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PNSWSH

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

Subject: Addition of New Elements to Experimental GFS-based
Gridded MOS Guidance over the CONUS and Alaska.

On or about Tuesday, February 18, 2014, beginning with the 1200
Universal Coordinated 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 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 from September 1-
May 31 over the CONUS and September 1-June 15 over Alaska.
Grids for PPI, PoPO, and predominant weather will be available
year round. Graphics, links to GRIB2 data for download, and more
details on these new GFS-based gridded MOS elements over the
CONUS and Alaska can be found at the following links:

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/~wxgrid/>

On the change date, these products will be disseminated on the
Satellite Broadcast Network (SBN), NOAAPORT, and the NWS 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 grid covering the same expanse as its respective National Digital Forecast Database (NDFD) grids. Guidance will be generated from the 0000 and 1200 UTC model cycles for projections every 3 hours from 6 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 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 |
|--------------|-------------------------------------|
| 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 precip. 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 |
|-------------|-------------------------------------|
| 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 precip. 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 |
| LNRZii KWBQ | Probability of precip. 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

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

www.nws.noaa.gov/mdl/synop/gmos/gmosAKheaders.pdf

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

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

For questions regarding the addition of precipitation type to the Gridded MOS suite over the CONUS and Alaska, contact:

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For questions on the addition of predominant weather and PPI to the Gridded MOS suite over the CONUS and Alaska, contact:

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Links to the MOS products and descriptions are online at:

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

NWS national TINs are online at:

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

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