To: Subscribers
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- Emergency Managers Weather Information Network
- NOAA Port
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From: Dave Myrick
NWS Office of Science and Technology Integration

Subject: Updated: Slight Adjustments to Satellite Broadcast Network (SBN) and NOMADS Transmission of National Blend of Models (NBM) Guidance and Bug Fix:
Effective on October 24, 2017

Updated for the addition and removal of NBM data on Tuesday, October 24, 2017.

On or about Tuesday, October 24, 2017, beginning with the 1200 Coordinated Universal Time (UTC) model run, the NWS Meteorological Development Laboratory (MDL) will implement an update to the experimental National Blend of Models (NBM) guidance over the CONUS, OCONUS (Alaska, Hawaii, Puerto Rico), and Oceanic National Digital Forecast Database (NDFD) domains.

- NBM product additions and removals in NOAA Port

The NBM 0500 UTC and 1700 UTC cycles will now extend its transmission of guidance from 84 hours to 187 hours on the SBN for CONUS only. In addition, Daytime maximum temperature (MaxT), Nighttime minimum temperature (MinT), Nighttime maximum relative humidity (MaxRH), and Daytime minimum relative humidity (MinRH) fields will no longer be transmitted at 0700 UTC and 1900 UTC. Rather, they will be transmitted at 0600 UTC and 1800 UTC through 264 hours. For reference, SBN transmissions are roughly one hour later than the NBM cycle times listed above (For example, the NBM 0500 UTC run cycle is available in Advanced Weather Interactive Processing System (AWIPS) via SBN by about 0600 UTC).

- NBM product correction for NCEP Web dissemination and NOMADS

An error was also recently discovered, preventing blending of 88-h temperature and 94-h, 6-hour quantitative precipitation forecasts (QPF06) on the 0200, 0800, 1400, and 2000 UTC NBM cycles. This also impacted the 131-h wind gust at 0400, 1000, 1600, and 2200 UTC NBM cycles. With this corrected, the elements listed above will now be populated in GRIB2 in the
National Centers for Environmental Prediction Web Dissemination and NOMADS data flow. There are no changes to SBN/NOAAPORT with this error correction.

1. Background

This upgrade will incorporate additional global and mesoscale models over the CONUS and OCONUS domains. The upgrade will enable the NBM to routinely generate key aviation weather elements for digital aviation services, fire weather and several meteorological fields used to derive a predominant weather grid at local Weather Forecast Offices. The location and cycle availability of all NBM products is outlined in Sections 4-6 below.

2. NBM Elements

A list of weather elements that will be available at hourly time steps through 36 hours is provided below:

1. 2-m temperature
2. 2-m dewpoint
3. 10-m wind speed
4. 10-m wind direction
5. 10-m wind gust
6. Sky Cover
7. Ceiling height (CONUS Only)
8. Lowest cloud base height (CONUS Only)
9. Visibility (CONUS Only)
10. Precipitation potential index (CONUS Only)
11. Quantitative precipitation amount (1-hour, CONUS Only)
12. 2-m relative humidity (NDGD only, No SBN)
13. 2-m apparent temperature (NDGD only, No SBN)

The following NBM weather elements will be available over the CONUS and OCONUS domains at 3-hour time steps between 39-192 hours and every 6 hours thereafter through 264 hours:

1. 2-m temperature
2. 2-m dewpoint
3. Daytime 2-m Maximum temperature
4. Nighttime 2-m Minimum temperature
5. 10-m wind speed
6. 10-m wind direction
7. 10-m wind gust
8. Sky Cover
9. Precipitation potential index (6-hour)
10. Probability of precipitation (12-hour)
11. Quantitative precipitation amount (6-hour)
12. 2-m Maximum relative humidity (12-hour)
13. 2-m Minimum relative humidity (12-hour)
14. 2-m relative humidity (NDGD only, No SBN)
15. 2-m apparent temperature (NDGD only, No SBN)
For CONUS only, the following NBM weather grid elements will be available at hourly time steps between 1-36 hours, every 3 hours between 36-192 hours, and every 6 hours through 264 hours:

1. Maximum wet-bulb temperature aloft
2. Bourguoin positive area/energy
3. Bourguoin negative area/energy
4. Probability of cloud ice present
5. Conditional probability of rain
6. Conditional probability of snow
7. Conditional probability of freezing rain
8. Conditional probability of sleet
9. Conditional probability of refreeze sleet
10. Snow-liquid ratio
11. Snow level
12. 3-hour prob. of a thunderstorm (3-hourly, 3-78 hours)
13. 6-hour prob. of a thunderstorm (6-hourly, 84-180 hours)

3. This upgrade will incorporate additional global and mesoscale models and statistically post-processed guidance over the CONUS and OCONUS domains:

Current inputs:

1. NAM (North American Mesoscale Forecast System - 12km)
2. NAMNest (NAM 3km high resolution nest)
3. GFS (Global Forecast System)
4. GEFS (Global Ensemble Forecast System)
5. GDPS (CMC - Environment Canada Global Deterministic - PoP12/QPF06 only)
6. GEPS (CMCE - Environment Canada Global Ensemble)
7. EKDMOS (Ensemble Kernel Density Model Output Statistics)
8. Gridded GFS MOS (GMOS or MOSGuide)

New inputs:

9. HRRR (High Resolution Rapid Refresh), CONUS only
10. RAP (Rapid Refresh)
11. Gridded LAMP (GLMP Localized Aviation MOS Product), CONUS only
12. HiResWindow ARW NCEP (High-Resolution Window Forecast System (HIRESW))
13. HiResWindow NMMB NCEP (High-Resolution Window Forecast System (HIRESW))
14. SREF (Short Range Ensemble Forecast) CONUS, Alaska, Puerto Rico sectors
15. NAVGEME (Navy FNMOC Global Ensemble)

The CONUS NBM products will be disseminated on a 2.5-km Lambert Conformal grid with dimensions NX=2345 and NY=1597. This represents an expansion to the west by 200 grid lengths compared to the current operational NBM domain to provide coverage for the Nearshore Wave Prediction Model (NWPS) along the U.S. West Coast.
NBM products for Alaska will be produced on a 3-km Polar Stereographic grid with dimensions NX=1649 and NY=1105. The Hawaii NBM products will be produced on a 2.5-km Mercator grid with dimensions NX=625 and NY=561. Products for Puerto Rico will be produced on a 1.25-km Mercator grid with dimensions NX=353 and NY=257.

4. NBM Oceanic Products

NBM guidance for the Oceanic domain will now incorporate all ensemble members from the Global Ensemble Forecasting System (GEFS) and the Canadian Meteorological Centre Ensemble (CMCE). This upgrade provides additional 10-m wind speed percentile thresholds and a blended wind direction field using a clustering technique. The Oceanic products will continue to be produced on a 10-km Mercator grid with dimensions NX=2517 and NY=1817. Guidance for the following elements will be available for the 0000 and 1200 UTC cycles at 3-hourly time steps between 3-192 hours and at 6-hourly time steps thereafter through 264 hours:

1. 10-m wind speed 10th Percentile
2. 10-m wind speed 25th Percentile
3. 10-m wind speed 50th Percentile
4. 10-m wind speed 75th Percentile
5. 10-m wind speed 90th Percentile
6. 10-m blended wind direction

Please note that these additional calculations are resource intensive and results in a 40 minute runtime delay relative to the current operational NBM oceanic product.

5. SBN/NOAAPort Dissemination

While the NBM will run every hour and produce output to 264 hours with each run, only a subset will be sent across the Satellite Broadcast Network (SBN) and NOAAPort due to bandwidth limitations. Products will be disseminated in GRIB2 format and will contain individual WMO headers. On implementation day, current NBM products going across the SBN/NOAAPort will no longer contain superheaders. The schedule for SBN/NOAAPort dissemination is as follows:

<table>
<thead>
<tr>
<th>NBM Window</th>
<th>Disseminated Cycles (UTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term: 1-18h</td>
<td>0100, 0200, 0400, 0800, 1000, 1100, 1300, 1400, 1600, 2000, 2200, 2300</td>
</tr>
<tr>
<td>Short-term: 1-36h</td>
<td>0300, 0600, 0900, 1500, 1800, 2100</td>
</tr>
<tr>
<td>Short-term and medium-range: 1-187h</td>
<td>0500, 1700</td>
</tr>
</tbody>
</table>
Short-term and extended-range: 1-264h  0000, 0600*, 0700, 1200, 1800*, 1900

Oceanic products - through 264h  0000, 1200

*For 0600 and 1800 UTC, only MaxT MinT MaxRH MinRH transmitted to 264 hours; other elements just to 36 hours.

6. TGFTP/NDGD Dissemination

Output for the 0000, 0700, 1200 and 1900 UTC cycles will be placed in the experimental area of the National Digital Guidance Database (NDGD) in GRIB2 format at the following locations:

ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.blend/AR.conus/  (CONUS)
ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.blend/AR.hawaii/  (Hawaii)
ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.blend/AR.oceanic/  (Oceanic)

Each domain directory will contain subdirectories for each valid period as follows:

VP.001/    Day 1
VP.002/    Day 2
VP.003/    Day 3
VP.004/    Day 4
VP.005-007/  Days 5-7
VP.008-450/  Days 8 and beyond

Each element-specific GRIB2 file will reside in the appropriate valid period subdirectory and contain individual WMO headers. On implementation day, NBM files residing in NDGD will no longer contain superheaders. A listing of GRIB2 file names for all NBM elements that will reside on TGFTP is provided in Table 1 below.

Table 1: GRIB2 file names for NBM elements that will reside on TGFTP/NDGD in the appropriate valid period subdirectory

<table>
<thead>
<tr>
<th>CONUS/ALASKA/HAWAII/PR PRODUCTS:</th>
<th>GRIB2 FILE NAME</th>
<th>NBM ELEMENT NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td></td>
<td>ds.skymean.bin</td>
<td>Sky cover (mean)</td>
</tr>
<tr>
<td></td>
<td>ds.wdirmean.bin</td>
<td>Wind direction (mean)</td>
</tr>
<tr>
<td></td>
<td>ds.wspdmean.bin</td>
<td>Wind speed (mean)</td>
</tr>
<tr>
<td></td>
<td>ds.pop12.bin</td>
<td>12-h probability of precipitation</td>
</tr>
<tr>
<td></td>
<td>ds.tempmean.bin</td>
<td>2-m temperature (mean)</td>
</tr>
</tbody>
</table>
ds.tdmean.bin  2-m dewpoint temperature (mean)
ds.maxtmean.bin  Daytime maximum temperature (mean)
ds.mintmean.bin  Nighttime minimum temperature (mean)
ds.gpf06.bin    6-h quant. precipitation amount
ds.rhmean.bin  2-m relative humidity (mean)
ds.apptmean.bin  2-m apparent temperature (mean)
ds.wgustmean.bin  Wind gust (mean)
ds.ppi.bin    Precipitation potential index
ds.maxrhmean.bin  12-h maximum relative humidity (mean)
ds.minrhmean.bin  12-h minimum relative humidity (mean)

CONUS-ONLY PRODUCTS:
GRIB2 FILE NAME  NBM ELEMENT NAME
---------------  -----------------------------
ds.pts03.bin    3-h Probability of a thunderstorm
ds.pts06.bin    6-h Probability of a thunderstorm
ds.vismean.bin  Visibility (mean)
ds.cigmean.bin  Ceiling height (mean)
ds.clbemean.bin  Cloud base height (mean)
ds.gpf01.bin    1-h Quant. precipitation amount
ds.cprbfzrain.bin  Cond. probability of freezing rain
ds.cprbsnow.bin  Cond. probability of snow
ds.cprbrain.bin  Cond. probability of rain
ds.cprbsleet.bin  Cond. probability of ice pellets
ds.prbrefzslt.bin  Probability of refreeze sleet
ds.probldice.bin  Probability of cloud ice present
ds.negemean.bin  Bourguin negative area/energy (mean)
ds.posemean.bin  Bourguin positive area/energy (mean)
ds.slsblend.bin  Snow - liquid ratio (mean)
ds.snowlvlmean.bin  Snow level (mean)
ds.maxwbmean.bin  Maximum wet-bulb temp. aloft (mean)

OCEANIC PRODUCTS:
GRIB2 FILE NAME  NBM ELEMENT NAME
---------------  -----------------------------
ds.wdirmean.bin  Wind direction (mean)
ds.wspd10p.bin  Wind speed - 10th percentile
ds.wspd25p.bin  Wind speed - 25th percentile
ds.wspd50p.bin  Wind speed - 50th percentile
ds.wspd75p.bin  Wind speed - 75th percentile
ds.wspd90p.bin  Wind speed - 90th percentile

7. NCEP Web Dissemination

On implementation day, the NBM output for all cycles, elements, and projections will now be made available on NCEP web services sites:

http://nomads.ncep.noaa.gov/pub/data/nccf/com/blend/prod/
8. WMO Headers

Unique originating center IDs have been assigned to each geographic region. A listing of the originating center IDs is given in Table 2 below. WMO headers for all NBM elements and discontinued superheaders are listed below in Tables 3 and 4, respectively.

A document outlining the new WMO header scheme for NBM products can be found here:

http://www.weather.gov/media/mdl/NBM_WMO_header.pdf

Table 2: List of originating center IDs (CCCC) for NBM products

Two IDs are assigned to each geographic region to accommodate all weather elements. Oceanic products are disseminated under KWEA.

<table>
<thead>
<tr>
<th>Geographic Region</th>
<th>Originating Center (CCCC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONUS and Oceanic</td>
<td>KWEA and KWEB</td>
</tr>
<tr>
<td>Alaska</td>
<td>KWEC and KWED</td>
</tr>
<tr>
<td>Hawaii</td>
<td>KWEE and KWEF</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>KWEG and KWEH</td>
</tr>
</tbody>
</table>

Table 3: WMO headers for all NBM products that will be disseminated over the SBN/NOAAPORT and placed on TGFTP/NDGD

Listed below are representations of the WMO headers where xxx is a placeholder for the forecast valid day and hour (see header document linked above for further details).

<table>
<thead>
<tr>
<th>CONUS Products (CCCC=KWEA)</th>
<th>WMO Header</th>
<th>Element Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YAAxxxx</td>
<td>Sky cover (mean)</td>
</tr>
<tr>
<td></td>
<td>YBAxxxx</td>
<td>Wind direction (mean)</td>
</tr>
<tr>
<td></td>
<td>YCAxxxx</td>
<td>Wind speed (mean)</td>
</tr>
<tr>
<td></td>
<td>YDAxxxx</td>
<td>12-hour Probability of precipitation</td>
</tr>
<tr>
<td></td>
<td>YEAxxxx</td>
<td>2-m temperature (mean)</td>
</tr>
<tr>
<td></td>
<td>YFAxxxx</td>
<td>2-m dewpoint temperature (mean)</td>
</tr>
<tr>
<td></td>
<td>YGAxxxx</td>
<td>Daytime maximum temperature (mean)</td>
</tr>
<tr>
<td></td>
<td>YHAxxxx</td>
<td>Nighttime minimum temperature (mean)</td>
</tr>
<tr>
<td></td>
<td>YIxxxx</td>
<td>6-hour Quant. precipitation amount (mean)</td>
</tr>
<tr>
<td></td>
<td>YJxxxx</td>
<td>6-hour Probability of a thunderstorm</td>
</tr>
<tr>
<td></td>
<td>YMxxxx</td>
<td>Precipitation potential index</td>
</tr>
<tr>
<td></td>
<td>XPxxxx</td>
<td>Visibility (mean)</td>
</tr>
<tr>
<td></td>
<td>YQxxxx</td>
<td>Ceiling height (mean)</td>
</tr>
<tr>
<td></td>
<td>YRxxxx</td>
<td>Relative humidity (mean) - NDGD only</td>
</tr>
<tr>
<td></td>
<td>YTxxxx</td>
<td>Apparent temperature (mean) - NDGD only</td>
</tr>
<tr>
<td></td>
<td>YVXXXX</td>
<td>1-hour Quant. precipitation amount (mean)</td>
</tr>
<tr>
<td>WMO Header</td>
<td>Element Name</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>CONUS Products (CCCC=KWEB)</td>
<td>YWAxxx Wind gusts (mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YYAxxx 3-hour Probability of a thunderstorm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONU S Products (CCCC=KWEB)</td>
<td></td>
</tr>
<tr>
<td>WMO Header</td>
<td>Element Name</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CONUS Products (CCCC=KWEB)</td>
<td></td>
</tr>
<tr>
<td>YAAxxx</td>
<td>Cond. probability of freezing rain</td>
<td></td>
</tr>
<tr>
<td>YBAxxx</td>
<td>Cond. probability of snow</td>
<td></td>
</tr>
<tr>
<td>YCAxxx</td>
<td>Cond. probability of rain</td>
<td></td>
</tr>
<tr>
<td>YDAxxx</td>
<td>Cond. probability of ice pellets</td>
<td></td>
</tr>
<tr>
<td>YEAxxx</td>
<td>Probability of refreeze sleet</td>
<td></td>
</tr>
<tr>
<td>YGAxxx</td>
<td>12-hour Maximum relative humidity (mean)</td>
<td></td>
</tr>
<tr>
<td>YHAxxx</td>
<td>12-hour Minimum relative humidity (mean)</td>
<td></td>
</tr>
<tr>
<td>YIAxxx</td>
<td>Probability of cloud ice present</td>
<td></td>
</tr>
<tr>
<td>YNAxxx</td>
<td>Bourgouin negative area/energy (mean)</td>
<td></td>
</tr>
<tr>
<td>YPAxxx</td>
<td>Bourgouin positive area/energy (mean)</td>
<td></td>
</tr>
<tr>
<td>YQAxxx</td>
<td>Cloud base height (mean)</td>
<td></td>
</tr>
<tr>
<td>YSAxxx</td>
<td>Snow-liquid ratio (mean)</td>
<td></td>
</tr>
<tr>
<td>YWAxxx</td>
<td>Maximum wet-bulb temp. aloft (mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AK/HI/PR Products (CCCC=KWEC,KWEF,KWEH)</td>
<td></td>
</tr>
<tr>
<td>WMO Header</td>
<td>Element Name</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AK/HI/PR Products (CCCC=KWEC,KWEF,KWEH)</td>
<td></td>
</tr>
<tr>
<td>YAAxxx</td>
<td>Sky cover (mean)</td>
<td></td>
</tr>
<tr>
<td>YBAxxx</td>
<td>Wind direction (mean)</td>
<td></td>
</tr>
<tr>
<td>YCAxxx</td>
<td>Wind speed (mean)</td>
<td></td>
</tr>
<tr>
<td>YDAxxx</td>
<td>12-hour Probability of precipitation</td>
<td></td>
</tr>
<tr>
<td>YEAxxx</td>
<td>2-m temperature (mean)</td>
<td></td>
</tr>
<tr>
<td>YFAxxx</td>
<td>2-m dewpoint temperature (mean)</td>
<td></td>
</tr>
<tr>
<td>YGAxxx</td>
<td>Daytime maximum temperature (mean)</td>
<td></td>
</tr>
<tr>
<td>YHAxxx</td>
<td>Nighttime minimum temperature (mean)</td>
<td></td>
</tr>
<tr>
<td>YIAxxx</td>
<td>6-hour Quant. precipitation amount (mean)</td>
<td></td>
</tr>
<tr>
<td>YMAxxx</td>
<td>Precipitation potential index</td>
<td></td>
</tr>
<tr>
<td>YRAxxx</td>
<td>Relative humidity (mean) - NDGD only</td>
<td></td>
</tr>
<tr>
<td>YTxxx</td>
<td>Apparent temperature (mean) - NDGD only</td>
<td></td>
</tr>
<tr>
<td>YWAxxx</td>
<td>Wind gusts (mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AK/HI/PR Products (CCCC=KWEC,KWEF,KWEH)</td>
<td></td>
</tr>
<tr>
<td>WMO Header</td>
<td>Element Name</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Oceanic Products (CCCC=KWEA)</td>
<td>YGAxxx 12-hour Maximum relative humidity (mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YHAxxx 12-hour Minimum relative humidity (mean)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oceanic Products (CCCC=KWEA)</td>
<td></td>
</tr>
<tr>
<td>WMO Header</td>
<td>Element Name</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oceanic Products (CCCC=KWEA)</td>
<td></td>
</tr>
<tr>
<td>OBAxxx</td>
<td>Wind direction (mean)</td>
<td></td>
</tr>
<tr>
<td>OCCxxx</td>
<td>Wind speed - 10th percentile</td>
<td></td>
</tr>
<tr>
<td>OCMxxx</td>
<td>Wind speed - 25th percentile</td>
<td></td>
</tr>
<tr>
<td>OCGxxx</td>
<td>Wind speed - 50th percentile</td>
<td></td>
</tr>
<tr>
<td>OCNxxx</td>
<td>Wind speed - 75th percentile</td>
<td></td>
</tr>
<tr>
<td>OCKxxx</td>
<td>Wind speed - 90th percentile</td>
<td></td>
</tr>
</tbody>
</table>
Table 4: List of WMO superheaders that are being discontinued

Listed below are representations of the superheaders where “ii” represents the valid period of the forecasts (ii=93-98)

**CONUS (CCCC=KWEA):**
- LAAZii
- LBAZii
- LCAZii
- LDAZii
- LEAZii
- LFAZii
- LGAZii
- LHAZii
- LIAZii
- LRAZii
- LTAZii
- LWAZii

**Alaska (CCCC=KWEA):**
- MAAZii
- MBAZii
- MCAZii
- MEAZii
- MFAZii
- MGAZii
- MHAZii
- MRAZii
- MTAZii
- MWAZii

**Hawaii (CCCC=KWEA):**
- ZAAZii
- ZBAZii
- ZCAZii
- ZEAZii
- ZFAZii
- ZGAZii
- ZHAZii
- ZRAZii
- ZTAZii
- ZWAZii

**Puerto Rico (CCCC=KWEA):**
- YAAZii
- YBAZii
- YCAZii
- YEAZii
- YFAZii
- YGAZii
- YHAZii
- YRAZii
- YTAZii
- YWAZii

**Oceanic (CCCC=KWEA):**
- HCAZii

Users may find parallel NBM data for download:


Any questions, comments or requests regarding this implementation should be directed to the contacts below. We will review any feedback and decide whether to proceed.

For questions regarding the implementation of NBM guidance please contact:

- David Rudack
  MDL/Silver Spring, MD
  301-427-9456
  david.rudack@noaa.gov

or

- Jeff Craven
  MDL/Silver Spring, MD
  301-427-9475
  jeffrey.craven@noaa.gov

For questions regarding the data flow, please contact:

- Carissa Klemmer
  NCEP Central Operations
  301-683-0567
ncep.list.pmb-dataflow@noaa.gov

A webpage describing the NBM can be found at:

http://w2.weather.gov/mdl/nbm_home

National Service Change Notices are online at:

https://www.weather.gov/notification/archive

NNNN