

Interactive comment on “On the Role of the North Equatorial Counter Current in Transporting Heat during a Strong El Niño” by David J. Webb

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I would like to take this opportunity to thank both the reviewers and the editor for their comments and remarks which I hope will lead to a much improved paper.

I have covered most points raised in my responses to the individual reviews. However they have stimulated some further work/ideas which I plan to include in the revised paper.

1. First my use of minimum temperatures of 28C and 29C (i.e. for OSD m/s Fig. 5), was a result of my own estimate of that needed to stimulate deep convection in the atmosphere. I have since found the work of Evans & Webster (DOI:10.22499/2.6401.007) which identifies a global limit of 28C with an indication that the Western Pacific limit

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may be higher.

A detailed analysis by the authors of the deep convection regions affecting the El Nino would be useful.

2. Following the suggestion of referee 2, I have investigated the model behaviour during the 1997-98 El Nino in more detail. The results indicate that the NECC is again transporting warm water into the eastern Pacific during the autumn of 1997 for the same reasons it does in 1982.

However as is indicated in (OSD m/s) Fig 4, the central Pacific is also warmed during the spring of 1997, something that did not happen in 1982. The forcing datasets indicate that the average strength of what might be called the New Guinea (or Bismark Sea) Atmospheric Jet (viz. the East African Jet) was stronger in the period 1996.9 to 1997.4 than in the same period during the previous two years - so this may be responsible for the systematic changes seen in early 1997.

I will have to deal with these points in the revised paper but the whole thing really needs a separate publication.

Regards,

David Webb

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