Ocean Sci. Discuss., 5, S25–S26, 2008
www.ocean-sci-discuss.net/5/S25/2008/

Ocean Science Discussions

Interactive comment on "Joint effect of the western and eastern Pacific warm pools on ENSO cycle" *by* Q. Qi et al.

Anonymous Referee #3

Received and published: 2 June 2008

The authors present two metrics for the state of the tropical Pacific, namely the position of the 28C isotherm of the western and eastern warm pools, and a combined index involving both. I see nothing new in terms of providing a better understanding of ENSO or providing an index that is better or complementary to those already used. I recommend the paper is rejected.

In order to differentiate between the two measures (the eastern edge of the western warm pool) and the southern edge of the eastern warm pool) the authors divide the tropical Pacific into two rather contrived areas. It is not surprising the two measures are highly correlated with each other and with the Nino3 SST since a warming in the latter will mean a shift in the position of the 28C isotherm both eastwards and southwards.

Since the two measures are highly correlated, combining them to make an index offers no new information.

The authors talk of an "invasion" of the eastern warm pool into the Nino3 region. This gives a totally misleading impression of the reason for the shift in isotherms. The change in the position of isotherms comes about because of a warming/cooling of the equatorial waters.

The authors also say the eastward shift in the western warm pool "triggers" El Nino events. Again this is misleading. The eastward shift is part of the build up of an event, and is caused by westerly wind anomalies (see e.g. Maes et al GRL 2006)

Interactive comment on Ocean Sci. Discuss., 5, 163, 2008.