



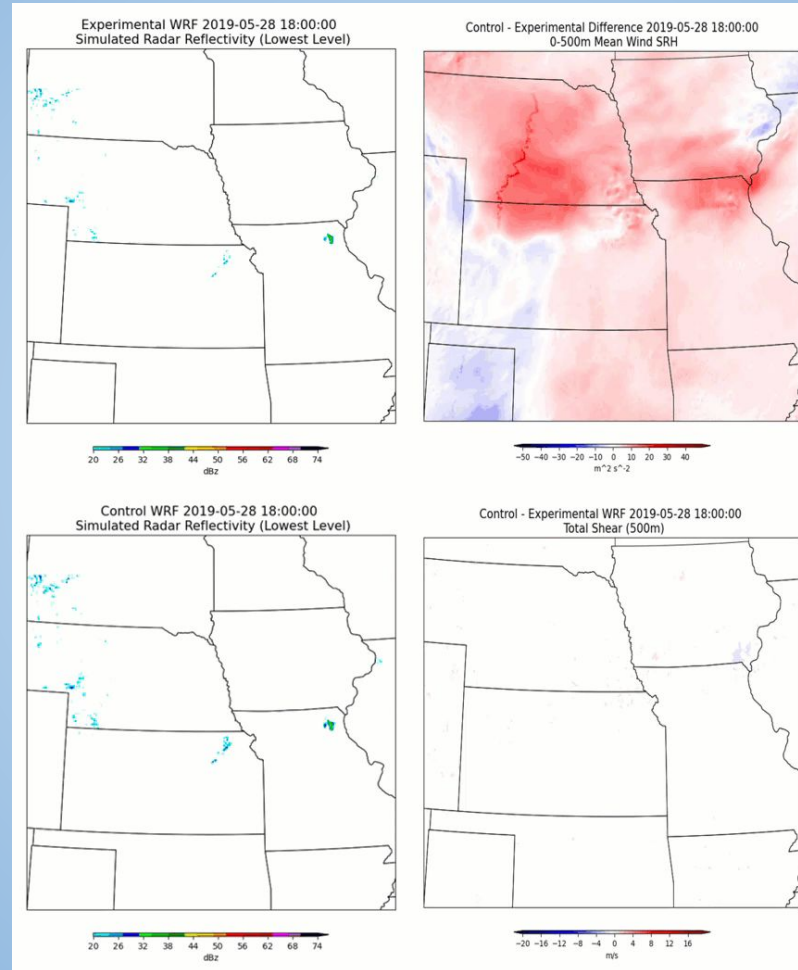
Pre-Storm Environment Low-Level Wind Shear Sensitivity to Vertical Grid Resolution

Alexander J. Krull¹, Benjamin Remington², Catherine Finley², Michael Fowle¹

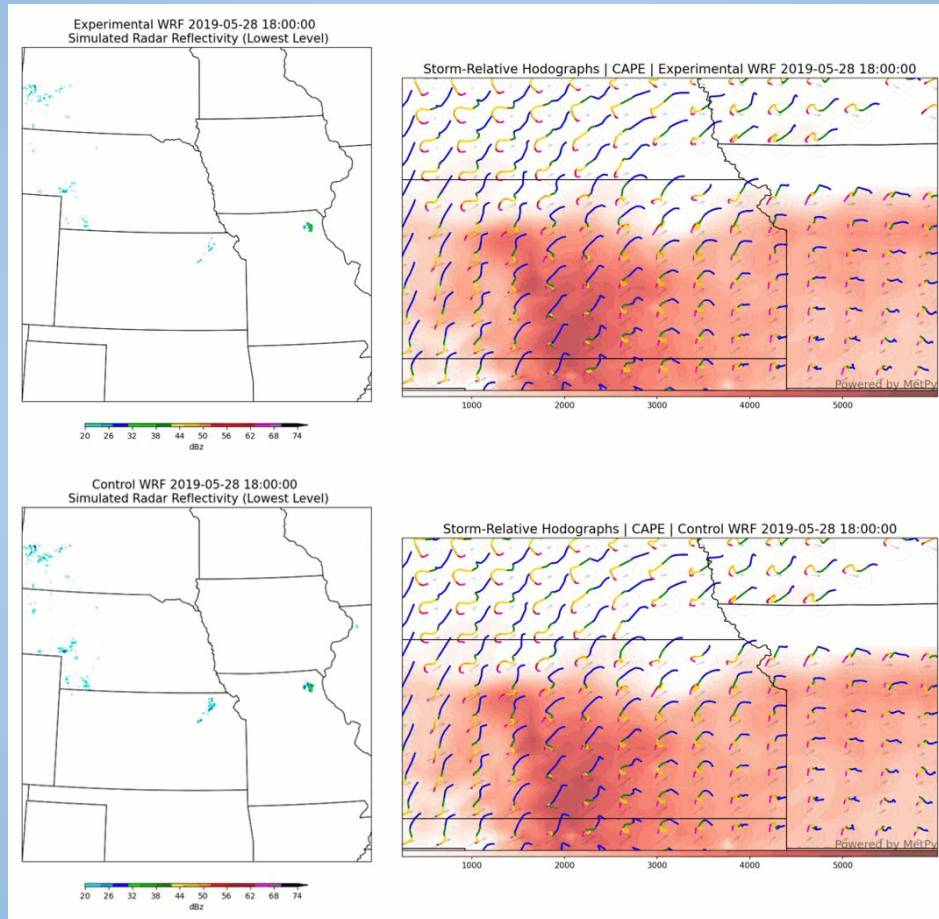
¹NOAA/NWS WFO Des Moines, IA, ²Univ. North Dakota Dept. Atmospheric Sciences

Additional content from 2022 AMS SLS poster session in Santa Fe, NM.

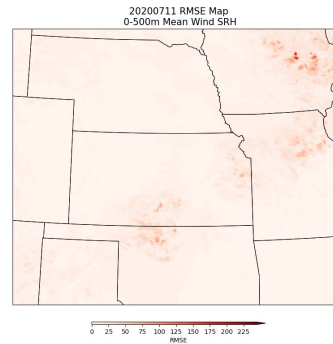
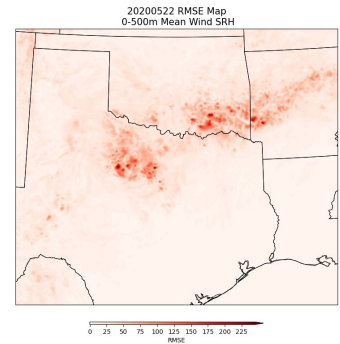
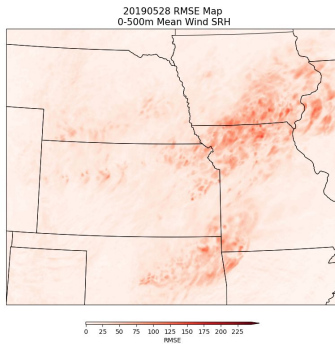
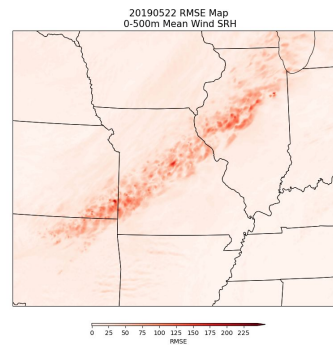
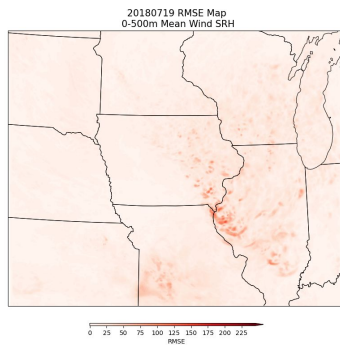
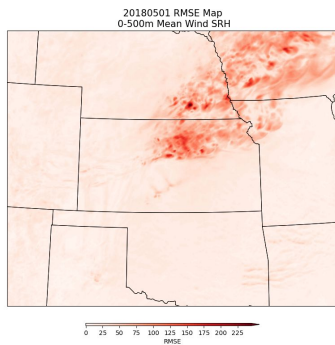
Simulated Radar Reflectivity and SRH Difference Plots



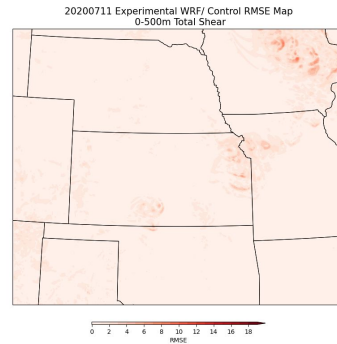
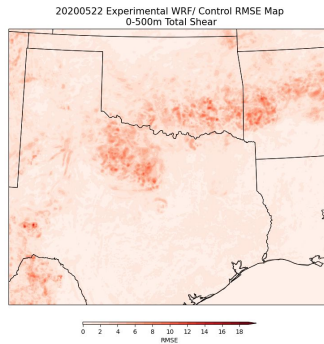
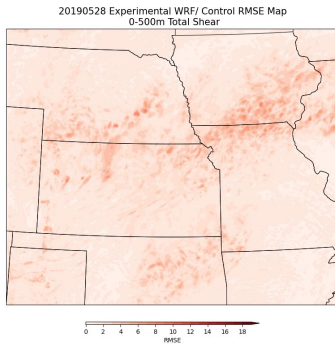
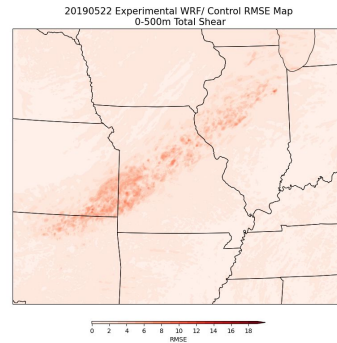
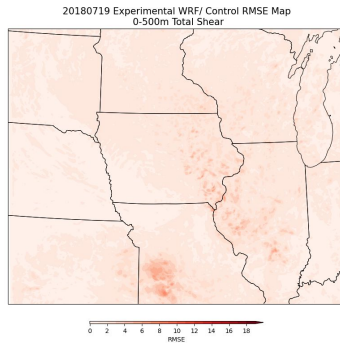
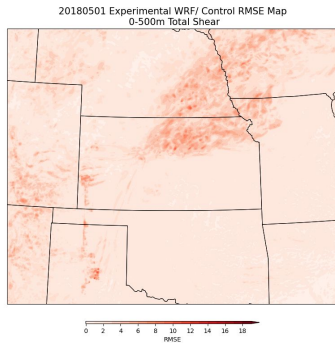
Simulated Radar Reflectivity and Hodograph Plots



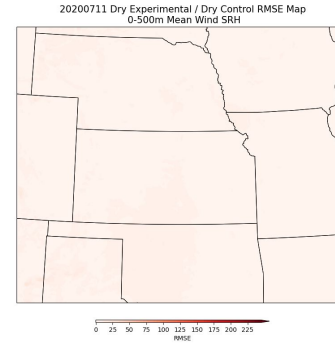
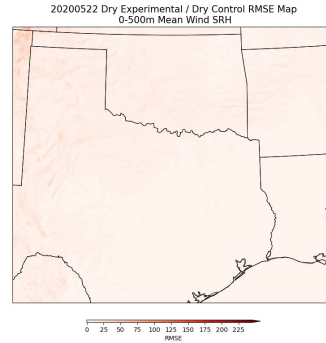
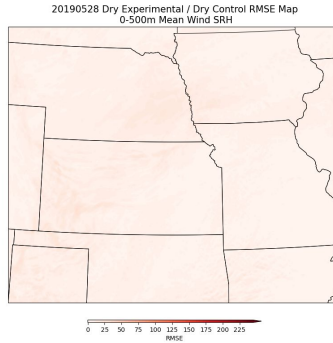
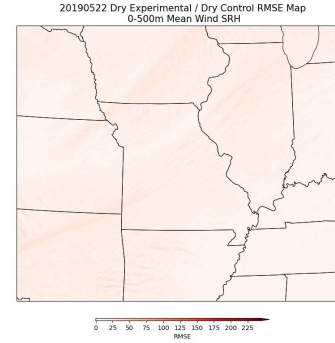
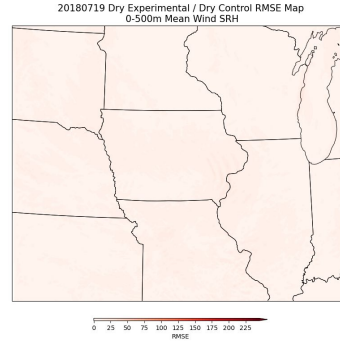
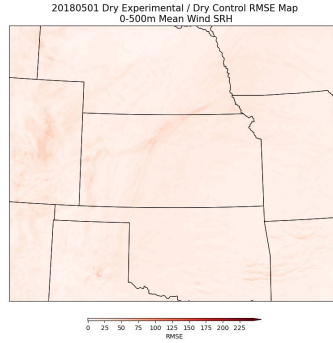
- Mean Wind SRH Plots Between the Full Physics Experimental and Control Resolutions



- Total Shear Plots Between the Full Physics Experimental and Control Resolutions

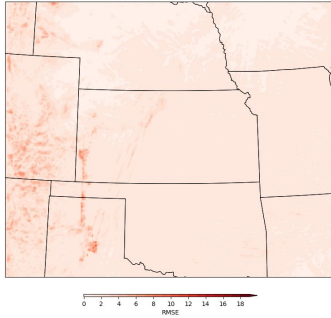


- Mean Wind SRH Plots Between the Dry (No Convection) Experimental and Control Resolutions

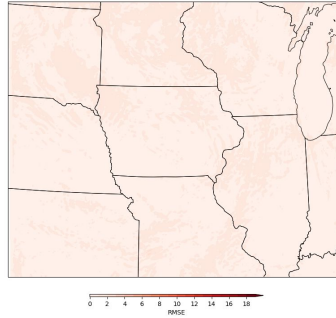


- Total Shear Plots Between the Dry (No Convection) Experimental and Control Resolutions

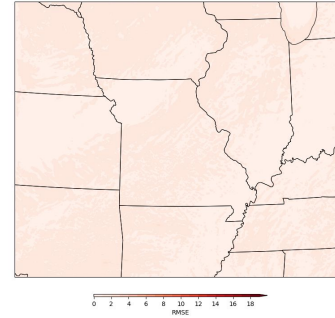
20180501 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear



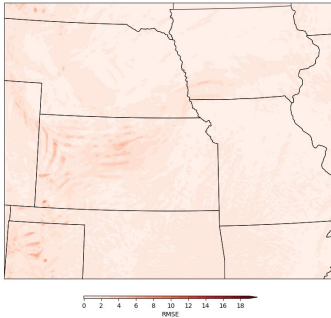
20180719 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear



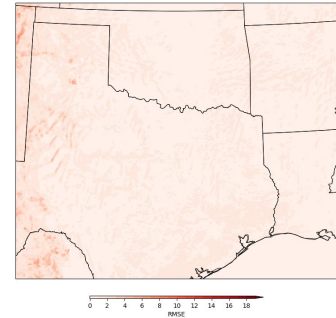
20190522 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear



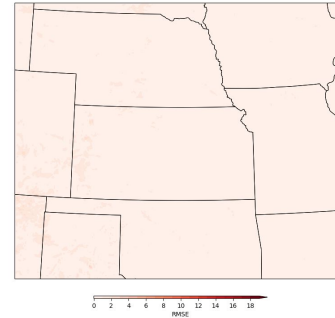
20190528 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear



20200522 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear



20200711 Dry Experimental WRF/ Dry Control RMSE Map
0-500m Total Shear





Upcoming Work On This Research



- Gather and quality control WSR-88D VAD Profiles to compare
-Likely will have to be a qualitative analysis
- Simulate cases from TORUS Field Campaigns and compare with UAS Wind Data
- Determine if the wind profile or storm motion vector differences are driving changes in SRH
- If you are interested in seeing any more plots, please let me know!