



Impacts of remote forcing on the recharge oscillator model of ENSO in a hybrid coupled model

C. Frauen and D. Dommenges

IFM-GEOMAR, Düsternbrooker Weg 20, 24105 Kiel, Germany (cfrauen@ifm-geomar.de)

Recent studies suggest that both the tropical Indian Ocean and the tropical Atlantic Ocean might have an influence on El Niño and the Southern Oscillation (ENSO). The aim of this study is to investigate this influence of climate variability outside the tropical Pacific onto ENSO through a series of experiments with a hybrid coupled model. Therefore the ENSO recharge oscillator model is coupled to the ECHAM atmospheric general circulation model in the tropical Pacific. Outside the tropical Pacific a simple mixed layer ocean model is used. In a series of sensitivity experiments it is analyzed how the coupling to remote regions changes the parameters of the ENSO recharge oscillator model. The results indicate, for instance, that Indian and/or Atlantic oceans SST anomalies have a strong damping effect on the SST variance in the equatorial Pacific region and as well influence the period of ENSO.