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**Title:** Leveraging WoFS and Mesoanalysis to Elevate Severe Operations

**Abstract:**

The Warn On Forecast System (WoFS) has proven itself to have great utility when paired with real-time mesoanalysis. When used effectively, WoFS and environmental data directly inform and enhance the decision-making and messaging of severe hazards to better serve partners and the public, while also providing great value to internal decision-making to optimize NWS severe weather operations.

On May 12th, 2022, an Enhanced Convective Outlook was issued by the Storm Prediction Center, with the outlook serving as the general domain for WoFS to be run later that day. As storms developed and grew upscale across central Nebraska during the early afternoon, WoFS honed in on a corridor of increased potential for high-end wind damage across northeast Nebraska into South Dakota. This motivated a specialized warning strategy that was employed by NWS Omaha, with one warning forecaster focused on issuing higher-end warnings while the other covered lower-intensity warnings. A second wave of convection was expected shortly thereafter, with WoFS and mesoanalysis indicating an embedded tornado threat along with strong winds and hail. This information led to a transition into a new warning strategy for that wave of convection, with warning forecasters focusing on the different hazards. WoFS and mesoanalysis output proved incredibly useful for this derecho, and it set warning forecasters up for success via insights for the optimal focus of time, energy, and skills in warning operations. This strategy was employed for another high-impact event exactly one year later with additional success, where several focused sectors were developed to cover different tornadic environments. This provides further evidence on the ability of WoFS and thorough mesoanalysis to impact operations, aiding forecasters in decisions that cannot be made as easily in its absence.