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From: Fanglin Yang, Chief
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 NCEP/Environmental Modeling Center

Subject: Soliciting Comments through September 22, 2024 on Upgrading the National Air Quality Forecast Capability (NAQFC) to the Air Quality Modeling (AQM) System Version 7.0.8

The National Weather Service (NWS) is seeking comments until September 22, 2024 on a proposed upgrade of the National Air Quality Forecast Capability (NAFC) with the purpose of improving predictions of particulate matter and wildfire impacts on air quality.

The upgrade aims to advance the operational Air Quality Modeling (AQM) system to version 7.0.8 and to introduce the following changes:

- 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 product changes below:

- Missing records for the initial four forecast hours will be added to hourly-averaged ozone products with World Meteorological Organization (WMO) headers on the contiguous U.S. (CONUS) domain (227). This will affect the following files:

- awpaqm.t{CC}z.ave_1hr_o3.227.grib2
- awpaqm.t{CC}z.ave_1hr_o3_bc.227.grib2

where CC = 06, 12 Coordinated Universal Time (UTC) cycle.

In preparation for the operational implementation of AQM version 7.0.8, the Environmental Modeling Center is running a real-time parallel experiment. Experimental products will be made available on a best-effort basis via the following URL:

<https://ftp.emc.ncep.noaa.gov/mmb/aq/for NDGD 5x expr/>

and are expected to include:

- Daily maximum 8-hour average surface ozone.
- 24-hour average surface PM2.5 concentrations.
- Hourly-averaged surface ozone concentrations up to 72 forecast hours.
- Hourly-averaged surface PM2.5 concentrations up to 72 forecast hours.

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

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National Public Information Statements are online at:

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

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