

NOUS41 KWBC 251658
PNSWSH

Technical Implementation Notice 15-33
National Weather Service Headquarters Washington DC
100 PM EDT Thu Jun 26 2015

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From: Tim McClung
Chief Operating Officer
NWS Office of Science and Technology Integration

Subject: Changes to North American Mesoscale Model (NAM)-based
Model Output Statistics (MOS) Guidance Effective
September 29, 2015

On or about Tuesday, September 29, 2015, beginning with the 1200 Coordinated Universal Time (UTC) model run, the NWS Meteorological Development Laboratory (MDL) will implement updates to the NAM-based MOS guidance. The updates will include new equations for forecasts of snowfall amount, for 6- and 12-h thunderstorm probability, and for 6- and 12-h probability of severe weather. Implementation of the new equations will remove any remaining influence of data collected from the older eta-coordinate model on MOS forecasts for these elements. In addition, NCEP will introduce new NAM MOS probabilistic and categorical guidance for cool-season precipitation type.

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) bulletins and by three records for each station in the 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-h 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. All Alaska severe weather probability forecasts will be coded as missing, i.e., 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	LAT	LON
K3A6	NEWHALL	CA	34.37N 118.57W
K47A	CHEROKEE CNTY ARPT	GA	34.31N 84.42W
K48I	SUTTON/BRAXTON CO AP	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 NAS	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

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Links to the MOS products and descriptions are online at:

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

NWS National Technical Implementation Notices are online at:

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

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