

National Digital Forecast Database Alaska 3 km Experimental Elements Product Description Document

June 24, 2016

Part I - Mission Connection

- a. Description of Product - Under statute, the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) is charged to collect data on climate, water, and weather, provide forecasts and warnings of severe weather in order to protect life and property, and create and disseminate forecasts and other weather information for the benefit of a wide range of weather sensitive businesses and activities.

By capitalizing on rapid advances in science and technology and infusing these advances into its operations, the NWS has taken steps to proactively respond to ever changing and growing demands of its customers and partners. The 2003 Fair Weather report, produced by the National Research Council, recommended making NWS data and products available in an Internet accessible digital form. The specific recommendation is as follows: *“Information held in digital databases should be based on widely recognized standards, formats, and metadata descriptions to ensure that data from different observing platforms, databases, and models can be integrated and used by all interested parties in the weather and climate enterprise.”*

Since the Internet is now a principal means of communicating NWS forecasts, the NWS provides Internet access to operational and experimental forecasts of base and derived weather elements (e.g., Maximum Temperature, Sky Cover, Relative Humidity) through the National Digital Forecast Database (NDFD). NDFD contains a seamless mosaic of digital forecasts from NWS field offices working in collaboration with the National Centers for Environmental Prediction (NCEP). Additionally, the NWS makes available graphic forecast displays (<http://digital.weather.gov>) that are web-based presentations of digital forecast data originating from local Weather Forecast Office (WFO) digital databases and the NDFD server.

Operational 6 km digital datasets (and associated graphic forecast displays) integrated into NDFD for Alaska are available for the following elements: **Maximum Temperature, Minimum Temperature, 12-hour Probability of Precipitation, Wind Speed, Wind Direction, Significant Wave Height, Hazards, Weather, Temperature, Dew Point, Wind Gust, Sky Cover, Apparent Temperature, Relative Humidity, Maximum Relative Humidity, Minimum Relative Humidity, Quantitative Precipitation Forecast (QPF) and Snow Amount.** New experimental 3 km datasets for Alaska are now being provided for the same elements.

- b. Purpose – In support of the mission described in the *National Weather Service Strategic Plan for FY2003 - FY 2008*, the NDFD is a “...national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.” The NDFD is the primary means by which digital information will be made available to customers and partners. As part of this digital database, Alaska information has been made available in response to growing user needs for planning purposes and critical safety decisions. The new 3 km experimental dataset will provide more detailed forecast information over Alaska. Future digital datasets will continue to be developed in accordance with growing user needs.

- c. Intended Audience – The current audience for the NDFD Alaska elements includes large volume users of forecast information, the transportation and trucking industry, utilities, emergency managers, government agencies, academia, and recreational users. It is also for anyone else who wishes to decode and explore various potential applications of the NWS digital data; or simply view, post, or distribute the graphic images.
- d. Presentation Method – Experimental NDFD Alaska elements available on an Alaska sector in several formats.

GRIB, Edition 2 format at:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndfd/AR.alaska/>
<http://weather.noaa.gov/pub/SL.us008001/ST.expr/DF.gr2/DC.ndfd/AR.alaska/>

Data can be readily decoded for those who wish to create derived products from the forecast parameters/values contained within the NDFD.

A user defined GRIB2 access method is also available. This service allows the user to provide latitude/longitude points for two corners and a weather element. A resulting GRIB2 message is built “on-the-fly” and downloaded by the user. For more information about User Defined GRIB2 access, please refer to the Products/Service Description Document at the following URL:

http://products.weather.gov/PDD/User_Defined_Grib2_OFFICIAL.pdf

Experimental Alaska forecasts at 3 km will also be available in graphical format via the web. Images can be accessed via a mouse click under the initial map for the CONUS that is displayed at the following URL:

<http://digital.weather.gov>

- e. Feedback Mechanism - We are always seeking to improve our products based on user feedback. Feedback via the following electronic survey will be accepted through mm/dd/yyyy.

www.nws.noaa.gov/survey/nws-survey.php?code=AR3KMNDFDGRIDS

For general questions regarding the National Digital Forecast Database, please email:
nws.ndfd@noaa.gov

Technical questions regarding the NDFD Alaska Gridded Forecast Elements may be addressed to:

National Weather Service Headquarters
ATTN: David Ruth, W/STI11
1325 E-W Highway, SSMC2 Silver Spring, MD 20910

Part II - Technical Description

- a. Format & Science Basis - The NDFD forecast element definitions and technical

information (e.g. temporal and spatial resolution of the graphics, and geographic coverage) may be found on the NDFD technical page at the following URL:

<http://www.nws.noaa.gov/ndfd/technical.htm>

- b. Product Availability – Experimental NDFD Alaska 3 km forecast elements are available via file transfer protocol (ftp) or web browser. For further availability and technical information (e.g., temporal and spatial resolutions, forecast projections, and geographic coverage) please visit the following URL:

<http://www.nws.noaa.gov/ndfd/technical.htm>

Experimental Alaska 3 km images may also be accessed from the NWS homepage, digital.weather.gov, and clicking on the “Alaska” link below the initial CONUS map.

- c. Additional Information –

For more information on the NDFD, please refer to the NDFD Information web site at the following URL:
<http://www.nws.noaa.gov/ndfd/index.htm>