



Contrasting the termination of moderate and extreme El Niño events in coupled general circulation models

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The extreme 1982-83 and 1997-98 El Niño events both terminated unusually in the eastern Pacific in contrast to other moderate events (e.g. 2002-2003). During these extreme events, sea surface temperature anomalies along the South American coast exceeded 4°C at the winter event peak and lasted well into the following spring. This unusual persistent warming could have important consequences in terms of fisheries but also in terms of climatic impacts on the South American continent. Here we show that the mechanisms controlling the peculiar termination of extreme events in 1997-8 and 1982-3 are active in a suite of state-of-the-art global climate models. These results confirm that this peculiar termination character is likely to occur with strong El Niño events in general. In addition, implications related to SSTA eastward/wesward propagating signals, teleconnections and ocean biological activity associated with this peculiar termination are also discussed.