



Analysis of nonequilibrium and nondeterministic convection in a cloud-resolving model

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A three-dimensional cloud-resolving model with a horizontal domain size of 256 x 256 km has been driven with periodic large-scale forcing. Runs are made with several different periods. The results have been analyzed to identify systematic departures from quasi-equilibrium as the period of the forcing decreases. Further analysis quantifies the random component of the domain-averaged convective statistics, including the precipitation rate. The strength of the random component is analyzed as a function of the domain size, by sub-sampling. Implications for cumulus parameterization are discussed.