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TRACKING TROPICAL CLOUD SYSTEMS FOR THE DIAGNOSIS OF SIMULATIONS BY THE WEATHER RESEARCH AND FORECASTING (WRF) MODEL

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ABSTRACT

To aid in improving model parameterizations of clouds and convection, we examine the capability of models, using explicit convection, to simulate the life cycle of tropical cloud systems in the tropical warm pool. The cloud life cycle is determined using a satellite cloud tracking algorithm (Boer and Ramanathan, J. Geophys. Res., 1997), and the statistics are compared to those of simulations using the Weather Research and Forecasting (WRF) Model. Using New York Blue, a Blue Gene/L supercomputer that is co-operated by Brookhaven and Stony Brook, simulations are run at a resolution comparable to the observations. Initial results suggest that the organization of the mesoscale convective systems is particularly sensitive to the cloud microphysics parameterization used.