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Technical Implementation Notice 15-58
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From: Timothy McClung, Portfolio Manager
 Office of Science and Technology Integration

Subject: Ozone Air Quality Prediction Update: Effective January 26, 2016

Effective on or about Tuesday, January 26, 2016, beginning with the 1200 Coordinated Universal Time (UTC) run, the National Centers for Environmental Prediction (NCEP) will upgrade the Air Quality Model (AQM) capability that uses the Community Multi-scale Air Quality (CMAQ) modeling system to provide ozone air quality predictions.

The scope of this upgrade includes:

- Providing fine particulate matter (PM2.5) model predictions.
- Making analog ensemble bias correction for fine particulate matter (PM2.5) forecast guidance.
- Increasing the number of CMAQ vertical levels from 22 to 35.
- Contributing dust-related aerosol species at the CMAQ lateral boundaries using the NEMS Global Aerosol Capability (NGAC) forecasts.
- Incorporating file name standardization changes.

The expected impact of these changes include:

- First public distribution of PM2.5 products.
- Improved raw and bias corrected fine particulate matter (PM2.5) products.
- Slight improvement in surface ozone predictions.

Predictions from the updated CMAQ model will be made available through a parallel feed at the following locations starting November 2015:

<http://para.nomads.ncep.noaa.gov/pub/data/nccf/com/aqm/para/>

Output Changes:

The file names will change as follows on the NCEP servers:

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

Contiguous U.S. (CONUS):

aqm.tCCz.1ho3-max.227.grib2 -> aqm.tCCz.max_1hr_o3.227.grib2
aqm.tCCz.8ho3-max.227.grib2 -> aqm.tCCz.max_8hr_o3.227.grib2

aqm.tCCz.1hro3.227.grib2 -> aqm.tCCz.ave_1hr_o3.227.grib2
aqm.tCCz.8hro3.227.grib2 -> aqm.tCCz.ave_8hr_o3.227.grib2

Hawaii:

aqm.tCCz.8ho3.196.grib2 -> aqm.tCCz.ave_1hr_o3.196.grib2
aqm.tCCz.1ho3.196.grib2 -> aqm.tCCz.ave_8hr_o3.196.grib2
aqm.tCCz.8ho3-max.196.grib2 -> aqm.tCCz.max_8hr_o3.196.grib2
aqm.tCCz.1ho3-max.196.grib2 -> aqm.tCCz.max.1hr_o3.196.grib2

Alaska:

aqm.tCCz.8ho3.198.grib2 -> aqm.tCCz.ave_8hr_o3.198.grib2
aqm.tCCz.1ho3.198.grib2 -> aqm.tCCz.ave_1hr_o3.198.grib2
aqm.tCCz.8ho3-max.198.grib2 -> aqm.tCCz.max_8hr_o3.198.grib2
aqm.tCCz.1ho3-max.198.grib2 -> aqm.tCCz.max_1hr_o3.198.grib2

*Where CC is the cycle time.

Files under the NCEP Gateway (former TOC) servers will remain unchanged:

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

Web graphics will remain available at: <http://airquality.weather.gov/>

New Products:

The new raw PM2.5 products will be distributed to the NCEP http/ftp servers for CONUS, Alaska and Hawaii. The new bias corrected PM2.5 will be distributed for CONUS.

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

CONUS:

aqm.tCCz.pm25.fff.148.grib2
aqm.tCCz.pm25_bc.fff.148.grib2

Hawaii:

aqm.tCCz.pm25.fff.139.grib2

Alaska:

aqm.tCCz.pm25.fff.140.grib2

*Where FF is forecast hour 01-48.

The new PM2.5 maps and products will be publicly available from the NCEP Environmental Modeling Center (EMC) website below and NCEP directories. Posting of PM maps at www.airquality.gov will follow at a later date.

The hourly and daily maximum ozone and PM maps are available at:
<http://www.emc.ncep.noaa.gov/mmb/aq/cmaq/web/html>

For questions regarding these updated model forecast guidance, please contact:

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National Technical Implementation Notices are online at:

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

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