Project Quarter 6

Upper South and Appalachia Citizen Air Monitoring Project (USACAMP)

Appalachian Voices

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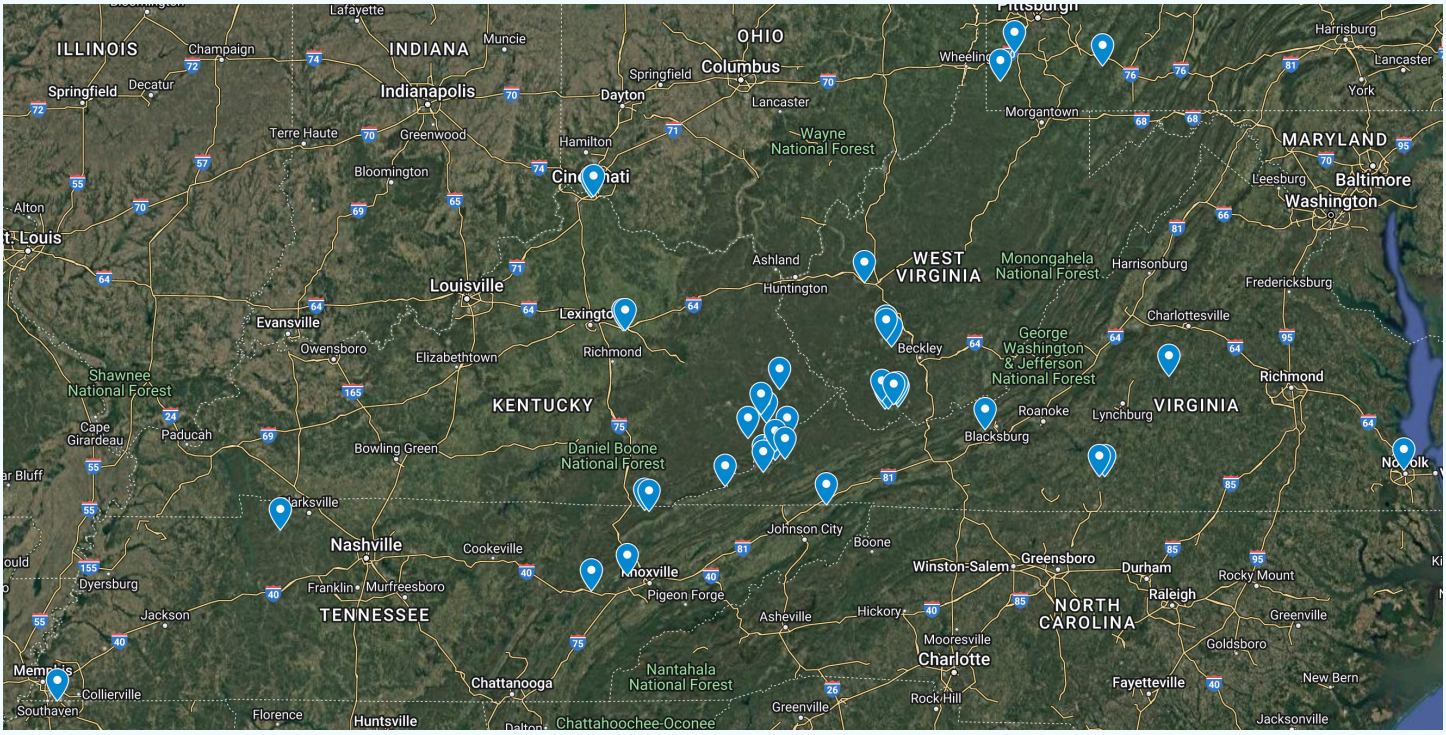
July 2025

In pursuit of a better understanding of air quality within our region, we are pleased to present the quarterly report for the Upper South and Appalachia Citizen Air Monitoring Project (USACAMP). Funded by an Environmental Protection Agency Enhanced Air Quality Monitoring for Communities grant, USACAMP focuses on the collection and analysis of air quality data through the use of PurpleAir monitors and other electronic monitoring devices.

This initiative engages communities across portions of Kentucky, Pennsylvania, Tennessee, Virginia, and West Virginia, deploying low-cost monitoring devices to facilitate the collection and dissemination of air quality data. The project aims to empower local residents, encourage dialogue around public health and policy, and promote clean air and healthy communities through data transparency and community science.

The primary focus of the project is particulate matter (PM), particularly PM2.5 (fine particles) and PM10 (coarse particles), due to their well-documented health impacts, especially for vulnerable populations such as children, the elderly, and individuals with pre-existing conditions. Data collected in 2024 was analyzed against existing and revised National Ambient Air Quality Standards (NAAQS), with additional attention paid to pollutant spikes, long-term averages, and potential exceedances.

Community Partner Locations



About PurpleAir and Data Adjustments

PurpleAir monitors use laser-based sensors to estimate the size and concentration of airborne particulate matter. These affordable, internet-connected devices make air quality data more accessible, especially in underserved areas.

However, raw PurpleAir data is known to overestimate PM2.5 concentrations. As a result, USACAMP has adopted a correction formula developed by Barkjohn et al. (2021), applying it uniformly to all PM2.5 data for improved alignment with Federal Reference Monitors (FRMs).

Corrected PM2.5 = 0.38 × PA + 2.94

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

In this equation, PA refers to the PM2.5 concentration reported directly by the PurpleAir sensor.

Regulatory Overview

This report references the following EPA National Ambient Air Quality Standards for particulate matter:

- **24-hour PM10: 150 $\mu g/m^3$**
- **24-hour PM2.5: 35 $\mu g/m^3$ (based on the 98th percentile average**
- **Annual PM2.5: 9 $\mu g/m^3$ (updated in 2024 from 12 $\mu g/m^3$)**

Due to the multi-year nature of NAAQS compliance calculations, direct exceedance determination is not always possible. Instead, this report provides metrics and visuals that mimic NAAQS methodologies to give insight into likely patterns of exposure.

EPA Administrator Lee Zeldin has announced that the agency will reconsider the standards for PM 2.5 as part of a broad deregulatory agenda. At this time, the applicable standards are as they appear above, but in the coming months, EPA is likely to commence rule-making procedures to change the annual and/or 24-hour standards for this pollutant, making these standards less stringent.

Low-cost air quality sensors, such as those produced by PurpleAir, have expanded access to fine particulate matter (PM2.5) monitoring, particularly in underserved or rural areas. However, the raw measurements produced by these sensors often require adjustment to ensure comparability with

The first model tested applies a linear transformation developed by Barkjohn et al. (2021), which adjusts for the typical overestimation of PM2.5 by PurpleAir sensors. This approach is expressed by the formula:

CPM2.5-transformed =
0.38 × Raw PM2.5 + 2.94

Our recent 2024 annual report noted this model appears to do well in the region, and is competitive with other popular Purple Air transformation models.

Data Overview

A few monitoring locations recorded slightly elevated PM2.5 concentrations this quarter, warranting continued observation. In Bristol, Tennessee, two separate monitoring sites exhibited quarterly PM2.5 averages that were modestly higher than their historical baselines. This may reflect increased local activity, seasonal atmospheric conditions, or evolving pollution sources in the area.

Similarly, the monitor in Beckley, West Virginia, showed a slight uptick in PM2.5 levels compared to previous quarters. While these concentrations are just above the current regulatory thresholds, however, those thresholds require a 3 years worth of data. We will continue to monitor these sites to see if the trends continue.

Additionally, several monitors across the network reported unusually high PM10 readings. Upon review, these anomalies appear to stem from non-atmospheric interference—most likely spiderweb obstructions or other environmental contamination of the sensor inlets. We are actively working with community partners to investigate and clean affected sensors, and will re-evaluate these data once the issues are resolved to ensure the accuracy of future reporting.

Community Spotlight: Institute Pinewood West Dunbar Sub Area Planning Committee

Kanawha Valley, VA

In the Kanawha Valley of West Virginia, air pollution associated with the chemical industry has long been a cause of concern for local residents. Through the Upper South and Appalachia Citizen Air Monitoring Project, Appalachian Voices has partnered with the Institute Pinewood West Dunbar Sub Area Planning Committee to place four particulate matter monitors at homes within one mile of chemical plants, near to the campus of West Virginia State University.

Tanks from Institute's Dow Chemical plant peek through the trees behind West Virginia State University's campus. Photo by Joe Severino.

West Virginia Citizen Action Group, a grassroots organization that has been building community power and mobilizing grassroots engagement in civic processes and public policy matters since 1974, is also conducting its own air monitoring program in the area, likewise utilizing PurpleAir monitors. This organization, or "CAG" as it is colloquially known, has deployed 41 PurpleAir monitors statewide, with 15 in the Kanawha Valley, and plans to install 30 more across West Virginia over the summer.

Citizen air monitoring faces challenges in places like West Virginia. PurpleAir sensors cost nearly $300 and require internet access, which can be a major barrier in a rural state with one of the lowest median incomes in the nation.

Powerful industry groups are also pushing back. The West Virginia Manufacturers Association worked with the Chemours Company, a chemical company operating nearby in Belle, to lobby to pass legislation preventing community-collected data from being used in lawsuits or regulatory actions. The bill failed to pass in 2024, with some lawmakers citing concerns that the attempt to bar courts from considering community air monitoring data violates separation of powers between the legislative, executive, and judicial branches of government. In 2025, proponents of the anti-community air monitoring bill agreed to drop the provision restricting courts, but the legislation failed to pass for the second year in a row.

In nearby Institute, local resident and advocate Kathy Ferguson has described her efforts in recent years to inform the area's newer residents of the risk of air pollutants. Over the past couple of decades, the town has lost much of the "old guard," Ferguson says, and new families have moved in without knowing much about Institute's history. She said that concerns about the environment can be tough to relay to working-class families who are just trying to put food on the table. While people generally appreciate Ferguson's efforts, most people simply do not have the capacity to be more involved.

Institute is the only majority-Black census tract in all of West Virginia and has long been exposed to disproportionately high levels of air and water pollution due the presence of the Dow Chemical plant, formerly known as

the Union Carbide Plant. The risk of cancer near the plant is 36 times higher than the U.S. Environmental Protection Agency's acceptable level, according to a ProPublica analysis. Other health issues are also prevalent in Institute. Ethylene oxide, a cancer-causing chemical used by the Dow Chemical plant to make antifreeze, has been linked to increased risk of diseases like breast cancer, leukemia and lymphoma. Short-term exposure can lead to respiratory and skin irritation.

In 1985, more than 100 residents near the then-Union Carbide plant were treated for eye, throat, and lung irritation after a gas leak that garnered national attention. It came on the heels of a Union Carbide plant gas leak in Bhopal, India, just months before, which killed more than 2,000 people. Pam Nixon, an Institute resident and former Department of Environmental Protection employee, says her advocacy work in the region was the result of sickness caused by the 1985 leak.

Nixon named Kathy Ferguson's father, Warne Ferguson, and Mildred Holt as two community icons who were most essential to first bringing awareness to the environmental racism happening in Institute. Nixon says "the old guard" that came before her were principled advocates who championed their community throughout their lives, reminding naysayers that Institute was a thriving community and college town long before the Union Carbide plant moved in.

Younger generations are also taking up the cause. Ryan Kirkpatrick, 22, of Charleston, is an active community leader working with CAG, and a student at West Virginia State University. He became aware of the issue of air pollutants in Institute at a young age. He went door-to-door in the community conducting surveys about health outcomes, where he found that nearly every person either had cancer themselves, had a relative with cancer, or had a relative who had died in recent years of cancer.

Kirkpatrick's mother also suffers from Crohn's disease, which has been linked to chemical air pollutants. She attended an alumni event at West Virginia State University years ago to discover that a half-dozen classmates were also suffering from Crohn's disease. WVSU, a historically Black university, is adjacent to the chemical plant.

Kathy Ferguson and other advocates support legislation that would put a moratorium on new chemical or energy plants in Institute, arguing that addressing air quality and negative health outcomes from these plants is far more critical than any jobs a new facility would create. Additionally, Kirkpatrick believes financial compensation should be directed toward Institute residents who have suffered from cancers and other diseases linked to increased air pollution.

Citizen air monitoring projects like those executed by West Virginia Citizen Action Group, Appalachian Voices, and the Institute Pinewood West Dunbar Sub Area Planning Committee could become more important than ever in the Mountain State, as West Virginia Gov. Patrick Morrisey has deemed data centers the critical centerpiece of his economic development agenda. These data centers, which are largely unregulated and require copious amounts of energy and fresh water, release air pollutants into nearby neighborhoods.

This text was adapted from an article by Joe Severino for The Appalachian Voice.

VOC and Gas Pollutant Monitoring

In addition to measuring particulate matter, USACAMP's two SENSIT RAMP monitors—located in Bristol, Virginia, (unit 1145) and Bristol, Tennessee, (unit 1144)—captured hourly concentrations of **sulfur dioxide (SO_2), volatile organic compounds (VOCs), ammonia (NH_3), hydrogen sulfide (H_2S), and carbon monoxide (CO)**.

These sensors use electrochemical cells and a photo-ionization detector to identify and quantify low-concentration gases. Data was evaluated using public health and occupational exposure standards from multiple agencies, including the EPA's National Ambient Air Quality Standards (NAAQS), the Occupational Safety and Health Administration (OSHA), and the Mine Safety and Health Administration (MSHA).

Measurements from both sites show that most pollutants remained within generally acceptable levels throughout the year. We continue to have some problems with our VOC sensors, but the unit for 1145 has been replaced and will be reflected in our report, Unit 1144 sensor has been replaced, and was showing data for this quarter but once again is in need of repair. We are working with HOPE for Bristol to get the VOC sensors back online and working.

All other pollutants—NH_3, H_2S, and CO—remained well below their respective regulatory thresholds at both monitoring locations. VOC readings were assessed against OSHA's benzene exposure limit, which serves as a conservative benchmark for potential health concern. In this quarter both sensors for VOC were down for maintenance, one has been replaced and the other is in the process of being replaced.

A description of the measured gases and table of relevant standards is included below.

- **Volatile organic compounds (VOCs)** are a category of organic chemicals characterized by high vapor pressures at room temperature; these compounds easily transition into gaseous states under normal atmospheric conditions. Exposure to high levels of some VOCs can irritate the eyes and throat, cause nausea and trouble breathing, and is associated with damage to the central nervous system and other organs, according to the American Lung Association. Being a category of gases, they can not be directly compared to any one standard. For the purpose of this project, the performance of the SENSIT RAMP VOC sensor is specifically compared to OSHA's exposure limits for benzene.
- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by burning fossil fuels. It is harmful because it can prevent the blood from carrying oxygen to cells, tissues, and organs.
- **Ammonia (NH3)** is a colorless gas with a pungent odor, commonly used in industrial and cleaning products. It is a common toxicant that originates from wastes, fertilizers, and natural processes.
- **Sulfur Dioxide (SO2)** is a gas produced by industrial processes, especially the burning of fossil fuels containing sulfur. It can cause respiratory problems and contribute to the formation of acid rain.
- **Hydrogen Sulfide (H2S)** is a colorless gas known for its characteristic foul odor of rotten eggs. It is toxic and can cause respiratory distress and other health issues at high concentrations.

Chemical Concentration Limits

Ammonia	NH_3	OSHA sets a permissible exposure limit (PEL) of 50 parts per million (ppm) as an 8-hour time-weighted average (TWA).
Volatile organic compounds	VOCs (benzene)	OSHA sets a PEL for benzene of 1 ppm as an 8-hour TWA.
Sulfur dioxide	SO_2	The EPA NAAQS for SO2 specifies that the highest observed 1-hour SO2 concentration should not exceed 75 parts per billion (ppb) more than once per year.*
Carbon monoxide	CO	The EPA NAAQS limits CO to 9 ppm over an 8-hour period and 35 ppm over a 1-hour period.
Hydrogen sulfide	H_2S	MSHA imposes a ceiling of 20 ppm to prevent chronic effects, and a short-term exposure limit (STEL) of 50 ppm for up to 10 minutes to allow for brief peak exposures without severe health risks.

VOC and Other Pollutant Data

All SENSIT RAMP data was compared against the relevant standards. No exceedances were indicated for any of the parameters measured. The table and graphs below show the highest concentrations detected by each of the SENSIT RAMP devices, utilizing calculations as described in the regulations. Sulfur dioxide is shown with the second-highest max value for the quarter, as the regulations require the highest values to be excluded from calculations.

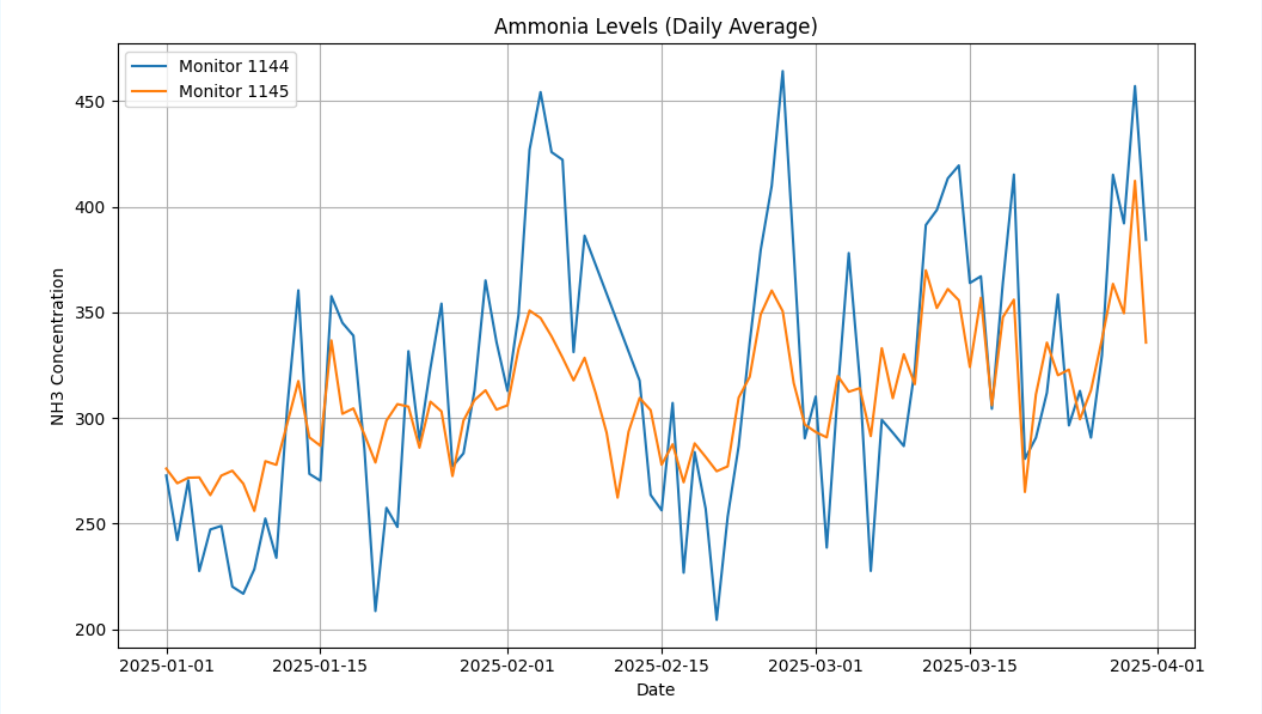
SENSIT RAMP Data

Parameter	Metric Type	Standard	1144	1145
Ammonia (NH3)	Max 8-Hour Weighted Avg	50 ppm (8-hr TWA OSHA)	0.65	0.29
Carbon Monoxide (CO)	Max 1-Hour Avg	35 ppm (1-hr NAAQS)	0.566	0.33
Carbon Monoxide (CO)	Max 8-Hour Avg	9 ppm (8-hr NAAQS)	0.903	0.493
Hydrogen Sulfide (H2S)	Max Concentration	50 ppm (10-min MSHA)	0.052	0.063
Sulfur Dioxide (SO2)*	Max Daily Avg	0.14 ppm (24-hr WHO)	0.036	0.034
Sulfur Dioxide (SO2)	Max Hourly Avg	0.075 ppm (1-hr NAAQS)	0.058	0.055
Volatile Organic Compounds (VOC)	Max 15-Min Avg	5 ppm (15-min STEL OSHA)	N/A	N/A
Volatile Organic Compounds (VOC)	Max 8-Hour Avg	1 ppm (8-hr TWA OSHA)	0.4823778001	0

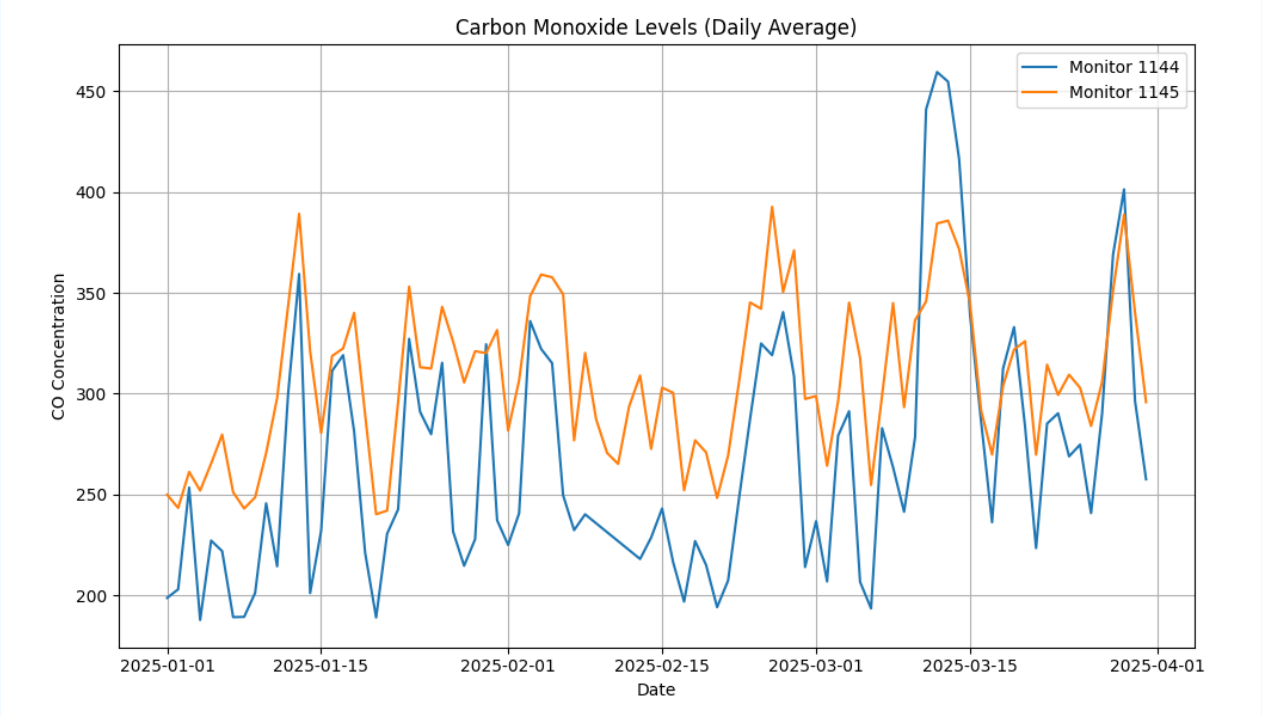
*National primary ambient air quality standards require three years' worth of data for calculations used to determine an exceedance. That said, we do expect exceedances of SO2 will be likely, given the data we have thus far. But this data will also be averaged with data for other years, so it is possible that the average value could remain in compliance.

Graphs of data from the SENSIT RAMPs are shown on the following pages.

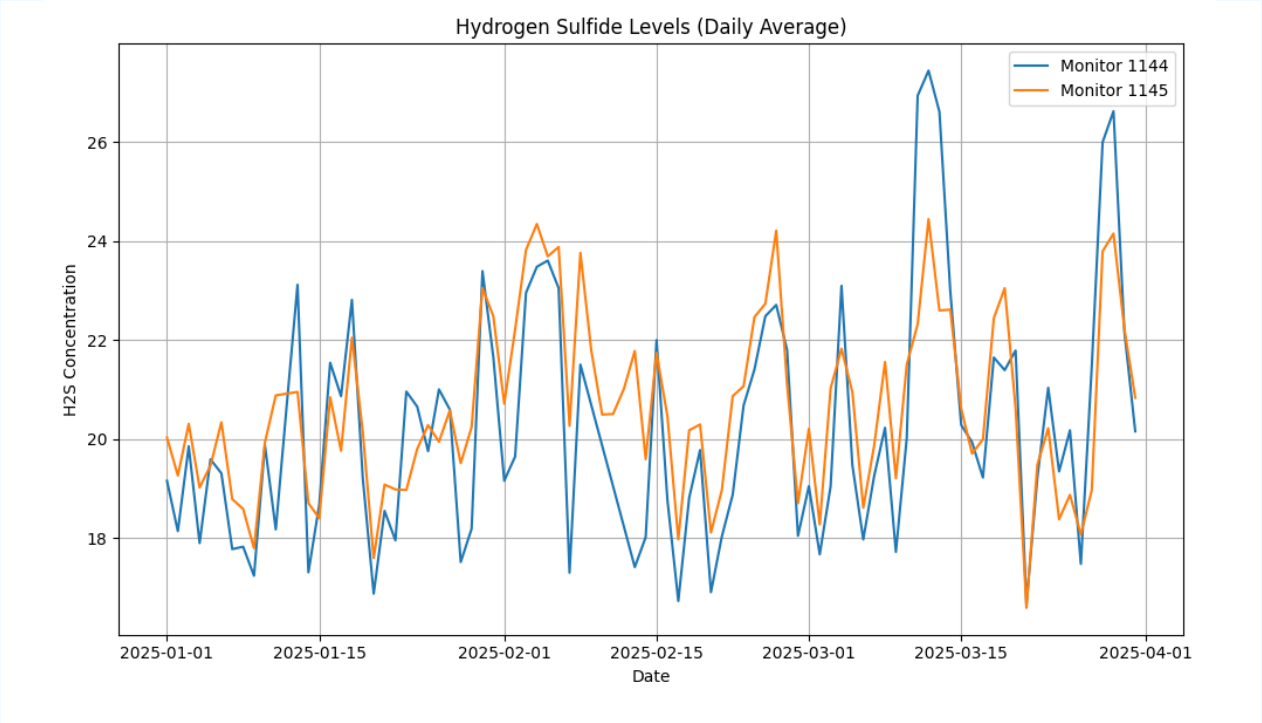
Ammonia: Bristol Virginia and Tennessee



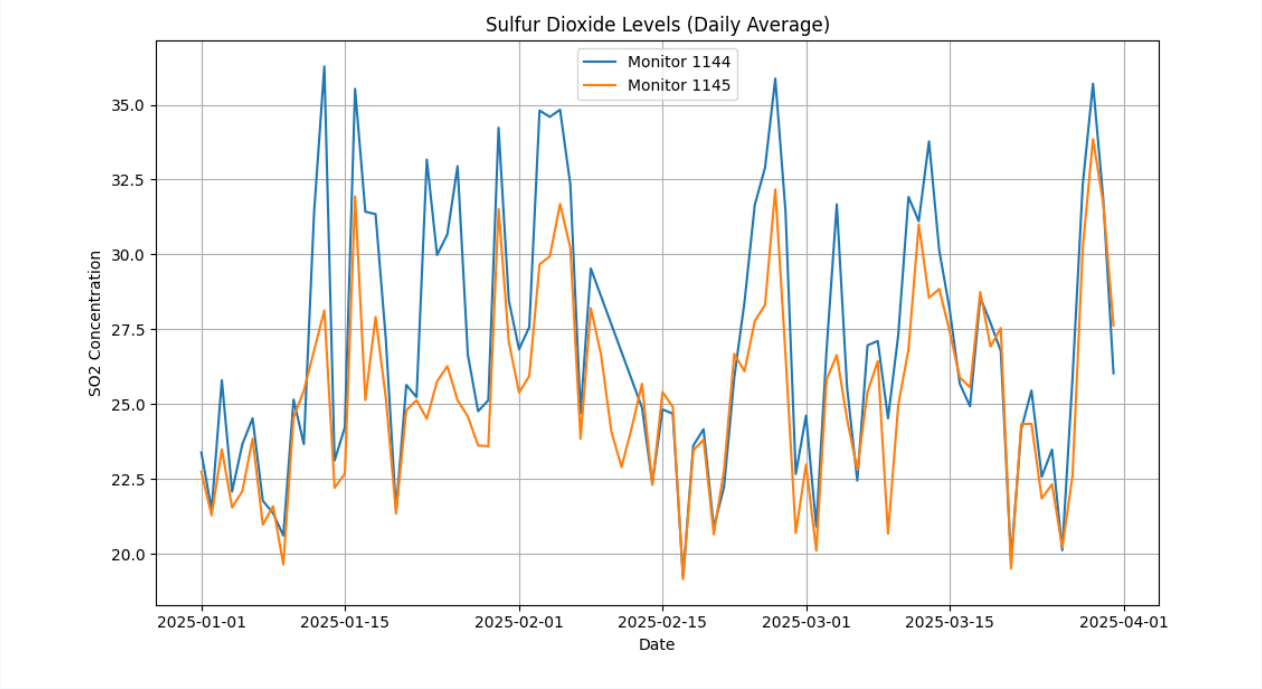
Carbon Monoxide: Bristol Virginia and Tennessee



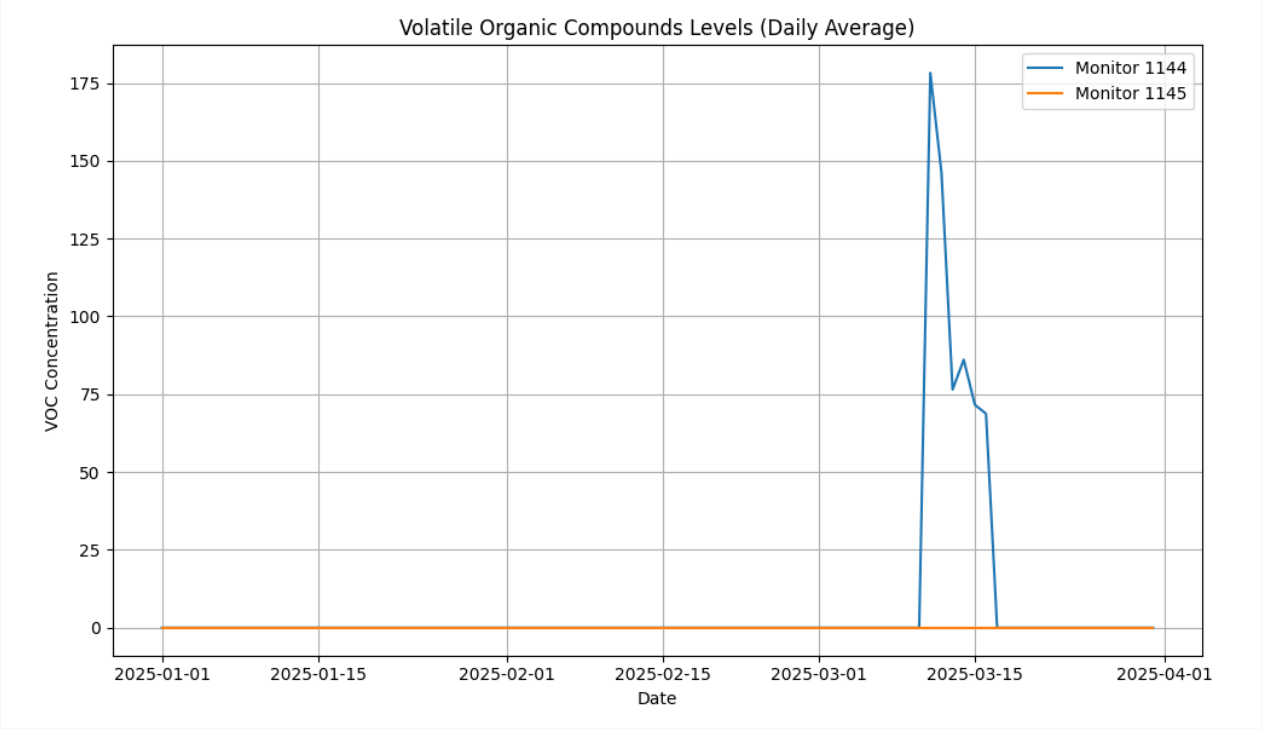
Hydrogen Sulfide: Bristol Virginia and Tennessee



Sulfur Dioxide: Bristol Virginia and Tennessee



Volatile Organic Compounds: Bristol Virginia and Tennessee



Note: Monitor 1144 and 1145 sensors are failing to report VOC data. The sensors are being replaced.

SENSIT RAMP monitors.

Future Outlook and Next Steps

The Project Quarter 6 USACAMP dataset provides another valuable year of air quality data from rural and underserved communities across Central Appalachia and the Upper South. With growing sensor coverage, expanded analysis methods, and strong community partnerships, we look forward to improving our technical evaluations and continuing this work throughout the year and serving the community.

Questions and data requests can be directed to Willie Dodson at willie@appvoices.org or Matt Hepler at matt.hepler@appvoices.org.

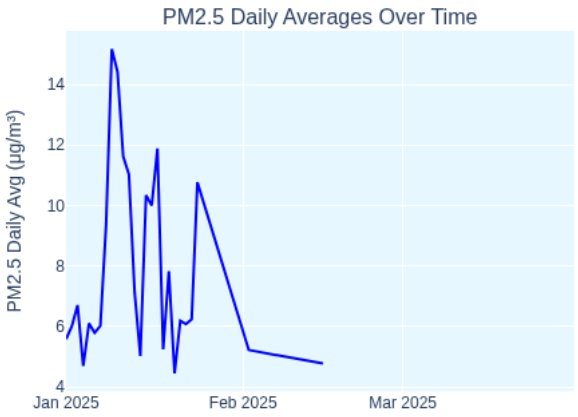
Photo: Michael Swensen for EarthJustice

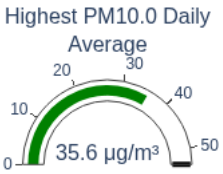
Appendix A

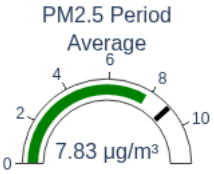
Quarterly PM2.5 and PM10 Trends

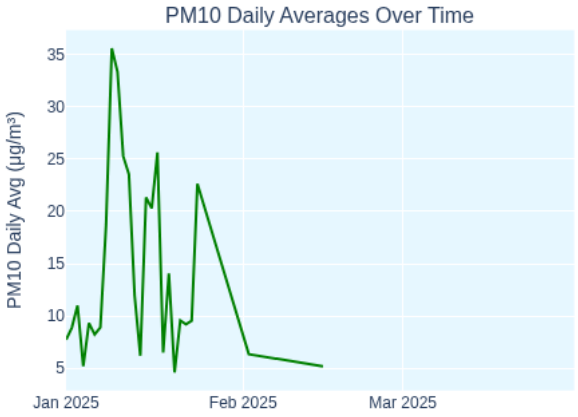
KENTUCKY

2025-01-01 to 2025-03-31 Report for Sensor 184511: AV-22, Clark_County, KY

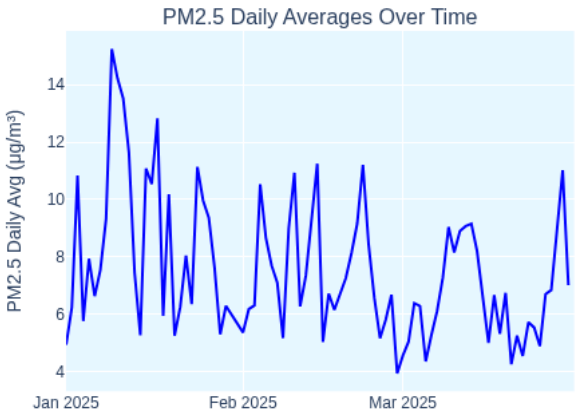


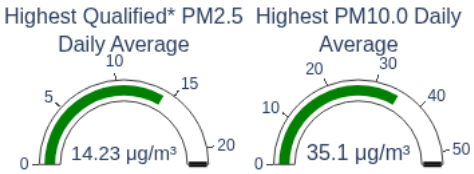


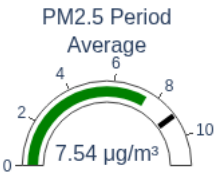


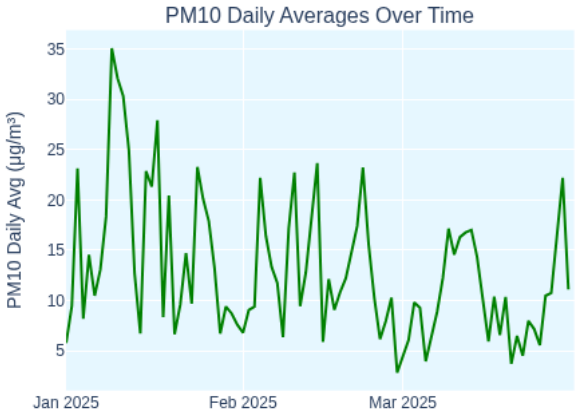


2025-01-01 to 2025-03-31 Report for Sensor 184505: AV-40, Clark_County, KY

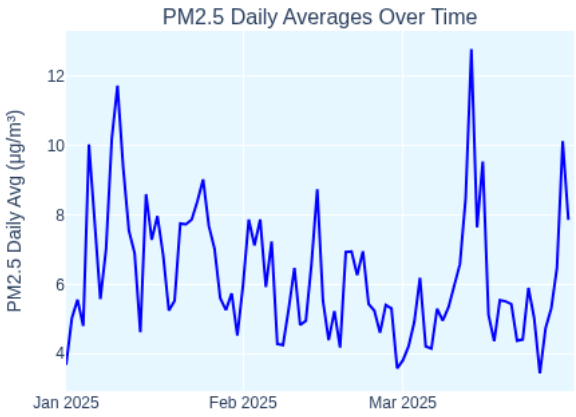


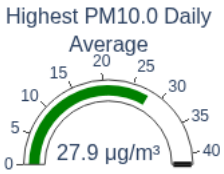


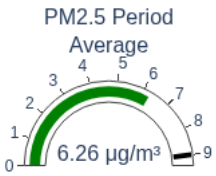


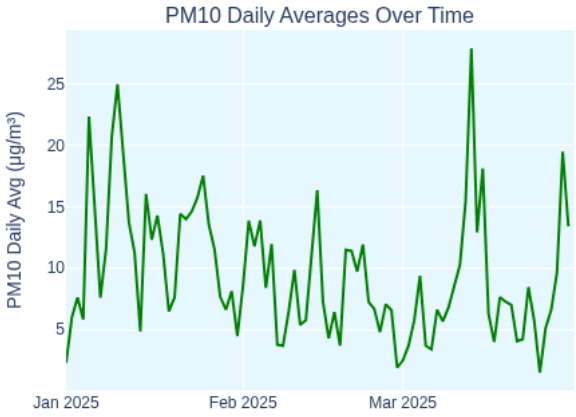


2025-01-01 to 2025-03-31 Report for Sensor 184563: AV-26, Floyd_County, KY









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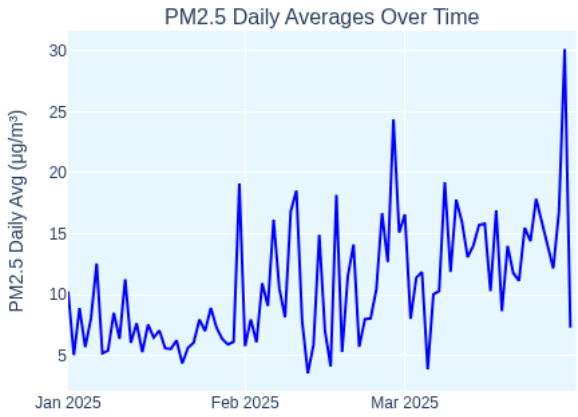
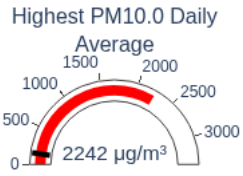
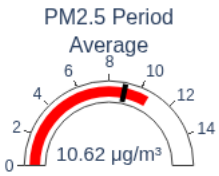
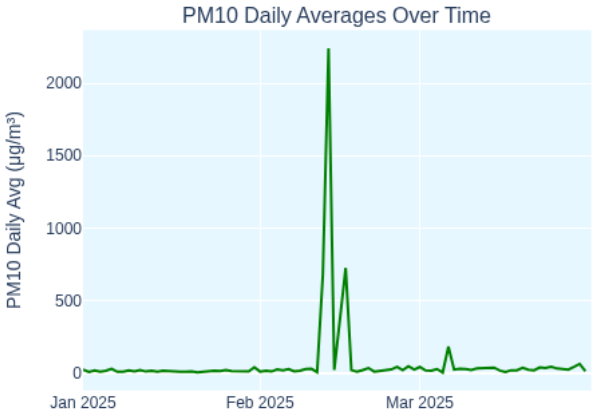


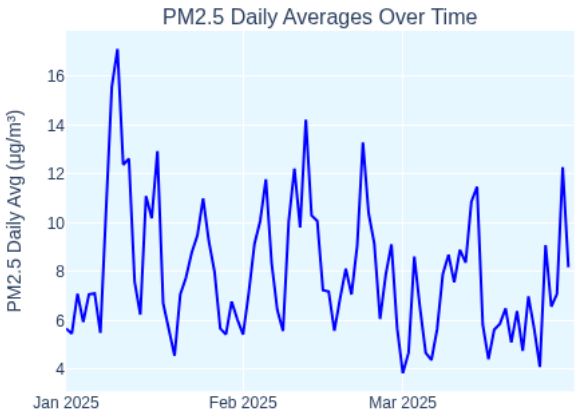


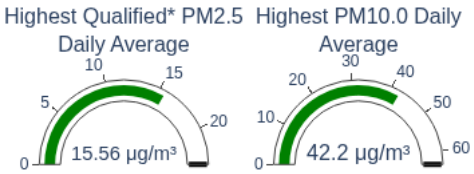


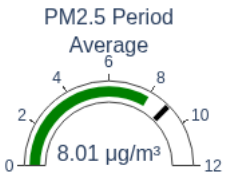


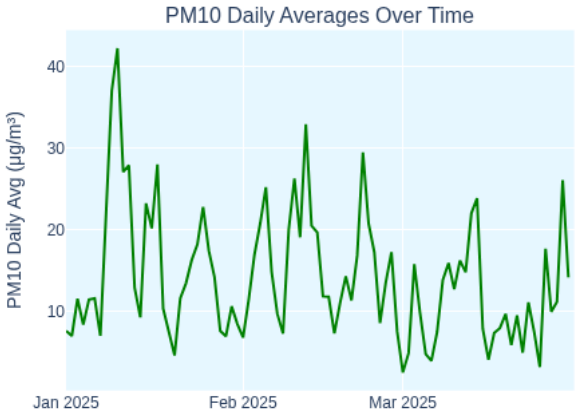
Days PM2.5 Exceeded	Days PM10.0 Exceeded
	2025-02-12
	2025-02-13
	2025-02-15
	2025-02-16
	2025-03-06

2025-01-01 to 2025-03-31 Report for Sensor 183761: AV-15, Kenton_County, KY

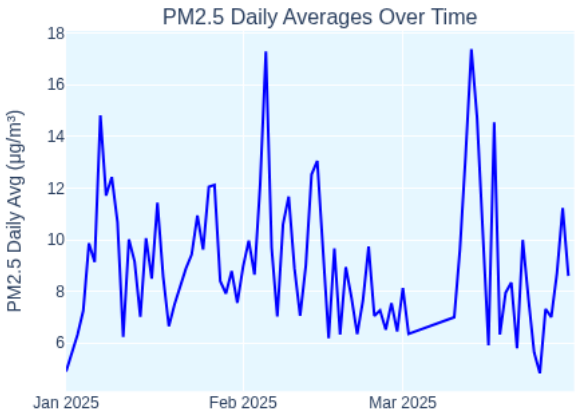


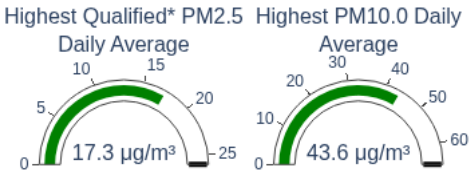


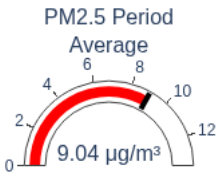


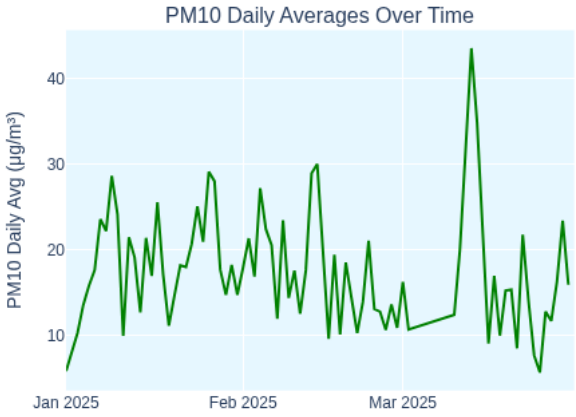


2025-01-01 to 2025-03-31 Report for Sensor 211965: AV-70, Knott_County, KY



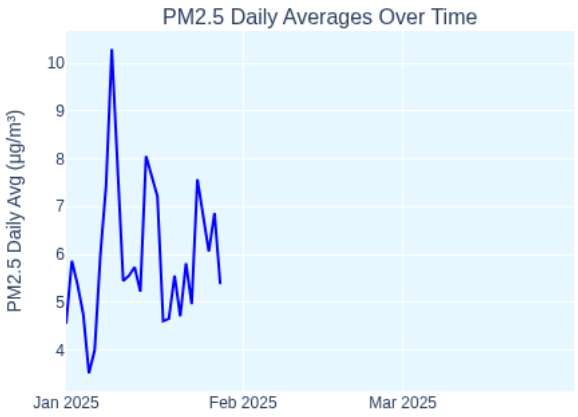


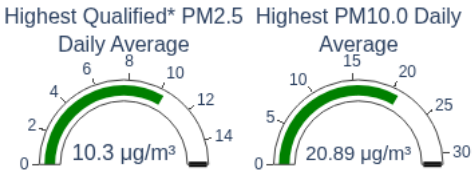


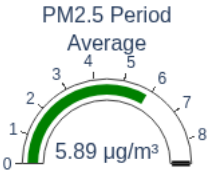


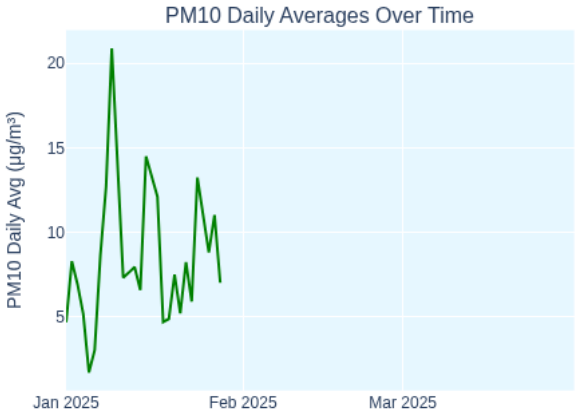
2025-01-01 to 2025-03-31 Report for Sensor 184537: AV-27, Letcher_County, KY

Note: This report has been flagged as possibly returning insufficient data.



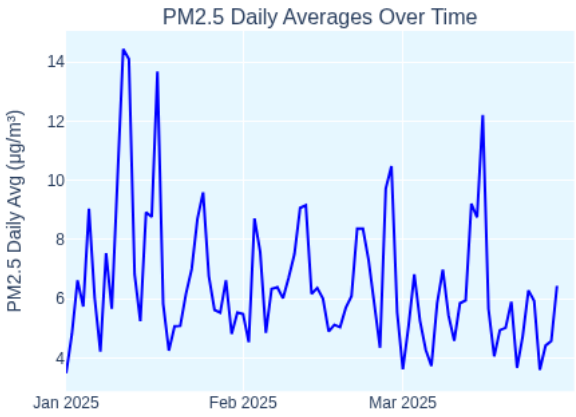


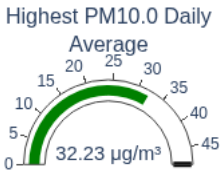


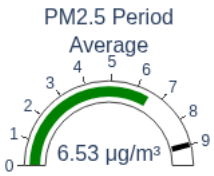


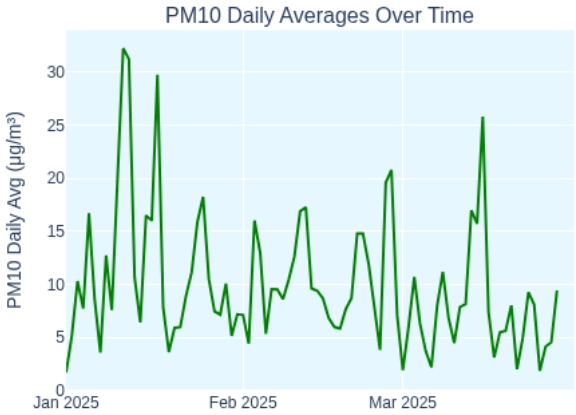
PENNSYLVANIA

2025-01-01 to 2025-03-31 Report for Sensor 183751: AV-12, Greene_County, PA

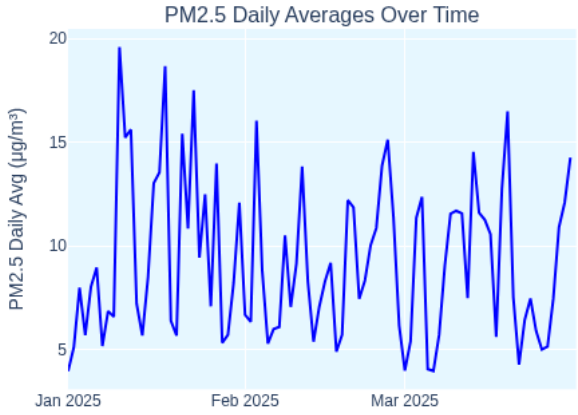


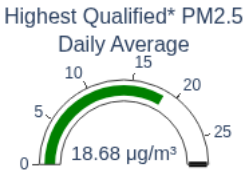


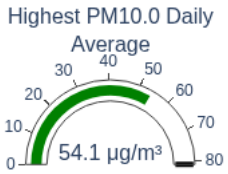


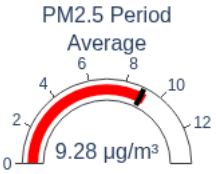


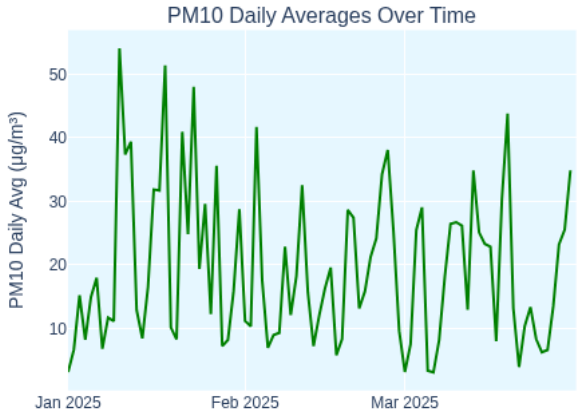
2025-01-01 to 2025-03-31 Report for Sensor 183735: AV-09, Westmoreland_County, F



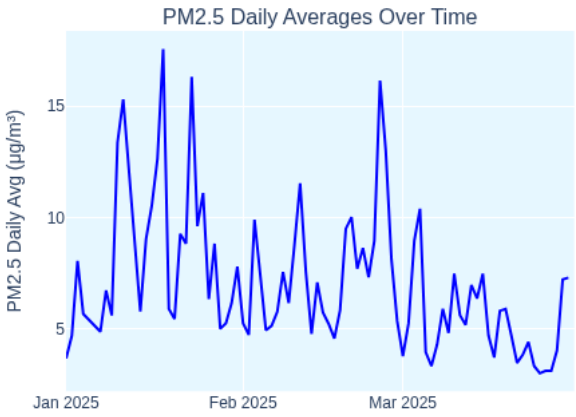


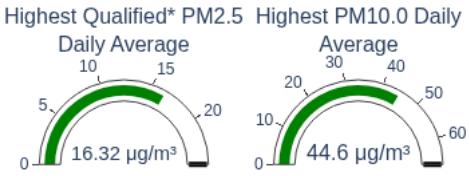


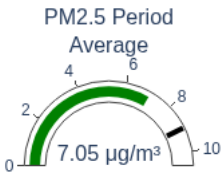


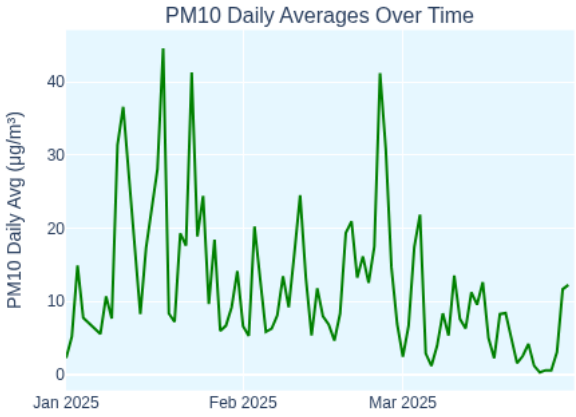


2025-01-01 to 2025-03-31 Report for Sensor 183811: AV-10, Westmoreland_County, F



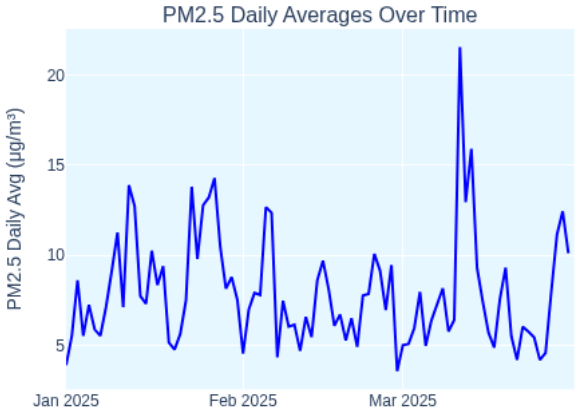


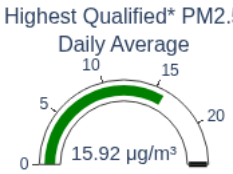


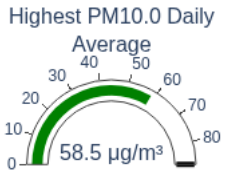


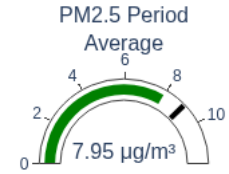
TENNESSEE

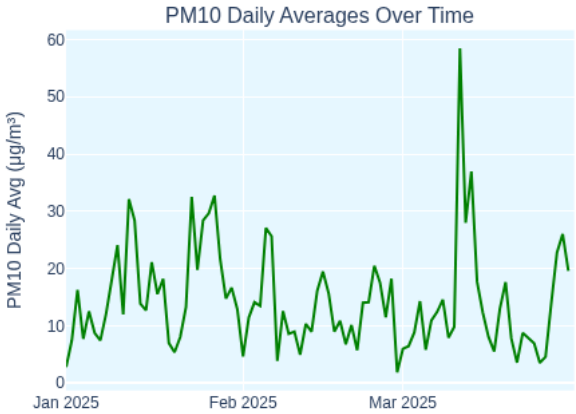
2025-01-01 to 2025-03-31 Report for Sensor 196109: AV-49, Anderson_County, TN



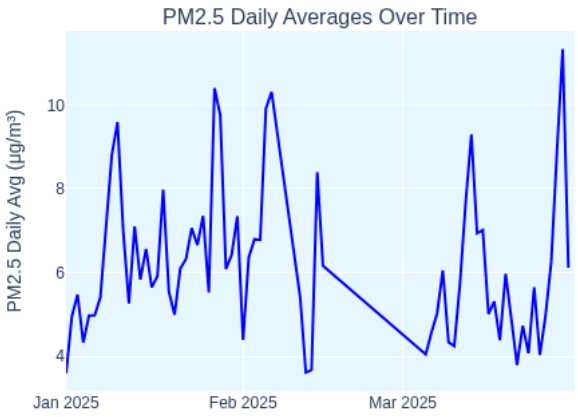


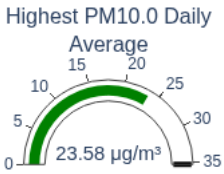


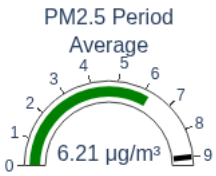


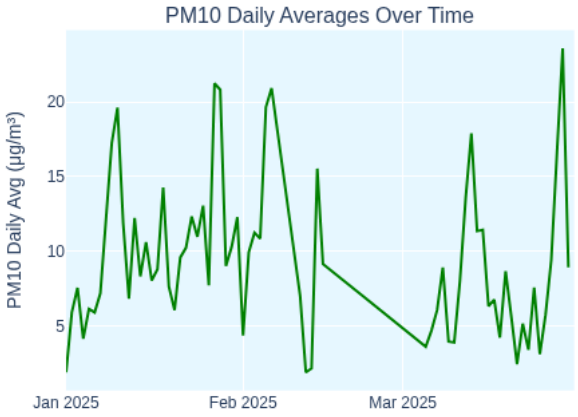


2025-01-01 to 2025-03-31 Report for Sensor 198977: AV-45, Cocke County, TN

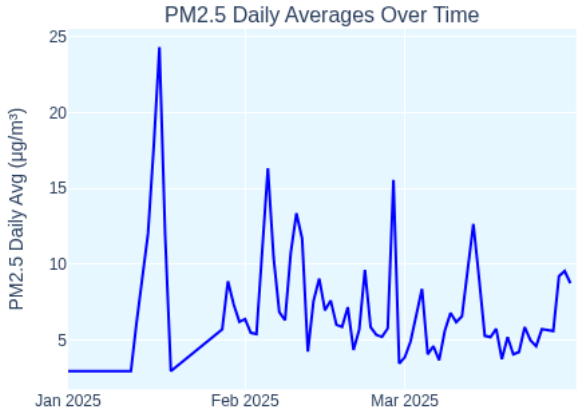


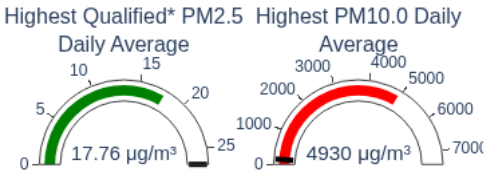


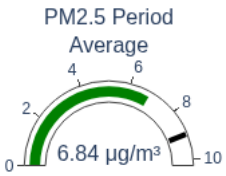


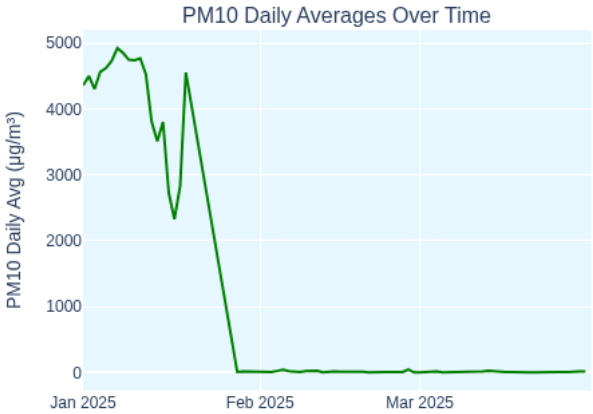


2025-01-01 to 2025-03-31 Report for Sensor 184531: AV-29, Montgomery_County, TN



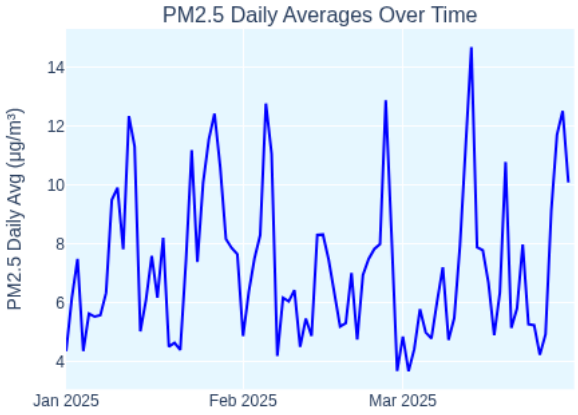


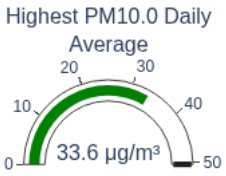


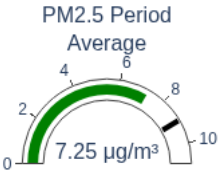


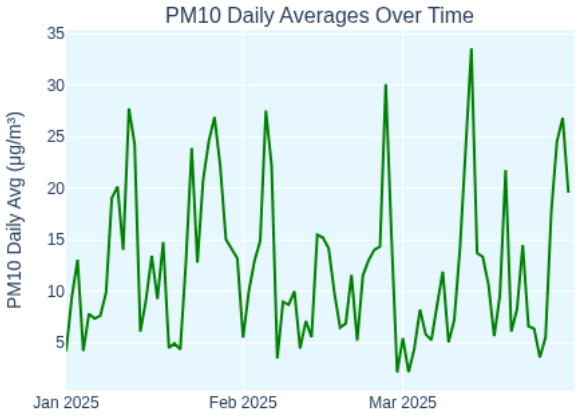
Days PM2.5 Exceeded	Days PM10.0 Exceeded
	2025-01-01
	2025-01-02
	2025-01-03
	2025-01-04
	2025-01-05
	2025-01-06
	2025-01-07
	2025-01-08
	2025-01-09
	2025-01-10
	2025-01-11
	2025-01-12

2025-01-01 to 2025-03-31 Report for Sensor 184349: AV-30, Roane_County, TN

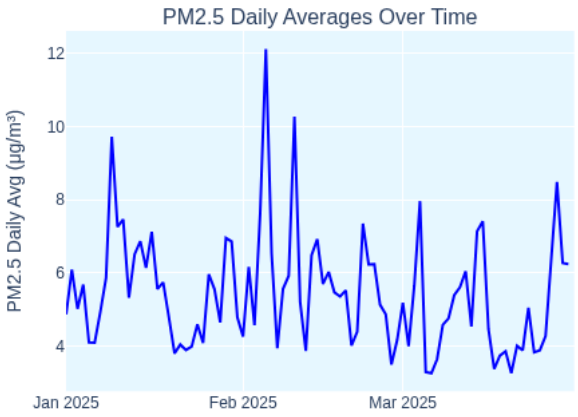


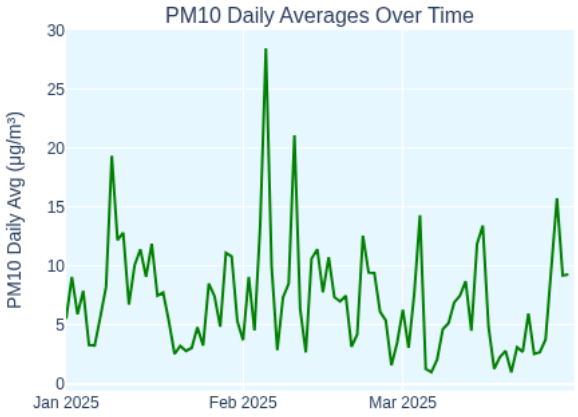


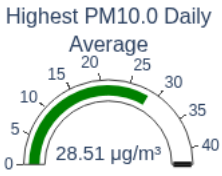


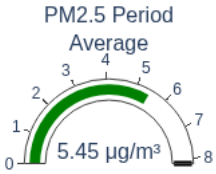


2025-01-01 to 2025-03-31 Report for Sensor 212013: AV-63, Shelby_County, TN

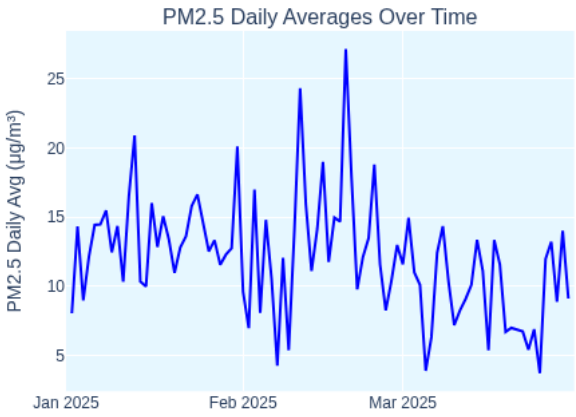


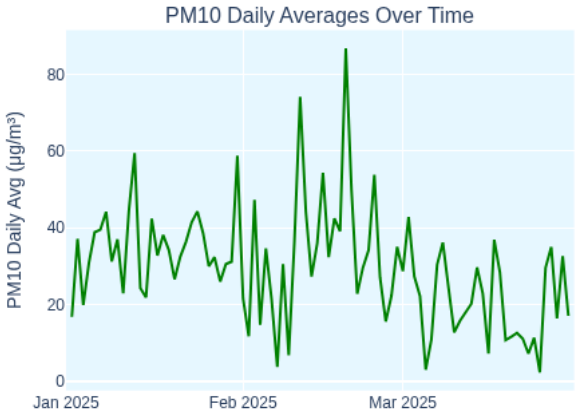


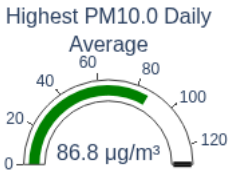


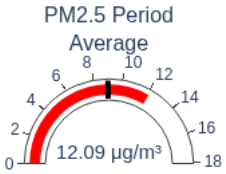


2025-01-01 to 2025-03-31 Report for Sensor 199001: AV-59, Sullivan_County, TN



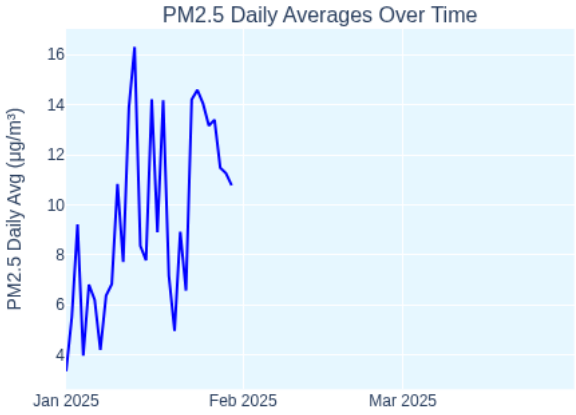


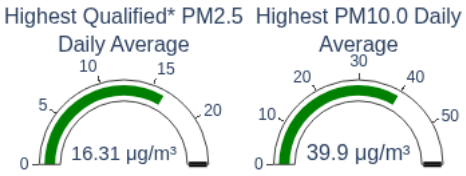


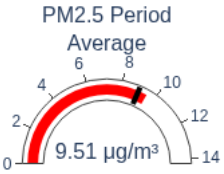


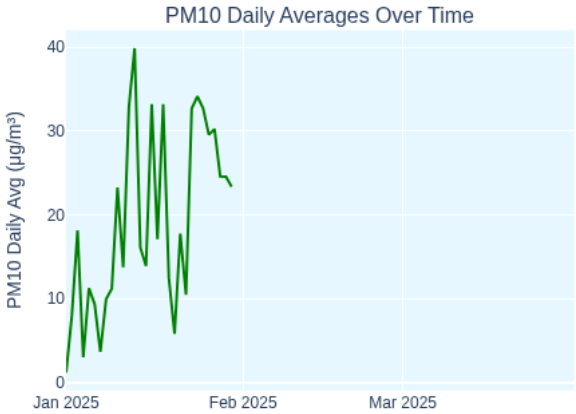
2025-01-01 to 2025-03-31 Report for Sensor 198979: AV-60, Sullivan_County, TN

Note: This report has been flagged as possibly returning insufficient data.



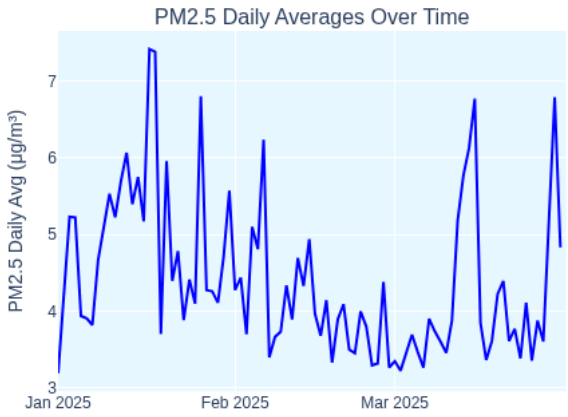


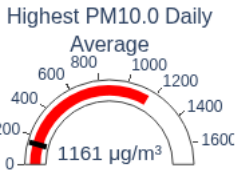


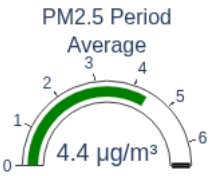


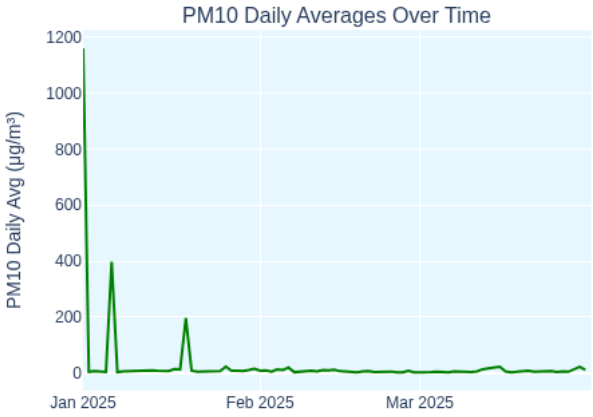
VIRGINIA

2025-01-01 to 2025-03-31 Report for Sensor 198969: AV-55, Buchanan_County, VA



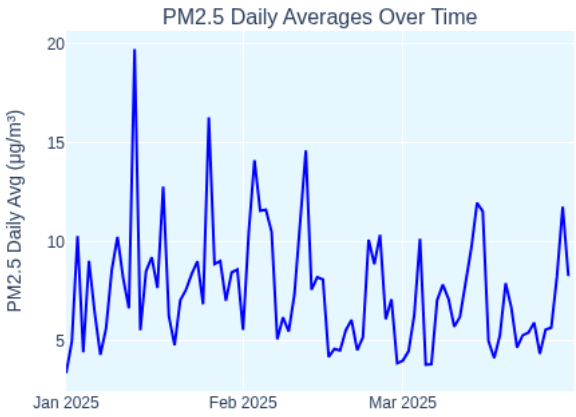


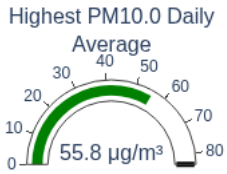


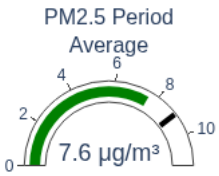


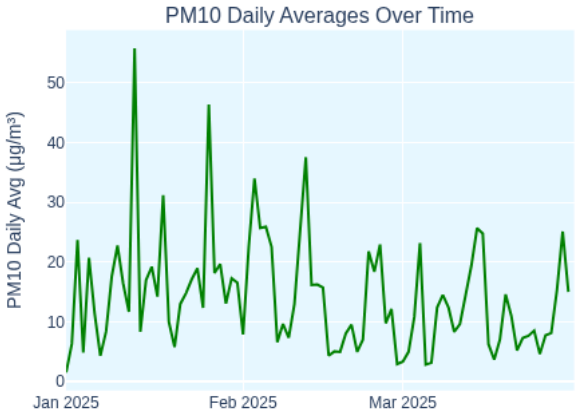
Days PM2.5 Exceeded	Days PM10.0 Exceeded
	2025-01-01
	2025-01-06
	2025-01-19

2025-01-01 to 2025-03-31 Report for Sensor 198281: AV-57, Buchanan_County, VA

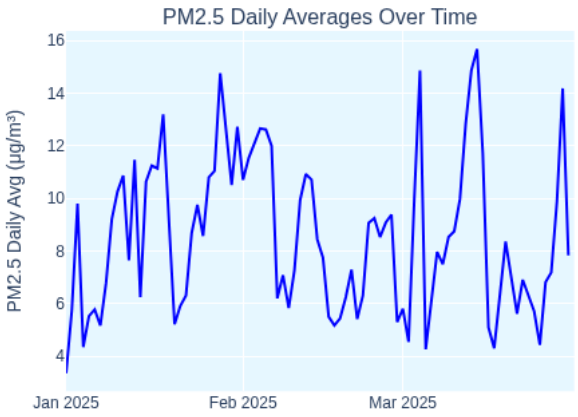


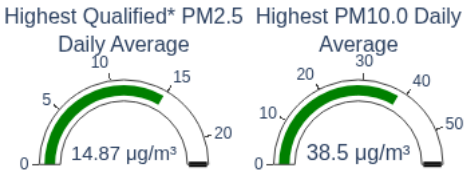


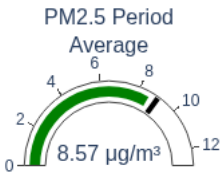


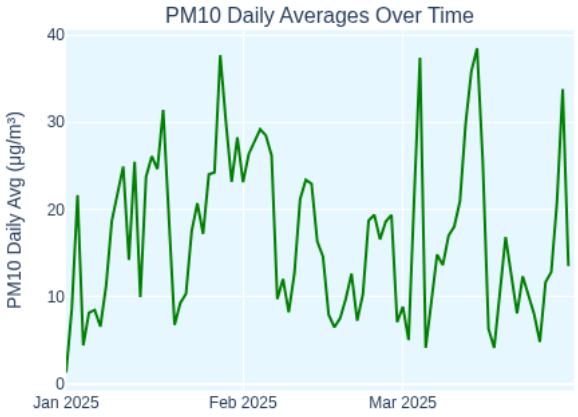


2025-01-01 to 2025-03-31 Report for Sensor 211973: AV-64, Buchanan_County, VA

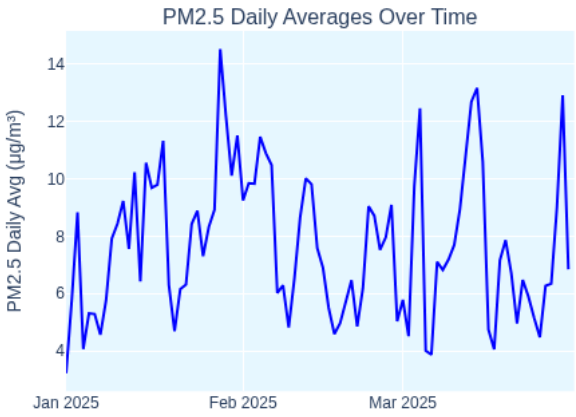


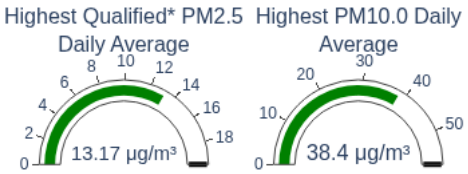


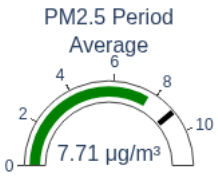


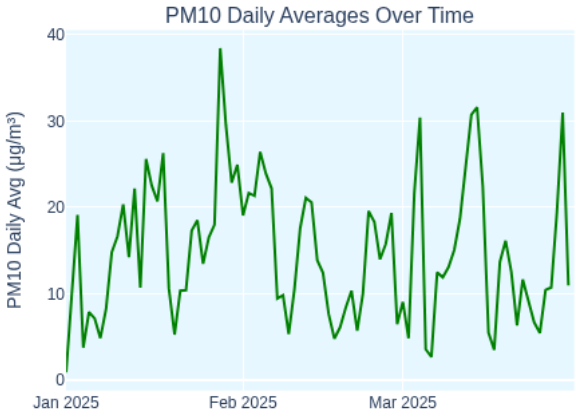


2025-01-01 to 2025-03-31 Report for Sensor 211937: AV-65, Buchanan_County, VA

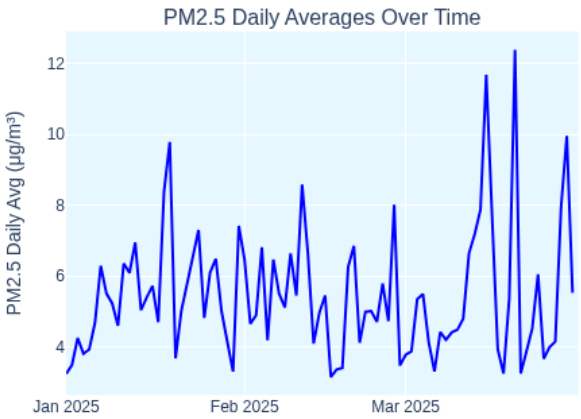


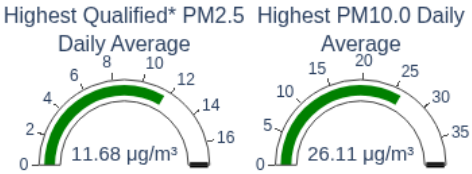


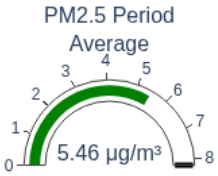


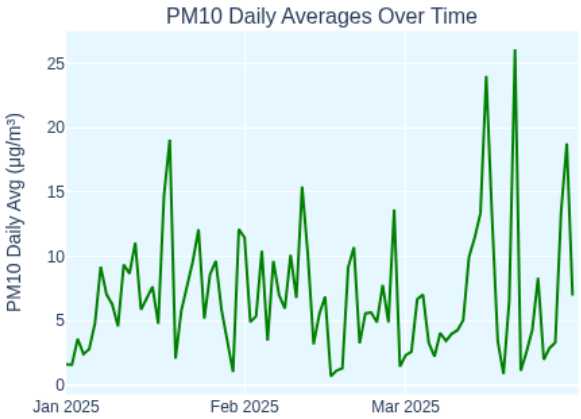


2025-01-01 to 2025-03-31 Report for Sensor 183737: AV-34, Buckingham_County, VA

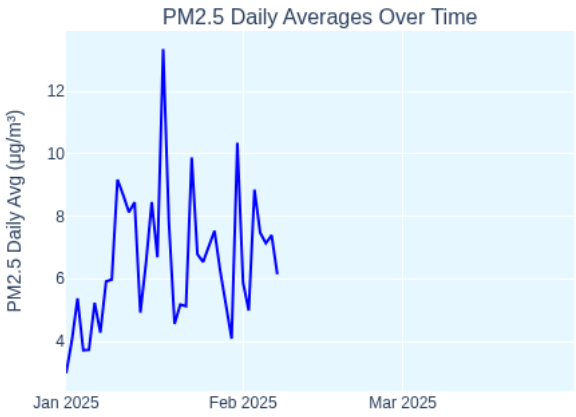


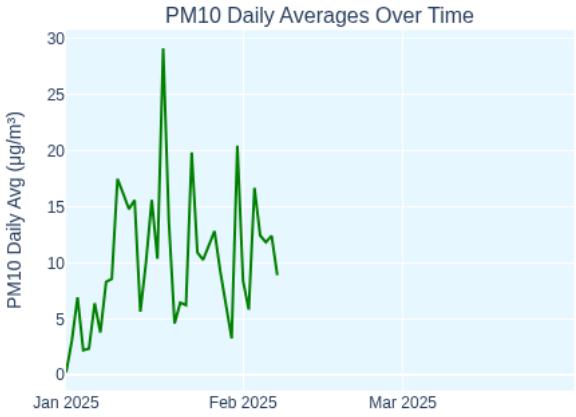


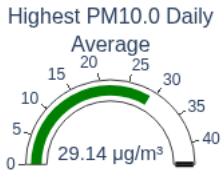


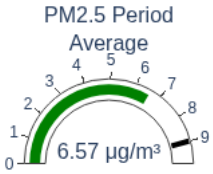


2025-01-01 to 2025-03-31 Report for Sensor 183743: AV-04, Montgomery_County, VA

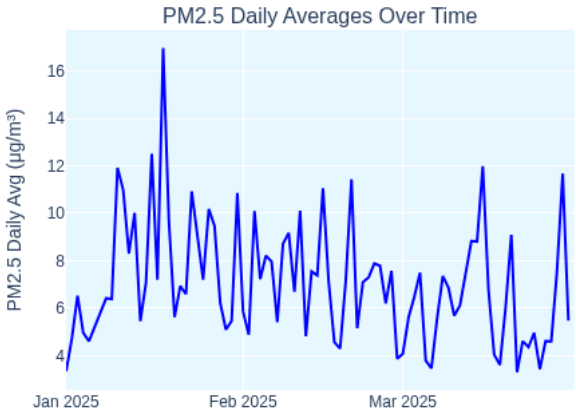


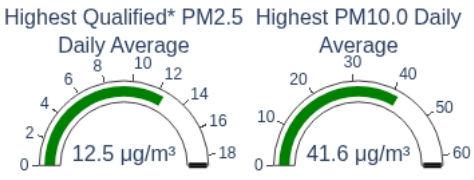


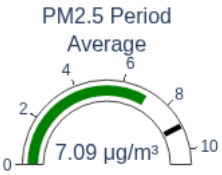


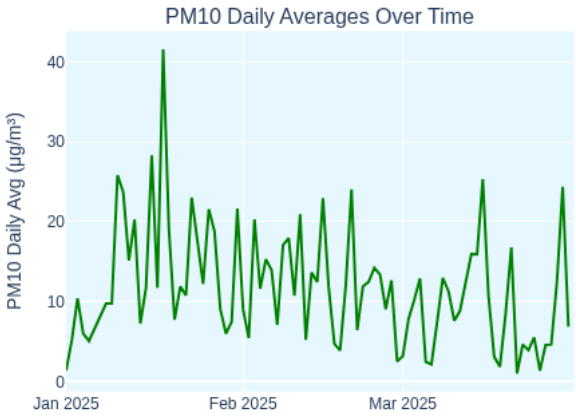


2025-01-01 to 2025-03-31 Report for Sensor 183813: AV-05, Montgomery_County, VA

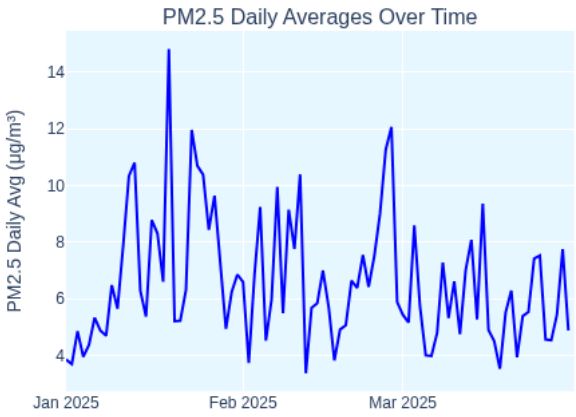


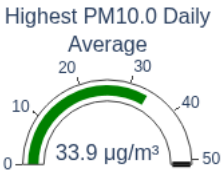


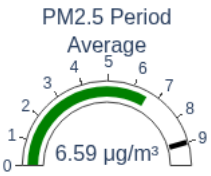


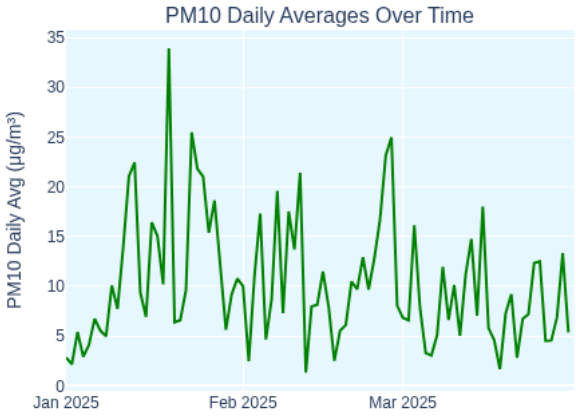


2025-01-01 to 2025-03-31 Report for Sensor 196167: AV-47, Norfolk, VA

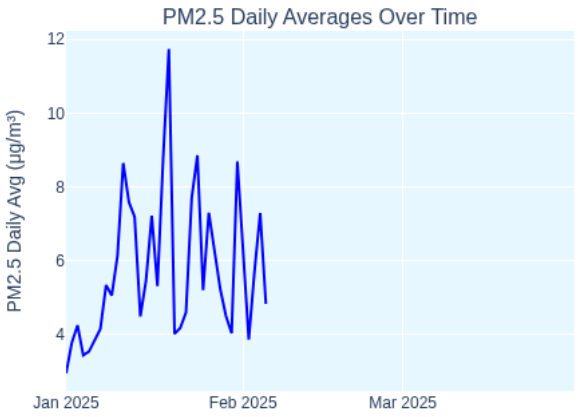


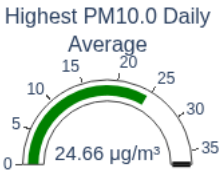


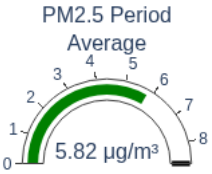


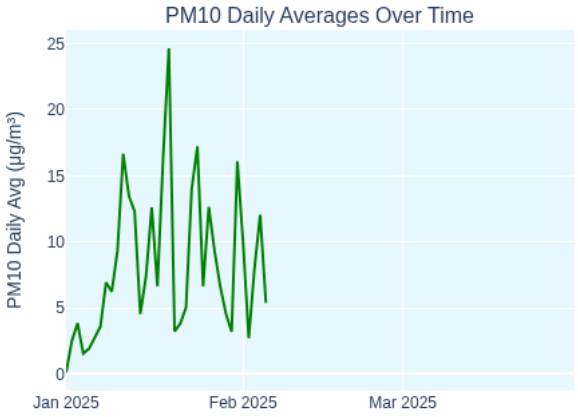


2025-01-01 to 2025-03-31 Report for Sensor 184567: AV-31, Pittsylvania_County, VA

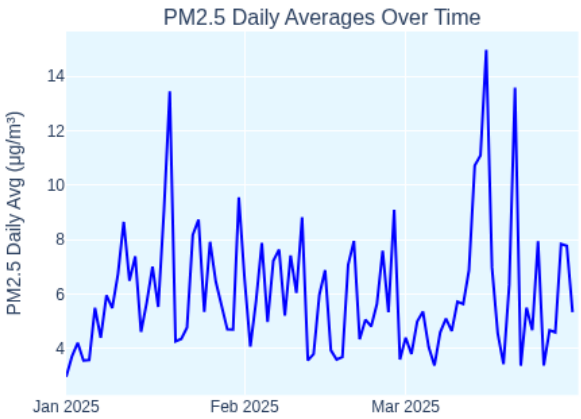


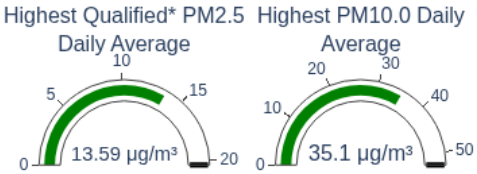


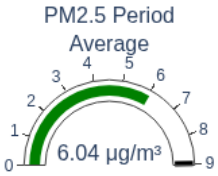


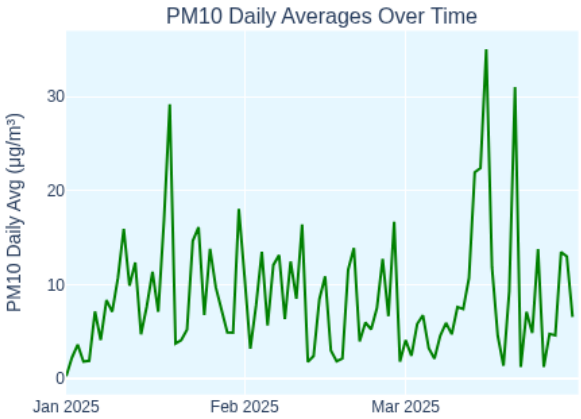


2025-01-01 to 2025-03-31 Report for Sensor 184519: AV-35, Pittsylvania_County, VA

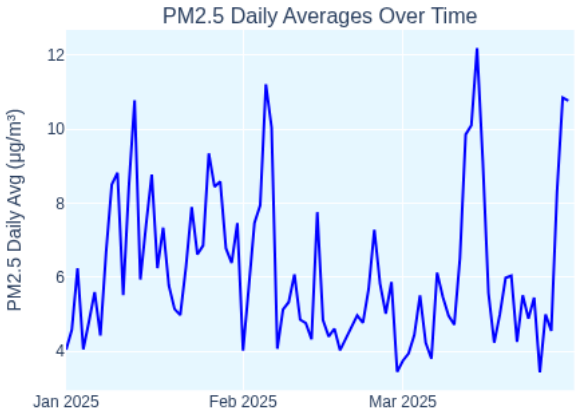


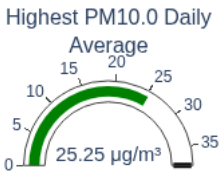


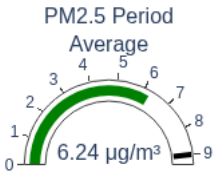


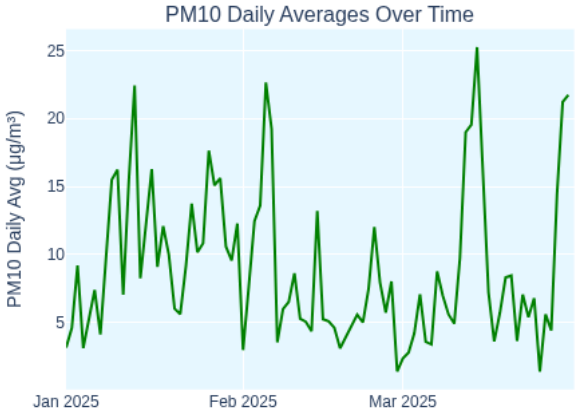


2025-01-01 to 2025-03-31 Report for Sensor 183749: AV-16, Wise_County, VA

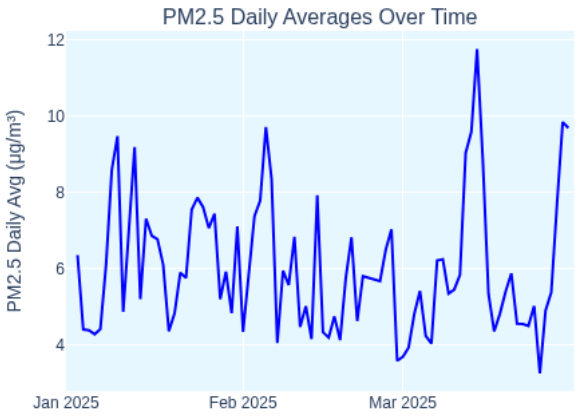


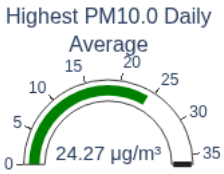


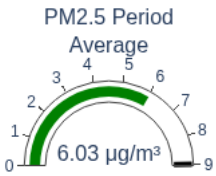


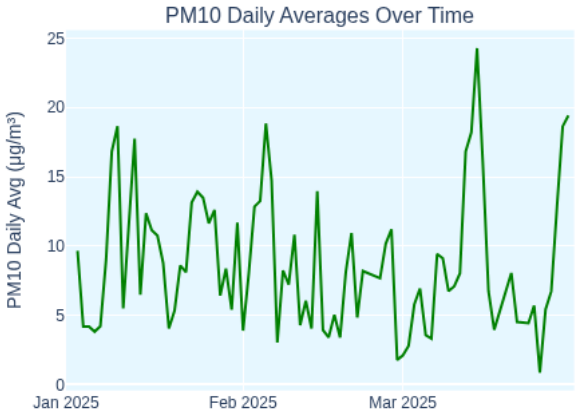


2025-01-01 to 2025-03-31 Report for Sensor 184559: AV-25, Wise_County, VA

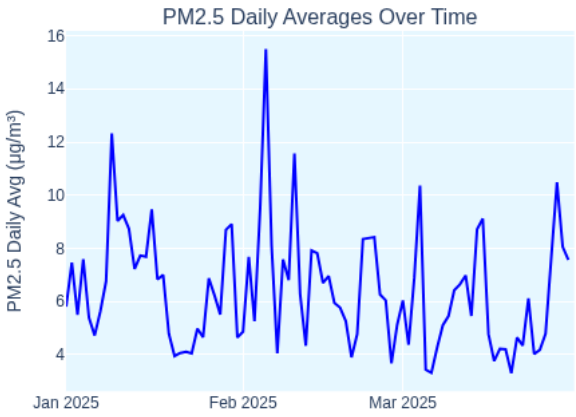


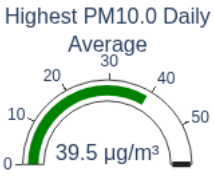


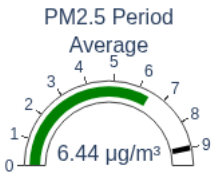


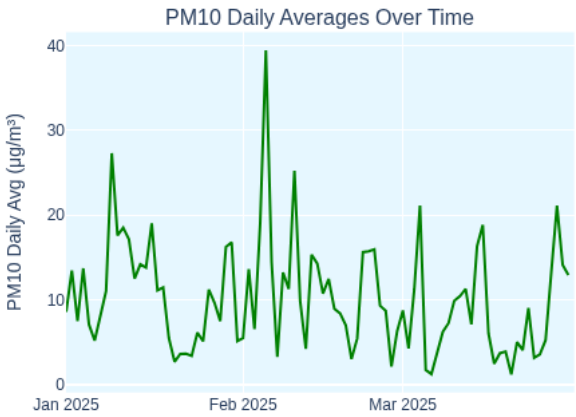


2025-01-01 to 2025-03-31 Report for Sensor 198253: AV-53, Wise_County, VA



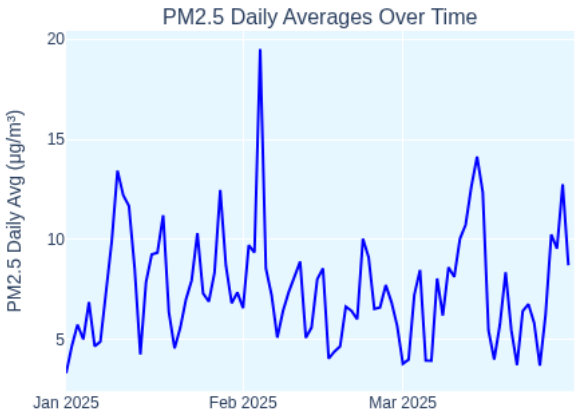


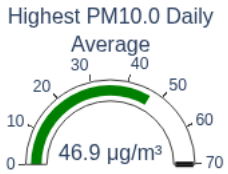


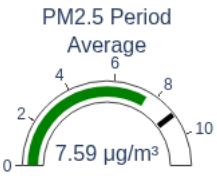


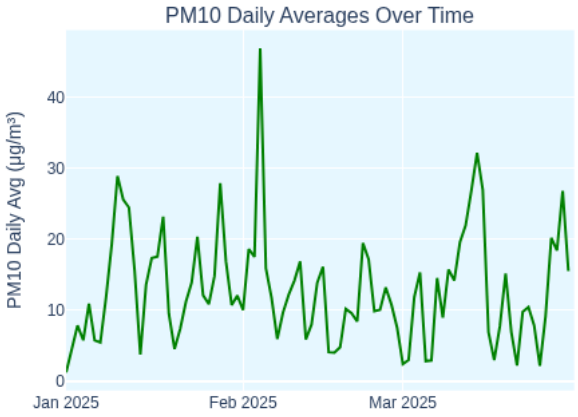
WEST VIRGINIA

2025-01-01 to 2025-03-31 Report for Sensor 184513: AV-24, Kanawha_County, WV

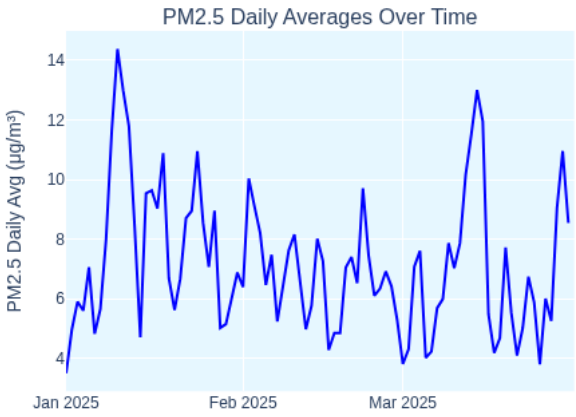


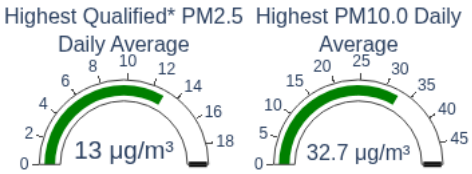


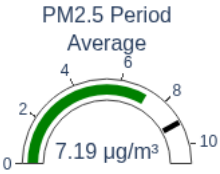


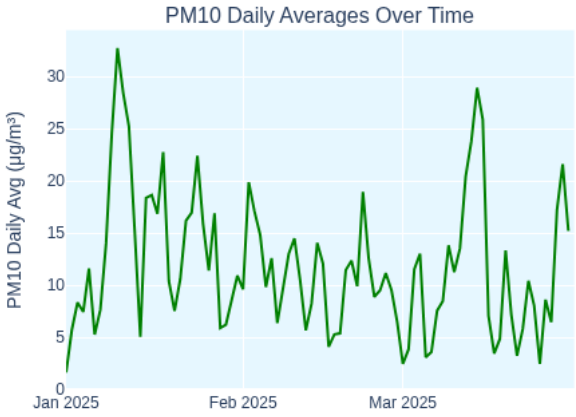


2025-01-01 to 2025-03-31 Report for Sensor 184561: AV-32, Kanawha_County, WV

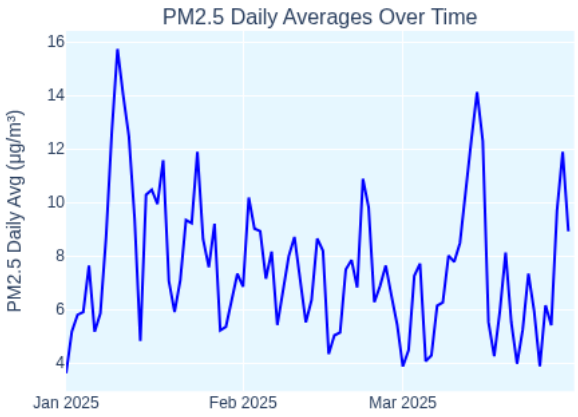


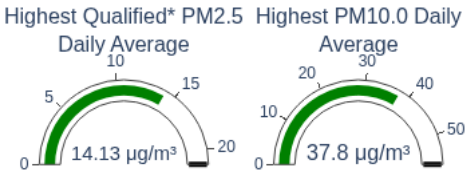


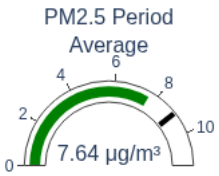


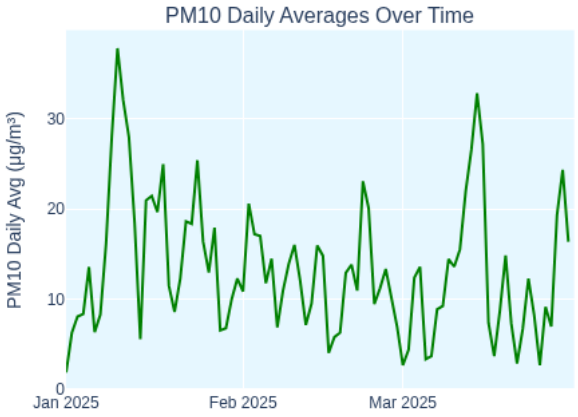


2025-01-01 to 2025-03-31 Report for Sensor 184515: AV-36, Kanawha_County, WV

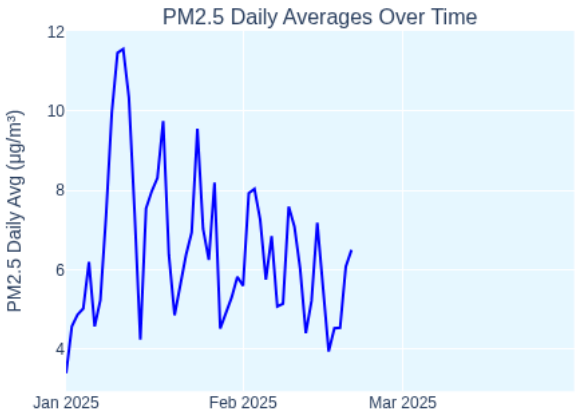


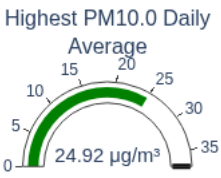


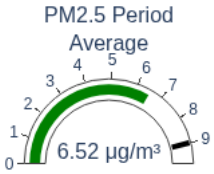


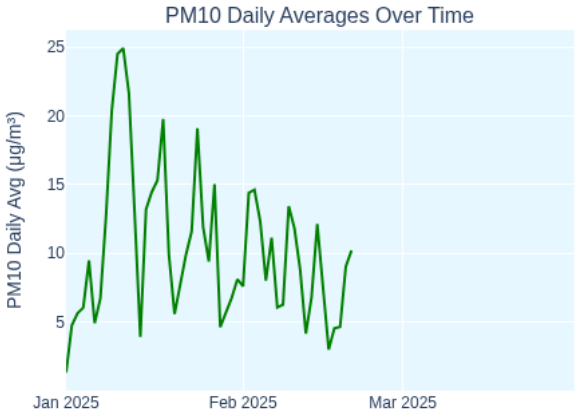


2025-01-01 to 2025-03-31 Report for Sensor 183793: AV-38, Kanawha_County, WV

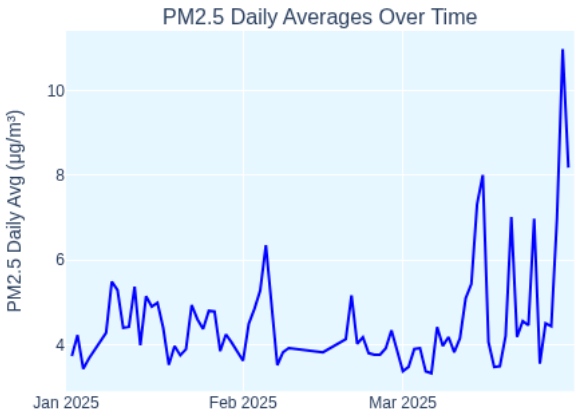


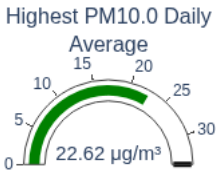


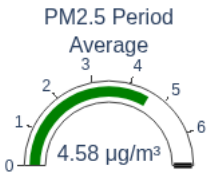


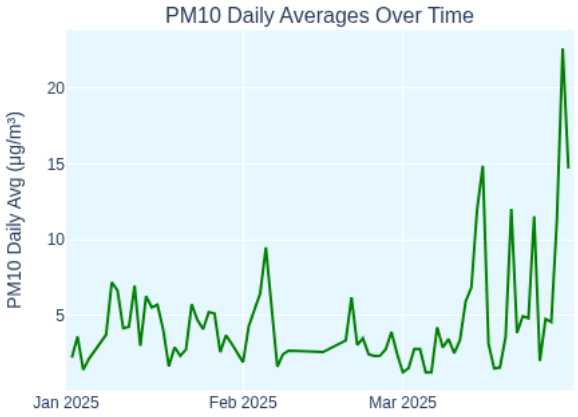


2025-01-01 to 2025-03-31 Report for Sensor 183779: AV-21, McDowell_County, WV



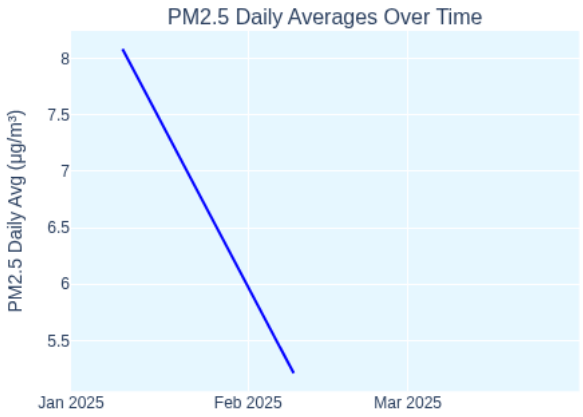


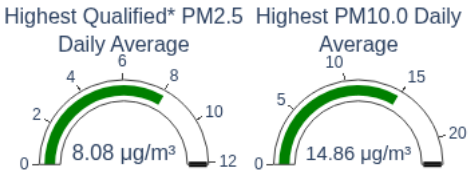


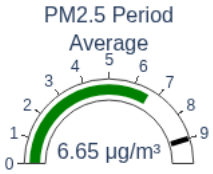


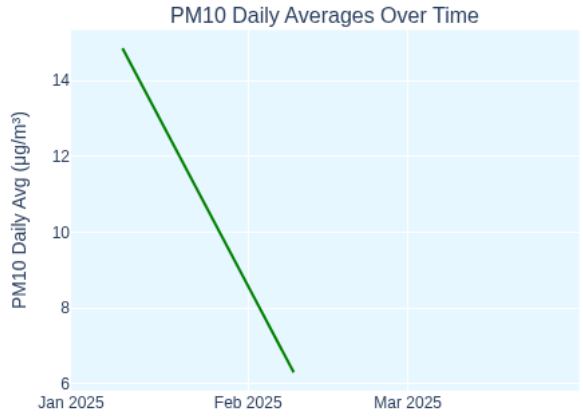
2025-01-01 to 2025-03-31 Report for Sensor 198821: AV-41, McDowell_County, WV

Note: This report has been flagged as possibly returning insufficient data.

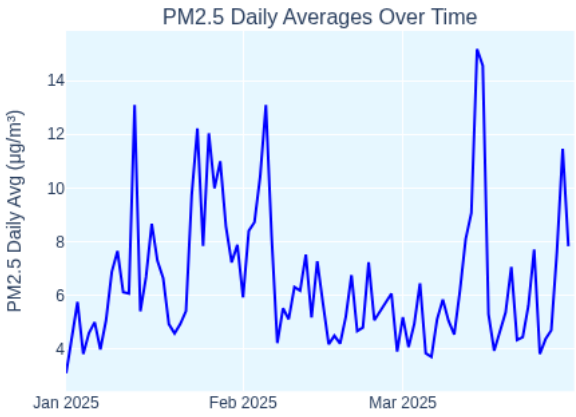


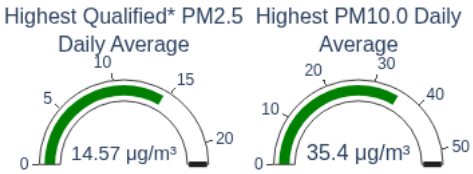


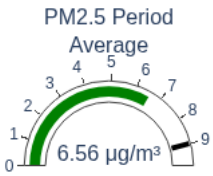


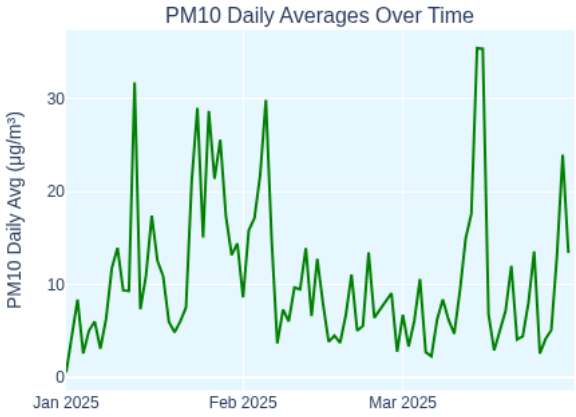


2025-01-01 to 2025-03-31 Report for Sensor 198997: AV-42, McDowell_County, WV

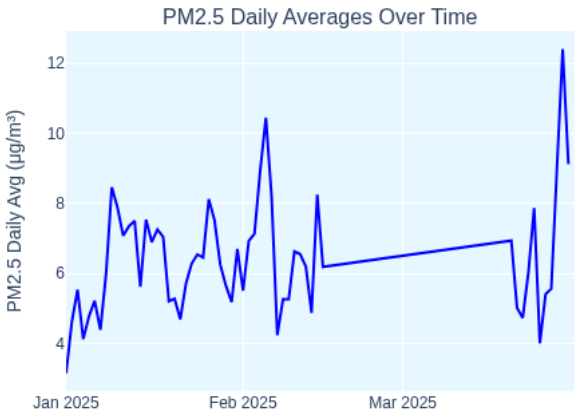


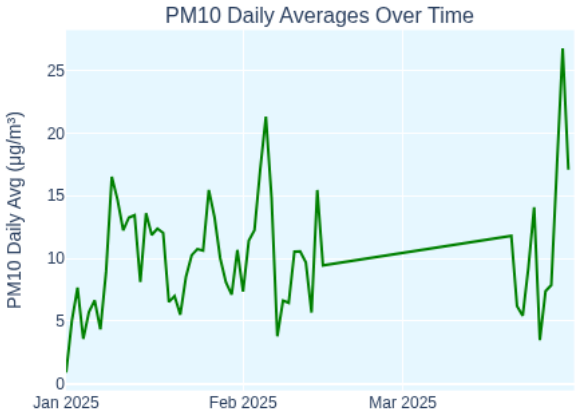


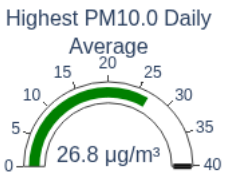


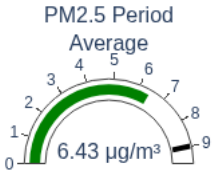


2025-01-01 to 2025-03-31 Report for Sensor 199027: AV-44, McDowell_County, WV



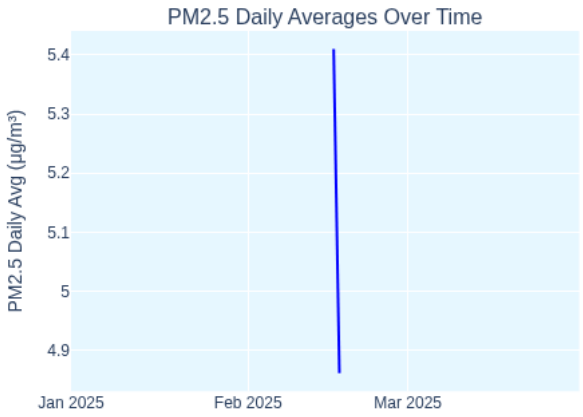


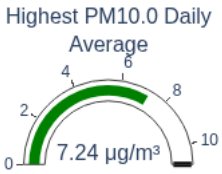


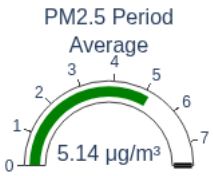


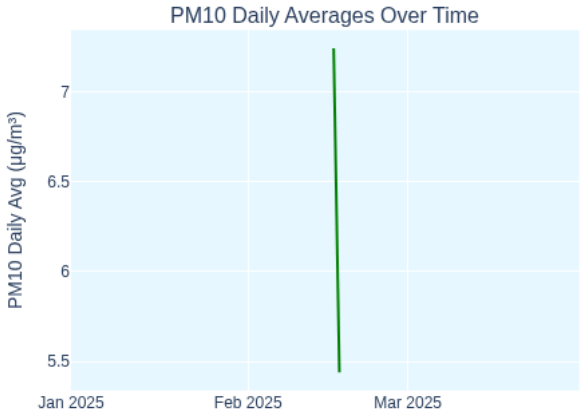
2025-01-01 to 2025-03-31 Report for Sensor 183739: AV-06, Raleigh_County, WV

Note: This report has been flagged as possibly returning insufficient data.

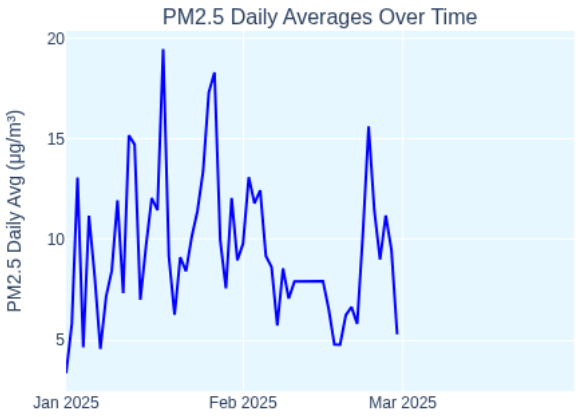


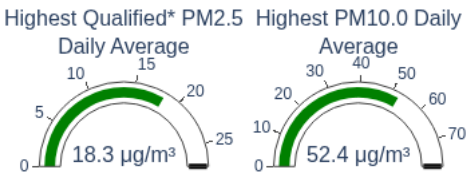


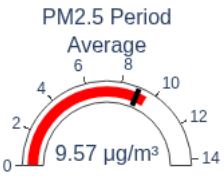


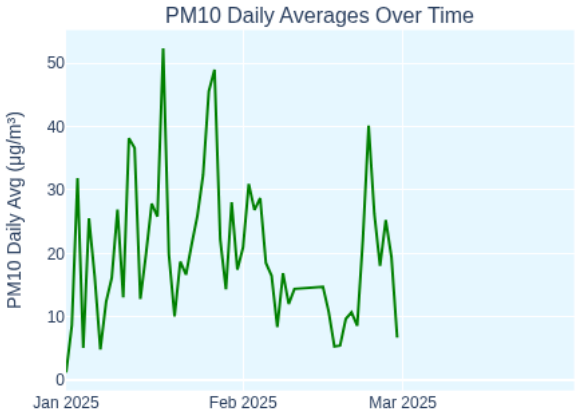


2025-01-01 to 2025-03-31 Report for Sensor 183769: AV-08, Raleigh_County, WV

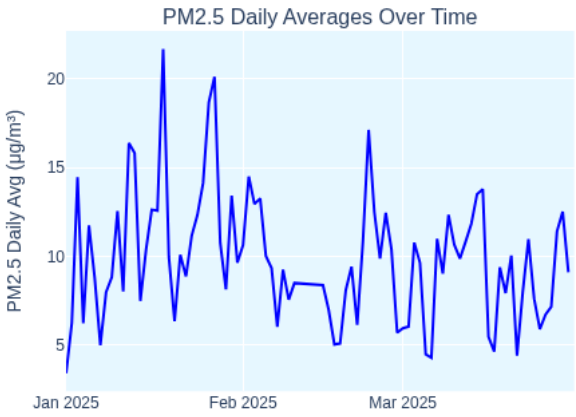


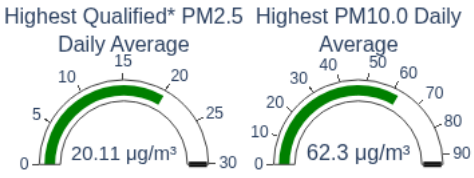


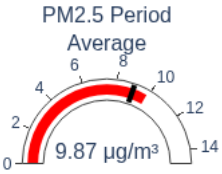


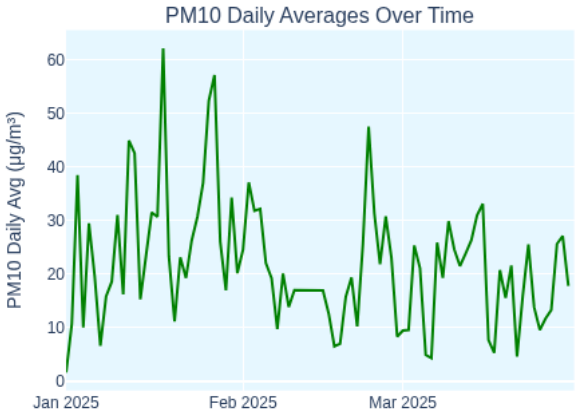


2025-01-01 to 2025-03-31 Report for Sensor 199037: AV-54, Raleigh_County, WV

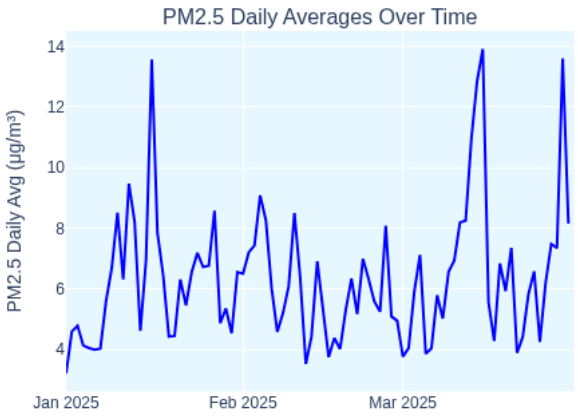


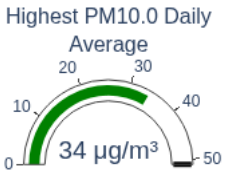


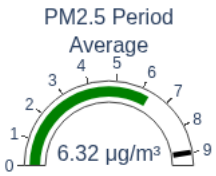


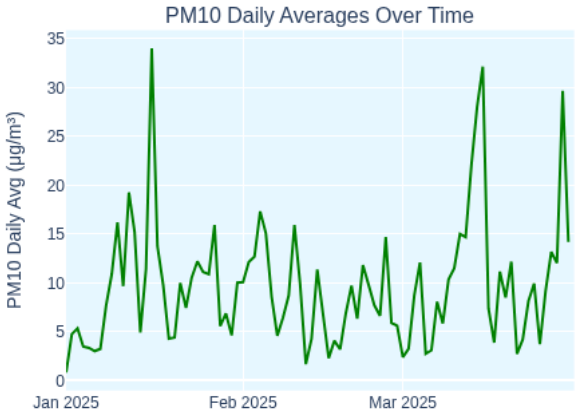


2025-01-01 to 2025-03-31 Report for Sensor 212029: AV-61, Raleigh_County, WV

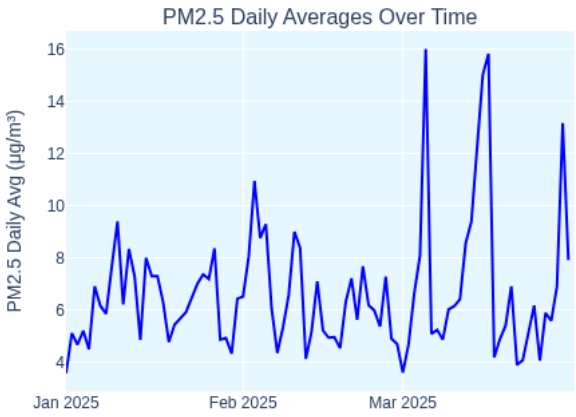


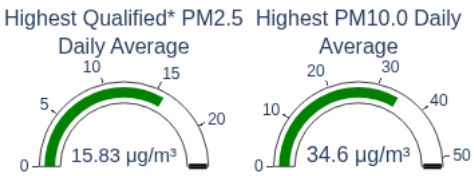


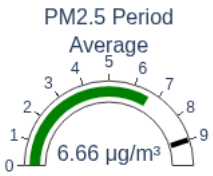


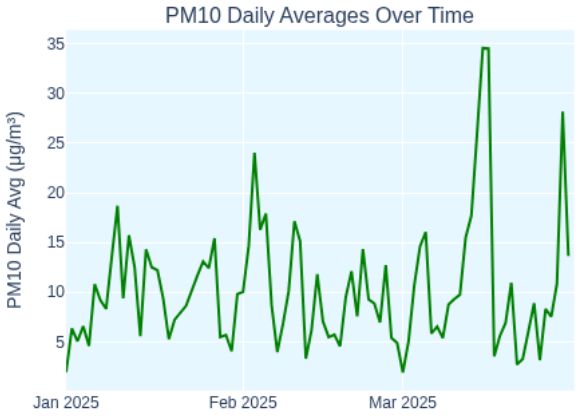


2025-01-01 to 2025-03-31 Report for Sensor 211969: AV-69, Raleigh County, WV









The following monitors are either offline or received insufficient data to include in this quarter's report:

AV-01, sensor 183803 — Test monitor. No longer receiving data.

AV-02, sensor 183791 — Lee County, VA. Replaced.

AV-03, sensor 183807 — McDowell County, WV — No data.

AV-07, sensor 183755 — Naoma, Raleigh County, WV — No data. Removed.

AV-11, sensor 183781 — Lackawanna, PA — No data. Removed.

AV-13, sensor 183777 — Permanently removed.

AV-14, sensor 183773 — Kenton County, KY — No data.

AV-17, sensor 183799 — Wise County, VA — Insufficient data.

AV-18, sensor 183753 — Wise County VA — Removed. Replaced by AV-25.

AV-19, sensor 184351 — Wise County VA — No data.

AV-20, sensor 183741 — McDowell County, WV — No data. Removed.

AV-23, sensor 184345 — White Oak, Campbell County, TN — No data. Removed.

AV-28

AV-33, sensor 184553

AV-37, sensor 183783

AV-39, sensor 184523

AV-43, sensor 198477

AV-46

AV-48 — Permanently removed.

AV-50, sensor 196153

AV-52, sensor 198253 — No data.

AV-56, sensor 199033 — Removed. Replaced by AV-6.

AV-58

AV-62

AV-66, sensor 211961 — Buchanan County, VA. Permanently removed.

AV-67

AV-68, sensor 211957