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Modelled ENSO Variability During Warm Periods

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El Niño-Southern Oscillation (ENSO) is a coupled ocean-atmosphere phenomenon that has a worldwide impact on climate and economy. Changes of ENSO variability are known to be sensitive to the mean state. We have used a fully coupled Atmosphere-Ocean-Sea ice model (ECHAM5/NEMO; KCM - Kiel Climate Model) to investigate ENSO variability in past warm periods, such as the Holocene and the Eemian. These past climate conditions were simulated by adapting the orbital parameters (eccentricity, obliquity and precession) for different time slices during these periods. The available results consist of 700 years of model simulations, with 500yrs of spin-up and the last 200yrs were analysed. Here, we aim at deriving a statistical relationship between the development of sea surface temperatures (SSTs) and ENSO variability. Such relationship will be useful for application to past climate reconstructions from paleo-records. Our results suggest that ENSO variability is most strongly related to the SST development in the Western Pacific Warm Pool (WPWP). In the next step, this hypothesis will be tested with paleo proxy reconstruction.