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Service Change Notice 22-33  
National Weather Service Headquarters Silver Spring MD  
230 PM EDT Wed Mar 30 2022

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

Subject: Removing NAVGEM Input from Some NBM Probabilistic Temperature  
Quantile Mapping Forecasts for the CONUS Domain: Effective April 12, 2022

Effective on or about Tuesday, April 12, 2022, beginning with the 1200 Coordinated Universal Time (UTC) model run, the NWS National Centers for Environmental Prediction (NCEP) Central Operations will implement an update to the National Blend of Models (NBM) guidance over the contiguous U.S. (CONUS) National Digital Forecast Database (NDFD) domain. This update will remove the NAVGEMD (Navy FNMOC Global deterministic) and NAVGEME (Navy FNMOC Global Ensemble) from the NBM's Probabilistic Daily Maximum (PMaxT) and Probabilistic Daily Minimum Temperature (PMinT) Quantile Mapping forecasts for the CONUS domain.

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 such as the NWS's Western and Central Region WFOs have expressed concern that the NBM CONUS PMaxT and PMinT percentiles are overdispersed and generating unrealistic probabilistic guidance. In some instances, NBM guidance is predicting record high temperatures far above anything that has been experienced to date. After careful analysis of this issue, it has been determined that the NAVGEMD and NAVGEME occasionally have unrealistic solutions in their temperature suite over land areas. This results in overdispersed NBM forecasts after quantile mapping bias correction is applied. To mitigate this issue until such time as the NAVGEMD and NAVGEME issues are resolved, the NBM will be removing the NAVGEMD and NAVGEME as inputs from its PMaxT and PMinT product. MDL has made these modifications and intends to update NBM v4.0 with these changes in this forthcoming implementation.

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](mailto:david.rudack@noaa.gov)

or

Jeff Craven  
MDL/Silver Spring, MD  
301-427-9475  
[jeffrey.craven@noaa.gov](mailto:jeffrey.craven@noaa.gov)

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

Anne Myckow  
NCEP Central Operations Dataflow Team Lead  
[ncep.pmb.dataflow@noaa.gov](mailto:ncep.pmb.dataflow@noaa.gov)

A webpage describing the NBM can be found at:

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

National Service Change Notices are online at:

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

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