

# MMM SEMINAR SERIES



## **The predictability of hazardous convective weather: Lessons from the NCAR-WRF high-resolution ensemble**

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Over the past three years, NCAR/MMM has offered access to 48-h forecasts from an experimental 10-member convection-allowing (3-km) ensemble based on the WRF-ARW model, using the Data Assimilation Research Testbed (DART) ensemble Kalman filter approach to produce perturbations for the model initial state. These forecasts have offered new insights into the potential predictability of hazardous convective weather events such as supercells, derechos, and flash flooding, as well as helping to refine the use of ensemble probabilistic guidance for such forecast applications. In this talk, I will review examples of extreme convective events for which forecasts were significantly improved by the use of such a high-resolution ensemble but will also highlight some of the more systematic forecast limitations that were noted over the course of this experiment. One of the more common failure modes was a tendency for the forecast convection to be somewhat north of the observed convection. There was also a tendency for the entire ensemble to be significantly and consistently wrong for the bigger forecast busts. The lack of sufficient ensemble spread for such cases is still under investigation.

*This seminar will be webcast live at:*

*<http://ucarconnect.ucar.edu/live>*

*Recorded seminar link can be viewed here:*

*<https://www.mmm.ucar.edu/events/seminars>*

**Thursday, 24 May 2018, 3:30 PM**

Refreshments 3:15 PM

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