

MEMORANDUM

TO: MWAQC Technical Advisory Committee
FROM: Sunil Kumar, COG Environmental Engineer
SUBJECT: Changes to the Air Quality Forecast Procedure for the Washington Region and Other Areas within the State of Maryland
DATE: March 8, 2022

Purpose

The purpose of this memo is to brief members on upcoming changes to the forecasting procedures for the metropolitan Washington region and the State of Maryland.

Current Status

Maryland will be changing its forecast procedure in March 2022, adding a number of subregions across Maryland. These changes will result in more accurate forecasts at a small area level. More detailed information is provided in the background section below.

For COG and Clean Air Partners, during a one-year implementation delay, the forecast for the metropolitan Washington region will continue to provide a forecast for the entire Washington, DC-MD-VA ozone nonattainment area.

During the next year, COG, Clean Air Partners, and the forecasting subcommittee will work on the necessary changes that will be needed to accommodate the new Maryland subregions in the metropolitan Washington region forecasts. The COG and Clean Air Partners boards will be briefed on the changes.

Background

Forecasters from COG, the District, Virginia, and Maryland have been issuing air quality forecasts to the public and media for the metro Washington, Baltimore, Western Maryland, and Eastern Shore regions for more than two decades. A daily forecast and real-time alert (on code orange and higher days) for ozone and fine particles is issued for the above four regions.

The COG Board established, jointly with the Baltimore Metropolitan Council, Clean Air Partners, as a nonprofit organization to improve the health and quality of life of residents in the Baltimore-Washington regions by encouraging individuals and organizations to take voluntary actions to reduce air pollution, the impacts of climate change, and protect public health. Governed by a Board of Directors, including members representing local governments, state air and transportation agencies, business and major regional employers, and advocacy groups, the organization develops a unified and comprehensive message for public education and outreach in Northern Virginia, the District of Columbia, and Central Maryland (Baltimore-Washington region). Though the service areas for Clean Air Partners is metro Washington and Baltimore areas, as displayed in Figure 1, this Clean Air Partners map also displays forecasts for Western Maryland and Eastern Shore regions. Forecasts provided by COG and the state air agencies are an integral part of the organization's education and outreach program, including the "On the Air" school curriculum, and campaign initiatives.

During the February MWAQC-TAC meeting, Maryland proposed changes to the forecast regions, which will divide Maryland, the District, and Northern Virginia into multiple sub-regions and issue separate forecasts and alerts for each of those sub-regions. In particular, the metro Washington region was proposed to be divided into four sub-regions with three of them for the suburban Maryland and one for the District and northern Virginia (See Figure 2). A few of those sub-regions (e.g., #3, #7) will consist of parts of multiple counties. Maryland noted the reason for the change was a desire to provide more accurate forecasts at small area level, since the geographic extent of unhealthy ozone levels has decreased over the past decade.

Issues and Challenges

The COG forecasting process for the metro Washington area is based on the highest forecast from anywhere within the metro area and applying that forecast to the entire metro Washington area. The primary basis for this approach is a recognition that transport is a significant factor in air pollution, particularly so within the interconnected sub-areas within the metro Washington region. Additionally, the contribution of local voluntary actions in adjoining areas, irrespective of the level of forecast for the sub-area, is important to the region's public health and clean air aspirations.

The Clean Air Partners has a long-established public communications and outreach process (including a dedicated web page and contacts with the Radio and TV media in the region), in the metropolitan Washington and Baltimore to notify the public and issue a call for voluntary action at the local level on code orange and higher days. The above COG forecast is used by Clean Air Partners to issue its call of voluntary action to help reduce emissions. The forecasted color code is shared in all communications and on the EPA's Air Now, COG and Clean Air Partners websites. The notified areas include suburban Maryland counties and cities.

The changes to the forecasting process in Maryland will involve sub-dividing jurisdictions served by COG and Clean Air Partners into smaller areas and further issuing different forecasts and color codes for these smaller areas. This proposed change will result in different forecasts (color codes) for the areas within the metro Washington area communicated to the public including displays on web sites – those provided by COG using its process (described above) and one by Maryland following their proposed changes.

The public will be receiving multiple daily forecasts and real-time alerts on Code Orange and Red days from COG and Clean Air Partners. Since people commute across the sub-regions within metro Washington and across the Baltimore-Washington region, dealing with multiple forecasts and alerts could be quite confusing and challenging. Clean Air Partners provides outreach to the media as a benefit to COG and the state air agencies. There are a few subregions that cover both Washington and Baltimore media markets – this will require outreach to media in advance to explain the changes and avoid confusion.

Members of the COG and Clean Air Partners boards, as well members of MWAQC have endorsed the COG process for forecasting and the call for action by Clean Air Partners, to encourage the public to reduce emissions on high ozone days regardless of whether the entire region or a small portion of the

region is expected to experience unhealthy levels of pollution. This ensures that residents and businesses in upwind areas are included in a “call-to-action” to protect public health and reduce emissions for those living in downwind areas.

There is concern that the pending changes to the forecast protocol may result in an implication that transport between areas is either not an issue or unimportant; it may also undermine the commitment to take voluntary actions at local levels – two elements that MWAQC members have stated is a priority. In addition, portions of the metro Washington region that experience the most unhealthy air days are typically disadvantaged communities of color and are impacted by pollution transported from upwind areas.

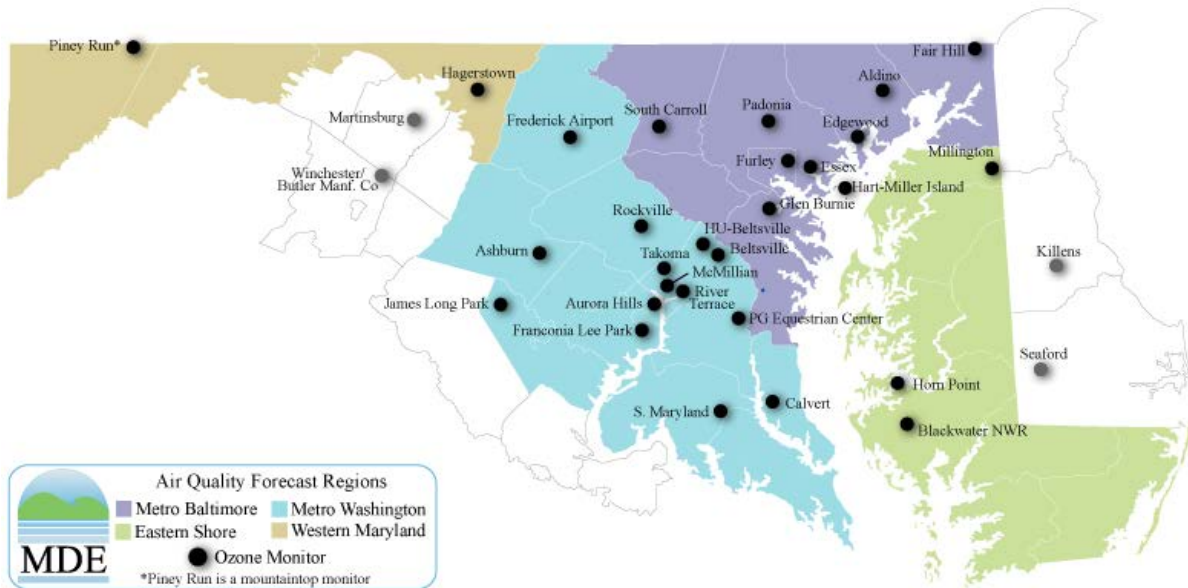
Resolution

There will be a one-year delay in implementing the proposed changes for the metro Washington region. Maryland will proceed with its proposed changes for other regions within Maryland.

This will keep the Washington nonattainment area as one forecast region and avoid confusion and challenges for public. In addition, as mentioned above, it will also help people in upwind areas with relatively better air quality in the region keep helping people in downwind areas with bad air quality on high ozone and fine particle days. This is one of the reasons why EPA keeps counties and cities in the Washington region part of a single nonattainment area even though a few of them might be experiencing better air quality than others on a regular basis.

During the next one-year period, COG staff and the state air agencies will work with local governments, Air and Climate Public Advisory Committee (ACPAC), MWAQC, and Clean Air Partners on changes to the forecasting protocol for the metropolitan Washington region for 2023. This is vital to ensure resource and time is available to convey any changes to the public and media and make any needed changes to COG and Clean Air Partners websites.

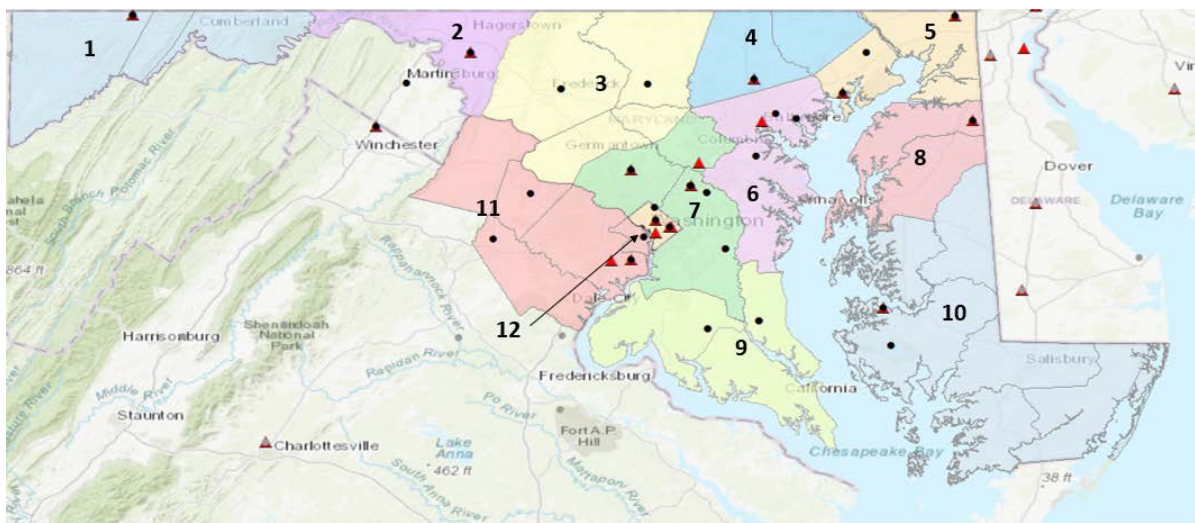
Figure 1: Current Forecast Regions



Note: Clean Air partners currently displays forecasts for above four sub-regions.

Source: MDE Presentation to MWAQC-TAC (February 8, 2022)

Figure 2: Proposed New Forecast Sub-Regions



Note: As agreed to by the District and northern Virginia, sub-regions 11 and 12 shown separately here will be merged together to create one sub-region.

Source: MDE Presentation to MWAQC-TAC (February 8, 2022)