



## **Sensitivity of a Simulated Derecho Event to Model Initial Conditions**

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Since 2003, the MMM division at NCAR has been experimenting cloud-permitting scale weather forecasting using Weather Research and Forecasting (WRF) model.

Over the years, we've tested different model physics, and tried different initial and boundary conditions.

Not surprisingly, we found that the model's forecasts are more sensitive to the initial conditions than model physics. In 2012 real-time experiment, WRF-DART (Data Assimilation Research Testbed) at 15 km was employed to produce initial conditions for twice-a-day forecast at 3 km.

On June 29, this forecast system captured one of the most destructive derecho event on record. In this presentation, we will examine forecast sensitivity to different model initial conditions, and try to understand the important features that may contribute to the success of the forecast.