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PNSWSH

Technical Implementation Notice 16-33
National Weather Service Headquarters Washington DC
800 AM EDT Tue Oct 18 2016

To: Subscribers
-NOAA Weather Wire Service
-Emergency Managers Weather Information Network
-NOAAPORT
Other NWS Partners, Users and Employees

From: Tim McClung
Portfolio Manager
Office of Science and Technology Integration

Subject: Amended: Implementation of experimental National Blend
of Models guidance effective November 15, 2016, and
request for comments

Amended to postpone the implementation date from Thursday,
November 3, 2016, to Tuesday, November 15, 2016

On or about Tuesday, November 15, 2016, 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 for the CONUS. Comments will be collected through
February 28, 2017. As a part of this upgrade, experimental NBM
guidance will be added for the Alaska, Hawaii, Puerto Rico and
Oceanic National Digital Forecast Database (NDFD) domains.

Experimental NBM guidance over the CONUS will be updated with
additional model inputs and extended to 264 hours for the
following weather elements:

1. Sky cover
2. 10-m wind direction
3. 10-m wind speed
4. 2-m temperature
5. 2-m dewpoint temperature
6. Daytime maximum temperature
7. Nighttime minimum temperature
8. 2-m relative humidity
9. 2-m apparent temperature
10. 10-m wind gust

Experimental NBM guidance will be added for the following
weather elements over the CONUS:

1. Quantitative precipitation amount (6-hour)
2. Probability of Precipitation (12-hour)

The CONUS NBM products will continue to be produced on a 2.5-km Lambert Conformal grid with dimensions NX=2145 and NY=1597. This represents an expansion to the north by 220 grid lengths compared to the current National Digital Forecast Database (NDFD) CONUS grid, in order to provide coverage for the entire Northwest River Forecast Center basin. Guidance will be available for the 0000 and 1200 UTC model cycles for projections from 6 hours to 264 hours in advance.

Experimental NBM guidance will be added for the following weather elements over the Alaska, Hawaii and Puerto Rico NDFD domains:

1. Sky cover
2. 10-m wind direction
3. 10-m wind speed
4. 2-m temperature
5. 2-m dewpoint temperature
6. Daytime maximum temperature
7. Nighttime minimum temperature
8. 2-m relative humidity
9. 2-m apparent temperature
10. 10-m wind gust

The Alaska NBM products 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. The Puerto Rico NBM products will be produced on a 1.25-km Mercator grid with dimensions NX=353 and NY=257. Alaska, Hawaii and Puerto Rico NBM guidance will be available for the 0000 and 1200 UTC model cycles for projections from 6 hours to 264 hours in advance.

Experimental NBM guidance will be added for the following weather elements over the Oceanic NDFD domain:

1. 10-m wind speed exceedance value for the 50th percentile

The Oceanic NBM products will be produced on a 10-km Mercator grid with dimensions NX=2517 and NY=1817. The Oceanic NBM guidance will be available for the 0000 and 1200 UTC model cycles for projections from 6 hours to 264 hours in advance.

All experimental NBM products will be disseminated on the Satellite Broadcast Network (SBN), NOAAPORT, and the NWS ftp server in GRIB2 format.

All NBM products will be available in GRIB2 format on or about Wednesday, September 21, 2016, in the experimental area of the National Digital Guidance Database (NDGD) on the NWS ftp server at:

ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.b
 lend/AR.conus/ (CONUS)
 ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.b
 lend/AR.alaska/ (Alaska)
 ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.b
 lend/AR.hawaii/ (Hawaii)
 ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.b
 lend/AR.puertori/(Puerto Rico)
 ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.b
 lend/AR.oceanic/ (Oceanic)

This 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 a WMO superheader and individual headers. A listing of the GRIB2 file names for each element is given in Table 1 below. WMO superheaders for the NBM products are given in Table 2.

Table 1: GRIB2 file names for the NBM elements

These files will reside in the appropriate valid period subdirectory on tgftp.

GRIB2 FILE NAME	ELEMENT
ds.skymean.bin	Sky cover
ds.wdirmean.bin	Wind direction
ds.wspdmean.bin	Wind speed
ds.pop12.bin	12-h probability of precipitation
ds.tempmean.bin	2-m temperature
ds.tdmean.bin	2-m dewpoint temperature
ds.maxtmean.bin	Daytime maximum temperature
ds.mintmean.bin	Nighttime minimum temperature
ds.qpf06.bin	6-h quantitative precipitation amount
ds.rhmean.bin	2-m relative humidity
ds.apptmean.bin	2-m apparent temperature
ds.wgustmean.bin	Wind gust

Table 2: WMO superheaders for each CONUS NBM element

Listed below are representations of the superheaders where ii=98 for day 1, ii=97 for day 2, ii=96 for day 3, ii=95 for day 4, ii=94 for days 5-7, and ii=93 for days 8 and beyond.

WMO SUPERHEADER	ELEMENT
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LAAZii KWEA	Sky cover
LBAZii KWEA	Wind direction
LCAZii KWEA	Wind speed
LDAZii KWEA	Probability of Precipitation (12h)
LEAZii KWEA	2-m temperature
LFAZii KWEA	2-m dewpoint temperature
LGAZii KWEA	Daytime maximum temperature
LHAZii KWEA	Nighttime minimum temperature
LIAZii KWEA	Quantitative Precipitation Amount (6h)
LRAZii KWEA	2-m relative humidity
LTAZii KWEA	2-m apparent temperature
LWAZii KWEA	Wind gust

Table 3: WMO superheaders for each Alaska NBM element

Listed below are representations of the superheaders where ii=98 for day 1, ii=97 for day 2, ii=96 for day 3, ii=95 for day 4, ii=94 for days 5-7, and ii=93 for days 8 and beyond.

WMO SUPERHEADER	ELEMENT
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MAAZii KWEA	Sky cover
MBAZii KWEA	Wind direction
MCAZii KWEA	Wind speed
MEAZii KWEA	2-m temperature
MFAZii KWEA	2-m dewpoint temperature
MGAZii KWEA	Daytime maximum temperature
MHAZii KWEA	Nighttime minimum temperature
MRAZii KWEA	2-m relative humidity
MTAZii KWEA	2-m apparent temperature
MWAZii KWEA	Wind gust

Table 4: WMO superheaders for each Hawaii NBM element

Listed below are representations of the superheaders where ii=98 for day 1, ii=97 for day 2, ii=96 for day 3, ii=95 for day 4, ii=94 for days 5-7, and ii=93 for days 8 and beyond.

WMO SUPERHEADER	ELEMENT
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ZAAZii KWEA	Sky cover
ZBAZii KWEA	Wind direction
ZCAZii KWEA	Wind speed
ZEAZii KWEA	2-m temperature
ZFAZii KWEA	2-m dewpoint temperature
ZGAZii KWEA	Daytime maximum temperature
ZHAZii KWEA	Nighttime minimum temperature
ZRAZii KWEA	2-m relative humidity
ZTAZii KWEA	2-m apparent temperature
ZWAZii KWEA	Wind gust

Table 5: WMO superheaders for each Puerto Rico NBM element

Listed below are representations of the superheaders where ii=98 for day 1, ii=97 for day 2, ii=96 for day 3, ii=95 for day 4, ii=94 for days 5-7, and ii=93 for days 8 and beyond.

WMO SUPERHEADER ELEMENT

WMO SUPERHEADER	ELEMENT
YAAZii KWEA	Sky cover
YBAZii KWEA	Wind direction
YCAZii KWEA	Wind speed
YEAZii KWEA	2-m temperature
YFAZii KWEA	2-m dewpoint temperature
YGAZii KWEA	Daytime maximum temperature
YHAZii KWEA	Nighttime minimum temperature
YRAZii KWEA	2-m relative humidity
YTAZii KWEA	2-m apparent temperature
YWAZii KWEA	Wind gust

Table 6: WMO superheaders for each Oceanic NBM element

Listed below are representations of the superheaders where ii=98 for day 1, ii=97 for day 2, ii=96 for day 3, ii=95 for day 4, ii=94 for days 5-7, and ii=93 for days 8 and beyond.

WMO SUPERHEADER ELEMENT

WMO SUPERHEADER	ELEMENT
HCAZii KWEA	Wind speed (50th percentile exceedance)

Beginning approximately one month prior to the implementation date, users may find parallel data for download on NOAA's Operational Model Archive and Distribution System (NOMADS) at the following link:

<http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaopt/blend/>

Feedback will be collected through February 28, 2017 via comments provided on the electronic survey at:

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

For questions regarding the implementation of NBM guidance please contact:

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NWS national TINs are online at:

<http://www.weather.gov/os/notif.htm>

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