



First assessment of ENSO in CMIP5

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The ability of coupled ocean-atmosphere general circulation models (CGCMs) to simulate the El Niño Southern Oscillation (ENSO) has largely improved over the last few years. Nevertheless, the diversity of model simulations of present-day ENSO characteristics indicate current limitations in our ability to model this climate phenomenon and anticipate changes in its properties on short and long time scales. Recent multi-model studies of ENSO in CMIP models show that both standard evaluation via metrics and the process-based evaluation are required. Here we present a series of ENSO metrics, as proposed by the CLIVAR Pacific Panel, which are applied to both CMIP3 and CMIP5 simulations. Preliminary analysis shows that CMIP5 exhibits less bias in ENSO amplitude compared to CMIP3. Mean state and other process-based analysis of ENSO shows less difference between the two multi-model ensembles, pointing to pervasive errors. A preliminary assessment of ENSO properties in increased CO₂ scenario simulations is also made and leads to similar conclusions than previous studies made from CMIP3 in that no discernable influence of increased CO₂ on ENSO is seen.