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Technical Implementation Notice 15-33 Amended
National Weather Service Headquarters Washington DC
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From: Tim McClung, Chief Operating Officer
 NWS Office of Science and Technology Integration

Subject: Amended: Changes to North American Mesoscale Model (NAM)-based
Model Output Statistics (MOS) Guidance: Effective on Wednesday, January
13, 2016

Amended to change the implementation date from a date to be determined to
Wednesday, January 13, 2016.

Updates to the NAM-based MOS guidance by the NWS Meteorological
Development Laboratory (MDL), which were originally scheduled for Tuesday,
October 6, 2015, and postponed due to requirements for additional
evaluation and coordination, are now scheduled to be implemented on or
about Wednesday, January 13, 2016, beginning with the 1200 Coordinated
Universal Time (UTC) model run.

The updates will include new equations for forecasts of snowfall amount
for 6- and 12-hour thunderstorm probability, and for 6- and 12-hour
probability of severe weather. Implementation of the new equations will
remove any remaining influence of data collected from the older eta-
coordinate model on Model Output Statistics (MOS) forecasts for these
elements. In addition, MDL will introduce new NAM MOS probabilistic and
categorical guidance for cool-season precipitation type.

Before the implementation date, users may find parallel data for download
on NOAA's Operational Model Archive and Distribution System (NOMADS) at
the following link (files will reside in nam_mos.YYYYMMDD, where YYYYMMDD
is the year, month, day):

<http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/nam/para/>

The addition of precipitation type will increase the length of the cool-
season NAM MOS messages by three lines in the body of text for each
station contained in the MOS alphanumeric (MET) bulletin, and by three
records for each station in the Binary Universal Form for the
Representation of meteorological data (BUFR) messages. These added lines
will contain probabilistic forecasts for the occurrence of freezing
precipitation and snow (labeled POZ, POS), as well as a categorical
forecast of the most likely precipitation type (labeled TYP). Due to

changes in reporting frequencies, sufficient data were not available for development of new precipitation type equations at 14 sites currently in the NAM MOS system. Therefore, precipitation type guidance will not be produced and no additional information will appear in the MET and BUFR messages for these sites. These sites are listed in Table 1 below.

NAM MOS messages for Alaskan sites also will contain an additional two lines for the new 6- and 12-hour thunderstorm probability forecasts (labeled T06 and T12) during the convective season, May 1 through September 30; however, since the observed frequency of severe convective weather events over Alaska is quite low, it was not possible to obtain stable statistical relationships for the severe weather probabilities at those sites. Therefore, all Alaska severe weather probability forecasts will be coded as missing (99) at their respective positions within the NAM MOS messages.

Users should take the necessary steps for ingest of this additional information. Following implementation of these changes, the format of the cool-season NAM MOS messages will be identical to those being generated for the companion short-range GFS MOS text (MAV) and BUFR products.

Table 1: Sites for which NAM MOS Precipitation Type Guidance Will Not be Available

| ID | Station | Latitude | Longitude |
|------|-----------------------------------|----------|-----------|
| -- | ----- | ----- | ----- |
| K3A6 | Newhall, CA | 34.37N | 118.57W |
| K47A | Cherokee County Airport, GA | 34.31N | 84.42W |
| K48I | Sutton/Braxton County Airport, WV | 38.69N | 80.65W |
| K4BL | Blanding, UT | 37.62N | 109.47W |
| K4HV | Hanksville, UT | 38.37N | 110.72W |
| KHMS | Hanford, WA | 46.57N | 119.60W |
| KNHZ | Brunswick Naval Air Station, ME | 43.89N | 69.94W |
| KPFN | Panama City, FL | 30.20N | 85.80W |
| KRZZ | Roanoke Rapids, NC | 36.44N | 77.71W |
| KTDO | Toledo, WA | 46.48N | 122.80W |
| PADT | Slana Airport, AK | 62.70N | 143.98W |
| PALV | Big River Lake, AK | 60.82N | 152.30W |
| PASP | Sheep Mountain, AK | 61.82N | 147.51W |
| PAWR | Whittier, AK | 60.77N | 148.68W |

The following public weather alphanumeric messages and BUFR products are affected by the above changes:

Table 2: Communication Identifiers for the NAM-based MOS Public Weather Text Products

| WMO Heading | AWIPS ID |
|-------------|----------|
| ----- | ----- |
| FOAK47 KWNO | METAJK |
| FOAK48 KWNO | METAFC |
| FOAK49 KWNO | METAFG |
| FOPA40 KWNO | METPA0 |
| FOUS44 KWNO | METNE1 |

| | | |
|--------|------|--------|
| FOUS45 | KWNO | METSE1 |
| FOUS46 | KWNO | METNC1 |
| FOUS47 | KWNO | METSC1 |
| FOUS48 | KWNO | METRM1 |
| FOUS49 | KWNO | METWC1 |

Table 3: Communication Identifiers for the NAM-based MOS BUFR Messages

WMO Heading

| | |
|--------|------|
| JSML10 | KWNO |
| JSML11 | KWNO |
| JSML12 | KWNO |
| JSML13 | KWNO |
| JSML14 | KWNO |
| JSML15 | KWNO |
| JSML16 | KWNO |
| JSML17 | KWNO |

For questions regarding the updates to the NAM MOS guidance and associated message changes, please contact:

Mark Antolik
MDL/Silver Spring, MD
301-427-9480
mark.antolik@noaa.gov

or

Matthew Peroutka
MDL/Silver Spring, MD
301-427-9483
matthew.peroutka@noaa.gov

Links to the MOS products and descriptions are online at:

<http://www.nws.noaa.gov/mdl/synop>

National Technical Implementation Notices are online at:

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

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