

Standard Air Quality Forecast Procedures Metropolitan Washington Forecast Sub-Regions & Winchester/Hagerstown Regions Ozone Season - 2026

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

Air Quality Forecast Calls

Dates: April 13 – September 11

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 a greater 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 Table 1 below. This is consistent with the EPA’s Air Quality Index (AQI) rule.

Table 1: Ozone and Particulate Matter Cut-Points

| 8-Hour O ₃ (ppb) ^a | 1-Hour O ₃ (ppb) ^a | 24-Hour PM _{2.5} (µg/m ³) ^a | AQI Color | AQI Range | Health Descriptor |
|---|---|--|-----------|-----------|--------------------------------|
| 0 - 54 | - | 0 – 9.0 | GREEN | 0- 50 | Good |
| 55 - 70 | - | 9.1 - 35.4 | YELLOW | 51 - 100 | Moderate |
| 71 - 85 | 125 - 164 | 35.5 – 55.4 | ORANGE | 101 - 150 | Unhealthy for Sensitive Groups |
| 86 - 105 | 165 - 204 | 55.5 – 125.4 | RED | 151 - 200 | Unhealthy |
| 106 - 200 | 205 - 404 | 125.5 – 225.4 | PURPLE | 201 - 300 | Very Unhealthy |
| 201- | 405+ | 225.5+ | MAROON | 301+ | Hazardous |

^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 2024 annual PM_{2.5} standard. 8-hour O₃ values do not define higher AQI values (>301). AQI values > 301 are calculated with 1-hour O₃ concentrations.

Forecasting Organizations & Methodology for Developing Consensus Forecasts

Table 2 below identifies organizations responsible for developing ozone and PM_{2.5} forecasts for the four forecast sub-regions (NoVA/DC, Suburban DC, Maryland Piedmont, Southern Maryland) in metropolitan Washington region and the Winchester/Hagerstown sub-region.

Consensus ozone and PM_{2.5} forecasts for the NoVA/DC sub-region will be developed by averaging the forecasted concentrations provided by COG, VDEQ, and DOEE.

Consensus ozone and PM_{2.5} forecasts for the Winchester/Hagerstown sub-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

| | NoVA/DC | Suburban DC | Maryland Piedmont | Southern Maryland | Winchester/Hagerstown |
|------|---------|-------------|-------------------|-------------------|-----------------------|
| COG | x | | | | |
| DOEE | x | | | | |
| VDEQ | x | | | | x |
| MDE | | x | x | x | x |

Submitting Forecasts

COG staff will post forecasts for the NoVA/DC sub-region to the EPA's AIRNowTech website. DOEE staff will submit forecasts when COG staff is not available to do so. DEQ staff will post forecasts for Winchester and Northern Virginia sub-regions. MDE staff will post forecasts for the Suburban DC, Maryland Piedmont, Southern Maryland, and Hagerstown sub-regions.

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.

Protocol for Air Quality Forecast Update for Current Day

Air-quality forecasts released the preceding afternoon are reassessed using observations gathered since the forecast was issued and up to the morning of the current day, along with the latest model guidance. If this review indicates a substantial likelihood that conditions will deteriorate to Code Orange or higher, any forecast that had projected only Code Green or Code Yellow will be formally

updated and re-issued through Airnowtech.org and MDE/DC/COG/DEQ web sites that same morning by 10 am to provide the public with timely and accurate forecasts and health advisories.

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/our-programs/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 several websites.

NoVA/DC Sub-Region

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

Suburban DC, Maryland Piedmont, Southern Maryland Sub-Regions

- MDE staff will update the EPA AIRNowTech website daily for forecasts. The following website is updated automatically with the forecasts entered through AIRNowTech.
 - MDE Air Quality Forecast Website

Winchester/Hagerstown Sub-Region

- VDEQ and MDE staff will update the EPA AIRNowTech website daily for forecasts. The 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 all sub-regions 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 all sub-regions.

Real-time notifications will be sent to participants who request them. Participants can receive these notifications for one or all sub-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 different forecast sub-regions based upon the forecasts submitted through AIRNowTech. Air Quality Index Statements are issued daily with a description of the next-day forecast. AQAs are issued when the next-day forecast is Code Orange or greater or current conditions warrant. AQAs 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.weather.gov/media/directives/010_pdfs/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. The previous day's data is generated by EPA AirNowTech.

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