



## **Aerosol Effects on Deep Convection in Tropical Hurricanes Observed in the Tropical Cloud Systems and Processes (TCSP) Experiment**

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Simulations of cases of deep convection in cases of tropical hurricanes from the Tropical Cloud Systems and Processes (TCSP) field campaign of NASA are presented with advanced cloud models. A comparison with aircraft observations is performed. Models are initialised with multiple aerosol species predicted by the GFDL general circulation model (GCM). A novel way of predicting heterogeneous nucleation of crystals from dust and soot species is proposed and implemented in the model.

Sensitivity tests reveal a dependence of latent heating and vertical velocities on the aerosol-dependent processes of glaciation and production of precipitation in the simulated storms.