

Probabilistic 32 Degree Fahrenheit Guidance

Part 1 – Mission Connection

- a. Product Description – This product provides a probability that the temperature at a location will fall to 32 degrees Fahrenheit or lower. This product is derived from the NDFD temperature grid data and the 2-meter temperature grid spread data from the GFS ensemble. In December 2008, a Central Region Science and Operations Officer asked if the HPC could develop a probabilistic guidance tool for forecasting 32 degree Fahrenheit or lower temperatures. This guidance tool will be primarily used during the early and late growing seasons.
- b. Purpose – The probabilistic 32 degree Fahrenheit temperature guidance tool is used by forecasters to estimate forecast confidence and the likelihood of crop damaging freezes during the spring and fall months (as well as Florida, south Texas and southern California during winter). The guidance tool can be used to assist forecasters in the issuance of freeze warnings and statements at the local forecast office.
- c. Audience - The target audience includes NWS forecasters, the academic community, the agricultural community, and anyone interested monitoring the potential for a crop damaging freeze.
- d. Presentation Format – Six-hour forecasts out through 156 hours are presented in a loop on the HPC webpage at the following URL:

<http://www.hpc.ncep.noaa.gov/prob32/>

- e. Feedback Method – Comments may be provided via email or by directly contracting:

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Part II – Technical Description

- a. Format and Science Basis – The probability of temperatures reaching 32 degrees Fahrenheit or lower is derived from the computed cumulative normal distribution using the 1200 UTC NDFD temperature data and the 2-meter temperature grid spread from the GFS ensemble (GEFS). A more detailed description of this product can be found on the HPC web site at: <http://www.hpc.ncep.noaa.gov/prob32/about.html>
- b. Product Availability – The product is generated once per day at 1400 UTC every day.

c. Additional Information – None.