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Interannual and intraseasonal variability of tropical convection as simulated by a GCM with super-parameterization

Results of a 16-year AMIP-style simulation using a CSU Multi-Scale Modeling Framework (MMF) are presented. The CSU MMF is based on a NCAR Community Atmosphere Model (CAM) GCM in which virtually all parameterizations of physical processes are replaced by a 2-D cloud-system resolving model inserted into each GCM grid column. The model was forced by prescribed monthly-mean observed sea surface temperatures and sea ice from September 1985 to September 2001. Interannual variability of atmosphere due to El Nino/La Nina events is well simulated. A strong Madden Julian Oscillation, tropical wave activity and other aspects of tropical intra annual variability will be discussed.