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PNSWSH

Technical Implementation Notice 13-49 Amended  
National Weather Service Headquarters Washington DC  
737 AM EDT Tue Apr 1 2014

To:           Subscribers:  
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From:         Tim McClung  
              Chief, Science Plans Branch  
              Office of Science and Technology

Subject: Amended: Adding Several New Elements to Experimental GFS-Based  
Gridded MOS Guidance Over the CONUS and Alaska

Amended to change the implementation date from Tuesday, March 25, 2014, to  
Tuesday, April 8, 2014.

On or about Tuesday, April 8, 2014, beginning with the 1200 Coordinated  
Universal Time (UTC) model run, the NWS Meteorological Development  
Laboratory (MDL) will add several new elements to the experimental Global  
Forecast System (GFS)-based Gridded Model Output Statistics (MOS) guidance  
over the contiguous U.S. (CONUS) and Alaska. The elements to be added  
include:

Conditional probability of freezing precipitation  
Conditional probability of frozen precipitation  
Conditional probability of liquid precipitation  
Precipitation type conditional best category  
Precipitation potential index (PPI)  
Probability of precipitation occurrence (PoPO)  
Predominant weather

Grids for conditional precipitation type probability and best category are  
seasonal and will be available during the period September 1 to May 31  
over the CONUS and September 1 to June 15 over Alaska. Grids for PPI,  
PoPO and predominant weather will be available year-round. Users can find  
graphics, links to gridded binary version two (GRIB2) data for download,  
and more details on these new GFS-based gridded MOS elements over the  
CONUS and Alaska at:

[http://www.mdl.nws.noaa.gov/~mos/gmos/ptype\\_conus2p5/](http://www.mdl.nws.noaa.gov/~mos/gmos/ptype_conus2p5/)  
[http://www.mdl.nws.noaa.gov/~mos/gmos/ptype\\_alaska/](http://www.mdl.nws.noaa.gov/~mos/gmos/ptype_alaska/)  
<http://www.mdl.nws.noaa.gov/~wxgrid/>

On the change date, these products will be disseminated on the Satellite  
Broadcast Network (SBN), NOAAPort, and the NWS file transfer protocol  
(ftp) server in GRIB2 format. These additional MOS grids will be produced

on a 2.5-km Lambert Conformal grid over the CONUS and on a 3-km Polar Stereographic grid over Alaska, each covering the same expanse as their respective National Digital Forecast Database (NDFD) grids. Guidance will be generated from the 0000 and 1200 UTC model cycles for projections every three hours from six to 192 hours in advance.

The new GRIB2 products for the CONUS will be available in the experimental area of the National Digital Guidance Database (NDGD) on the NWS ftp server:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.mosgfs/AR.conus/>

The new GRIB2 products for Alaska will be available in the experimental area of NDGD on the NWS ftp server:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.mosgfs/AR.alaska/>

Each element-specific GRIB2 file will contain a superheader and individual headers for each forecast projection. A list of GRIB2 file names for each new gridded MOS element is given in Table 1 below. Representations of the World Meteorological Organization (WMO) superheaders for the new CONUS and Alaska gridded MOS elements are given in Tables 2 and 3, respectively.

Table 1: GRIB2 File Names for Each New GFS-based Gridded MOS Element:

File Name	Element
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ds.cpoz.bin	Conditional probability of freezing
ds.cpos.bin	Conditional probability of frozen
ds.cpor.bin	Conditional probability of liquid
ds.ptype.bin	Precipitation type best category
ds.ppi.bin	Precipitation potential index
ds.popo.bin	Probability of precipitation occurrence
ds.wx.bin	Predominant weather

Table 2: WMO Superheaders for each New 2.5-km CONUS Gridded MOS Element. Listed below are representations of the superheaders for each element, where ii=98 for short-range guidance (days 1-3) and ii=97 for medium range guidance (days 4-7):

WMO Header	Element
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MAUZii KWBQ	Conditional probability of freezing
MBUZii KWBQ	Conditional probability of frozen
MCUZii KWBQ	Conditional probability of liquid
YLUZii KWBQ	Precipitation type best category
YMUZii KWBQ	Precipitation potential index
YNUZii KWBQ	Probability of precipitation occurrence
YZUZii KWBQ	Predominant weather

Table 3: WMO Superheaders for each New 3-km Alaska Gridded MOS Element. Listed below are representations of the superheaders for each element, where ii=98 for short-range guidance (days 1-3) and ii=97 for medium range guidance (days 4-7):

WMO Header -----	Element -----
MARZii KWBQ	Conditional probability of freezing
MBRZii KWBQ	Conditional probability of frozen
MCRZii KWBQ	Conditional probability of liquid
LLRZii KWBQ	Precipitation type best category
LMRZii KWBQ	Precipitation potential index
LNRRii KWBQ	Probability of precipitation occurrence
LZRZii KWBQ	Predominant weather

A complete list of the WMO superheaders and individual headers for the CONUS is available at:

[www.nws.noaa.gov/mdl/synop/gmos/gmos2p5headers.pdf](http://www.nws.noaa.gov/mdl/synop/gmos/gmos2p5headers.pdf)

A complete list of the WMO superheaders and individual headers for Alaska is available at:

[www.nws.noaa.gov/mdl/synop/gmos/gmosAKheaders.pdf](http://www.nws.noaa.gov/mdl/synop/gmos/gmosAKheaders.pdf)

A Webpage outlining the gridded MOS guidance and the FTP server structure can be found at:

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

Questions regarding the addition of precipitation type to the Gridded MOS suite over the CONUS and Alaska should be submitted to:

Phil Shafer  
NWS Meteorological Development Laboratory  
301-713-0023, x 113  
[phil.shafer@noaa.gov](mailto:phil.shafer@noaa.gov)

Questions regarding the addition of predominant weather and PPI to the Gridded MOS suite over the CONUS and Alaska should be submitted to:

Tabitha Huntemann  
NWS Meteorological Development Laboratory  
301-713-0224, x119  
[tabitha.huntemann@noaa.gov](mailto:tabitha.huntemann@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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