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PNSWSH

Service Change Notice 24-94
National Weather Service Headquarters Silver Spring MD
235 PM EDT Tue Oct 1 2024

To: Subscribers:
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From: David Michaud, Director
 NWS Central Operations

Subject: Upgrade of the National Air Quality Forecast Capability (NAQFC) to the Air Quality Modeling (AQM) System Version 7.0.8: Effective October 1, 2024

Effective on or about Tuesday, October 1, 2024 with the 1200 Coordinated Universal Time (UTC) cycle, the National Centers for Environmental Prediction (NCEP) Central Operations (NCO) will be updating the National Air Quality Forecast Capability (NAQFC) to the Air Quality Modeling (AQM) system version 7.0.8.

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

Comments/feedback on this upgrade were previously solicited publicly from August 23, 2024 through September 22, 2024:

https://www.weather.gov/media/notification/pdf_2023_24/pns24-58_aqm_v7.0.8.pdf

AQM version 7.0.8 is expected to improve the representation of wildfire impacts in air quality forecast guidance.

This upgrade includes:

- Update the Regional hourly Advanced Baseline Imager (ABI) and Visible Infrared Imaging Radiometer Suite (VIIRS) Emissions (RAVE) input datasets from version 1.3 to version 2.0, which use observations from the National Oceanic and Atmospheric Administration (NOAA)'s latest generation of U.S. polar-orbiting satellites (NOAA-21)
- Update the list of AirNow's observational surface sites for ozone (O3) and fine particulate matter (PM2.5) to improve bias-corrected products
- Mitigate overprediction of fugitive dust
- Increase accuracy of predicted dry deposition velocities for small gravitational settling and aerodynamic resistance values
- Implement bug fixes and other code improvements

The proposed upgrade will also include the following product changes:

- Missing records for the initial four forecast hours will be added to hourly-averaged ozone products, which include World Meteorological Organization (WMO) headers for the contiguous U.S. (CONUS) domain (227).

The new WMO headers include:

- 06z 1hr-average O3: LYUB07, LYUB08, LYUB09, LYUB10
- 06z 1hr-average bias-correction O3: YBPB07, YBPB08, YBPB09, YBPB10
- 12z 1hr-average O3: LYUA13, LYUA14, LYUA15, LYUA16
- 12z 1hr-average bias-correction O3: YBPA13, YBPA14, YBPA15, YBPA16

This will affect the following files:

- ds.ozone01.bin
- ds.ozone01_bc.bin

These updated files can be accessed through the TGFTP site:

<https://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.aq/>

Current model data can be accessed here:

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

Please submit comments, questions, or requests on the upgrade to:

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For questions regarding the data flow, please contact:

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National Service Change Notices are online at:

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

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