P50   High-resolution WRF simulations of thunderstorms.

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High-resolution WRF simulations are conducted in an attempt to reproduce the thunderstorm event of June 18, 2013 at Denver International Airport. The WRF model simulations used multiple nested grids using a grid resolution of 1 km. WRF simulated reflectivity fields are compared with available level II radar reflectivity imagery from the Radar at Denver International Airport. Several model configurations are examined to assess the difficulties of using WRF to simulate thunderstorm events. This analysis and other recent modeling efforts at different geographical locations suggest that WRF has some difficulty reproducing significant thunderstorm events that form in weakly forced synoptic or mesoscale environments. Experiments with different model configurations and microphysics schemes did not help to resolve these issues. It is likely these problems are due to deficiencies in model initialization where subtle changes in moisture and wind fields can impact how convection is triggered and evolves.