

NOUS41 KWBC 191440 AAA
PNSWSH

Service Change Notice 21-24 Updated
National Weather Service Headquarters Silver Spring MD
1040 AM EDT Fri Mar 19 2021

To: Subscribers
 -NOAA Weather Wire Service
 -Emergency Managers Weather Information Network
 -NOAAPort
 Other NWS Partners, Users and Employees

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

Subject: Updated: Modifying the NBM's Quantile Mapping and Dressing (QMD) Grand Ensemble Mean (GEM) Deterministic QPF for the CONUS, Alaska, and Puerto Rico Domains; and Minor Corrections Made to the NBM QMD QPF, Present Weather, AK Fire Weather, and Text Message Products: Effective March 29, 2021

Updated to reflect the new implementation date of March 29, 2021, due to Critical Weather Day.

Effective on or about Monday, March 29, 2021, 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 the National Blend of Models (NBM) guidance over the contiguous U.S. (CONUS), outside the CONUS (OCONUS; Alaska, Hawaii, Puerto Rico) National Digital Forecast Database (NDFD) domains.

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.

Stakeholders including NCEP's Weather Prediction Center (WPC) and River Forecast Centers (RFCs) have expressed concern that routine NBM Grand Ensemble Mean (GEM) quantitative precipitation forecasts (QPF) forecasts have a high bias, especially on the lighter QPF events. Verification suggests that using a 35 percent weight of the 50th percentile (median) for projections 43-53 hours (along with weights of 40 percent GEM, 5 percent

RAP, 5 percent North American Model (NAM), and 15 percent NAMNest) and an equal 50/50 blend of GEM and median beyond 53 hours would mitigate these bias issues (similar to NBM v3.2 configuration). In light of these recent verification results, the NBM has made these science modifications and intends to update NBM v4.0 with these changes in this forthcoming implementation.

Additional NBM corrections in this forthcoming implementation update include:

(1) Precipitation intensity inside the NBM Predominant Weather grids will now support all possible intensity ranges and not just the category of "light."

(2) Quantile Mapping and Dressing (QMD) software now correctly calculates the QPF Trimean and Modified Trimean guidance.

(3) All NBM text bulletin guidance for the site of Lanai, HI (PHNY) is now being correctly populated. Prior to this fix, NBM guidance (sans the wave height guidance) for the station Hannagan Meadow, AZ was incorrectly populating PHNY's text bulletin.

(4) The Fire Weather product suite (mixing height, transport wind, etc.) in the Alaska domain is now properly ingesting synoptic-time High Resolution Rapid Refresh (HRRR) run data (0000, 0600, 1200, and 1800 UTC).

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

David Rudack
MDL/Silver Spring, MD
301-427-9456
david.rudack@noaa.gov

or

Jeff Craven
MDL/Silver Spring, MD
301-427-9475
jeffrey.craven@noaa.gov

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

Anne Myckow
NCEP Central Operations Dataflow Team Lead
301-683-3825
ncep.pmb.dataflow@noaa.gov

A webpage describing the NBM can be found at:

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

National Service Change Notices are online at:

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

NNNN