Geophysical Research Abstracts
Vol. 16, EGU2014-16224, 2014
EGU General Assembly 2014

ENSO during the mid-Holocene in PMIP

Soon-Il An

Yonsei University, Department of Atmospheric Science, Seoul, Korea, Republic Of (sian@yonsei.ac.kr, 82-2 365 5163)

Using the Paleoclimate Modeling Intercomparison Project Phase 2 and 3 (PMIP2 and PMIP3), we investigated change in characteristics of the El Nino-Southern Oscillation (ENSO) during the mid-Holocene period (6,000 years before present; 6ka run) compared to pre-industrial period (0ka run). In 6ka run, the tropical Pacific sea surface temperature (SST) and precipitation were reduced due to the basin-wide cooling, and the cross-equatorial surface winds due to the hemispheric discrepancy of the surface cooling over the tropical Pacific were intensified in both the PMIP2 and PMIP3. The ENSO activity in the 6ka run was significantly suppressed in the PMIP2, but slightly reduced in the PMIP3. In particular, in 6ka run in PMIP3, the intensified damping by the mean currents primarily works for the reduction of ENSO activity, while the thermodynamical damping actually was reduced in 6ka run. Therefore, the two opposite effects are slightly compensated for by each other, which results in a small reduction in the ENSO activity during the 6ka in the PMIP3. Furthermore, details in the feedback processes are addressed as well.