

**National Digital Forecast Database (NDFD)  
Fine Resolution NDFD  
NWS Product Description  
Document (PDD)  
August 19, 2014**

**Part 1 - Mission Connection**

- a. Product Description – The [National Digital Forecast Database \(NDFD\)](#) contains a seamless mosaic of digital weather forecasts from National Weather Service (NWS) field offices and the National Centers for Environmental Prediction (NCEP).

Effective August 19, 2014, NWS will transition the spatial and temporal resolution in the NDFD from experimental to operational status. After this transition, the operational NDFD will be available at 2.5km spatial resolution for all forecast times and at 1 hour temporal resolution for the first 36 hours from NDFD issuance time. These are the finest spatial and temporal resolutions at which Weather Forecast Offices in the Conterminous United States (CONUS) provide forecasts. Forecasts from NWS offices and centers employing coarser resolutions will be mapped onto the finer resolution NDFD grid.

This change will affect files containing data for the entire CONUS, but will not affect Alaska, Hawaii, Guam, Puerto Rico and the Virgin Islands, or the pre-defined 16 CONUS subsectors which will remain at their current operational resolutions.

Specifications for the 2.5km NDFD CONUS grid can be viewed at the following URL:

<http://graphical.weather.gov/docs/ndfdSRS.htm>

- b. Purpose – In support of the mission described in the *National Weather Service Strategic Plan for FY2005 - FY 2020*, "expanded digital services allow communication of forecast information with greater resolution in time and space and facilitates the integration of data in all service program areas." The NDFD is the primary means by which digital information is available to customers and partners. As part of this digital database, an increase in both spatial and temporal resolution is necessary to support NOAA's National Weather Service Strategic Plan: "*Building a Weather-Ready Nation*". Timely, fine resolution data provides critical Decision Support Services to our users during high impact events. Future digital datasets will continue to be developed in accordance with growing user needs.
- c. Audience - The audience for fine resolution includes large volume users of forecast information, emergency managers, the media, numerous local, state, and federal government agencies (including NWS field offices), academia, and many other users.

They are also for anyone who wishes to decode and explore various potential applications of the data.

**d. Presentation Format** – This implementation will affect CONUS forecasts available from NDFD in these standard methods:

- GRIB2 Binary version 2 (GRIB2) files via Hypertext Transfer Protocol (HTTP) and File Transfer Protocol (FTP)
- eXtensible Markup Language (XML) via Simple Object Access Protocol (SOAP) and Representational State Transfer (REST)

Users who pull NDFD elements in GRIB2 format, either via the internet or via the Family of Services server access service, may need to update their procedures and scripts to access these new elements.

To access fine resolution grids after 1400 UTC on August 19, 2014, use the following URLs:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndfd/AR.conus/>

or

<http://weather.noaa.gov/pub/SL.us008001/ST.opnl/DF.gr2/DC.ndfd/AR.conus/>

Element grids will be combined into one file for day 1 through day 3, and a second file for day 4 through day 7, using the same WMO headers currently on operational NDFD grids. Grids for selected elements will be more tightly packed in GRIB2 format with both decimal and binary scaling applied. GRIB2 encoding characteristics for each NDFD element can be viewed at the following URL:

[http://graphical.weather.gov/docs/grib\\_design.html#element\\_encoding\\_lo](http://graphical.weather.gov/docs/grib_design.html#element_encoding_lo)

To view NDFD grids for the CONUS at full resolution, use the experimental NDFD map viewer at the following URL:

<http://preview.weather.gov/graphical/>

**e. Feedback Method** – The comment period for these experimental NDFD elements ended on December 31, 2012. There were no significant comments on the grids. The majority of comments were inquiries on the date to transition to operational status.

General information on accessing and using NDFD elements is online at:

<http://ndfd.weather.gov/technical.htm>

For general questions regarding NDFD data, please email:

[nws.ndfd@noaa.gov](mailto:nws.ndfd@noaa.gov)

## **Part II – Technical Description**

**a. Format and Science:**

See the following link for a complete description for each forecast element available at fine resolution.

[http://www.nws.noaa.gov/ndfd/resources/NDFDelem\\_fullres.xls](http://www.nws.noaa.gov/ndfd/resources/NDFDelem_fullres.xls) .

**b. Product Availability** – See Part 2, Section A for details.

**c. Additional Information** – Detailed information about the NDFD is also [available online](#).