

Interactive comment on “Early and mid-Holocene climate in the tropical Pacific: seasonal cycle and interannual variability induced by insolation changes” by Y. Luan et al.

Anonymous Referee #1

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This paper is an in depth analysis of the impact of mid- and early Holocene insolation on the tropical Pacific climate. It will help the community to understand better how the tropical Pacific climate responds to the changes in obliquity and precession. I recommend it to be published in Climate of the Past with only a few remarks:

1. In addition to the impact of local insolation which is analyzed in the paper, any discussion or analysis on the possible impact from extra-tropics on the tropical Pacific climate will be welcome.
2. Page 520, lines 12-15: The statement that cooling in the eastern Pacific and warming in the western Pacific cause easterly wind anomalies and anticyclone wind stress

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anomalies outside the tropics needs more explanation, because the co-existence of these features does not necessarily mean they have causal-effect relationship.

3. Page 524, line 3: change ‘strengthens’ to ‘weakens’
4. Page 524, lines 18-20: I suggest adding a line after ‘. . . . high latitudes.’: This is due to the in-phase relationship between annual solar irradiation and obliquity in high latitudes and anti-phase between them in low latitudes (Berger et al 2010, Quaternary Science Reviews 29,1968-1982).

Table 1: cold tongue; the line of Brown’s conclusion is not completed

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