



How well do climate models simulate two-types of El Nino?

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Recently, ENSO society has paid attention to the existence of two-types of El Nino based on zonal distribution of SST anomalies. Due to a limitation of historical observation record, it is natural to use coupled model simulations in order to understand their dynamical process and climate sensitivity. However, it has been not carefully examined how well climate models simulate two-types of El Nino. In this study, we tried to evaluate current models' fidelity in simulating two-types of El Nino. In particular, we focused on what extent two-types of El Nino simulated in a climate are independent. Twenty coupled GCMs in CMIP3 are used in this study. It is found that a few models mimic an observed independency between the eastern and central Pacific SST variability. It is suggested here that sensitivity of atmospheric feedback to zonal distribution of SST anomalies is one of critical component in simulating independent two-types of El Nino.