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Technical Implementation Notice 14-41 Amended
National Weather Service Headquarters Washington DC
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From: Timothy McClung
 Chief, Science Plans Branch
 Office of Science and Technology

Subject: Amended: Ozone Air Quality Prediction Update: Effective January
27, 2015

Amended to change implementation date from November 25, 2014, to January
27, 2015.

Effective on or about Tuesday, January 27, 2015, beginning with the 1200
Coordinated Universal Time (UTC) run, the National Centers for
Environmental Prediction (NCEP) will upgrade the Community Multi-scale Air
Quality (CMAQ) modeling system that provides ozone air quality
predictions.

The updated CMAQ model includes an updated carbon bond gas phase (CB05)
mechanism and additional updates. This update is for the contiguous 48
states (CONUS) domain.

Ozone predictions from the updated CMAQ model are available through a
parallel feed at the links below.

HTTP:
<http://www.ftp.ncep.noaa.gov/data/nccf/com/aqm/para/aqm.YYYYMMDD>

FTP:
<ftp://ftp.ncep.noaa.gov/pub/data/nccf/com/aqm/para/aqm.YYYYMMDD>

where YYYYMMDD is the year, month, day.

The names of the CONUS gridded binary (GRIB) files have changed to the
following:

aqm.tCCz.8ho3.227.grib2
aqm.tCCz.1ho3.227.grib2
aqm.tCCz.1ho3-max.227.grib2
aqm.tCCz.8ho3-max.227.grib2

Additionally, Alaska and Hawaii GRIB files are now available:

aqm.tCCz.8ho3.196.grib2
aqm.tCCz.1ho3.196.grib2
aqm.tCCz.8ho3-max.196.grib2
aqm.tCCz.1ho3-max.196.grib2
aqm.tCCz.8ho3.198.grib2
aqm.tCCz.1ho3.198.grib2
aqm.tCCz.8ho3-max.198.grib2
aqm.tCCz.1ho3-max.198.grib2

The CMAQ GRIB products from the parallel feed are also disseminated via the NCEP website:

[ftp://ftp.emc.ncep.noaa.gov/mmb/aq/for NDGD 5x expr/](ftp://ftp.emc.ncep.noaa.gov/mmb/aq/for_NDGD_5x_expr/)

and the products will be displayed at:

<http://airquality.weather.gov/expr/>

The hourly ozone maps are available at:

<http://www.emc.ncep.noaa.gov/mmb/aq/cmaq/web/html>

The daily maximum ozone maps are available at:

http://www.emc.ncep.noaa.gov/mmb/aq/para/web/html/max_p6.html

The current operational CMAQ model will continue providing forecasts through:

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

and displayed at <http://airquality.weather.gov/>.

The scientific enhancements include the following:

- Updated rate constants for Carbon Bond Mechanisms (CB05).
- Inclusion of monthly varying lateral boundary conditions for 36 gaseous and aerosol species below seven km altitude.
- Modified dry deposition velocity calculation.
- Constraint of planetary boundary layer height in the model to be at least 50m.
- Faster removal of organic nitrate from the atmosphere.
- Inclusion of particulate emissions from wildfires based on wildfire locations observed over the previous day.
- Suppression of soil emissions when terrain is covered by ice or snow.

- Inclusion of windblown dust emissions using threshold friction velocity and soil wetness fraction with climatological source composition and locations.

There are no changes to existing products or their contents.

Due to this upgrade, the CONUS products will be delivered 30 to 35 minutes later than in the past.

For questions or comments, contact:

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