# Standard Air Quality Forecast Procedures
# Baltimore-Washington Region
# Ozone Season - 2020

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

**Air Quality Forecast Calls**

Dates: April 13 – September 25, 2020

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 website. 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**

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 website. This is done in the above website by checking the "Action Day" box just below the "Tomorrow" AQI submission box.

**Forecast Display on Websites**

The lead pollutant and the corresponding AQI color will be listed on the COG website - http://www.mwcog.org/environment/air/forecast/, the MDE's website - https://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/index.aspx, the VDEQ website - https://www.deq.virginia.gov/Programs/Air/AirQualityMonitoringData.aspx, and the Clean Air Partners website - http://www.cleanairpartners.net/. EPA's AIRNow website 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.
    - MDE web site: Forecasts for the next three days.

*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.

**Disseminating Forecasts, AirAlerts & Real-Time Notifications Through Enviroflash**

Air Quality forecasts will be sent through Enviroflash to participants that request forecast notifications. Participants can receive notifications for a specific region or multiple regions (Metropolitan Washington, Metropolitan Baltimore, Western MD, and Eastern Shore) and for a specific forecast threshold, such as, Code Green, Code Orange, etc.

Air Quality alerts will be sent on "Action Day" to all participants and will also include the forecast for the next day. Participants can receive notifications for a specific region or multiple regions (Metropolitan Washington, Metropolitan Baltimore, Western MD, and Eastern Shore).

Real-time notifications will be sent to participants who request them. Participants can receive these notifications for a specific region or multiple regions (Metropolitan Washington, Metropolitan Baltimore, Western MD, and Eastern Shore) and for a specific air quality threshold (Code Orange and above only).

**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 AIRNowTech. 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 https://www.nws.noaa.gov/directives/sym/pd01005019curr.pdf, 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.