



On ENSO teleconnections in PMIP2/MOTIF simulations

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Understanding global climate variations on a wide range of timescales has become an important topic in the context of anthropogenic climate change. The mechanisms of those variations are only partly understood. Paleo climate modelling provides a good test bed to put natural and anthropogenic climate change into perspective. As a continuation of the paleo climate modelling intercomparison project PMIP1, activities within the PMIP2/MOTIF project are focussing on the role of feedbacks in the climate system (atmosphere, ocean, sea ice, vegetation) and seek to evaluate the capability of state of the art climate models to simulate climate states that are considerably different from today such as the Mid-Holocene (6000 yrs B.P., 6K) and the Last Glacial Maximum (21000 yrs B.P., 21K). Interannual variability associated with the El Niño/Southern Oscillation (ENSO) phenomenon in the tropical Pacific is a prominent example for ocean-atmosphere interaction. The paleo climate coupled ocean-atmosphere simulations having become available through PMIP2/MOTIF enable us to analyse changes in ENSO characteristics and the associated teleconnections for past climates and to put them into context with available paleo climate reconstructions of both terrestrial and marine origins. Results from model-model and model-data intercomparisons will be shown. Changes in the atmospheric circulation for both paleo El Niño and La Niña events will be discussed for 6K and 21K in the light of paleoclimatic changes in the mean state and seasonality. Furthermore, it will be addressed to which extent the observed modern characteristics of antisymmetry between El Niño and La Niña events are maintained under paleo climate conditions.