



PROJECT QUARTER 1

**UPPER SOUTH AND APPALACHIA
CITIZEN AIR MONITORING PROJECT
(USACAMP)**

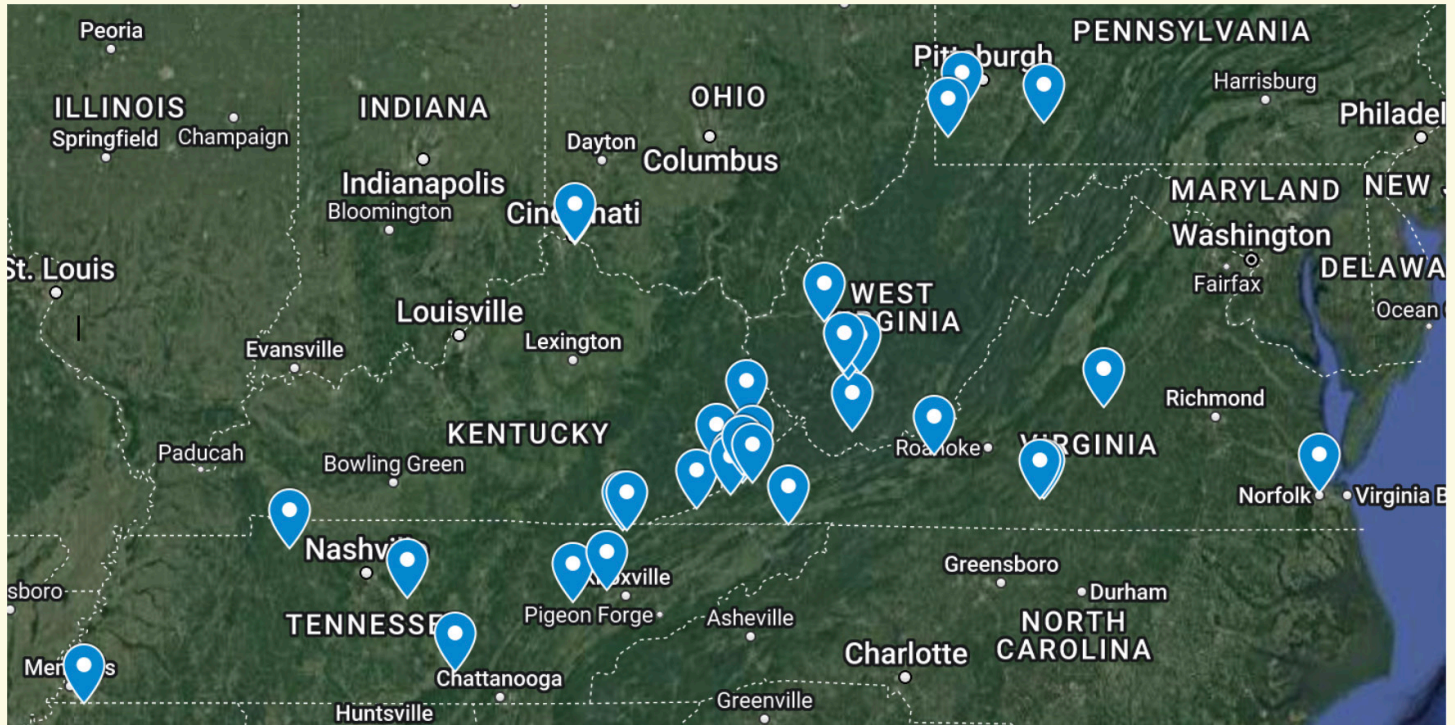
UPPER SOUTH AND APPALACHIA CITIZEN AIR MONITORING PROJECT (USACAMP)

APRIL 2024

In pursuit of a better understanding of air quality within our region, it is with great pride that we present the inaugural report of the Upper South and Appalachia Citizen Air Monitoring Project (USACAMP). Funded by an Environmental Protection Agency grant, USACAMP's primary focus is the collection and analysis of air quality data through the use of cost-effective particulate matter monitoring equipment, specifically PurpleAir® monitors. This initiative engages communities within portions of Kentucky, Pennsylvania, Tennessee, Virginia and West Virginia in deploying these devices to facilitate the collection and dissemination of air quality data. The objective is to engage community members in a dialogue around public health decision-making and policy formulation, contributing to a healthier environment across the region.

Particulate matter, a mix of solid and liquid particles suspended in the air, includes a variety of substances such as smoke, soot, dirt, and other pollutants. Within regulatory frameworks, particulate matter is categorized by size into two main groups: PM10 (coarse particulates) and PM2.5 (fine particulates). Exposure to these particulates is implicated in a myriad of cardiovascular and pulmonary ailments, including asthma, lung cancer, and heart disease, and has the potential to worsen pre-existing health conditions. Particularly vulnerable demographics, including children, the elderly, and individuals with chronic health conditions like black lung and COPD, are at an elevated risk. PM2.5 is considered to pose a greater health risk than PM10 particles due to its ability to deeply penetrate the respiratory system and pass into the bloodstream.

COMMUNITY PARTNER LOCATIONS



When choosing sites to deploy PurpleAir® monitors as part of USACAMP, we focused on environmental justice communities across five states (see map, previous page). Scientific research indicates that in addition to minors and the elderly, communities of color and those from lower socioeconomic backgrounds are especially susceptible to the detrimental health effects associated with particulate matter exposure.

PurpleAir® monitors work by drawing ambient air through laser-based sensors that identify the size of particulate matter, encompassing both PM2.5 and PM10. These particulates cause scattering of the laser light, which is measured by the sensor to estimate the air's particulate matter concentration. The monitors employ algorithms to adjust for environmental variables such as temperature, humidity, and air pressure that could influence measurements. These devices are internet-connected, enabling the uploading of real-time data to the [PurpleAir® website](#), where it is accessible to the public.

Peer-reviewed research has highlighted that PurpleAir® monitors may overestimate PM2.5 measurements by as much as 60% compared to more sophisticated, higher-cost air monitoring equipment that captures and analyzes particulate matter samples directly. Experts have developed several correction equations

over recent years in order to align PurpleAir® PM2.5 readings more closely with those generated by these higher-cost devices. USACAMP has adopted a correction equation developed by [Barkjohn et al.](#) for this purpose.

It is important to note that all PM2.5 data utilized in this report and made available on the USACAMP website has undergone this correction, resulting in values that may differ from those available directly through the PurpleAir® website. We downloaded the hourly data from the PurpleAir® website, loaded into a SQL database, and corrected using the Barkjohn transformation. We then calculate and further process

the data into metrics used in this report. A download of USACAMP corrected data can be found at the Appalachian Voices [USACAMP webpage](#).

REGULATORY LANDSCAPE AND USACAMP CALCULATIONS

The National Ambient Air Quality Standards (NAAQS), established by the EPA under the Clean Air Act, serve as regulatory benchmarks to control air pollution and safeguard public health and the environment. These standards address six especially dangerous air pollutants, one of which is particulate matter (PM). State regulators must devise state implementation plans, which are subject to EPA approval, outlining the strategies states will employ to meet and sustain air quality in compliance with the NAAQS.

For particulate matter regulation, the EPA enforces three distinct standards:

- 1. The 24-hour PM10 standard is set at 150 µg/m³ (micrograms per cubic meter).** This is measured by compiling daily averages over three years and incorporating a formula to account for missing data. Monitoring equipment may malfunction from time to time, causing periods of missing data. All of this data is sorted and a tally is created every time a daily average exceeds 150 µg/m³. That tally is checked quarterly and summed to an annual tally. The annual tallies are added together over a three year period and then divided by three to check for NAAQS compliance. The NAAQS allows for a total of one exceedance per year on average over three years before a state qualifies as being non-compliant with the standard.
- 2. The 24-hour PM2.5 standard imposes a 35 µg/m³ limit.** This is calculated as a three-year average of the 98th percentile of daily averages. This process sorts a year's data from lowest to highest, excluding the top 2% of values each year. If a complete annual record exists, the eighth highest value is selected. This procedure is replicated for three consecutive years, with the resulting values

$$\text{Corrected PM2.5} = 0.38 \times \text{PA} + 2.94$$

Where PA represents the PM2.5 measurement directly obtained from the PurpleAir® monitor.

averaged to determine attainment or exceedance of the standard. Additional formulas address missing data scenarios.

- 3. The annual PM2.5 standard is currently set at 12 $\mu\text{g}/\text{m}^3$, and will soon be changed to the stronger standard of 9 $\mu\text{g}/\text{m}^3$.** (More on this change in the standard can be found in the box below.*) Compliance with this standard is determined by calculating daily averages, using these daily figures to calculate quarterly averages, and then using these quarterly figures to calculate an annual average. This is repeated each year over a three-year period, and the resulting three-year average is considered to be the annual average for each of those three years.

The exact methodologies can be found in the [Code of Federal Regulations](#).

Given that these standards necessitate three years of data for calculation, it is not possible to directly evaluate USACAMP data against NAAQS methodologies on a quarterly basis. However, this report provides metrics, graphs, and charts employing calculations akin to those utilized for NAAQS, enabling community partners to deduce potential chronic or acute particulate matter exposure concerns within their communities, and to gauge air quality relative to NAAQS benchmarks in the short term. One-page data summaries for each USACAMP PurpleAir® monitor can be found in Appendix A to this report. These summaries include:

1. For PM10, a gauge illustrating the highest daily average per quarter, a line graph illustrating daily averages over time, and a table showing the number of times the standard was exceeded in the quarter.
2. For PM2.5, a gauge illustrating the quarterly average concentration (which serves as a preliminary step towards the annual average calculation) and a gauge illustrating the annual average to date. (For this inaugural report, these gauges will display the same measurement because there is only one quarter of data.)
3. For the PM2.5 24-hour average, a gauge reporting the quarter's second-highest daily average (mirroring

the methodology for the PM2.5 24-hour standard discussed above), and a line graph illustrating daily averages over time.

We hope these metrics will provide useful information for community members to understand local air quality from quarter to quarter, so that as the project progresses they can keep track of air quality changes. With each passing quarter, we will gain a better understanding of air quality issues in each community.

*Please note that on February 7, 2024, the EPA announced it would be lowering the annual average NAAQS for PM2.5 from 12 to 9 $\mu\text{g}/\text{m}^3$. According to the EPA, the new standard is projected to yield substantial net public health benefits, potentially reaching \$46 billion by 2032. [The EPA estimates](#) that by the year 2032, the benefits will encompass the prevention of up to 4,500 premature deaths, the avoidance of 800,000 instances of asthma symptoms, and the reduction of 290,000 lost workdays that year. The shift to a more stringent annual average standard of 9 $\mu\text{g}/\text{m}^3$ aligns with evolving scientific understanding of the health impacts of PM2.5. This adjustment, based on extensive research and public health advocacy, aims to enhance protection against the myriad health risks associated with fine particulate matter exposure, from respiratory and cardiovascular diseases to broader systemic effects. The move was applauded by public health and environmental organizations, including Appalachian Voices, though experts had recommended an even stricter limit. For reference, the World Health Organization recommends an annual average [limit](#) of 5 $\mu\text{g}/\text{m}^3$ for PM2.5.

The new, stronger annual NAAQS for PM2.5 is supposed to go into effect on May 6, 2024, but [pending legal challenges](#) and [legislation](#) may block the rule's implementation. For USACAMP data, we will compare quarterly and annual average PM2.5 concentrations against the 9 $\mu\text{g}/\text{m}^3$ benchmark.

This initiative is in its beginning stages, and the data presented in this report are derived from the initial phase of the project. It is important to note that due to the project's design, there is an inherent delay between the collection of data and its subsequent reporting in the following quarter. As this is the first report, it is noteworthy that some monitors may not yet provide a complete quarter's data due to their recent deployment. We expect future reports to

include data from an increasing number of monitors. The following section will spotlight certain community hotspots, with data summaries and contextualizing narrative. The NAAQS calculation methods discussed earlier allow for scenarios where areas exhibiting high PM readings in these quarterly reports could still meet NAAQS benchmarks over the three-year project period, so the data presented here should be treated as preliminary data.



Photo: Michael Swensen for EarthJustice

COMMUNITY SPOTLIGHT: KENTON COUNTY, KENTUCKY

Covington, Kentucky

Community Partner: Kentuckians For The Commonwealth

Covington, a city in Kenton County, Kentucky, sits at the meeting point of the Ohio and Licking Rivers, directly south of Cincinnati, Ohio, and west of Newport, Kentucky. As of the 2020 census, it was the state's fifth most populous city.

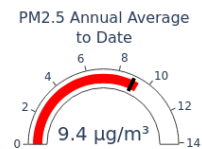
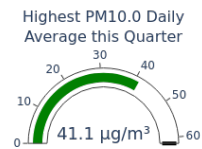
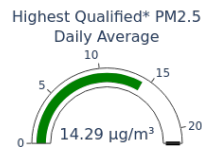
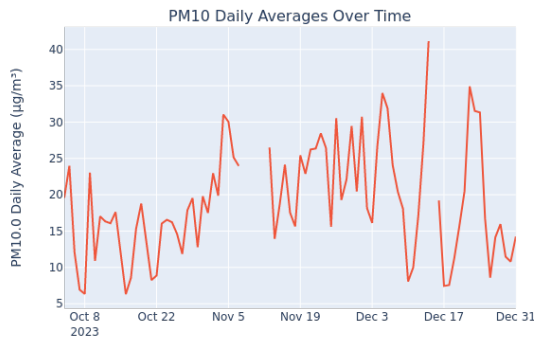
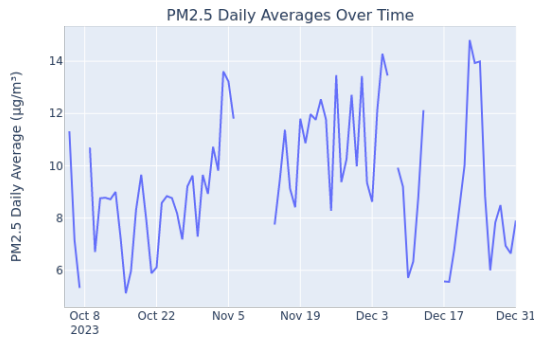
Kentuckians For The Commonwealth (KFTC) has placed monitors in Covington. KFTC is a grassroots organization dedicated to fostering a more just, sustainable Kentucky. KFTC addresses a broad range of issues including economic justice, environmental and climate justice, democracy and voting rights, and racial justice. With a vision of building a better quality of life for all Kentuckians, KFTC engages in community organizing, advocacy, and education to promote systemic change.

A monitor (AV-14) in Covington has shown possible issues with PM2.5 this quarter, with a recorded average concentration of 9.4 $\mu\text{g}/\text{m}^3$. Another monitor (AV-13) in Covington shows slightly lower average PM2.5 concentrations for the quarter, in between 8 and 9 $\mu\text{g}/\text{m}^3$. Monitor AV-14 was offline for a few weeks in the first part of November, which may have contributed to its slightly higher quarterly average. But it also appears to sometimes deviate from AV-13. Another monitor, AV-15, also in Covington, was installed but has been offline for a while so it has been excluded here. We are working with community partners to bring it back online.

MONITOR AV-14, COVINGTON, KY

Q4 2023 Report for: PurpleAir device AV-14-987
---, ---, Kenton County, KY

2023-10-04 to 2023-12-31



Dates with Air Quality Exceedances	
Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

National Ambient Air Quality Standards:
PM2.5 annual average - 9 $\mu\text{g}/\text{m}^3$ **
PM2.5 24 hour average - 35 $\mu\text{g}/\text{m}^3$
PM10 24 hour average - 150 $\mu\text{g}/\text{m}^3$

**to go into effect May 6, 2024

*"Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 $\mu\text{g}/\text{m}^3$ a few times per year without exceeding the standard.

COMMUNITY SPOTLIGHT: LETCHER COUNTY, KENTUCKY

Deane, Kentucky

Community Partner: Kentuckians For The Commonwealth

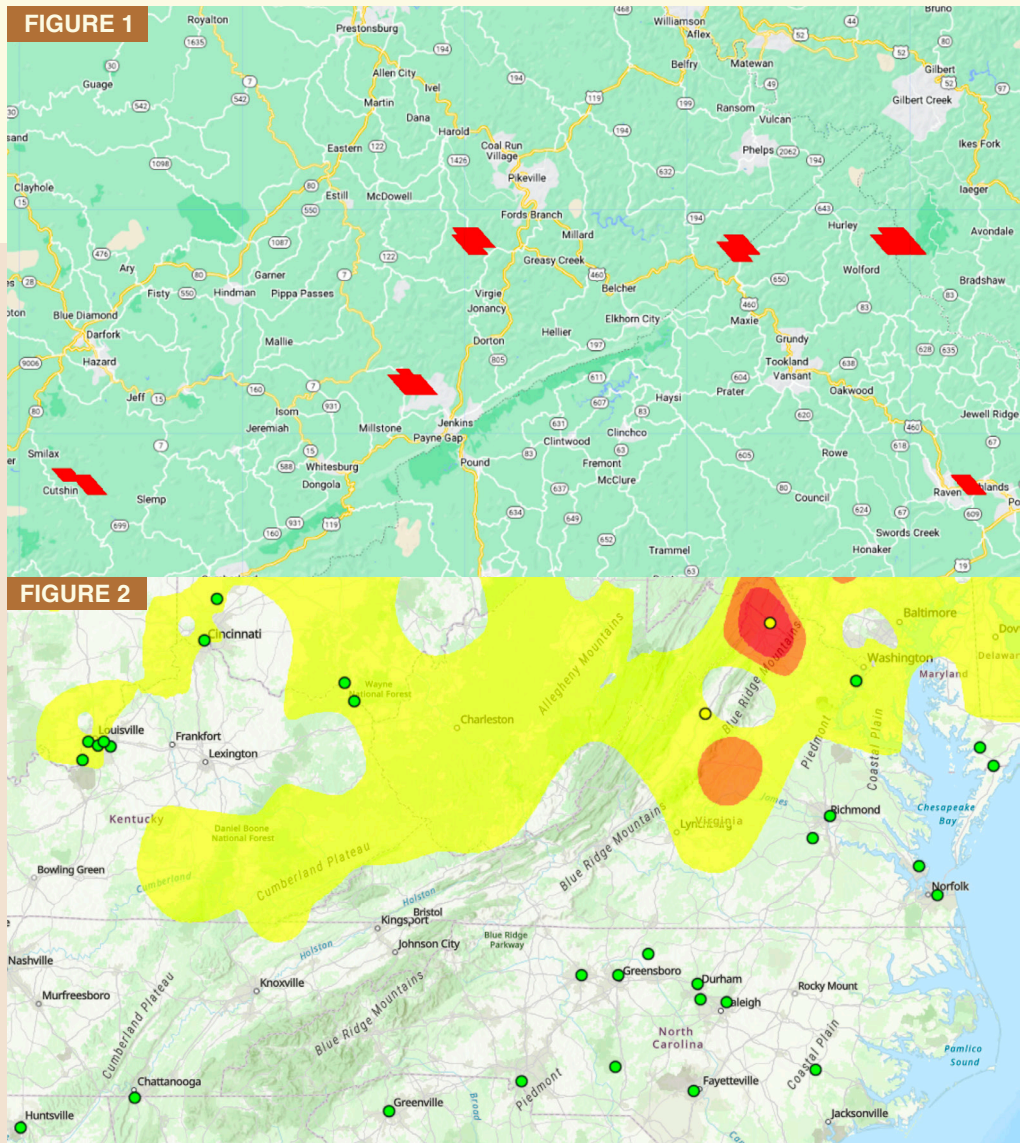
The monitor operated by Kentuckians For The Commonwealth and Friends for Environmental Justice in Letcher County, Kentucky, had a very distinct spike in its data occurring on November 15 and 16 of 2023. Communications with community members indicated there were forest fires burning in the state at this time. The Fire Information for Resource Management System map, derived from satellite data, also indicated fire in the region as of this time. (Figure 1) The EPA AirNow map (Figure 2) shows air quality in the area was impacted at the regional level.

The data from Letcher County, characterized by a significant spike, provides a valuable opportunity to explain the relationship between the PurpleAir® data and regulatory standards. This spike

Figure 1: Fire data from the Fire Information for Resource Management System taken from Terra and Aqua satellites using the Moderate Resolution Imaging Spectroradiometer to detect thermal anomalies, indicated by red diamonds on the map. Data accessed through Google Earth Engine platform on dates corresponding to November 15 and 16 of 2023.

Figure 2: EPA AirNow interactive map of reported PM2.5 air quality on November 16, 2023. Yellow areas indicate moderately poor air quality. Red areas indicate severely impaired air quality.

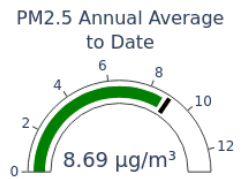
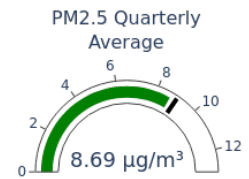
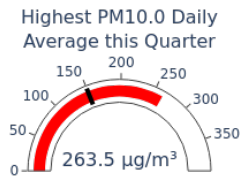
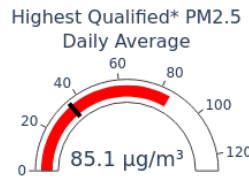
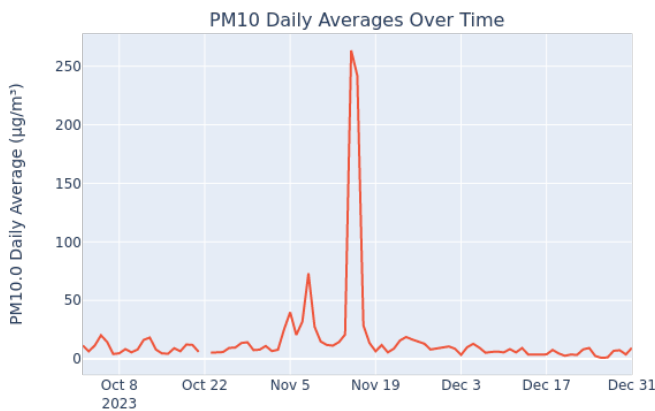
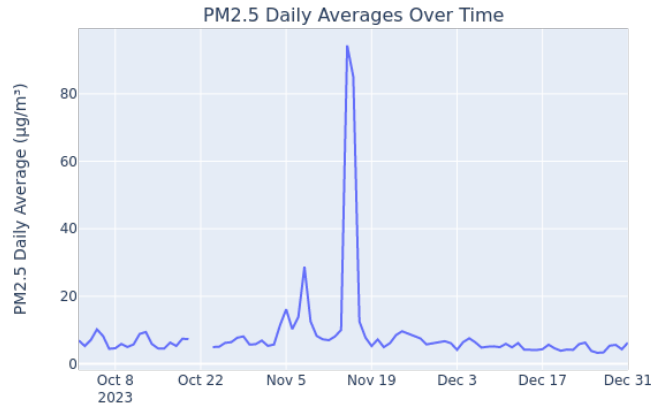
can be attributed to a forest fire. In terms of regulations for both PM2.5 and PM10 over a 24-hour period, such an anomaly is not likely to result in non-attainment of the 24-hour standard, provided that few to no other major events occur within a three-year period. PM2.5 regulations allow for up to seven such 24-hour spikes annually, as attainment of the 24-hour standard relies on the 98th percentile of 24-hour averages, thus excluding the seven highest daily averages for a full year of data.



MONITOR AV-27 (DEANE, KY)

Q4 2023 Report for: PurpleAir device AV-27-F783
 Kentuckians for the Commonwealth, Deane, Letcher County, KY

2023-10-02 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
2023-11-15	2023-11-15
2023-11-16	2023-11-16

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

COMMUNITY SPOTLIGHT: KANAWHA COUNTY, WEST VIRGINIA

Institute, West Virginia

Community Partner: Institute West Dunbar Pinewood Sub-Area Planning Committee

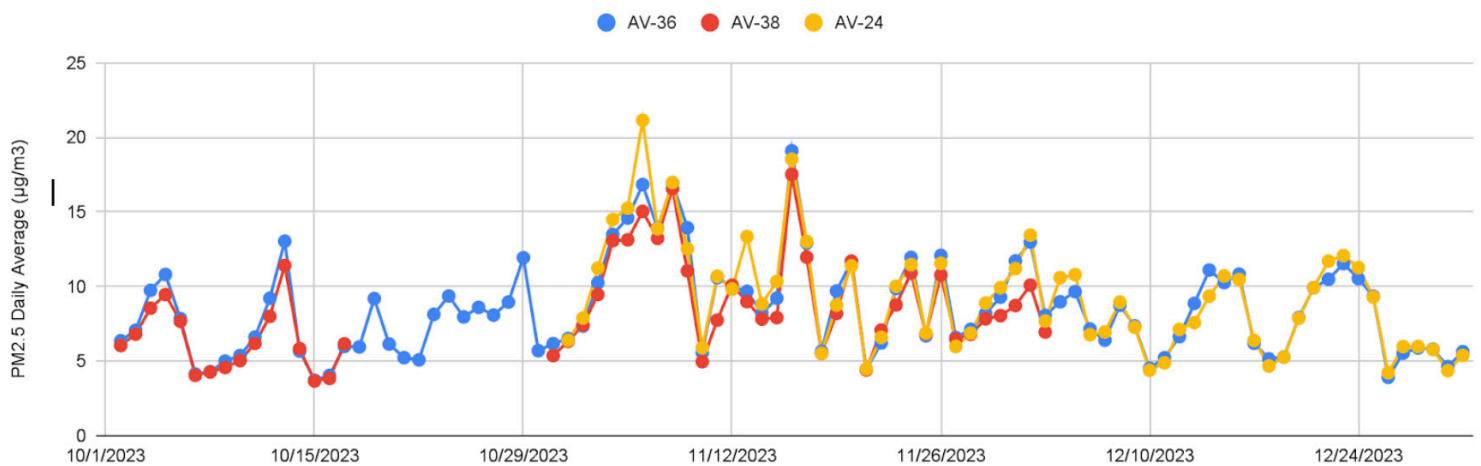
Institute is a community on the Kanawha River in Kanawha County, West Virginia, accessible by Interstate 64. The Institute West Dunbar Pinewood Sub-Area Planning Committee is a community organization that implements community improvement projects in several small, unincorporated communities along the Kanawha River near Charleston, West Virginia. The community is majority Black, and is home to West Virginia State University, a Historically Black University. This portion of the Kanawha River Valley is referred to as the chemical valley, due to the presence of multiple large chemical facilities, which present air quality concerns for local residents.

The quarterly average for PM2.5 for sensor AV-36 is 8.47 $\mu\text{g}/\text{m}^3$. There are three other monitors (AV-24, AV-38, and AV-32) in Institute, which are reading between 8 and 9.3 $\mu\text{g}/\text{m}^3$. The quarterly average for PM2.5 for sensor AV-24 is 9.3 $\mu\text{g}/\text{m}^3$, suggesting a chronic air quality issue if the trend continues. All of the monitors correlate very closely with each other.

However, the calculated quarterly average for AV-24 appears to be slightly higher than the other monitors in the community because it came online later than its other counterparts and it is missing lower concentration data points from earlier in the quarter (see graph below). Since AV-24 does not meet the data completeness criteria requirement for the quarter, we choose to use AV-36 for the main figures (next page) for this community spotlight as it has a more complete data record for the first quarter. AV-24, AV-36, and AV-38 are shown in the graph below for comparisons.

AV-24 will likely come more in line with the other monitors by the next quarterly report providing they all remain online and no individual sensor is subject to a hyperlocal air pollution event. We will continue to monitor the community to see where the quarterly averages land next quarter.

Daily Average PM2.5 Values - Institute, West Virginia

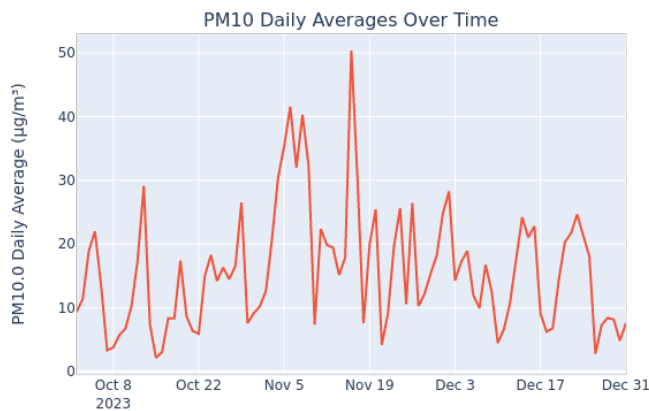
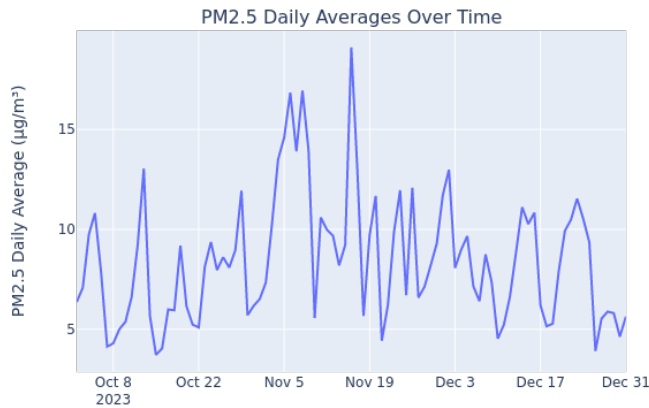


MONITOR AV-36, INSTITUTE, WV

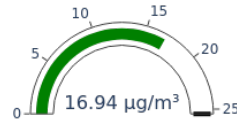
Q4 2023 Report for: PurpleAir device AV-36-B7A7

Institute West Dunbar Pinewood Sub area Planning Committee, Institute, Kanawha County, W

2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
No days exceeded daily EPA standard	

No days exceeded daily EPA standard

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

COMMUNITY SPOTLIGHT: RALEIGH COUNTY, WEST VIRGINIA

Naoma, West Virginia

Community Partner: Coal River Mountain Watch

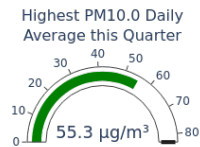
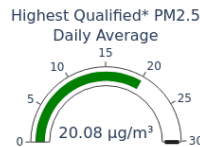
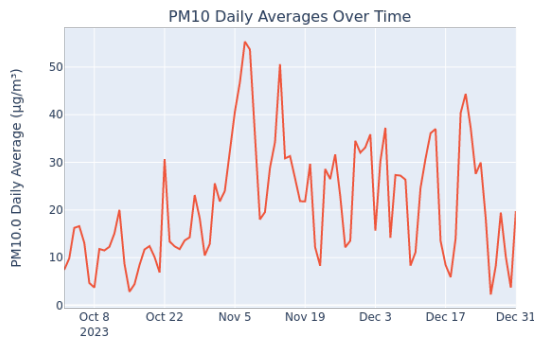
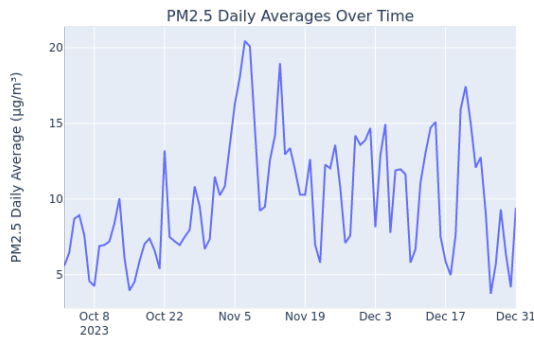
Naoma is a small unincorporated community located in Raleigh County, West Virginia, near several active surface coal mining operations. The monitor in Naoma is operated by Coal River Mountain Watch, a community organization focused on stopping mountaintop removal mining and promoting environmental justice in the Coal River watershed and across the Appalachian region. The organization actively opposes new and renewed mining permits due to environmental and health concerns. They engage in various projects to preserve the environment and communities affected by coal mining, and to document the impacts of mountaintop removal mining.

The monitor in Naoma displays an average concentration of 10.04 $\mu\text{g}/\text{m}^3$ for PM2.5 over this quarter indicating a potential chronic problem in the area. Coal River Mountain Watch will be installing two additional monitors in Naoma in the near future. They also operate monitors in the nearby mining communities of Eunice and Peytona. The USACAMP will continue to monitor this area in upcoming quarters to determine if these elevated PM2.5 levels persist so that we can eventually evaluate and compare our data to the annual average NAAQS.

MONITOR AV-8, NAOMA, WV

Q4 2023 Report for: PurpleAir device AV-8-E64D
Coal River Mountain Watch, Naoma, Raleigh County, WV

2023-10-02 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

National Ambient Air Quality Standards:
PM2.5 annual average - 9 $\mu\text{g}/\text{m}^3$ **
PM2.5 24 hour average - 35 $\mu\text{g}/\text{m}^3$
PM10 24 Hour average - 150 $\mu\text{g}/\text{m}^3$

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 $\mu\text{g}/\text{m}^3$ a few times per year without exceeding the standard.

FUTURE OUTLOOK AND NEXT STEPS

The selected dataset featured in this report underscores the highest particulate matter levels recorded by our sensors over the past quarter. The USACAMP initiative intends to conduct follow-up investigations on these particular sites to determine if the air quality issues observed persist within these communities. Moreover, we will continue to monitor the performance of all sensors involved in the project, and anticipate discussing any significant findings in subsequent reports, and in webinars to be held at least once each year.

This report includes updates from 33 monitors, of which only a subset has been discussed in the preceding section. Information regarding the data collected from the remaining monitors is available in Appendix A. As the network expands and additional monitors become operational, their data will be integrated and presented in future communications. In addition to PurpleAir® data, future reports may also encompass a regional narrative to provide context to the data, particularly if significant events, such as major wildfires, necessitate a discussion that extends beyond a local analysis to a more regional one. Future reports will also feature some analysis of volatile organic compounds and other pollutants data being collected and analyzed by project partners Virginia Tech, and Healing our Polluted Environment (HOPE) out of Bristol, Virginia and Bristol, Tennessee.

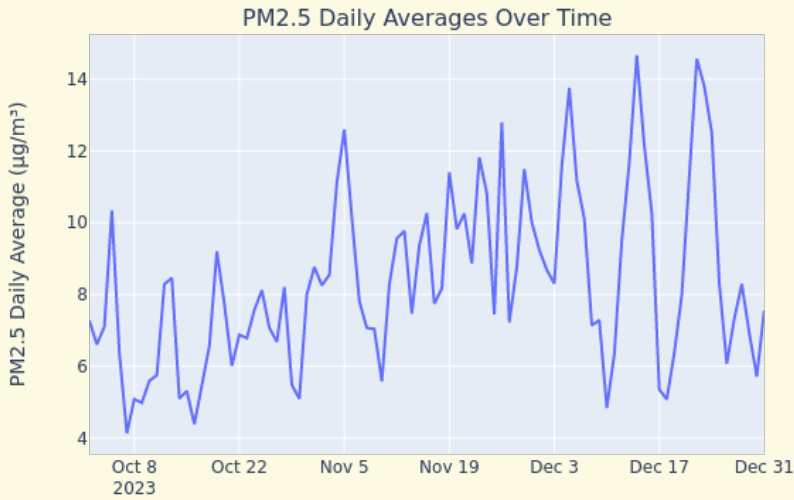
The goals of this project are to foster meaningful dialogue within and among communities about air quality, so if you have questions about anything in this report, please reach out to Willie Dodson (willie@appvoices.org) or Matt Hepler (matt.hepler@appvoices.org) and/or participate in the webinar detailed below.



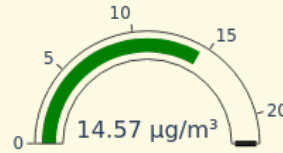
APPENDIX

Q4 2023 Report for: PurpleAir device AV-13-7DE7
Kentuckians for the Commonwealth, Covington, Kenton County, KY

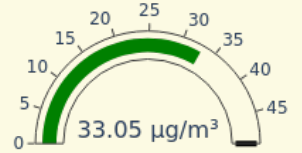
2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



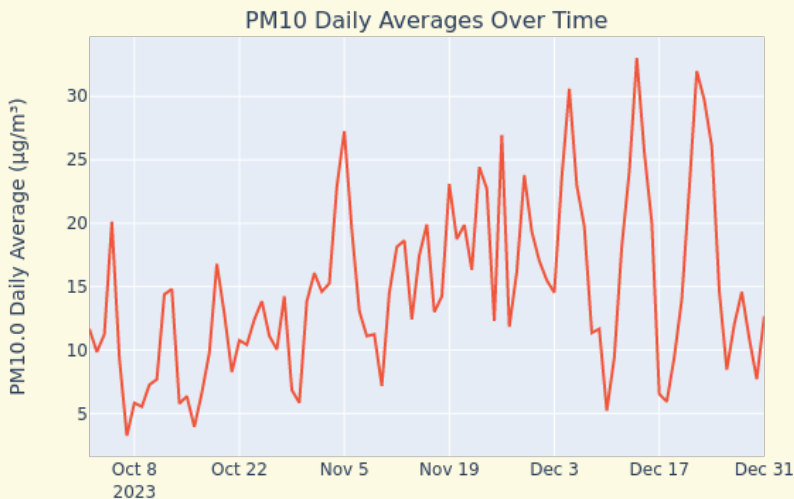
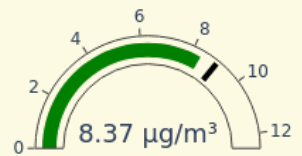
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

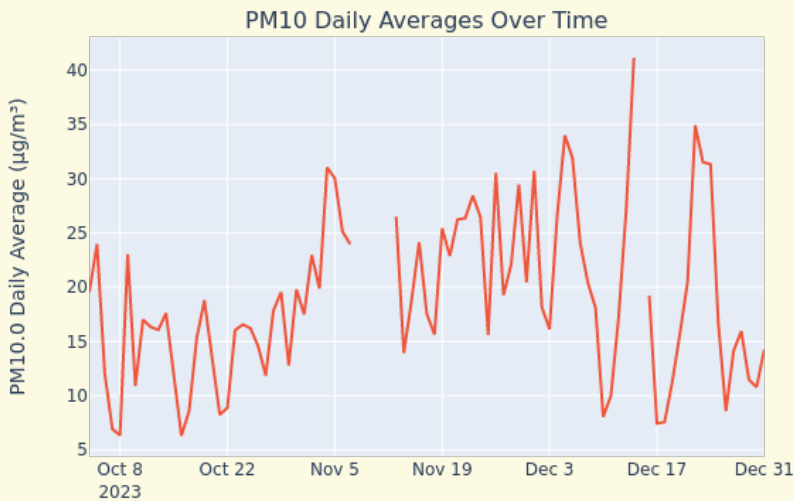
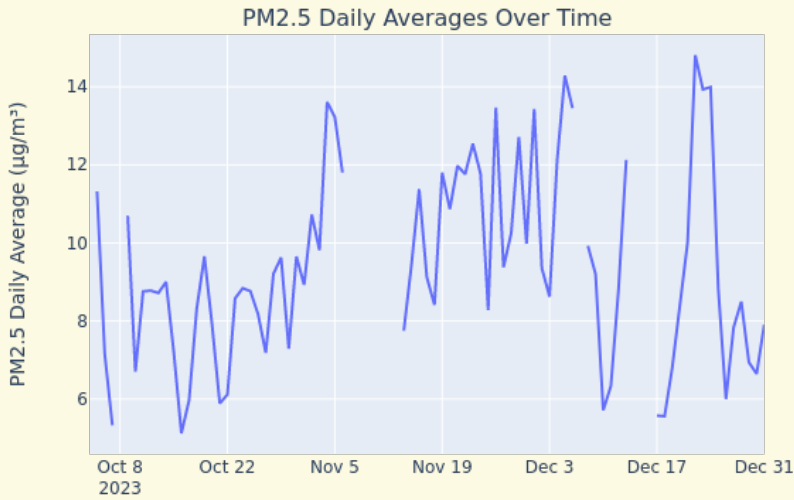
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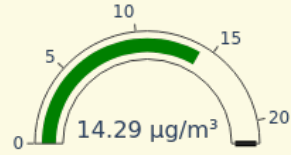
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Q4 2023 Report for: PurpleAir device AV-14-987
 ---, ---, Kenton County, KY

2023-10-04 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

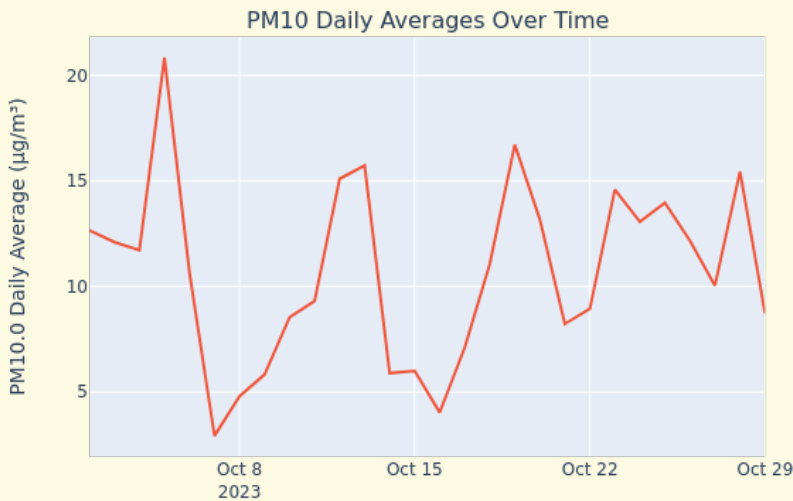
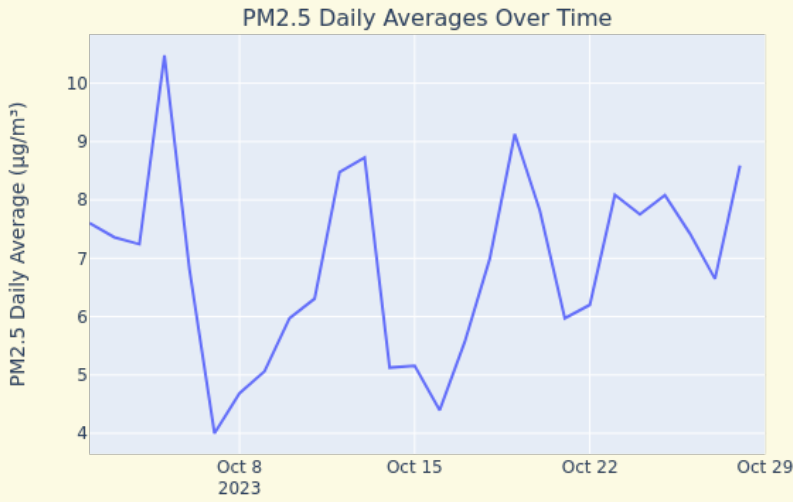
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

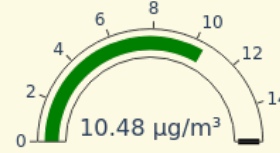
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-15-558F
Kentuckians for the Commonwealth, Covington, Kenton County, KY

2023-10-02 to 2023-10-29



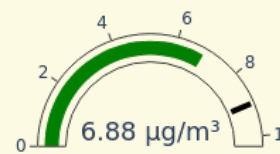
Highest Qualified* PM2.5 Daily Average



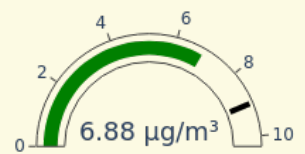
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

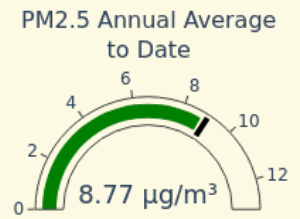
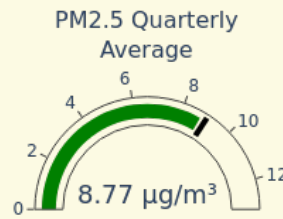
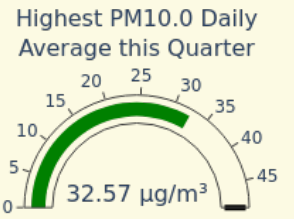
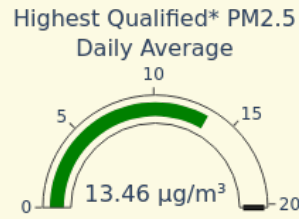
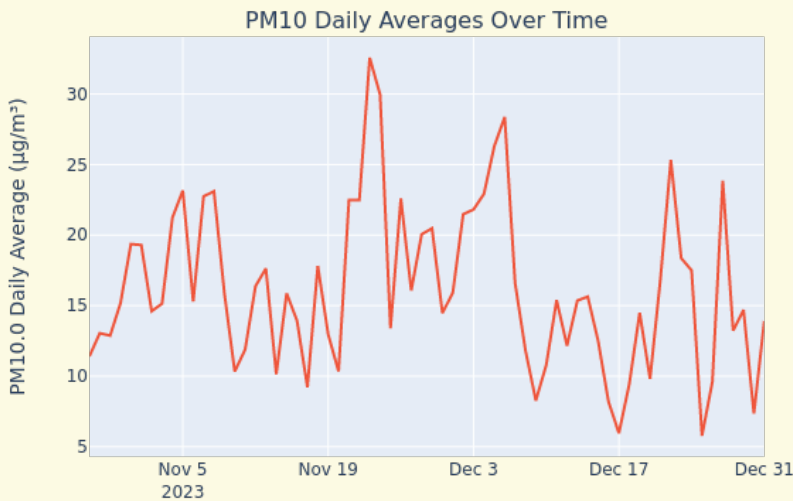
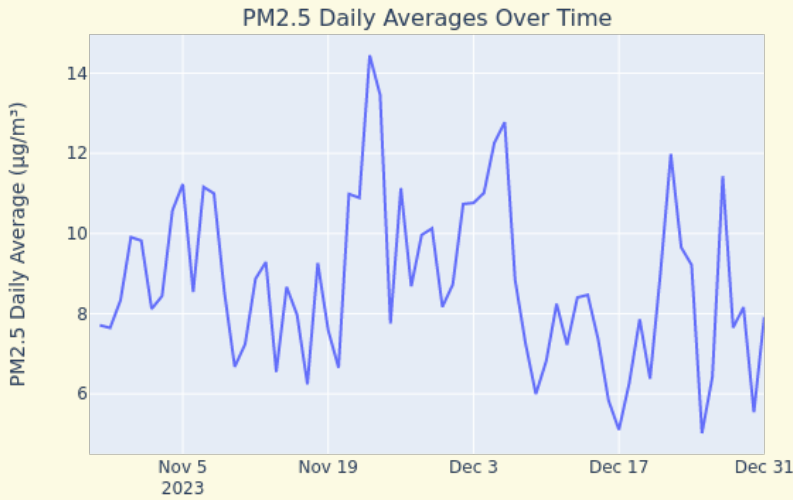
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-40-F73B
Kentuckians for the Commonwealth, Winchester, Clark County, KY

2023-10-27 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

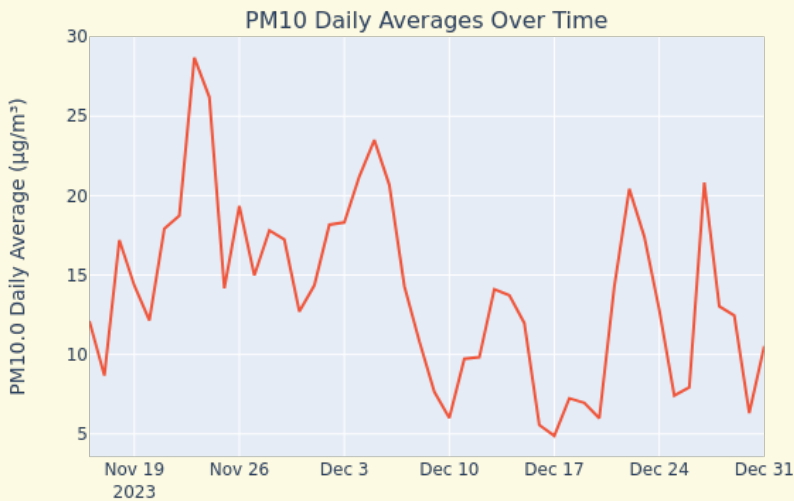
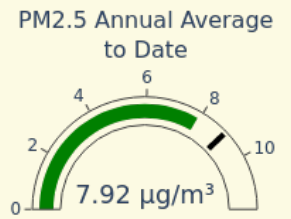
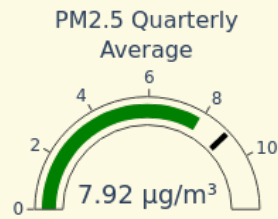
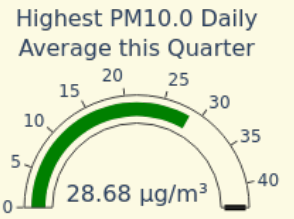
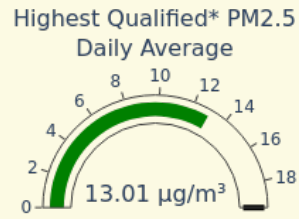
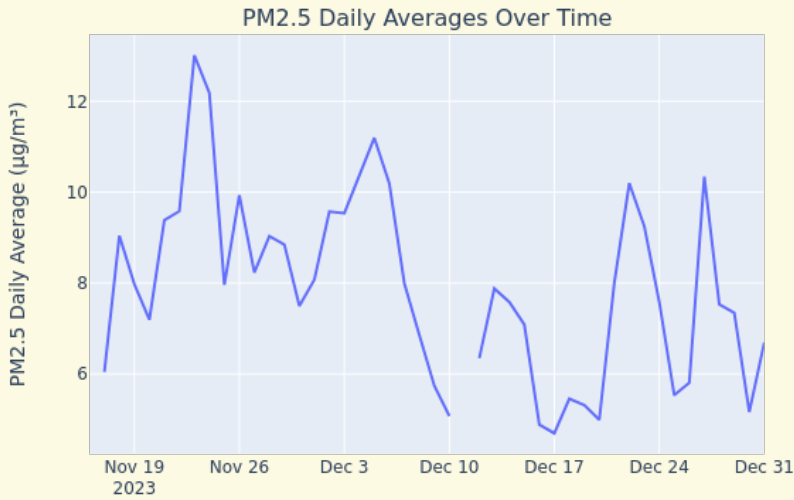
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-22-4C62
Kentuckians for the Commonwealth, Winchester, Clark County, KY

2023-11-16 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

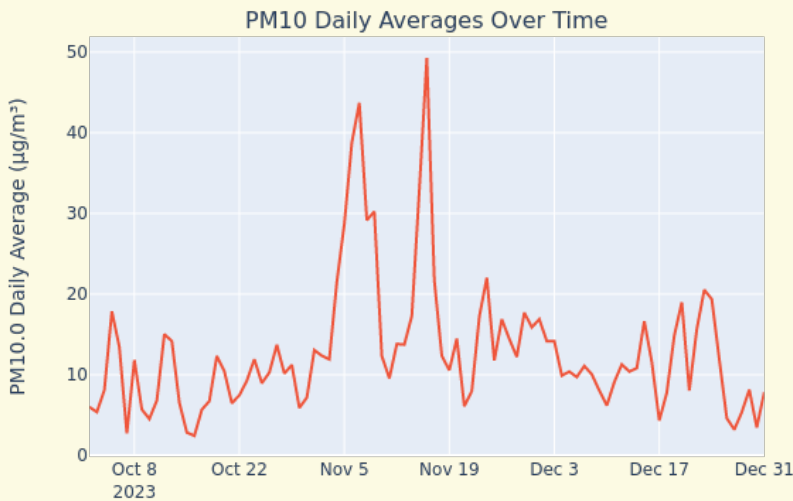
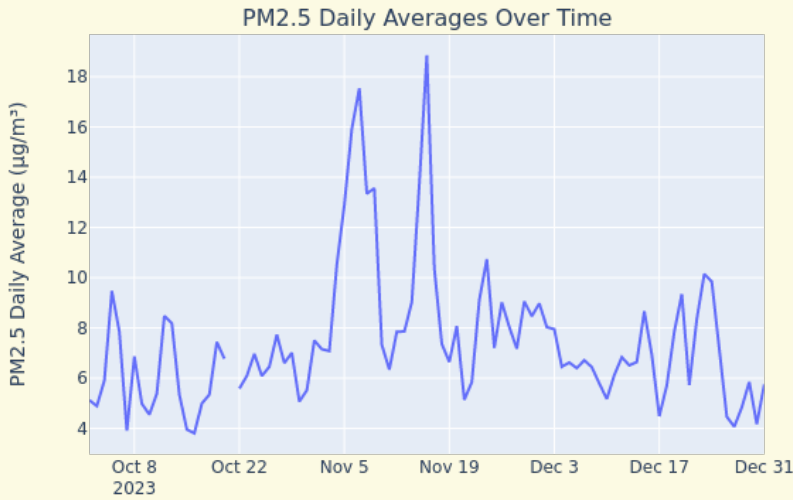
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

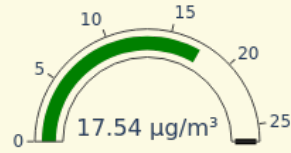
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-26-387
 Kentuckians for the Commonwealth, Langley, Floyd County, KY

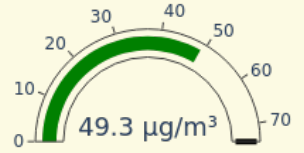
2023-10-02 to 2023-12-31



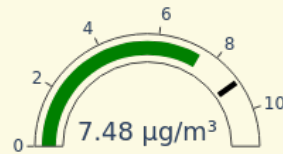
Highest Qualified* PM2.5 Daily Average



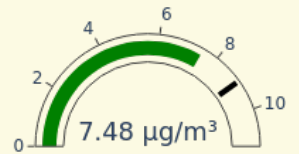
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

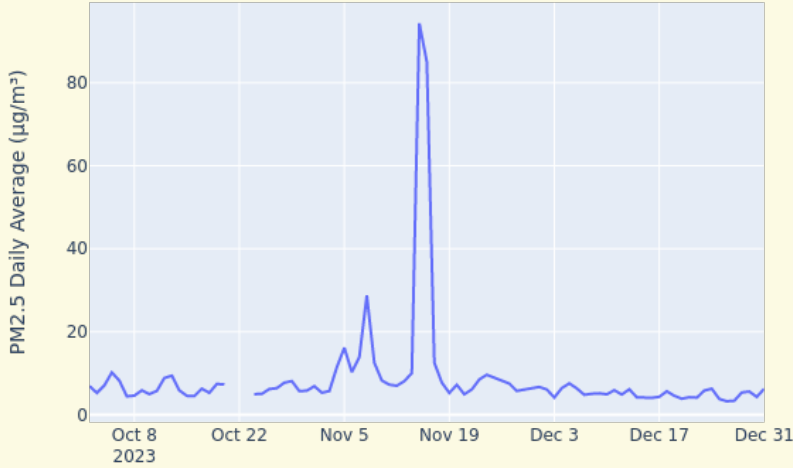
**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

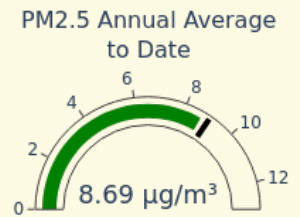
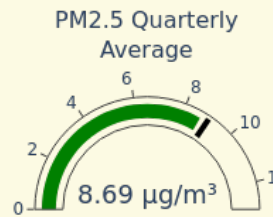
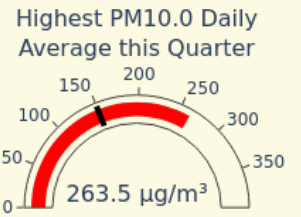
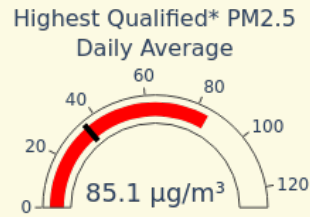
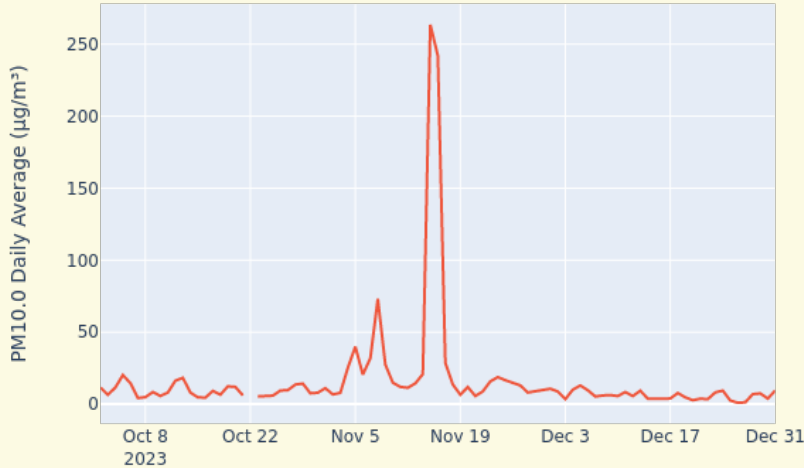
Q4 2023 Report for: PurpleAir device AV-27-F783
 Kentuckians for the Commonwealth, Deane, Letcher County, KY

2023-10-02 to 2023-12-31

PM2.5 Daily Averages Over Time



PM10 Daily Averages Over Time



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
2023-11-15	2023-11-15
2023-11-16	2023-11-16

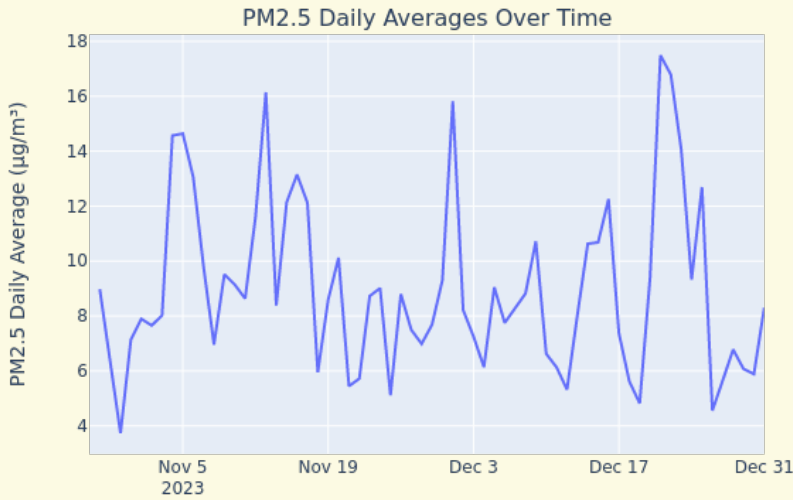
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

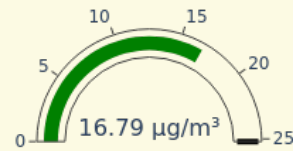
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-10-51DF
 Mountain Watershed Association, Donegal Township, Westmoreland County, PA

2023-10-27 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



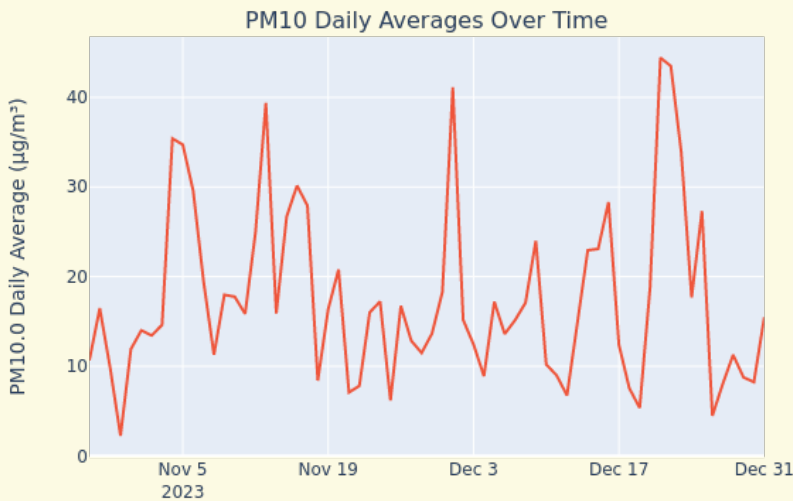
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

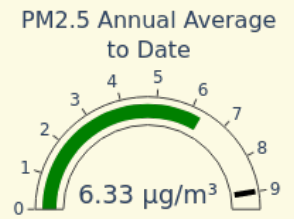
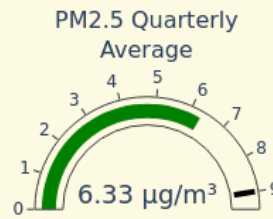
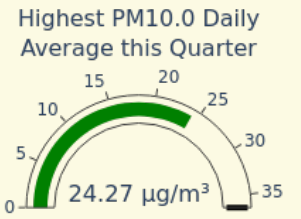
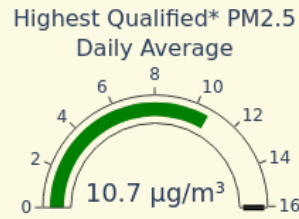
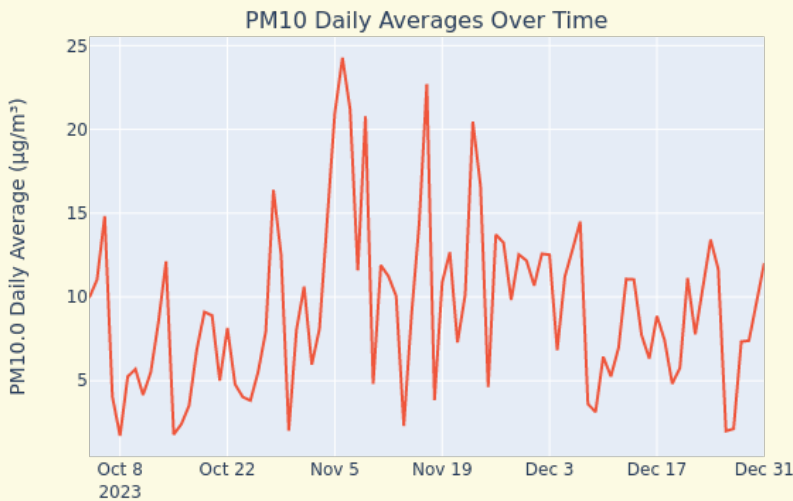
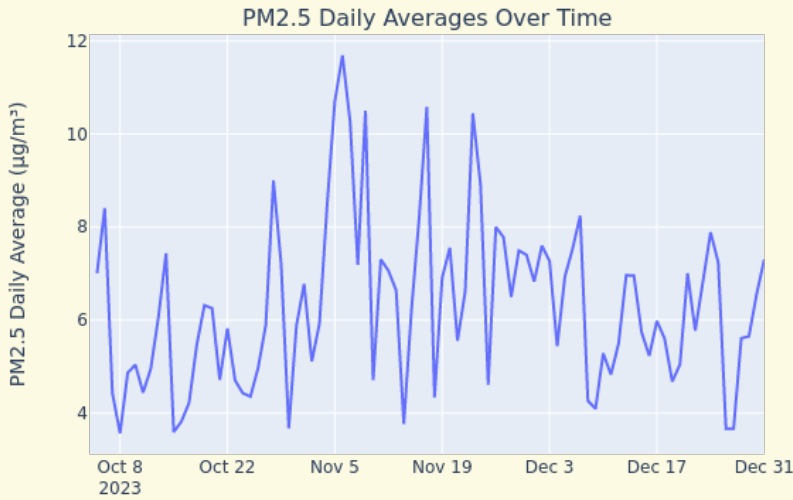
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³**
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-12-9EAC
Center for Coalfield Justice, Wayensburg, Greene County, PA

2023-10-04 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
---	--

No days exceeded daily EPA standard

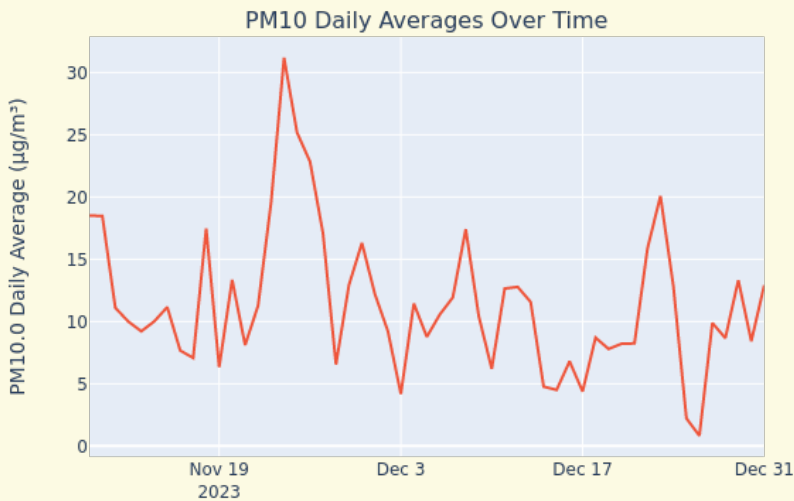
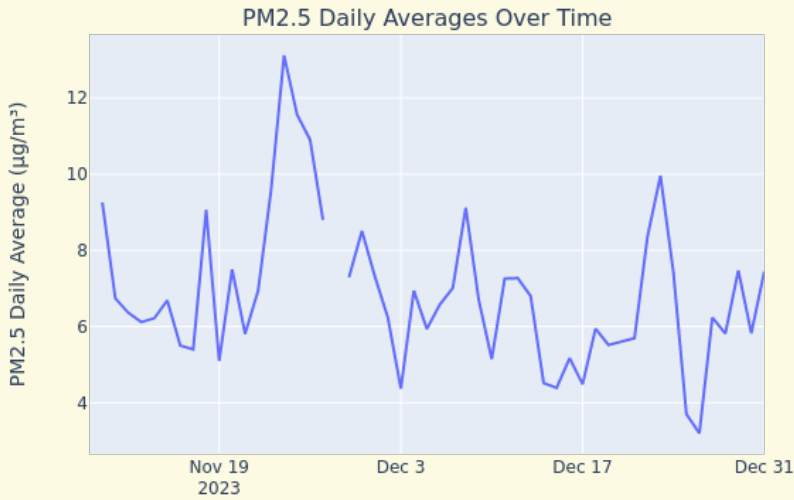
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

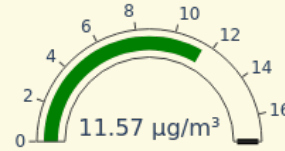
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-23-079
 Clearfolk Community Institute, White Oak, Campbell County, TN

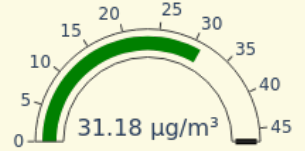
2023-11-09 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



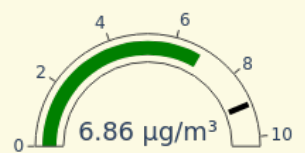
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

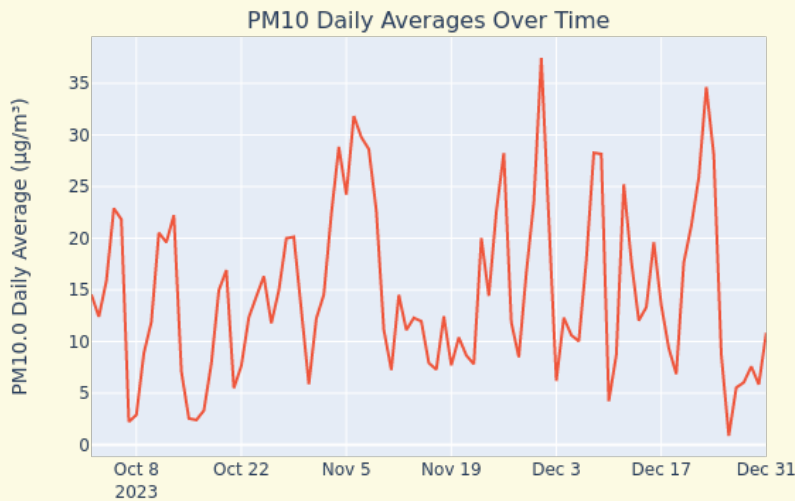
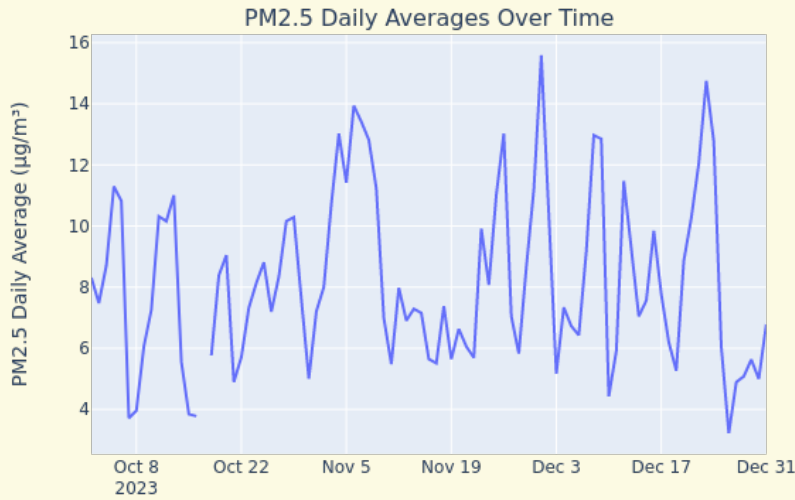
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

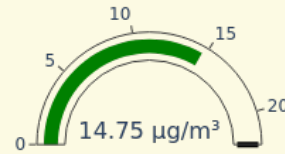
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-30-ADB
Appalachian Voices, Kingston, Roane County, TN

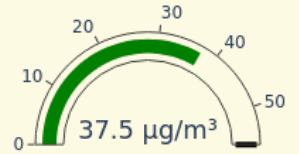
2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
---	--

No days exceeded daily EPA standard

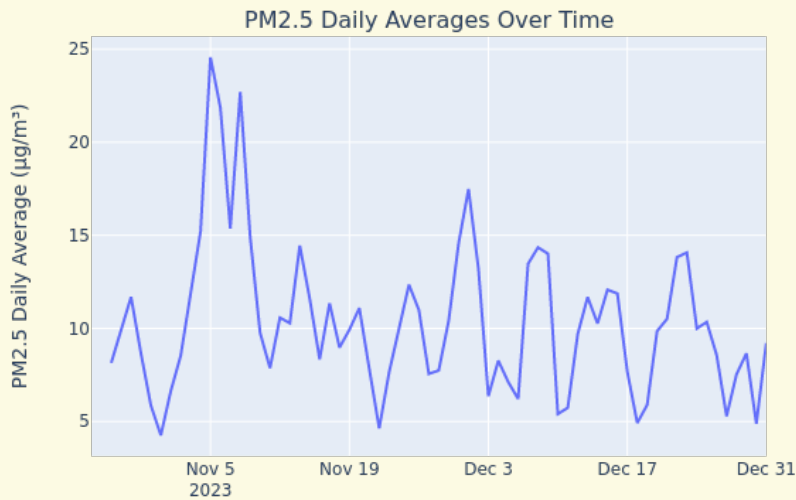
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

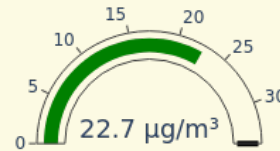
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-2-53E1
 Southern Appalachian Mountain Stewards, St Charles, Lee County, VA

2023-10-24 to 2023-12-31



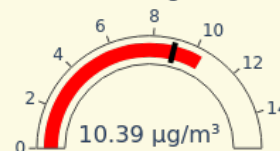
Highest Qualified* PM2.5 Daily Average



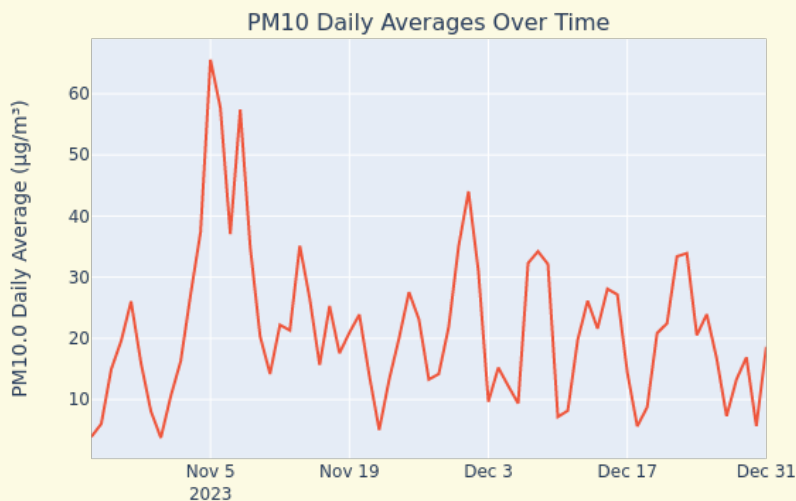
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
---	--

No days exceeded daily EPA standard

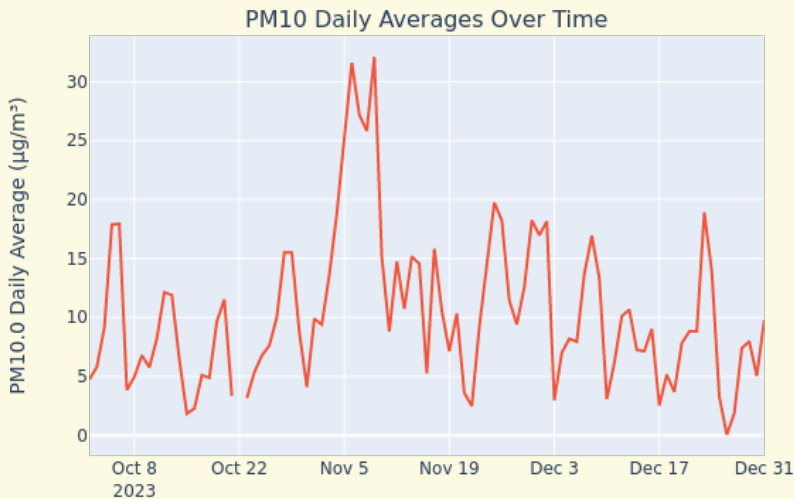
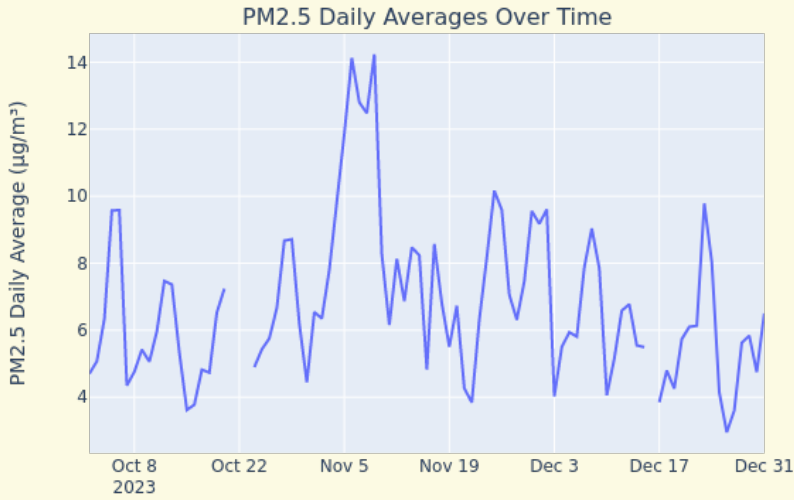
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-16-9999
 Southern Appalachian Mountain Stewards, Big Stone Gap, Wise County, VA

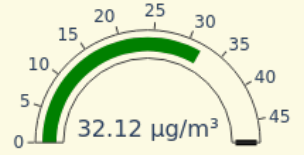
2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



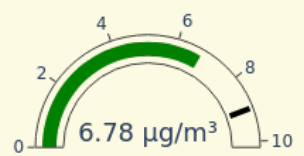
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards

Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

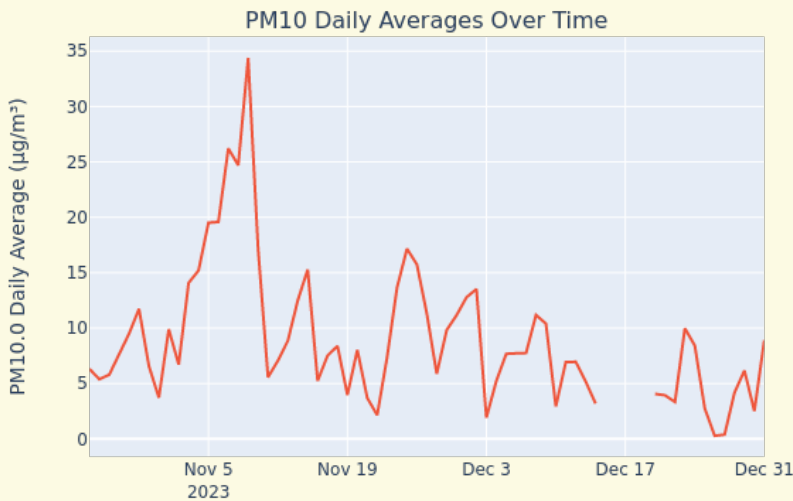
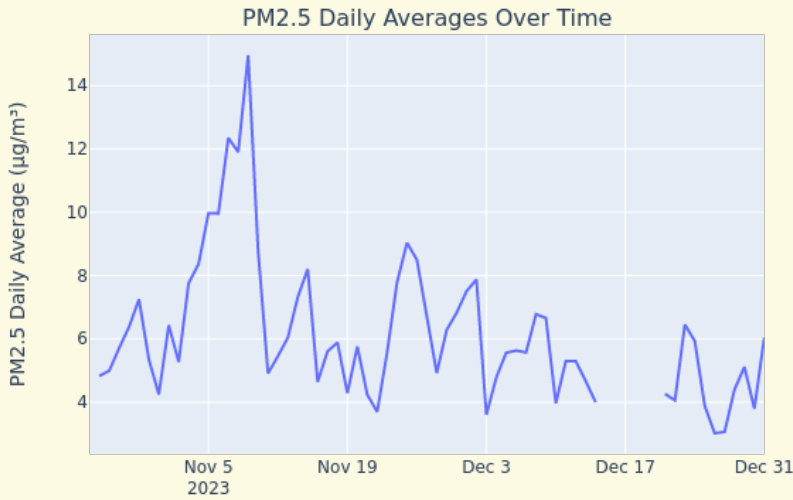
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³**
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

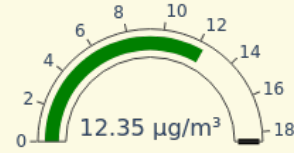
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-17-51E7
 Southern Appalachian Mountain Stewards, Appalachia, Wise County, VA

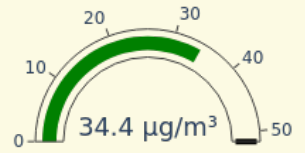
2023-10-24 to 2023-12-31



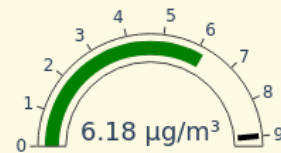
Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
---	--

No days exceeded daily EPA standard

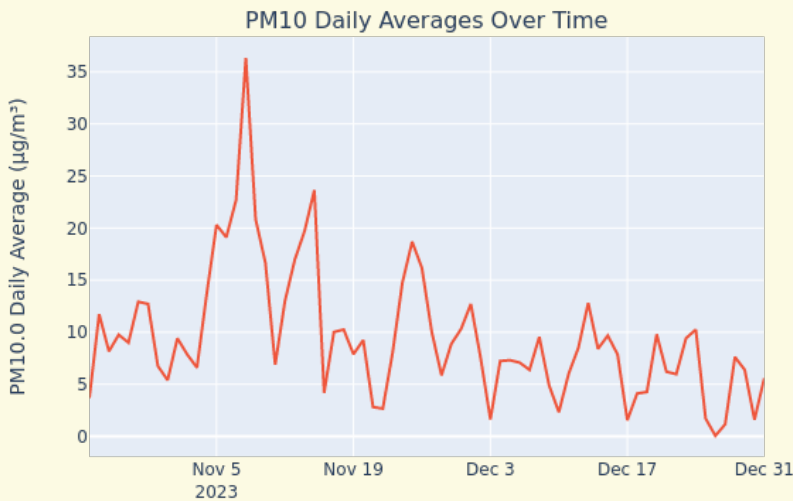
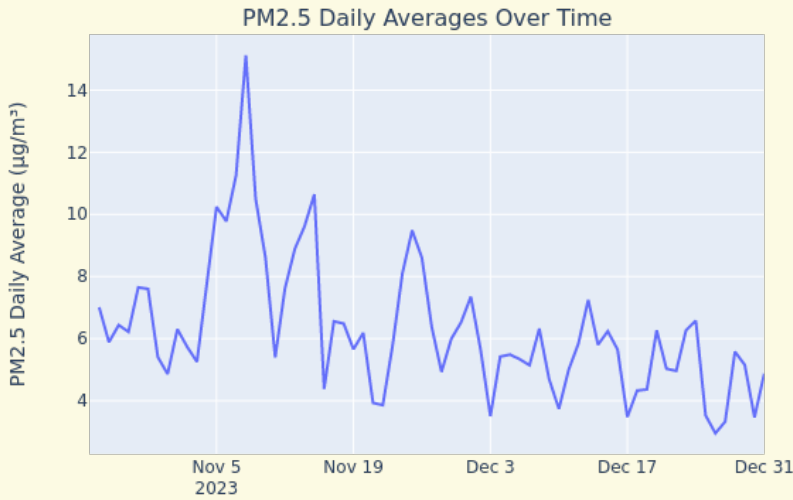
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-18-4A9
University of Virginia at Wise, Stephens, Wise County, VA

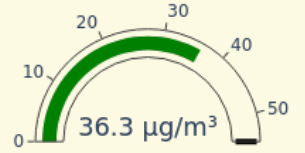
2023-10-23 to 2023-12-31



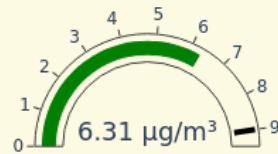
Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
---	--

No days exceeded daily EPA standard

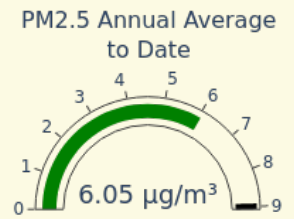
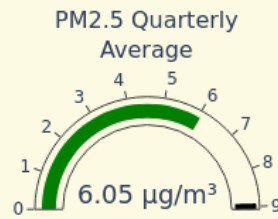
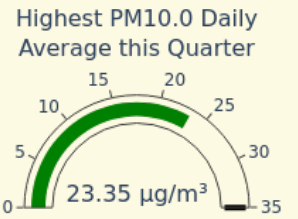
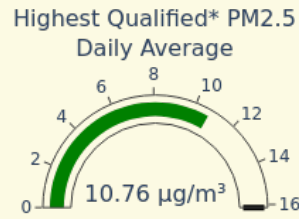
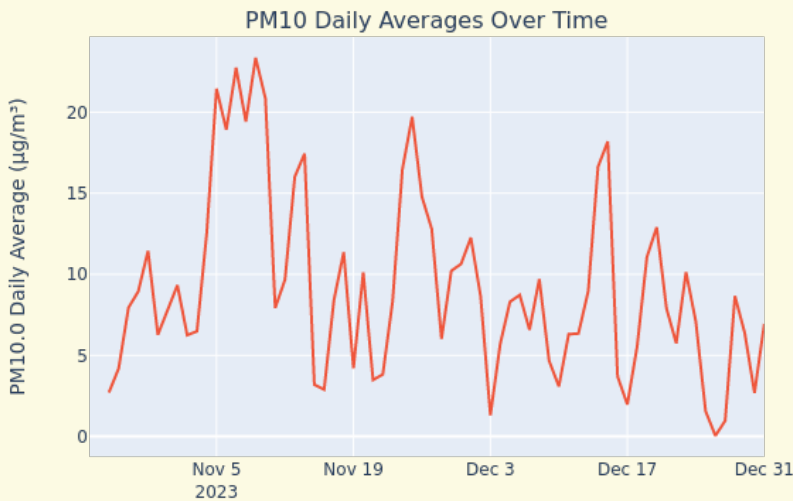
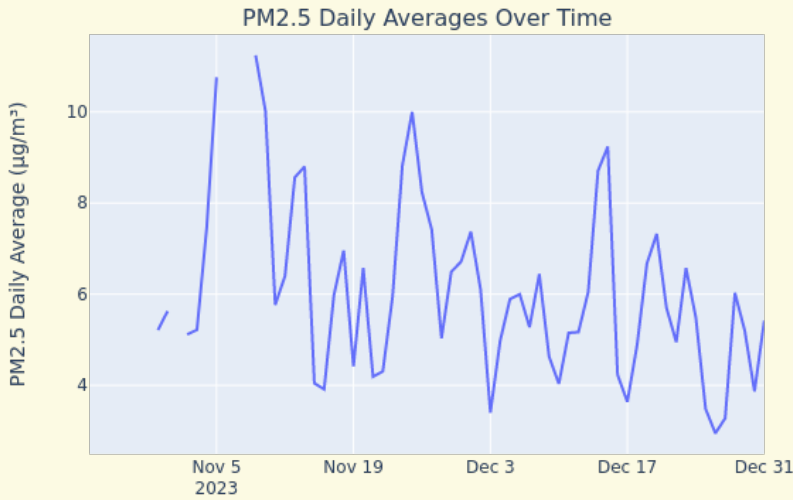
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-19-4A9
University of Virginia at Wise, Wise, Wise County, VA

2023-10-23 to 2023-12-31



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

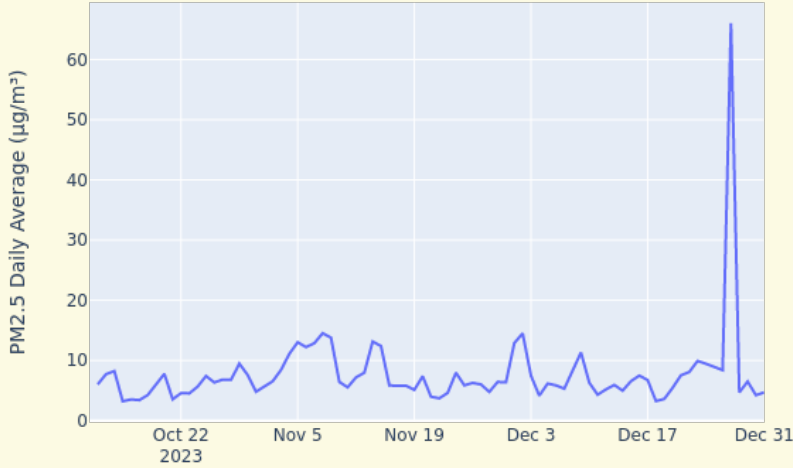
**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

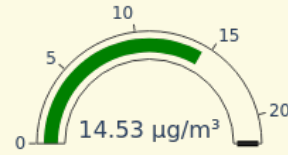
Q4 2023 Report for: PurpleAir device AV-31-8635
 Pittsylvania County NAACP, Chatham, Pittsylvania County, VA

2023-10-11 to 2023-12-31

PM2.5 Daily Averages Over Time



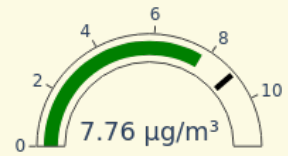
Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



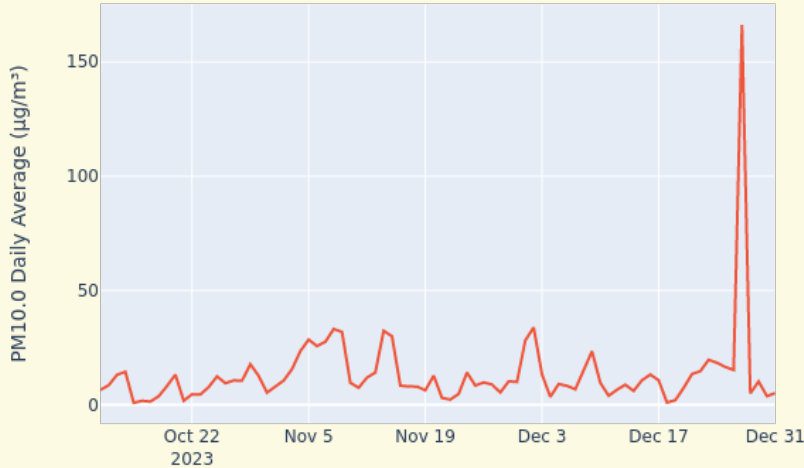
PM2.5 Quarterly Average



PM2.5 Annual Average to Date



PM10 Daily Averages Over Time



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
2023-12-27	2023-12-27

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

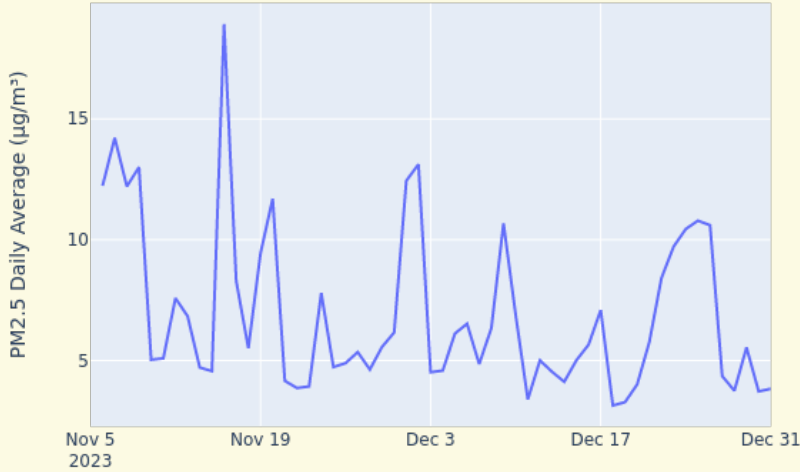
**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-39-F7FE
 Friends of Buckingham, Buckingham, Buckingham County, VA

2023-11-05 to 2023-12-31

PM2.5 Daily Averages Over Time



Highest Qualified* PM2.5 Daily Average



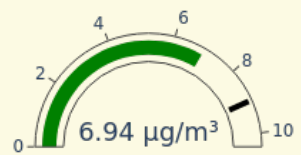
Highest PM10.0 Daily Average this Quarter



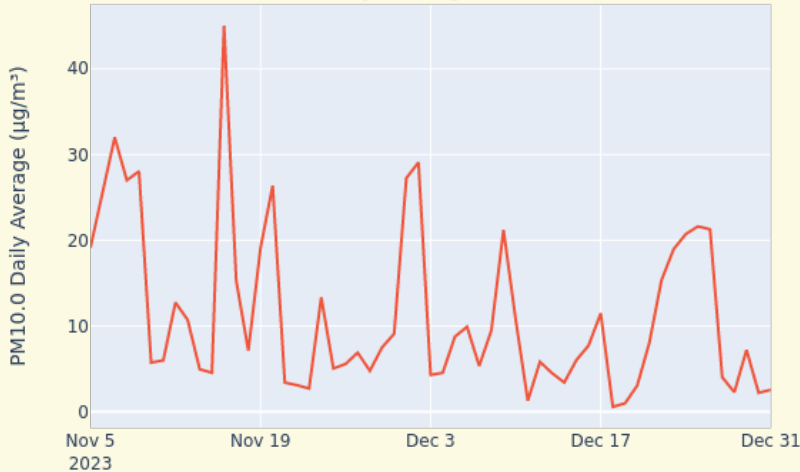
PM2.5 Quarterly Average



PM2.5 Annual Average to Date



PM10 Daily Averages Over Time



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

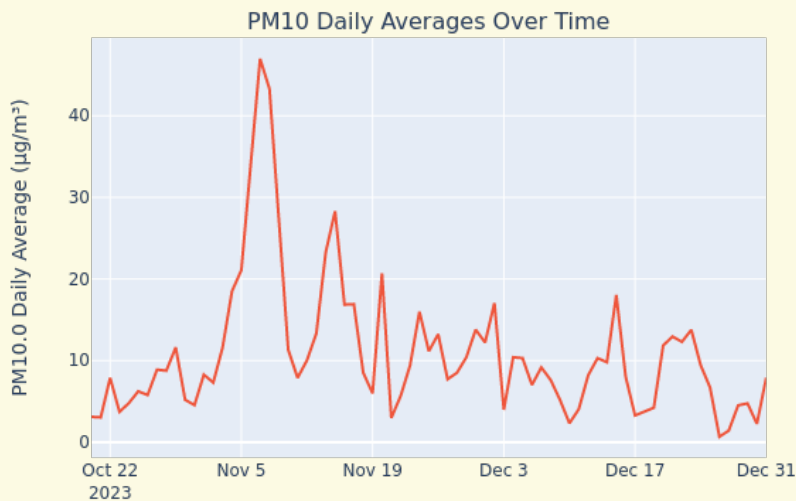
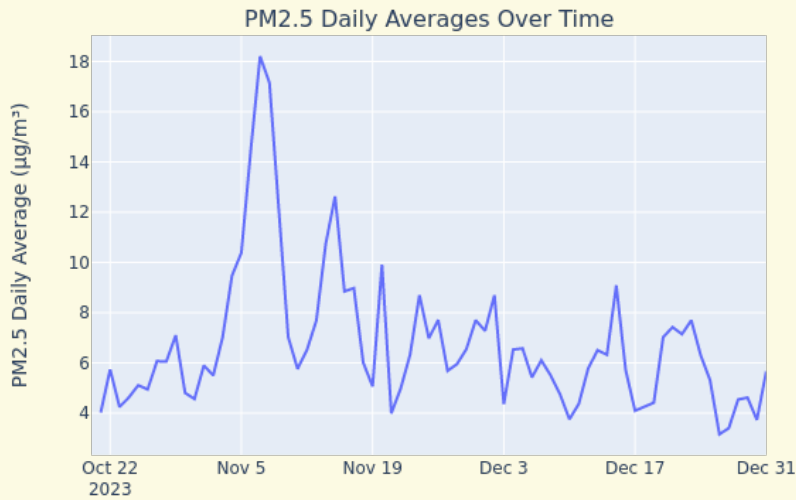
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

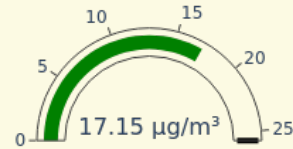
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-6-78AF
Coal River Mountain Watch, Eunice, Raleigh County, WV

2023-10-20 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



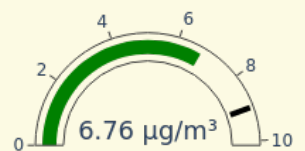
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards

Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

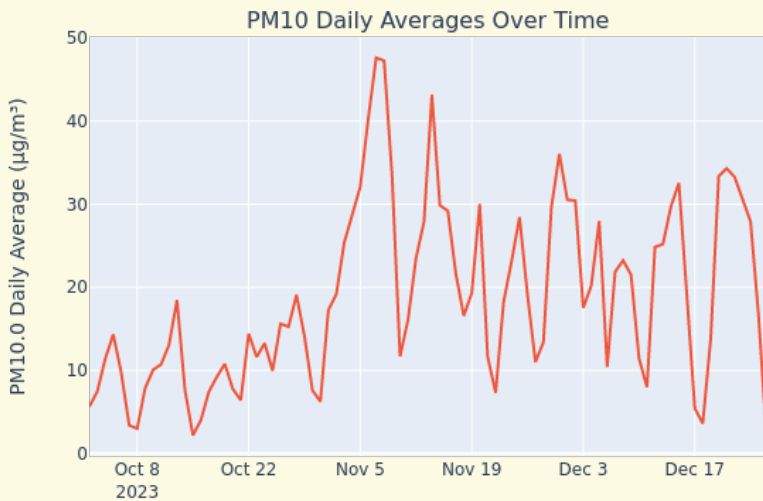
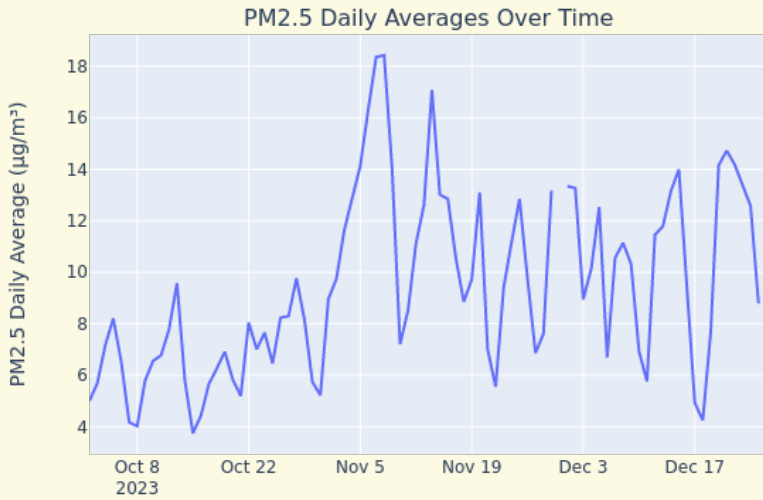
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³**
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

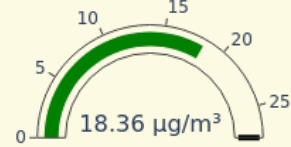
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-7-517D
Coal River Mountain Watch, Naoma, Raleigh County, WV

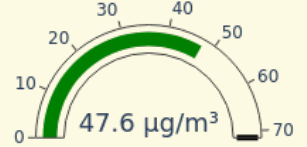
2023-10-02 to 2023-12-26



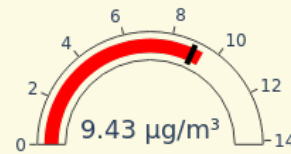
Highest Qualified* PM2.5 Daily Average



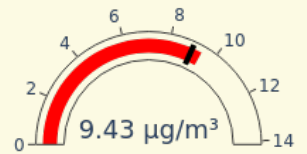
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards

Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

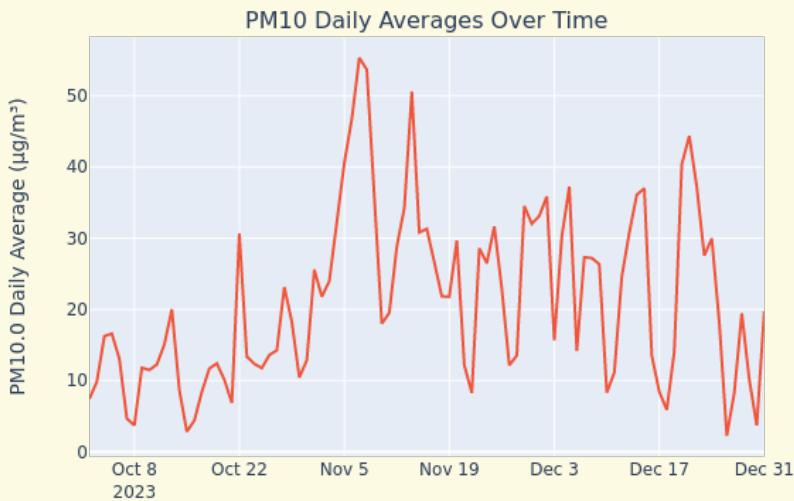
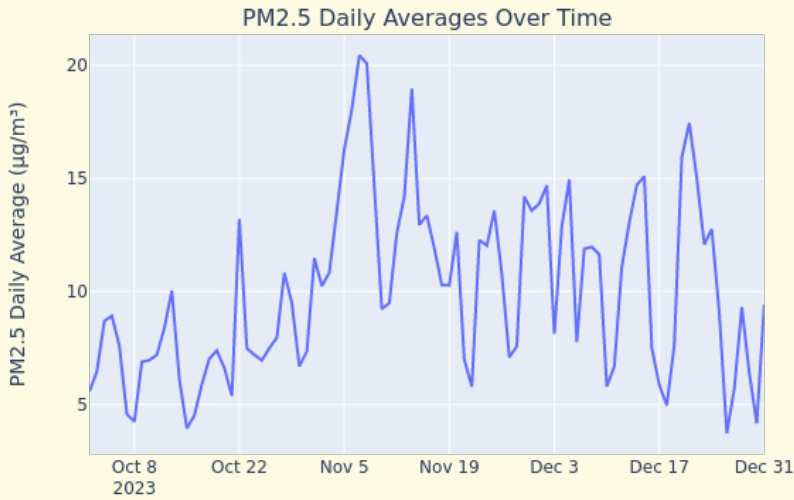
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-8-E64D
Coal River Mountain Watch, Naoma, Raleigh County, WV

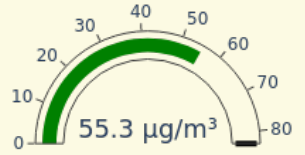
2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards

Days where PM10.0 Concentration Exceeded Standards

No days exceeded daily EPA standard

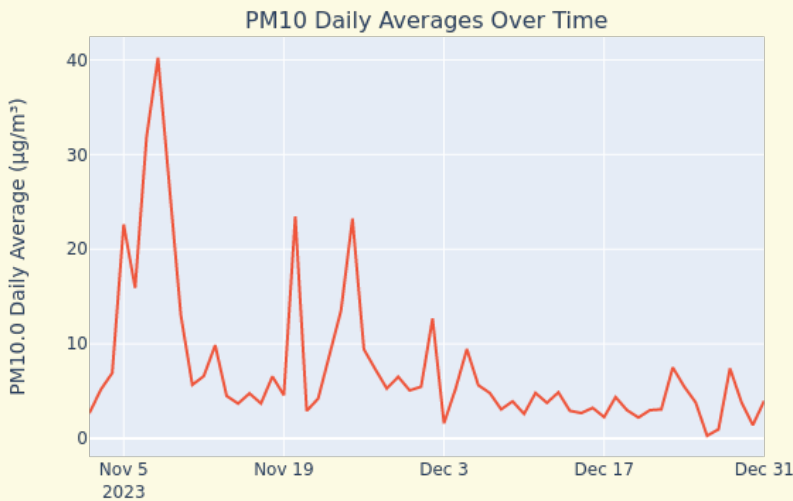
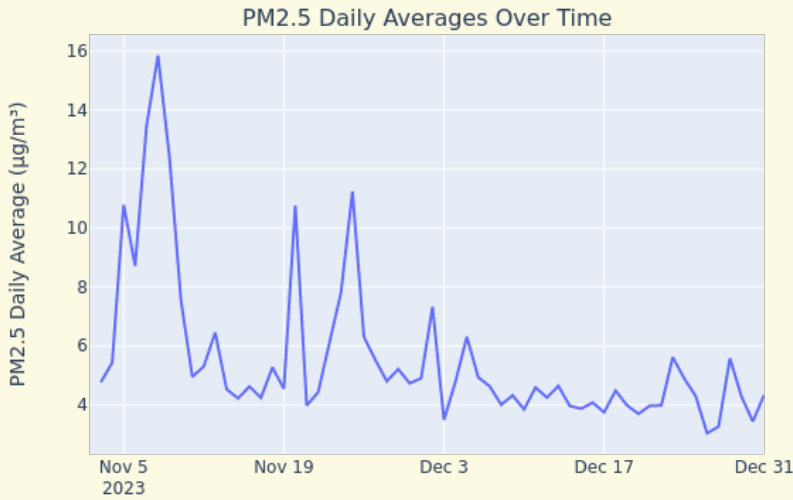
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

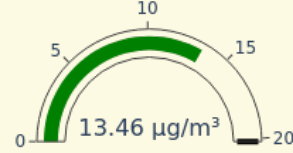
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-21-79E1
Appalachian Voices, Elkhorn, McDowell County, WV

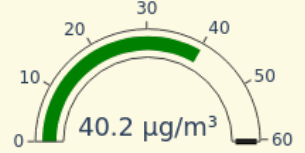
2023-11-02 to 2023-12-31



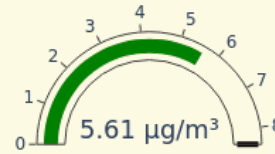
Highest Qualified* PM2.5 Daily Average



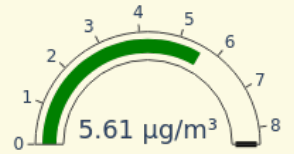
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

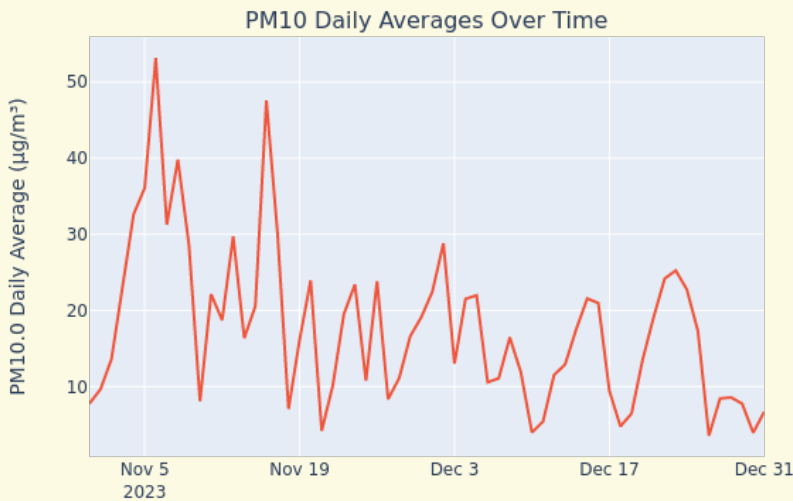
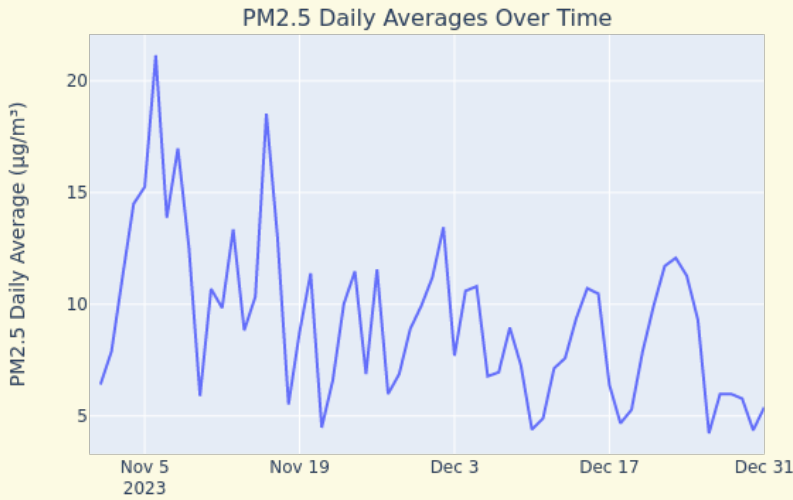
National Ambient Air Quality Standards:
PM2.5 annual average - 9 µg/m³ **
PM2.5 24 hour average - 35 µg/m³
PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

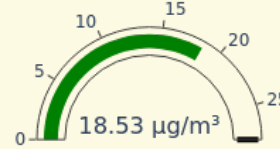
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-24-F6AB
 Institute West Dunbar Pinewood Sub area Planning Committee, Institute, Kanawha County, W

2023-10-31 to 2023-12-31



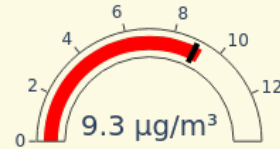
Highest Qualified* PM2.5 Daily Average



Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

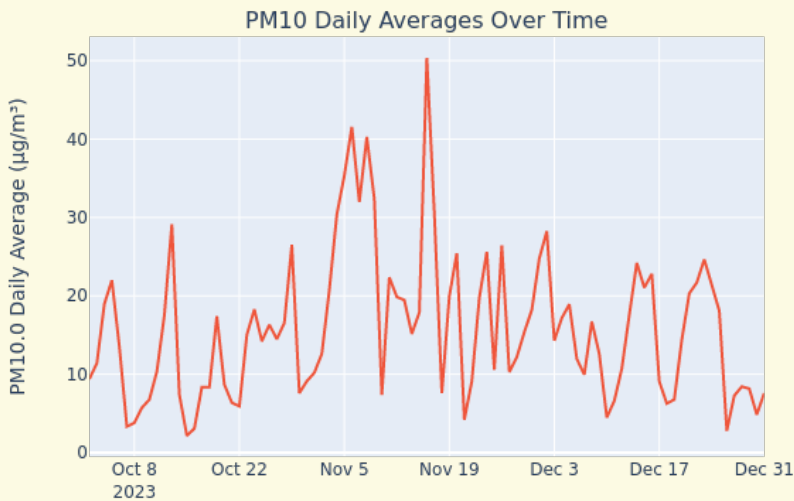
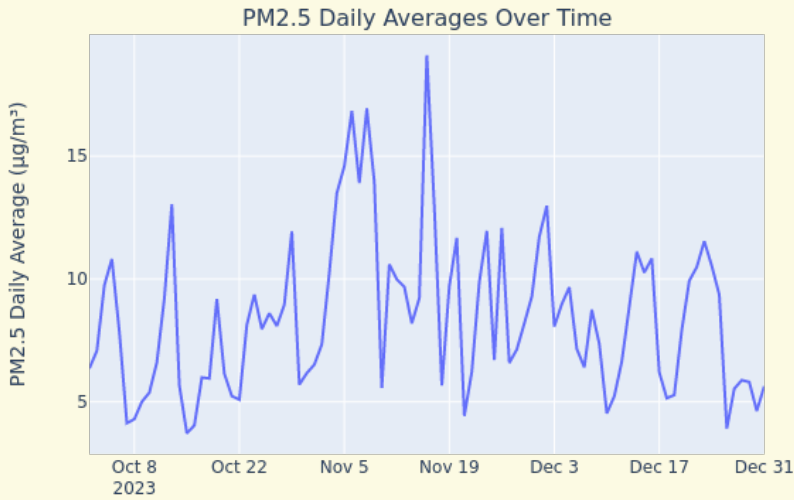
National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

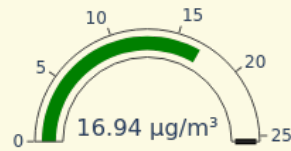
* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

Q4 2023 Report for: PurpleAir device AV-36-B7A7
 Institute West Dunbar Pinewood Sub area Planning Committee, Institute, Kanawha County, W

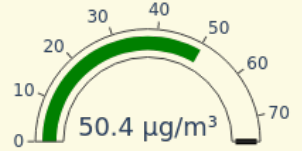
2023-10-02 to 2023-12-31



Highest Qualified* PM2.5 Daily Average



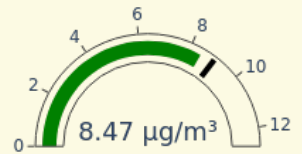
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

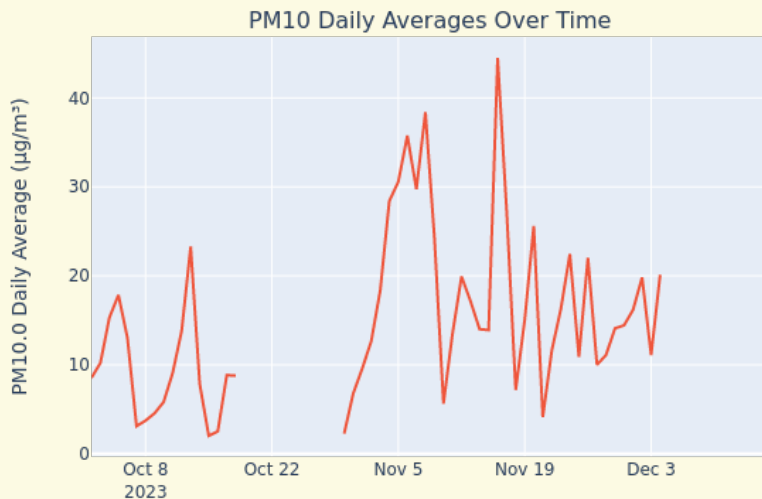
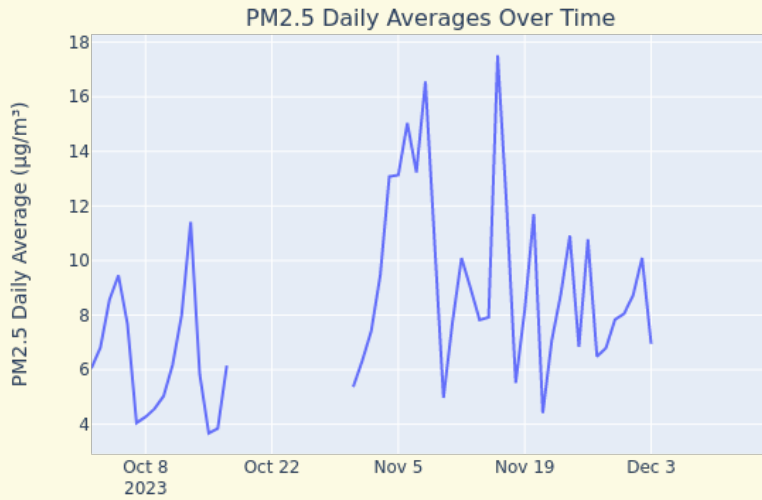
**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

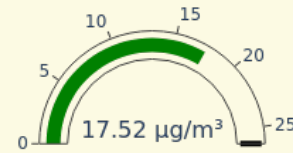
Q4 2023 Report for: PurpleAir device AV-38-761D

Institute West Dunbar Pinewood Sub area Planning Committee, Institute, Kanawha County, W

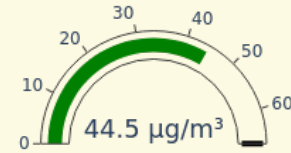
2023-10-02 to 2023-12-16



Highest Qualified* PM2.5 Daily Average



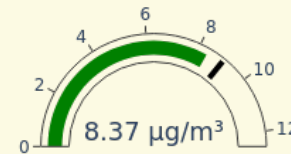
Highest PM10.0 Daily Average this Quarter



PM2.5 Quarterly Average



PM2.5 Annual Average to Date



Dates with Air Quality Exceedances

Days where PM2.5 Concentration Exceeded Standards	Days where PM10.0 Concentration Exceeded Standards
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No days exceeded daily EPA standard

National Ambient Air Quality Standards:
 PM2.5 annual average - 9 µg/m³ **
 PM2.5 24 hour average - 35 µg/m³
 PM10 24 Hour average - 150 µg/m³

**to go into effect May 6, 2024

* "Qualified" means the second highest PM2.5 Daily Average for quarterly National Ambient Air Quality Standards (NAAQS) calculations, and the 8th highest value for annual calculations. This 98th percentile calculation means PM2.5 Daily Averages may exceed 35 µg/m³ a few times per year without exceeding the standard.

The following monitors received insufficient data to include in this quarter's report:

- AV-1, Barnardsville, NC (test monitor)
- AV-3, Keystone, McDowell County, WV
- AV-4, Lafayette, Montgomery County, VA
- AV-11, Unspecified, Lackawanna County, PA
- AV-20, Northfork, McDowell County, WV
- AV-29, Cumberland City, Montgomery County, TN
- AV-32, Dunbar, Kanawha County, WV
- AV-33, Eagan, Caliborne County, TN
- AV-41, Eckman, McDowell County, WV
- AV-42, Gary, McDowell County, WV

