and debate on ENSO diversity.
- First, there is little if no mention of the numerous recent studies that dispute the reality of the statistical distinction of a “new” type of El Niño (Nicholls 2008, Na et al. 2011, Lian and Chen 2012, L’Heureux et al 2012, ...), some arguing convincingly

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that there is rather a continuum with some interesting extremes (e.g. Giese and Ray 2011). The authors put in the same bag this proposed EP/CP distinction and the older thermocline/SST mode distinction (e.g. Fedorov and Philander 2001) but it is unclear in what respect they are the same thing.

- Second, the various data sets used are not detrended, and the impact of this is not shown or discussed.
- Third, I believe the interpretation of the Takahashi et al. results given in the manuscript is wrong: they do not support the CP/EP distinction but rather distinguish extreme events from regular events which definition is not based on the longitudinal location of the SST anomaly.
- Finally, there are a number of rather weak or vague arguments as well as ad-hoc statistical methods. In particular the “majority statistics” is based on a very ad-hoc approach rather than on formal statistics.

References:

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Interactive comment on *Earth Syst. Dynam. Discuss.*, 3, 979, 2012.