



A coupled model simulation of the impact of a modified convective scheme on the MJO and ENSO during past climate regimes

G. Vettoretti (1), W. R. Peltier (1)

(1) University of Toronto, Department of Physics, Toronto, ON, Canada
(g.vettoretti@utoronto.ca / Fax: 416-978-8905)

Modifications to the representation of subgrid-scale cloud systems and convection in a version of the NCAR coupled atmosphere-ocean model (CSM1.4) have been implemented to improve modeling both interannual El Nino-Southern Oscillation (ENSO) and intraseasonal Madden-Julian (MJO) variability in closer accord with observations. We will present results from this modified version of CSM1.4 and discuss the factors leading to improvements in the simulated Tropical Pacific climate variability. The modified model is also used to conduct experiments investigating the response of ENSO variability during an idealized freshwater forcing (FWF) event and in a simulation of Last Glacial Maximum (LGM) climate. Results of these simulations are still consistent with previous studies using this model which demonstrate enhanced ENSO variability during a FWF event and in a simulation of LGM climate.