

## **Experimental Precipitation Potential Index in the National Digital Forecast Database Product Description Document**

The National Digital Forecast Database (NDFD) currently provides information on precipitation probability for 12-hour periods. The Precipitation Potential Index (PPI) is used by Weather Forecast Offices to derive 12-hour Probability of Precipitation (PoP12) forecasts and provides detail on precipitation timing at up to hourly resolution.

### **Part I – Mission Connection**

- a. Product Description** – The National Digital Forecast Database contains a seamless mosaic of digital weather forecasts from National Weather Service field offices and the National Centers for Environmental Prediction (NCEP). For the Conterminous United States (CONUS), most NDFD elements for forecast days 1-3 are provided at hourly resolution for the first 36 hours and at 3 hour resolution through day 3.

The Precipitation Potential Index forecast is now available as a new element in NDFD experimentally. Providing PPI via NDFD enables users to make near-term decisions based on finer temporal resolution precipitation information than 12-hour Probability of Precipitation.

- b. Purpose** – The purpose of this experimental product is to provide users with fine resolution precipitation information for near-term decision making.
- c. Audience** – The intended audience are NWS partners and the users of the product.
- d. Presentation Format** – The output will be gridded and graphical files in NDFD.
- e. Feedback Method** – Feedback will be solicited through the following NWS Customer Survey link:

<http://www.nws.noaa.gov/survey/nws-survey.php?code=PPI-NDFD>

NWS is soliciting comments on the experimental Precipitation Potential Index grids in NDFD through November 30, 2015.

### **Part II – Technical Description**

- a. Format and Science Basis** – Precipitation Potential Index supports the generation of NDFD PoP12 forecasts and the categorical information provided in the NDFD weather grids. PPI values range from 0 to 100 and resemble PoP12 values in magnitude. The PoP12 for any 12-hour period can be derived by taking the maximum PPI value within the desired period.

PPI is not a probability forecast, which has different statistical characteristics. For example, as temporal resolution increases probability generally decreases (i.e., 12-hour PoP forecasts generally have a larger magnitude than 6-h PoP forecasts). By contrast, as temporal resolution increases, the magnitude of PPI is unaffected.

**b. Availability –**

Experimental PPI grids for forecast days 1-3 can be accessed in GRIB format at the following URLs:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndfd/AR.conus/ds.ppi.bin>

or

<http://weather.noaa.gov/pub/SL.us008001/ST.expr/DF.gr2/DC.ndfd/AR.conus/ds.ppi.bin>

NDFD PPI forecast graphics can be viewed via the NDFD map viewer at:

<http://digital.weather.gov/>