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Technical Implementation Notice 16-13
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Subject: Changes to Gridded Localized Aviation Model
Output Statistics Program (LAMP) Effective
June 14, 2016

On or about Tuesday, June 14, 2016, beginning with the 1200 Coordinated Universal Time (UTC) model run, the NWS Meteorological Development Laboratory (MDL) will implement changes to the Gridded Localized Aviation Model Output Statistics Program (LAMP).

Gridded LAMP products are generated on a 2.5-km Lambert Conformal grid over the CONUS. Gridded observations and gridded forecasts (1 to 25 hour projections) are produced hourly. These products are disseminated on the Satellite Broadcast Network (SBN), NOAAPORT, and are available in the operational National Digital Guidance Database (NDGD).

The changes are as follows:

1. Add seven new elements to LAMP gridded forecast guidance for CONUS. Guidance will be available for the following new elements:

- 10-m wind gusts
- Probability of ceiling height < 500 ft
- Probability of ceiling height < 1000 ft
- Probability of ceiling height ? 3000 ft
- Probability of visibility < 1 mile
- Probability of visibility < 3 miles
- Probability of visibility < or equal to 5 miles

2. Add one new element to LAMP gridded observations for CONUS. Gridded LAMP observations will be available for 10-m wind gusts.

3. Make minor algorithm changes and update station lists for station input into Gridded LAMP are expected to provide slight

improvements to the Gridded LAMP observations and forecast guidance for existing elements:

- 2-m Temperature
- 2-m Dewpoint temperature
- Ceiling height
- Visibility
- Sky Cover
- 10-m Wind speed
- 10-m Wind direction

Specifically,

- The criteria to reject input points have been modified slightly.
- The gridding algorithm for temperature and dewpoint now use upper air data, which is expected to improve accuracy of the Gridded LAMP temperature and dewpoint observations and forecasts at higher elevations in the mountainous regions.
- The gridding algorithm and smoothing have been modified slightly and the station list has been updated for ceiling height, visibility and sky cover.

Benefits of the system changes include:

- Availability of Gridded LAMP gridded observations and forecasts guidance for new element of 10-m wind gusts
- Availability of Gridded LAMP gridded forecasts for new elements of ceiling height probabilities and visibility probabilities
- Slight overall improvements in the gridded fields due to additional data and minor algorithm modifications
- Improved accuracy of Gridded LAMP temperature and dewpoint observations and forecasts at higher elevations in the mountainous regions

In addition, ceiling and visibility observations and forecasts gridded data now better fit the underlying point data and reduce the spread of very low ceiling and visibility values into areas on the grid where there are no nearby station points.

The gridded LAMP products for the CONUS, in GRIB2 format, are available on the NWS server at:

<ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.gtmp/AR.conus/>
or
<http://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.gtmp/AR.conus/>

A listing of the GRIB2 file names for gridded observations and forecasts for new and existing elements is available at:

http://www.weather.gov/mdl/lamp_gtmp_NWS_tgftp_server

The new communication identifiers for the GRIB2 products are shown below in Tables 1 and 2. A complete list of GLMP WMO headers is available at

http://www.weather.gov/media/mdl/glmphheaders_2016.pdf

Table 1: Communication identifiers for the Gridded LAMP observation products in GRIB2 format

Listed below are representations of the WMO header:
xx represents the valid UTC hour (00-23).

WMO HEADER	ELEMENT
LAUAxx KMDL	2-meter gridded temperature observations
LAUBxx KMDL	2-meter gridded temperature observation error estimations
LBUAxx KMDL	2-meter gridded dewpoint temperature observations
LBUBxx KMDL	2-meter gridded dewpoint temperature observation error estimations
LCUAxx KMDL	Gridded ceiling height observations
LDUAxx KMDL	Gridded visibility observations
LEUAxx KMDL	Gridded opaque sky cover observations
LFUAxx KMDL	10-m gridded wind speed observations
LGUAxx KMDL	10-m gridded wind direction observations
LHUAxx KMDL	10-m gridded wind gust observations

Table 2: Communication identifiers for the Gridded LAMP forecast products in GRIB2 format

Listed below are representations of the WMO header:
xx represents the forecast projections (01-25).

WMO HEADER	ELEMENT
LKUAxx KMDL	Gridded 2-meter temperature forecasts
LLUAxx KMDL	Gridded 2-meter dewpoint temperature forecasts
LMUAxx KMDL	Gridded ceiling height forecasts
LNUAxx KMDL	Gridded visibility forecasts
LOUAxx KMDL	Gridded opaque sky cover forecasts
LPUAxx KMDL	10-m gridded wind speed forecasts
LQUAxx KMDL	10-m gridded wind direction forecasts
LRUAxx KMDL	10-m gridded wind gust forecasts
LMUCxx KMDL	Gridded probability of ceiling height < 500 ft forecasts
LMUDxx KMDL	Gridded probability of ceiling height < 1000 ft forecasts
LMUFxx KMDL	Gridded probability of ceiling height ? 3000 ft forecasts
LNUCxx KMDL	Gridded probability of visibility < 1 mile forecasts
LNUExx KMDL	Gridded probability of visibility < 3 mile forecasts

LNUFxx KMDL Gridded probability of visibility < or equal to 5 mile
Forecasts

More details about the Gridded LAMP products and this implementation, including a link to a website for displaying the new and improved products, can be found online at:

http://www.weather.gov/mdl/lamp_docs

A consistent parallel feed of data is available on the NCEP HTTP. The data are available at the following URL:

<http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/glamp/>

If you have technical comments or questions, please contact:

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Links to the LAMP products and descriptions can found at:

http://www.weather.gov/mdl/lamp_home

National Public Information Statements are online at:

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

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