

Standard Air Quality Forecast Procedures Metropolitan Washington & Winchester/Hagerstown Regions Ozone Season - 2023

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

Air Quality Forecast Calls

Dates: April 17 – September 22

Times: Daily at 2:30pm

Call Originator: Weekdays - COG

Developing and Issuing Air Quality Forecasts

In general, air quality forecasts will be developed for the next three days during Monday through Thursday and for 5 days on Friday to cover through weekends based on the 8-hour averaged ozone and the 24-hour averaged fine particulate matter (PM_{2.5}) concentrations. Forecasts will be issued for more number of days in case of holidays.

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} (µg/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 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.

Forecasting Organizations & Methodology for Developing Consensus Forecasts

Table 2 below identifies organizations responsible for developing ozone and PM_{2.5} forecasts for the two forecast regions.

Consensus ozone and PM_{2.5} forecasts for the metropolitan Washington region will be developed by averaging the forecasted concentrations provided by COG, VDEQ, and DOEE and then taking the higher of that average value and the forecast concentration provided by MDE.

Consensus ozone and PM_{2.5} forecasts for the Winchester/Hagerstown region will be developed by averaging the forecasted concentrations provided by MDE and VDEQ during the ozone season. After ozone season, MDE and VDEQ will issue separate forecasts for PM_{2.5} for those areas.

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 will be issued mentioning the lead pollutants by name, and the associated AQI colors and AQI values.

Table 2: Organizations Responsible for Forecasts

	Metropolitan Washington		Winchester/Hagerstown	
	Ozone	PM2.5	Ozone	PM2.5
COG	x	x		
DOEE	x	x		
MDE	x	x	x	x
VDEQ	x	x	x	x

* MDE will provide forecasts for the suburban DC forecast sub-region, which is a part of the metropolitan Washington region. COG, DOEE, and VDEQ will provide forecasts for the entire metropolitan Washington region. The higher of the two forecasts will become the consensus forecast for the metropolitan Washington region.

Submitting Forecasts

COG staff will post forecasts for the metropolitan Washington region to the EPA's AIRNowTech website. DEQ staff will post forecasts for Winchester and the Northern Virginia (Washington) regions. MDE staff will post forecasts for the Hagerstown region.

Taking Additional Steps on Forecasted Code Orange and Worse Days

When a Code Orange, Red, or Purple (AQI \geq 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 - <https://www.mwcog.org/environment/planning-areas/air-quality/air-quality-forecast/>, the MDE's website - <https://mde.maryland.gov/programs/Air/AirQualityMonitoring/Pages/index.aspx>, the VDEQ website - <https://www.deq.virginia.gov/air/monitoring-assessments/air-quality-forecast>, 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.

Metropolitan Washington DC Region

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

Winchester/Hagerstown Region

- VDEQ and MDE staff will update the EPA AIRNowTech website daily for forecasts. Following websites are updated automatically with the forecasts entered through AIRNowTech.
 - DEQ Air Quality Forecast Website
 - MDE Air Quality Forecast Website

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 one or both regions (Metropolitan Washington, Winchester) and for a specific forecast threshold (Code Green, Code Yellow, 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 one or both regions.

Real-time notifications will be sent to participants who request them. Participants can receive these notifications for one or both regions 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.mwco.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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