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Service Change Notice 22-47
National Weather Service Headquarters Silver Spring MD
930 AM EDT Wed May 25 2022

To: Subscribers:
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From: Jeffrey Craven
 NWS Office of Science and Technology Integration
 Meteorological Development Laboratory

Subject: Mitigating the Low Bias of National Blend of Models (NBM)
Deterministic 6-hour Quantitative Precipitation Forecasts (QPF06) for the
CONUS Domain: Effective July 19, 2022

Effective on or about Tuesday, July 19, 2022, beginning with the 1200 Coordinated Universal Time (UTC) model run, the NWS National Centers for Environmental Prediction (NCEP) Central Operations (NCO) will implement an update to NBM guidance over the contiguous U.S. (CONUS) National Digital Forecast Database (NDFD) domain. This update will address the low bias exhibited by NBM v4.0 6-hour deterministic quantitative precipitation forecasts (QPF06) in the CONUS for projection hours 54 through 168.

In the event that the implementation date is declared a Critical Weather Day (CWD), or significant weather is occurring or is anticipated to occur, implementation of this change will occur at 1200 UTC on the next weekday not declared a CWD and when no significant weather is occurring.

NBM v4.1 QPF06 amounts (whose grids heavily rely upon NCEP's Weather Prediction Center's (WPC's) Multi Model Ensemble Bias Correction System (MMEBC)) have been shown to be more skillful during the test period that has recently concluded. Since NBM v4.1 is not operational and is not expected to be so until January 2023, it will benefit NWS forecasters and partners to have this incorporated into NBM v4.0 now as that will lead to much more timely delivery. The Meteorological Development Laboratory (MDL) has made these modifications and intends to update NBM v4.0 with these changes in this forthcoming implementation on the Weather and Climate Operational Supercomputing System (WCOSS).

NCEP encourages all users to ensure their decoders are flexible and are able to adequately handle changes in content order, parameter fields changing order, changes in the scaling factor component within the Product Definition Section (PDS) of the gridded binary (GRIB) files, and also any volume changes which may be forthcoming. These elements may change with future NCEP model implementations. NCEP will make every attempt to alert users to these changes prior to any implementation.

A webpage describing the NBM can be found at:

<https://vlab.noaa.gov/web/mdl/nbm>

Any questions, comments or requests regarding this implementation should be directed to the contacts below.

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For questions regarding the dataflow for NWS/NCEP services, please contact:

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National Service Change Notices are online at:

<https://www.weather.gov/notification>

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