

Recommended Air Quality Forecast Procedures Baltimore-Washington Region Ozone Season - 2005

Developing Air Quality Forecasts

Air quality forecasts will be issued for the next three days based on 8-hour averaged ozone and 24-hour averaged fine particulate matter (PM_{2.5}). This is consistent with the EPA's Air Quality Index (AQI) Rule. This document specifies the operating procedures for issuing forecasts.

Air Quality Forecast Calls

Dates: May 1 through September 30

Times: Weekdays at 2:30pm (2:00pm if possibility of Code Orange or Worse)
Weekends at 3:00pm (2:00pm if possibility of Code Orange or Worse)

Call Originator: Weekdays -- COG
Weekends -- UMD Forecasters

AQI color code forecasts will be issued with no mention of averaging period or pollutant.

Regression models based on the 8-hour ozone data will be the basis for ozone forecasts. The existing 1-hour ozone regression models will continue to be used as a complimentary forecast tool for developing the 8-hour ozone forecasts. Special consideration will be given to the 1-hour regression models' results when deciding the Air Quality Action Day forecasts. MDE staff will prepare and provide PM_{2.5} forecasts for the Washington DC-MD-VA metropolitan area. COG staff will incorporate these forecasts when issuing air quality forecasts for DC metropolitan area.

Ozone and PM_{2.5} concentration cut-points are given in Table 1.

Table 1: Ozone and Particulate Matter Cut-Points

| 8-Hr O ₃ (ppb) Range (EPA's AQI Rule) ^a | 24-Hour PM _{2.5} (µg/m ³) ^a | AQI Color | AQI Range | Health Descriptor |
|---|--|-----------|-----------|-----------------------------------|
| 0 - 64 | 0 - 15.4 | GREEN | 0- 50 | Good |
| 65 - 84 | 15.5 - 40.4 | YELLOW | 51 - 100 | Moderate |
| 85 - 104 | 40.5 - 65.4 | ORANGE | 101 - 150 | Unhealthy for Sensitive Groups |
| 105 - 124 | 65.5 - 150.4 | RED | 151 - 200 | Unhealthy |
| 125 - 374 | 150.5 - 250.4 | PURPLE | 201 - 300 | Very Unhealthy |

^a 8-hour ozone and 24-hour PM_{2.5} data ranges as defined in EPA's AQI Rule - to be used for preparing the 8-hour ozone and 24-hour PM_{2.5} forecasts for the next three days and reporting the previous day's maximum AQI value and its color code.

UMD staff will develop weekend forecasts and post forecasts on the UMD website. COG staff will access forecast on weekends by 3 pm and will handle necessary reporting.

Criteria for Air Quality Action Day Forecasts on Code Red and Code Orange Days

Forecasts are issued based on two pollutants, ozone and fine particulate matter (PM_{2.5}). Air Quality Index (AQI) will be calculated for the above two pollutants. Air Quality Action Days will be based on the pollutant with the higher forecast AQI. Air Quality Action Days will be called under the following conditions:

- If the consensus forecast indicates the next day's AQI level will be at least 151 in both Baltimore and Washington regions.
- If the consensus forecast indicates the next day's AQI will be at least 125 "High Orange" and the following day's AQI will be at least 151 in both the Baltimore and Washington regions.
- If the consensus forecast indicates a split red/orange forecast between the Baltimore/Washington regions, an Air Quality Action Day will be called in both areas, Air Quality Action Day - Red and Air Quality Action Day – Orange.
- An Air Quality Action Day will NOT be called for a day when the AQI is at least 125 if it is NOT followed by a forecasted Code Red.
- At the end of a multi-day Code Red event, the last day may be forecast for a high Code Orange, but it will NOT be called an Air Quality Action Day.

Reporting Forecasts

Forecasts will be disseminated through the hotline and several websites.

COG staff will update the COG Air Quality Hotline daily by 3 pm.

COG Staff will update the following websites daily by 3 pm:

COG Air Website: Next day and Long Range.

EPA Air Now: Next day only.

Clean Air Partners: Next day only.

Code Orange and Red Forecasts will follow special procedures.

Reporting Previous Day's Air Quality Data

Previous day's peak AQI will be computed at around 1 AM by using the higher of the actual observed peak 8-hour averaged ozone and 24-hour averaged concentrations. Table 1 gives the 8-hour averaged ozone and 24-hour averaged PM_{2.5} cut-points and corresponding AQI color codes. Previous day's AQI value and AQI color will automatically be posted on COG's internet site.

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