

NWS Product Definition Document (PDD) for:  
**Refinement of SPC Experimental Enhanced Resolution Thunderstorm Outlook**

**Part 1 - Mission Connection**

The Storm Prediction Center is the National Weather Service's center of expertise for forecasting convection, including economically-disruptive weather events such as tornadoes, large hail, damaging winds and heavy rainfall. Included within the existing convective outlooks is a forecast for a 10% or greater probability of thunderstorms. Since these thunderstorm forecasts cover a 24 hour period with only the 10% probability contour, they provide little in the way of temporal or spatial resolution. Forecasts of thunderstorms are critical for the protection of life and property since every thunderstorm contains lightning that is a potential killer.

This Product Description Document replaces an existing PDD, whose evaluation period expired on 15 February 2008, and revises the current SPC experimental Enhanced Resolution Thunderstorm Outlook product based on customer and partner feedback. The revision to be tested this year provides greater temporal detail to aid NWS aviation weather partners including NWS WFOs and to support time-sensitive decisions related to thunderstorms. This year's test will also evaluate changes in the distribution of SPC forecaster workload and the ability to maintain this product for all scheduled convective outlook times.

**Comments:**

This season the SPC will again make the Enhanced Resolution Thunderstorm Outlook open to all customers through its web site at <http://www.spc.noaa.gov/products/exper/enhtstm/>. Web feedback from the broader community will be sought via an internet link beginning on March 17, 2009 and ending on February 5, 2010, at which time a decision to proceed with testing, revise the test or to continue on the path to operational production will be made. The current Enhanced Resolution Thunderstorm Outlook will be suspended on February 27, 2009 to facilitate transition to the new experimental format. Since the product would be in the public domain, this outlook can be repackaged and re-transmitted in accordance with standard NWS product use policies. Pending continued success, the SPC plans to distribute these probabilistic thunderstorm outlooks via AWIPS and the NDFD for use by both NWS WFOs and NOAA partners. An NWS Public Information Statement (PNS) Service Change Notice (SCN) will be issued prior to official product distribution.

**Part II - Technical Description**

The Enhanced Resolution Thunderstorm Outlook will consist of CONUS Day 1 forecasts for 1600 - 2000 UTC; 2000 - 0000 UTC; 0000 - 0400 UTC, and 0400 - 1200 UTC at 0600 UTC, 1300 UTC, 1630 UTC and 2100 UTC. Only a forecast for 0400 - 1200 UTC will be produced in conjunction with 0100 UTC Day 1 Convective Outlook. Each of these forecasts will contain 10%, 40% and 70% contours for the probability of thunderstorms during the forecast period. Similar outlooks have been produced both internally and publicly by the SPC for three years and verification indicated these forecasts are skillful and statistical reliable. These thunderstorm hazard probabilities will provide SPC customers and partners with information to help provide better public safety for the United States public.