

ProbSevere - A new Tool for NWS Severe Weather Warning Operations

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The need for science based computer algorithms has never been greater, as data volumes and information content are increasing significantly. To help address “big data” challenges in severe weather warning operations, NOAA/NESDIS, in collaboration with the University of Wisconsin, have developed the ProbSevere model. ProbSevere utilizes geostationary satellite, Multi-Radar/Multi-Sensor (MRMS) products, lightning, and Numerical Weather Prediction (NWP) data to determine the probability that a developing thunderstorm will produce severe weather up to 90 minutes in the future. ProbSevere has been successfully demonstrated in the Hazardous Weather Testbed and, experimentally, in WFO operations. NWS meteorologists have indicated that ProbSevere effectively complements existing operational procedures while helping to improve the efficiency of severe weather warning operations. In this presentation, a brief overview of ProbSevere will be given along with an update on the effort to transition ProbSevere to NWS operations. In addition, recent research to improve ProbSevere, including the determination of hazard specific severe weather probabilities (wind, hail, and tornado), will be summarized.