

**National Climatic Data Center**

**DATA DOCUMENTATION**

**FOR**

**DATA SET 9959 (DSI-9959)**

**National Digital Forecast Database**

**October 3, 2007**

National Climatic Data Center  
151 Patton Ave.  
Asheville, NC 28801-5001 USA

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**1. Abstract:** National Digital Forecast Database (DSI-9959) is a digital data set archived at the National Climatic Data Center (NCDC). The National Digital Forecast Database (NDFD) provides access to gridded forecast of sensible weather elements. These sensible weather elements include: temperature, dew point, winds, chance of precipitation, precipitation amount, weather, and sky cover. These are plotted every 3 hours out to 72 hours; every 6 hours out to 168 hours. Additional variables include: max/min temperatures (every 24 hours, out to 168 hours), probability of precipitation (every 12 hours, out to 168 hours), precipitation amount (every 6 hours out to 72 hours), snow amount (every 6 hours out to 48 hours), and wave height (every 12 hours out to 120 hours). All of these parameters are available for time scales as small as an hour and space scales of a few kilometers. The NDFD will also contain, in time, watch and warning information and weather elements from National Centers for Environmental Prediction (NCEP) centers such as marine and climate products. Digital forecast data are archived for all NWS Weather Forecast Offices (WFO's) and are mosaicked and available for access for the coterminous United States (CONUS), Alaska, Hawaii, and Guam, as well as 16 predefined subsectors covering the CONUS.

**2. Element Names and Definitions:** Data from the NDFD are provided in GRIB, Edition 2 (WMO 2001)

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

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

Elements	No. of Grids	Projections
Maximum Temperature	7	Every 24 hours, out to 168 hours
Minimum Temperature	7	Every 24 hours, out to 168 hours
12-hour Probability of Precipitation (PoP12)	14	Every 12 hours, out to 168 hours
Sky Cover	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Temperature	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Dew Point	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Wind Direction	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Wind Speed	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours

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Weather	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Precipitation Amount	12	Every 6 hours out to 72 hours
Snow Amount	6	Every 6 hours out to 48 hours
Wave Height	10	Every 12 hours out to 120 hours
Relative Humidity	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Apparent Temperature	40	Every 3 hours out to 72 hours; every 6 hours out to 168 hours
Wind Gust	24	Every 3 hours out to 72 hours
<b>Probabilistic Tropical Cyclone Surface Wind Speeds - 6 separate elements:</b>		
>34kts (incremental)	20	Every 6 hours out to 120 hours
>34kts (cumulative)	20	Every 6 hours out to 120 hours
>50kts (incremental)	20	Every 6 hours out to 120 hours
>50kts (cumulative)	20	Every 6 hours out to 120 hours
>64kts (incremental)	20	Every 6 hours out to 120 hours
>64kts (cumulative)	20	Every 6 hours out to 120 hours
<b>Convective Outlook Hazard Probabilities - 9 separate elements:</b>		
Convective Hazard Outlook	3	Days 1, 2, and 3
Probability of Tornadoes	1	Day 1
Probability of Hail	1	Day 1
Probability of Damaging Thunderstorm Winds	1	Day 1
Probability of Extreme Tornadoes	1	Day 1
Probability of Extreme Hail	1	Day 1
Probability of Extreme Thunderstorm Winds	1	Day 1
Total Probability of Severe Thunderstorms	2	Day 2
Total Probability of Extreme Severe Thunderstorms	2	Day 2

3. Start Date: 20040606

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4. **Stop Date:** Present

5. **Coverage:** United States

- a. Southernmost Latitude: 12N
- b. Northernmost Latitude: 72N
- c. Westernmost Longitude: 145W
- d. Easternmost Longitude: 66W

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.  
Phone: 828-271-4800  
FAX: 828-271-4876  
E-mail: [NCDC.Orders@noaa.gov](mailto:NCDC.Orders@noaa.gov)

<http://hurricane.ncdc.noaa.gov/pls/plhas/HAS.FileAppSelect?datasetname=9959>

7. **Archiving Data Center:**

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

8. **Technical Contact:**

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Federal Building  
151 Patton Avenue  
Asheville, NC 28801-5001  
Phone: (828) 271-4800.

9. **Known Uncorrected Problems:**

10. **Quality Statement:** Central Quality Control--When the forecast grids from the WFOs arrive at the NDFD central server, they are automatically checked by software for consistency at the boundaries. If a discontinuity greater than agreed upon thresholds is detected, the submitting WFOs are automatically notified of a potential problem. The WFOs have the opportunity to modify their submissions to make them more compatible with their surroundings. NCEP will also have the opportunity to view the mosaic and offer suggestions to the WFOs. As a last resort, a consensus forecast may be calculated at WFO boundaries.

11. **Essential Companion Datasets:**

12. **References:**

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

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**13. Revisions:** Implementation of wind gust as an operational element in NDFD was successful on 9/20/2007. It was confirmed that the GRIB2 files correctly posted to all the operational subdirectories for both the ftp and http servers for 2 consecutive hours. For the CONUS; 16 pre-defined CONUS subsectors; Puerto Rico and the Virgin Islands; Hawaii; and Guam.

The experimental wind gust subdirectories were deleted for the above listed areas. Also confirmed was the "experimental" label is no longer appearing on the NDFD wind gust graphics.

This implementation had no impact on the NDFD XML via SOAP or GML via GFS.

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