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Service Change Notice 17-22 Updated
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Subject: Updated: Changes to LAMP and Gridded LAMP Ceiling and Visibility Guidance and to the Dissemination of GLMP Wind Gusts and Probabilities of Ceiling Height and Visibility: Effective April 3, 2017

Updated effective date to Monday, April 3, 2017, starting with the 1100 UTC cycle due to critical weather day.

On or about Monday, April 3, 2017, beginning with the 1100 Coordinated Universal Time (UTC) model run, the NWS Meteorological Development Laboratory (MDL) will implement changes to the Localized Aviation Model Output Statistics Program (LAMP) station-based and Gridded LAMP (GLMP) guidance.

LAMP station-based guidance is produced at more than 1,600 stations in the Continental U.S. (CONUS), Alaska, Hawaii and Puerto Rico. GLMP guidance is generated on a 2.5-km Lambert Conformal grid over the CONUS. LAMP station-based forecasts and GLMP 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).

Specific changes are as follows:

The LAMP system is being upgraded to statistically incorporate model output from the High Resolution Rapid Refresh (HRRR) model for the following weather elements at stations over the CONUS:

Categorical ceiling height forecasts
Probabilities of categorical ceiling height
Categorical visibility forecasts
Probabilities of categorical visibility

The LAMP station data over Alaska, Hawaii and Puerto Rico are not being upgraded at this time.

The GLMP system is being upgraded to statistically incorporate model output from the High Resolution Rapid Refresh (HRRR) model for the

following weather elements on a grid covering the CONUS domain:

Ceiling height forecasts
Probability of ceiling height less than 500 feet forecasts
Probability of ceiling height less than 1,000 feet forecasts
Probability of ceiling height less than or equal to 3,000 feet forecasts
Visibility forecasts
Probability of visibility less than 1 mile forecasts
Probability of visibility less than 3 miles forecasts
Probability of visibility less than or equal to 5 miles forecasts

The analysis fields of ceiling height and visibility observations will be unchanged.

In June 2016, the GLMP system was upgraded to provide gridded guidance over the CONUS for:

10m wind gusts observations
10m wind gusts forecasts
Probability of ceiling height less than 500 feet forecasts
Probability of ceiling height less than 1,000 feet forecasts
Probability of ceiling height less than or equal to 3,000 feet forecasts
Probability of visibility less than 1 mile forecasts
Probability of visibility less than 3 miles forecasts
Probability of visibility less than or equal to 5 miles forecasts

At that time, it was determined that the above, then-new, GLMP products would not be disseminated on the SBN or NOAAPort until such time as there was sufficient bandwidth available to accommodate these new products. On implementation day, the GLMP guidance for the above products will begin to be available on the SBN and NOAAPort.

No changes are being made with this implementation to the LAMP stations for which guidance is provided, the World Meteorological Organization (WMO) headers associated with these products, the format of any of the guidance products in LAMP or GLMP, or to the grid definition for which GLMP guidance is provided. These changes only impact LAMP guidance over the CONUS.

Benefits of the system changes include improved forecast skill of upgraded forecast elements over the CONUS through redevelopment of linear regression equations and incorporation of the HRRR-based predictors and added ability to resolve the weather conditions over the CONUS that are depicted by the HRRR model. All other LAMP and GLMP guidance is unchanged with this implementation.

Because the LAMP ceiling height and visibility guidance products have been updated to include predictors from the HRRR model and no other LAMP guidance has been updated, it is possible we will see an increase in inter-element inconsistencies between the LAMP guidance including the HRRR model input and the LAMP guidance not including the HRRR model input. This difference is most likely to be noticed with the LAMP guidance for visibility and obstruction to vision. The other LAMP elements will be upgraded in the future to incorporate output from the HRRR model that will

minimize such inconsistencies.

Before implementation, images of the upgraded guidance can be found at the Experimental LAMP website:

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

Once these changes are implemented, the products will be available on the main LAMP website:

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

More details about LAMP/GLMP products and this implementation can be found online at the LAMP Documentation website:

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

Dissemination:

With this upgrade, the elements withheld from the last upgrade will now be added to NOAAPort/SBN. Please reference the following Technical Implementation Notice for those details:

https://www.weather.gov/media/notification/tins/tin16-13griddedlampaaa.pdf

There are no other changes to the dissemination with this implementation. The LAMP and GLMP products continue to be available in operational NDGD, SBN, NOAAPort and the NWS server.

Details for the locations of the LAMP and GLMP products on the NWS web servers can be found here:

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

Complete lists of LAMP and GLMP WMO headers can be found here:

LAMP headers: http://www.weather.gov/media/mdl/lampheaders_201403.pdf
GLMP headers: http://www.weather.gov/media/mdl/glmpheaders_2016.pdf

The communication identifiers for the LAMP text and Binary Universal Form for the Representation of Meteorological Data (BUFR) products are shown in Tables 1 and 2 below.

Table 1: Communication Identifiers for the Global Forecast System (GFS)-based LAMP products in American Standard Code for Information Interchange (ASCII) format. Listed below are the WMO heading and the Advanced Weather Interactive Processing System (AWIPS) identifier.

WMO Heading	AWIPS ID
FOUS11 KWNO	LAVUSA

Table 2: Communication Identifiers for the GFS-based LAMP Products in BUFR Format. Listed below are the WMO headings.

WMO Heading	Region
JSMF10 KWNO	LAMP BUFR Pacific Region
JSMF11 KWNO	LAMP BUFR Northeast Region
JSMF12 KWNO	LAMP BUFR Southeast Region
JSMF13 KWNO	LAMP BUFR North Central Region
JSMF14 KWNO	LAMP BUFR South Central Region
JSMF15 KWNO	LAMP BUFR Rocky Mountains Region
JSMF16 KWNO	LAMP BUFR West Coast Region
JSMF17 KWNO	LAMP BUFR Alaska Region

The communication identifiers for the GRIB2 products are shown below in Tables 3 and 4.

Table 3: Communication Identifiers for the Gridded LAMP Ceiling Height and Visibility Observation Products in GRIB2 Format

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

WMO Header	Element
LCUAxx KMDL	Gridded ceiling height observations
LDUAxx KMDL	Gridded visibility observations

Table 4: Communication Identifiers for the Gridded LAMP Ceiling Height and Visibility Forecast Products in GRIB2 Format

Listed below are representations of the WMO header: xx represents the forecast projections (01-25). For details about the superheaders of these products, please refer to the link for the GLMP headers referenced above.

WMO Header	Element
LMUAxx KMDL	Gridded ceiling height forecasts
LNUAxx KMDL	Gridded visibility forecasts
LMUCxx KMDL	Gridded probability of ceiling height less than 500 feet forecasts
LMUDxx KMDL	Gridded probability of ceiling height less than 1,000 feet forecasts
LMUFxx KMDL	Gridded probability of ceiling height less than or equal to 3,000 feet forecasts
LNUCxx KMDL	Gridded probability of visibility less than 1 mile forecasts
LNUExx KMDL	Gridded probability of visibility less than 3 miles forecasts
LNUFxx KMDL	Gridded probability of visibility less than or equal to 5 miles forecasts

A consistent parallel feed of data will be made available in the near future on the NCEP HTTP site. The data will be available at the following URLs:

http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/lmp
http://para.nomads.ncep.noaa.gov/pub/data/nccf/noaaport/glmp

For questions, comments or requests regarding this implementation, contact:

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Links to the LAMP products and descriptions can be found at:

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

National Service Change Notices are online at:

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

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