

October 27, 2008

Changes to Thunderstorm / Conditional Severe Thunderstorm Guidance

Forecasts of the probability of thunderstorms and the conditional probability of severe thunderstorms for 6- and 12-h periods will continue to be available in the new NAM MOS message for the 0000 and 1200 UTC cycles. The following changes apply to the new NAM thunderstorm system as compared to the previous Eta-based MET MOS:

1. Equations were developed out to 84 hours for both cycles. The older Eta-based thunderstorm guidance was only available to 60 hours in advance.
2. The thunderstorm probabilities represent the likelihood of a thunderstorm within a grid box approximately 40 km on a side and containing the specified station. The previous Eta thunderstorm guidance was valid for 48 km grid boxes. This now matches the grid resolution of the GFS-based thunderstorm system.
3. The conditional severe thunderstorm probabilities represent the likelihood of a severe thunderstorm within a grid box approximately 80 km on a side and containing the specified station, conditional on the occurrence of a thunderstorm. This change makes the definition of the probability values more consistent with products issued by the Storm Prediction Center. The previous severe thunderstorm guidance was valid for 48 km grid boxes.
4. Data were stratified seasonally, namely warm April 1 – Sept 30, and cool October 1 – March 31. In previous developments, including the GFS-based thunderstorm system, three seasons were used: cool, spring, and summer. Longer seasons were required due to the limited sample of NAM model data available for development.