Standard Air Quality Forecast Procedures
Baltimore-Washington Region
Ozone Season - 2016

This document specifies the standard operating procedures for issuing and displaying air quality forecasts.

Air Quality Forecast Calls

Dates: April 18 through September 27, 2016

Times: Daily at 2:30pm

Call Originator: Weekdays - COG
Weekends – MDE Forecasters (Depending on the need)

Developing and Issuing Air Quality Forecasts

Air quality forecasts will be developed for the next three days based on the 8-hour averaged ozone and the 24-hour averaged fine particulate matter ($PM_{2.5}$) concentrations. Air Quality Index (AQI) values and the corresponding AQI colors will be developed based on the cut-points shown in the Table 1 below. This is consistent with the EPA's Air Quality Index (AQI) rule.

Table 1: Ozone and Particulate Matter Cut-Points

8-Hr O_3 (ppb)[a]	24-Hour $PM_{2.5}$ ($\mu g/m^3$)[a]	AQI Color	AQI Range	Health Descriptor
0 - 54	0 – 12.0	GREEN	0- 50	Good
55 - 70	12.1 - 35.4	YELLOW	51 - 100	Moderate
71 - 85	35.5 – 55.4	ORANGE	101 - 150	Unhealthy for Sensitive Groups
86 - 105	55.5 – 150.4	RED	151 - 200	Unhealthy
106 - 200	150.5 – 250.4	PURPLE	201 - 300	Very Unhealthy

[a] The 8-hour ozone and the 24-hour $PM_{2.5}$ data ranges as defined in EPA's AQI rule are to be used for preparing the 8-hour ozone and the 24-hour $PM_{2.5}$ forecasts for the next three days and reporting the previous day's maximum AQI value and its color code. The 8-hour ozone cut-points are based on the 2015 ozone standard. The 24-hour $PM_{2.5}$ cut-points are based on the 2006 24-hour $PM_{2.5}$ standard and the 2012 annual $PM_{2.5}$ standard.

Table 2 below identifies organizations responsible for developing ozone and $PM_{2.5}$forecasts for the four forecast areas. Consensus ozone and $PM_{2.5}$forecasts will be developed by averaging the forecasted ozone and $PM_{2.5}$concentrations and AQIs respectively provided by the three organizations. The AQI values will be calculated for the above two pollutants. Air quality forecasts will be issued

for the pollutant with the higher AQI value, which will be called the lead pollutant. Forecasts for the next three days will be issued mentioning the lead pollutants by name, and the associated AQI colors and AQI values.

Table 2: Organizations Responsible for Weekday Forecasts

	Ozone				PM2.5			
	Washington	Baltimore	Western Maryland	Eastern Shore	Washington	Baltimore	Western Maryland	Eastern Shore
COG	x							
MDE	x	x	x	x	x	x	x	x
VDEQ			x				x	

* MDE staff will prepare and disseminate weekend forecasts for the four areas.

Submitting Forecasts

COG staff will post forecasts for the Washington region to the EPA's AIRNowTech web-site. VDEQ staff will post forecasts for Winchester and the Northern Virginia (Washington) region. The MDE staff will post forecasts for the Baltimore region, Western Maryland and Eastern Shore. On weekends, the COG and VDEQ staff will receive an email from MDE containing the forecasts by 2:30 PM. The MDE staff will handle necessary reporting and posting of the ozone and PM2.5 forecasts for the Washington region on weekends. The MDE staff will also handle necessary reporting and posting of the ozone and PM2.5 forecasts for the other three regions.

Taking Additional Steps on Forecasted Code Orange and Worse Days

On Code Orange and above days, the health messages will be enhanced to alert affected populations.

When a Code Orange, Red, or Purple (AQI >= 101) is forecasted for the next day (Day 1), "Action Day" will also be announced for the next day through the AirNowTech forecast submission web-site. This is done in the above web-site by checking the "Action Day" box just below the "Tomorrow" AQI submission box.

Forecast Display on Web-Sites

The lead pollutant and the corresponding AQI color will be listed on the COG web-site - http://www.mwcog.org/environment/air/forecast/, the MDE's web site - http://www.mde.state.md.us/programs/Air/AirQualityMonitoring/Pages/index.aspx, the VDEQ web-site - http://vadeq.tx.sutron.com/cgi-bin/air_quality_forecast.pl, and the Clean Air Partners web-site - http://www.cleanairpartners.net/. EPA's AIRNow web site will have both pollutants and color codes.

Reporting Forecasts

Forecasts will be disseminated through the phone hotline and several websites.

Washington DC Region

- COG Staff will update the EPA AIRNowTech website daily for forecasts for the next three days by 3 pm. Following websites are updated automatically with the forecasts entered through AIRNowTech.
    - COG Air Quality Forecast Website: Forecasts for the next three days.
    - Clean Air Partners: Forecasts for the next three days.
    - COG Air Quality Hotline: Forecasts for the next day.

Baltimore, Western Maryland, and Eastern Shore Regions

- MDE staff will update the EPA AIRNowTech website daily for forecasts for the next three days by 3 pm. Following websites are updated automatically with the forecasts entered through AIRNowTech.
    - MDE web site: Forecasts for the next three days.
    - Clean Air Partners: Forecasts for the next three days.

AirAlerts: Real-Time Notifications

Air Quality alerts will be sent through email to participants that request notifications through the Clean Air Partners web site. Participants will be able to customize notifications, including region (Metropolitan Washington, Metropolitan Baltimore, Western MD, and Eastern Shore) and alert threshold, Code Orange or Red.

National Weather Service Air Quality Alerts

The National Weather Service (NWS) will automatically issue Air Quality Alerts (AQA) and Air Quality Index Statements for forecast areas in Maryland, Virginia, and Washington D.C. based upon the forecasts submitted through AIRNow-Tech. Air Quality Index Statements are issued daily with a description of the next-day forecast. AQAs are only issued when the next-day forecast is Code Orange or greater and are displayed on the NWS Hazards Map. These forms of dissemination through the NWS allow our forecasts to reach anywhere between 5 – 60 million users per day depending on the level of weather activity. More information can be found at www.nws.noaa.gov/directives/010/010.htm, NWS Directive 10-519.

Reporting Previous Day's Air Quality Data

Previous day's peak AQI value and AQI color code will be automatically posted on the COG **(www.mwcog.org)** and Clean Air Partners (**www.cleanairpartners.net**) web sites for ozone and $PM_{2.5}$. Peak AQI is based on the 8-hour ozone concentrations and the 24-hour $PM_{2.5}$ concentrations. Previous day's data is generated by EPA AirNowTech.

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