

NOUS41 KWBC 031430
PNSWSH

Service Change Notice 19-61
National Weather Service Headquarters Silver Spring MD
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From: David Ruth
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 Meteorological Development Laboratory

Subject: Changes to LAMP station-based and gridded
 guidance effective August 20, 2019

On or about Tuesday, August 20, 2019, beginning with the 1400 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.

Changes included with this upgrade are as follows:

1. Refresh ceiling height (cig), visibility (vis), and obstruction to vision (obv) guidance at stations using updated Global Forecast System (GFS)-based MOS and updated High Resolution Rapid Refresh (HRRR) Version 3 data. In addition, guidance for the above elements has been extended from 25 out to 38 hours once an hour (HH) at the nominal HH:30 runtimes.

2. Miscellaneous station changes:

-Provide additional guidance for precipitation type, sky cover, conditional ceiling, and conditional visibility at 330 stations in the LAMP text bulletin (LAVUSA) and BUFR message. Guidance for cig, vis and obv has also been added for a small number of stations that did not have this guidance previously.

-Add Station KSBD, San Bernardino, CA, to the LAMP system.

-Change station identifier for Heber City Municipal Airport, UT, from K36U to KHCR.

A summary of the station changes is available at:
https://www.weather.gov/mdl/lamp_newguidance_v2.2.0

3. Text bulletin changes: the header row of the text bulletin currently contains the hour of the cycle and 00 regardless of the actual minute runtime of the cycle, e.g., HH00 UTC. With

this implementation, the minutes in the cycle time will reflect the nominal minutes of the runtime, e.g., HH00, HH15, HH30 or HH45.

4. New text bulletins:

Addition of "extended" text bulletins containing guidance for cig, vis and obv for 26 through 38 hours.

Addition of "full" text bulletins containing guidance for all elements through 25 hours, and for cig, vis and obv out to 38 hours. All elements without guidance past 25 hours will contain missing values as placeholders until that extended guidance is available. The full bulletins will not be disseminated due to exceeding line length limitations and will only appear on the LAMP website.

5. Expansion of GLMP cig and vis guidance to cover the full 2.5-km National Blend of Models (NBM) CONUS domain (2345 x 1597), and extension of forecast projections through 38 hours in support of the NBM. This includes the following GLMP elements:

- Observations (0-hour) and forecasts (1-38 hours) of deterministic cig
- Observations (0-hour) and forecasts (1-38 hours) of deterministic vis
- Forecasts (1-38 hours) of probability of cig <500 ft, <1000 ft, and <=3000 ft
- Forecasts (1-38 hours) of probability of vis <1 mi, <3 mi, and <=5 mi

Links to sample data for this upgrade can be found at the LAMP Experimental Products website:

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

Benefits of the system changes include:

- Updated cig, vis and obv guidance by using updated GFS MOS and HRRR data.
- Extending cig and vis guidance to 38 hours will assist with Digital Aviation Services and production of 30-h TAFs.
- Expanding GLMP cig and vis guidance to cover the full NBM CONUS domain and extension to 38 hours will support the short-term NBM.
- Adding station inputs to GLMP will improve the analysis for cig and vis.
- Adding elements for 330 stations, addition of KSBD, and change to the identifier for Heber City UT will benefit users of LAMP guidance.

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

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

Changes to Dissemination:

1. New "extended" text bulletins (LEVUSA) for 26 through 38 hours will be disseminated over the SBN/NOAAPORT each hour under WMO header "FEUS11 KWNO" and AWIPS identifier "LEVUSA," and will be made available on NCEP Web Services at the following locations as of the effective date:

<https://ftp.ncep.noaa.gov/data/nccf/com/lmp/prod>
<https://nomads.ncep.noaa.gov/pub/data/nccf/com/lmp/prod>

with filenames: lmp_lavtxt_ext.tHH30z (where HH=00, 01, ..., 23)

For user convenience, the currently operational 1-25 hour (LAVUSA) messages will also be available at this new location in addition to their current location with filenames:
lmp_lavtxt.tHHMMz (where HH=00, 01, ..., 23; MM=00, 15, 30, 45).

2. Due to SBN bandwidth limitations, the expanded GLMP cig and vis guidance on the 2.5km NBM CONUS grid for 1-38 hours will not be disseminated over SBN/NOAAPORT at this time but will be made available on NCEP Web Services in GRIB2 format at the following locations as of the effective date:

<https://ftp.ncep.noaa.gov/data/nccf/com/glmp/prod>
<https://nomads.ncep.noaa.gov/pub/data/nccf/com/glmp/prod>

With filenames: glmp.tHH30z.master.fPPP.grib2 (where HH=00, 01, ..., 23; PPP=000 indicates the observation analyses, PPP=001, 002, ..., 038 indicates the forecast projection in hours from runtime HH).

Note that the GLMP cig and vis GRIB2 data on NCEP Web Services cover the full CONUS domain through 17 hours, and the coverage is clipped to the CONUS, Canada, and near-shore waters beyond 17 hours due to a lack of skill in the Atlantic and Pacific Oceans and the Gulf of Mexico at those projections.

GLMP cig and vis guidance through 25 hours on the NDFD CONUS extent will continue to be disseminated over SBN/NOAAPORT in GRIB2 format and will continue to be available on the NWS TGFTP server in NDGD.

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

Output on the NWS Web Servers will also be updated to contain the new model output but the core contents (variables, file size) will not change. Details for the locations of the LAMP and GLMP products on the NWS ftp server can be found here:
https://www.weather.gov/mdl/lamp_NWS_ftp_server

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

LAMP headers:
https://www.weather.gov/media/mdl/lampheaders_vert_structure_v2.2.0.pdf

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

The communication identifiers for the LAMP text and BUFR products are shown in Tables 1 and 2 below. WMO headers for GLMP cig and vis are shown in Table 3 below.

Table 1: Communication identifiers for the GFS-based LAMP products in ASCII format. Listed below are the WMO heading and the AWIPS identifier.

WMO heading	AWIPS ID	Description
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FOUS11 KWNO	LAVUSA	1-25 hour bulletin
FEUS11 KWNO	LEVUSA	Extended 26-38 hour bulletin (new)

Table 2: Communication identifiers for the GFS-based LAMP products in BUFR format. Listed below are the WMO headings.

WMO heading	Region
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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

Table 3: WMO headers and superheaders for GLMP cig and vis guidance in GRIB2 format.

WMO heading	Element Name
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LCUAii KMDL	Ceiling height (0-h), ii=00-23
LMUZ98 KMDL	Ceiling height (1-38 h)
LMCZ98 KMDL	Ceiling height prob <500 ft (1-38 h)
LMDZ98 KMDL	Ceiling height prob <1000 ft (1-38 h)
LMFZ98 KMDL	Ceiling height prob <=3000 ft (1-38 h)
LDUAii KMDL	Visibility (0-h), ii=00-23
LNUZ98 KMDL	Visibility (1-38 h)
LNCZ98 KMDL	Visibility prob <1 mi (1-38 h)
LNEZ98 KMDL	Visibility prob <3 mi (1-38 h)
LNFZ98 KMDL	Visibility prob <=5 mi (1-38 h)

A consistent parallel feed of data is available on the NCEP parallel NOMADS site. Sample data for the 1-25 hour text bulletins and 26-38 hour text bulletins can be found here: <https://para.nomads.ncep.noaa.gov/pub/data/nccf/com/lmp/para>

Sample master GRIB2 files containing cig and vis through 38 hours on the expanded NBM domain can be found here: <https://para.nomads.ncep.noaa.gov/pub/data/nccf/com/glmp/para>

Questions concerning parallel data should be directed to the NCEP Dataflow team at ncep.pmb.dataflow@noaa.gov.

Questions, comments or requests regarding this change should be directed to the contact below. We will review feedback and

decide whether to proceed.

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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/>

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