OZONE SEASON SUMMARY 2020

Sunil Kumar Principal Environmental Engineer

MWAQC September 23, 2020



Peak 8-Hour Average Ozone Levels (ppb)

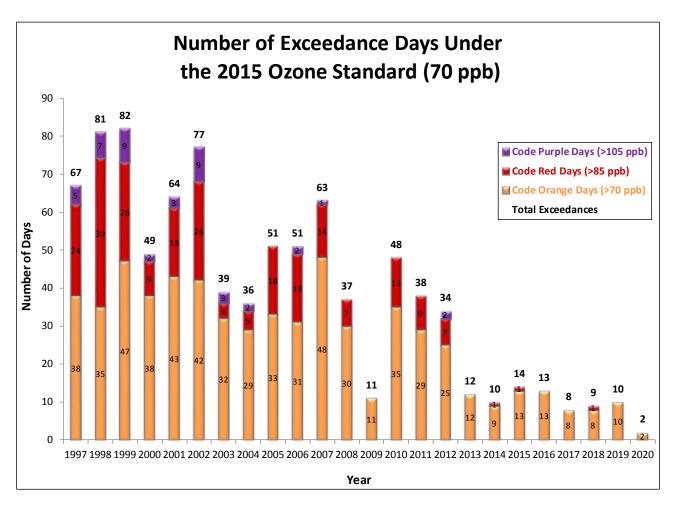
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2 Code Orange, 31 Code Yellow Days, Rest All Code Green Days

Analysis is based on draft data as of August 31, 2020.

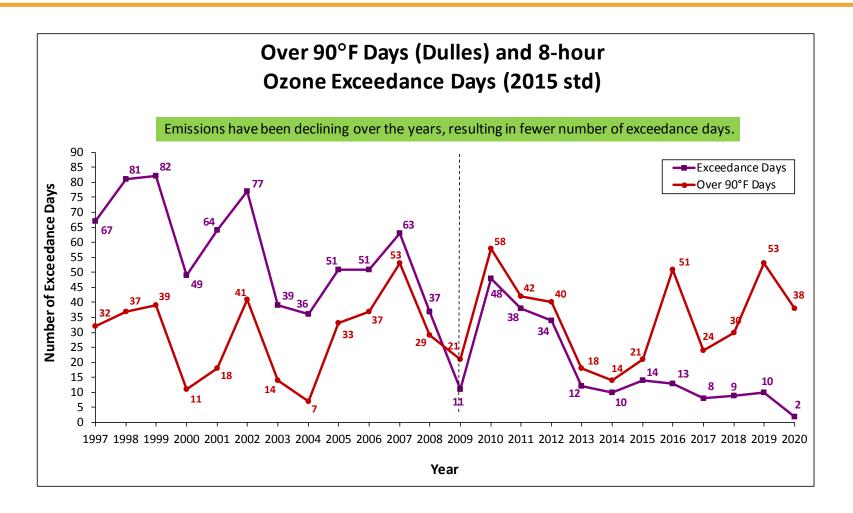


Ozone Exceedance Trend



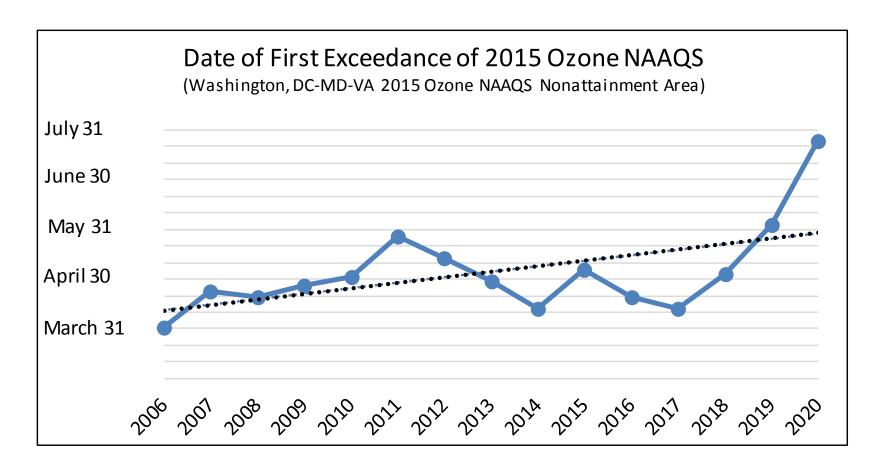


Ozone & Temperature Trend



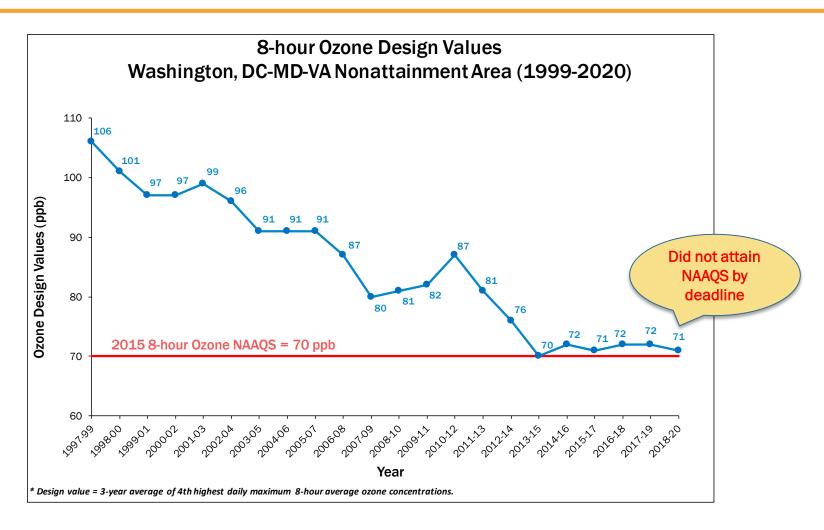


Trend - Day of First Code Orange





Ozone Design Value Trend





Why Fewer Exceedance Days Now?

Emission Control Programs

Federal	State	Local
Acid Rain Program (1996/2000)	Vehicle Inspection & Maintenance Programs	Renewable Energy Programs Regional Wind Power Purchase Program Clean Energy Rewards Program Renewable Portfolio Standards
Tier 2 (LD Vehicle) Rule (2004) Tier 3 Vehicle Emissions & Gasoline Sulfur Standards (2017)	Maryland Healthy Air Act (2009/2012) MD NOx regulation for coal-fired power plants	Energy Efficiency Programs LED Traffic Signal Retrofit program Building Energy Efficiency Programs
HD Diesel vehicle Rule (2004/2007)	Virginia CSAPR Rule	VRE Idling Reduction
NOX SIP Call (2004)	Ozone Transport Commission Rules	LOW VOC Paint
CAIR/CSAPR/CSAPR Update (2009/2015/2017)		Gas Can Replacement



24-Hour Average PM2.5 Levels (µg/m³)

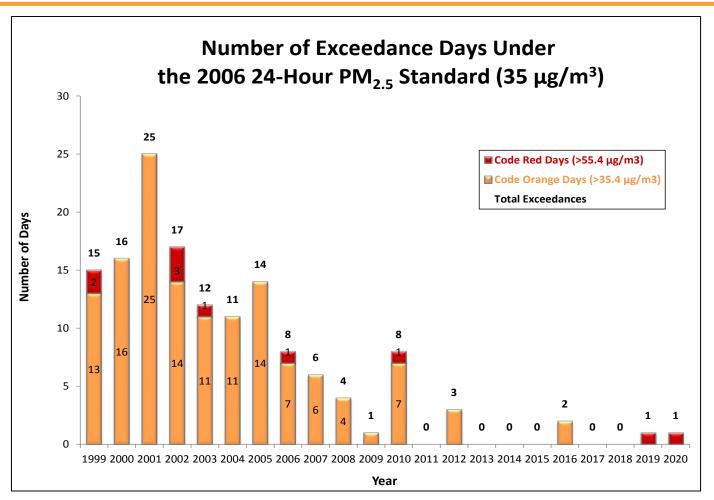
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1 Code Red Day, 36 Code Yellow Day, Rest All Code Green Days

Analysis is based on draft data as of August 31, 2020.



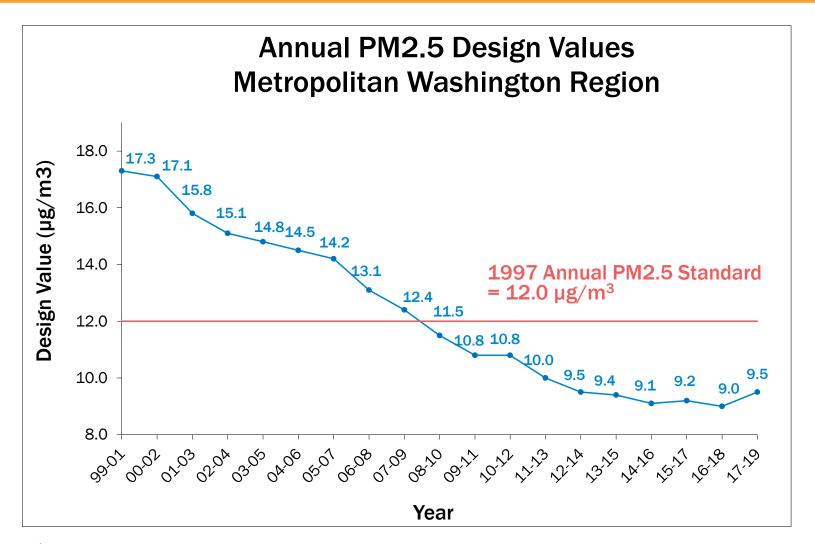
PM2.5 Exceedance Trend



Analysis is based on draft and incomplete data as of August 31, 2020. 2019 & 2020 code red days recorded on July 4^{th} .

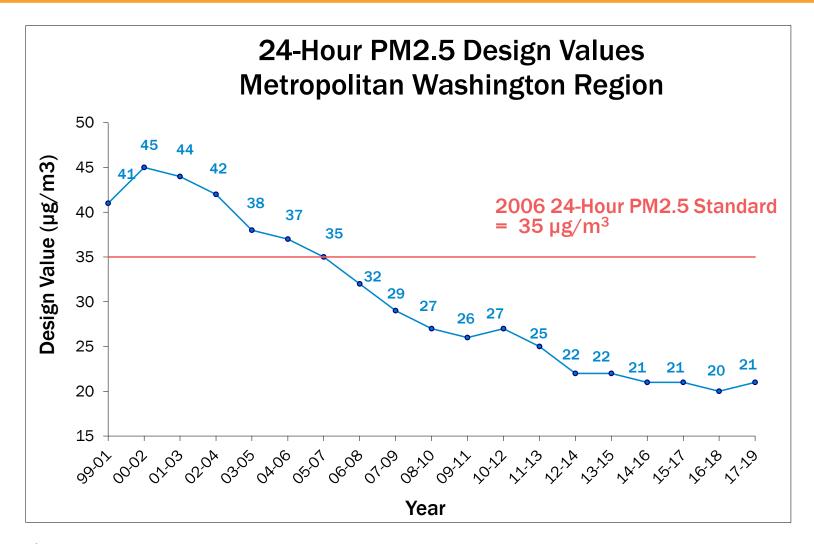


Annual PM2.5 Design Value Trend





24-Hour PM2.5 Design Value Trend





Historical AQI Value Trends

Daily AQI Values, 2011 to 2020

Washington-Arlington-Alexandria, DC-VA-MD-WV



Source: U.S. EPA AirData https://www.epa.gov/air-data

Generated: September 1, 2020

Note: Data shown above is for combined AQI values for ozone, PM2.5, PM10, CO, NO2, and SO2 for the Washington-Arlington-Alexandria CBSA.



WEATHER & AIR QUALITY

- Weather plays an important role in determining air quality besides emission. Except for June, weather was not very favorable for ozone and PM2.5 in the current ozone season.
- May 2020 Much Colder, cloudier, and drier than normal.
- June 2020 Warmer and drier than normal.
- July/August 2020 Warmer, but wetter than normal.

Source: https://w2.weather.gov/climate/index.php?wfo=lwx



CONCLUSIONS

- Ozone and PM2.5 levels were overall lower in 2020 compared to previous years as COVID-19 related restrictions were implemented in the Washington region.
- Reduction in emissions due to lower traffic and fuel/ electricity consumption coupled with weather contributed towards lower pollutant levels.
- The Washington region did not attain the 2015 ozone NAAQS based on draft 2018-2020 data (71 ppb).

(The attainment deadline is August 3, 2021 based on 2018-2020 data.)



Ozone Planning - Probable Next Steps

- The Washington region is eligible to apply for an extension of the attainment date by one year to August 3, 2022.
 - Would give the region another year to show attainment and avoid getting bumped up to Moderate nonattainment area.
 - Would not extend the deadline for a State Implementation Plan if the region fails to reach attainment in the additional year
- The region could request for the extension and then start working on Reasonable Further Progress and attainment demonstration plans.
- This will ensure the region's plans will be ready for submittal if and when they will be needed.
- After attainment, the region needs to keep working to maintain the attainment status of the standard.

