6.6 Progress in forecasting derechoes with the NCAR-WRF high-resolution ensemble.

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The NCAR/WRF realtime high-resolution ensemble was run for the past three years, offering forecasters valuable new probabilistic guidance as to potentially hazardous convective weather events such as tornadoes, high winds, and flash floods. A critical component of this success has been predictions of convective mode, which can constrain the character of severe weather outbreaks. In this talk, I will specifically review the capabilities of this ensemble system to forecast derechos, which produce extensive swaths of damaging surface winds, highlighting both forecast successes as well as forecast failures. Particular emphasis will be on validating the strength of the ensemble generated cold pools, which represents one of the key structural and severe wind producing elements of derecho events. The results document that the ensemble system was quite successful at distinguishing the potential cold pool characteristics from day to day, but also emphasize that the resultant convective mode (e.g., the ability to develop into a larger-scale derecho) is also still highly dependent on the character of the initial forcing for a given convective event.