



CARE-4-AIR SITE 3 REPORT: AUGUSTA, GA

Blue Ridge Environmental Defense League

Enhanced Air Quality Monitoring for Communities

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May 2026

A1: Title and Preparer Page

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Effective Date of Plan: July 1, 2023

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A2: Executive Summary

Between October 23, 2025, and March 12, 2026, the Blue Ridge Environmental Defense League (BREDL) deployed the BREDL Environmental Air Sampling Trailer (BEAST) to Site 3 to evaluate local ambient air quality. The primary objective was to characterize pollutant concentrations in a community situated near industrial emission sources and to screen this primary data against regional agency monitors to determine the adequacy of the existing monitoring network. There are multiple facilities of concern in the Augusta, Georgia area. For this site, we chose to focus on the CSX Rail Yard as the mapping anchor point.

Technical Highlights and Operations: The project utilized a suite of EPA-approved Federal Equivalent Method (FEM) and Federal Reference Method (FRM) instruments, housed within a secure, mobile monitoring trailer. This ensured accuracy and reliability of the data.

Instrumentation included:

- **Teledyne API Model T640 PM Mass Monitor:** This FEM instrument measured Particulate Matter (PM), specifically PM_{2.5} (fine particles, 2.5 micrometers or less in diameter) and PM₁₀ (inhalable particles, 10 micrometers or less). The T640 provides near real-time, highly accurate measurements using dual-channel technology.
- **Teledyne API Model T200 Nitrogen Oxides Analyzer:** An FRM instrument used to measure Nitric Oxide (NO), Nitrogen Dioxide (NO₂), and total Nitrogen Oxides (NO_x). These are common pollutants often associated with combustion processes.
- **Aeroqual AQS-1 VOC Monitor:** This device measured Total Volatile Organic Compounds (VOCs), which are a group of chemicals that can include known carcinogens and contribute to ground-level ozone formation. The report notes that this monitor provided a general measure of total VOCs rather than individual compound identification. The AQS-1 uses “near reference” to EPA-approved monitoring.

Meteorological Correlation: High-resolution wind and pollution rose diagrams were generated using Vaisala WXT 530 data to correlate pollutant spikes with wind direction, using the CSX Rail Yard as an anchor point.

Quality Control & Maintenance: To ensure instrument accuracy and baseline stability, the team performed monthly maintenance on the equipment, including installing a new AQS-1 VOC

pump and module. Additionally, there was a weather-related event that led us to shut the air monitoring equipment down. This lasted approximately four days. Additionally, there were several brief power outages during the time that the BEAST was at Site 3. The longest was on January 20, 2026, lasting between 17 and 20 minutes.

Data Integrity: The project successfully maintained a data recovery rate exceeding the 75% required EPA completeness threshold. Data was reviewed by the Project Quality Assurance Manager (QAM). The validated data from Site 3 was screened against National Ambient Air Quality Standards (NAAQS) and will be released to the public to inform local remediation efforts and agency policy decisions.

Community Advocacy: Training was provided on trailer operations and data interpretation to our site host as well as members of BREDL chapter Concerned Citizens of Shell Bluff. We will also be sharing a fact sheet related to this site.

Recommendations and Future Actions

Based on the preliminary analysis of the monitoring data and the technical challenges encountered during the Site 3 deployment, BREDL proposes the following actions:

Long-Term Community Monitoring: Given that the nearest agency monitors may not capture localized "spikes" identified by the BEAST, BREDL recommends that state and federal agencies evaluate the need for a permanent, continuous monitoring station in the Augusta metro area to better protect underserved residential areas near industrial point sources. Additionally:

- Because of the consistent moderate PM 2.5 levels and known health impacts, we recommend that Fort Gordon and anyone else conducting controlled/prescribed burns to consult recent, ongoing, and forecasted air quality for the area. Burns should be postponed during bad air quality events.
- As mentioned above, we highly recommend a NO_x/NO₂ monitor be installed in the Augusta metro area. The spikes we observed during our collection period contained some extremely high levels, especially of NO_x.
- More research is needed regarding health impacts of short duration spikes of high concentrations of pollutants. The BEAST caught numerous spikes that lasted only minutes; however, even brief spikes are acute exposure events and can impact

human health. Most research into health impacts does not consider short-term spikes of less than 5 to 15 minutes

BREDL wishes to express our appreciation to the site host and chapter members.

A3: Email Distribution List

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A5: Glossary¹

AQI - The EPA AQI (Air Quality Index) is a tool used by the EPA to communicate daily air quality to the public. It provides a scale (0-500) that indicates how polluted the air is, with higher values representing greater pollution and health concerns. The AQI is based on the levels of five major pollutants: ground-level ozone, particle pollution, carbon monoxide, nitrogen dioxide, and sulfur dioxide.

Criteria pollutant – EPA, as required by the Clean Air Act, has listed six commonly found air pollutants as criteria air pollutants. These six are ozone, particulate matter, carbon monoxide, lead, sulfur dioxide, and nitrogen dioxide.

Data Acquisition System – The DAS is an essential tool that collects and processes data from various sources.

Histogram - A histogram is a graphical representation that organizes continuous numerical data into equal ranges, or "bins," using connected bars to display frequency distributions. It shows the shape, center, spread, and skewness of data.

NAAQS - The Clean Air Act requires EPA to set National Ambient Air Quality Standards for six principal pollutants ("criteria" air pollutants) which can be harmful to public health and the environment.

NO - Nitric oxide is a colorless gas with the formula NO. It is one of the principal oxides of nitrogen. Nitric oxide is a free radical: it has an unpaired electron. An important intermediate in industrial chemistry, nitric oxide forms in combustion systems and can be generated by lightning in thunderstorms.

NO₂ - Nitrogen dioxide (NO₂) is a reddish-brown, pungent gas that is a key component of air pollution, particularly in urban areas. It's a member of the nitrogen oxides family (NO_x) and forms when nitrogen and oxygen react, often during combustion processes like burning fossil fuels. NO₂ is a highly reactive gas that contributes to the formation of smog, acid rain, and other air pollutants, and it can also irritate the respiratory system.

NO_x - NO_x is shorthand for nitric oxide (NO) and nitrogen dioxide (NO₂), the nitrogen oxides that are most relevant for air pollution. These gases contribute to the formation of smog and acid rain, as well as affecting tropospheric ozone. NO_x gases are usually produced from the reaction between nitrogen and oxygen during combustion of fuels, such as hydrocarbons, in air; especially at high temperatures, such as in car engines. In areas of high motor vehicle traffic, such as in large cities, the nitrogen oxides emitted can be a significant source of air pollution. NO_x gases are also produced naturally by lightning.

PM 2.5 - Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Particles less than 2.5 micrometers in diameter (PM_{2.5}) are referred to as "fine" particles and are believed to pose the greatest health risks among particulates. Because of their

¹ Definitions provided by a combination of sources: U.S. EPA, Google Search, and Wikipedia

small size (approximately 1/30th the average width of a human hair), fine particles can lodge deeply into the lungs.

PM 10 - Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. PM10 describes inhalable particles, with diameters that are generally 10 micrometers and smaller. PM10 is referred to as coarse particulates. PM10 and PM2.5 often derive from different emissions sources and also have different chemical compositions.

Polar Plot - Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

Pollution Rose - A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

Prescribed Burn - The practice of intentionally setting a fire to change the assemblage of vegetation and decaying material in a landscape for forest management, ecological restoration, land clearing, or wildfire fuel management purposes.

Time Plot - Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data.

QAPP – The Quality Assurance Project Plan is a required EPA technical document. The QAPP is a formal planning document which describes how environmental information operations are planned, implemented, documented, and assessed during the life cycle of a project.

SOP - Each air monitoring unit requires Standard Operating Procedures. The SOP document outlines step by step procedures for various equipment functions.

VOC - VOC is an abbreviation for volatile organic compounds. They are carbon-based substances that readily evaporate under normal air pressure and are commonly found in indoor and outdoor environments. These compounds can be harmful to human health and contribute to air pollution, particularly smog formation.

Wind Rose - A wind rose gives a diagram view of how wind speed and direction are typically distributed at a particular location. Presented in a circular format, the wind rose shows the frequency of winds blowing from particular directions. In this report, all wind roses directions indicate the direction the wind is blowing from.

A6: Thanks

BREDL would like to thank the following for their assistance during this project:

- North Carolina Department of Environmental Quality
- North Carolina Department of Environmental Quality Division of Air Quality
- U.S. Environmental Protection Agency
- Zuber Farooqui, PhD, California Air Resources Board
- Wilbur Technical Services
- Our trailer site host
- Savannah Riverkeeper
- Our chapter Concerned Citizens of Shell Bluff
- BREDL Executive Director and staff
- BREDL chapters, members and friends
- BREDL Board of Directors

Site 3 supplemental funding support provided by Southern Partners Fund.²



² <https://southernpartnersfund.org/>

A7: About

CARE-4-AIR Project

CARE-4-AIR is conducting monitoring of nitric oxide (NO), nitrogen dioxide (NO₂), nitrogen oxides (NO_x), particulate matter (PM_{2.5} and PM₁₀), and volatile organic compounds (VOCs) as requested by our chapter organizations at six sites in Tennessee, North Carolina, South Carolina, Georgia, and Virginia. These sites are all currently subject to significant sources of air pollution, including: coal-burning power generation, wood-burning biomass gasification, industrial landfill, biochar production, wood pellet manufacturing, railroad operation, biomass plant operation, coal ash deposition, natural gas compressor stations, prescribed forest burning, and asphalt plants. Many of the affected communities are experiencing possible health impacts associated with air pollution generated by these industrial operations.

BREDL, through our technical contractor Wilbur Technical Services (WTS), is using a set of EPA-approved Federal Equivalent Method (FEM) air monitoring instruments including Teledyne API Model T640 PM Mass Monitor and the EPA-approved Federal Reference Method (FRM) Teledyne API Model T200 nitrogen oxides analyzer. We are also using the Aeroqual AQS-1 VOC monitor for total VOCs. Several units will work in conjunction with the pollutant analyzers. These include Teledyne units T700U Gas Dilution Calibrator, T701H Zero Air Generator, Vaisala WXT 530 meteorological sensor and DR DAS Envidas Ultimate Data Acquisitions System.

These instruments are mounted inside a Pro-Line aluminum utility trailer. Two BREDL staff will analyze the data generated by this system and share the data and their analyses with participating BREDL chapters. BREDL staff will collaborate actively with the chapters in the planning and implementation of a broad spectrum of actions to seek remediation of air pollution found to be significant by CARE-4-AIR, including: public education campaigns; active participation in public commenting opportunities for permit applications, zoning appeals, and other administrative proceedings; active communication with local, state, and federal government agencies whose mission is the safekeeping of the environment and public health; and public demonstrations.

Funding for this project has been provided by U.S. Environmental Protection Agency and Blue Ridge Environmental Defense League.

Community Site Assessment

CARE-4-AIR will serve our selected chapter organizations in the southeastern U.S., providing on-site, real-time air quality monitoring and assistance with data storage, data interpretation, data analysis, and the design, organization, and implementation of environmental protection campaigns to ameliorate the air quality problems identified through the use of the Wilbur Technical Services designed trailer. BREDL’s chapter organizations are community-based grassroots organizations located in areas affected by large-scale industrial projects which threaten the communities’ air, water, soil, natural environment, and quality of life.

BREDL has been working with our chapter partners since January 2022 on securing the sampling locations for our CARE-4-AIR monitoring project. With one possible exception, BREDL is working with community-based organizations who are also chapters of the BREDL 501(C)3 nonprofit organization.

Originally, we planned to include up to 12 host sites for our project. EPA concerns regarding the timespan of data collection at each site has reduced the number of host sites to six. Non-selected sites will be placed on a waiting list.

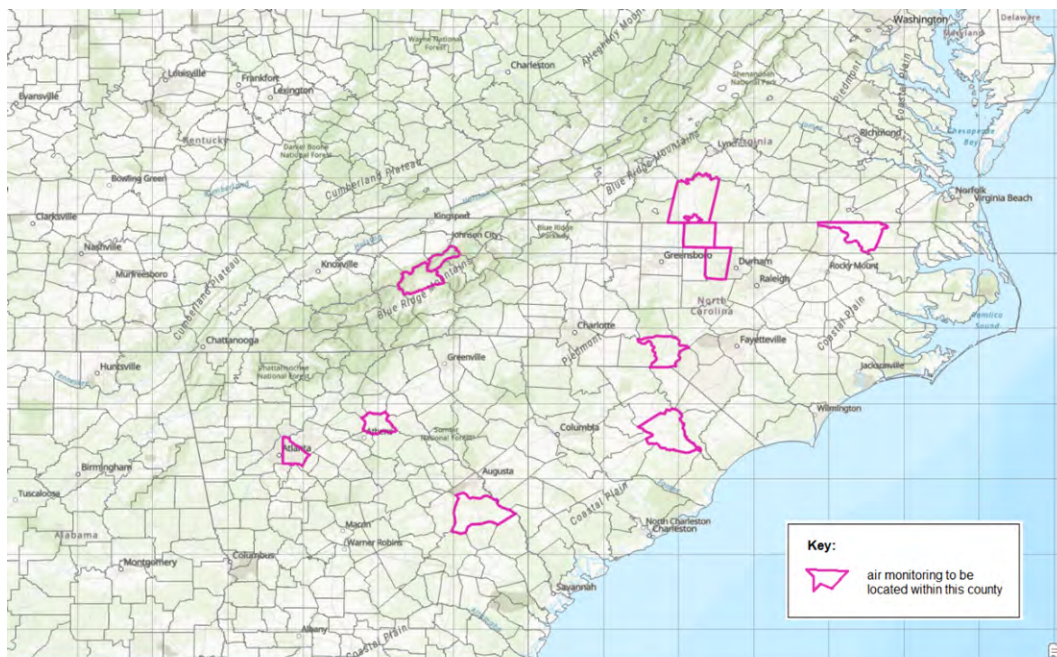


Figure A7-1: Potential locations for air monitoring

Air Monitoring Trailer

The BREDL CARE-4-Air project utilizes a Pro-Line 8' long x 7' wide x 7' tall, flat front mobile aluminum cargo trailer containing state of the art air monitoring equipment to collect ambient air concentrations of PM_{2.5}, PM₁₀, NO₂, NO, NO_x, and total VOCs. The equipment is powered by a standard RV 30-amp receptacle. The trailer includes surge protection and a UPS battery backup for the onboard computer. Trailer equipment will automatically reboot in case of power interruption. The installation of insulation, electrical wiring, equipment racks, equipment and associated tubing was overseen or completed by Wilbur Technical Services in New Hampshire.



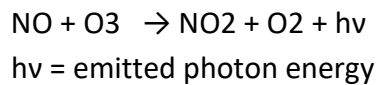
A sampling inlet is located on the trailer's roof to allow ambient air to flow into the air monitoring equipment inside the trailer.

Air Monitoring Equipment

The ambient air is analyzed by a Teledyne API Model T200 nitrogen oxides analyzer, designated as US EPA Federal Reference Method (FRM) for determining compliance with NO₂ National Ambient Air Quality Standards (NAAQS), a Teledyne API Model T640 PM Mass Monitor, designated as US EPA Federal Equivalent Method (FEM) for determining compliance with particulate matter mass concentration NAAQS, and an Aeroqual AQS-1 VOC module, which the manufacturer states can deliver data with very strong correlation to EPA-approved monitors – 'Near Reference'. The Teledyne API Model T200 nitrogen oxides analyzer is officially designated as US EPA Federal Reference Method (FRM), Designation Number RFNA-1194-099. The Teledyne API Model T640 PM Mass Monitor is officially designated as US EPA Federal Equivalent Method (FEM) for determining compliance with particulate matter mass concentration National Ambient Air Quality Standards (NAAQS). The US EPA designation number for 5.0 LPM Model T640 monitor (PM_{2.5}) is EQPM-0516-236. Note that T640 is FEM for PM 2.5 only. The T640 PM 10 measurement is not FEM.

The Teledyne API T200 measures the amount of NO present in a gas by detecting the chemiluminescence which occurs when nitrogen oxide (NO) is exposed to ozone (O₃). This reaction is a two-step process. In the first step, one molecule of NO and one molecule of O₃ collide and chemically react to produce one molecule of oxygen (O₂) and one molecule of nitrogen dioxide (NO₂). Some of the NO₂ molecules created by this reaction retain excess energy from the collision and exist in an excited state, where one of the electrons of the NO₂ molecule resides in a higher energy state than normal. This chemical reaction is illustrated by the following equation:

Where:



The reaction results in electronically excited NO₂ molecules which revert to their ground state, resulting in an emission of light or chemiluminescence.

To determine the concentration of NO, the sample gas is blended with O₃ in a reaction chamber causing the reaction to occur. The chemiluminescence that results from the reaction is monitored by an optically filtered high-sensitivity photomultiplier. The optical filter and photomultiplier respond to light in a narrow-wavelength band unique to the NO and O₃ reaction. The electronic signal produced in the photomultiplier is proportional to the NO concentration.

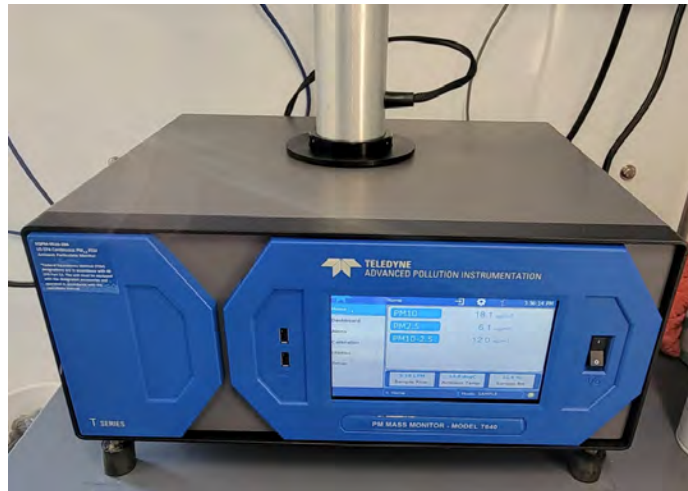


The only gas that is actually measured by the T200 is NO. NO₂, and therefore NO_x (which is defined here as the sum of NO and NO₂ in the sample gas), contained in the gas is not detected because NO₂ does not react with O₃ to create chemiluminescence. To measure the concentration of NO₂, and therefore the concentration of NO_x, the T200 periodically switches the sample gas stream so that the pump pulls it through a special converter cartridge filled with molybdenum (Mo, “moly”) chips that are heated to a temperature of 315°C.³

³ Preceding related paragraphs were copied or paraphrased from 083730200B DCN8137, Teledyne API, User Manual, Models T200 and T200 U, NO/NO₂/NO_x Analyzers, June 17, 2019

The Teledyne API Model T640 is a real-time, continuous particulate matter (PM) mass monitor that uses scattered light spectrometry for measurement; specifically, it employs broadband spectroscopy using 90° white-light scattering with a polychromatic light-emitting diode (LED).

The Model T640 PM Mass Monitor is an optical aerosol spectrometer that converts optical measurements to mass measurements by determining sampled particle size via scattered light at the single particle level according to Lorenz-Mie Theory. In brief, the sampling head draws a representative sample of ambient aerosol at a flow rate of 5 lpm. The aspirated particles are then dried



(i.e., brought below 35% RH) with the Aerosol Sample Conditioner (ASC) and moved into the optical particle sensor where scattered light intensity is measured to determine particle size diameter. The particles move separately into the T-aperture through an optically differentiated measurement volume that is homogeneously illuminated with polychromatic light. The polychromatic light source, an LED, combined with a 90° scattered light detection, achieves a precise and unambiguous calibration curve in the Mie range, resulting in a large size resolution.

Each particle generates a scattered light impulse that is detected at an 85° to 95° angle where amplitude (height) and signal length are measured; the amplitude of the scattered light impulse is directly related to the particle size diameter. The T-aperture and simultaneous signal length measurements eliminate border zone error, which is characterized by the partial illumination of particles at the border of the measurement range.⁴

The Aeroqual AQS-1 VOC analyzer module continuously measures volatile organic compounds (VOCs) and gases in ambient air.

⁴ Preceding related paragraphs were copied or paraphrased from 08354C DCN8394, Teledyne API, User Manual, Model T640, PM Mass Monitor, April 20, 2021

Air is actively sampled by pump and travels through a glass and Teflon coated inlet system to the analyzer module. This module incorporates photo-ionization detector (PID) sensor technology. A long-life 10.6 eV deep UV lamp breaks VOCs down into positive and negative ions. The detector measures the current of the ionized gas, which is proportional to detectable VOCs. Automatic Baseline Correction promotes a stable zero and removes humidity effects. The VOC module is sensitive to a wide range of VOCs, including benzene and toluene.⁵



A Vaisala WXT 530 meteorological weather station is included in the air monitoring trailer. The measurement parameters include wind speed and direction, pressure, temperature, and relative humidity.

The transmitters use Vaisala WINDCAP sensor technology for wind measurement. The wind sensor has an array of three equally spaced ultrasonic transducers on a horizontal plane. The unit determines wind speed and wind directions by measuring the time it takes the ultrasound to travel from one transducer to the other two.

The wind sensor measures the transit time (in both directions) along the three paths established by the array of transducers. The transit time depends on the wind speed along the ultrasonic path. For zero wind speed, both the forward and reverse transit times are the same. With wind along the sound path, the up-wind direction transit time increases and the down-wind transit time decreases.

The Vaisala PTU module contains separate sensors for pressure, temperature, and humidity measurement.⁶

⁵ Preceding related paragraphs were copied or paraphrased from MRK-D-0048 V4, Aeroqual, Dust Sentry/Pro/AQS User Guide, February 2019

⁶ Preceding related paragraphs were copied or paraphrased from M211840EN-F, User Guide, Vaisala Weather Transmitter, WXT530 Series, 2022

Data Acquisition System

Data from the air monitoring equipment and weather station feed into a Dr. DAS ENVIDAS Ultimate central computer Data Acquisition System (DAS) for automatic logging. ENVIDAS is an intelligent, multi-function, high-performance state-of-the-air data acquisition and reporting system. Collected data is stored onboard the trailer in its central DAS computer and daily data reports are emailed via cellular phone data to a BREDL email address specifically set up to receive daily data and alerts for this project. The DR Envidas DAS system calculates hourly averages based on the minute readings. Daily data and reports, and any alerts, are emailed to a dedicated BREDL email address with emails stored on Network Solutions servers. Emails are automatically forwarded to the project co-managers, which also serves as data backup. Data may also be viewed and collected manually either onsite or remotely. Data may be backed up on a flash drive during site visits. Remote access is via cellular phone network. Access to the computer and cellular phone account logins are restricted to Wilbur

Technical Services, our contracted technical support, and CARE-4-Air project co-managers, Therese Vick and Mark Barker.



Primary Data

Appropriate protocols, as outlined throughout our QAPP and included SOPs, are followed to ensure the air monitoring trailer's primary data integrity. Mark Barker, Project Operations Manager, oversees trailer maintenance and on-site responsibilities. Therese Vick, Project

Quality Assurance Manager, oversees data quality control. Collected raw data reports and alerts sent to our project's central email account are viewed by both Therese and Mark, as well as the current site chapter.

Existing Data

We have mapped the current EPA/State air monitors using ArcGIS. We determine the existing, permanent PM 2.5, PM 10 and NO₂ monitors that are nearest to our trailer site location for each of our selected sites. We download the hourly data for each monitor for the length of time the trailer is at that site. Using VBScripts we extract the data for the appropriate monitor and combine the hourly data into one spreadsheet. The existing data is screened with primary data.

Community Outreach

For each site, the raw data is emailed to a central BREDL email address housed on the Purehost.com servers. Those emails are automatically forwarded to those on the email address' forward list. This includes Therese Vick, Project QAM, Mark Barker, Project Ops Manager, and the site chapter representative. Raw data is not shared with the public. Verified data is data that has gone through quality control checks and will be made public once available. The data may be presented to the public at community meetings, through the press, and on our website. Per our EPA grant requirements, data must be released to the public.

Standard Operating Procedures

The equipment Standard Operating Procedures (SOPs) will be updated, as needed, by Mark Barker. Our SOPs are incorporated into our QAPP. Current approved printed copies of the QAPP and SOPs are stored on our air monitoring trailer for quick access. Electronic copies of our QAPP and SOPs, as well as equipment user manuals, are stored on a Google Drive for remote or field access as needed. They are also stored on the QAM and Ops Manager

computers. We have SOPs for Nitrogen Dioxide, Particulate Matter, Volatile Organic Compounds, Zero Air Generator, and Calibrator.

Equipment Maintenance, Calibrations, Quality Checks

Air monitoring trailer equipment maintenance is completed by the Ops Manager under the supervision of Wilbur Technical Services.

Remote calibrations are conducted by WTS. The Ops Manager conducts onsite calibrations. The VOC “hot swap” factory calibration is completed by Aeroqual.

Quality checks are conducted by WTS, Ops Manager and QAM as outlined throughout our QAPP.

WTS uses programmed email alerts for percent error failure of an automated check. Upon failure, WTS performs a remote calibration of the equipment utilizing Numaview Remote program from Teledyne API.



Figure A7-2: Panoramic view inside our air monitoring trailer

The objective and goals of CARE-4-AIR

Objective

BREDL community-based chapters have been concerned about air quality issues related to facilities operating in their neighborhoods. We are focusing on particulates, nitrogen dioxide and total Volatile Organic Compounds (VOCs) as these pollutants are common with all the facilities and have well-documented adverse health impacts. These pollutants often have emission limits stated in air permits. Chapters want to increase community awareness and use the data to inform local, state, and federal agencies to improve the air quality in affected communities. High quality air monitoring instruments will be installed in a mobile trailer, which will operate for 4 to 5 months at each site selected for air monitoring. The instruments will measure PM 2.5, PM 10, NO₂, NO_x, NO and total VOCs.

Short-term Goals

- Identify contributing sources of air pollution, including particulates, nitrogen dioxide and VOCs, in our communities selected for air monitoring.
- Determine the extent to which the monitored pollutants reach unhealthy levels in communities in which air monitoring occurs.
- If the data results indicate potential impacts to air quality, BREDL will engage with air quality agencies, including EPA, and state and local governments to investigate and evaluate next steps.
- Compare air quality data with nearby air monitors for the same time period. The air monitor for each monitored criteria pollutant that is the closest in proximity to each of our sites will be used for data comparison. These agency monitors may be too far away to determine impacts to local ambient air. Data may indicate: (a) need for permanent air quality monitors in underserved communities; (b) need for change in background concentrations used for agency air modeling; and (c) potential need to enhance the EPA Air Now coverage in affected communities.
- Create educational fact sheets for the monitored pollutants and their health impacts on the local community.

- Bring attention to communities who may feel that their air quality concerns have been ignored by holding community meetings, press events, and agency meetings as warranted by monitoring results.
- Increase community participation in air quality decisions by attendance at local and state meetings and hearings. Additionally, help communities understand the complicated processes that may impact them such as zoning and permit actions. This can take many forms such as providing written comments on pending permits and policy decisions and speaking at public hearings.
- BREDL and our chapters will obtain a better understanding of air monitoring, data, analysis, and impacts, which will empower community members to become confident and involved with air quality issues in their area.
- Engage in community organizing to strengthen facility air permits.

Long-term Goals

- Reduction of air pollutant emissions, ambient air concentrations of pollution, and human exposure to air pollutants. This could be measured by better air pollution controls or less production throughput in air permits.
- Increase in the number of monitors used in the EPA/State air monitoring network to reach underserved communities.

A8: Time Period

BREDL began collecting data at Site 3 at 1 PM EST on October 23, 2025, and concluded at 8 AM EST on March 12, 2026, for about a 4.5 month period.

A9: Location

Site Location: Augusta, Georgia

There were multiple facilities of concern in the Augusta, Georgia area. For this map, we chose to focus on the CSX Rail Yard as the anchor point as indicated by the symbol in the center of the circle in Figure A9:1. Our air monitoring trailer was located within the highlighted circle.

Please note that references to site host names and specific site locations are redacted to protect the privacy of participants, security of the trailer and its equipment, and integrity of this project.

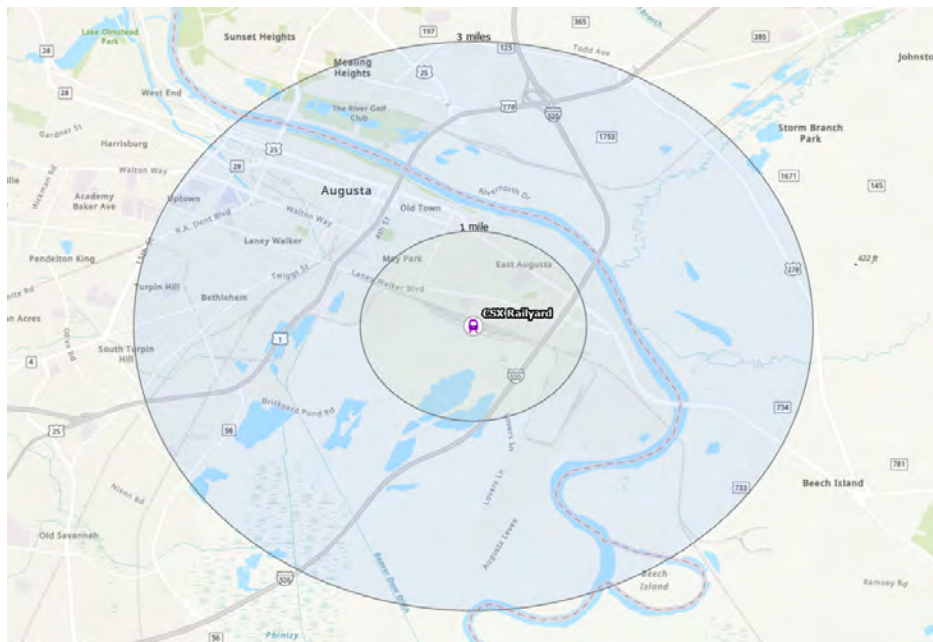


Figure A9:1: Our air monitoring trailer was located within the outer light blue ring

B1: Pollutants

Our BREDL Environmental Air Sampling Trailer (BEAST) is equipped to measure VOCs, PM 2.5, PM 10, NO₂, NO, and NO_x. Three of the pollutants are designated as criteria pollutants by U.S. EPA, including PM 2.5, PM 10, and NO₂. According to the EPA, "criteria pollutants" are the six most common air pollutants for which National Ambient Air Quality Standards (NAAQS) are set by the agency to protect public health and welfare. These pollutants are: carbon monoxide, lead, ground-level ozone, nitrogen dioxide, particulate matter, and sulfur dioxide. The EPA regulates these pollutants by developing science-based guidelines (criteria) for setting permissible levels in the air.

Pollutant Regulatory Standards

Collected data for NO₂, PM 2.5 and PM 10 will be screened for NAAQS comparison and to identify trends. VOC data will be used to identify trends and readings associated with specific sources – based on wind parameters.

“The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of ‘sensitive’ populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.”⁷

The newly revised 2024 primary PM 2.5 health standard⁸ will be emphasized during this project. While the 24-hour standard remained the same at 35 ug/m³, the annual standard became more stringent, changing from 12.0 ug/m³ to 9.0 ug/m³. The EPA Air Quality Index⁹ (AQI) has also been adjusted for this new standard. The new PM 2.5 primary standard went into effect on May 6, 2024. Since we will be limited by remaining at site locations for less than a year, we will focus on the short-term Averaging Time NAAQS, not the annual NAAQS.

⁷ <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

⁸ [Ibid.](#)

⁹ <https://www.airnow.gov/aqi-and-health/>

Figure B1-1: NAAQS Table¹⁰ for Project's Monitored Pollutants

Pollutant		Primary/Secondary	Averaging Time	Level	Form
Nitrogen Dioxide (NO ₂)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb	Annual Mean
Particle Pollution (PM)	PM _{2.5}	primary	1 year	9.0 µg/m ³	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years

Figure B1-2: Short-term Averaging Time NAAQS¹¹

Pollutant	Type	Averaging Time	Concentration Level
NO ₂	Primary	1-Hour	100 ppb
PM 2.5	Primary	24-Hour	35 ug/m ³
PM 10	Primary	24-Hour	150 ug/m ³

¹⁰ <https://www.epa.gov/criteria-air-pollutants/naqs-table>

¹¹ [Ibid.](#)

PM 2.5

Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Particles less than 2.5 micrometers in diameter (PM2.5) are referred to as "fine" particles and are believed to pose the greatest health risks among particulates. Because of their small size (approximately 1/30th the average width of a human hair), fine particles can lodge deeply into the lungs.

PM 2.5 Health Impacts:

- *increased hospital admissions*
- *aggravated asthma Increases in respiratory symptoms (coughing, difficult/painful breathing)*
- *chronic bronchitis*
- *decreased lung function*
- *premature death*
- *increases dementia risk*
- *risks for heart attacks, heart disease, strokes, irregular heartbeat*
- *increases premature births*

Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, fires, etc.) and certain industrial processes. The primary chemical constituents of outdoor particles are sulfate, nitrate, and organic and black carbon.

PM 10

Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. PM10 describes inhalable particles, with diameters that are generally 10 micrometers and smaller. PM10 is referred to as coarse particulates. PM10 and PM2.5 often derive from different emissions sources, and also have different chemical compositions.

PM10 sources include combustion of gasoline, oil, diesel fuel and wood, dust from construction sites, crushing

and grinding operations, landfills and agriculture, wildfires and brush/waste burning, industrial sources, wind-blown dust from open lands, pollen, mold and fragments of bacteria.

PM 10 Health Impacts:

Short-term exposure:

- *difficulty breathing*
- *coughing*
- *eye, nose, and throat irritation*
- *chest tightness and pain*
- *fatigue*
- *general respiratory discomfort*

Long-term exposure:

- *lung tissue damage*
- *asthma*
- *heart failure*
- *cancer*
- *adverse birth outcomes*
- *chronic obstructive pulmonary disease (COPD)*
- *premature death*

VOC

VOC is an abbreviation for volatile organic compounds. They are carbon-based substances that readily evaporate under normal air pressure and are commonly found in indoor and outdoor environments. These compounds can be harmful to human health and contribute to air pollution, particularly smog formation.

VOC Health Impacts:

- *eye, nose, and throat irritation*
- *headaches*
- *nausea*
- *difficulty breathing*
- *loss of coordination*
- *damage to the central nervous system*
- *damage to liver and kidneys*
- *Some VOCs are also carcinogens*

VOCs can be found in both indoor and outdoor environments, with sources ranging from household products to industrial processes and even natural sources. Outdoor sources include vehicle exhaust, fossil fuel burning, wood burning, industrial emissions, and natural sources (plants).

Examples of VOCs include: benzene, toluene, xylene, 1,3-butadiene, and formaldehyde.

NO

Nitric oxide is a colorless gas with the formula NO. It is one of the principal oxides of nitrogen. Nitric oxide is a free radical: it has an unpaired electron. An important intermediate in industrial chemistry, nitric oxide forms in combustion systems. Sources include combustion of fossil fuels and certain industrial processes. NO can be generated by lightning in thunderstorms.

NO Health Impacts:

- *contact can irritate skin and eyes*
- *irritate nose and throat*
- *irritate the lungs*
- *shortness of breath*
- *headaches*
- *fatigue*
- *dizziness*
- *nausea*

NO₂

Nitrogen dioxide (NO₂) is a reddish-brown, pungent gas that is a key component of air pollution, particularly in urban areas. It's a member of the nitrogen oxides family (NO_x) and forms when nitrogen and oxygen react, often during combustion processes like burning fossil fuels. NO₂ is a highly reactive gas that contributes to the formation of smog, acid rain, and other air pollutants, and it can also irritate the respiratory system.

NO₂ Health Impacts:

- *can irritate airways in the human respiratory system.*
- *can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing),*
- *can increase hospital admissions and visits to emergency rooms.*
- *longer exposures may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.*
- *Increased risk of death*

Sources of NO₂ include emissions from vehicles, fossil fuel combustion, industrial processes, and natural sources such as lightning and forest fires. The burning of fuel is the primary source of emissions.

NO_x

NO_x is shorthand for nitric oxide (NO) and nitrogen dioxide (NO₂), the nitrogen oxides that are most relevant for air pollution. These gases contribute to the formation of smog and acid rain, as well as affecting tropospheric ozone. NO_x gases are usually produced in the air from the reaction between nitrogen and oxygen during combustion of fuels, such as hydrocarbons, and especially at high temperatures, such as in car engines. In areas of high motor vehicle traffic, such as in large cities, the nitrogen oxides emitted can be a significant source of air pollution. NO_x gases are also produced naturally by lightning. Biomass burning is also a source of NO_x.

NO_x Health Impacts:

- *can irritate the respiratory system, leading to coughing, wheezing, shortness of breath, and difficulty breathing*
- *headaches*
- *nausea*
- *abdominal pain*
- *in some cases, reduce the body's ability to utilize oxygen*
- *long-term exposure can worsen asthma symptoms and may even contribute to the development of the condition.*
- *can exacerbate existing respiratory diseases, such as asthma, and can also worsen heart conditions*

B2: Local Emissions

There are several major emissions sources of our monitored pollutants in the Augusta, Georgia area. These sources emit all or some of our monitored pollutants: PM 2.5, PM 10, NO₂, and VOCs.

- Halocarbon Products Corporation
- Allnex USA
- Bridgestone-Firestone
- Bondcote Performance Textiles
- Owens Corning Aiken Composite
- Clearwater Paper - Augusta Mill
- Covestro
- Nutrien Augusta Nitrogen
- Syensqo Specialty Polymers
- US Battery Manufacturing Co
- US Army Signal Center & Fort Gordon
- CSX Rail Yard
- Prayon Inc
- Occidental Chemical Corp
- Nouryon Chemical
- Graphic Packaging International Woodyard

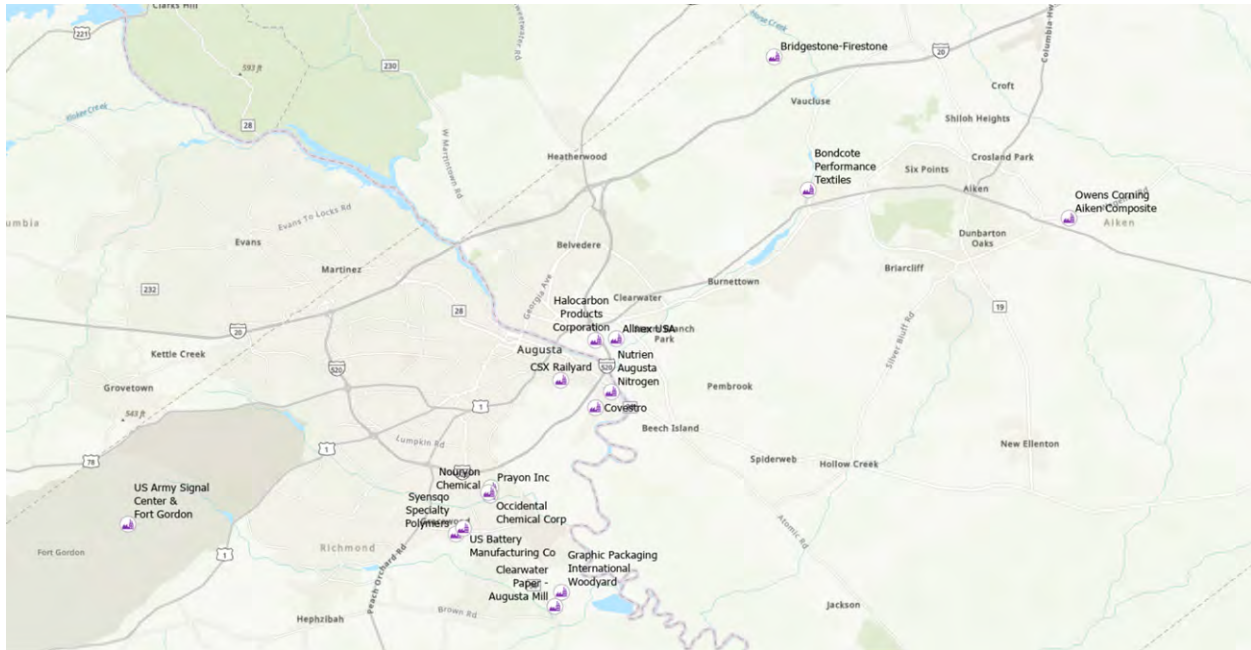


Figure B2-1: Map of Augusta, GA area major sources of emissions

In addition, there are other sources of these pollutants in the area including highways and various manufacturing operations.

The following maps (Figures B2-2:B2-4) from the Georgia Department of Transportation (GDOT) show average daily traffic counts for highways in the Augusta, Georgia area.¹²

¹² <https://www.dot.ga.gov/GDOT/Pages/RoadTrafficData.aspx>

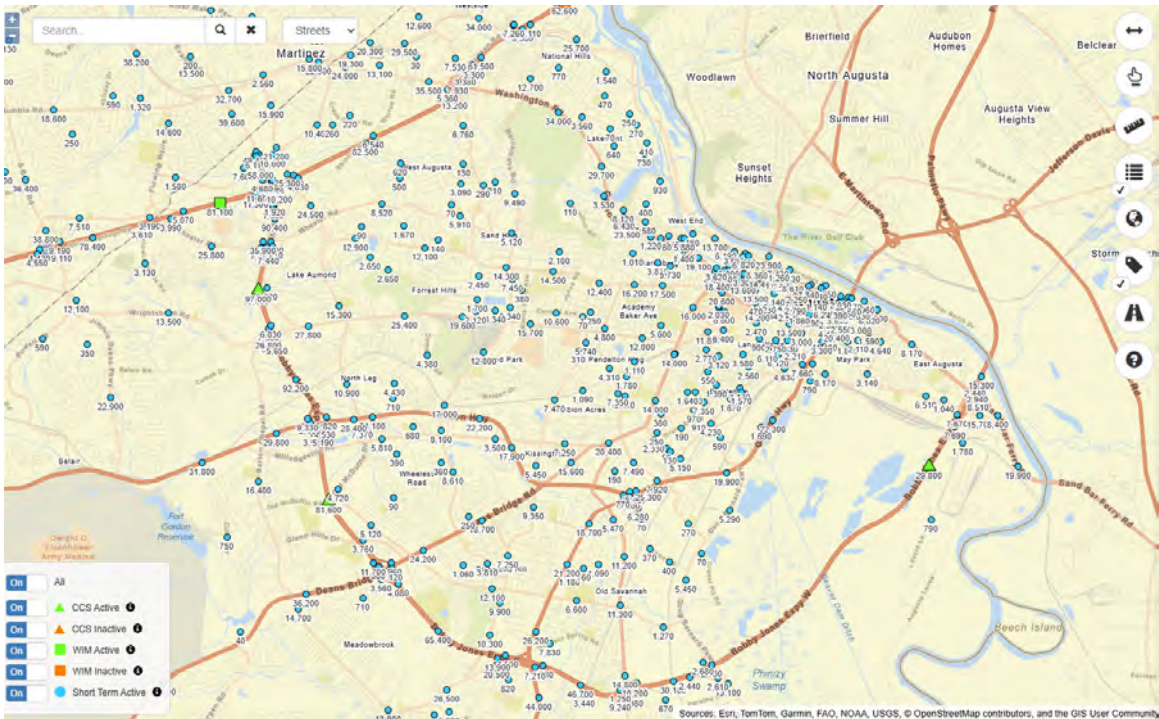


Figure B2-2: Map of Augusta, GA area average daily traffic

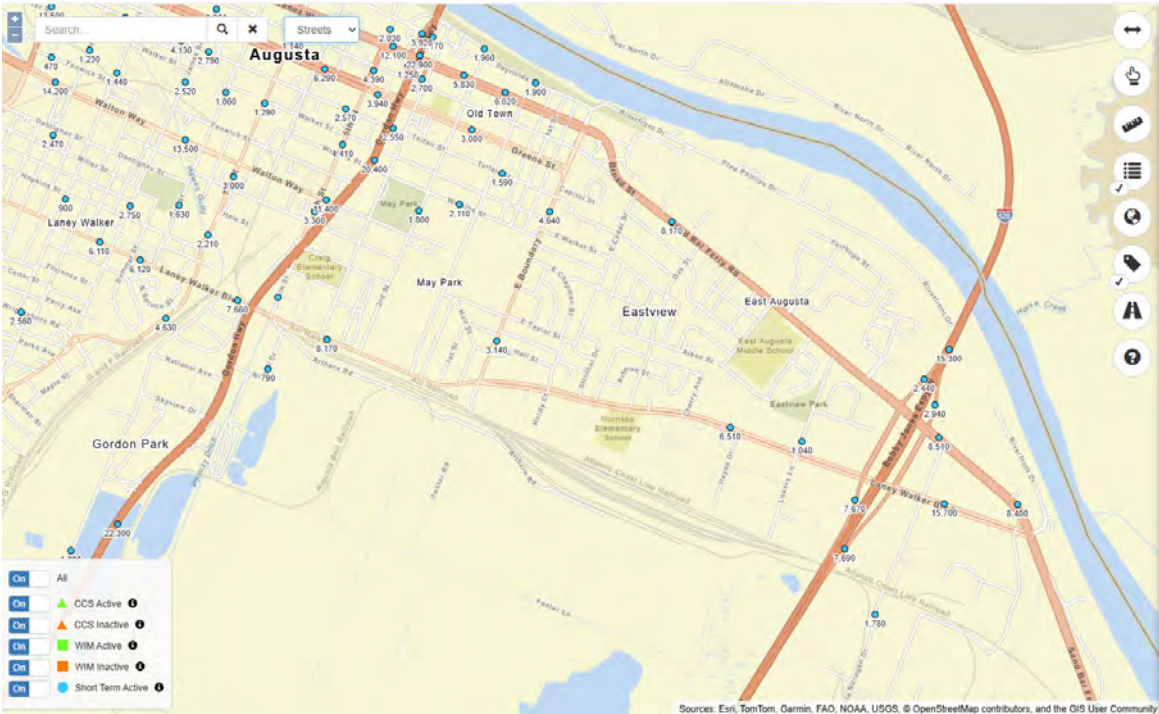


Figure B2-3: Map of Augusta, GA area average daily traffic

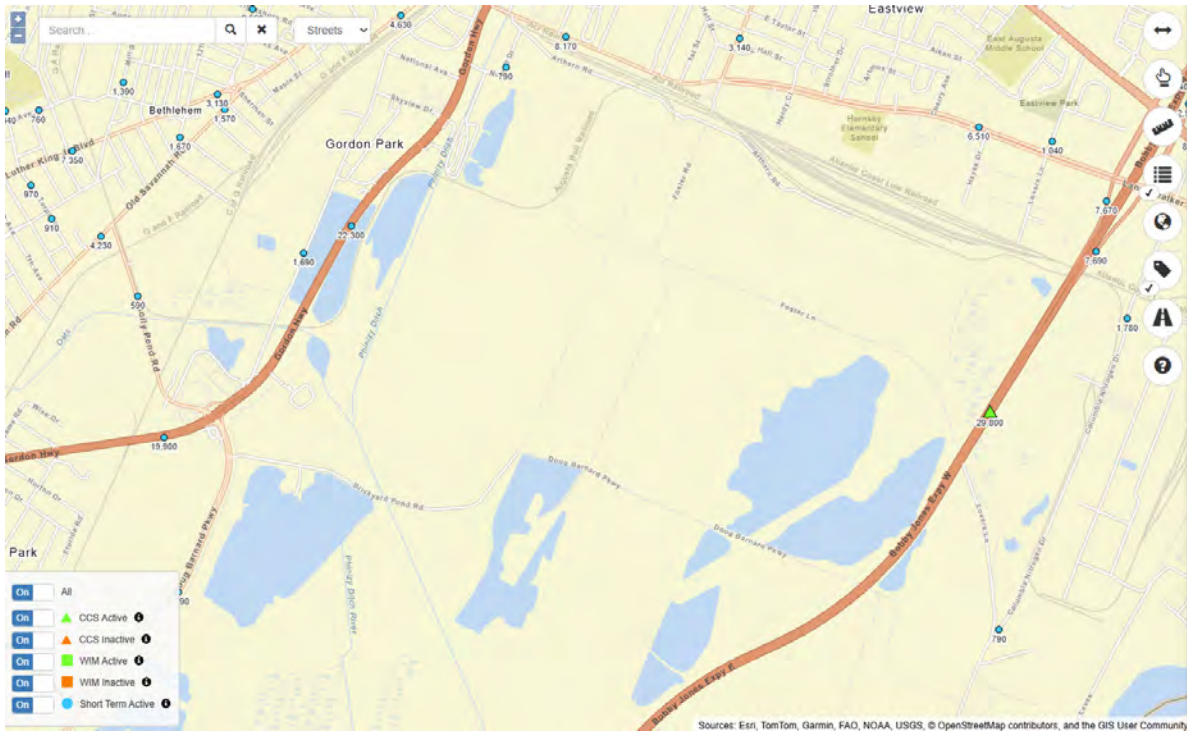


Figure B2-4: Map of Augusta, GA area average daily traffic

Photo

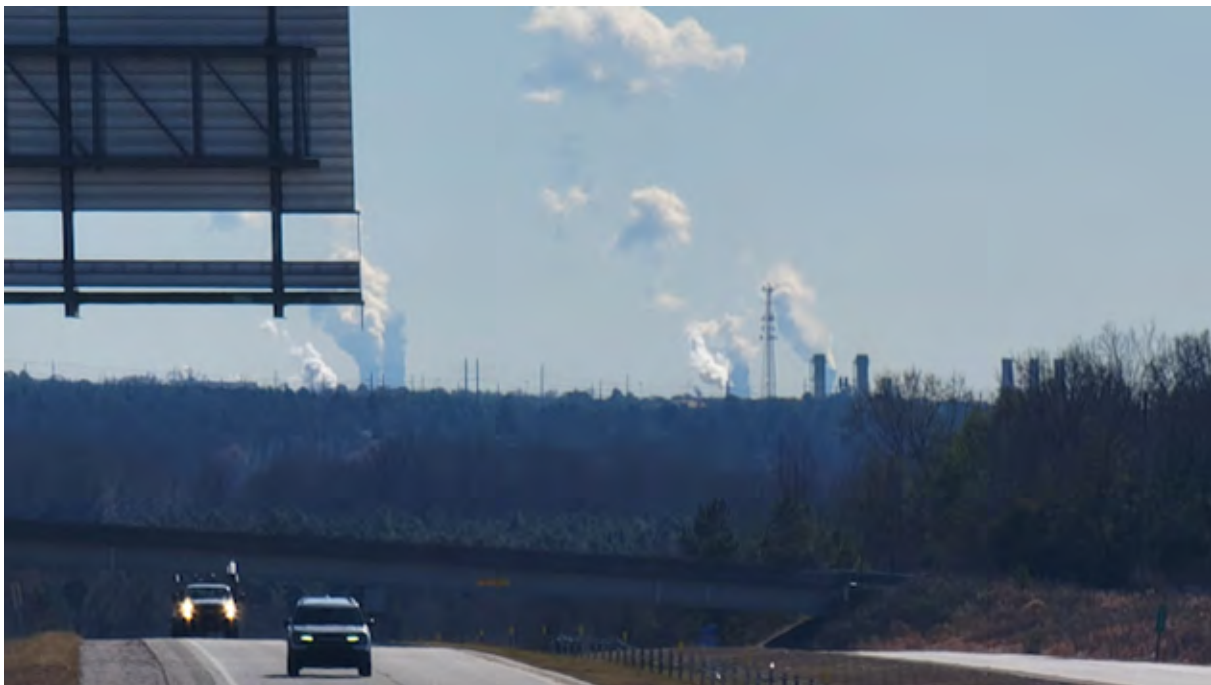


Photo B2-5: Smoke on January 15, 2026, from Augusta industries

B3: Local Terrain

Our Site 3 location was in the downtown Augusta, Georgia area.

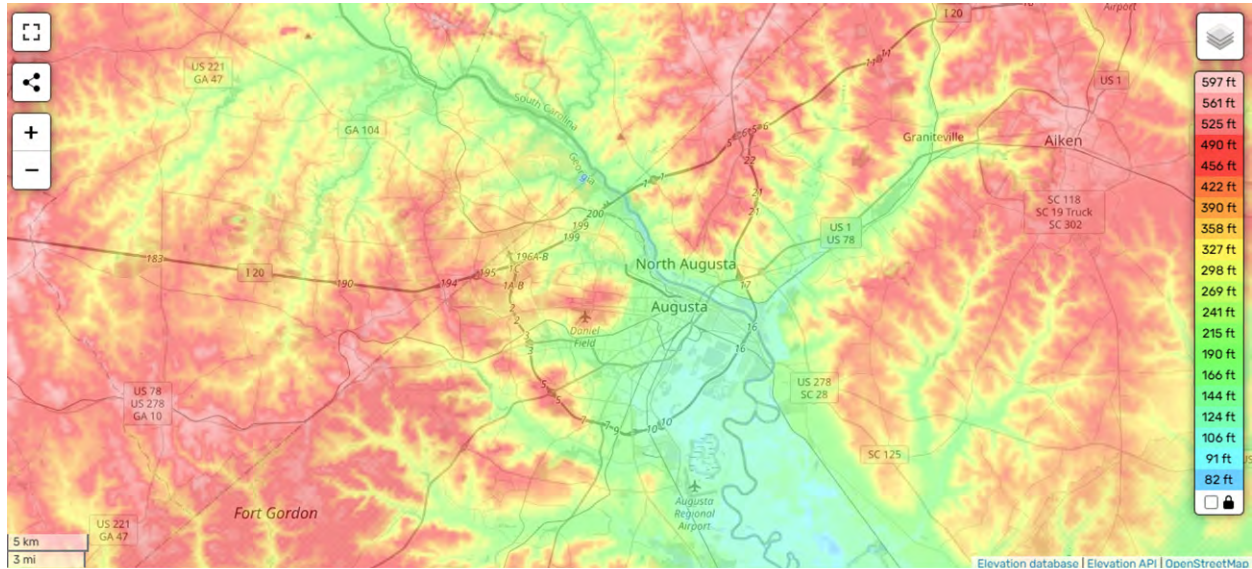


Figure B3-1: Map displaying elevations around Augusta, Georgia¹³

¹³ <https://en-us.topographic-map.com/map-vr14/Augusta/?center=33.48128%2C-82.00882&zoom=11>

C1: Findings

Health Standards: There were no exceedances of the EPA health standards for PM 2.5 (35 ug/m³ for a 24-hour averaging time), PM 10 (150 ug/m³ for a 24-hour averaging time), and NO₂ (100 ppb for a 1-hour averaging time) during our Site 3 data collection.

Spike Origin: Most of our PM spikes and higher concentrations were probably attributed to regional particulate matter; however, some localized contributions could not be ruled out. Most of our VOCs, NO₂, NO_x, and NO spikes and higher concentrations appeared to be mostly from local sources.

Pollution Direction: VOCs, PM 2.5, and PM 10 predominantly came from the north, northeast, and southwest. The highest concentrations of PM 10 came from the north. Nitric Oxide, NO₂, and NO_x mostly came from the southwest; however, a good amount came from the north and northeast.

Time of Day: Afternoon hours had the lowest overall concentrations for all our pollutants. Morning hours, especially 8 AM to 10 AM, reported the highest concentrations for VOCs, PM 10, NO_x, and NO. Evening hours offered the highest concentrations of NO₂. Overnight hours had the highest PM 2.5 concentrations of the day.

Day of Week: All of our pollutants recorded lower concentrations on the weekends and Mondays. The highest concentrations occurred mid-week.

Highest Readings:

Pollutant	Measurement	Minute Reading	Hour Average	24-Hour Average
VOC	ppb	78.6	21.1	12.0
PM 2.5	ug/m ³	151.5	84.3	34.0
PM 10	ug/m ³	397.7	169.6	47.9
NO	ppb	350.5	20.1	5.2
NO ₂	ppb	361.2	21.9	12.6
NO _x	ppb	687.9	31.7	15.7

Figure C1-1: Highest Concentrations

Concerns

- ❖ The Augusta PM 2.5 air quality was not very good. Only 54.82%, just over half, of PM 2.5 readings registered in the good range.
- ❖ All day of week averages for PM 2.5 were outside the good air quality range, except for Monday.
- ❖ Spikes with high pollutant concentrations were frequent and often “lost” in the hourly average.
- ❖ Controlled/prescribed burns appear to be conducted without consulting current and forecasted air quality.

Recommendations and Future Actions

- ❖ Because of the consistent moderate PM 2.5 levels and known health impacts, we recommend that Fort Gordon and anyone else conducting controlled/prescribed burns to consult recent, ongoing, and forecasted air quality for the area. Burns should be postponed during bad air quality events.
- ❖ We highly recommend a NO_x/NO₂ monitor be installed in the Augusta metro area. The spikes we observed during our collection period contained some extremely high levels, especially of NO_x.
- ❖ More research is needed regarding health impacts of short duration spikes of high concentrations of pollutants. Most research into health impacts does not consider short-term spikes of less than 5 to 15 minutes.

C2: Limitations

- ❖ BREDL is limited to 4 to 4.5 months of monitoring at our locations. Pollution levels may vary depending on the time of year.
- ❖ While limitations exist for an annual set of data, the short-term data will still provide insight on impacts to air quality issues. It will help to identify trends.
- ❖ Facility emissions may be higher or lower depending on seasonal operations.
- ❖ VOC data is limited to total VOCs, which does not include all types of VOCs.
- ❖ There are limitations of both funding and technical requirements that restrict how much air monitoring equipment we can utilize during this project. Our EPA grant funding only covers the air monitoring equipment that was approved by EPA. However, there may be additional equipment needs in the future.
- ❖ BREDL's Air Monitoring Project utilizes FRM, FEM and "near reference" level equipment. However, our project's purpose and objectives are not tied to the EPA Air Now or NAAQS air monitoring network. BREDL is gathering data for screening levels and identifying trends for NO₂, PM, and VOCs. Regulatory requirements for EPA's Air Now and NAAQS air monitoring network, such as annual performance audits and recommended procedures, are not deemed necessary for the successful completion of the CARE-4-Air project. Therefore, these more stringent requirements and recommendations are not listed in our QAPP requirements.
- ❖ While we strive to have the best possible site for the trailer, there are many limitations: willing site host, proximity to sources, proximity to interference, availability of power, and availability of cellular service.
- ❖ For protection of site host privacy, BREDL will not be publishing the exact location of our BEAST sites. This will limit some of our data presentations. For example, we will not publish pollution roses indicating the exact location of our BEAST showing the pollution concentrations in relation to wind direction.

C3: Challenges

These are the main challenges we encountered at Site 3.

1. PM Mass Monitor internal pump performance

Throughout our Site 3 monitoring we had issues with our PM pumps. The PM pumps never failed and data was not impacted. While the pumps have never failed, they have indicated that the pumps were failing. We were able to replace failing pumps before they stopped working. Thus far, we have installed three pumps during our project. Wilbur Technical Service (WTS) has mentioned that this is outside the norm. Since the pump used at Site 3 indicated it was starting to fail, a new PM pump has been ordered and will be installed prior to our next site deployment.

Following that is a graph displaying the PM Pump performance at Site 3 during this quarter. PM pump performance should fall within the 40 to 80 percent range. Readings over may 80 indicate that the pump is beginning to fail.

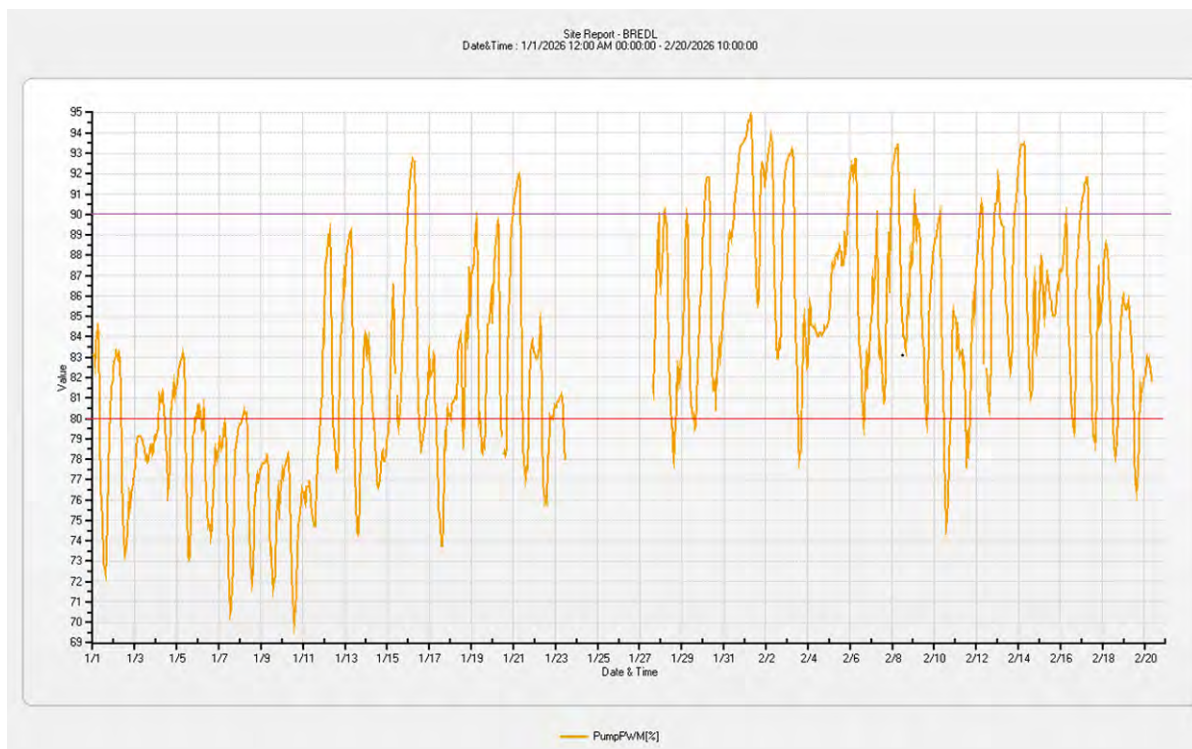


Figure C3-1: PM pump performance at site 3 (Hourly averages)

2. NO/NO₂/NO_x calibration

On December 15, 2025, the NO/NO₂/NO_x auto calibration failed. WTS reran the computer sequence on December 18 and it passed. Once again, on December 22, 2025, the calibration failed, but passed on December 29, 2025.

Auto calibration failed again on January 5 and January 12. WTS re-ran the calibrations on January 13, and all passed.

3. VOC flow rate test

On October 23, the Alicat Whisper VOC flow rate test initially performed correctly. Operations Manager redid the test and on second run could not get the Alicat to display any readings. A new test tubing was created and tried the test a third time. Once again, the Operations Manager could not get the Alicat to display any readings. After discussion with WTS, WTS shipped us a new VOC pump. The new AQS-1 VOC pump and newly factory calibrated VOC module were installed during the November 20, 2025, maintenance trip. You will notice an increase in VOC sampling after this new pump installation.

On November 24, 2025, Operations Manager shipped our Alicat Whisper and test tubings to WTS in New Hampshire for them to run some tests at their shop. WTS reported back that the Alicat performed normally.

Operations Manager then determined that the flow rate was too low to register on the flow meter. Despite the low flow rate reading, our concentration levels remained similar before and after adjustment. Flow rate was adjusted up to the proper parameter of 0.060 +/- .005 and subsequent testing has been fine.

4. Planned Shut Down due to Inclement Weather

During the week of January 19, 2026, weather forecasts called for a significant icing event in the Site 3 area for the upcoming weekend. We had concerns that the air inlet would ice over and possibly cause an issue with the equipment. We discussed it with WTS. They concurred that it wouldn't be a bad idea to shut down. Thus, we decided to power down the trailer equipment (all air monitoring equipment and pumps shutdown). Equipment was powered down around

12:15 – 12:20 PM EST on January 23, 2026. Equipment was powered back up and in operation around 2:20 PM EST on January 27, 2026.

5. Brief Power Outages

We had a few brief power outages during this quarter.

- 1/19/26 – Power Utility power outage for just a few seconds.
- 1/20/26 – Power accidentally turned off at host site around 12:03 PM EST for 17 to 20 minutes.
- 2/01/26 – Power Utility power outage around 11:51 AM EST for a couple of minutes.
- 2/10/26 – Power Utility power outage around 12:07 PM EST for 2 to 3 minutes.

D1: Data

Quality Control Data was gathered beginning at 1 PM EST on October 23, 2025, and concluded at 8 AM EST on March 12, 2026.

We take a reading for each pollutant and weather parameter every minute. Thus, we collect 60 data readings per hour, 1440 per day.

The hour average time reflects the start of collection for the period. For Example, a 10:00 PM reading reflects the average of minute readings from 10:00 PM – 10:59 PM.

All times reflect eastern standard time. In keeping with EPA policy¹⁴, times during daylight saving time are not adjusted for the time change – times will still reflect eastern standard time.

Data Presentations

BREDL data presentations include minute readings, hour averages (the average of 60 one-minute readings), and 24-hour averages (daily average of the 24-hourly averages). Most of our presentations contain each visual aspect on one page. The page offers a brief description of the visual aspect, a view of the data for the entire collection period, and monthly data graphics.

Data is presented using polar plots, pollution roses, scatter plots, time of day bar graphs, top concentration tables, histograms, day of week charts, and EPA RETIGO wind-pollution plots.

These varying visuals can help analyze if pollutants are more local than regional, more prevalent during a part of the day, or day of the week.

¹⁴ AIRS User's Guide Volume AQ2: Air Quality Data Coding, EPA-454/B-94-006, February 1994, section 7.2.3, page 7-19

D2: Data – Volatile Organic Compounds

Our Aeroqual VOC module contains a PID (Photoionization Detector) sensor. This PID sensor detects a very wide range of VOCs, including aromatic hydrocarbons; however, it does not detect formaldehyde, methane, ethane, propane, and low molecular weight alcohols (such as ethanol, propanol, and butanol). The detected VOCs are measured as total VOCs.

VOCs Findings

- ❖ Overall, VOC levels were low but mostly detectable with 87.44% of readings below 10 ppb. 16.56% of those recorded a 0 ppb level.
- ❖ 9.53% of VOC readings ranged from 10 ppb to 24.9 ppb.
- ❖ Only 0.05% of VOC readings were 25 ppb or higher.
- ❖ VOC averages during the day showed higher concentrations in the morning around 9 to 10 AM. Late evening and early morning hours also had higher concentrations than other parts of the day. Mid-day and afternoon VOC levels were the lowest of the day.
- ❖ Daily averages of VOC concentrations were very consistent throughout the week ranging from a low rounded average of 6.3 ppb on the weekend to a high rounded average of 6.7 ppb on Tuesday and Thursday.
- ❖ Spikes and higher concentrations of VOCs, when present, were usually short-lived often less than 5 minutes.
- ❖ No definitive correlation could be determined if local or regional sources caused the higher VOC concentrations.
- ❖ The highest recorded VOC minute concentration was 78.6 ppb at 12:06 PM on January 16, 2026. The second highest was 50.6 ppb at 8:46 AM on January 28, 2026.
- ❖ The Top 25 highest concentrations of VOCs occurred in January and February.
- ❖ The highest VOC hour average was 21.1 ppb at 1 AM on March 5, 2026. The second highest hour average was 18.2 ppb at 10 PM on February 3, 2026.
- ❖ The highest VOC 24-hour average was 12.0 ppb on February 3, 2026. The second highest 24-hour average was 11.8 ppb on January 22, 2026.
- ❖ VOC levels were noticeably higher once we installed a new internal pump on November 20, 2025.
- ❖ VOC predominantly came from the north, northeast, and southwest. The highest VOC concentrations also came from these 3 directions.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

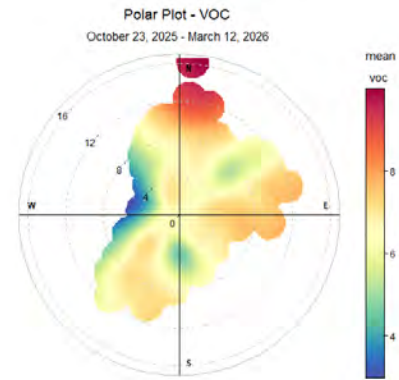


Figure D2-1: Duration of Site 3 Collection

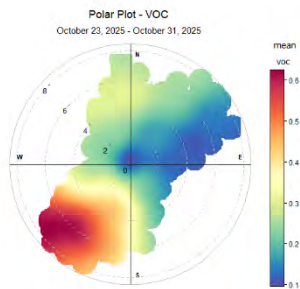


Figure D2-2: October

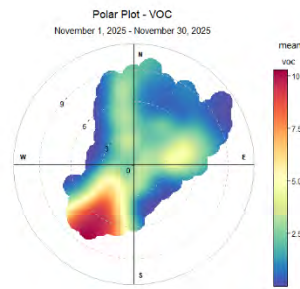


Figure D2-3: November

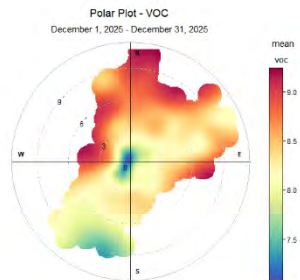


Figure D2-4: December

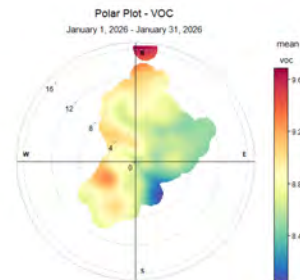


Figure D2-5: January

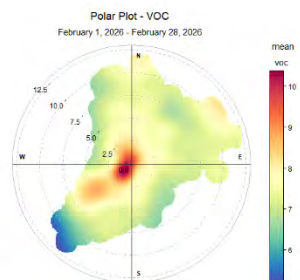


Figure D2-6: February

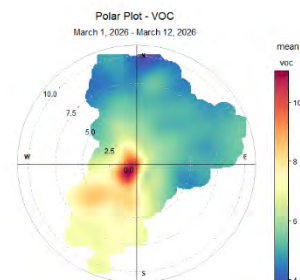


Figure D2-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

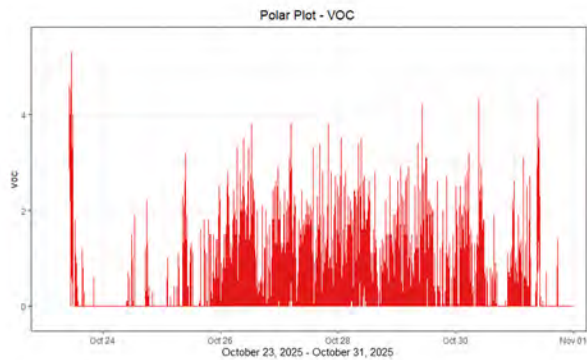


Figure D2-8: Duration of Site 3 Collection

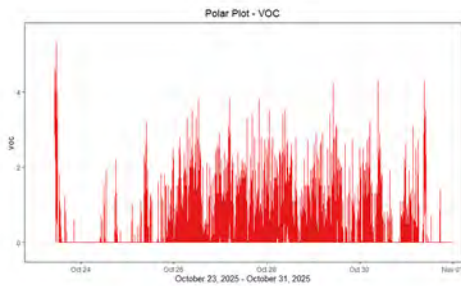


Figure D2-9: October

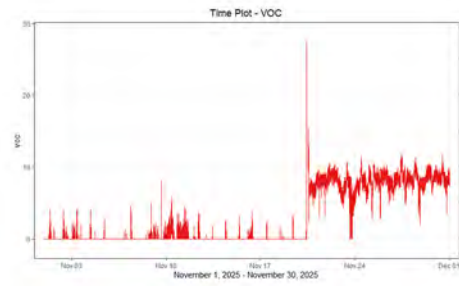


Figure D2-10: November

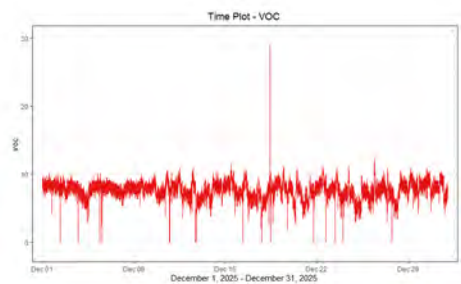


Figure D2-11: December

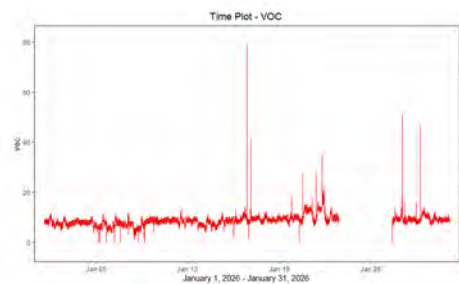


Figure D2-12: January

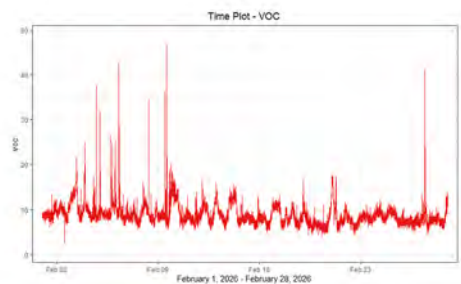


Figure D2-13: February

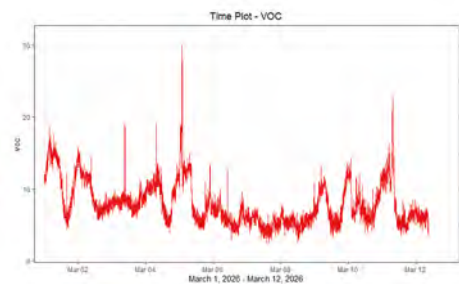


Figure D2-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

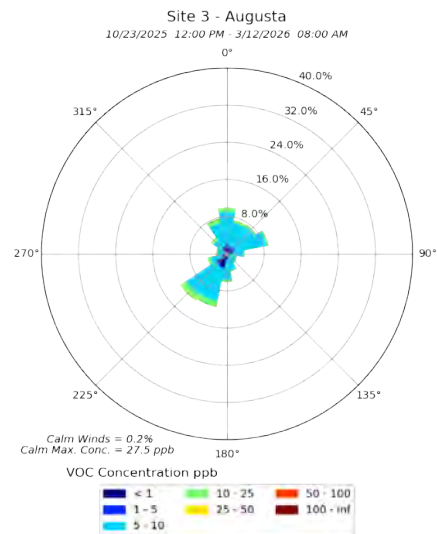


Figure D2-15: Duration of Site 3 Collection

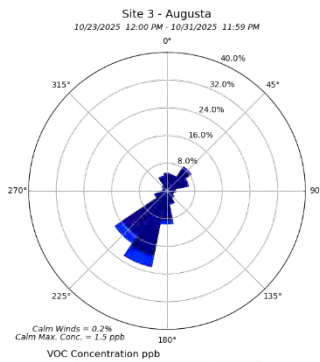


Figure D2-16: October

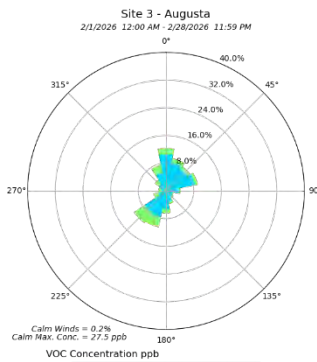


Figure D2-17: November

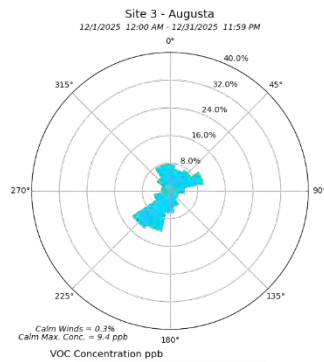


Figure D2-18: December

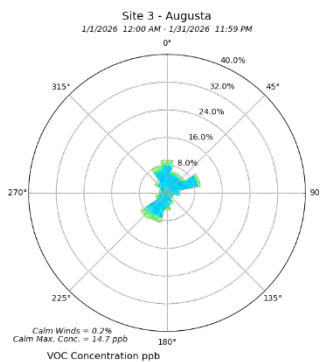


Figure D2-19: January

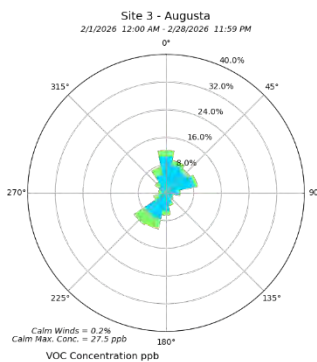


Figure D2-20: February

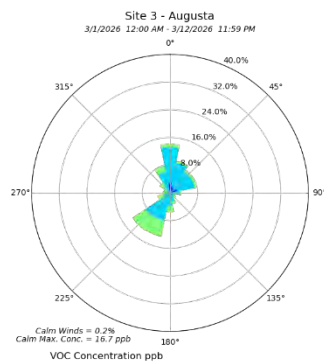


Figure D2-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

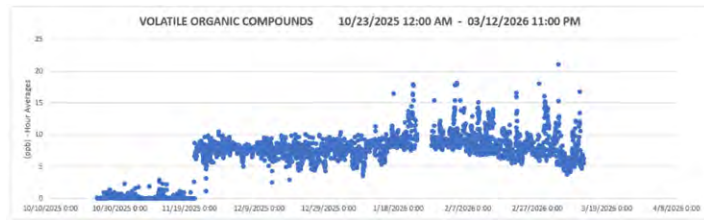


Figure D2-22: Duration of Site 3 Collection



Figure D2-23: October

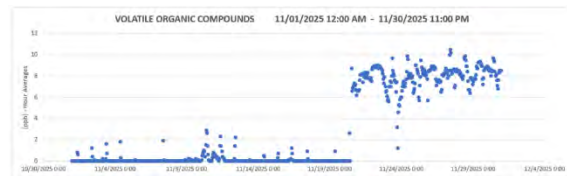


Figure D2-24: November



Figure D2-25: December



Figure D2-26: January



Figure D2-27: February



Figure D2-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.



Figure D2-29: Duration of Site 3 Collection

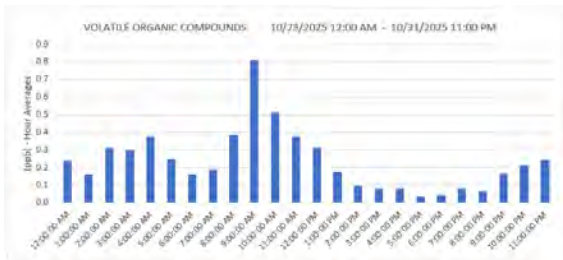


Figure D2-30: October



Figure D2-31: November

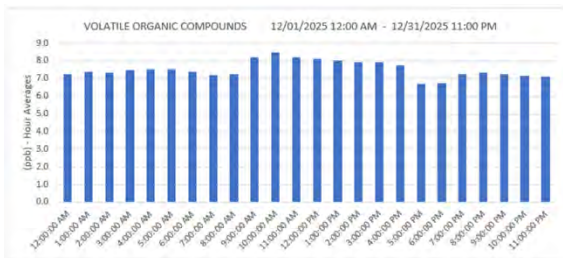


Figure D2-32: December

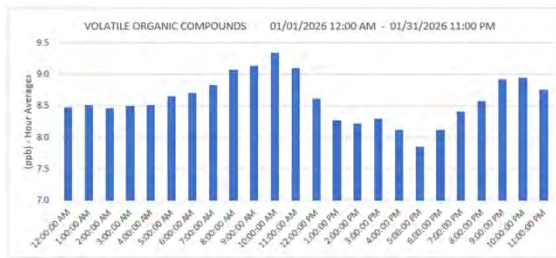


Figure D2-33: January

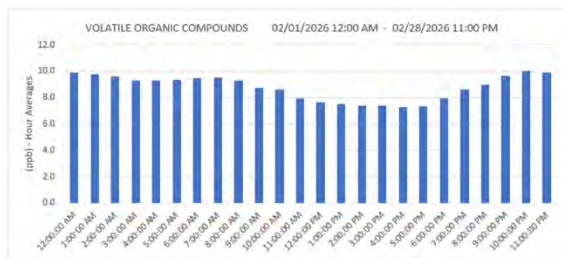


Figure D2-34: February



Figure D2-35: March

Top Concentrations

VOLATILE ORGANIC COMPOUNDS Top 25 Concentrations (ppb) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	78.6	1/16/26 12:06 PM
2	50.6	1/28/26 8:46 AM
3	48.7	1/28/26 8:45 AM
4	46.8	1/29/26 5:49 PM
5	46.6	2/9/26 2:01 PM
6	42.8	2/6/26 6:46 AM
7	41.4	1/16/26 6:48 PM
8	41.2	2/27/26 10:22 AM
9	41.1	1/16/26 6:47 PM
10	40.8	2/27/26 10:23 AM
11	40.7	2/27/26 10:24 AM
12	40.6	2/27/26 10:25 AM
13	40.4	2/27/26 10:26 AM
14	40.0	1/16/26 6:49 PM
15	39.8	2/27/26 10:27 AM
16	39.0	1/16/26 12:05 PM
17	37.8	1/16/26 6:50 PM
18	37.6	2/4/26 5:18 PM
19	37.6	2/27/26 10:28 AM
20	37.2	1/16/26 6:46 PM
21	36.3	2/9/26 11:11 AM
22	35.9	1/28/26 8:44 AM
23	35.2	1/22/26 5:39 AM
24	34.7	1/22/26 5:40 AM
25	34.7	2/6/26 6:47 AM

Figure D2-36: Top 25 Minute Readings

VOLATILE ORGANIC COMPOUNDS Top 25 Concentrations (ppb) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	21.1	3/5/2026 1:00 AM
2	18.2	2/3/2026 10:00 PM
3	18.1	2/27/2026 10:00 AM
4	18.0	2/3/2026 9:00 PM
5	18.0	1/22/2026 7:00 AM
6	17.9	2/3/2026 8:00 AM
7	17.8	1/22/2026 8:00 AM
8	16.8	3/11/2026 7:00 AM
9	16.6	2/21/2026 12:00 AM
10	16.5	1/22/2026 5:00 AM
11	16.5	1/16/2026 6:00 PM
12	16.3	1/22/2026 6:00 AM
13	16.1	3/1/2026 3:00 AM
14	16.0	2/21/2026 1:00 AM
15	15.4	2/4/2026 10:00 PM
16	15.4	2/3/2026 7:00 AM
17	15.4	1/28/2026 8:00 AM
18	15.4	1/22/2026 9:00 AM
19	15.3	3/5/2026 12:00 AM
20	15.2	3/1/2026 7:00 AM
21	15.2	3/1/2026 6:00 AM
22	15.1	2/9/2026 11:00 PM
23	14.9	3/1/2026 4:00 AM
24	14.5	3/1/2026 8:00 AM
25	14.5	1/21/2026 10:00 PM

Figure D2-37: Top 25 Hourly Averages

VOLATILE ORGANIC COMPOUNDS Top 25 Concentrations (ppb) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	12.0	2/3/2026
2	11.8	1/22/2026
3	11.5	1/21/2026
4	11.3	3/1/2026
5	10.1	2/10/2026
6	9.9	1/20/2026
7	9.8	1/16/2026
8	9.7	2/14/2026
9	9.7	2/2/2026
10	9.7	1/30/2026
11	9.6	2/5/2026
12	9.5	2/4/2026
13	9.4	2/12/2026
14	9.4	2/9/2026
15	9.3	2/8/2026
16	9.3	2/6/2026
17	9.3	1/29/2026
18	9.3	1/19/2026
19	9.2	3/5/2026
20	9.2	3/4/2026
21	9.2	3/2/2026
22	9.2	2/13/2026
23	9.2	1/17/2026
24	9.1	1/28/2026
25	9.0	2/21/2026

Figure D2-38: Top 25 Daily Averages

Histogram

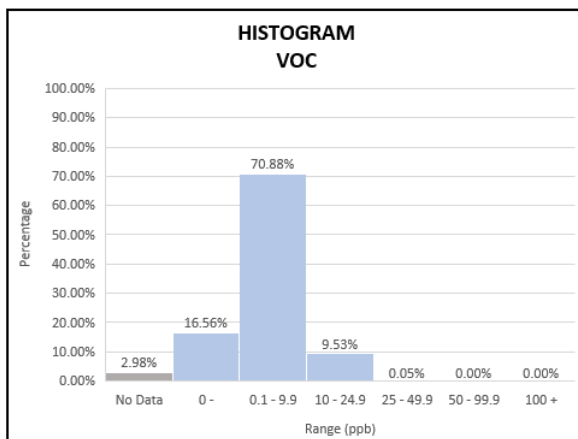


Figure D2-39: Percentages for Concentration Ranges

87.44% of VOC readings were below 10 ppb.

Day of Week Averages

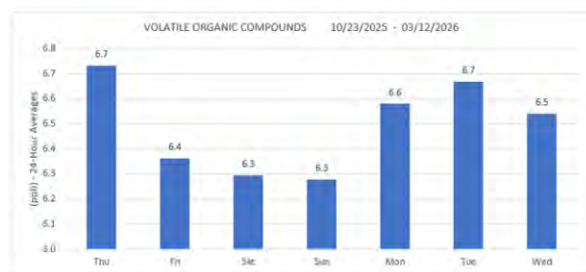


Figure D2-40: Daily Averages based on Day of Week

VOC concentration daily averages were pretty uniform throughout the week ranging from a low average of 6.3 ppb to a high average of 6.7 ppb.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.¹⁵

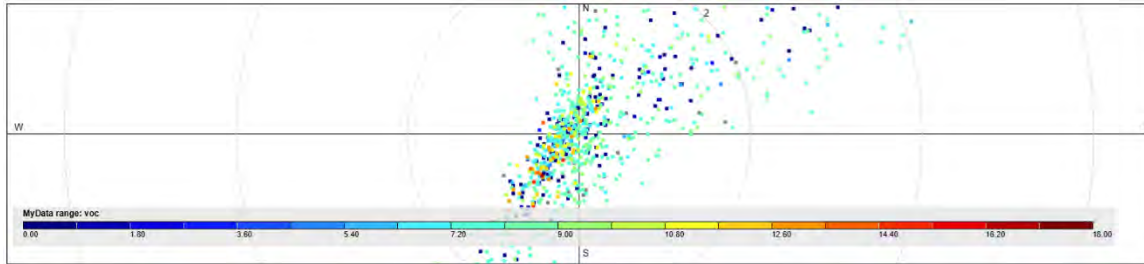


Figure D2-41: Duration of Site 3 Collection

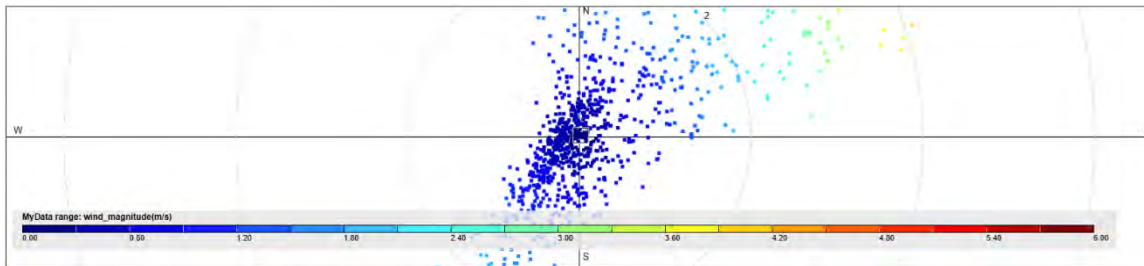


Figure D2-42: Wind Speed for Duration of Collection Period

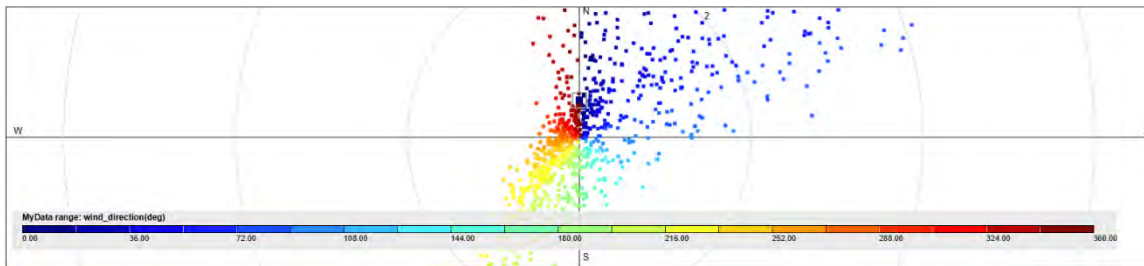


Figure D2-43: Wind Direction for Duration of Collection Period

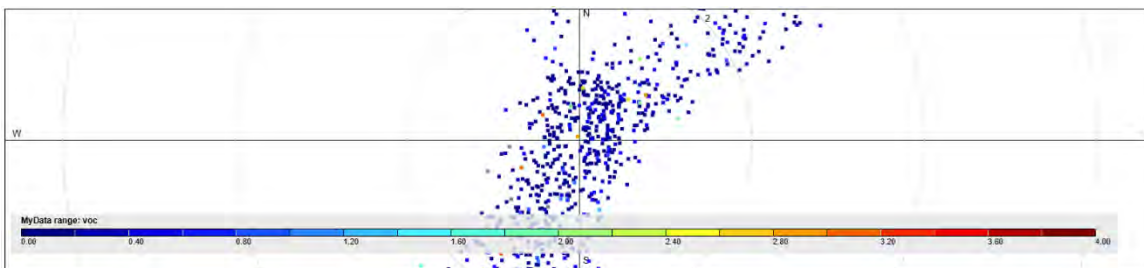


Figure D2-44: October

¹⁵ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

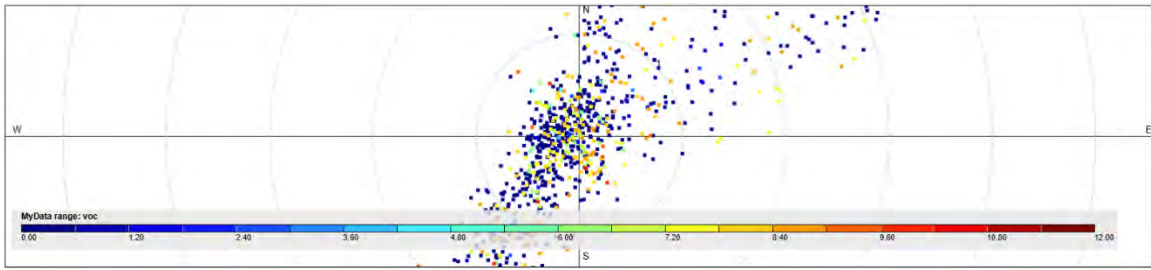


Figure D2-45: November

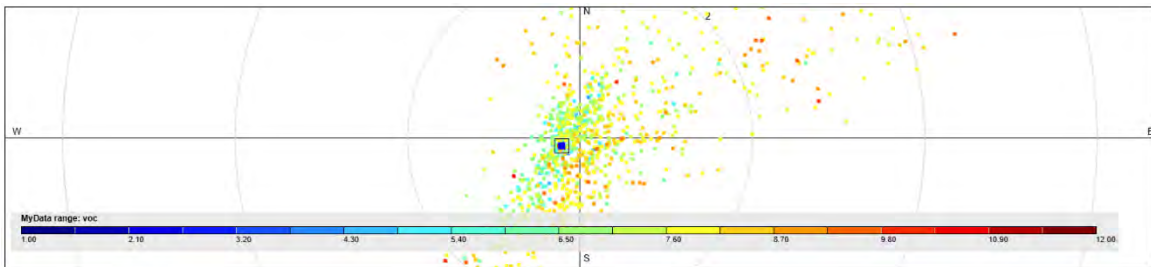


Figure D2-46: December

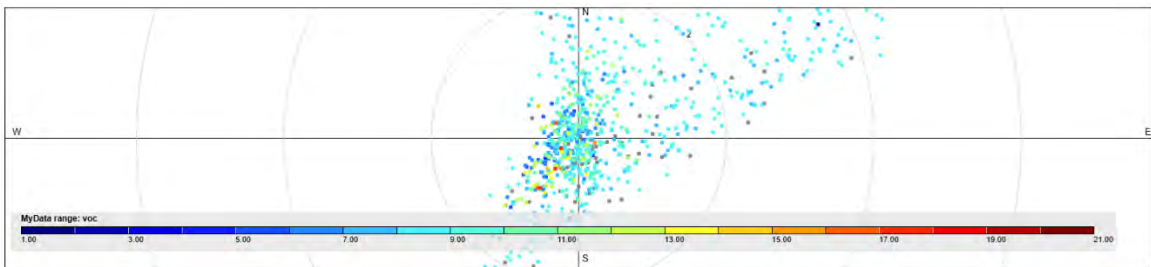


Figure D2-47: January

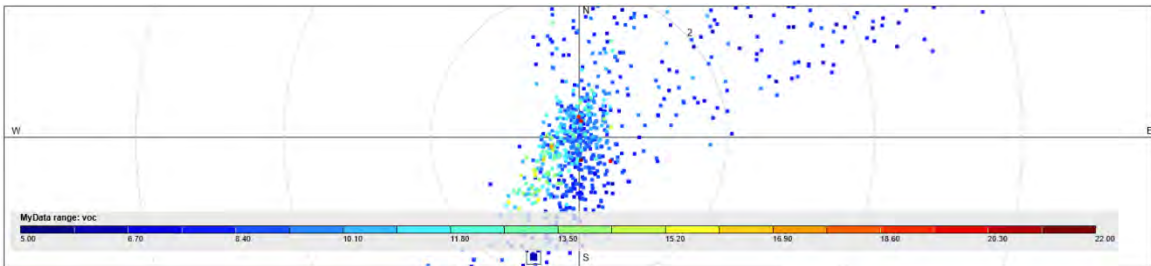


Figure D2-48: February

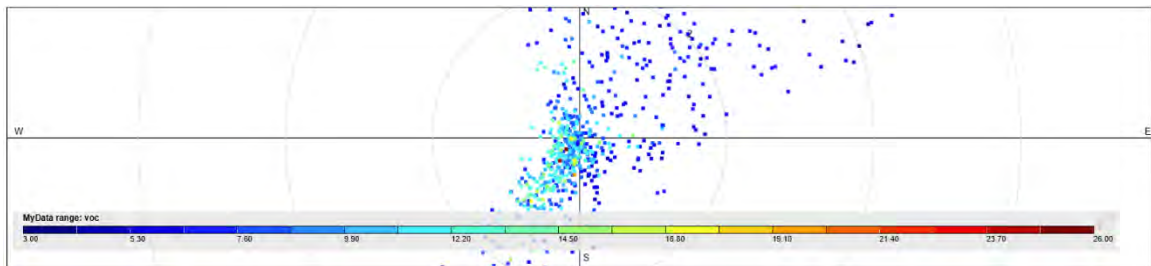


Figure D2-49: March

We separated the VOC one-minute concentrations of at least 25 ppb and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

VOC high concentrations appear to have come mostly from north, northeast, and southwest, but not limited to those directions.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

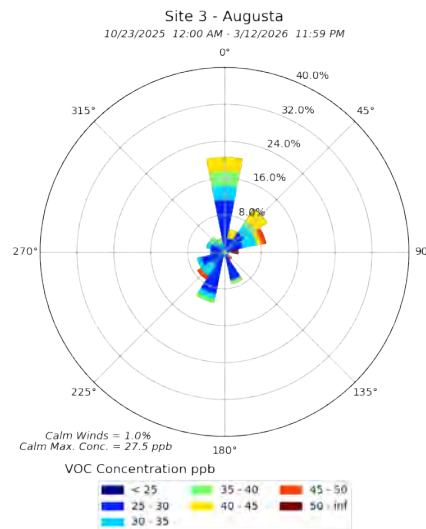


Figure D2-50: VOC Concentrations of at least 25 ppb

D3: Data – Particulate Matter 2.5

PM2.5 Findings

- ❖ We did not record any NAAQS exceedances for the PM 2.5 24-hour standard.
- ❖ Most of the spikes and higher concentrations during our collection were most likely from regional sources. When we examined spikes and higher concentrations, usually the entire region was experiencing fires, smoke, and/or moderate PM levels.
- ❖ The Augusta PM 2.5 air quality was not very good. Only 54.82%, just over half, of PM 2.5 readings registered in the good range.
- ❖ 40.66% of PM 2.5 minute readings would be in the moderate AQI category.
- ❖ 1.46% of PM 2.5 readings would be in the unhealthy categories.
- ❖ PM 2.5 averages during the day showed higher concentrations in the morning around 9 to 10 AM. Late evening and early morning hours also had higher concentrations than other parts of the day. Mid-day and afternoon PM 2.5 levels were the lowest of the day.
- ❖ Daily averages of PM 2.5 concentrations were lowest on Mondays. The highest levels were mid-week with lower concentrations Friday-Monday.
- ❖ All day of week averages were outside the good air quality range, except for Monday.
- ❖ Based on EPA AQI, during our collection period our data indicated 68 green, good air quality days and 66 yellow, moderate air quality days for PM 2.5.
- ❖ The highest concentration of PM 2.5 was 151.5 ug/m³ recorded at 10:29 PM on November 11, 2025. The second highest was 142.8 ug/m³ just one minute later at 10:30 PM on November 11, 2025.
- ❖ The highest hour average of PM 2.5 was 84.3 ug/m³ recorded at 10 AM on December 17, 2025. The second highest hour average was 81.3 ug/m³ during the previous hour at 9 AM on December 17, 2025.
- ❖ The highest 24-hour PM 2.5 average was 34.0 ug/m³, just under the 24-hour NAAQS, on December 17, 2025.
- ❖ Most of the PM 2.5 came from north, northeast, and southwest sources.

Recommendation

- ❖ Because of the consistent moderate PM 2.5 levels and known health impacts, we recommend that Fort Gordon and anyone else conducting controlled/prescribed burns to consult recent, ongoing, and forecasted air quality for the area. Burns should be postponed during bad air quality events.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

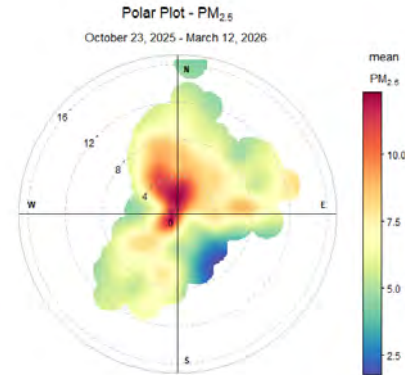


Figure D3-1: Duration of Site 3 Collection

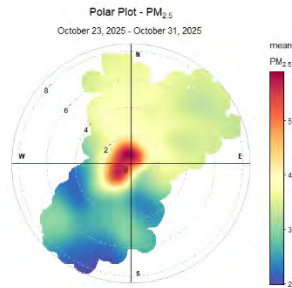


Figure D3-2: October

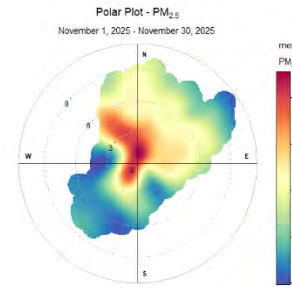


Figure D3-3: November

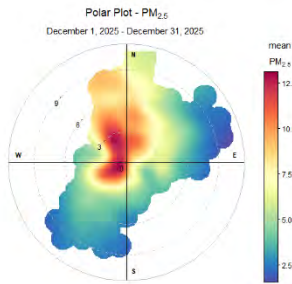


Figure D3-4: December

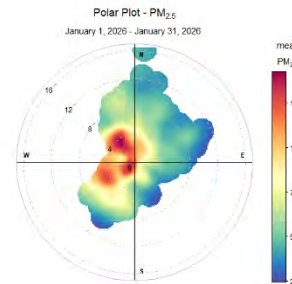


Figure D3-5: January

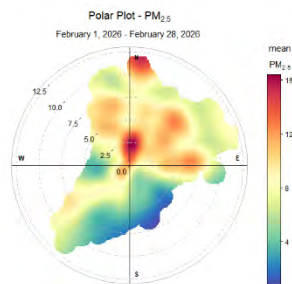


Figure D3-6: February

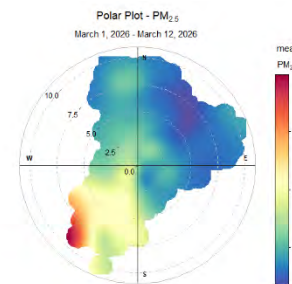


Figure D3-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

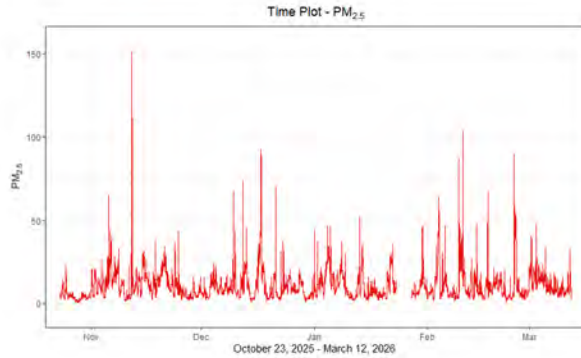


Figure D3-8: Duration of Site 3 Collection



Figure D3-9: October

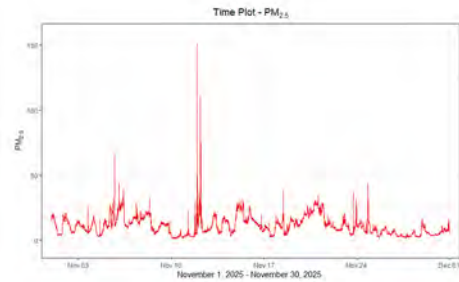


Figure D3-10: November

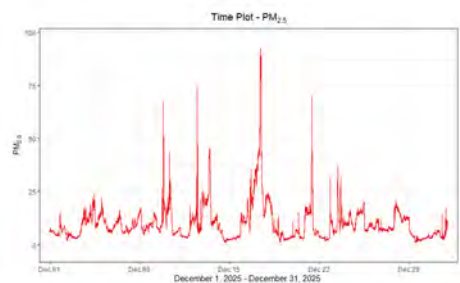


Figure D3-11: December

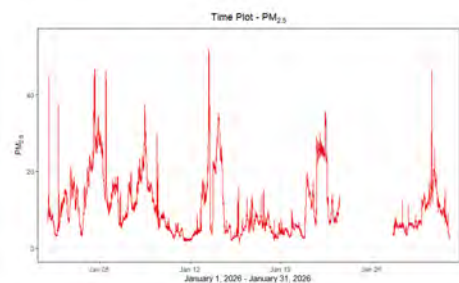


Figure D3-12: January

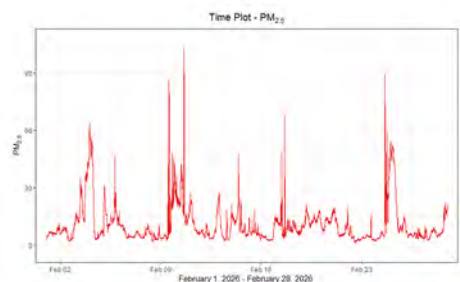


Figure D3-13: February

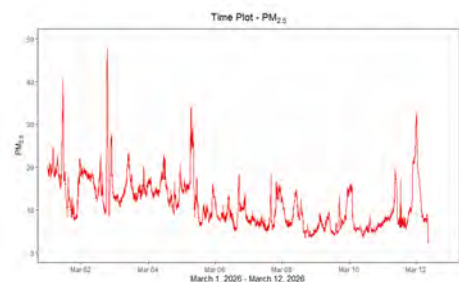


Figure D3-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

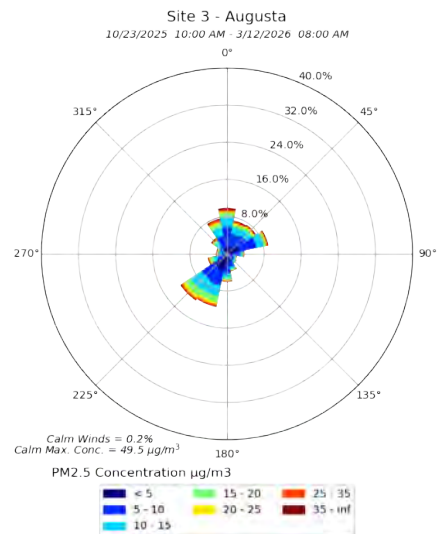


Figure D3-15: Duration of Site 3 Collection

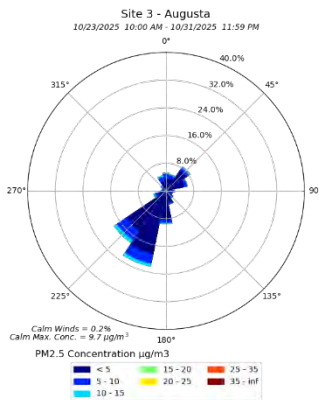


Figure D3-16: October

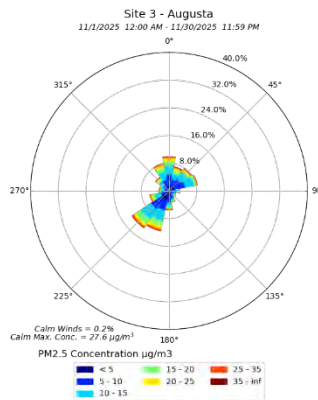


Figure D3-17: November

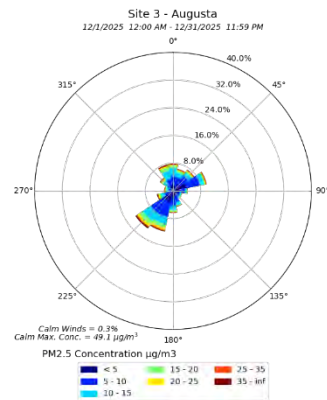


Figure D3-18: December

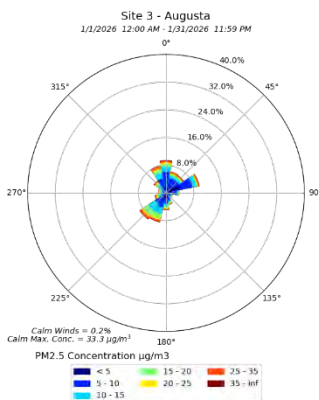


Figure D3-19: January

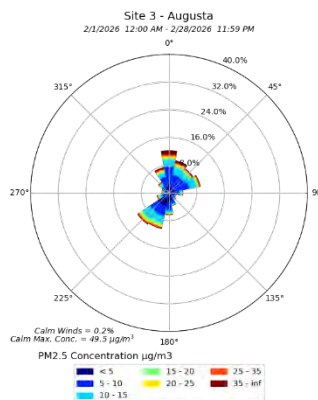


Figure D3-20: February

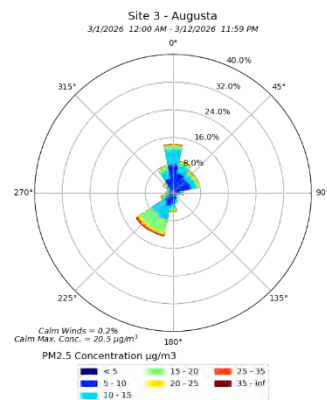


Figure D3-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

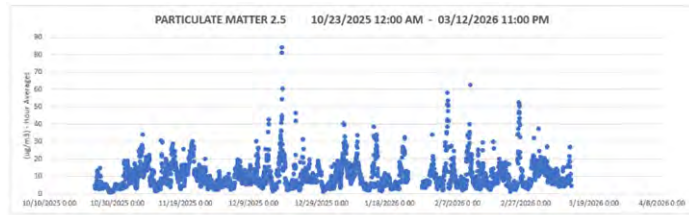


Figure D3-22: Duration of Site 3 Collection



Figure D3-23: October



Figure D3-24: November

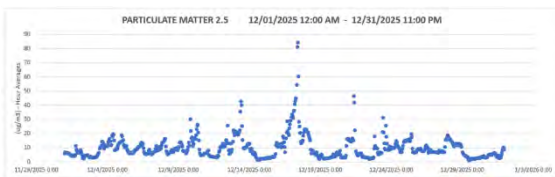


Figure D3-25: December



Figure D3-26: January

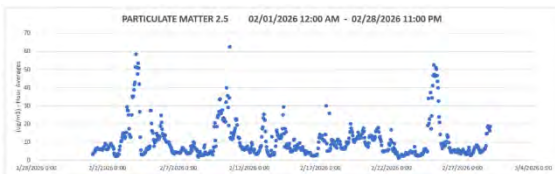


Figure D3-27: February



Figure D3-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.



Figure D3-29: Duration of Site 3 Collection



Figure D3-30: October



Figure D3-31: November



Figure D3-32: December

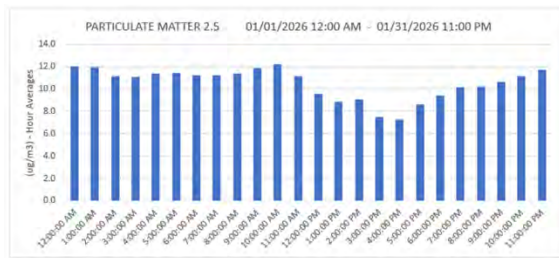


Figure D3-33: January

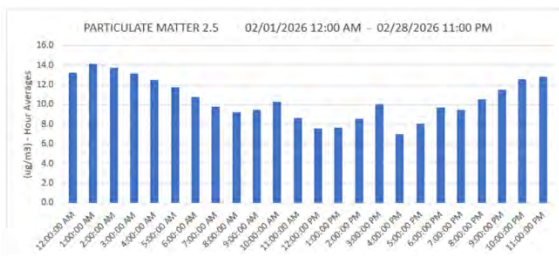


Figure D3-34: February

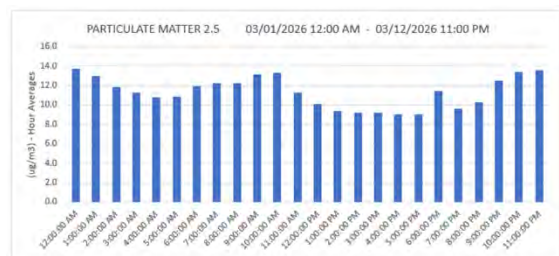


Figure D3-35: March

24-Hour Averages

The 24-hour averages display the day's NAAQS standard. The 24-hour average consists of the average of the day's hourly averages. A 24-hour average over 34.4 would be an exceedance of the NAAQS.

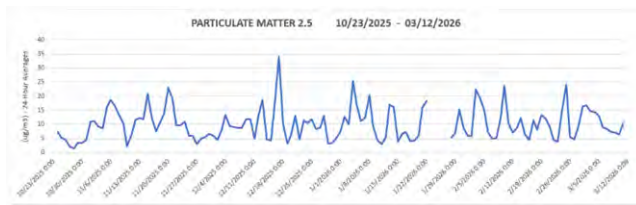


Figure D3-36: Duration of Site 3 Collection



Figure D3-37: October



Figure D3-38: November

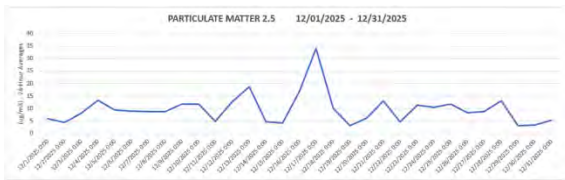


Figure D3-39: December



Figure D3-40: January

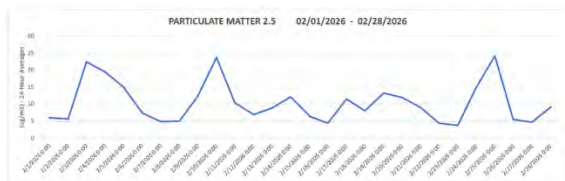


Figure D3-41: February



Figure D3-42: March

Top Concentrations

PARTICULATE MATTER 2.5 Top 25 Concentrations (ug/m3) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	151.5	11/11/25 10:29 PM
2	142.8	11/11/25 10:30 PM
3	113.5	11/11/25 10:28 PM
4	111.2	11/12/25 4:38 AM
5	105.1	11/11/25 10:23 PM
6	102.9	2/10/26 3:03 PM
7	102.5	2/10/26 3:02 PM
8	101.5	2/10/26 3:04 PM
9	101.4	2/10/26 3:01 PM
10	100.9	11/12/25 4:39 AM
11	100.2	11/11/25 10:31 PM
12	100.1	2/10/26 3:00 PM
13	97.4	2/10/26 2:59 PM
14	94.9	2/10/26 3:05 PM
15	94.1	2/10/26 2:58 PM
16	93.6	11/11/25 10:24 PM
17	92.7	11/12/25 4:37 AM
18	92.7	12/17/25 9:41 AM
19	92.3	12/17/25 9:40 AM
20	92.2	12/17/25 9:42 AM
21	91.6	12/17/25 9:43 AM
22	91.4	12/17/25 9:39 AM
23	90.8	12/17/25 9:44 AM
24	90.3	12/17/25 9:38 AM
25	90.3	12/17/25 9:45 AM

Figure D3-43: Top 25 Minute Readings

PARTICULATE MATTER 2.5 Top 25 Concentrations (ug/m3) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	84.3	12/17/2025 10:00 AM
2	81.3	12/17/2025 9:00 AM
3	62.6	2/10/2026 3:00 PM
4	60.6	12/17/2025 11:00 AM
5	58.4	2/4/2026 1:00 AM
6	54.5	12/17/2025 8:00 AM
7	53.6	2/4/2026 4:00 AM
8	52.5	2/25/2026 12:00 AM
9	51.5	2/4/2026 12:00 AM
10	51.2	2/25/2026 3:00 AM
11	51.1	2/4/2026 2:00 AM
12	50.8	2/4/2026 5:00 AM
13	50.3	2/25/2026 4:00 AM
14	47.6	2/4/2026 3:00 AM
15	47.3	2/25/2026 1:00 AM
16	46.8	2/25/2026 5:00 AM
17	46.7	2/24/2026 11:00 PM
18	46.6	12/21/2025 9:00 AM
19	46.4	2/25/2026 2:00 AM
20	45.1	12/17/2025 7:00 AM
21	43.6	2/25/2026 6:00 AM
22	43.2	12/17/2025 6:00 AM
23	42.9	12/13/2025 10:00 AM
24	42.8	2/3/2026 11:00 PM
25	42.1	12/21/2025 10:00 AM

Figure D3-44: Top 25 Hourly Averages

PARTICULATE MATTER 2.5 Top 25 Concentrations (ug/m3) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	34.0	12/17/2025
2	25.5	1/4/2026
3	24.2	2/25/2026
4	23.8	2/10/2026
5	23.0	11/20/2025
6	22.5	2/3/2026
7	21.0	11/15/2025
8	20.2	1/8/2026
9	19.4	2/4/2026
10	18.9	11/21/2025
11	18.8	12/13/2025
12	18.7	11/6/2025
13	18.4	1/22/2026
14	17.1	1/13/2026
15	17.1	1/5/2026
16	16.9	3/2/2026
17	16.9	12/16/2025
18	16.6	11/7/2025
19	16.4	3/1/2026
20	16.2	1/14/2026
21	16.2	11/5/2025
22	15.9	1/21/2026
23	15.3	1/30/2026
24	15.0	2/5/2026
25	14.9	2/24/2026

Figure D3-45: Top 25 Daily Averages

Histogram

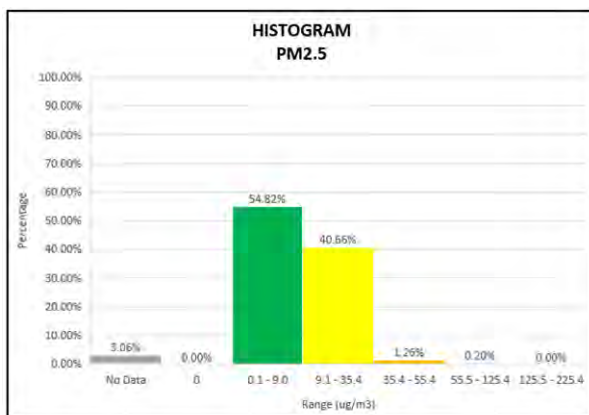


Figure D3-46: Percentages for Concentration Ranges

Histogram colors indicate EPA AQI ranges. Only 54.82%, just over half, of PM 2.5 readings registered in the good air quality range.

Day of Week Averages

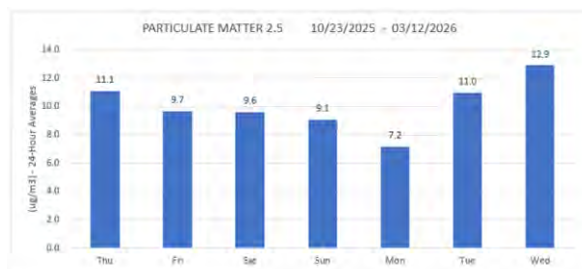


Figure D3-47: Daily Averages based on Day of Week

PM2.5 concentration daily averages were lower on Sunday and Monday, especially Monday. Concentrations were higher during mid-week. All day of week averages were outside the good air quality range, except for Monday.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.¹⁶

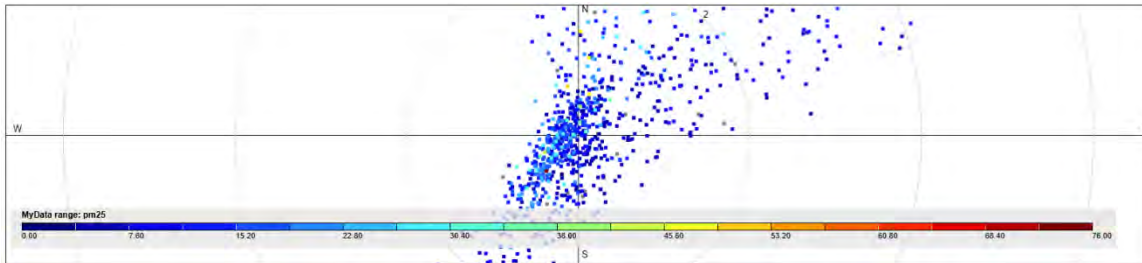


Figure D3-48: Duration of Site 3 Collection

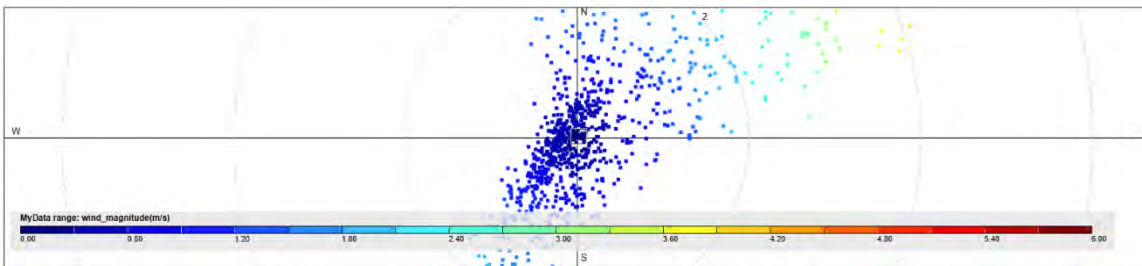


Figure D3-49: Wind Speed for Duration of Collection Period

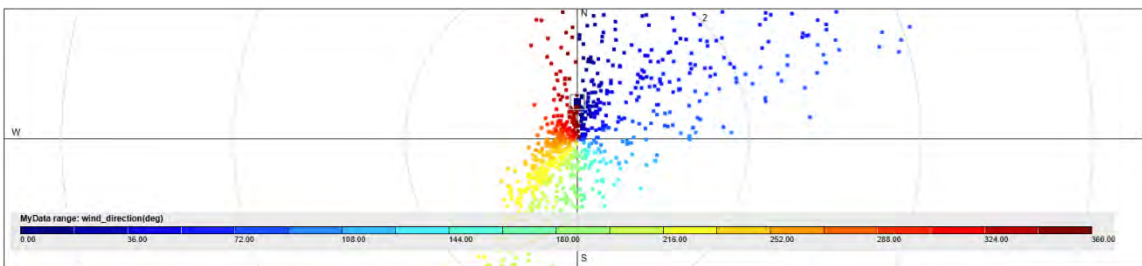


Figure D3-50: Wind Direction for Duration of Collection Period

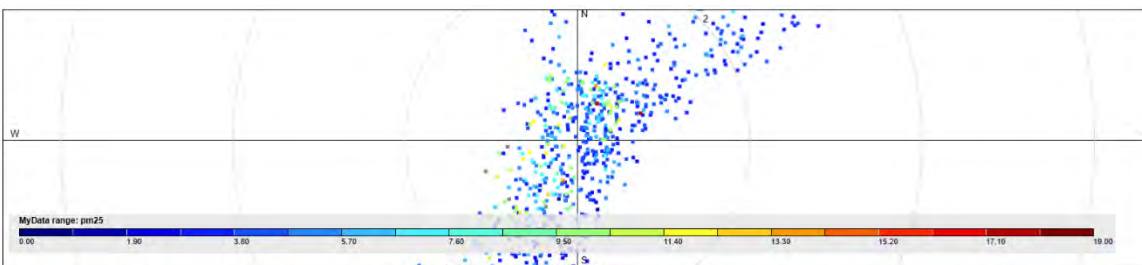


Figure D3-51: October

¹⁶ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

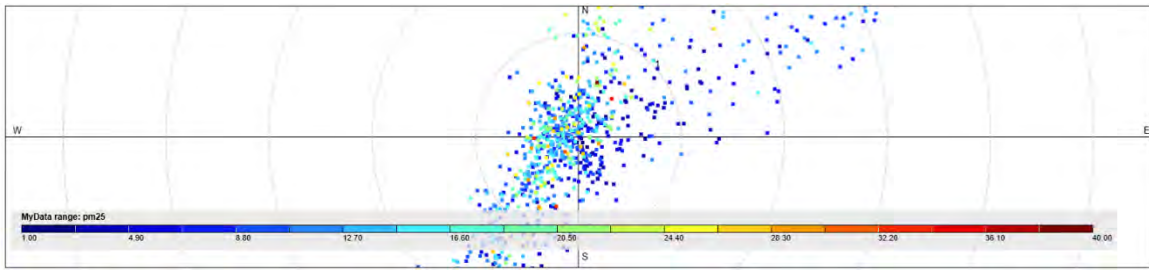


Figure D3-52: November

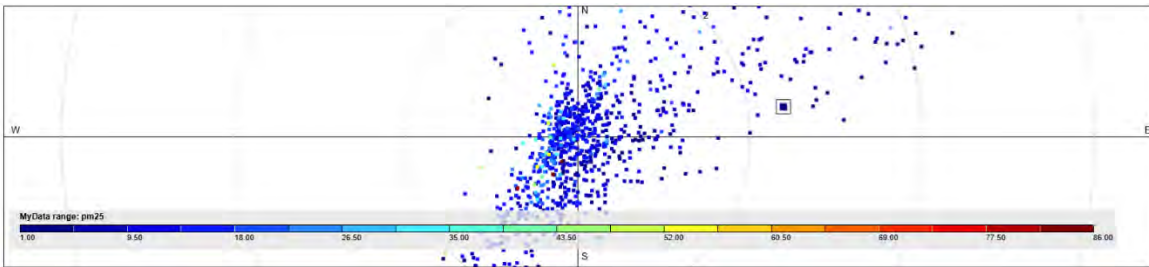


Figure D3-53: December

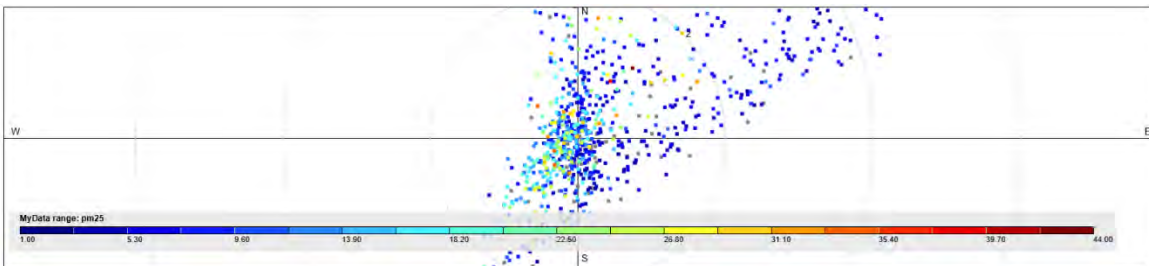


Figure D3-54: January

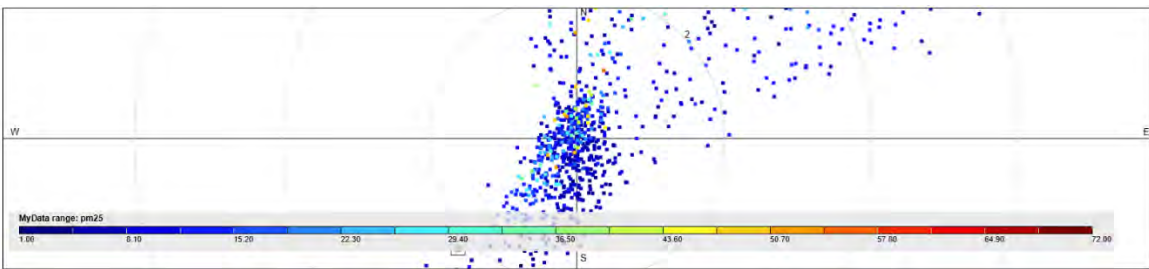


Figure D3-55: February

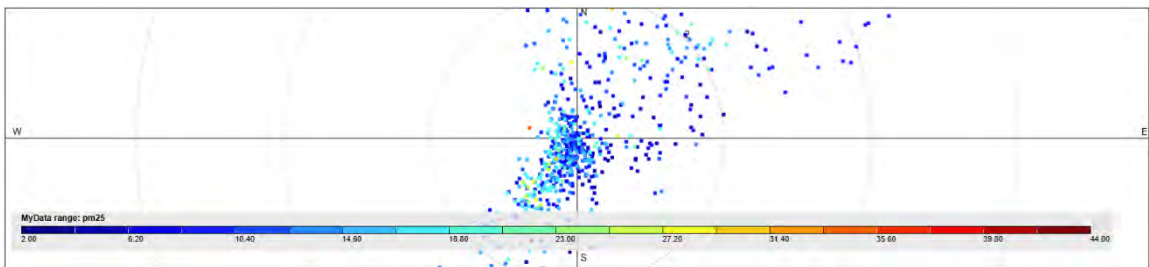


Figure D3-56: March

We separated the PM2.5 one-minute concentrations of at least 35 $\mu\text{g}/\text{m}^3$ and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

PM2.5 high concentrations appear to have come mostly from north, northeast, and southwest, but not limited to those directions.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

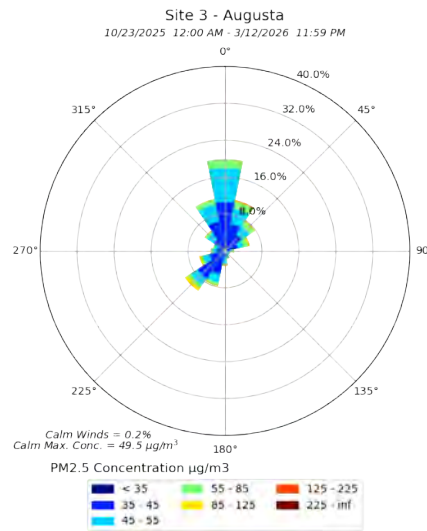


Figure D3-57: PM 2.5 Concentrations of at least 35 $\mu\text{g}/\text{m}^3$

D4: Data – Particulate Matter 10

PM10 Findings

- ❖ We did not record any NAAQS exceedances for the PM 10 24-hour standard.
- ❖ Most of the spikes and higher concentrations during our collection were most likely from regional sources. When we examined spikes and higher concentrations, usually the entire region was experiencing fires, smoke, and/or moderate PM levels.
- ❖ 95.60% of PM 10 readings registered in the good range.
- ❖ Only 1.31 % of PM 10 readings were in the moderate range.
- ❖ A small amount 0.02% of PM 10 readings were in the unhealthy range.
- ❖ PM 10 averages during the day showed higher concentrations in the morning around 9 to 10 AM. Late evening and early morning hours also had higher concentrations than other parts of the day. Mid-day and afternoon PM 10 levels were the lowest of the day.
- ❖ Daily averages of PM 10 concentrations were lowest on Mondays. The highest levels were mid-week with lower concentrations Saturday-Monday.
- ❖ Based on EPA AQI, during our collection period our data indicated all green, good air quality days for PM 10.
- ❖ The highest concentration of PM 10 was 397.7 ug/m³ recorded at 10:29 PM on November 11, 2025. The second highest was 379.7 ug/m³ at 6:27 AM on December 10, 2025.
- ❖ The highest hour average of PM 10 was 169.6 ug/m³ at 6 AM on December 10, 2025. The second highest hour average was 106.5 ug/m³ at 9 AM on December 17, 2025.
- ❖ The highest 24-hour average of PM 10 was 47.9 ug/m³ on December 17, 2025. The second highest was 36.0 ug/m³ on November 15, 2025.
- ❖ Most of the PM 10 came from north, northeast, and southwest sources.
- ❖ The highest concentrations of PM 10 came from the north.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

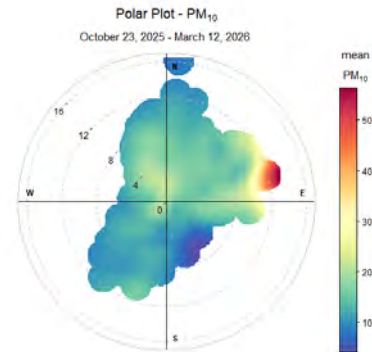


Figure D4-1: Duration of Site 3 Collection

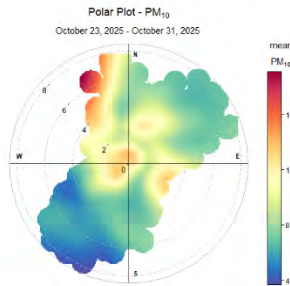


Figure D4-2: October

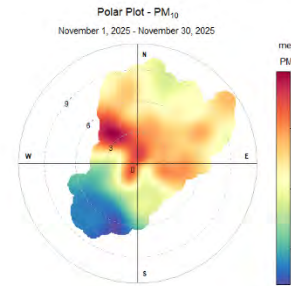


Figure D4-3: November

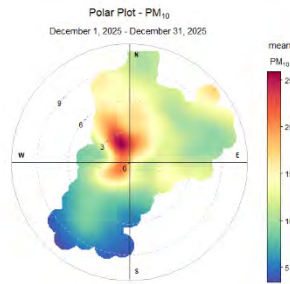


Figure D4-4: December

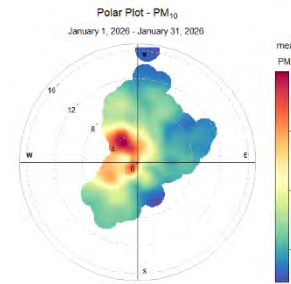


Figure D4-5: January

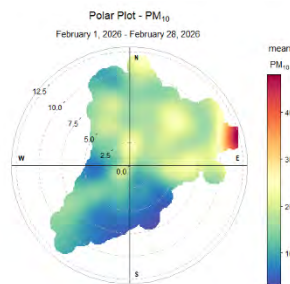


Figure D4-6: February

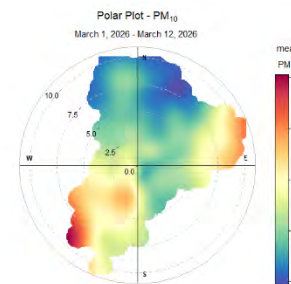


Figure D4-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

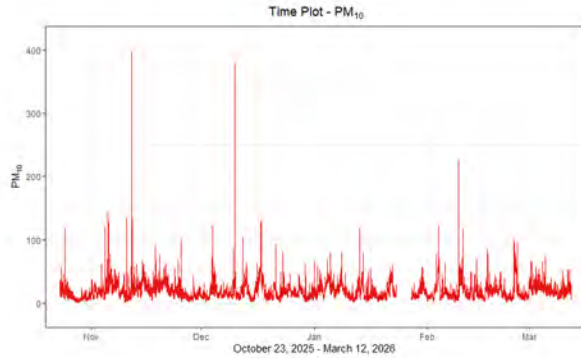


Figure D4-8: Duration of Site 3 Collection

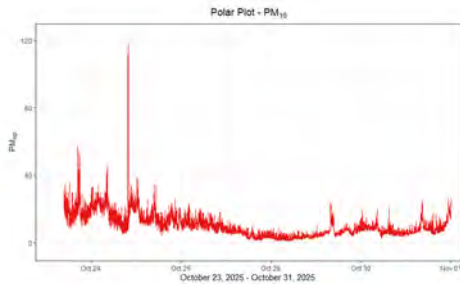


Figure D4-9: October

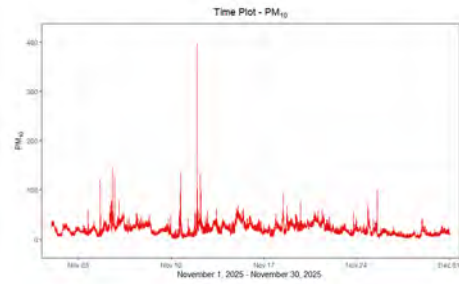


Figure D4-10: November

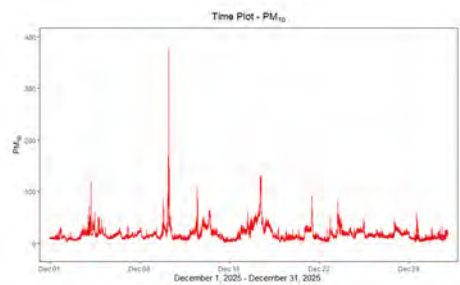


Figure D4-11: December

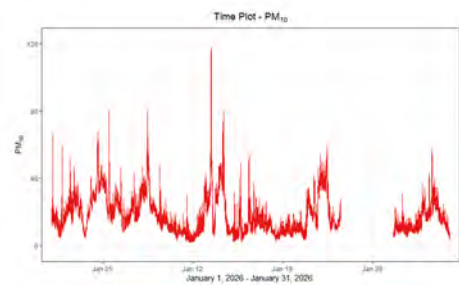


Figure D4-12: January

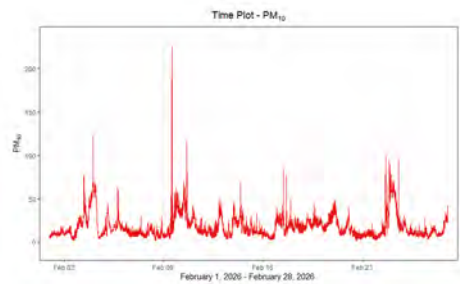


Figure D4-13: February

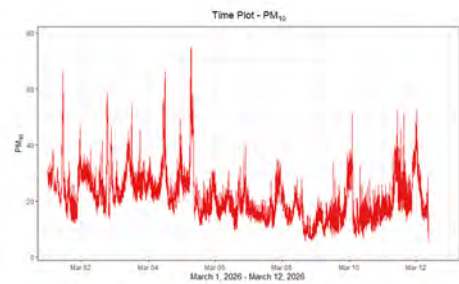


Figure D4-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

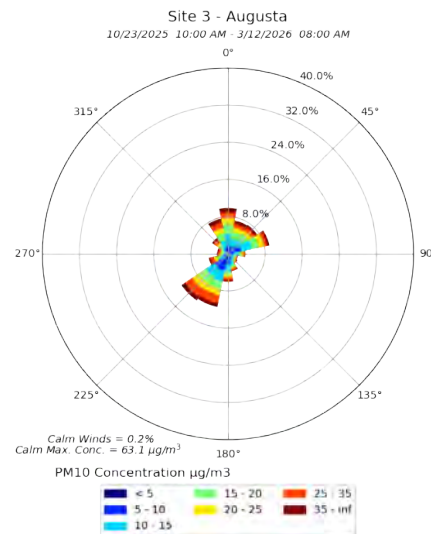


Figure D4-15: Duration of Site 3 Collection

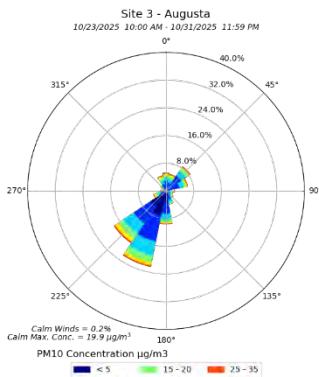


Figure D4-16: October

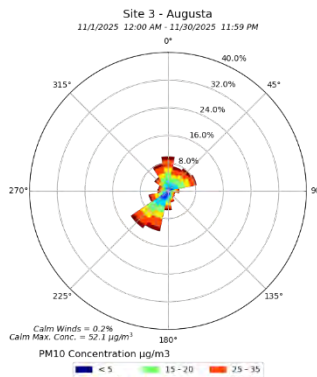


Figure D4-17: November

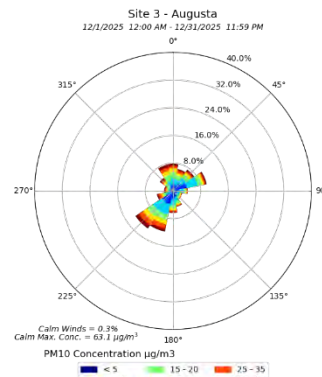


Figure D4-18: December

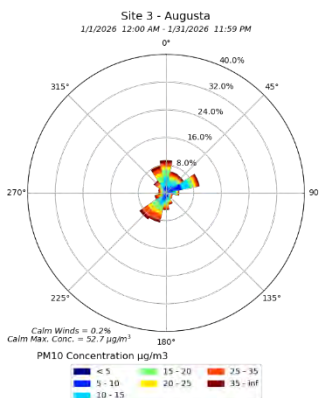


Figure D4-19: January

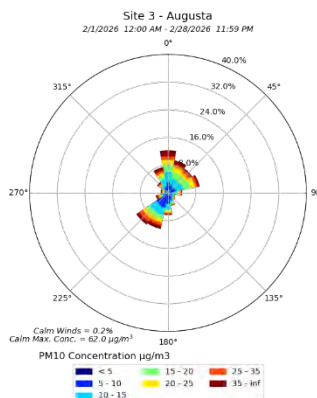


Figure D4-20: February

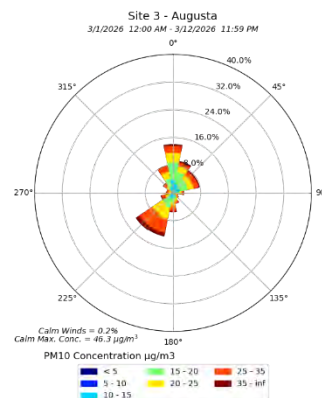


Figure D4-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

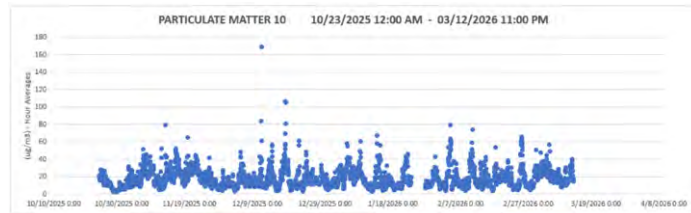


Figure D4-22: Duration of Site 3 Collection

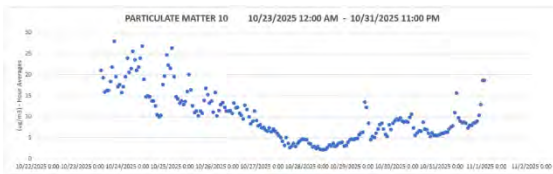


Figure D4-23: October

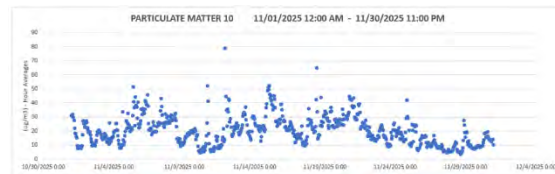


Figure D4-24: November

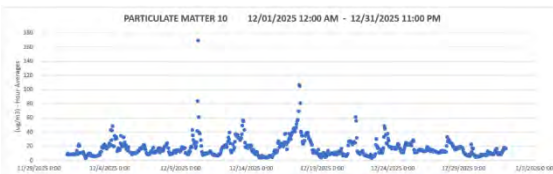


Figure D4-25: December

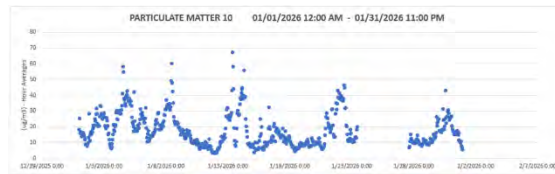


Figure D4-26: January



Figure D4-27: February



Figure D4-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.



Figure D4-29: Duration of Site 3 Collection



Figure D4-30: October



Figure D4-31: November



Figure D4-32: December



Figure D4-33: January



Figure D4-34: February



Figure D4-35: March

24-Hour Averages

The 24-hour averages display the day's NAAQS standard. The 24-hour average consists of the average of the day's hourly averages. A 24-hour average over 150 $\mu\text{g}/\text{m}^3$ would be an exceedance of the NAAQS.

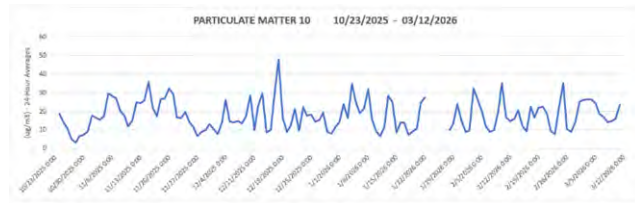


Figure D4-36: Duration of Site 3 Collection

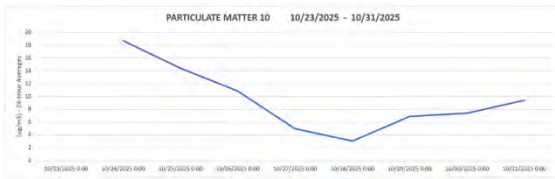


Figure D4-37: October

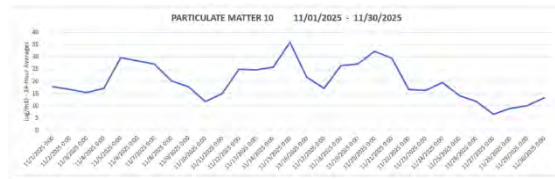


Figure D4-38: November



Figure D4-39: December

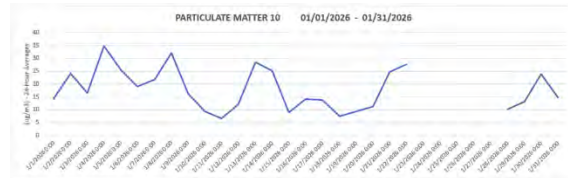


Figure D4-40: January



Figure D4-41: February

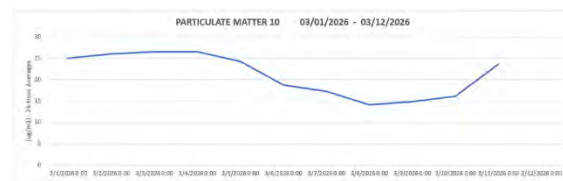


Figure D4-42: March

Top Concentrations

PARTICULATE MATTER 10 Top 25 Concentrations (ug/m3) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	397.7	11/11/25 10:29 PM
2	379.7	12/10/25 6:27 AM
3	379.2	12/10/25 6:26 AM
4	370.9	11/11/25 10:30 PM
5	315.9	12/10/25 6:28 AM
6	296.3	11/11/25 10:28 PM
7	271.4	11/11/25 10:23 PM
8	262.2	11/11/25 10:31 PM
9	261.1	12/10/25 6:25 AM
10	249.6	12/10/25 6:49 AM
11	242.9	11/11/25 10:24 PM
12	241.0	12/10/25 6:43 AM
13	237.6	12/10/25 6:44 AM
14	237.1	11/11/25 10:22 PM
15	231.9	12/10/25 6:48 AM
16	226.1	2/9/26 2:21 PM
17	215.0	12/10/25 6:29 AM
18	213.0	12/10/25 6:35 AM
19	209.9	12/10/25 6:50 AM
20	205.0	12/10/25 6:45 AM
21	197.3	12/10/25 6:42 AM
22	191.2	12/10/25 6:33 AM
23	190.1	2/9/26 2:22 PM
24	189.4	12/10/25 6:47 AM
25	188.8	2/9/26 1:33 PM

Figure D4-43: Top 25 Minute Readings

PARTICULATE MATTER 10 Top 25 Concentrations (ug/m3) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	169.6	12/10/2025 6:00 AM
2	106.5	12/17/2025 9:00 AM
3	105.3	12/17/2025 10:00 AM
4	83.7	12/10/2025 5:00 AM
5	81.1	12/17/2025 11:00 AM
6	79.1	2/4/2026 1:00 AM
7	79.1	11/11/2025 10:00 PM
8	74.3	2/10/2026 3:00 PM
9	69.5	12/17/2025 8:00 AM
10	67.2	1/13/2026 9:00 AM
11	66.0	2/25/2026 12:00 AM
12	65.2	11/18/2025 10:00 AM
13	63.5	2/4/2026 12:00 AM
14	62.6	2/25/2026 3:00 AM
15	62.5	2/25/2026 4:00 AM
16	61.6	2/24/2026 10:00 PM
17	61.6	2/4/2026 4:00 AM
18	61.1	12/21/2025 9:00 AM
19	61.0	12/10/2025 7:00 AM
20	60.3	1/8/2026 11:00 AM
21	60.2	2/4/2026 2:00 AM
22	59.9	2/4/2026 5:00 AM
23	59.6	2/24/2026 11:00 PM
24	59.1	2/10/2026 10:00 AM
25	58.7	2/25/2026 5:00 AM

Figure D4-44: Top 25 Hourly Averages

PARTICULATE MATTER 10 Top 25 Concentrations (ug/m3) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	47.9	12/17/2025
2	36.0	11/15/2025
3	35.2	2/10/2026
4	35.1	2/25/2026
5	34.9	1/4/2026
6	32.3	2/3/2026
7	32.3	11/20/2025
8	32.0	1/8/2026
9	29.8	12/13/2025
10	29.8	11/5/2025
11	29.5	11/21/2025
12	28.6	12/10/2025
13	28.5	11/6/2025
14	28.4	1/13/2026
15	28.4	12/16/2025
16	27.6	1/22/2026
17	27.2	11/19/2025
18	27.2	11/7/2025
19	26.6	3/4/2026
20	26.6	3/3/2026
21	26.6	11/18/2025
22	26.2	2/4/2026
23	26.1	3/2/2026
24	26.1	12/4/2025
25	25.8	11/14/2025

Figure D4-45: Top 25 Daily Averages

Histogram

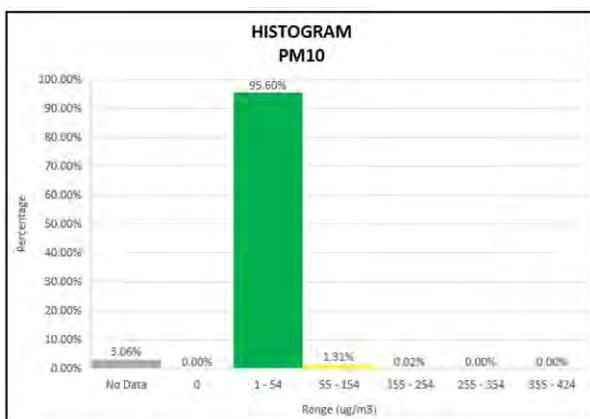


Figure D4-46: Percentages for Concentration Ranges

Histogram colors indicate EPA AQI ranges. 95.60% of PM 10 readings registered in the green good range. Only 1.31% were in the yellow moderate range.

Day of Week Averages

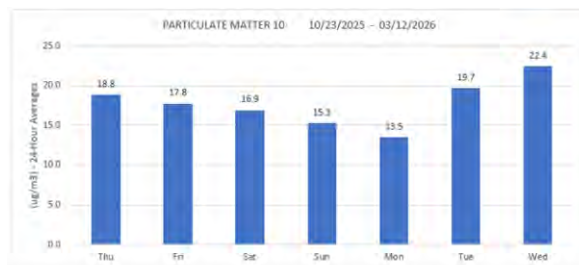


Figure D4-47: Daily Averages based on Day of Week

PM10 concentration daily averages were lower on Sunday and Monday, especially Monday. Concentrations were higher during mid-week with Wednesday having the highest average at 22.4 ug/m3.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.¹⁷

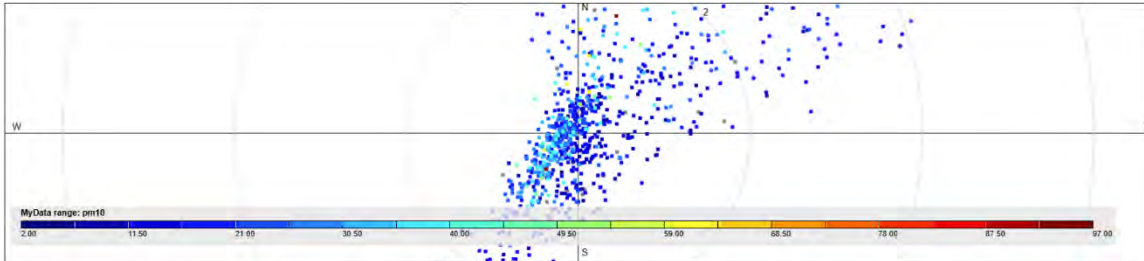


Figure D4-48: Duration of Site 3 Collection

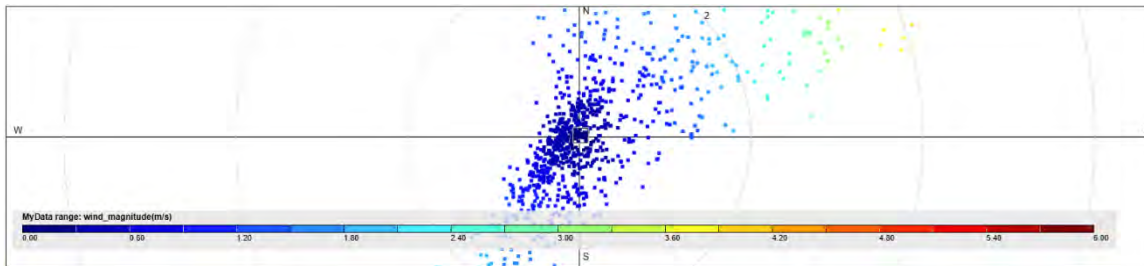


Figure D4-49: Wind Speed for Duration of Collection Period

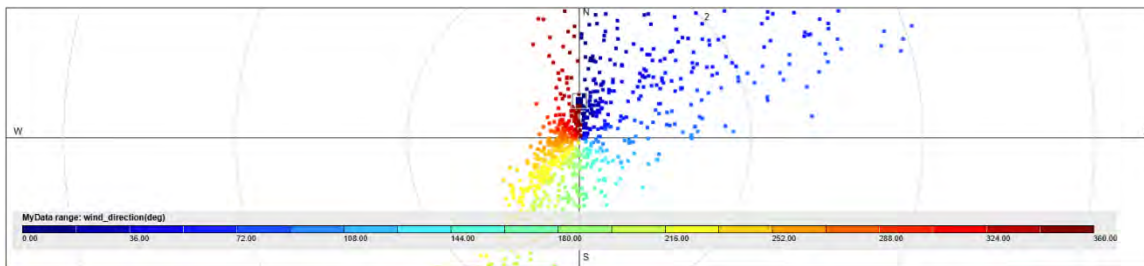


Figure D4-50: Wind Direction for Duration of Collection Period

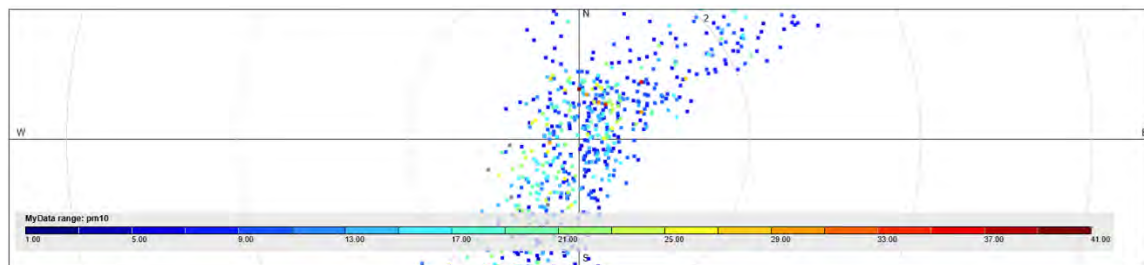


Figure D4-51: October

¹⁷ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

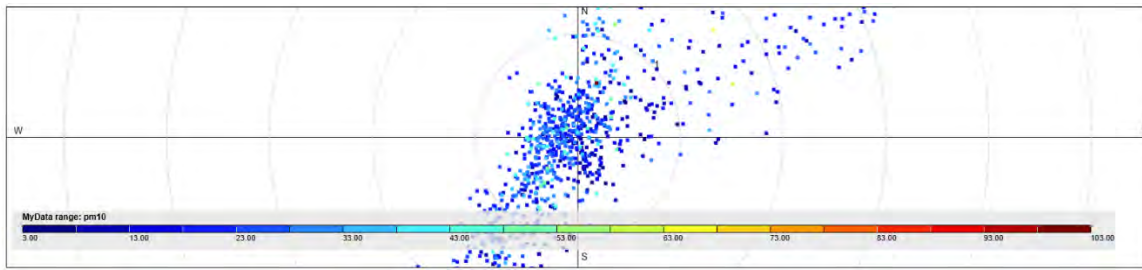


Figure D4-52: November

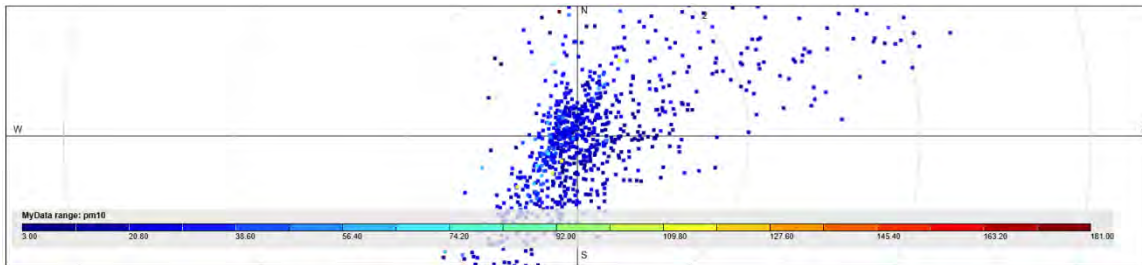


Figure D4-53: December

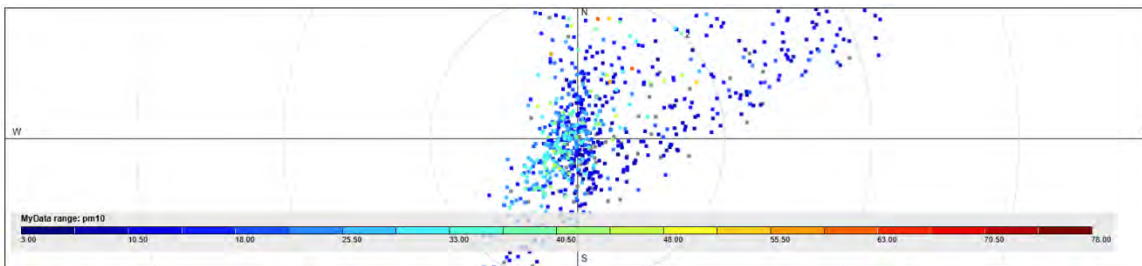


Figure D4-54: January

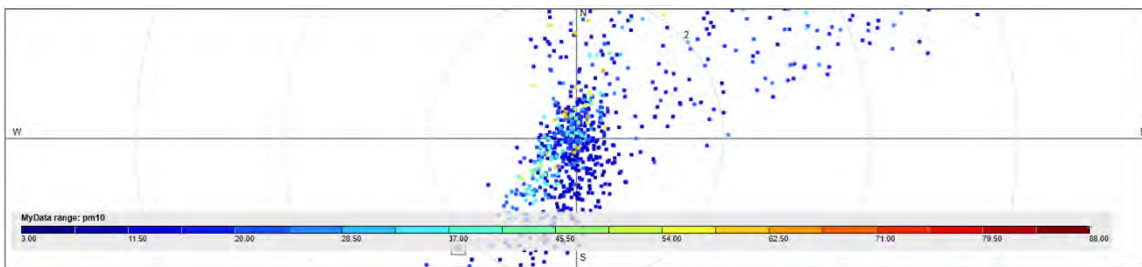


Figure D4-55: February

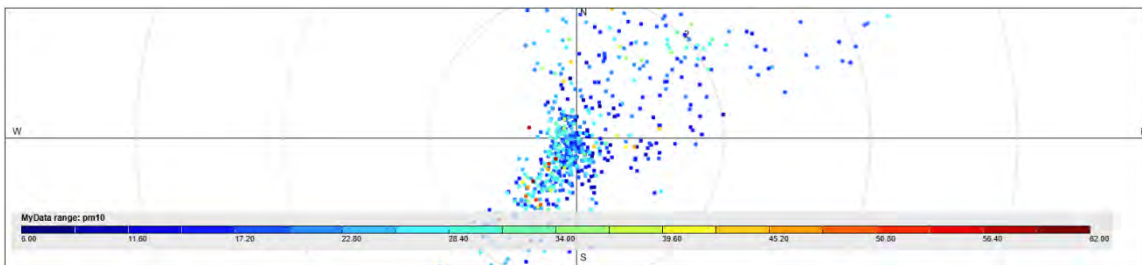


Figure D4-56: March

We separated the PM10 one-minute concentrations of at least 65 $\mu\text{g}/\text{m}^3$ and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

PM10 high concentrations appear to have come mostly from north, northeast, and northwest, but not limited to those directions. The highest concentrations came from the north.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

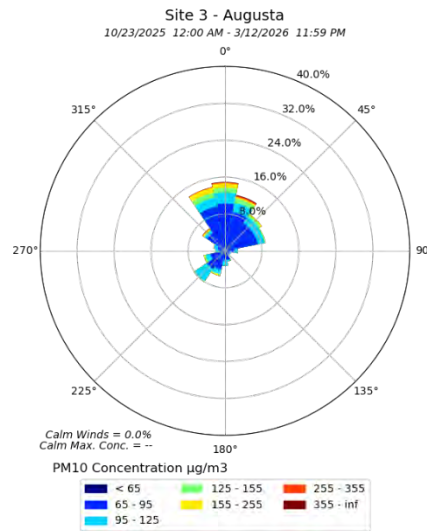


Figure D4-57: PM 10 Concentrations of at least 65 $\mu\text{g}/\text{m}^3$

D5: Data – Nitric Oxide

Nitric Oxide (NO) Findings

- ❖ Overall, NO levels were low but mostly detectable with 94.04 % of readings below 10 ppb. 49.35% of those recorded a 0 ppb level or a negative number. Note: This instrument may record negative numbers which meet EPA reporting protocol.
- ❖ 1.56% of NO levels were at least 25 ppb or higher.
- ❖ Nitric Oxide levels highest levels occurred during the morning hours from 6 AM to around 10 AM. Levels would increase peaking at 8 AM before decreasing. Very low levels recorded during the afternoon and evening hours.
- ❖ Nitric oxide concentration daily averages were lower during the weekend and adjacent days (Friday – Monday). Concentrations ran higher during the mid-week. In general, levels ran relatively low.
- ❖ Spikes and higher concentrations of NO, when present, were usually short-lived often less than 5 minutes.
- ❖ The highest recorded concentration of NO was 350.5 ppb at 5:16 PM on February 2, 2026. The second highest was 326.7 ppb at 8:34 AM on November 8, 2025.
- ❖ The highest hour average for NO was 20.1 ppb at 7 AM on March 11, 2026. The second highest hour average was 18.9 ppb at 8 AM on February 3, 2026.
- ❖ The highest 24-hour average for NO was 5.2 ppb on December 4, 2025. The second highest was 4.5 ppb on January 8, 2026.
- ❖ Nitric Oxide mostly came from the southwest; however, a good amount of NO came from the north and northeast.
- ❖ Polar plots indicate mostly local emissions as the source of NO.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

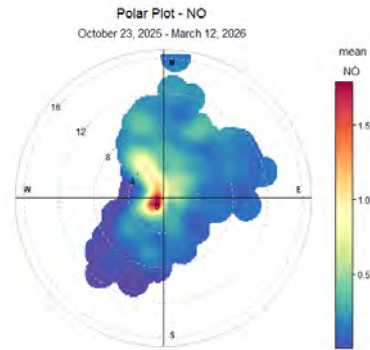


Figure D5-1: Duration of Site 3 Collection

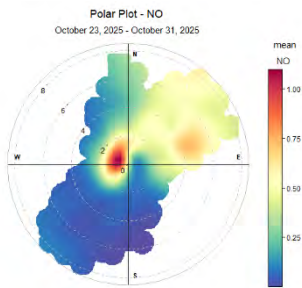


Figure D5-2: October

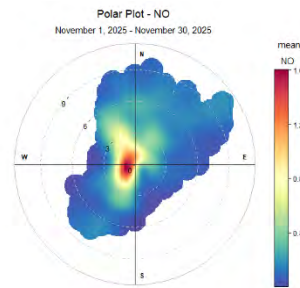


Figure D5-3: November

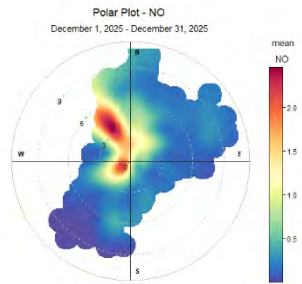


Figure D5-4: December

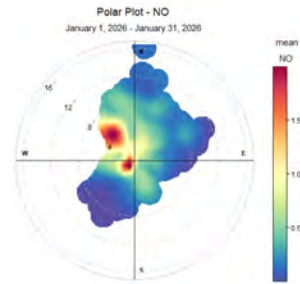


Figure D5-5: January

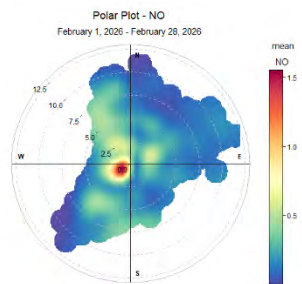


Figure D5-6: February

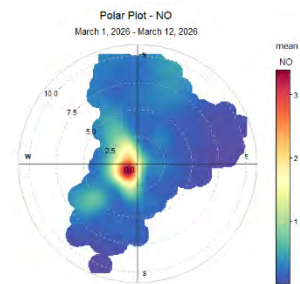


Figure D5-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

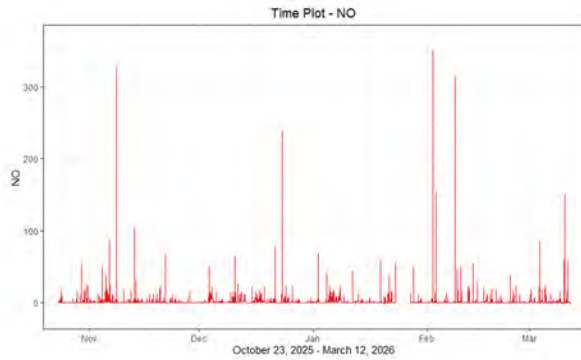


Figure D5-8: Duration of Site 3 Collection

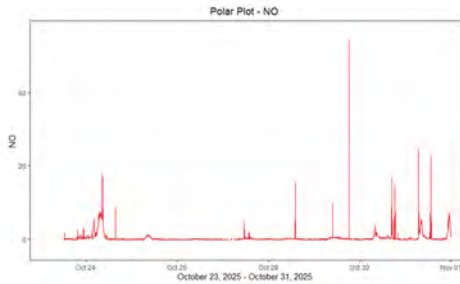


Figure D5-9: October

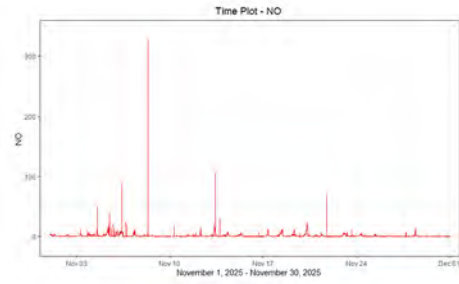


Figure D5-10: November

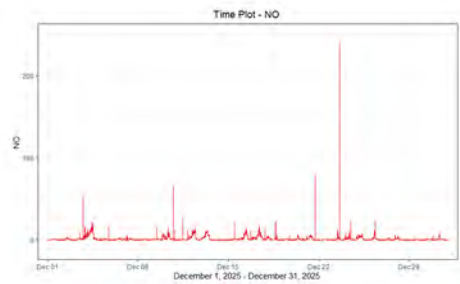


Figure D5-11: December

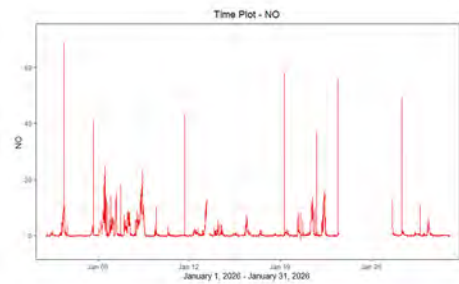


Figure D5-12: January

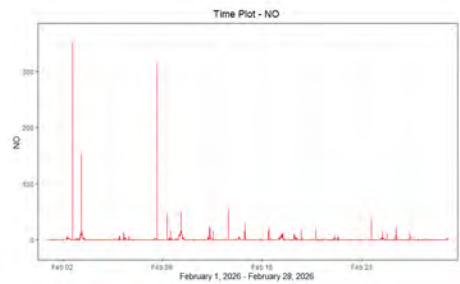


Figure D5-13: February

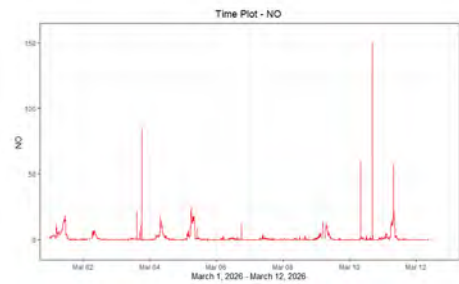


Figure D5-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

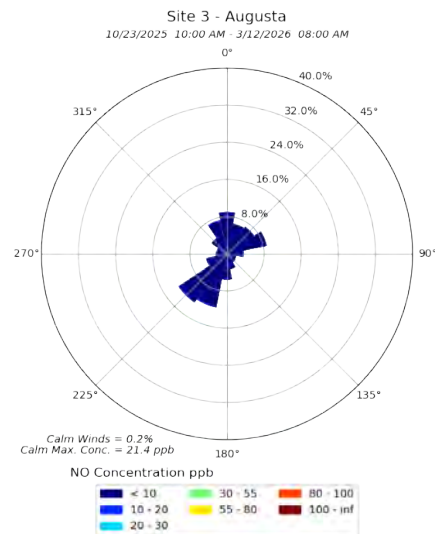


Figure D5-15: Duration of Site 3 Collection

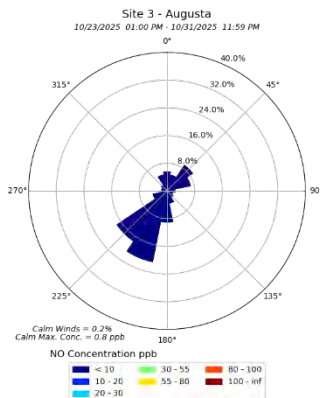


Figure D5-16: October

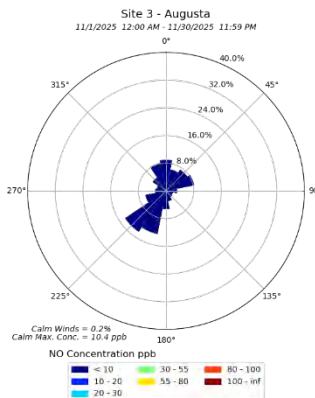


Figure D5-17: November

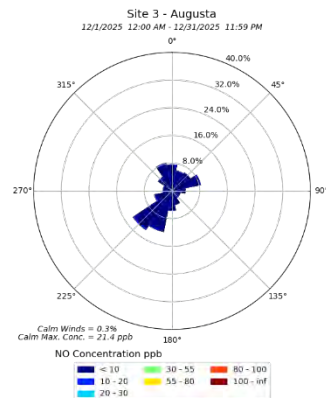


Figure D5-18: December

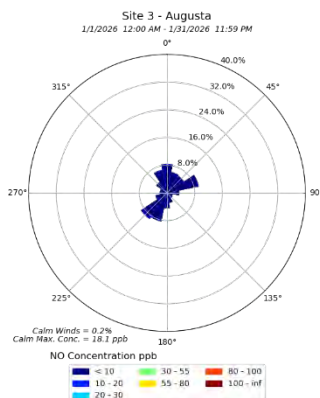


Figure D5-19: January

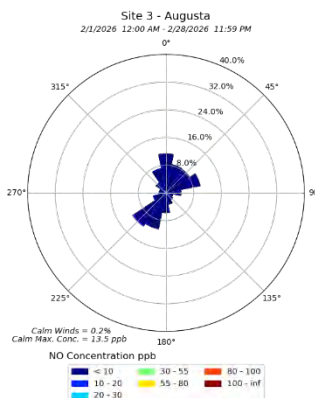


Figure D5-20: February

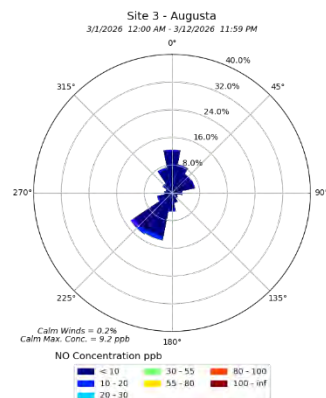


Figure D5-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

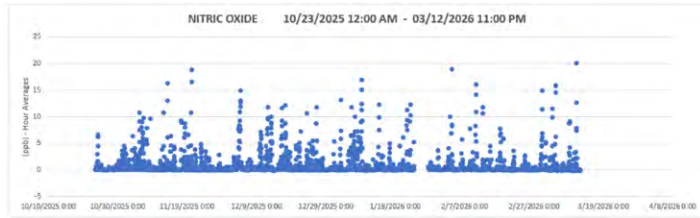


Figure D5-22: Duration of Site 3 Collection

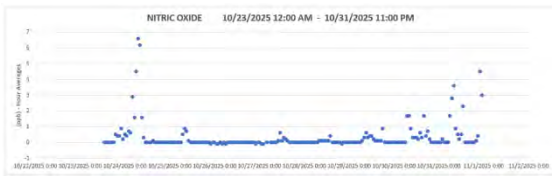


Figure D5-23: October

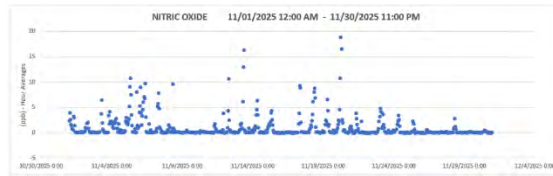


Figure D5-24: November

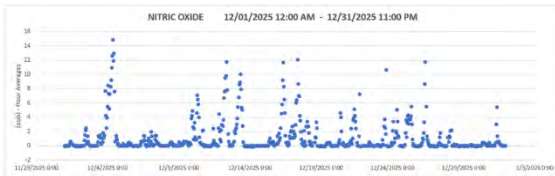


Figure D5-25: December

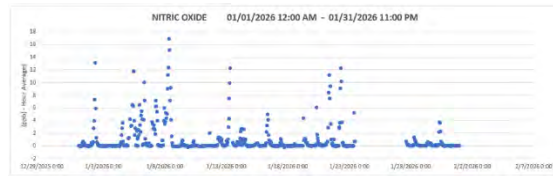


Figure D5-26: January



Figure D5-27: February



Figure D5-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.

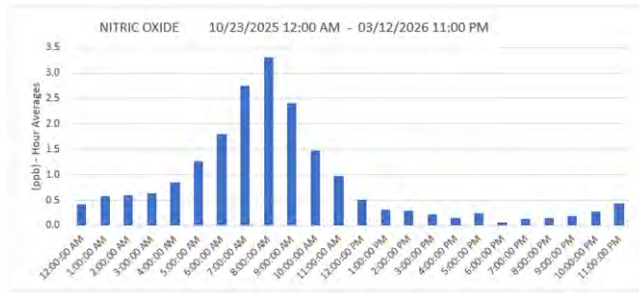


Figure D5-29: Duration of Site 3 Collection

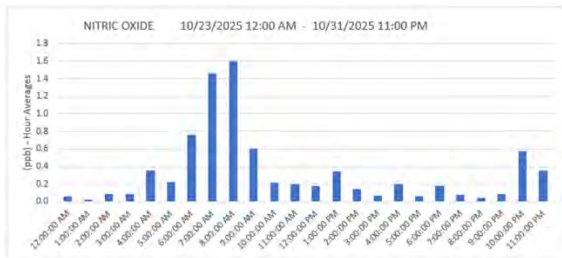


Figure D5-30: October



Figure D5-31: November

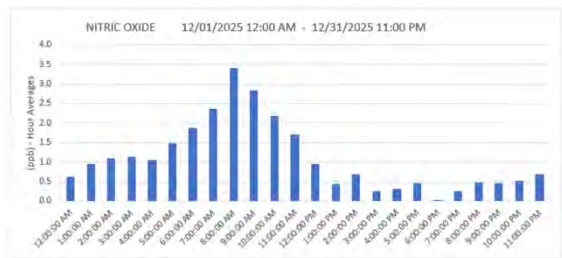


Figure D5-32: December

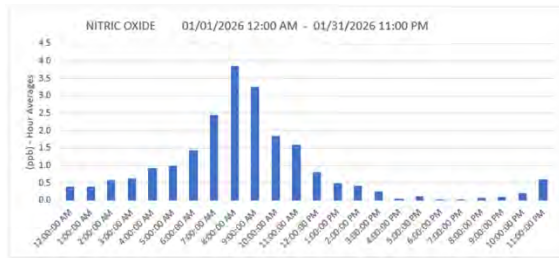


Figure D5-33: January

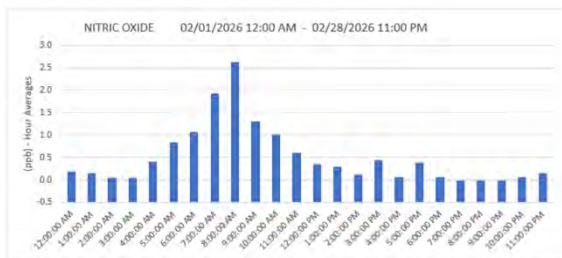


Figure D5-34: February

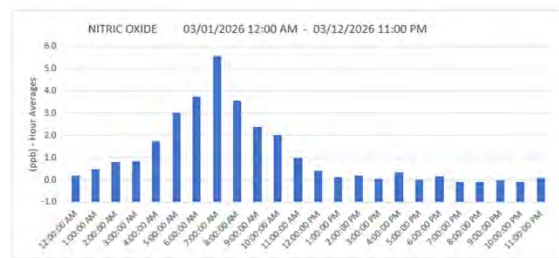


Figure D5-35: March

Top Concentrations

NITRIC OXIDE Top 25 Concentrations (ppb) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	350.5	2/2/26 5:16 PM
2	326.7	11/8/25 8:34 AM
3	313.0	2/8/26 3:29 PM
4	239.3	2/2/26 5:17 PM
5	238.9	12/23/25 2:24 PM
6	181.7	12/23/25 2:20 PM
7	154.1	2/3/26 8:11 AM
8	149.9	3/10/26 4:19 PM
9	132.7	12/23/25 2:23 PM
10	108.8	2/8/26 3:28 PM
11	105.0	11/13/25 9:23 AM
12	92.9	11/13/25 9:22 AM
13	90.9	2/3/26 8:12 AM
14	87.3	11/6/25 9:23 AM
15	85.2	3/3/26 6:16 PM
16	79.9	2/3/26 8:10 AM
17	78.0	12/21/25 5:09 PM
18	68.7	11/21/25 5:55 PM
19	68.6	12/21/25 5:08 PM
20	68.4	1/2/26 8:56 AM
21	68.2	11/13/25 9:33 AM
22	68.1	11/13/25 9:26 AM
23	68.0	11/21/25 5:54 PM
24	65.7	3/3/26 6:17 PM
25	65.3	12/10/25 5:24 PM

Figure D5-36: Top 25 Minute Readings

NITRIC OXIDE One-Hour Averages Ranked by Highest (ppb) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	20.1	3/11/2026 7:00 AM
2	18.9	2/3/2026 8:00 AM
3	18.8	11/20/2025 6:00 AM
4	16.9	1/8/2026 8:00 AM
5	16.5	11/20/2025 7:00 AM
6	16.3	11/13/2025 9:00 AM
7	16.0	2/10/2026 7:00 AM
8	15.9	3/5/2026 5:00 AM
9	15.8	3/5/2026 7:00 AM
10	15.1	1/8/2026 9:00 AM
11	14.9	3/1/2026 10:00 AM
12	14.9	12/4/2025 9:00 AM
13	14.5	3/5/2026 6:00 AM
14	14.1	2/10/2026 8:00 AM
15	13.1	1/2/2026 8:00 AM
16	13.0	12/4/2025 11:00 AM
17	13.0	11/13/2025 8:00 AM
18	12.7	3/11/2026 6:00 AM
19	12.6	12/4/2025 8:00 AM
20	12.4	1/8/2026 7:00 AM
21	12.3	1/22/2026 8:00 AM
22	12.3	1/13/2026 8:00 AM
23	12.1	12/17/2025 8:00 AM
24	11.9	12/4/2025 10:00 AM
25	11.8	2/12/2026 7:00 AM

Figure D5-37: Top 25 Hourly Averages

NITRIC OXIDE Top 25 Concentrations (ppb) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	5.2	12/4/2025
2	4.5	1/8/2026
3	3.3	12/12/2025
4	3.1	1/5/2026
5	3.0	12/17/2025
6	3.0	12/13/2025
7	2.9	3/1/2026
8	2.8	2/10/2026
9	2.8	12/16/2025
10	2.8	11/20/2025
11	2.8	11/5/2025
12	2.6	3/5/2026
13	2.6	11/6/2025
14	2.4	3/11/2026
15	2.4	1/7/2026
16	2.3	2/3/2026
17	2.1	1/13/2026
18	1.9	1/21/2026
19	1.9	1/6/2026
20	1.9	12/10/2025
21	1.8	1/22/2026
22	1.8	11/13/2025
23	1.7	3/9/2026
24	1.7	11/18/2025
25	1.5	3/4/2026

Figure D5-38: Top 25 Daily Averages

Histogram

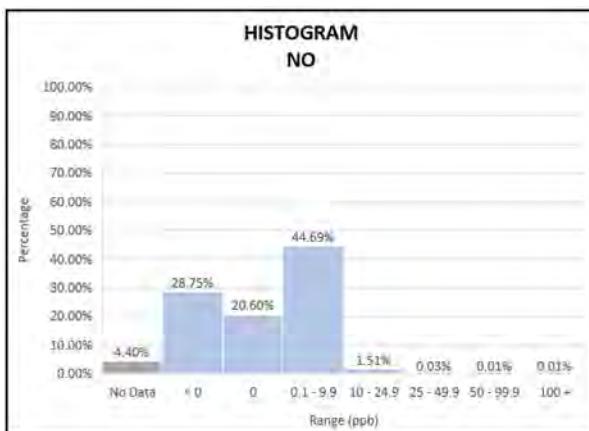


Figure D5-39: Percentages for Concentration Ranges

94.04% of Nitric oxide readings were below 10 ppb.

Day of Week Averages

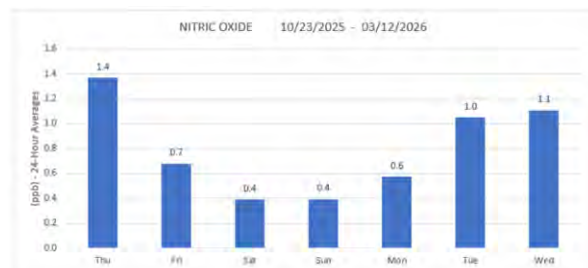


Figure D5-40: Daily Averages based on Day of Week

Nitric oxide concentration daily averages were lower during the weekend and adjacent days (Friday – Monday). Concentrations ran higher during the mid-week. In general, levels ran relatively low.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.¹⁸

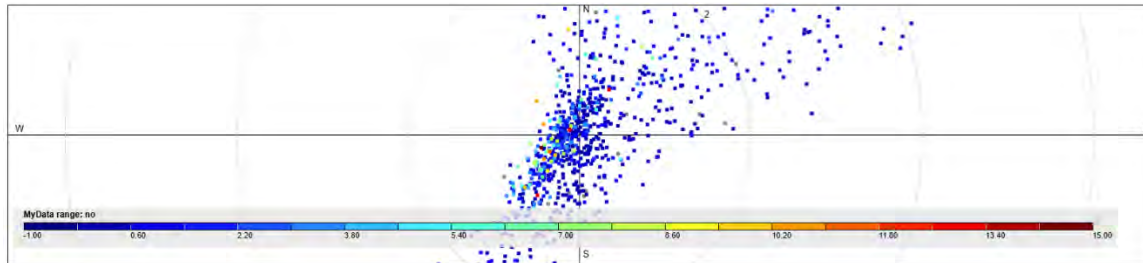


Figure D5-41: Duration of Site 3 Collection

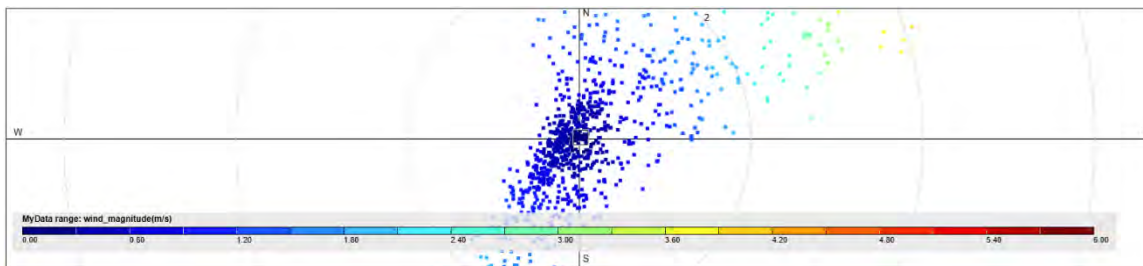


Figure D5-42: Wind Speed for Duration of Collection Period

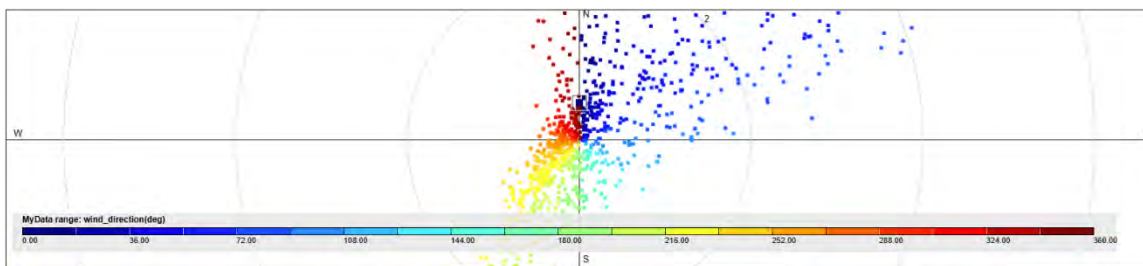


Figure D5-43: Wind Direction for Duration of Collection Period

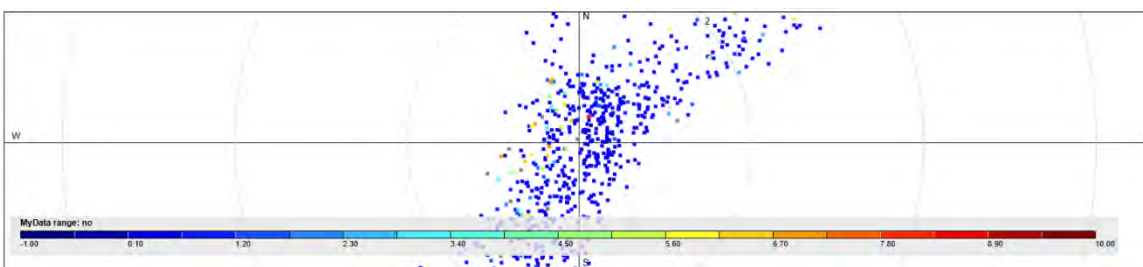


Figure D5-44: October

¹⁸ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

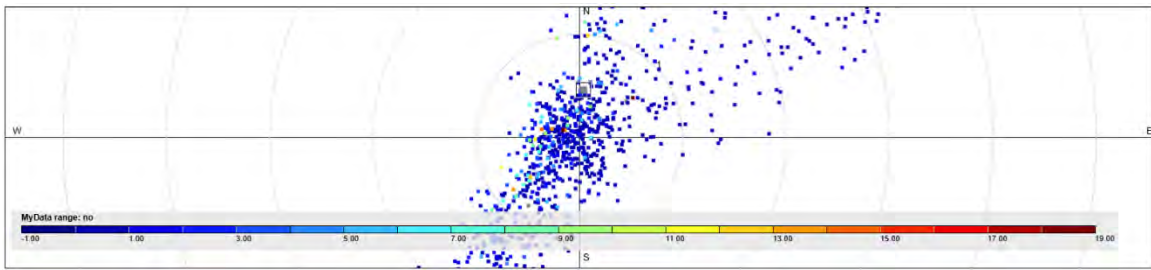


Figure D5-45: November

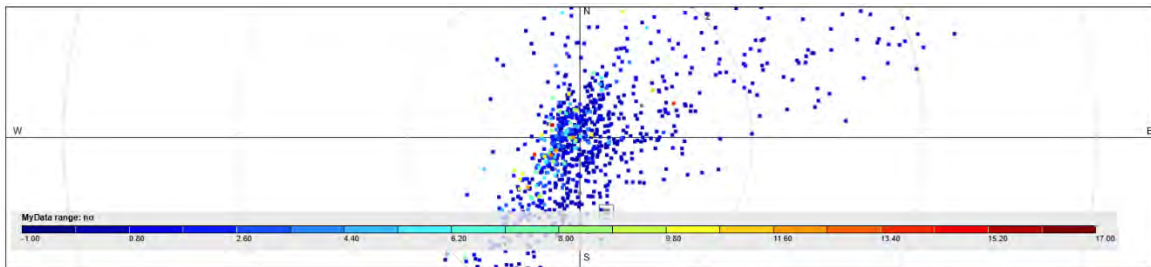


Figure D5-46: December

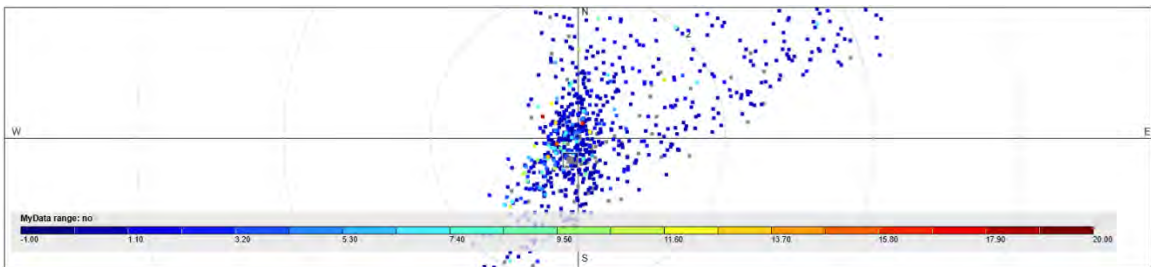


Figure D5-47: January

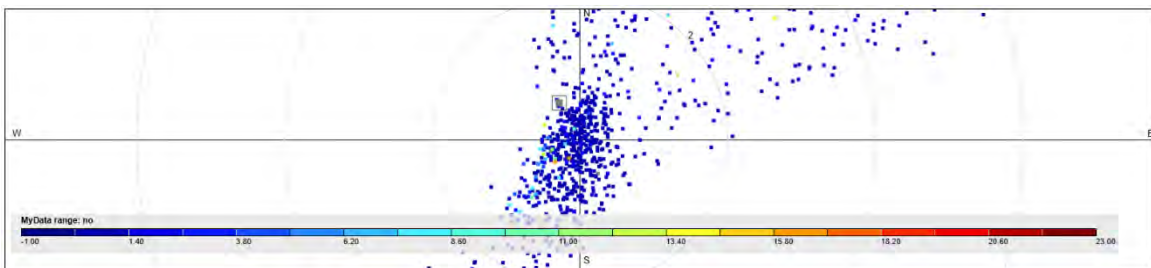


Figure D5-48: February

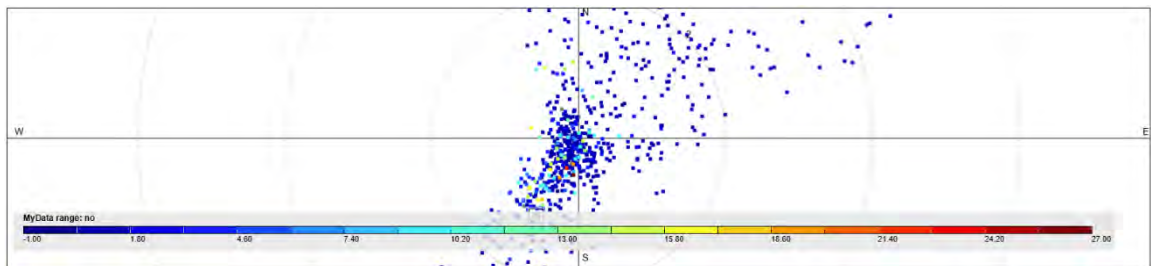


Figure D5-49: March

We separated the NO one-minute concentrations of at least 25 ppb and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

Nitric oxide high concentrations appear to have come mostly from the southwest but were not limited to those directions. The highest concentrations came from the northeast and east.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

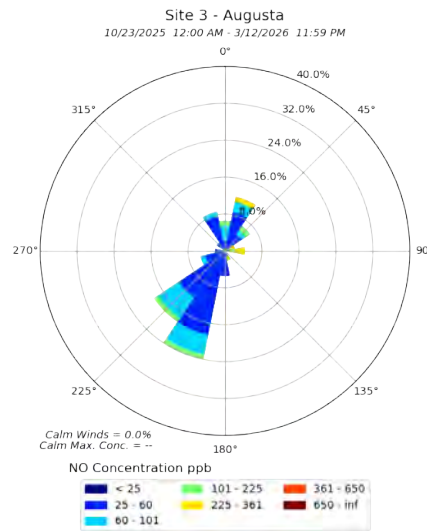


Figure D5-50: NO Concentrations of at least 25 ppb

D6: Data – Nitrogen Dioxide

Nitrogen Dioxide (NO₂) Findings

- ❖ We did not record any NAAQS exceedances for the NO₂ 1-hour standard.
- ❖ Nearly 100% of NO₂ readings were in the good air quality range below 54 ppb. 20.95% of those recorded a 0 ppb level or a negative number. Note: This instrument may record negative numbers which meet EPA reporting protocol.
- ❖ The highest NO₂ concentrations occurred from around 5 PM through the evening. The lowest levels were mid-day and afternoon. Overnight was relatively high in comparison. Though the NO₂ levels were not very high regardless of time period.
- ❖ NO₂ concentration daily averages were lower on Saturday through Monday, especially Sunday. Concentrations were higher on Tuesdays and Wednesdays; however, concentrations were relatively low.
- ❖ Spikes and higher concentrations of NO₂, when present, were usually short-lived often less than 5 minutes.
- ❖ The highest recorded concentration of NO₂ was 361.2 ppb at 8:34 AM on November 8, 2025. The second highest reading was 287.2 ppb at 2:20 PM on December 23, 2025.
- ❖ The highest hour average for NO₂ was 21.9 ppb at 7 PM on December 16, 2025. The second highest hour average was 20.5 ppb at 7 PM on November 5, 2025.
- ❖ The highest 24-hour average for NO₂ was 12.6 ppb on December 17, 2025. The second highest 24-hour average was 10.1 ppb on January 21, 2026.
- ❖ The highest hourly average, rounded up, was 22 ppb on December 16, 2025, and 21 ppb on November 5, 2025.
- ❖ NO₂ mostly came from the southwest; however, a good amount of NO₂ came from the north and northeast.
- ❖ Polar plots indicate that higher concentrations were mostly local.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

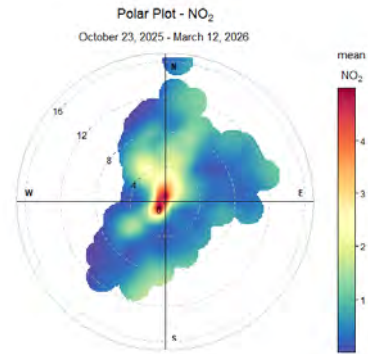


Figure D6-1: Duration of Site 3 Collection

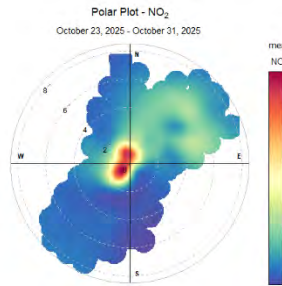


Figure D6-2: October

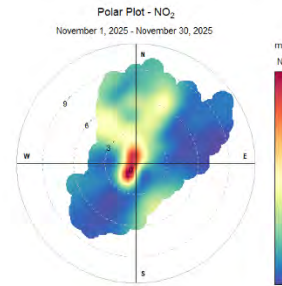


Figure D6-3: November

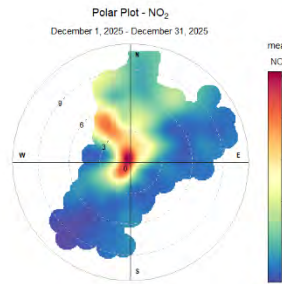


Figure D6-4: December

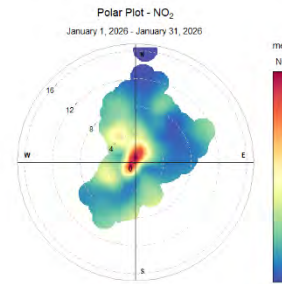


Figure D6-5: January

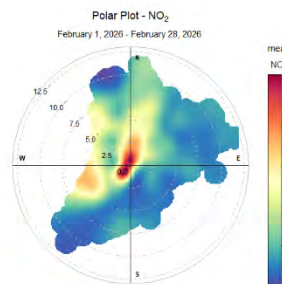


Figure D6-6: February

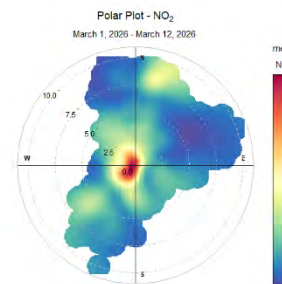


Figure D6-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

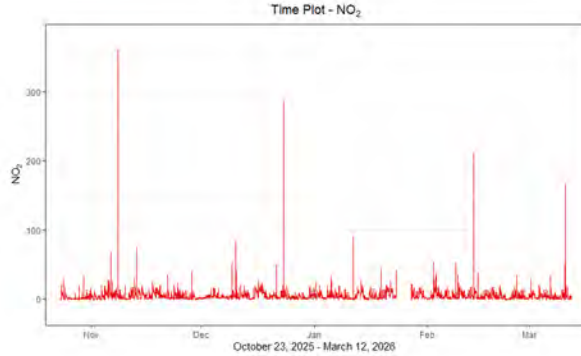


Figure D6-8: Duration of Site 3 Collection

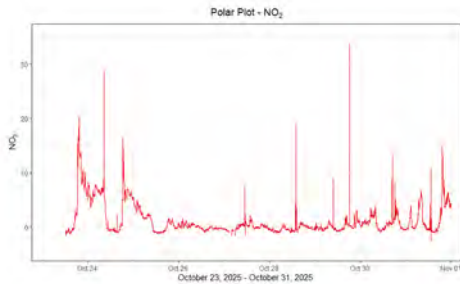


Figure D6-9: October

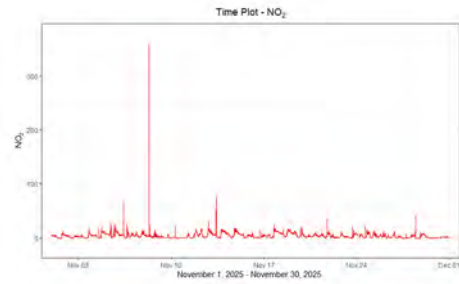


Figure D6-10: November

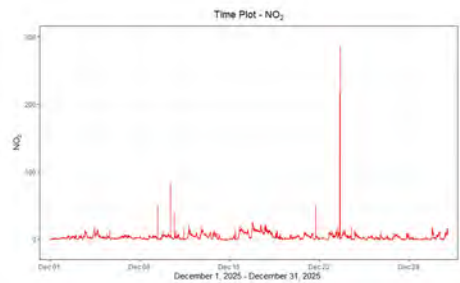


Figure D6-11: December

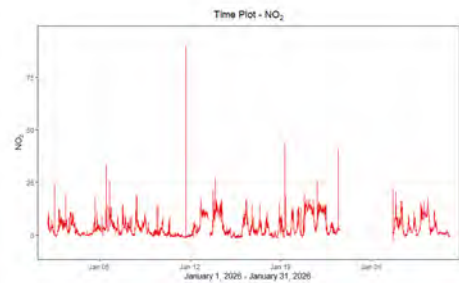


Figure D6-12: January

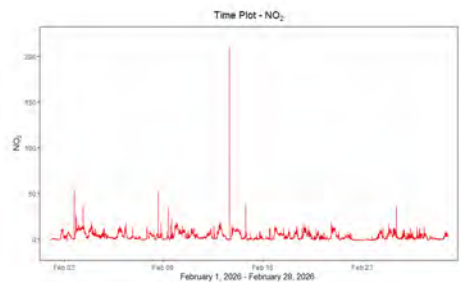


Figure D6-13: February

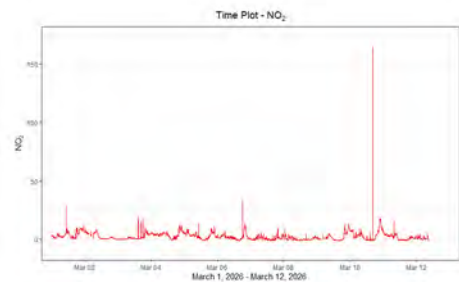


Figure D6-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

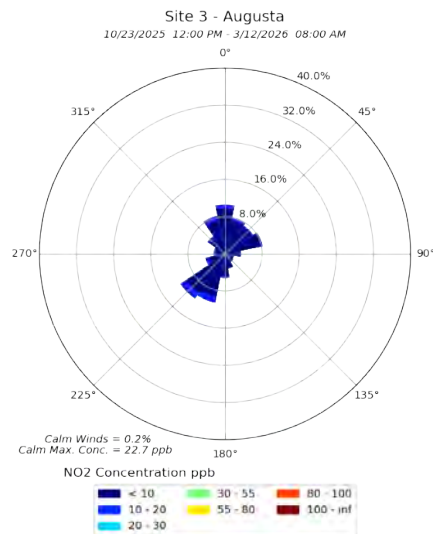


Figure D6-15: Duration of Site 3 Collection

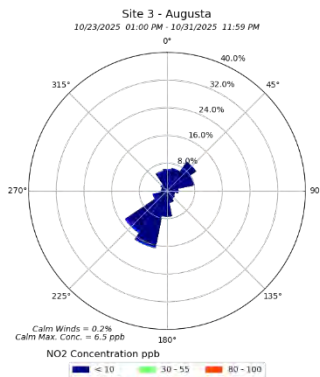


Figure D6-16: October

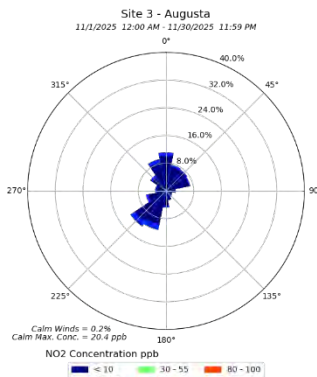


Figure D6-17: November

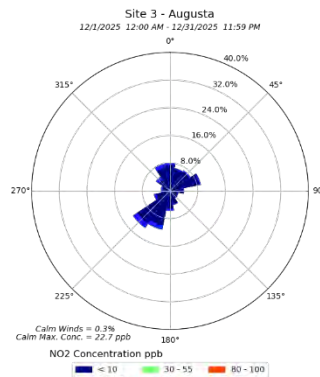


Figure D6-18: December

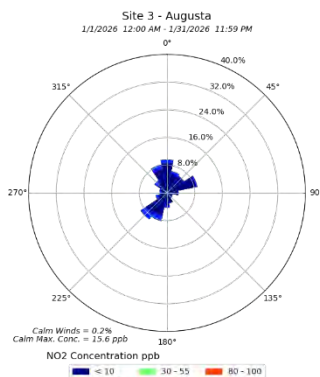


Figure D6-19: January

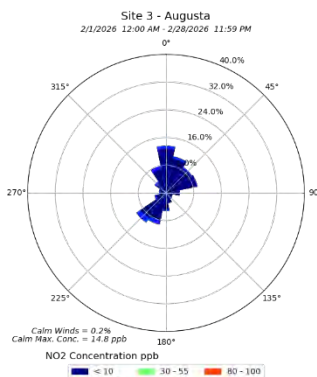


Figure D6-20: February

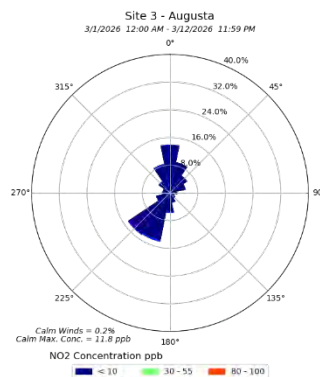


Figure D6-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

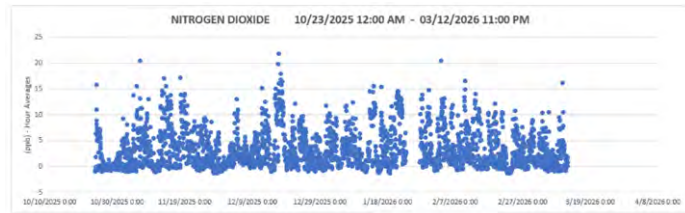


Figure D6-22: Duration of Site 3 Collection

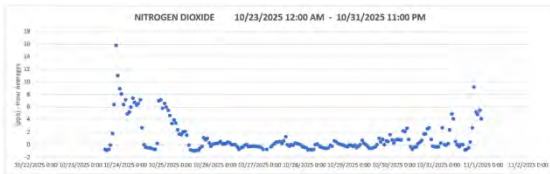


Figure D6-23: October

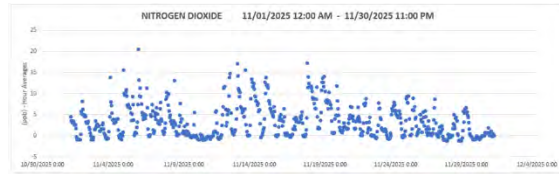


Figure D6-24: November

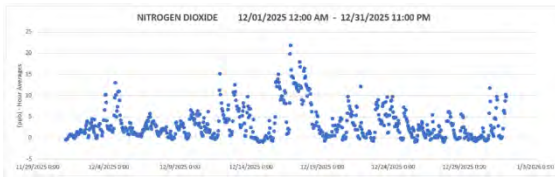


Figure D6-25: December

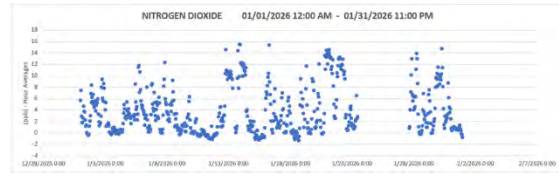


Figure D6-26: January



Figure D6-27: February

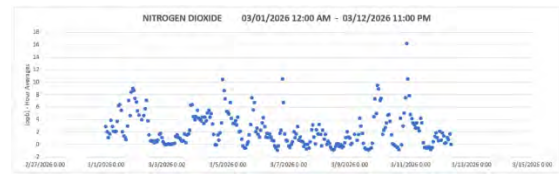


Figure D6-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.



Figure D6-29: Duration of Site 3 Collection

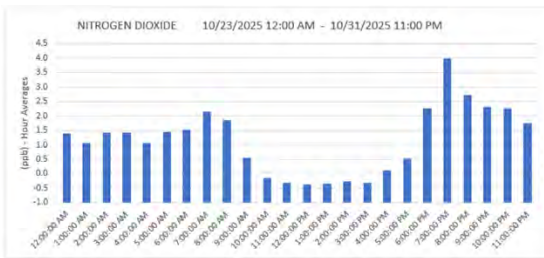


Figure D6-30: October



Figure D6-31: November



Figure D6-32: December

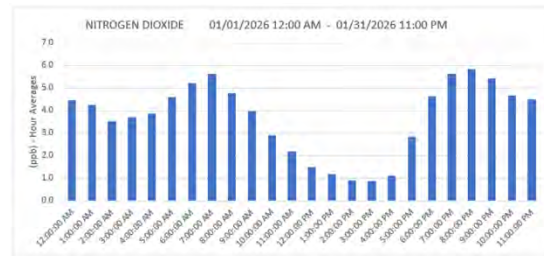


Figure D6-33: January

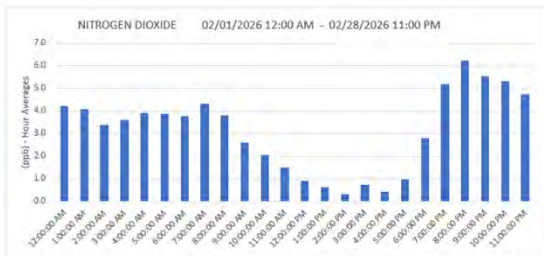


Figure D6-34: February



Figure D6-35: March

24-Hour Averages

The 24-hour averages consist of the average of the day's hourly averages.

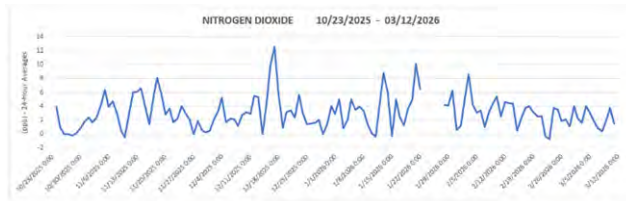


Figure D6-36: Duration of Site 3 Collection

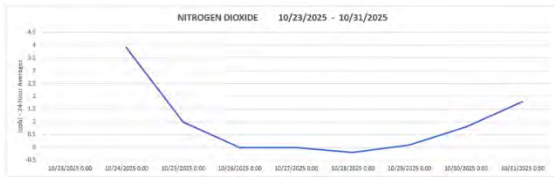


Figure D6-37: October

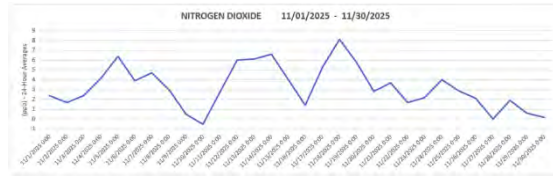


Figure D6-38: November

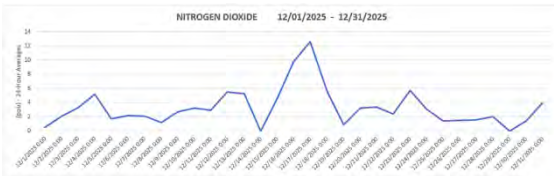


Figure D6-39: December

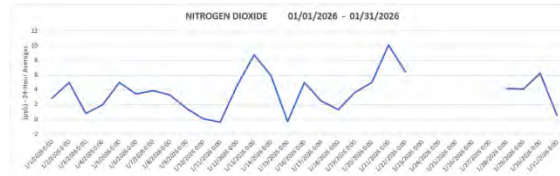


Figure D6-40: January



Figure D6-41: February



Figure D6-42: March

1-Hour Highs

The 1-Hour Highs displays the highest hourly average of the day. This shows the NAAQS standard for NO₂. A daily 1-hour high over 100 ppb would be an exceedance of NAAQS.

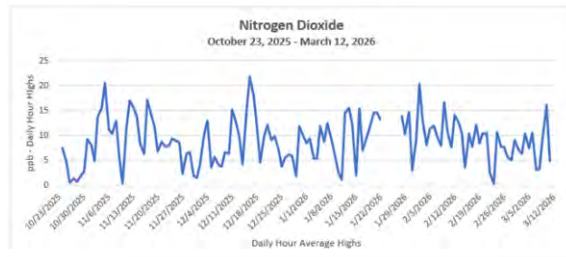


Figure D6-43: Duration of Site 3 Collection

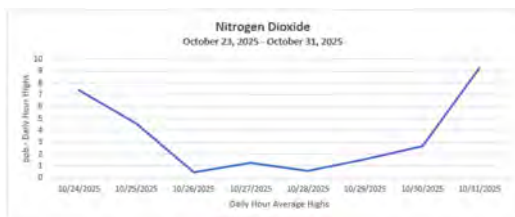


Figure D6-44: October

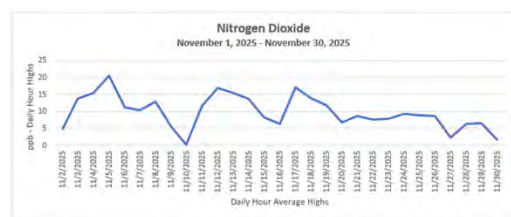


Figure D6-45: November

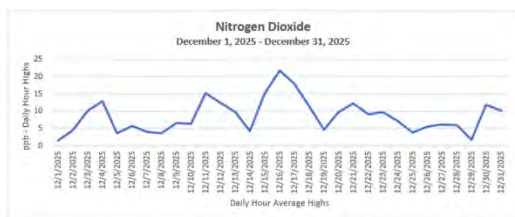


Figure D6-46: December

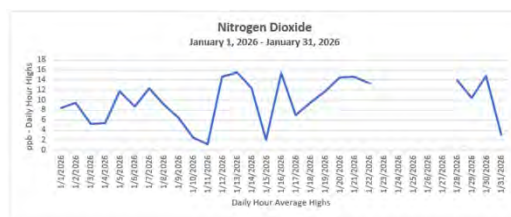


Figure D6-47: January

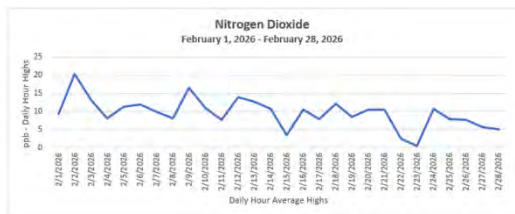


Figure D6-48: February

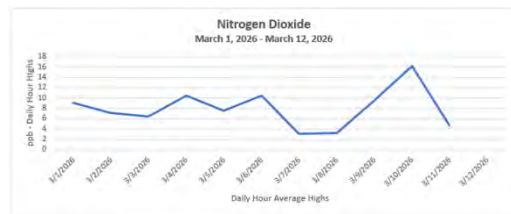


Figure D6-49: March

Top Concentrations

NITROGEN DIOXIDE Top 25 Concentrations (ppb) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	361.2	11/8/25 8:34 AM
2	287.2	12/23/25 2:20 PM
3	210.9	2/13/26 3:27 PM
4	165.5	3/10/26 4:19 PM
5	142.2	12/23/25 2:19 PM
6	101.8	3/10/26 4:18 PM
7	90.2	1/11/26 3:45 PM
8	83.5	12/10/25 10:06 AM
9	77.0	11/8/25 8:33 AM
10	75.1	11/13/25 9:30 AM
11	67.1	11/6/25 9:23 AM
12	62.2	11/13/25 9:23 AM
13	59.8	11/8/25 8:32 AM
14	58.0	12/23/25 2:23 PM
15	56.3	11/6/25 9:22 AM
16	53.8	2/2/26 5:17 PM
17	51.6	12/9/25 9:55 AM
18	51.4	2/8/26 3:31 PM
19	51.4	2/8/26 3:30 PM
20	49.6	12/21/25 5:09 PM
21	47.9	11/13/25 9:27 AM
22	44.7	11/13/25 9:22 AM
23	43.7	1/19/26 7:13 AM
24	42.7	12/21/25 5:07 PM
25	42.1	12/21/25 5:10 PM

Figure D6-50: Top 25 Minute Readings

NITROGEN DIOXIDE Top 25 Concentrations (ppb) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	21.9	12/16/2025 7:00 PM
2	20.5	11/5/2025 7:00 PM
3	20.4	2/2/2026 8:00 PM
4	19.8	12/16/2025 6:00 PM
5	17.9	12/17/2025 10:00 AM
6	17.2	11/17/2025 6:00 PM
7	17.0	11/12/2025 7:00 PM
8	16.8	12/17/2025 11:00 AM
9	16.6	2/9/2026 10:00 PM
10	16.4	12/17/2025 6:00 PM
11	16.2	3/10/2026 9:00 PM
12	16.0	12/16/2025 8:00 PM
13	15.8	12/17/2025 5:00 PM
14	15.8	10/23/2025 7:00 PM
15	15.5	1/13/2026 10:00 PM
16	15.5	1/13/2026 9:00 PM
17	15.5	11/13/2025 9:00 AM
18	15.5	11/4/2025 6:00 AM
19	15.4	1/16/2026 7:00 AM
20	15.2	12/11/2025 8:00 PM
21	15.0	12/15/2025 10:00 PM
22	14.9	2/9/2026 11:00 PM
23	14.8	1/30/2026 7:00 AM
24	14.7	11/12/2025 7:00 AM
25	14.6	1/21/2026 4:00 AM

Figure D6-51: Top 25 Hourly Averages

NITROGEN DIOXIDE Top 25 Concentrations (ppb) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	12.6	12/17/2025
2	10.1	1/21/2026
3	9.8	12/16/2025
4	8.8	1/13/2026
5	8.6	2/3/2026
6	8.1	11/18/2025
7	6.6	11/14/2025
8	6.5	1/22/2026
9	6.4	11/5/2025
10	6.3	1/30/2026
11	6.1	11/13/2025
12	6.0	1/14/2026
13	6.0	11/12/2025
14	5.8	11/19/2025
15	5.7	12/23/2025
16	5.6	12/18/2025
17	5.5	12/12/2025
18	5.4	2/10/2026
19	5.3	12/13/2025
20	5.3	11/17/2025
21	5.2	12/4/2025
22	5.0	1/20/2026
23	5.0	1/16/2026
24	5.0	1/5/2026
25	5.0	1/2/2026

Figure D6-52: Top 25 Daily Averages

NITROGEN DIOXIDE Top 25 Concentrations (ppb) - Hour Average Daily Highs 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	22	12/16/2025
2	21	11/5/2025
3	20	2/2/2026
4	18	12/17/2025
5	17	11/17/2025
6	17	11/12/2025
7	17	2/9/2026
8	16	3/10/2026
9	16	11/4/2025
10	16	11/13/2025
11	16	1/13/2026
12	15	1/16/2026
13	15	12/11/2025
14	15	12/15/2025
15	15	1/30/2026
16	15	1/12/2026
17	15	1/21/2026
18	15	1/20/2026
19	14	11/18/2025
20	14	2/12/2026
21	14	1/28/2026
22	14	11/3/2025
23	14	11/14/2025
24	13	1/22/2026
25	13	2/3/2026

Figure D6-53: Top 25 Daily Hour Average Highs

Histogram

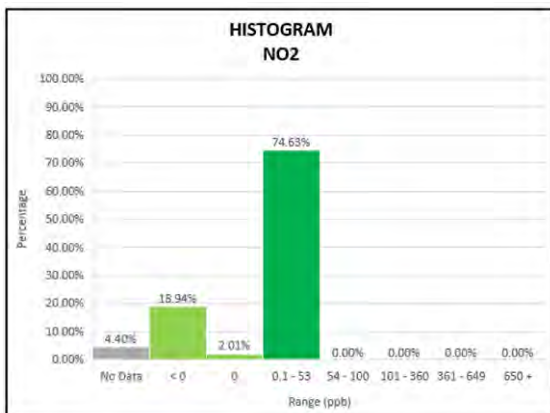


Figure D6-54: Percentages for Concentration Ranges

Histogram colors indicate EPA AQI ranges. Nearly 100% of NO₂ readings registered in the green good range.

Day of Week Averages

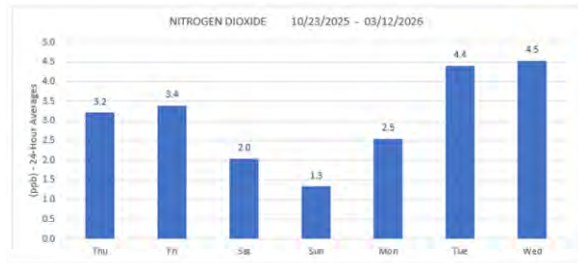


Figure D6-55: Daily Averages based on Day of Week

NO₂ concentration daily averages were lower on Saturday through Monday, especially Sunday. Concentrations were higher on Tuesdays and Wednesdays; however, concentrations were relatively low.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.¹⁹

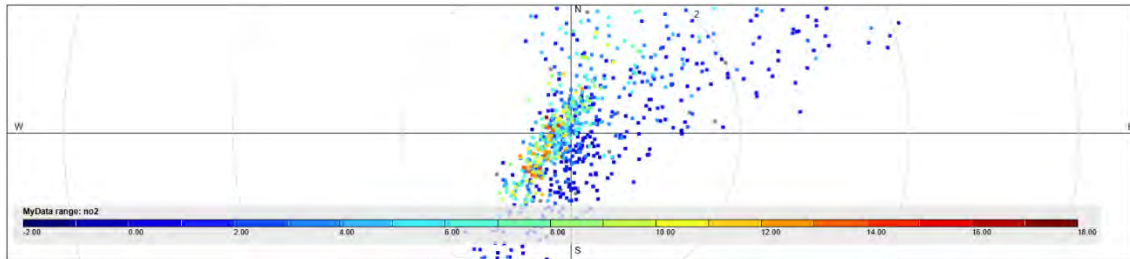


Figure D6-56: Duration of Site 3 Collection

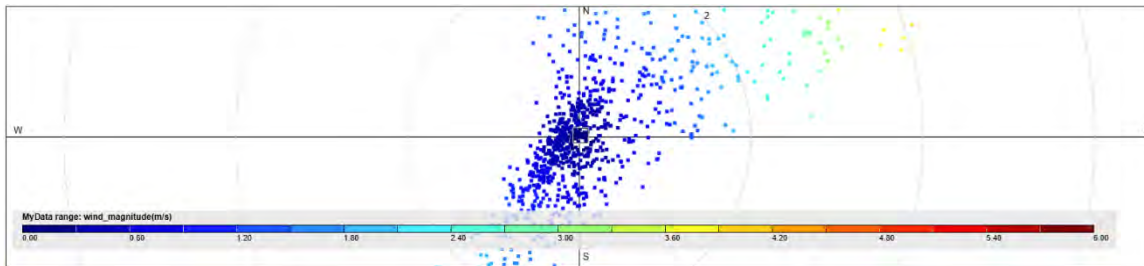


Figure D6-57: Wind Speed for Duration of Collection Period

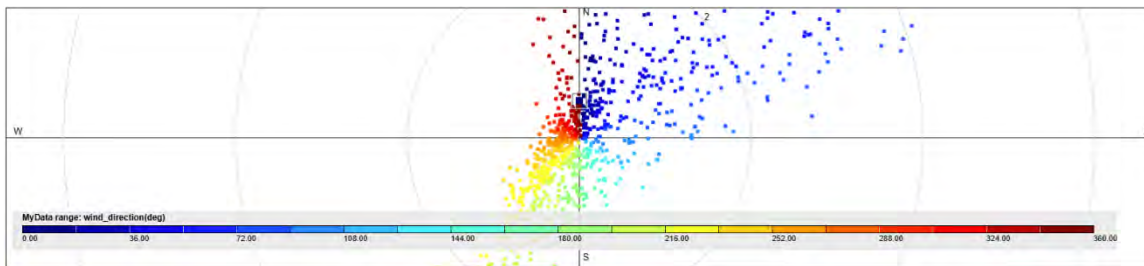


Figure D6-58: Wind Direction for Duration of Collection Period

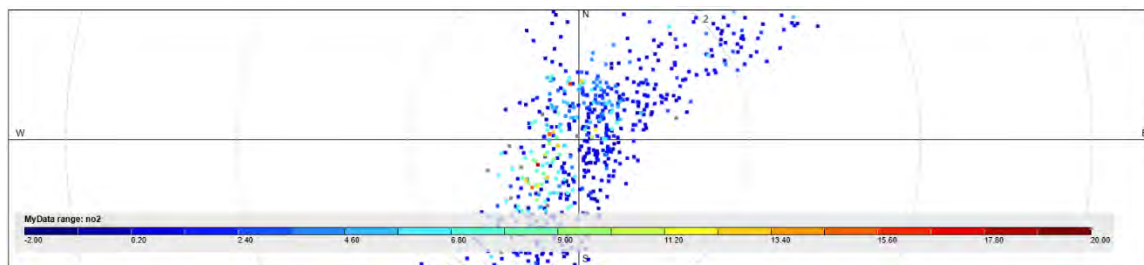


Figure D6-59: October

¹⁹ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

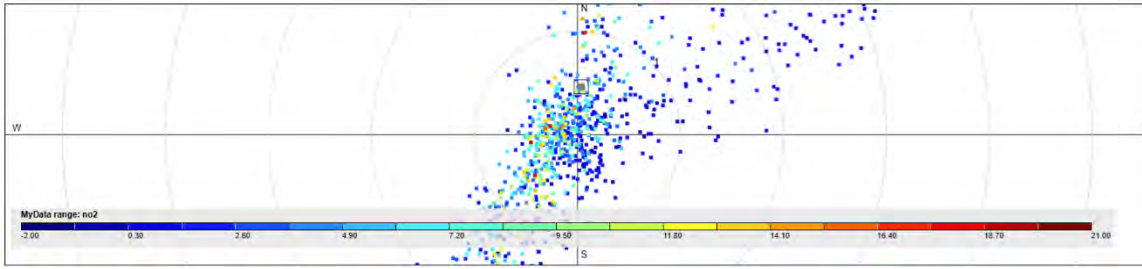


Figure D6-60: November

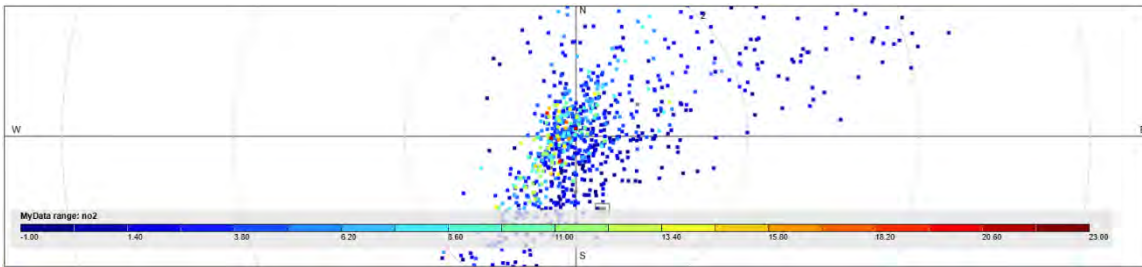


Figure D6-61: December

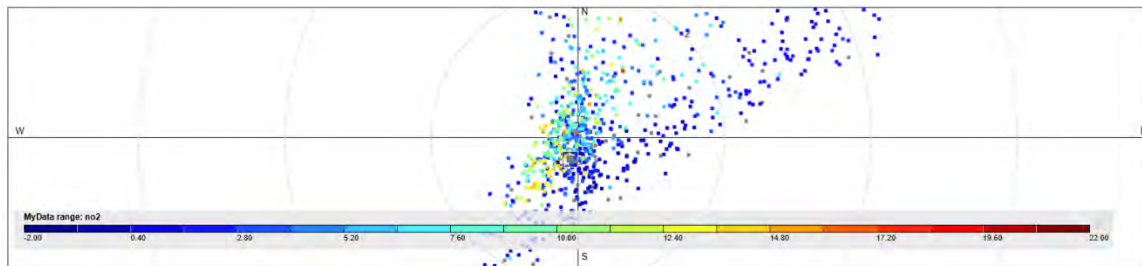


Figure D6-62: January

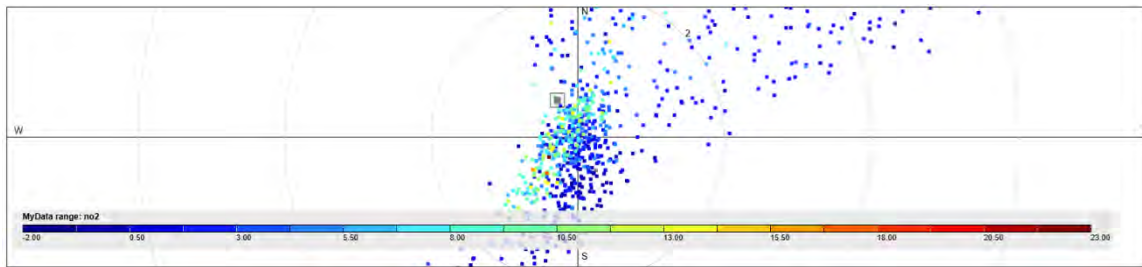


Figure D6-63: February

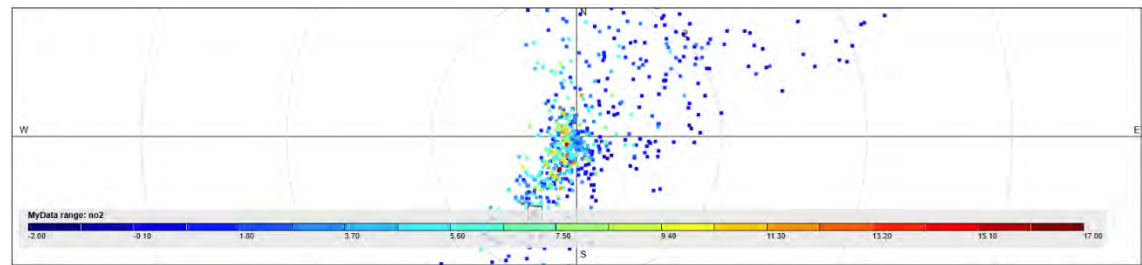


Figure D6-64: March

We separated the NO₂ one-minute concentrations of at least 25 ppb and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

NO₂ high concentrations appear to have come mostly from the southwest but were not limited to those directions. The highest concentrations came from the northeast and east.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

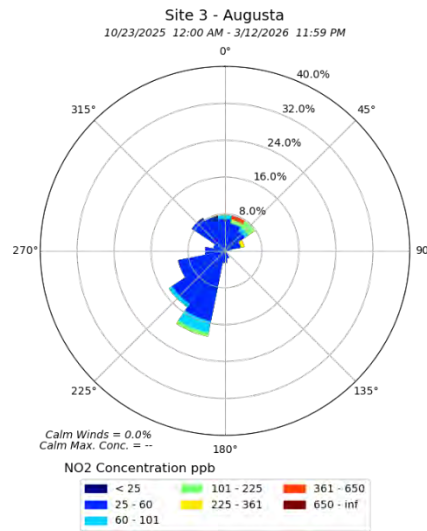


Figure D6-65: NO₂ Concentrations of at least 25 ppb

D7: Data – Nitrogen Oxides

Nitrogen Oxides (NO_x) Findings

- ❖ During our collection period, we received 11 alerts where the NO_x level had gone over the threshold of 100 ppb.
- ❖ 83.37% of NO_x readings were below 10 ppb. 20.22% of those recorded a 0 ppb level or a negative number. Note: This instrument may record negative numbers which meet EPA reporting protocol.
- ❖ 12.23% of NO_x readings were 10 ppb or higher. 0.39% of those readings were 25 ppb or greater.
- ❖ The highest NO_x concentrations occurred from 5 AM – 10 AM peaking at 8 AM. Mid-day and afternoon had lower levels. Levels were higher in the evening.
- ❖ Nitrogen Oxides concentration daily averages were lower Saturday through Monday, especially on Sunday. Concentrations ran higher during the mid-week. In general, average levels were relatively low.
- ❖ Spikes and higher concentrations of NO_x, when present, were usually short-lived often less than 5 minutes.
- ❖ The highest concentration of NO_x was 687.9 ppb at 8:34 AM on November 8, 2025. The second highest level was 465.4 ppb at 2:20 PM on December 23, 2025.
- ❖ The highest hour average of NO_x was 31.7 ppb at 9 AM on November 13, 2025. The second highest hour average was 31.5 ppb at 8 AM on February 3, 2026.
- ❖ The highest 24-hour average of NO_x was 15.7 ppb on December 17, 2025. The second highest 24-hour average was 12.7 ppb on December 16, 2025.
- ❖ NO_x mostly came from the southwest; however, a good amount of NO_x came from the north and northeast.
- ❖ Polar plots indicate that higher concentrations were mostly local.

Recommendation

- ❖ We highly recommend a NO_x/NO₂ monitor be installed in the Augusta metro area. The spikes we observed during our collection period contained some extremely high levels, especially of NO_x.

Polar Plots

Polar plots model pollution by integrating air quality readings with concurrent wind speed and direction data to identify potential source locations and dispersion patterns. The diagonal line indicates wind speed (mph). Higher pollutant concentrations at lower wind speeds may indicate a more localized source (near the center of the plot), whereas concentrations at higher wind speeds may indicate a non-localized source. The direction on the plot indicates which way the wind is blowing from.

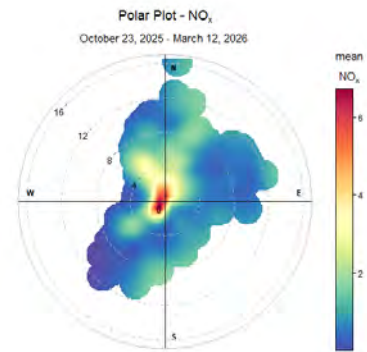


Figure D7-1: Duration of Site 3 Collection

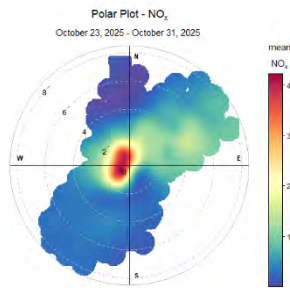


Figure D7-2: October

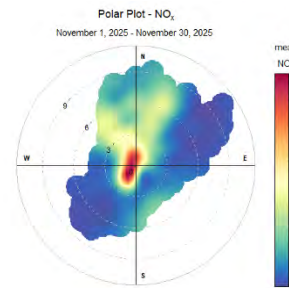


Figure D7-3: November

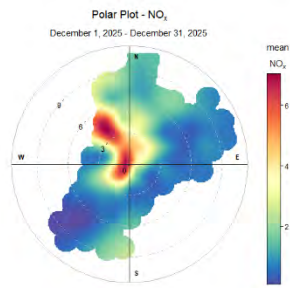


Figure D7-4: December

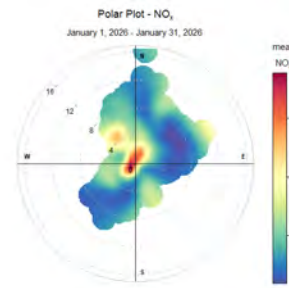


Figure D7-5: January

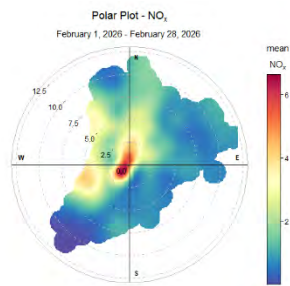


Figure D7-6: February

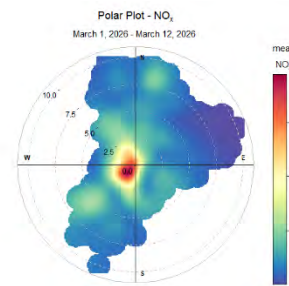


Figure D7-7: March

Time Plots

Time plots are data visualizations displaying pollution observations at uniform, successive intervals of time. They are used to identify trends, seasonal patterns, and outliers in data. These time plots used the data minute readings. Using minute readings displays the short-term spikes, which are often not as noticeable in hourly averages.

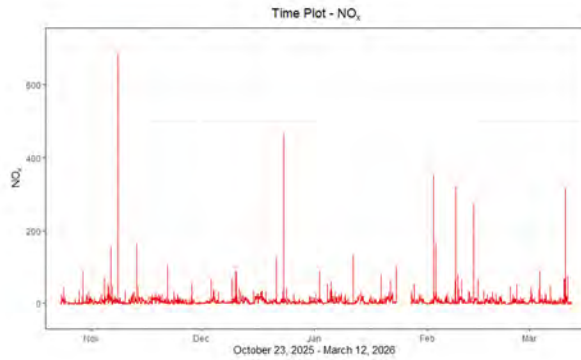


Figure D7-8: Duration of Site 3 Collection

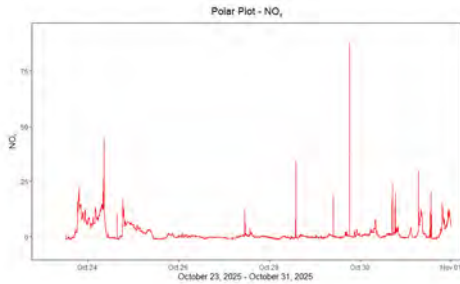


Figure D7-9: October

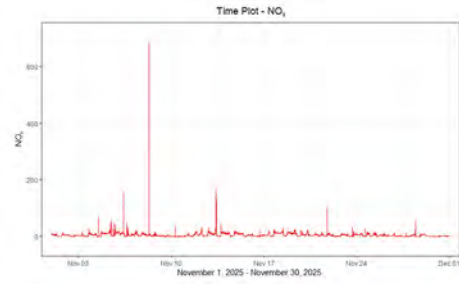


Figure D7-10: November

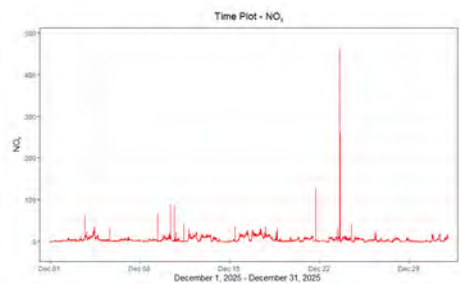


Figure D7-11: December

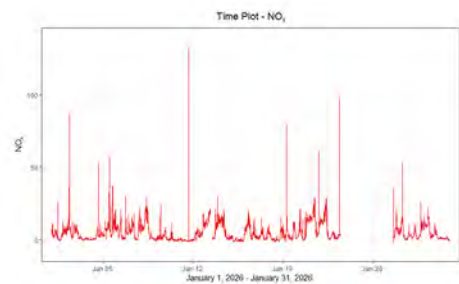


Figure D7-12: January

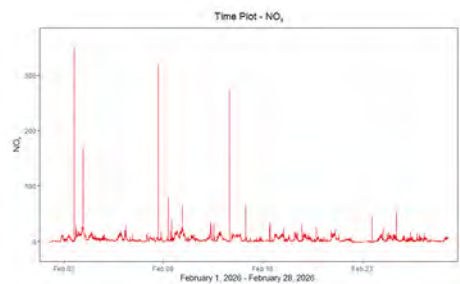


Figure D7-13: February

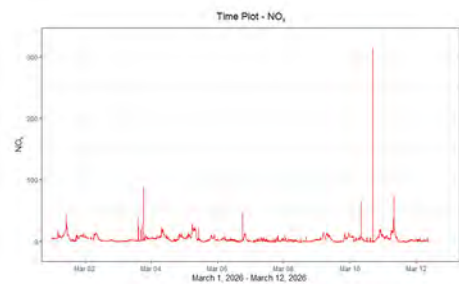


Figure D7-14: March

Pollution Roses

A pollution rose is a diagram that illustrates how wind direction correlates with pollutant concentrations at a specific location. It's similar to a wind rose, but instead of showing wind speed, it depicts pollutant levels associated with different wind directions. This helps visualize the impact of wind on pollutant dispersion and identify potential source directions. In this report, all pollution rose directions indicate the direction the wind is blowing from.

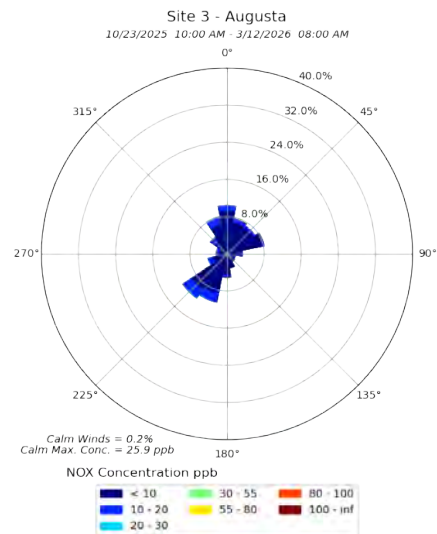


Figure D7-15: Duration of Site 3 Collection

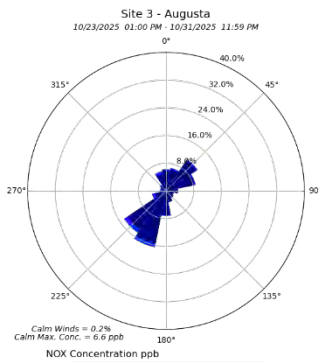


Figure D7-16: October

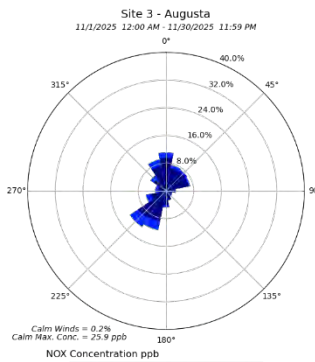


Figure D7-17: November

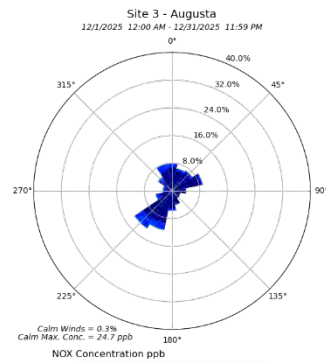


Figure D7-18: December

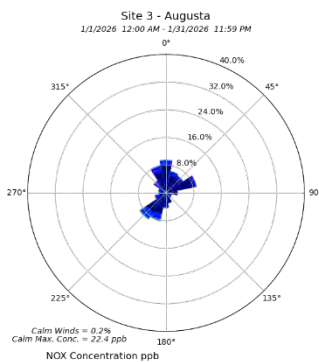


Figure D7-19: January

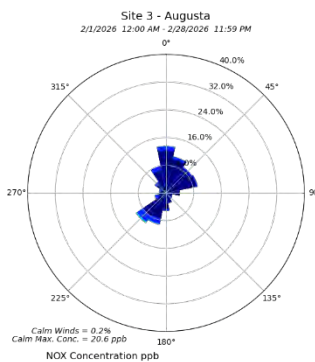


Figure D7-20: February

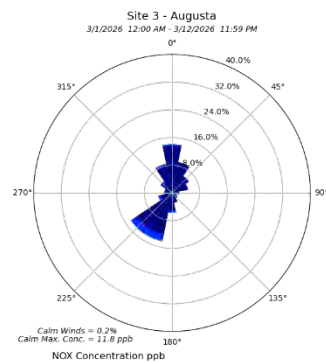


Figure D7-21: March

Scatter Plots

Scatter plots display the hourly averages during the time period. They help identify outliers (data points far from the main cluster) and clusters (groups of similar data).

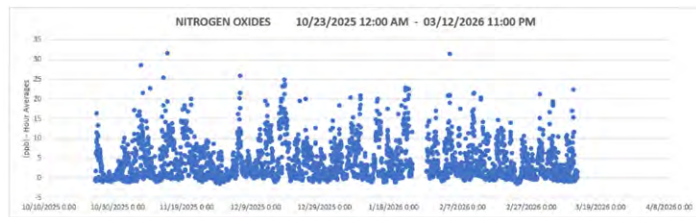


Figure D7-22: Duration of Site 3 Collection



Figure D7-23: October

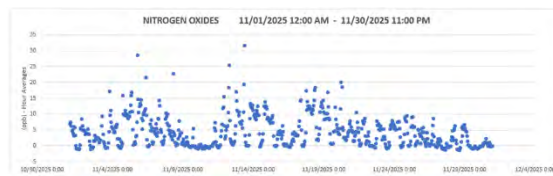


Figure D7-24: November

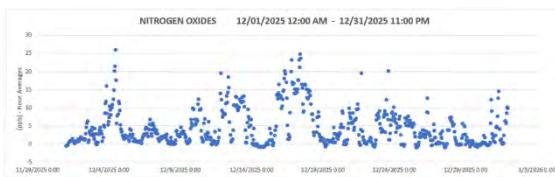


Figure D7-25: December

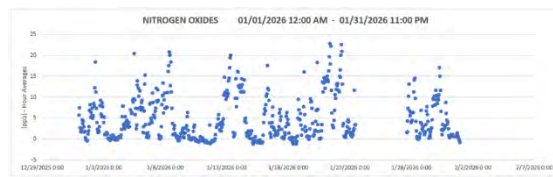


Figure D7-26: January

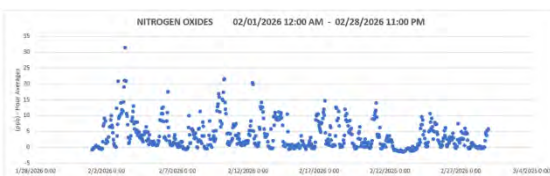


Figure D7-27: February



Figure D7-28: March

Time of Day Plots

Time of day plots display the hour averages based on the hour of the day. It can show if pollution is higher or lower during various time periods.

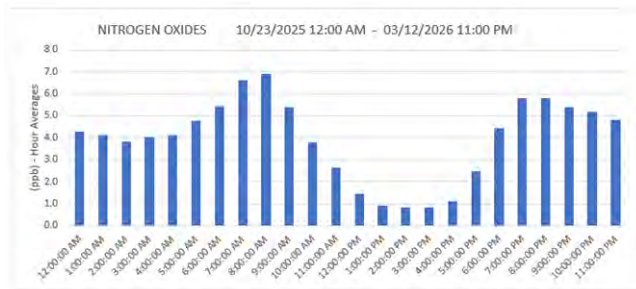


Figure D7-29: Duration of Site 3 Collection



Figure D7-30: October

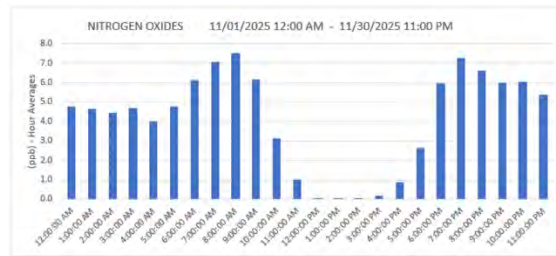


Figure D7-31: November



Figure D7-32: December

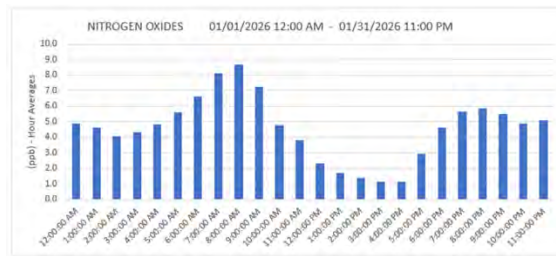


Figure D7-33: January



Figure D7-34: February

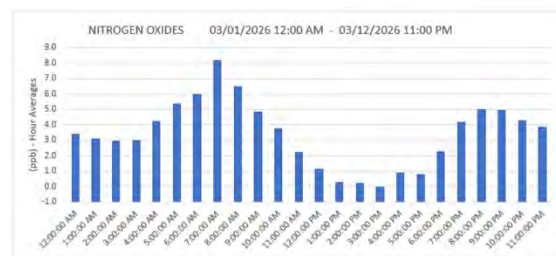


Figure D7-35: March

Top Concentrations

NITROGEN OXIDES Top 25 Concentrations (ppb) - Minute Readings 10/23/2025 - 03/12/2026		
Rank	Concentration	Date/Time
1	687.9	11/8/25 8:34 AM
2	465.4	12/23/25 2:20 PM
3	350.5	2/2/26 5:16 PM
4	318.4	2/8/26 3:29 PM
5	315.3	3/10/26 4:19 PM
6	293.1	2/2/26 5:17 PM
7	274.6	2/13/26 3:27 PM
8	260.1	12/23/25 2:24 PM
9	194.0	12/23/25 2:19 PM
10	190.8	12/23/25 2:23 PM
11	166.5	2/3/26 8:11 AM
12	164.0	11/13/25 9:23 AM
13	154.1	11/6/25 9:23 AM
14	149.0	11/6/25 9:22 AM
15	139.2	3/10/26 4:18 PM
16	137.6	11/13/25 9:22 AM
17	133.0	1/11/26 3:45 PM
18	129.2	11/13/25 9:30 AM
19	127.6	12/21/25 5:09 PM
20	124.6	11/8/25 8:33 AM
21	120.9	2/3/26 8:12 AM
22	112.0	2/3/26 8:10 AM
23	110.1	2/8/26 3:28 PM
24	108.9	11/13/25 9:26 AM
25	104.2	11/21/25 5:55 PM

Figure D7-36: Top 25 Minute Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) - Hour Averages 10/23/2025 12:00 AM - 03/12/2026 11:00 PM		
Rank	Concentration	Date & Time
1	31.7	11/13/2025 9:00 AM
2	31.5	2/3/2026 8:00 AM
3	28.6	11/5/2025 7:00 PM
4	26.0	12/4/2025 11:00 AM
5	25.5	11/12/2025 7:00 AM
6	24.9	12/17/2025 10:00 AM
7	23.7	12/17/2025 11:00 AM
8	23.3	12/16/2025 7:00 PM
9	23.2	12/17/2025 8:00 AM
10	22.9	1/21/2026 9:00 AM
11	22.8	11/8/2025 8:00 AM
12	22.6	1/22/2026 8:00 AM
13	22.4	3/11/2026 7:00 AM
14	22.2	1/21/2026 11:00 AM
15	21.5	2/10/2026 8:00 AM
16	21.5	12/4/2025 10:00 AM
17	21.5	11/6/2025 9:00 AM
18	21.4	2/10/2026 7:00 AM
19	21.2	3/1/2026 10:00 AM
20	21.2	12/17/2025 9:00 AM
21	21.1	2/3/2026 7:00 AM
22	21.0	1/22/2026 9:00 AM
23	20.9	2/2/2026 8:00 PM
24	20.8	2/3/2026 9:00 AM
25	20.8	1/8/2026 8:00 AM

Figure D7-37: Top 25 Hourly Averages

NITROGEN OXIDES Top 25 Concentrations (ppb) - 24-Hour Averages 10/23/2025 - 03/12/2026		
Rank	Concentration	Date
1	15.7	12/17/2025
2	12.7	12/16/2025
3	12.2	1/21/2026
4	10.9	2/3/2026
5	10.9	1/13/2026
6	10.4	12/4/2025
7	10.0	11/18/2025
8	9.3	11/5/2025
9	8.9	12/12/2025
10	8.4	1/22/2026
11	8.3	12/13/2025
12	8.2	2/10/2026
13	8.2	1/5/2026
14	8.0	11/13/2025
15	7.8	1/8/2026
16	7.6	11/14/2025
17	6.9	3/1/2026
18	6.9	1/30/2026
19	6.9	11/12/2025
20	6.8	11/19/2025
21	6.7	1/14/2026
22	6.6	1/2/2026
23	6.6	12/23/2025
24	6.5	12/18/2025
25	6.5	11/17/2025

Figure D7-38: Top 25 Daily Averages

Histogram

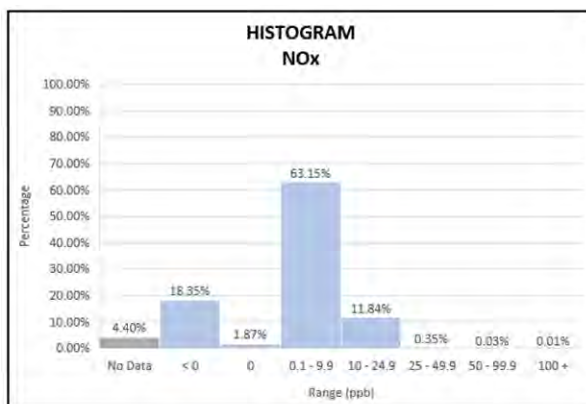


Figure D7-39: Percentages for Concentration Ranges

83.37% of Nitrogen Oxides readings were below 10 ppb. 12.23% readings were 10 ppb or higher.

Day of Week Averages

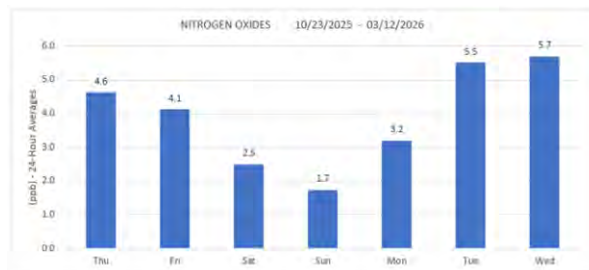


Figure D7-40: Daily Averages based on Day of Week

Nitrogen Oxides concentration daily averages were lower Saturday through Monday, especially on Sunday. Concentrations ran higher during the mid-week. In general, average levels were relatively low.

EPA RETIGO Wind-Pollution Plots

These wind-pollution plots offer another perspective on analyzing the pollution concentrations by plotting them on the diagram based on wind speed and direction. REal Time Geospatial Data Viewer (RETIGO) is a free, web-based tool provided by EPA that can be used to explore environmental data.²⁰

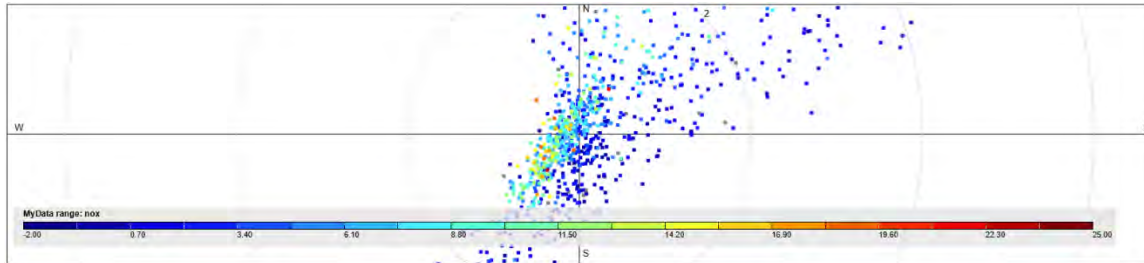


Figure D7-41: Duration of Site 3 Collection

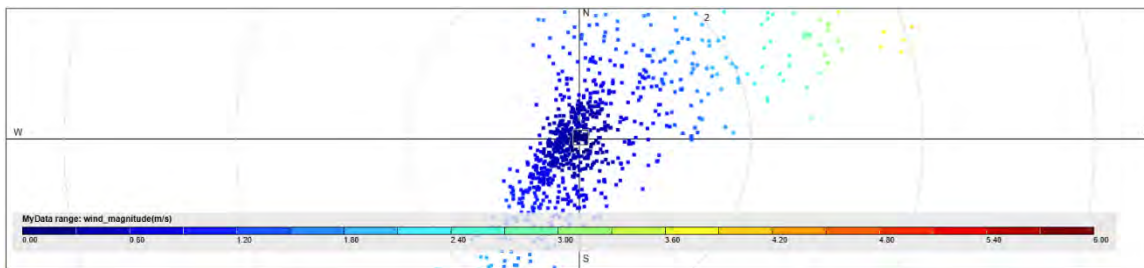


Figure D7-42: Wind Speed for Duration of Collection Period

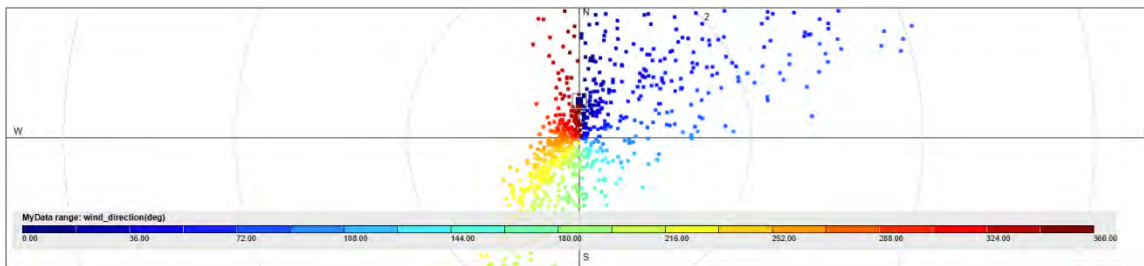


Figure D7-43: Wind Direction for Duration of Collection Period

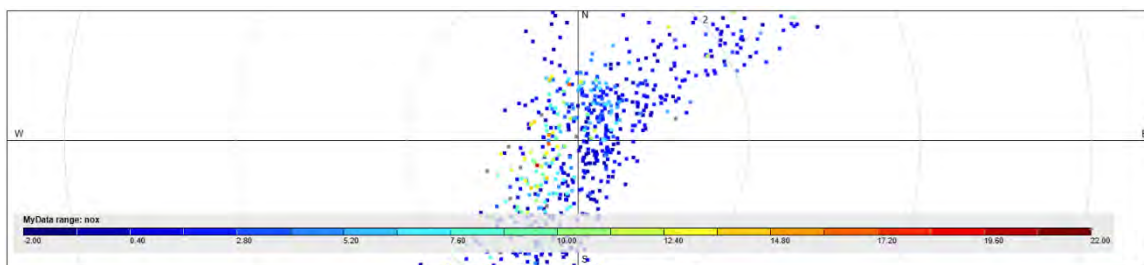


Figure D7-44: October

²⁰ <https://www.epa.gov/hesc/real-time-geospatial-data-viewer-retigo>

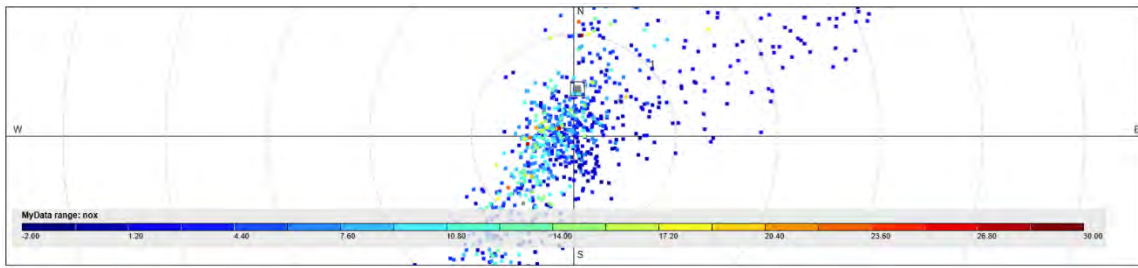


Figure D7-45: November

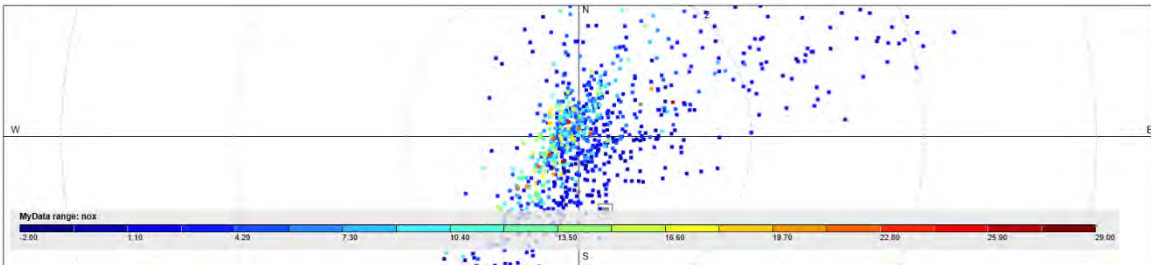


Figure D7-46: December

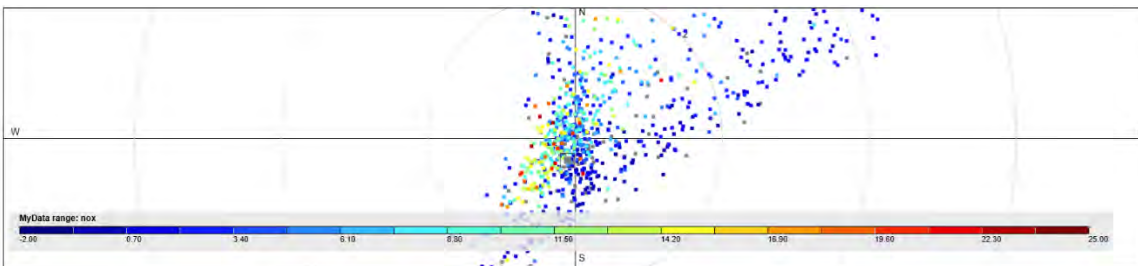


Figure D7-47: January

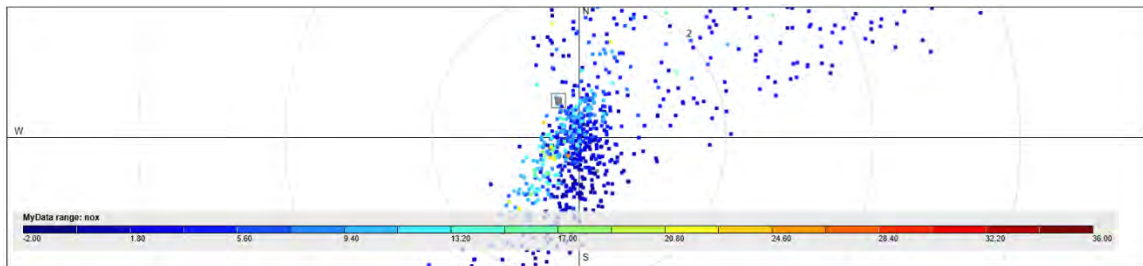


Figure D7-48: February

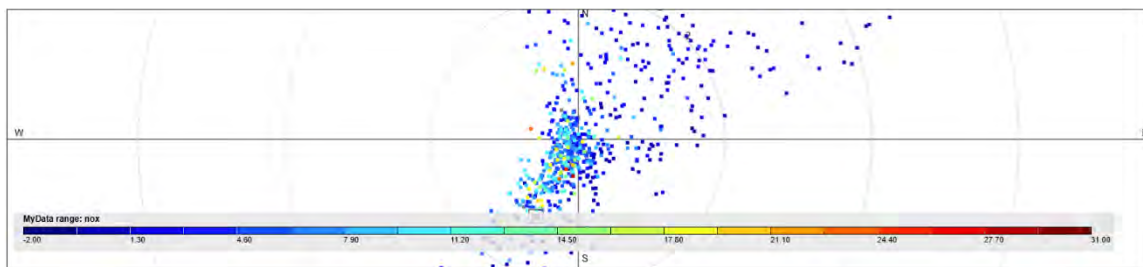


Figure D7-49: March

We separated the NO_x one-minute concentrations of at least 25 ppb and plotted those on a pollution rose for a better visual representation of the direction of the highest concentrations.

NO_x high concentrations appear to have come mostly from the north, northwest, and southwest, but were not limited to those directions.

Please note that for this pollution rose the color code ranges have been adjusted for better visualization.

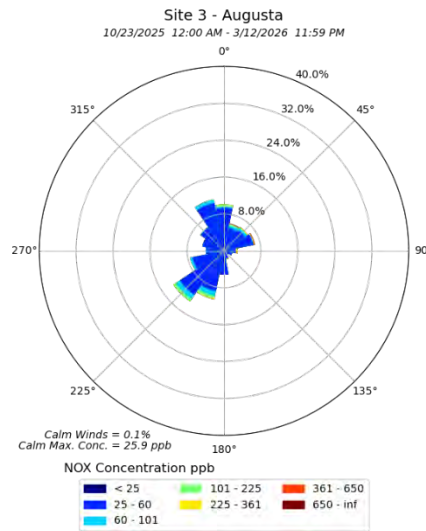


Figure D7-50: NO_x Concentrations of at least 25 ppb

D8: Data Top Spikes & Events

Spikes: We review each day's data and note spikes in the pollutants. We observed numerous spikes at Site 3. We will highlight just a few of those. For major spikes, we do further analysis of that day's data. This may include creating time specific pollution and wind roses, polar plots, and reviewing NOAA/EPA hazards mapping, EPA AQI mapping, and regional agency monitors. In addition, email alerts are sent to us at these thresholds.

- VOC – When the 5-minute average is above 53 ppb.
- PM 2.5 - When the 1-minute data reaches 125.5 ug/m³.
- PM 10 – When the 1-minute data reaches 355 ug/m.
- NO₂ - When the 1-minute data reaches 101 ppb.
- NO_x and NO – When the 1-minute data reaches 100 ppb

We received the following email alerts related to concentration levels.

- 11/6/25, 9:23 AM: NO_x > 100 ppb.
- 11/8/25, 8:35 AM: NO₂ > 101 ppb and NO_x > 100 ppb.
- 11/11/25, 10:30 PM: PM₁₀ > 355ug/m³ and PM_{2.5} > 125.5 ug/m³.
- 11/13/25, 9:31 AM: NO_x > 100 ppb.
- 12/10/25, 6:27 AM: PM₁₀ > 355ug/m³.
- 12/21/25, 5:09 PM: NO_x > 100 ppb.
- 12/23/25, 2:20 PM: NO_x > 100 ppb and NO₂ > 101 ppb.
- 1/11/26, 3:46 PM: NO_x > 100 ppb.
- 2/2/26, 5:17 PM: NO_x > 100 ppb.
- 2/3/26, 8:11 AM: NO_x > 100 ppb.
- 2/8/26, 3:29 PM: NO_x > 100 ppb.
- 2/13/26, 3:38 PM: NO_x > 100 ppb and NO₂ > 101 ppb.
- 3/10/26, 5:19 PM: NO_x > 100 ppb and NO₂ > 101 ppb.

Events: We also review events as logged by our site host or observed by CARE-4-Air personnel. These may include reviewing data where there are nearby mowing operations, prescribed or controlled burns, and unusual facility operations.

We will list some of the higher spikes and events with a brief synopsis. We will include more in-depth information for the highest spikes and some events.

The following controlled burn alerts were sent from Fort Gordon during our collection period.

Date	Event	Location	Smoke Forecast	Time
12/22/2025	Fort Gordon Controlled Burn	North Central portion of installation	Smoke forecast to travel West	Until 3:30 PM
1/6/2026	Fort Gordon Controlled Burn	Southwest portion of installation	Smoke forecast to travel Northeast	10:15 AM – 4:00 PM
1/12/2026	Fort Gordon Controlled Burn	Southwest portion of installation	Smoke forecast to travel Northeast	10:15 AM – 4:00 PM
2/10/2026	Fort Gordon Controlled Burn	Southern portion of installation	Smoke forecast to travel East to Northeast	10:30 AM – 3:00 PM
3/2/2026	Fort Gordon Controlled Burn	South-Central portion of the installation	Smoke forecast to travel Southwest to West	11:00 AM
3/11/2026	Fort Gordon Controlled Burn	South-Central portion of the installation	Smoke forecast to travel Northeast	10:30 AM

Figure D8-1: Fort Gordon Controlled Burns

In some of our analysis we simulate what the EPA AirNow readings would indicate if someone was viewing the data at a specific time. The AirNow simulation utilizes the NowCast algorithm²¹ along with the current PM 2.5 and PM 10 NAAQS standards.

21

https://usepa.servicenowservices.com/airnow?id=kb_article_view&sysparm_article=KB0011856&sys_kb_id=bb8b65ef1b06bc10028420eae54bcb98&spa=1

Spike – NO₂, NO_x, and NO – November 8, 2025

We received an alert that the NO₂ concentration was greater than 101 ppb at 8:35 AM and NO_x was greater than 100 ppb. The NO level was also high during this spike. The high NO_x, NO, NO₂ spikes were brief, around 5 minutes, but the highest minute readings for each one were extremely high: NO_x: 687.9 ppb, NO₂: 361.2 ppb, and NO: 326.7 ppb. NO₂ hourly average during the spike was 13.0 ppb, which is well under the EPA one-hour health standard of 100 ppb. Wind was coming from the NW to N to NE, mostly from north at 1 to 3 mph. Emission source most likely local - coming from South Carolina.

SPIKE SNAPSHOT	
Peak Time/Date:	8:34 AM 11/8/2025
Pollutant (Peak):	NO ₂ (361.2 ppb) NO _x (687.9 ppb) NO (326.7 ppb)
Length:	About 5 minutes
Wind Direction:	North
Wind Speed:	1 to 3 mph
Source:	Probably local

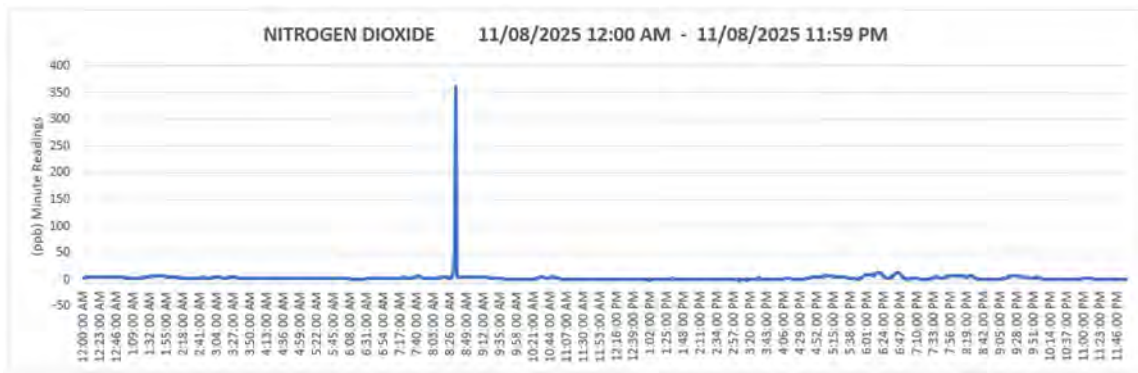


Figure D8-SP1: NO₂ minute readings for November 8, 2025

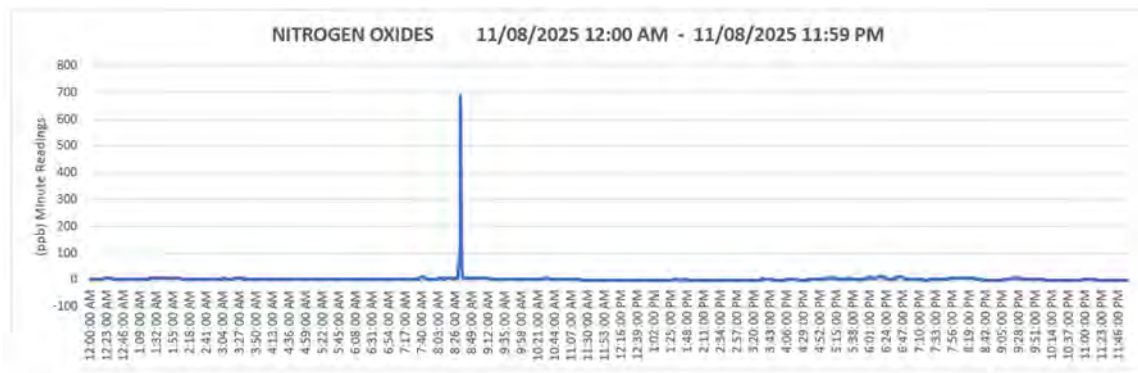


Figure D8-SP2: NO_x minute readings for November 8, 2025

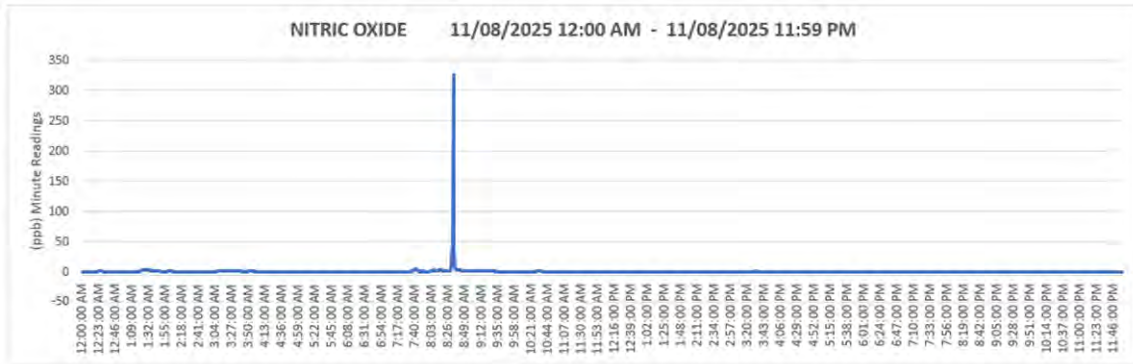


Figure D8-SP3: NO minute readings for November 8, 2025

Figures D8-SP4 through D8-SP6 display the top high concentrations for NO₂, NO_x, and NO for November 8, 2025. The day's high concentrations were during the minutes around the 8:34 AM spike. Concentrations were much lower for the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 11/08/2025 12:00 AM - 11/08/2025 11:59 PM		
Rank	Concentration	Time
1	361.2	8:34:00 AM
2	77.0	8:33:00 AM
3	59.8	8:32:00 AM
4	38.6	8:35:00 AM
5	16.6	8:31:00 AM
6	13.4	6:17:00 PM
7	13.4	6:16:00 PM
8	13.1	6:44:00 PM
9	13.1	6:43:00 PM
10	13.0	6:18:00 PM
11	12.8	6:42:00 PM
12	12.7	6:45:00 PM
13	12.6	6:15:00 PM
14	12.4	6:19:00 PM
15	12.2	6:41:00 PM
16	11.8	6:20:00 PM
17	11.7	6:46:00 PM
18	11.3	6:14:00 PM
19	11.2	6:40:00 PM
20	10.7	6:21:00 PM
21	10.4	6:47:00 PM
22	10.2	6:13:00 PM
23	10.0	6:39:00 PM
24	9.6	6:03:00 PM
25	9.5	6:04:00 PM

Figure D8-SP4: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 11/08/2025 12:00 AM - 11/08/2025 11:59 PM		
Rank	Concentration	Time
1	687.9	8:34:00 AM
2	124.6	8:33:00 AM
3	82.7	8:32:00 AM
4	76.5	8:35:00 AM
5	30.5	8:31:00 AM
6	15.5	8:36:00 AM
7	13.9	6:17:00 PM
8	13.9	6:16:00 PM
9	13.5	6:44:00 PM
10	13.5	6:43:00 PM
11	13.5	6:18:00 PM
12	13.2	6:42:00 PM
13	13.1	6:15:00 PM
14	13.0	6:45:00 PM
15	12.8	6:19:00 PM
16	12.6	6:41:00 PM
17	12.2	6:20:00 PM
18	12.2	7:41:00 AM
19	12.0	6:46:00 PM
20	11.9	7:42:00 AM
21	11.7	6:14:00 PM
22	11.7	7:40:00 AM
23	11.5	6:40:00 PM
24	11.0	6:21:00 PM
25	10.6	6:47:00 PM

Figure D8-SP5: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 11/08/2025 12:00 AM - 11/08/2025 11:59 PM		
Rank	Concentration	Time
1	326.7	8:34:00 AM
2	47.6	8:33:00 AM
3	37.9	8:35:00 AM
4	22.6	8:32:00 AM
5	13.9	8:31:00 AM
6	7.0	8:36:00 AM
7	5.0	7:41:00 AM
8	4.8	7:42:00 AM
9	4.7	7:40:00 AM
10	4.3	1:26:00 AM
11	4.2	7:39:00 AM
12	4.2	1:28:00 AM
13	4.2	1:27:00 AM
14	4.1	1:29:00 AM
15	4.1	1:25:00 AM
16	3.8	1:30:00 AM
17	3.5	1:24:00 AM
18	3.4	1:31:00 AM
19	3.3	8:41:00 AM
20	3.3	8:40:00 AM
21	3.3	8:39:00 AM
22	3.3	8:17:00 AM
23	3.3	8:16:00 AM
24	3.3	7:43:00 AM
25	3.2	8:42:00 AM

Figure D8-SP6: NO Top High Readings

Figure D8-SP8 displays the wind speed and direction during the spike. Winds were 1 to 3 mph coming from NW to N to NE. Pollution roses in figures D8-SP10 through D8-SP12 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP13 through D8-SP15 show that the higher concentrations for the day were centered near the center of the plot indicating lower wind speeds.

date	no	nox	no2
8:27:00 AM	1.8	5.8	4.0
8:28:00 AM	2.0	5.8	3.8
8:29:00 AM	2.2	6.1	3.9
8:30:00 AM	2.4	6.3	3.9
8:31:00 AM	13.9	30.5	16.6
8:32:00 AM	22.6	82.7	59.8
8:33:00 AM	47.6	124.6	77.0
8:34:00 AM	326.7	687.9	361.2
8:35:00 AM	37.9	76.5	38.6
8:36:00 AM	7.0	15.5	8.0
8:37:00 AM	3.2	7.9	4.7
8:38:00 AM	3.2	7.9	4.7
8:39:00 AM	3.3	8.0	4.7
8:40:00 AM	3.3	8.1	4.8

Figure D8-SP7: Table showing spike levels around 8:34 AM

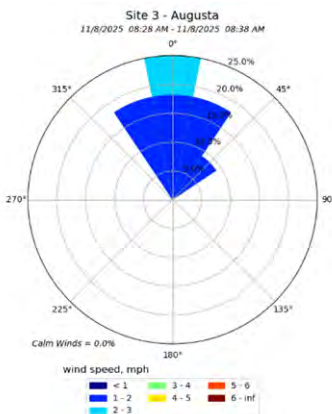


Figure D8-SP8: Wind Rose during spike

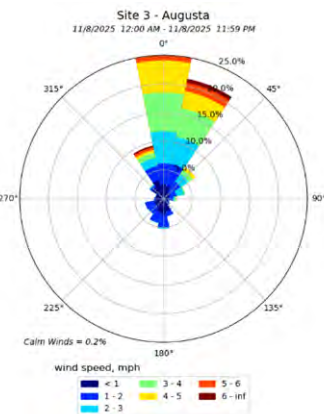


Figure D8-SP9: Wind Rose for the day

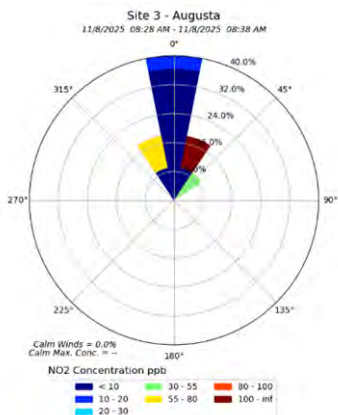


Figure D8-SP10: NO₂ Spike Pollution Rose

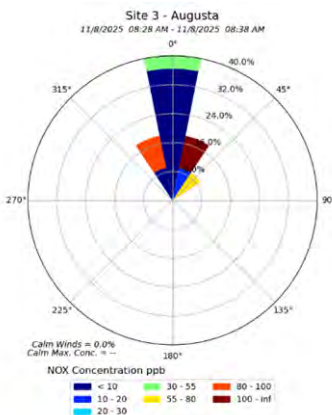


Figure D8-SP11: NO_x Spike Pollution Rose

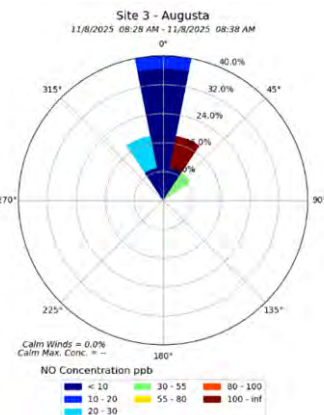


Figure D8-SP12: NO Spike Pollution Rose

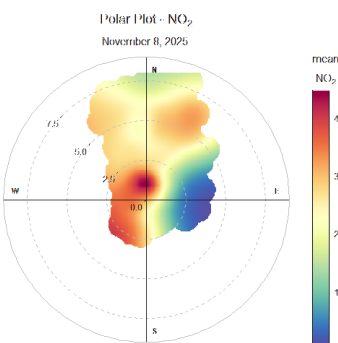


Figure D8-SP13: NO₂ Day Polar Plot

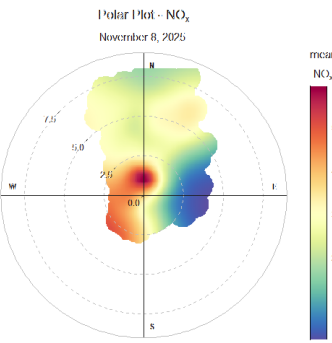


Figure D8-SP14: NO_x Day Polar Plot

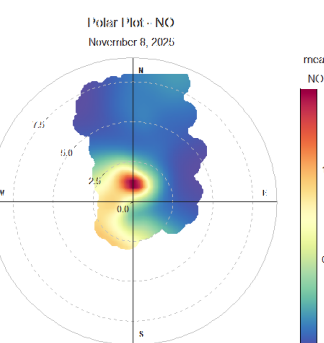


Figure D8-SP15: NO Day Polar Plot

Spike – PM 2.5 and PM 10 – November 11, 2025

We received an alert that the PM10 concentration was greater than 355 ug/m3 and the PM2.5 concentration was greater than 125.5 ug/m3 at 10:30 PM. PM levels appear to be from local sources, most likely from South Carolina. Augusta and BEAST monitors displayed the late evening PM 2.5 spike; however, the spike concentration was much greater at the BEAST. The PM 10 spike was not as noticeable at the Augusta monitor. Wind speed was less than 1 mph during the spike with wind direction coming from the North-Northeast direction. Despite this high spike, PM 2.5 BEAST data for the day averaged at 6.0 ug/m3. (AQI of 33, good range). PM 10 BEAST data for the day averaged 15 ug/m3 (AQI of 14, good range).

SPIKE SNAPSHOT	
Peak Time/Date:	10:20 PM 11/11/2025
Pollutant (Peak):	PM 2.5 (151.5 ug/m3) PM 10 (397.7 ug/m3)
Length:	1 hour 45 minutes
Wind Direction:	North-Northeast
Wind Speed:	Less than 1 mph
Source:	Probably local

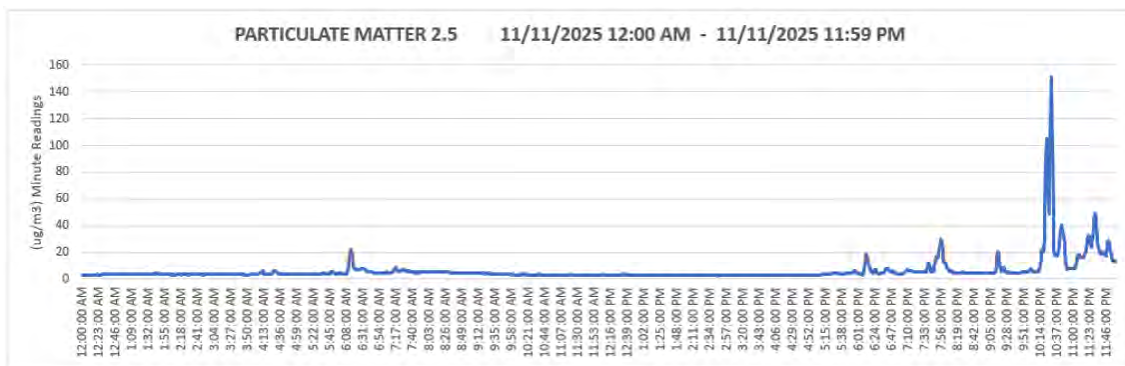


Figure D8-SP16: PM 2.5 Minute Data for November 11, 2025

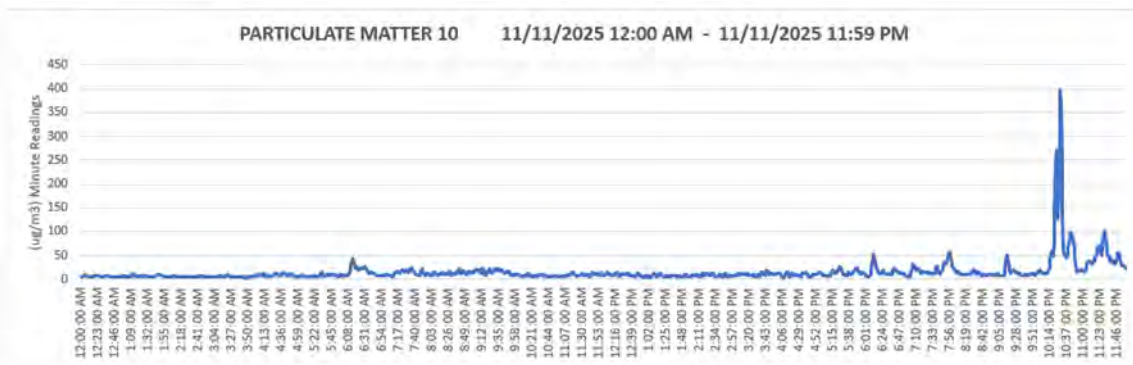


Figure D8-SP17: PM 10 Minute Data for November 11, 2025

The day's top 25 high concentrations for PM 2.5 and PM 10 are shown in Figures D8-SP18 and D8-SP19, respectfully.

Most of the day's high readings were recorded during the 10 PM hour.

PARTICULATE MATTER 2.5		
Top 25 Concentrations (ug/m3) Minute Readings		
11/11/2025 12:00 AM - 11/11/2025 11:59 PM		
Rank	Concentration	Time
1	151.5	10:29:00 PM
2	142.8	10:30:00 PM
3	113.5	10:28:00 PM
4	105.1	10:23:00 PM
5	100.2	10:31:00 PM
6	93.6	10:24:00 PM
7	90.2	10:22:00 PM
8	67.0	10:27:00 PM
9	64.0	10:25:00 PM
10	54.8	10:21:00 PM
11	51.7	10:32:00 PM
12	49.0	11:30:00 PM
13	48.8	10:26:00 PM
14	46.7	11:31:00 PM
15	45.0	11:29:00 PM
16	40.4	10:44:00 PM
17	40.0	11:32:00 PM
18	40.0	10:43:00 PM
19	38.3	11:28:00 PM
20	36.3	10:45:00 PM
21	35.5	10:42:00 PM
22	33.9	11:33:00 PM
23	32.4	11:22:00 PM
24	32.3	10:47:00 PM
25	32.1	10:46:00 PM

Figure D8-SP18: PM 2.5 High Concentrations for Nov. 11, 2025

PARTICULATE MATTER 10		
Top 25 Concentrations (ug/m3) Minute Readings		
11/11/2025 12:00 AM - 11/11/2025 11:59 PM		
Rank	Concentration	Time
1	397.7	10:29:00 PM
2	370.9	10:30:00 PM
3	296.3	10:28:00 PM
4	271.4	10:23:00 PM
5	262.2	10:31:00 PM
6	242.9	10:24:00 PM
7	237.1	10:22:00 PM
8	177.6	10:27:00 PM
9	163.7	10:25:00 PM
10	146.2	10:21:00 PM
11	136.7	10:32:00 PM
12	127.0	10:26:00 PM
13	101.2	11:30:00 PM
14	99.4	10:43:00 PM
15	98.0	10:44:00 PM
16	94.8	11:31:00 PM
17	93.7	11:29:00 PM
18	92.3	10:42:00 PM
19	88.3	10:45:00 PM
20	83.4	10:47:00 PM
21	82.2	10:46:00 PM
22	81.3	11:32:00 PM
23	81.1	11:28:00 PM
24	75.8	10:20:00 PM
25	72.5	10:41:00 PM

Figure D8-SP19: PM 10 High Concentrations for Nov. 11, 2025

Pollution roses for both PM 2.5 and PM 10 during the spike are shown in figures D8-SP20 and D8-SP21.

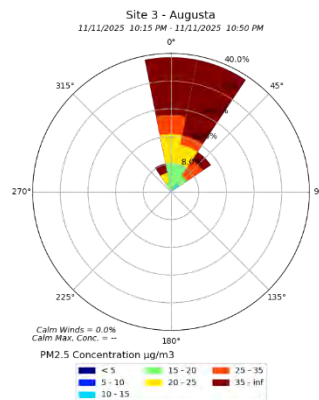


Figure D8-SP20: PM 2.5 Pollution Rose showing spike

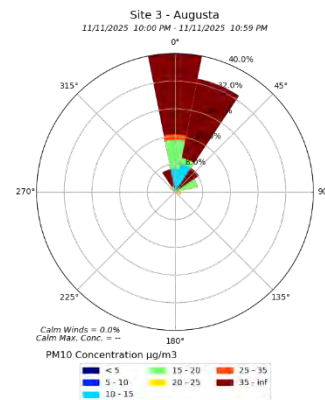


Figure D8-SP21: PM 10 Pollution Rose showing spike

Figure D8-SP22 wind rose displays the wind speed and direction during the spike. Winds were less than 1 mph.

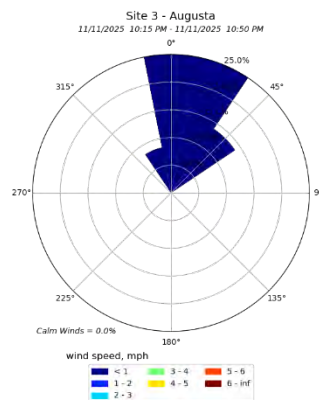


Figure D8-SP22: Wind Rose during spike

Figure D8-SP23 displays the wind data for the entire day.

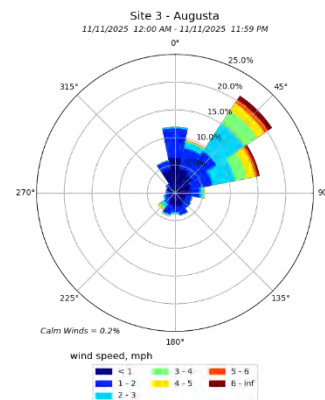


Figure D8-SP23: Wind Rose for the day

The PM 2.5 and PM 10 polar plots look similar, both emphasizing the possibility of local sources with the bullseye of high concentrations close to the 0 mph wind speed center.

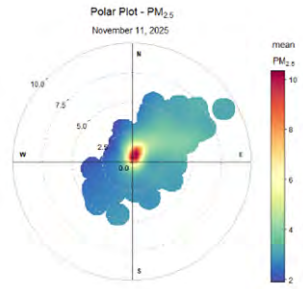


Figure D8-SP24: PM 2.5 Polar Plot

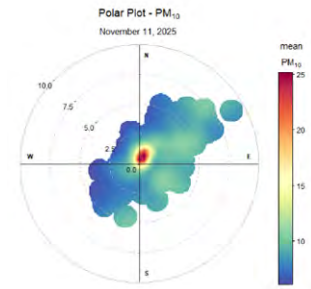


Figure D8-SP25: PM 10 Polar Plot

Figures D8-SP26 and D8-SP27 graphs display the BEAST hourly average data along with raw agency regional monitoring data. Only the BEAST data indicated the high concentration spike in the 10 PM hour. The Augusta monitor showed a lesser spike meaning the source was closer to our BEAST monitor. There were some pockets of smoke in the region, as shown in Figure D8-SP28. However, those smoke pockets were in a different wind direction located to the West to Southwest. The EPA AQI map, Figure D8-SP29, indicated a good air quality day.

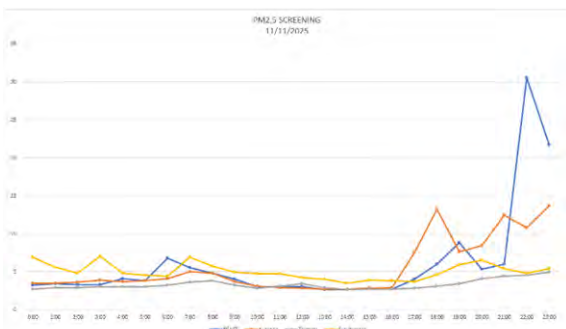


Figure D8-SP26: PM 2.5 Hourly Concentrations

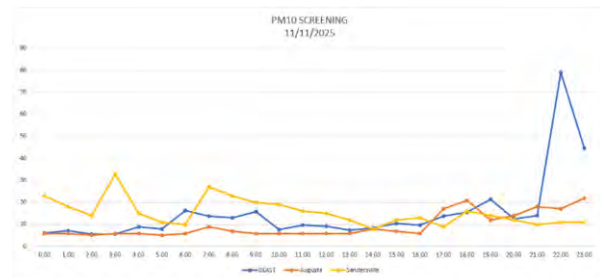


Figure D8-SP27: PM 10 Hourly Concentrations

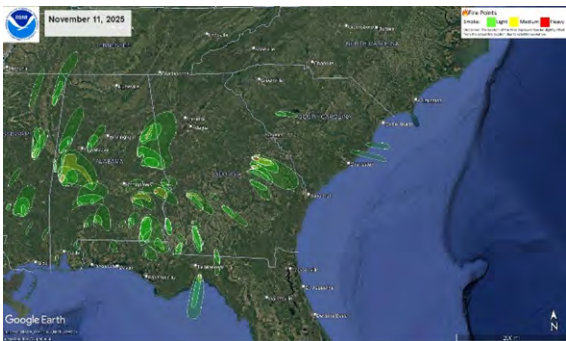


Figure D8-SP28: NOAA Smoke Map

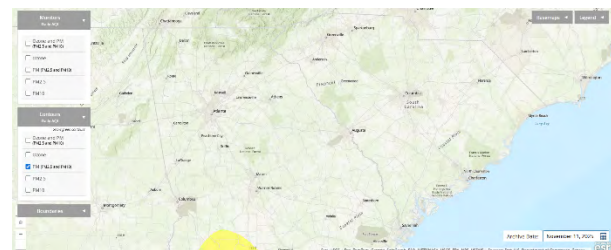


Figure D8-SP29: EPA AQI Map

Spike – NO₂ , NO_x , and NO – November 13, 2025

We received an alert that the NO_x concentration was greater than 100 ppb at 9:31 AM. NO₂ and NO levels were also high. The high NO_x, NO, NO₂ spikes had some ups and downs but overall lasted over 30 minutes. High peaks were NO_x: 164 ppb, NO₂: 75.1 ppb, and NO: 105 ppb. Wind was generally coming from the SW at 2 mph or less. Emission source most likely local coming from southern Augusta.

SPIKE SNAPSHOT	
Peak Time/Date:	9:23 AM & 9:30 AM 11/13/2025
Pollutant (Peak):	NO ₂ (75.1 ppb) NO _x (164.0 ppb) NO (105.0 ppb)
Length:	30 minutes
Wind Direction:	Southwest
Wind Speed:	2 mph or less
Source:	Probably local

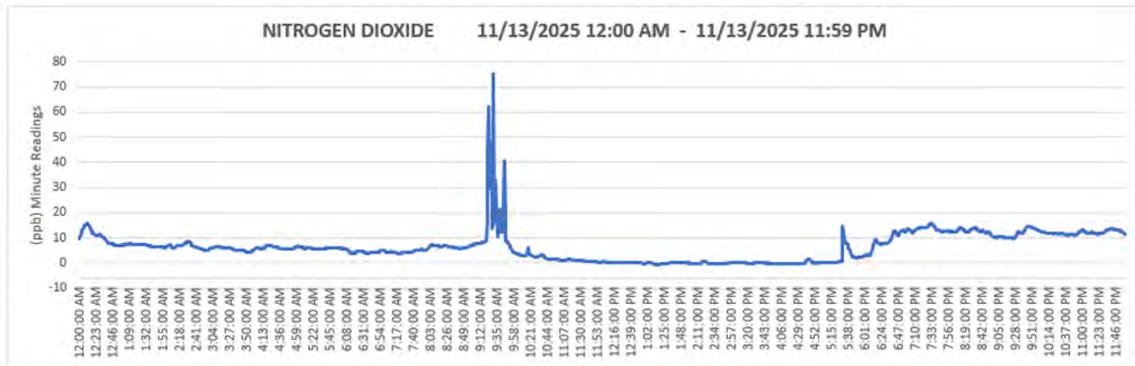


Figure D8-SP30: NO₂ minute readings for November 13, 2025

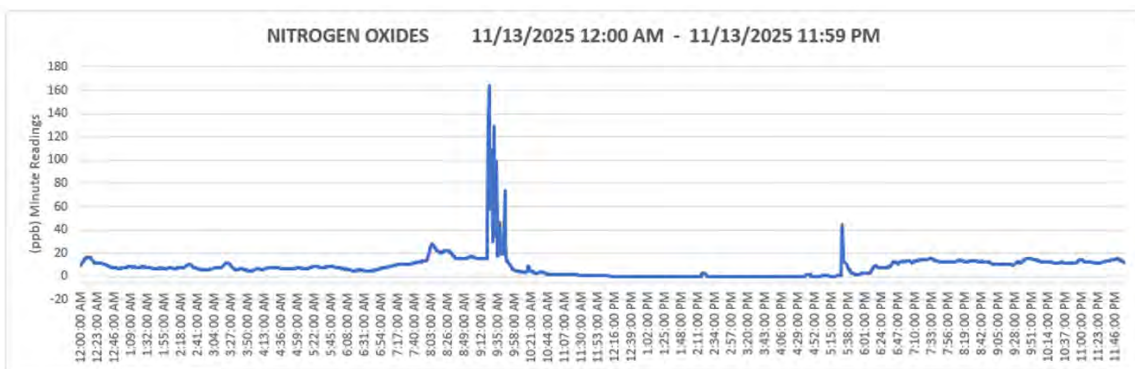


Figure D8-SP31: NO_x minute readings for November 13, 2025



Figure D8-SP32: NO minute readings for November 13, 2025

Figures D8-SP33 through D8-SP35 display the top high concentrations for NO₂, NO_x, and NO for November 13, 2025.

The day's high concentrations were around the time of the spike at approximately 9:30 AM.

Concentrations were lower the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 11/13/2025 12:00 AM - 11/13/2025 11:59 PM		
Rank	Concentration	Time
1	75.1	9:30:00 AM
2	62.2	9:23:00 AM
3	47.9	9:27:00 AM
4	44.7	9:22:00 AM
5	41.4	9:25:00 AM
6	40.8	9:26:00 AM
7	40.5	9:45:00 AM
8	32.9	9:33:00 AM
9	29.3	9:24:00 AM
10	27.2	9:44:00 AM
11	21.3	9:38:00 AM
12	20.2	9:34:00 AM
13	20.2	9:31:00 AM
14	18.4	9:46:00 AM
15	17.3	9:39:00 AM
16	16.9	9:21:00 AM
17	16.5	9:32:00 AM
18	15.8	12:11:00 AM
19	15.7	7:32:00 PM
20	15.6	7:31:00 PM
21	15.6	12:10:00 AM
22	15.5	7:33:00 PM
23	15.5	12:12:00 AM
24	15.5	12:09:00 AM
25	15.3	7:30:00 PM

Figure D8-SP33: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 11/13/2025 12:00 AM - 11/13/2025 11:59 PM		
Rank	Concentration	Time
1	164.0	9:23:00 AM
2	137.6	9:22:00 AM
3	129.2	9:30:00 AM
4	108.9	9:26:00 AM
5	99.1	9:33:00 AM
6	94.7	9:27:00 AM
7	89.4	9:25:00 AM
8	73.4	9:45:00 AM
9	58.3	9:24:00 AM
10	48.4	9:34:00 AM
11	46.6	9:38:00 AM
12	44.4	5:30:00 PM
13	42.5	9:44:00 AM
14	40.5	9:31:00 AM
15	37.6	9:28:00 AM
16	35.7	9:21:00 AM
17	34.5	9:32:00 AM
18	29.8	9:29:00 AM
19	28.6	9:46:00 AM
20	28.6	9:39:00 AM
21	28.1	8:05:00 AM
22	27.8	8:04:00 AM
23	27.3	8:06:00 AM
24	26.3	8:03:00 AM
25	26.0	8:07:00 AM

Figure D8-SP34: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 11/13/2025 12:00 AM - 11/13/2025 11:59 PM		
Rank	Concentration	Time
1	105.0	9:23:00 AM
2	92.9	9:22:00 AM
3	68.2	9:33:00 AM
4	68.1	9:26:00 AM
5	54.1	9:30:00 AM
6	48.8	9:25:00 AM
7	46.9	9:27:00 AM
8	33.0	9:45:00 AM
9	31.9	9:34:00 AM
10	30.6	5:30:00 PM
11	29.0	9:24:00 AM
12	24.3	9:38:00 AM
13	24.2	9:28:00 AM
14	20.8	8:05:00 AM
15	20.7	8:04:00 AM
16	20.3	9:31:00 AM
17	20.1	8:06:00 AM
18	19.4	8:03:00 AM
19	18.9	8:07:00 AM
20	18.8	9:21:00 AM
21	18.0	9:32:00 AM
22	17.8	8:08:00 AM
23	17.7	8:02:00 AM
24	16.8	8:09:00 AM
25	16.1	8:10:00 AM

Figure D8-SP35: NO Top High Readings

Figure D8-SP37 displays the wind speed and direction during the spike. Winds were 2 mph or less coming from SW. Pollution roses in figures D8-SP39 through D8-SP41 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP42 through D8-SP44 show that the higher concentrations for the day were centered near the center of the plot indicating lower wind speeds.

date	no	nox	no2
9:19:00 AM	6.6	15.3	8.6
9:20:00 AM	6.7	15.3	8.6
9:21:00 AM	18.8	35.7	16.9
9:22:00 AM	92.9	137.6	44.7
9:23:00 AM	105.0	164.0	62.2
9:24:00 AM	29.0	58.3	29.3
9:25:00 AM	48.8	89.4	41.4
9:26:00 AM	68.1	108.9	40.8
9:27:00 AM	46.9	94.7	47.9
9:28:00 AM	24.2	37.6	13.5
9:29:00 AM	15.0	29.8	15.1
9:30:00 AM	54.1	129.2	75.1
9:31:00 AM	20.3	40.5	20.2
9:32:00 AM	18.0	34.5	16.5
9:33:00 AM	68.2	99.1	32.9
9:34:00 AM	31.9	48.4	20.2
9:35:00 AM	6.7	17.1	10.4
9:36:00 AM	7.2	18.2	11.1

Figure D8-SP36: Table showing spike levels around 9:23 AM

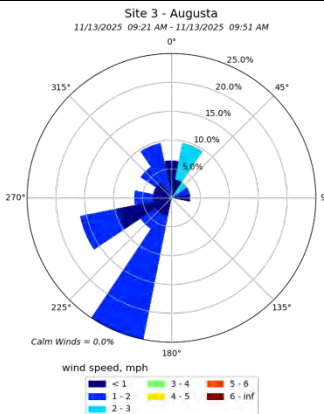


Figure D8-SP37: Wind Rose during spike

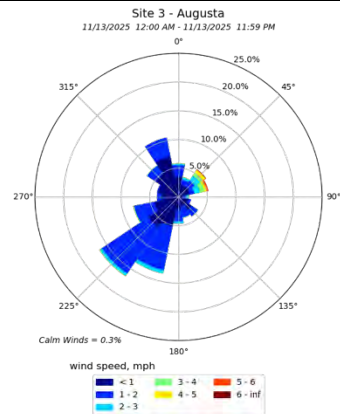


Figure D8-SP38: Wind Rose for the day

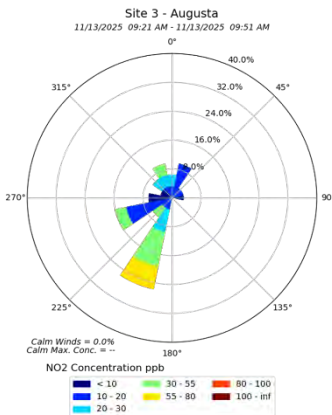


Figure D8-SP39: NO₂ Spike Pollution Rose

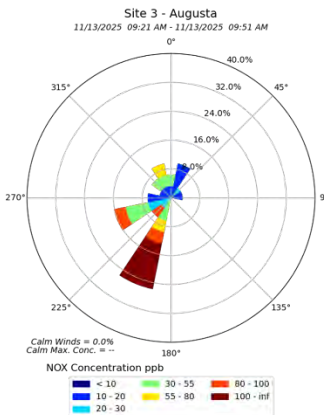


Figure D8-SP40: NO_x Spike Pollution Rose

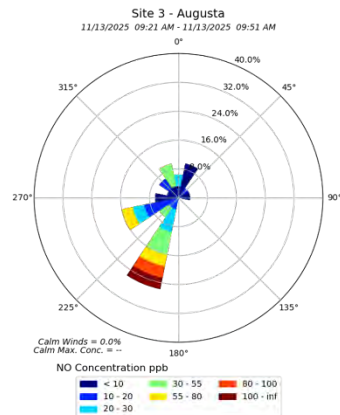


Figure D8-SP41: NO Spike Pollution Rose

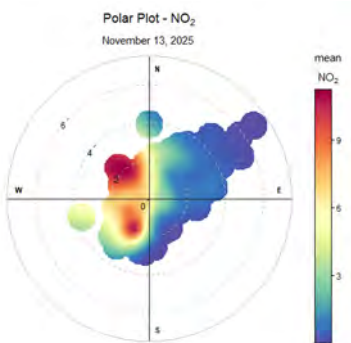


Figure D8-SP42: NO₂ Day Polar Plot

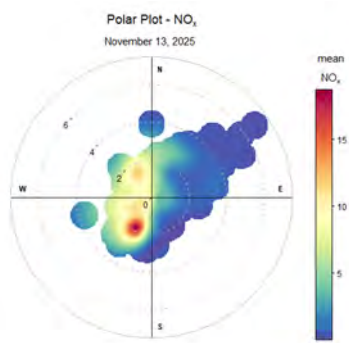


Figure D8-SP43: NO_x Day Polar Plot

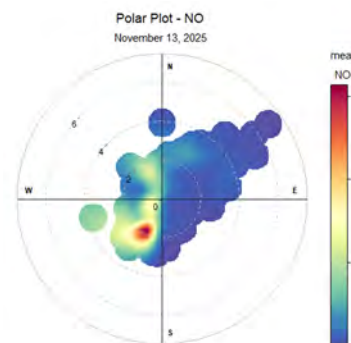


Figure D8-SP44: Day Polar Plot

Spike – PM2.5, PM10, NO₂, NO_x, and NO – December 21, 2025

We received an alert that the NO_x concentration was greater than 100 ppb at 5:09 PM. NO₂ and NO levels were also high. PM2.5 and PM10 had a high spike earlier in the day. Wind speed was less than 1 mph during the NO_x/NO₂/NO spike in the afternoon. Spikes from the North. Wind was coming from across the river from South Carolina. Spike and higher concentration of Particulate Matter during the morning. Wind for the PM spike/higher concentration was from NE and SW. Wind speed was varied up to 5 to 6 mph. PM 2.5 spike appears to be localized near the BEAST monitor. PM 10 spike is also evident in Sandersville monitor. There were some fires in the S/SW direction, which were closer to the Sandersville monitor. Fires may have played a role. Unsure if these were prescribed burns. Regional smoke indicated via NOAA mapping S to SW from BEAST. Regionally moderate AQI for particulates for the day.

SPIKE SNAPSHOT

9:24 AM & 9:41 AM
12/21/2025

Pollutant (Peak): PM 2.5 (69.7 ug/m3)
PM 10 (91.7 ug/m3)

Length: About 3 hours

Wind Direction: Northeast & Southwest

Wind Speed: Various up to 5 to 6 mph

Source: Possibly local & non-local

SPIKE SNAPSHOT

Peak Time/Date: 5:09 PM 12/21/2025

Pollutant (Peak): NO₂ (49.6 ppb)
NO_x (127.6 ppb)
NO (78.0 ppb)

Length: 45 minutes

Wind Direction: North

Wind Speed: Less than 1 mph

Source: Probably local

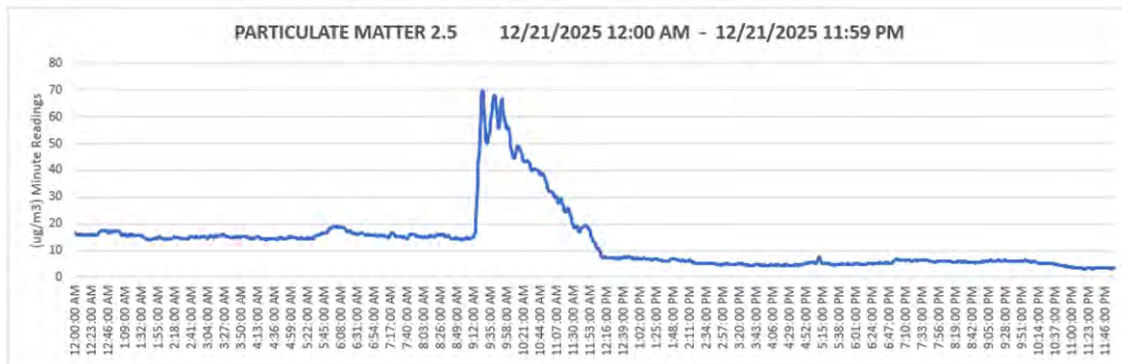


Figure D8-SP45: PM 2.5 minute readings for December 21, 2025

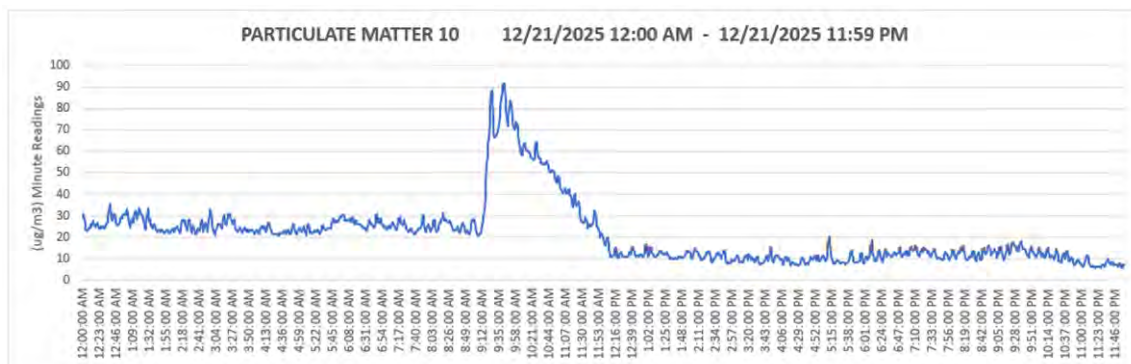


Figure D8-SP46: PM 10 minute readings for December 21, 2025

The day's top 25 high concentrations for PM 2.5 and PM 10 are shown in Figures D8-SP47 and D8-SP48, respectfully.

Most of the day's high readings were recorded during the 9 AM hour.

PARTICULATE MATTER 2.5		
Top 25 Concentrations (ug/m3) Minute Readings		
12/21/2025 12:00 AM - 12/21/2025 11:59 PM		
Rank	Concentration	Time
1	69.7	9:24:00 AM
2	69.4	9:25:00 AM
3	68.0	9:41:00 AM
4	67.8	9:23:00 AM
5	67.7	9:40:00 AM
6	67.0	9:42:00 AM
7	66.7	9:39:00 AM
8	66.6	9:51:00 AM
9	66.1	9:50:00 AM
10	65.7	9:26:00 AM
11	65.3	9:38:00 AM
12	64.9	9:43:00 AM
13	64.0	9:52:00 AM
14	63.0	9:49:00 AM
15	62.7	9:37:00 AM
16	61.7	9:44:00 AM
17	61.5	9:22:00 AM
18	61.1	9:53:00 AM
19	59.9	9:36:00 AM
20	59.5	9:27:00 AM
21	59.4	9:54:00 AM
22	58.4	9:48:00 AM
23	58.4	9:45:00 AM
24	58.2	9:55:00 AM
25	57.7	9:56:00 AM

Figure D8-SP47: PM 2.5 High Concentrations for Dec. 21, 2025

PARTICULATE MATTER 10		
Top 25 Concentrations (ug/m3) Minute Readings		
12/21/2025 12:00 AM - 12/21/2025 11:59 PM		
Rank	Concentration	Time
1	91.7	9:41:00 AM
2	91.4	9:42:00 AM
3	90.8	9:40:00 AM
4	89.3	9:43:00 AM
5	88.4	9:25:00 AM
6	87.8	9:39:00 AM
7	87.2	9:24:00 AM
8	84.9	9:44:00 AM
9	84.3	9:26:00 AM
10	84.2	9:38:00 AM
11	83.6	9:51:00 AM
12	83.0	9:50:00 AM
13	81.5	9:52:00 AM
14	80.9	9:23:00 AM
15	80.7	9:37:00 AM
16	80.2	9:45:00 AM
17	79.3	9:49:00 AM
18	76.4	9:53:00 AM
19	76.3	9:36:00 AM
20	76.1	9:27:00 AM
21	75.1	9:48:00 AM
22	75.1	9:46:00 AM
23	73.8	9:59:00 AM
24	73.7	9:54:00 AM
25	72.9	10:00:00 AM

Figure D8-SP48: PM 10 High Concentrations for Dec. 21, 2025

Pollution roses for both PM 2.5 and PM 10 during the spike are shown in figures D8-SP49 and D8-SP50.

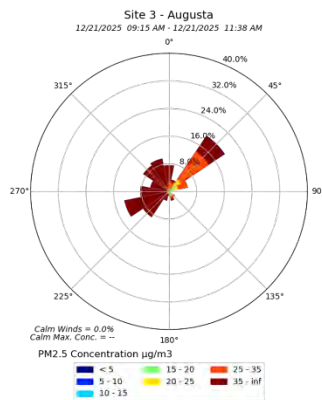


Figure D8-SP49: PM 2.5 Pollution Rose showing spike

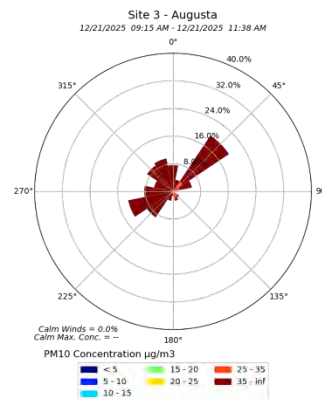


Figure D8-SP50: PM 10 Pollution Rose showing spike

Figure D8-SP51 wind rose displays the wind speed and direction during the spike. Winds were mostly in the 1 to 3 mph with some 3 to 5 mph winds.

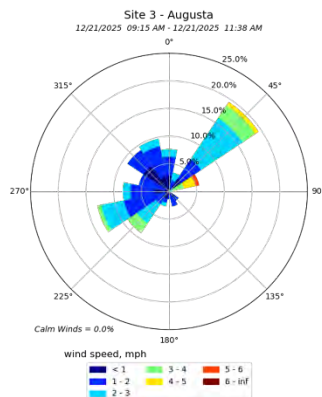


Figure D8-SP51: Wind Rose during spike

Figure D8-SP52 displays the wind data for the entire day.

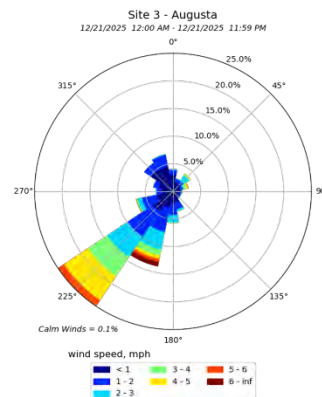


Figure D8-SP52: Wind Rose for the day

The PM 2.5 and PM 10 polar plots look similar. Higher concentrations were generally less than 4 mph.

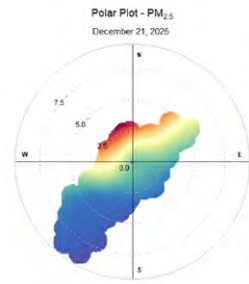


Figure D8-SP53: PM 2.5 Polar Plot

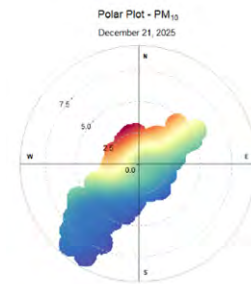


Figure D8-SP54: PM 10 Polar Plot

Figures D8-SP55 and D8-SP56 graphs display the BEAST hourly average data along with raw agency regional monitoring data. Only the BEAST data indicated the high concentration spike in the 10 PM hour. The Augusta monitor showed a lesser spike meaning the source was closer to our BEAST monitor. There were some pockets of smoke in the region, as shown in Figure D8-SP57. However, those smoke pockets were in a different wind direction located to the West to Southwest. The EPA AQI map, Figure D8-SP58, indicated a good air quality day.

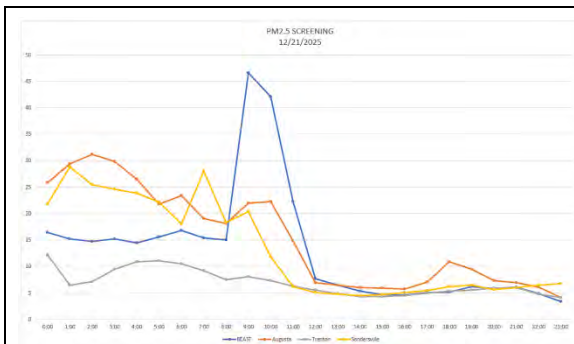


Figure D8-SP55: PM 2.5 Hourly Concentrations

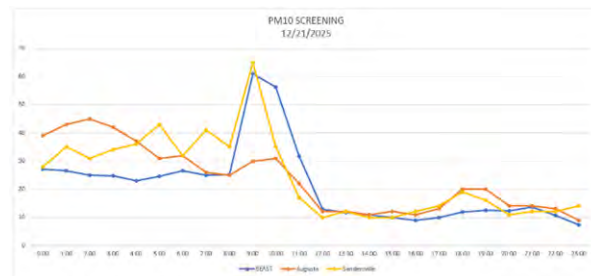


Figure D8-SP56: PM 10 Hourly Concentrations

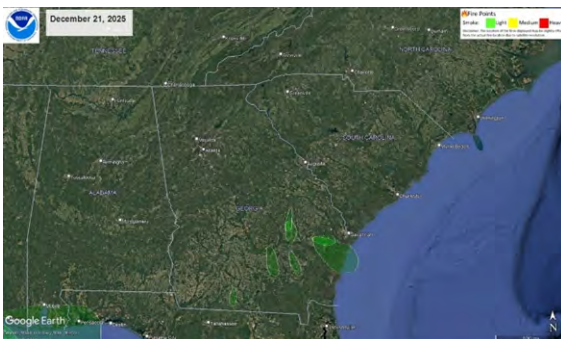


Figure D8-SP57: NOAA Smoke Map

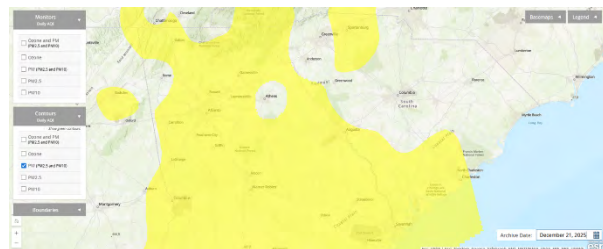


Figure D8-SP58: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-SP59, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Trenton				Sandersville			
December 21, 2025				December 21, 2025				December 21, 2025				December 21, 2025			
Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.
12 Mid	15.0	62	OK	12 Mid	20.0	71	OK	12 Mid	21.8	75	OK	12 Mid	22.6	76	OK
1:00 AM	15.7	63	OK	1:00 AM	22.9	77	OK	1:00 AM	17.0	66	OK	1:00 AM	17.0	66	OK
2:00 AM	15.4	63	OK	2:00 AM	26.1	83	OK	2:00 AM	11.7	56	OK	2:00 AM	25.5	82	OK
3:00 AM	15.0	62	OK	3:00 AM	28.6	87	OK	3:00 AM	9.4	52	OK	3:00 AM	9.4	52	OK
4:00 AM	15.1	62	OK	4:00 AM	29.2	88	OK	4:00 AM	9.4	52	OK	4:00 AM	25.0	81	OK
5:00 AM	14.8	62	OK	5:00 AM	27.9	86	OK	5:00 AM	10.1	53	OK	5:00 AM	24.4	80	OK
6:00 AM	15.2	62	OK	6:00 AM	24.8	80	OK	6:00 AM	10.6	54	OK	6:00 AM	23.3	77	OK
7:00 AM	16.0	64	OK	7:00 AM	24.1	79	OK	7:00 AM	10.5	54	OK	7:00 AM	20.6	72	OK
8:00 AM	15.6	63	OK	8:00 AM	22.2	75	OK	8:00 AM	9.8	52	OK	8:00 AM	24.3	79	OK
9:00 AM	15.4	63	OK	9:00 AM	20.4	72	OK	9:00 AM	8.6	48	OK	9:00 AM	21.8	75	OK
10:00 AM	30.3	92	OK	10:00 AM	21.1	73	OK	10:00 AM	8.3	46	OK	10:00 AM	21.2	74	OK
11:00 AM	36.5	103	OK	11:00 AM	21.6	74	OK	11:00 AM	7.8	43	OK	11:00 AM	16.3	64	OK
Noon	29.4	89	OK	Noon	18.2	69	OK	Noon	7.1	39	OK	Noon	11.2	55	OK
1:00 PM	18.5	69	OK	1:00 PM	12.5	57	OK	1:00 PM	6.2	34	OK	1:00 PM	8.1	45	OK
2:00 PM	12.5	57	OK	2:00 PM	9.5	52	OK	2:00 PM	5.5	31	OK	2:00 PM	6.4	36	OK
3:00 PM	8.5	49	OK	3:00 PM	7.7	43	OK	3:00 PM	4.9	27	OK	3:00 PM	5.4	30	OK
4:00 PM	6.8	38	OK	4:00 PM	6.8	38	OK	4:00 PM	4.6	26	OK	4:00 PM	5.0	28	OK
5:00 PM	5.7	32	OK	5:00 PM	6.2	34	OK	5:00 PM	4.5	25	OK	5:00 PM	5.0	28	OK
6:00 PM	5.3	29	OK	6:00 PM	6.6	37	OK	6:00 PM	4.7	26	OK	6:00 PM	5.2	29	OK
7:00 PM	5.2	29	OK	7:00 PM	8.7	48	OK	7:00 PM	5.0	28	OK	7:00 PM	5.7	32	OK
8:00 PM	5.7	32	OK	8:00 PM	9.1	51	OK	8:00 PM	5.2	29	OK	8:00 PM	6.1	34	OK
9:00 PM	5.7	32	OK	9:00 PM	8.2	46	OK	9:00 PM	5.5	31	OK	9:00 PM	5.8	32	OK
10:00 PM	5.9	33	OK	10:00 PM	7.5	42	OK	10:00 PM	5.6	31	OK	10:00 PM	5.9	33	OK
11:00 PM	5.4	30	OK	11:00 PM	6.8	38	OK	11:00 PM	5.3	29	OK	11:00 PM	6.0	33	OK

Figure D8-SP59: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-SP60, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
December 21, 2025				December 21, 2025				December 21, 2025			
Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.
12 Mid	25	23	OK	12 Mid	39	36	OK	12 Mid	29	27	OK
1:00 AM	26	24	OK	1:00 AM	39	36	OK	1:00 AM	29	27	OK
2:00 AM	26	24	OK	2:00 AM	41	38	OK	2:00 AM	32	30	OK
3:00 AM	26	24	OK	3:00 AM	43	40	OK	3:00 AM	31	29	OK
4:00 AM	25	23	OK	4:00 AM	43	40	OK	4:00 AM	33	31	OK
5:00 AM	24	22	OK	5:00 AM	40	37	OK	5:00 AM	34	31	OK
6:00 AM	24	22	OK	6:00 AM	35	32	OK	6:00 AM	39	36	OK
7:00 AM	25	23	OK	7:00 AM	34	31	OK	7:00 AM	35	32	OK
8:00 AM	25	23	OK	8:00 AM	30	28	OK	8:00 AM	38	35	OK
9:00 AM	25	23	OK	9:00 AM	28	26	OK	9:00 AM	36	33	OK
10:00 AM	43	40	OK	10:00 AM	29	27	OK	10:00 AM	51	47	OK
11:00 AM	50	46	OK	11:00 AM	30	28	OK	11:00 AM	43	40	OK
Noon	41	38	OK	Noon	26	24	OK	Noon	30	28	OK
1:00 PM	27	25	OK	1:00 PM	19	18	OK	1:00 PM	20	19	OK
2:00 PM	19	18	OK	2:00 PM	15	14	OK	2:00 PM	16	15	OK
3:00 PM	15	14	OK	3:00 PM	13	12	OK	3:00 PM	13	12	OK
4:00 PM	13	12	OK	4:00 PM	13	12	OK	4:00 PM	11	10	OK
5:00 PM	11	10	OK	5:00 PM	12	11	OK	5:00 PM	12	11	OK
6:00 PM	10	9	OK	6:00 PM	12	11	OK	6:00 PM	13	12	OK
7:00 PM	11	10	OK	7:00 PM	16	15	OK	7:00 PM	16	15	OK
8:00 PM	12	11	OK	8:00 PM	18	17	OK	8:00 PM	16	15	OK
9:00 PM	12	11	OK	9:00 PM	16	15	OK	9:00 PM	13	12	OK
10:00 PM	13	12	OK	10:00 PM	15	14	OK	10:00 PM	13	12	OK
11:00 PM	12	11	OK	11:00 PM	14	13	OK	11:00 PM	12	11	OK

Figure D8-SP60: PM 10 AirNow Simulation

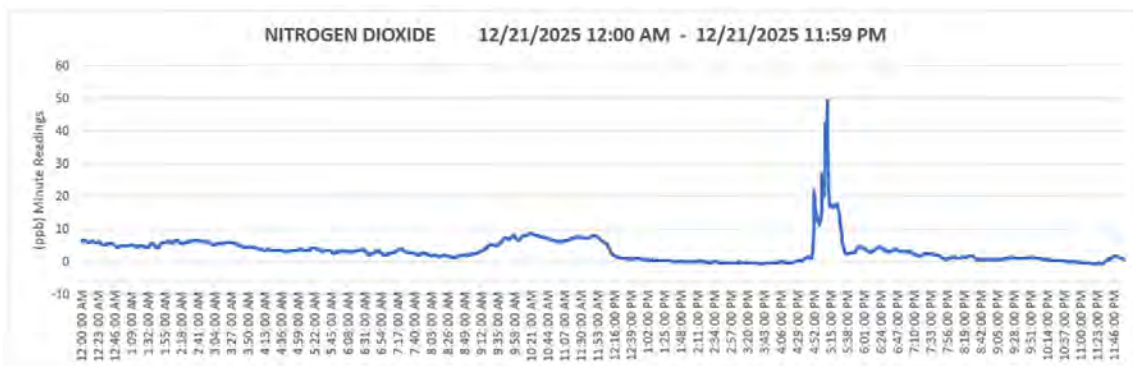


Figure D8-SP61: NO₂ minute readings for December 21, 2025

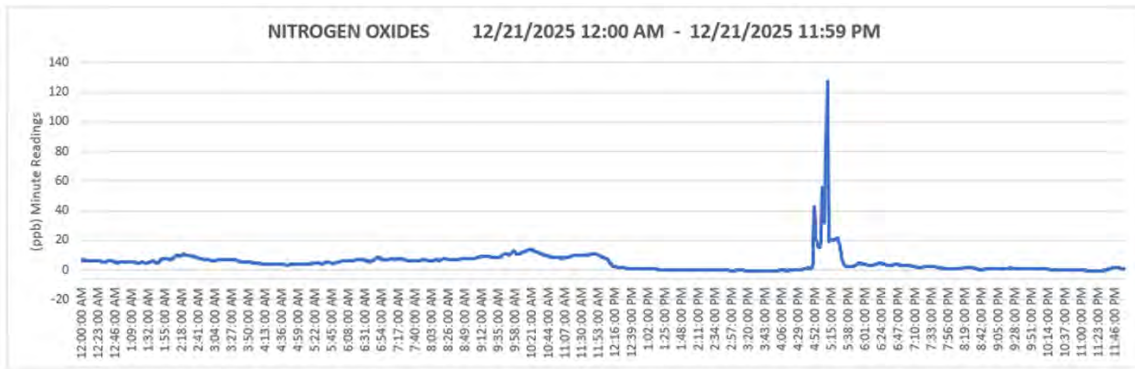


Figure D8-SP62: NOx minute readings for December 21, 2025

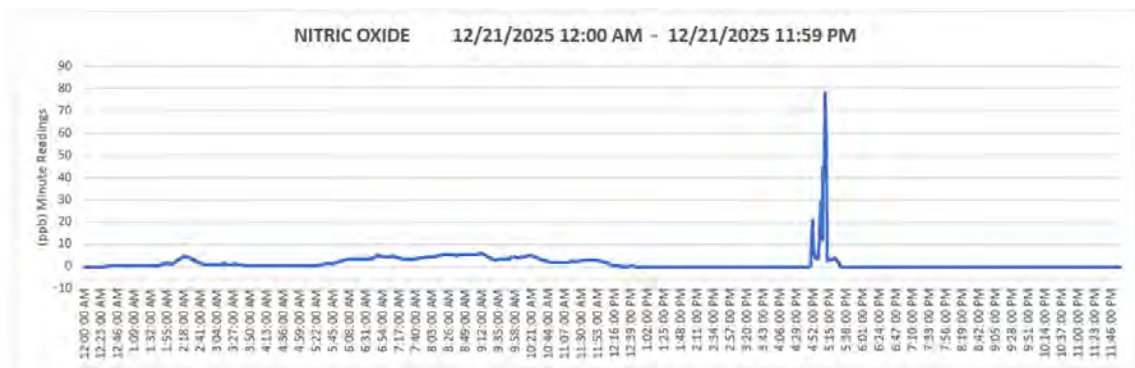


Figure D8-SP63: NO minute readings for December 21, 2025

Figures D8-SP64 through D8-SP66 display the top high concentrations for NO₂, NO_x, and NO for December 21, 2025. The day's high concentrations were during the minutes during the spike, around the 5:09 PM timeframe. Concentrations were lower the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 12/21/2025 12:00 AM - 12/21/2025 11:59 PM		
Rank	Concentration	Time
1	49.6	5:09:00 PM
2	42.7	5:07:00 PM
3	42.1	5:10:00 PM
4	33.6	5:08:00 PM
5	31.7	5:06:00 PM
6	26.9	5:02:00 PM
7	22.9	5:03:00 PM
8	22.2	5:11:00 PM
9	22.0	5:04:00 PM
10	21.8	4:51:00 PM
11	19.8	5:05:00 PM
12	17.7	5:23:00 PM
13	17.7	5:22:00 PM
14	17.7	5:13:00 PM
15	17.7	4:52:00 PM
16	17.6	5:21:00 PM
17	17.5	5:14:00 PM
18	17.3	5:15:00 PM
19	17.2	5:20:00 PM
20	17.1	5:24:00 PM
21	17.0	5:18:00 PM
22	17.0	5:12:00 PM
23	16.9	5:19:00 PM
24	16.9	5:16:00 PM
25	16.8	5:17:00 PM

Figure D8-SP64: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 12/21/2025 12:00 AM - 12/21/2025 11:59 PM		
Rank	Concentration	Time
1	127.6	5:09:00 PM
2	103.0	5:10:00 PM
3	102.3	5:08:00 PM
4	80.9	5:07:00 PM
5	76.2	5:06:00 PM
6	55.9	5:02:00 PM
7	42.6	4:51:00 PM
8	40.1	5:03:00 PM
9	35.7	5:04:00 PM
10	33.0	4:52:00 PM
11	31.8	5:05:00 PM
12	29.5	5:11:00 PM
13	27.7	5:01:00 PM
14	22.1	4:50:00 PM
15	21.8	4:53:00 PM
16	21.4	5:23:00 PM
17	21.2	5:22:00 PM
18	21.0	5:21:00 PM
19	20.8	5:13:00 PM
20	20.7	5:20:00 PM
21	20.6	5:14:00 PM
22	20.5	5:15:00 PM
23	20.4	5:19:00 PM
24	20.4	5:18:00 PM
25	20.3	5:24:00 PM

Figure D8-SP65: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 12/21/2025 12:00 AM - 12/21/2025 11:59 PM		
Rank	Concentration	Time
1	78.0	5:09:00 PM
2	68.6	5:08:00 PM
3	59.2	5:10:00 PM
4	44.5	5:06:00 PM
5	38.1	5:07:00 PM
6	29.0	5:02:00 PM
7	21.2	4:51:00 PM
8	17.2	5:03:00 PM
9	15.4	4:52:00 PM
10	13.7	5:04:00 PM
11	12.6	5:01:00 PM
12	12.1	4:50:00 PM
13	11.9	5:05:00 PM
14	7.5	5:11:00 PM
15	5.9	5:00:00 PM
16	5.8	9:12:00 AM
17	5.8	9:11:00 AM
18	5.8	9:10:00 AM
19	5.7	9:13:00 AM
20	5.7	9:09:00 AM
21	5.7	9:08:00 AM
22	5.6	9:14:00 AM
23	5.6	9:07:00 AM
24	5.6	9:06:00 AM
25	5.6	9:01:00 AM

Figure D8-SP66: NO Top High Readings

Figure D8-SP68 displays the wind speed and direction during the spike. Winds were mostly less than 1 mph with some winds at 1 to 3 mph. Most of the wind was coming from North to Northeast. Pollution roses in figures D8-SP70 through D8-SP72 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP73 through D8-SP75 show some mixed information. Some higher concentrations for the day centered near the center of the plot indicating lower wind speeds and probable local emissions. While other concentrations were outside the 4 to 5 mph winds indicating probable non-local sources.

date	no	nox	no2
4:57:00 PM	3.8	16.1	12.3
4:58:00 PM	3.6	15.2	11.7
4:59:00 PM	4.1	15.6	11.4
5:00:00 PM	5.9	18.4	12.5
5:01:00 PM	12.6	27.7	15.3
5:02:00 PM	29.0	55.9	26.9
5:03:00 PM	17.2	40.1	22.9
5:04:00 PM	13.7	35.7	22.0
5:05:00 PM	11.9	31.8	19.8
5:06:00 PM	44.5	76.2	31.7
5:07:00 PM	38.1	80.9	42.7
5:08:00 PM	68.6	102.3	33.6
5:09:00 PM	78.0	127.6	49.6
5:10:00 PM	59.2	103.0	42.1
5:11:00 PM	7.5	29.5	22.2
5:12:00 PM	2.6	19.4	17.0
5:13:00 PM	3.1	20.8	17.7
5:14:00 PM	3.1	20.6	17.5
5:15:00 PM	3.2	20.5	17.3

Figure D8-SP67: Table showing spike levels around 5:09 PM

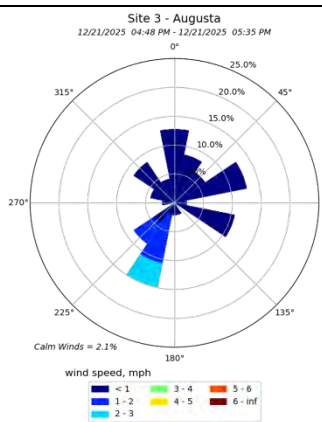


Figure D8-SP68: Wind Rose during spike

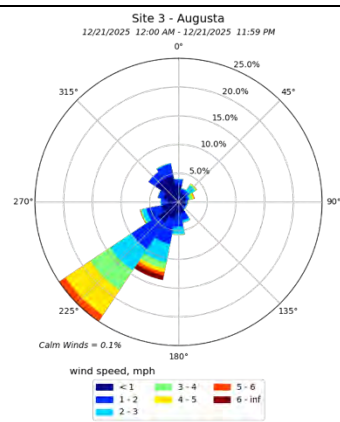


Figure D8-SP69: Wind Rose for the day

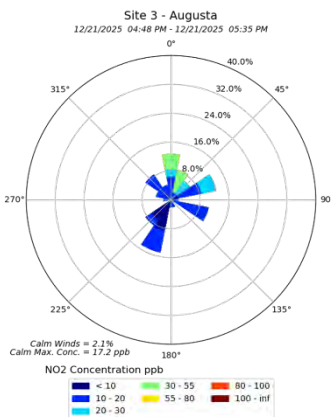


Figure D8-SP70: NO₂ Spike Pollution Rose

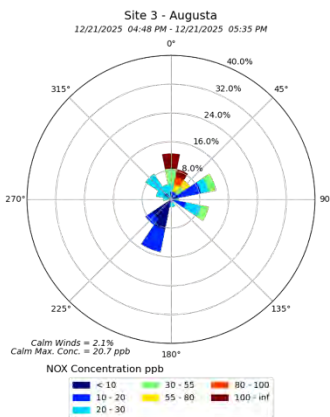


Figure D8-SP71: NO_x Spike Pollution Rose

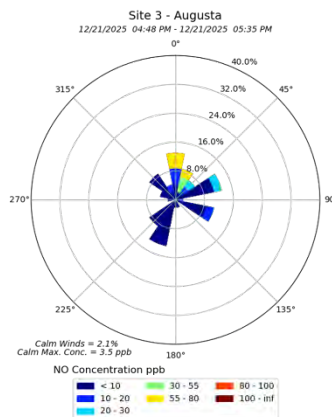
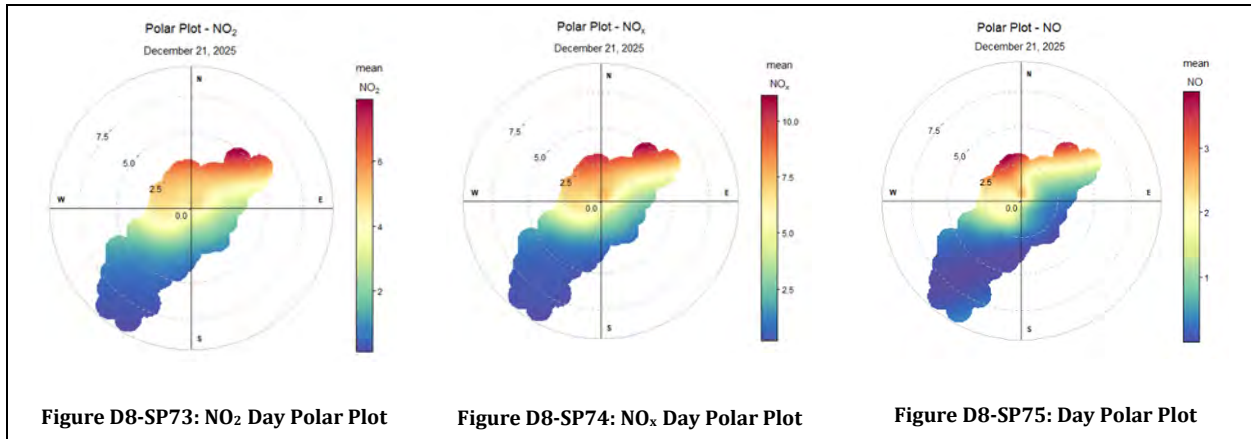


Figure D8-SP72: NO Spike Pollution Rose



Spike – NO₂, NO_x, and NO – January 11, 2026

We received an alert that the NO_x concentration was greater than 100 ppb at 3:46 PM. NO_x spike was short-lived at only 3 minutes but yielded one very high spike at 133 ppb at 3:45 PM EST. NO₂/NO also spiked at 3:45 PM with NO₂ at 90.2 ppb and NO at 42.9 ppb. Other pollutants did not spike during the time when NO/NO₂/NO_x spiked. Wind speed was around 2 to up to 6 mph during spike. The day's wind direction was SW to S to E to NE for most of the day.

Wind speed for the day was variable up to over 6 mph. NO_x spike came from the direction of south Augusta, where several industrial sources are located. In addition, light smoke located south of Augusta.

SPIKE SNAPSHOT	
Peak Time/Date:	3:45 PM 1/11/2026
Pollutant (Peak):	NO ₂ (90.2 ppb) NO _x (133.0 ppb) NO (42.9 ppb)
Length:	3 minutes
Wind Direction:	Southwest
Wind Speed:	2 mph up to 6 mph
Source:	Probably local

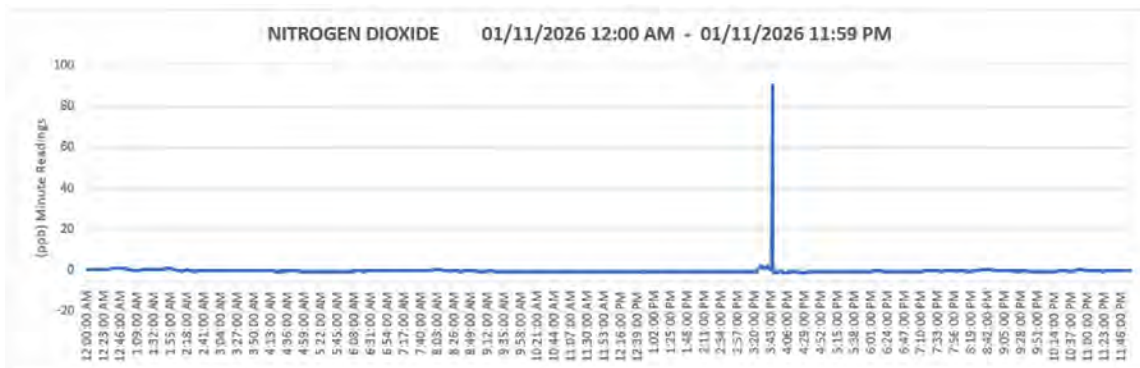


Figure D8-SP76: NO₂ minute readings for January 11, 2026

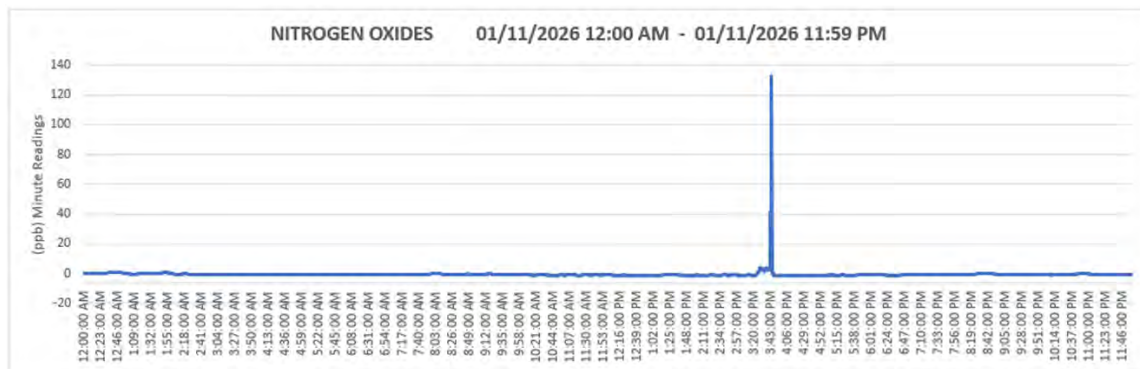


Figure D8-SP77: NO_x minute readings for January 11, 2026

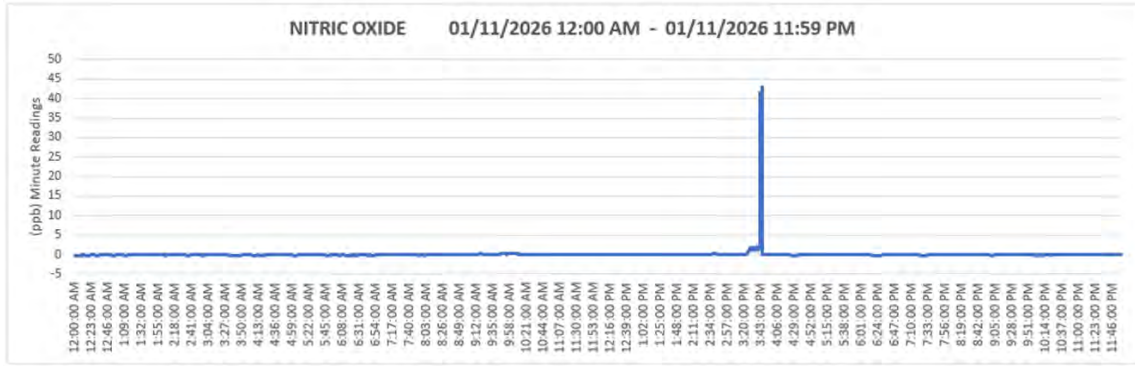


Figure D8-SP78: NO minute readings for January 11, 2026

Figures D8-SP79 through D8-SP81 display the top high concentrations for NO₂, NO_x, and NO for November 8, 2025. The day's high concentrations were during the minutes around the 8:34 AM spike. Concentrations were much lower for the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 01/11/2026 12:00 AM - 01/11/2026 11:59 PM		
Rank	Concentration	Time
1	90.2	3:45:00 PM
2	2.7	3:44:00 PM
3	2.0	3:30:00 PM
4	2.0	3:29:00 PM
5	1.9	3:38:00 PM
6	1.8	3:28:00 PM
7	1.5	3:39:00 PM
8	1.5	3:31:00 PM
9	1.3	3:37:00 PM
10	1.3	3:33:00 PM
11	1.2	3:34:00 PM
12	1.1	3:42:00 PM
13	1.0	3:27:00 PM
14	1.0	12:50:00 AM
15	1.0	12:49:00 AM
16	1.0	12:48:00 AM
17	1.0	12:38:00 AM
18	1.0	12:37:00 AM
19	1.0	12:36:00 PM
20	0.9	3:40:00 PM
21	0.9	3:36:00 PM
22	0.9	3:32:00 PM
23	0.9	12:51:00 AM
24	0.9	12:47:00 AM
25	0.9	12:46:00 AM

Figure D8-SP79: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 01/11/2026 12:00 AM - 01/11/2026 11:59 PM		
Rank	Concentration	Time
1	133.0	3:45:00 PM
2	41.6	3:43:00 PM
3	18.1	3:44:00 PM
4	3.8	3:38:00 PM
5	3.7	3:30:00 PM
6	3.6	3:29:00 PM
7	3.3	3:39:00 PM
8	3.3	3:28:00 PM
9	3.0	3:31:00 PM
10	2.9	3:37:00 PM
11	2.9	3:33:00 PM
12	2.8	3:42:00 PM
13	2.7	3:34:00 PM
14	2.3	3:36:00 PM
15	2.2	3:41:00 PM
16	2.2	3:40:00 PM
17	2.1	3:32:00 PM
18	2.0	3:35:00 PM
19	2.0	3:27:00 PM
20	1.2	3:26:00 PM
21	1.0	12:38:00 AM
22	1.0	12:37:00 AM
23	0.9	12:50:00 AM
24	0.9	12:49:00 AM
25	0.9	12:48:00 AM

Figure D8-SP80: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 01/11/2026 12:00 AM - 01/11/2026 11:59 PM		
Rank	Concentration	Time
1	42.9	3:45:00 PM
2	41.6	3:43:00 PM
3	15.4	3:44:00 PM
4	2.0	3:38:00 PM
5	1.8	3:42:00 PM
6	1.8	3:39:00 PM
7	1.7	3:30:00 PM
8	1.6	3:37:00 PM
9	1.6	3:33:00 PM
10	1.6	3:29:00 PM
11	1.5	3:34:00 PM
12	1.5	3:31:00 PM
13	1.5	3:28:00 PM
14	1.4	3:41:00 PM
15	1.3	3:40:00 PM
16	1.3	3:36:00 PM
17	1.3	3:32:00 PM
18	1.2	3:35:00 PM
19	1.0	3:27:00 PM
20	0.7	3:26:00 PM
21	0.5	3:25:00 PM
22	0.4	2:43:00 PM
23	0.4	2:39:00 PM
24	0.3	2:42:00 PM
25	0.3	2:41:00 PM

Figure D8-SP81: NO Top High Readings

Figure D8-SP83 displays the wind speed and direction during the spike. Winds were 1 to 3 mph coming from NW to N to NE. Pollution roses in figures D8-SP85 through D8-SP87 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP88 through D8-SP90 show that the higher concentrations for the day were centered near the center of the plot indicating lower wind speeds.

date	no	nox	no2
3:40:00 PM	1.3	2.2	0.9
3:41:00 PM	1.4	2.2	0.8
3:42:00 PM	1.8	2.8	1.1
3:43:00 PM	41.6	41.6	0.0
3:44:00 PM	15.4	18.1	2.7
3:45:00 PM	42.9	133.0	90.2
3:46:00 PM	0.0	0.0	0.0
3:47:00 PM	0.0	0.0	0.0
3:48:00 PM	0.1	-1.3	-1.4
3:49:00 PM	0.1	-1.2	-1.3

Figure D8-SP82: Table showing spike levels around 3:45 PM

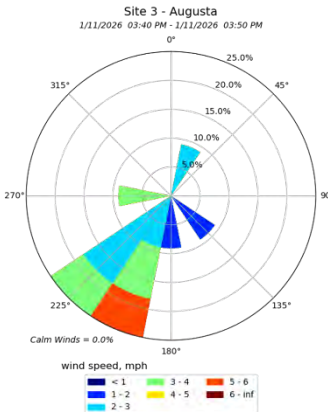


Figure D8-SP83: Wind Rose during spike

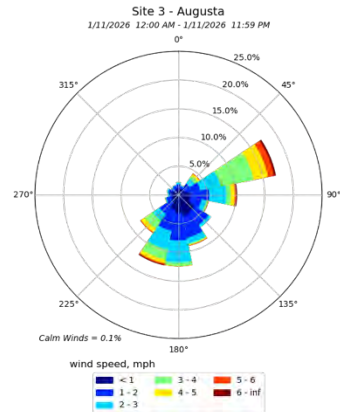


Figure D8-SP84: Wind Rose for the day

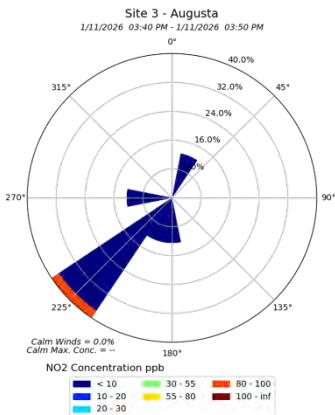


Figure D8-SP85: NO₂ Spike Pollution Rose

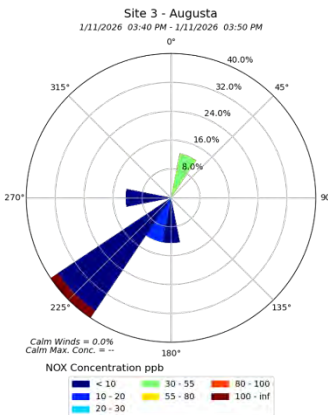


Figure D8-SP86: NO_x Spike Pollution Rose

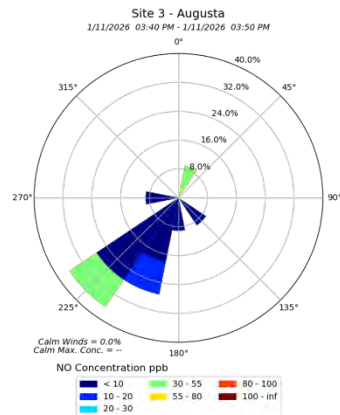


Figure D8-SP87: NO Spike Pollution Rose

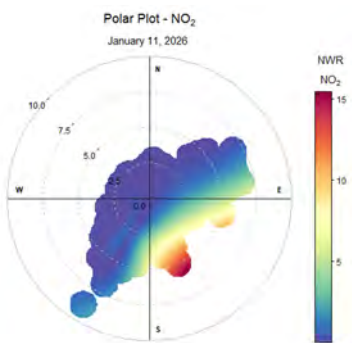


Figure D8-SP88: NO₂ Day Polar Plot

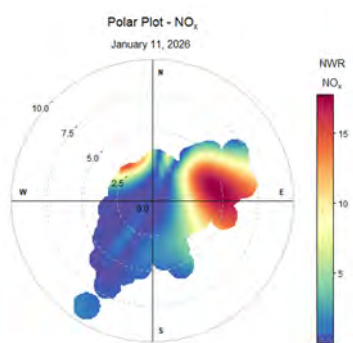


Figure D8-SP89: NO_x Day Polar Plot

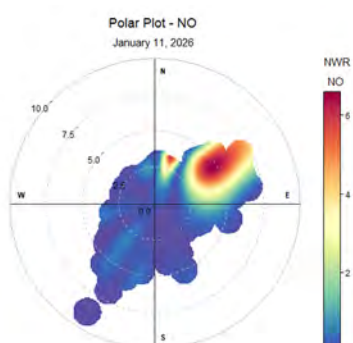


Figure D8-SP90: Day Polar Plot

NOAA Smoke and Fire maps, Figures D8-SP91 and D8-SP92, show fires and smoke just south of Augusta on January 11.

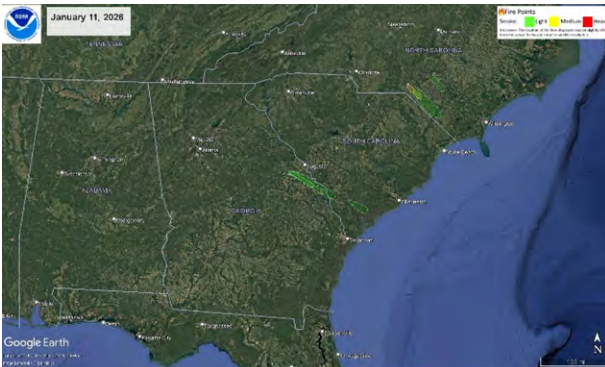


Figure D8-SP91: NOAA Smoke Map

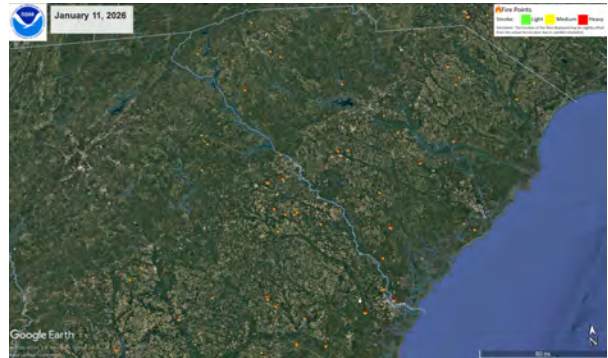


Figure D8-SP92: NOAA Fire Map

Spike – VOC - January 16, 2026

We recorded our highest VOC concentration of 78.6 ppb at 12:06 PM on January 16, 2026. The other pollutants that we are monitoring did not have a spike around this time. This was a short-lived spike of 3 minutes. Winds were coming from the North to Northeast to East mostly from the 1 to 4 mph range. A view of the polar plot indicates that it possibly came from a local source. Based on wind direction, most likely emission originated in South Carolina.

SPIKE SNAPSHOT	
Peak Time/Date:	12:06 PM 1/16/2026
Pollutant (Peak):	VOC (78.6 ppb)
Length:	3 minutes
Wind Direction:	North to Northeast
Wind Speed:	1 to 4 mph
Source:	Probably local

There was a second spike of 41.4 ppb at 6:48 PM. This spike had more of a gradual rise and fall with the higher concentrations lasting just over an hour. This later spike occurred with winds coming out of the North. Based on wind direction, most likely emissions originated in South Carolina.

SPIKE SNAPSHOT	
Peak Time/Date:	6:48 PM 1/16/2026
Pollutant (Peak):	VOC (41.4 ppb)
Length:	About an hour
Wind Direction:	North
Wind Speed:	1 to 5 mph
Source:	Probably local

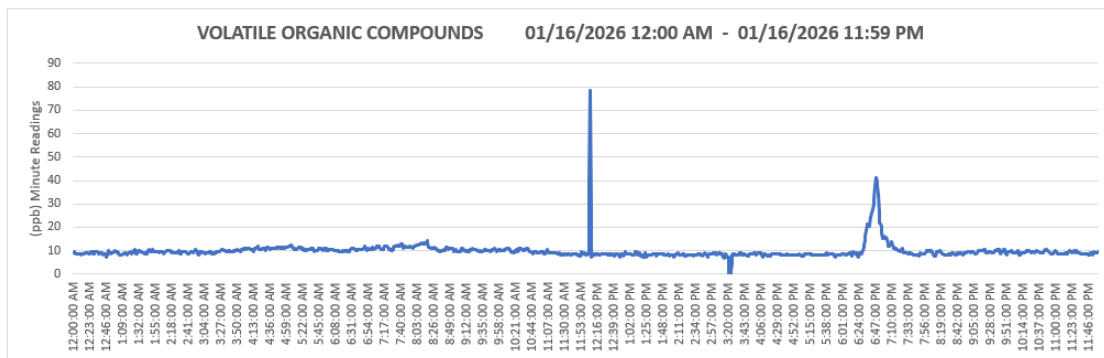


Figure D8-SP93: Minute Readings for VOC for January 16, 2026

Figure D8-SP94 displays the VOC minute readings around the first spike time.

date	VOC
12:00:00 PM	8.0
12:01:00 PM	8.2
12:02:00 PM	8.5
12:03:00 PM	8.6
12:04:00 PM	8.8
12:05:00 PM	39.0
12:06:00 PM	78.6
12:07:00 PM	27.3
12:08:00 PM	7.1
12:09:00 PM	7.7
12:10:00 PM	8.2
12:11:00 PM	8.7
12:12:00 PM	8.5

Figure D8-SP94: Minute Readings

Figure D8-SP95 displays the polar plot for VOC for the entire day of January 16, 2026. The higher concentrations occurred with wind speeds of 3 mph or lower.

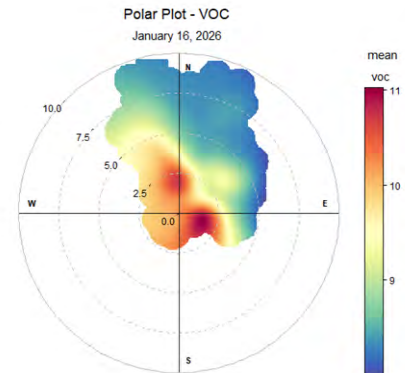


Figure D8-SP95: VOC Polar Plot

Figure D8-SP96 displays the pollution rose for the time around the first spike. The higher concentrations coming from the East and Northeast.

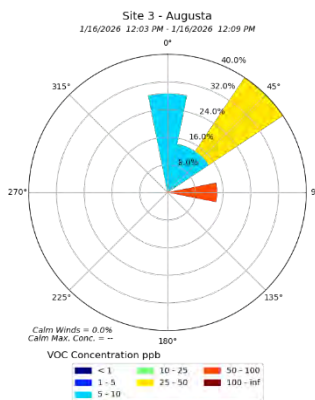


Figure D8-SP96: VOC Pollution Rose – First Spike

Figure D8-SP97 is the wind rose for the spike period. The wind speed was 1 to 2 mph and 2 to 4 mph during the spike.

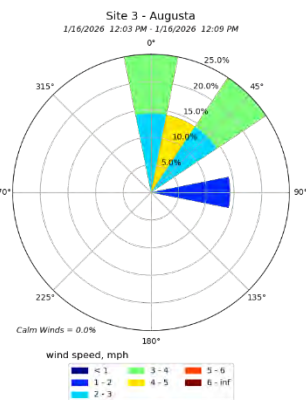


Figure D8-SP97: Wind Rose – First Spike

Figure D8-SP98 displays the pollution rose for the time around the second spike. The higher concentrations came from the North.

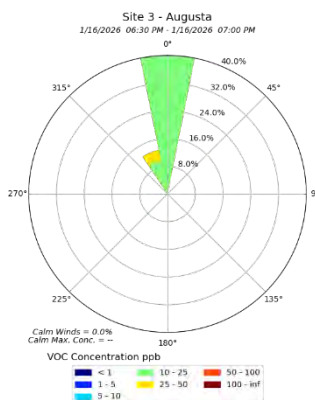


Figure D8-SP98: VOC Pollution Rose – Second Spike

Figure D8-SP99 displays the wind rose for the second spike showing most winds were in the 1 to 2 mph range.

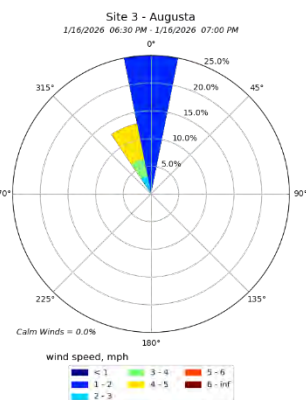


Figure D8-SP99: Wind Rose – Second Spike

Spike – NO₂, NO_x, and NO – February 2, 2026

We received an alert that the NO_x concentration was greater than 100 ppb at 5:17 PM. NO_x/NO spike was short-lived at only 2 minutes but yielded one very high spike at 350.5 ppb at 5:16 PM EST. NO₂ spike was 53.8 ppb at 5:17 PM. Other pollutants did not spike during the time when NO/NO₂/NO_x spiked. NO_x/NO spike came from the direction of Northeast to East, where a waste-water treatment plant is located. Wind speed was around 2 to 3 mph during the spike. The day’s wind direction was NE to N and NW for most of the day. PM for the day was in the green, good AQI.

SPIKE SNAPSHOT	
Peak Time/Date:	5:16 PM & 5:17 PM 2/2/2026
Pollutant (Peak):	NO ₂ (53.8 ppb) NO _x (350.5 ppb) NO (350.5 ppb)
Length:	3 minutes
Wind Direction:	Northeast to East
Wind Speed:	2 to 3 mph
Source:	Probably local



Figure D8-SP100: NO₂ minute readings for February 2, 2026

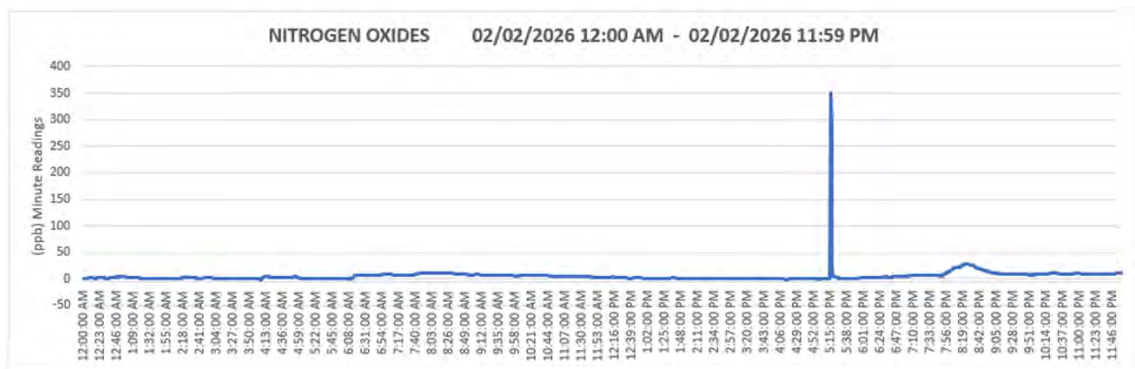


Figure D8-SP101: NO_x minute readings for February 2, 2026

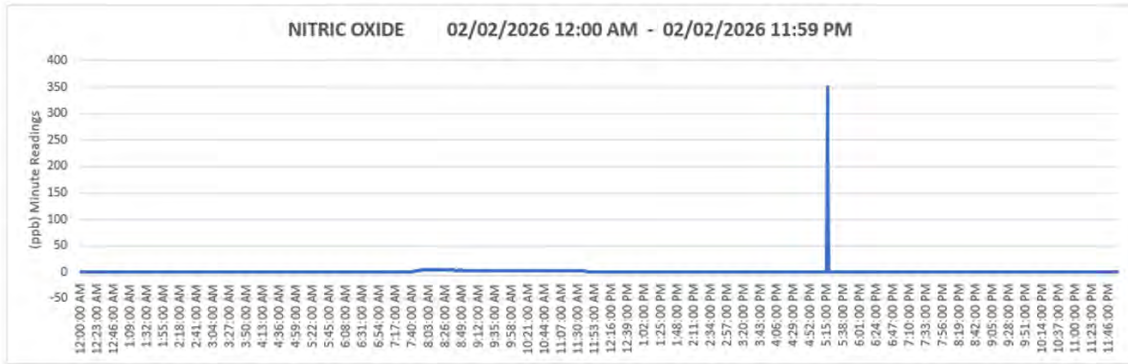


Figure D8-SP102: NO minute readings for February 2, 2026

Figures D8-SP103 through D8-SP105 display the top high concentrations for NO₂, NO_x, and NO for February 2, 2026. The day's high concentrations were during the minutes around the 5:16 PM spike. Concentrations were much lower for the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 02/02/2026 12:00 AM - 02/02/2026 11:59 PM		
Rank	Concentration	Time
1	53.8	5:17:00 PM
2	27.4	8:22:00 PM
3	27.3	8:23:00 PM
4	27.2	8:21:00 PM
5	27.1	8:24:00 PM
6	26.8	8:25:00 PM
7	26.6	8:20:00 PM
8	26.5	8:26:00 PM
9	26.2	8:27:00 PM
10	26.0	8:19:00 PM
11	25.8	8:28:00 PM
12	25.5	8:29:00 PM
13	25.4	8:30:00 PM
14	25.4	8:18:00 PM
15	25.2	8:31:00 PM
16	25.0	8:32:00 PM
17	24.6	8:33:00 PM
18	24.4	8:17:00 PM
19	23.8	8:34:00 PM
20	23.2	8:16:00 PM
21	23.0	8:35:00 PM
22	22.4	8:15:00 PM
23	22.3	8:36:00 PM
24	21.7	8:37:00 PM
25	21.7	8:14:00 PM

Figure D8-SP103: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 02/02/2026 12:00 AM - 02/02/2026 11:59 PM		
Rank	Concentration	Time
1	350.5	5:16:00 PM
2	293.1	5:17:00 PM
3	28.5	8:23:00 PM
4	28.5	8:22:00 PM
5	28.2	8:24:00 PM
6	28.1	8:21:00 PM
7	28.0	8:25:00 PM
8	27.7	8:26:00 PM
9	27.4	8:20:00 PM
10	27.3	8:27:00 PM
11	26.9	8:28:00 PM
12	26.7	8:19:00 PM
13	26.6	8:29:00 PM
14	26.4	8:30:00 PM
15	26.2	8:31:00 PM
16	26.0	8:18:00 PM
17	25.9	8:32:00 PM
18	25.4	8:33:00 PM
19	24.8	8:17:00 PM
20	24.6	8:34:00 PM
21	24.0	5:18:00 PM
22	23.6	8:35:00 PM
23	23.5	8:16:00 PM
24	22.7	8:36:00 PM
25	22.7	8:15:00 PM

Figure D8-SP104: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 02/02/2026 12:00 AM - 02/02/2026 11:59 PM		
Rank	Concentration	Time
1	350.5	5:16:00 PM
2	239.3	5:17:00 PM
3	5.1	8:17:00 AM
4	5.1	8:16:00 AM
5	5.1	8:15:00 AM
6	5.0	8:18:00 AM
7	5.0	8:14:00 AM
8	4.9	8:27:00 AM
9	4.9	8:13:00 AM
10	4.8	8:28:00 AM
11	4.8	8:26:00 AM
12	4.8	8:25:00 AM
13	4.8	8:24:00 AM
14	4.8	8:19:00 AM
15	4.7	8:23:00 AM
16	4.7	8:20:00 AM
17	4.7	8:12:00 AM
18	4.6	8:29:00 AM
19	4.6	8:22:00 PM
20	4.6	8:21:00 AM
21	4.5	5:18:00 PM
22	4.5	8:11:00 AM
23	4.5	7:57:00 AM
24	4.5	7:56:00 AM
25	4.4	8:30:00 AM

Figure D8-SP105: NO Top High Readings

Figure D8-SP107 displays the wind speed and direction during the spike. Winds were 2 to 3 mph coming from NE to E. Pollution roses in figures D8-SP109 through D8-SP111 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP112 through D8-SP115 show that the higher concentrations for the day were centered near the center of the plot indicating lower wind speeds. The polar plots are interesting as NO₂ and NO_x show most of the higher concentrations to the west; whereas, the NO plot shows it to the east. Looking at the high concentrations, Figures D8-SP103 through D8-SP105, for the day there was an increase in concentrations for NO₂ and NO_x around the 8 PM hour, but not for NO.

date	no	nox	no2
5:13:00 PM	0.3	0.4	0.1
5:14:00 PM	0.2	0.3	0.0
5:15:00 PM	0.2	0.2	0.0
5:16:00 PM	350.5	350.5	0.0
5:17:00 PM	239.3	293.1	53.8
5:18:00 PM	4.5	24.0	19.4
5:19:00 PM	1.0	4.4	3.4
5:20:00 PM	0.7	4.5	3.8
5:21:00 PM	0.6	4.4	3.7

Figure D8-SP106: Table showing spike levels around 5:16 PM

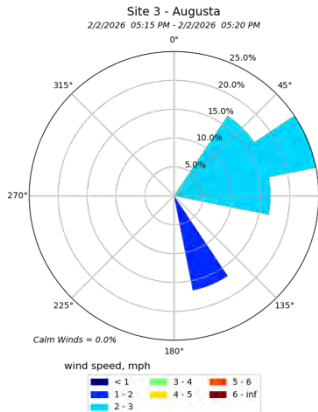


Figure D8-SP107: Wind Rose during spike

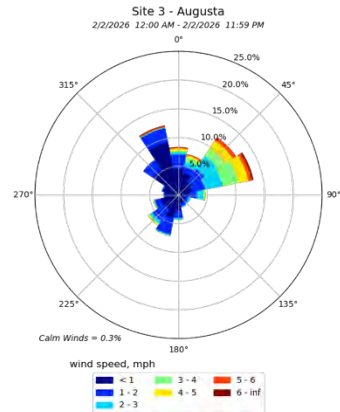


Figure D8-SP108: Wind Rose for the day

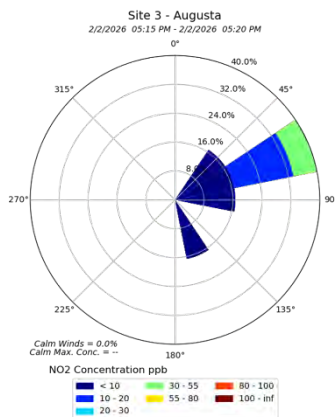


Figure D8-SP109: NO₂ Spike Pollution Rose

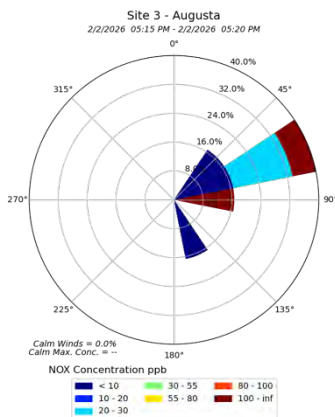


Figure D8-SP110: NO_x Spike Pollution Rose

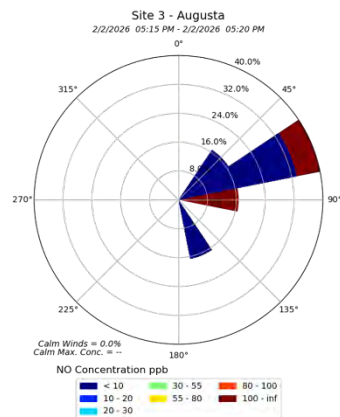


Figure D8-SP111: NO Spike Pollution Rose

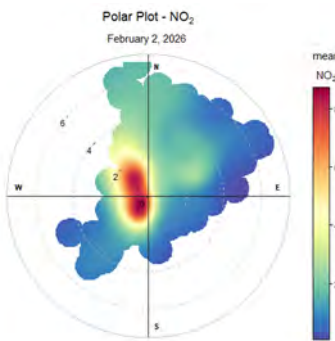


Figure D8-SP112: NO₂ Day Polar Plot

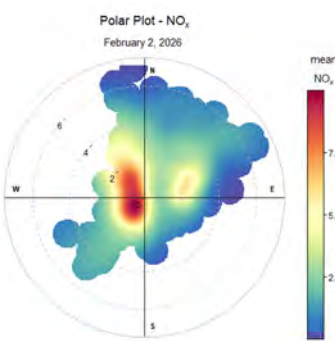


Figure D8-SP113: NO_x Day Polar Plot

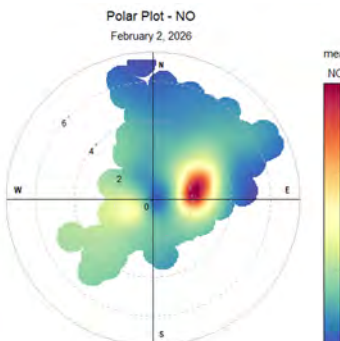


Figure D8-SP114: Day Polar Plot

Spike – PM2.5, PM10, NO₂, NO_x, and NO – February 3, 2026

We received an alert that the NO_x concentration was greater than 100 ppb at 8:11 AM. A lot going on during this day pollution-wise. NO_x spike was short-lived at around 7 minutes although higher than normal concentrations this day. NO_x peaked at 166.5 ppb during spike with lower concentrations at 120.9, 112, 91.7, and 81.8 ppb during the 8:10 – 8:14 AM time period. NO₂ spike was at a lower concentration of 35.6 ppb at 8:12 AM. NO spiked at 154.1 ppb at 8:11 AM. Regarding NO_x, NO₂, NO spike: Pollution and Wind Roses and Polar Plots indicate a localized source from south Augusta. Wind speed was 2 mph or less during the spike. PM levels were in the yellow, moderate AQI for the day. This was recorded throughout the region. PM levels were similar across the board when screening regional agency monitors with the BEAST. There was a PM 10 spike around noon recorded by the Augusta agency monitor and a PM 2.5 spike around noon recorded by the Trenton agency monitor. NowCast was briefly in the orange, unhealthy for sensitive people AQI at the end of the night. The day’s wind direction was N to NE to SW for most of the day.

SPIKE SNAPSHOT	
Peak Time/Date:	8:11 AM & 8:12 AM 2/3/2026
Pollutant (Peak):	NO ₂ (35.6 ppb) NO _x (166.5 ppb) NO (154.1 ppb)
Length:	About 7 minutes
Wind Direction:	Southwest
Wind Speed:	2 mph and less
Source:	Probably local

SPIKE SNAPSHOT	
Peak Time/Date:	9:44 AM & 9:51 AM 2/3/2026
Pollutant (Peak):	PM 2.5 (34.8 ug/m3) PM 10 (76.4 ug/m3)
Length:	5 hours and 30 minutes
Wind Direction:	North to Northeast
Wind Speed:	1 to 4 mph & over 6 mph
Source:	Probably non-local



Figure D8-SP115: PM 2.5 minute readings for February 3, 2026

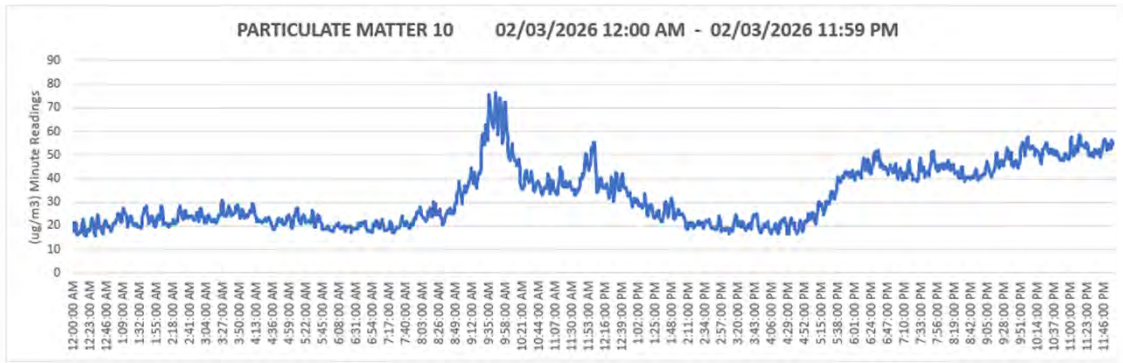


Figure D8-SP116: PM 10 minute readings for February 3, 2026

The day's top 25 high concentrations for PM 2.5 and PM 10 are shown in Figures D8-SP117 and D8-SP118, respectfully.

Most of the day's high readings for PM 2.5 were recorded during the 11 PM hour. While most of the day's high readings for PM 10 were recorded during the 9 AM hour.

PARTICULATE MATTER 2.5		
Top 25 Concentrations		
(ug/m3) Minute Readings		
02/03/2026 12:00 AM - 02/03/2026 11:59 PM		
Rank	Concentration	Time
1	45.1	11:57:00 PM
2	45.1	11:56:00 PM
3	45.0	11:52:00 PM
4	44.9	11:55:00 PM
5	44.9	11:54:00 PM
6	44.8	11:59:00 PM
7	44.8	11:58:00 PM
8	44.8	11:53:00 PM
9	44.7	11:51:00 PM
10	44.4	11:50:00 PM
11	44.2	11:49:00 PM
12	43.9	11:15:00 PM
13	43.9	11:14:00 PM
14	43.8	11:48:00 PM
15	43.8	11:13:00 PM
16	43.7	11:16:00 PM
17	43.6	11:47:00 PM
18	43.4	11:46:00 PM
19	43.4	11:17:00 PM
20	43.4	11:12:00 PM
21	43.3	11:18:00 PM
22	43.3	9:55:00 PM
23	43.2	11:45:00 PM
24	43.2	11:44:00 PM
25	43.2	11:19:00 PM

Figure D8-SP117: PM 2.5 High Concentrations for Feb. 3, 2026

PARTICULATE MATTER 10		
Top 25 Concentrations		
(ug/m3) Minute Readings		
02/03/2026 12:00 AM - 02/03/2026 11:59 PM		
Rank	Concentration	Time
1	76.4	9:44:00 AM
2	76.3	9:45:00 AM
3	75.7	9:36:00 AM
4	74.1	9:50:00 AM
5	73.7	9:51:00 AM
6	72.3	9:58:00 AM
7	72.1	9:57:00 AM
8	71.9	9:37:00 AM
9	70.7	9:46:00 AM
10	70.3	9:59:00 AM
11	69.5	9:35:00 AM
12	69.2	9:49:00 AM
13	68.0	9:52:00 AM
14	66.9	9:38:00 AM
15	66.4	9:39:00 AM
16	64.3	9:56:00 AM
17	64.3	9:43:00 AM
18	63.1	9:40:00 AM
19	63.0	9:31:00 AM
20	62.9	9:47:00 AM
21	62.9	9:34:00 AM
22	61.7	9:42:00 AM
23	61.6	9:41:00 AM
24	60.5	10:00:00 AM
25	59.7	9:32:00 AM

Figure D8-SP118: PM 10 High Concentrations for Feb. 3, 2026

Pollution roses for both PM 2.5 and PM 10 for all day are shown in figures D8-SP119 and D8-SP120.

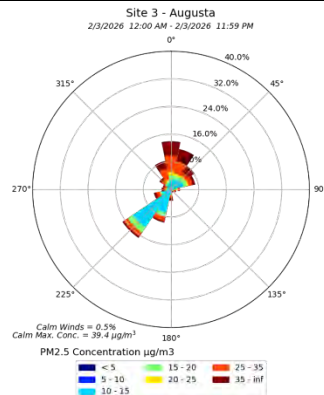


Figure D8-SP119: PM 2.5 Pollution Rose showing all day

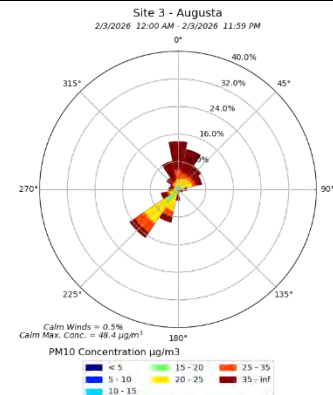


Figure D8-SP120: PM 10 Pollution Rose showing all day

Figure D8-SP121 wind rose displays the wind speed and direction for the entire day. Winds from the Southwest were mostly 3 mph or lower. Winds from the North to Northeast ranged from less than 1 mph up over 6 mph.

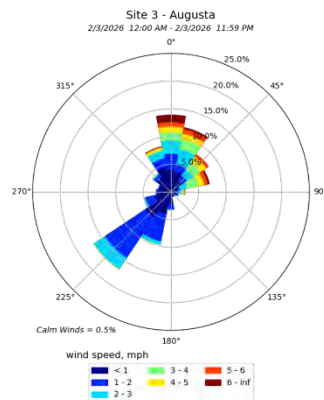


Figure D8-SP121: Wind Rose for the day

The PM 2.5 and PM 10 polar plots show higher concentrations of PM 10. Higher concentrations were generally less than 5 mph.

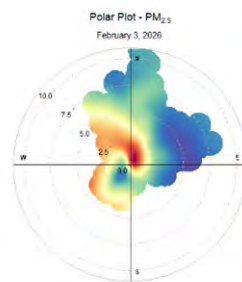


Figure D8-SP122: PM 2.5 Polar Plot

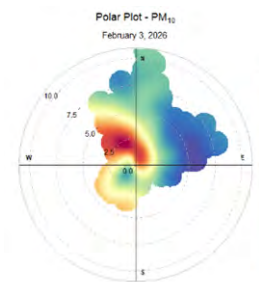


Figure D8-SP123: PM 10 Polar Plot

Figures D8-SP124 and D8-SP125 graphs display the BEAST hourly average data along with raw agency regional monitoring data. There were some pockets of smoke in the region, as shown in Figure D8-SP126, south of Augusta. The EPA AQI map, Figure D8-SP127, indicated a moderate air quality day. Screening of the agency monitors shows PM 2.5 levels were pretty uniform in the region with each monitor indicating a spike, albeit at different times. The screening for PM 10 also showed the levels were uniform in the region, except for one Augusta monitor spike.

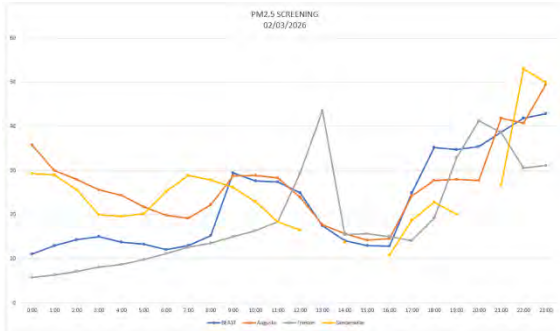


Figure D8-SP124: PM 2.5 Hourly Concentrations

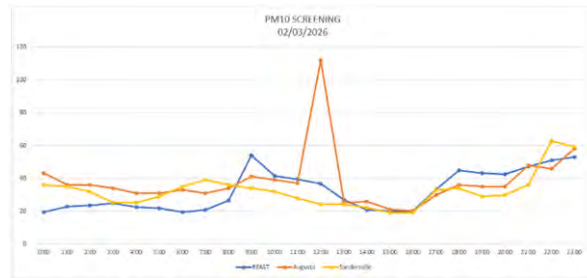


Figure D8-SP125: PM 10 Hourly Concentrations

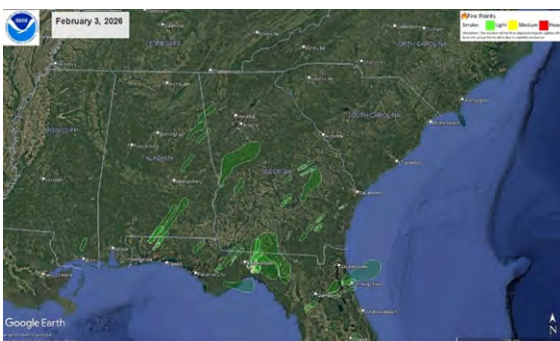


Figure D8-SP126: NOAA Smoke Map

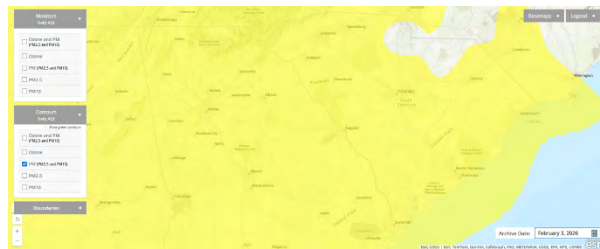


Figure D8-SP127: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-SP128, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Trenton				Sandersville			
February 3, 2026				February 3, 2026				February 3, 2026				February 3, 2026			
EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time			
Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.
12 Mid	8.1	45	OK	12 Mid	20.5	72	OK	12 Mid	4.5	25	OK	12 Mid	18.0	68	OK
1:00 AM	9.5	52	OK	1:00 AM	28.1	86	OK	1:00 AM	5.1	28	OK	1:00 AM	23.6	78	OK
2:00 AM	11.2	55	OK	2:00 AM	29.0	88	OK	2:00 AM	5.7	32	OK	2:00 PM	19.5	70	NO DATA
3:00 AM	12.7	58	OK	3:00 AM	28.4	87	OK	3:00 AM	6.4	36	OK	3:00 AM	25.9	82	OK
4:00 AM	13.9	60	OK	4:00 AM	27.0	84	OK	4:00 AM	7.2	40	OK	4:00 AM	22.9	77	OK
5:00 AM	13.8	60	OK	5:00 AM	25.6	82	OK	5:00 AM	7.9	44	OK	5:00 AM	21.2	74	OK
6:00 AM	13.5	59	OK	6:00 AM	23.7	78	OK	6:00 AM	8.8	49	OK	6:00 AM	20.7	73	OK
7:00 AM	12.8	58	OK	7:00 AM	21.7	74	OK	7:00 AM	9.9	52	OK	7:00 AM	22.9	77	OK
8:00 AM	12.8	58	OK	8:00 AM	20.4	72	OK	8:00 AM	11.2	55	OK	8:00 AM	25.9	82	OK
9:00 AM	14.0	60	OK	9:00 AM	21.3	74	OK	9:00 AM	12.4	57	OK	9:00 AM	26.8	84	OK
10:00 AM	21.7	74	OK	10:00 AM	24.7	80	OK	10:00 AM	13.7	60	OK	10:00 AM	26.2	83	OK
11:00 AM	24.6	80	OK	11:00 AM	26.6	84	OK	11:00 AM	15.0	62	OK	11:00 AM	24.9	80	OK
Noon	26.0	82	OK	Noon	27.4	85	OK	Noon	16.7	65	OK	Noon	22.4	76	OK
1:00 PM	25.4	81	OK	1:00 PM	25.7	82	OK	1:00 PM	23.0	77	OK	1:00 PM	19.5	70	OK
2:00 PM	23.4	74	OK	2:00 PM	22.6	76	OK	2:00 PM	33.2	96	OK	2:00 PM	19.5	70	NO DATA
3:00 PM	17.7	67	OK	3:00 PM	19.1	70	OK	3:00 PM	24.1	79	OK	3:00 PM	11.6	56	OK
4:00 PM	15.3	63	OK	4:00 PM	16.4	65	OK	4:00 PM	20.0	71	OK	4:00 PM	-	-	NO DATA
5:00 PM	14.0	60	OK	5:00 PM	15.4	63	OK	5:00 PM	17.5	67	OK	5:00 PM	8.3	48	OK
6:00 PM	19.5	70	OK	6:00 PM	19.8	71	OK	6:00 PM	15.8	63	OK	6:00 PM	13.5	59	OK
7:00 PM	27.3	85	OK	7:00 PM	23.7	78	OK	7:00 PM	17.5	67	OK	7:00 PM	18.1	68	OK
8:00 PM	31.0	92	OK	8:00 PM	25.8	82	OK	8:00 PM	25.1	81	OK	8:00 PM	19.1	70	OK
9:00 PM	33.2	96	OK	9:00 PM	26.7	84	OK	9:00 PM	33.2	96	OK	9:00 PM	19.1	70	NO DATA
10:00 PM	35.9	102	OK	10:00 PM	34.2	98	OK	10:00 PM	35.8	102	OK	10:00 PM	18.1	68	OK
11:00 PM	38.8	109	OK	11:00 PM	37.4	106	OK	11:00 PM	33.2	96	OK	11:00 PM	35.5	101	OK

Figure D8-SP128: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-SP129, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
February 3, 2026				February 3, 2026				February 3, 2026			
Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.
12:00 AM	17	16	OK	12:00 AM	25	23	OK	12:00 AM	24	22	OK
12:23 AM	18	17	OK	1:00 AM	34	31	OK	1:00 AM	30	28	OK
12:46 AM	20	19	OK	2:00 AM	35	32	OK	2:00 AM	32	30	OK
1:09 AM	22	20	OK	3:00 AM	36	33	OK	3:00 AM	32	30	OK
1:32 AM	23	21	OK	4:00 AM	35	32	OK	4:00 AM	29	27	OK
1:55 AM	23	21	OK	5:00 AM	33	31	OK	5:00 AM	27	25	OK
2:18 AM	22	20	OK	6:00 AM	32	30	OK	6:00 AM	28	26	OK
2:41 AM	21	19	OK	7:00 AM	32	30	OK	7:00 AM	31	29	OK
3:04 AM	24	22	OK	8:00 AM	32	30	OK	8:00 AM	35	32	OK
3:27 AM	39	36	OK	9:00 AM	33	31	OK	9:00 AM	36	33	OK
3:50 AM	40	37	OK	10:00 AM	36	33	OK	10:00 AM	35	32	OK
4:13 AM	40	37	OK	11:00 AM	37	34	OK	11:00 AM	34	31	OK
4:36 AM	40	37	OK	12:00 PM	37	34	OK	12:00 PM	32	30	OK
4:59 AM	38	35	OK	1:00 PM	75	61	OK	1:00 PM	29	27	OK
5:22 AM	32	30	OK	2:00 PM	50	46	OK	2:00 PM	27	25	OK
5:45 AM	27	25	OK	3:00 PM	38	35	OK	3:00 PM	24	22	OK
6:08 AM	27	25	OK	4:00 PM	29	27	OK	4:00 PM	21	19	OK
6:31 AM	23	21	OK	5:00 PM	25	23	OK	5:00 PM	20	19	OK
6:54 AM	22	20	OK	6:00 PM	27	25	OK	6:00 PM	27	25	OK
7:17 AM	27	25	OK	7:00 PM	32	30	OK	7:00 PM	30	28	OK
7:40 AM	36	33	OK	8:00 PM	33	31	OK	8:00 PM	30	28	OK
8:03 AM	40	37	OK	9:00 PM	34	31	OK	9:00 PM	30	28	OK
8:26 AM	44	41	OK	10:00 PM	41	38	OK	10:00 PM	33	31	OK
8:49 AM	48	44	OK	11:00 PM	44	41	OK	11:00 PM	48	44	OK
9:12 AM											
9:35 AM											
9:58 AM											
10:21 AM											
10:44 AM											
11:07 AM											
11:30 AM											
11:53 AM											
12:16 PM											
12:39 PM											
1:02 PM											
1:25 PM											
1:48 PM											
2:11 PM											
2:34 PM											
2:57 PM											
3:20 PM											
3:43 PM											
4:06 PM											
4:29 PM											
4:52 PM											
5:15 PM											
5:38 PM											
6:01 PM											
6:24 PM											
6:47 PM											
7:10 PM											
7:33 PM											
7:56 PM											
8:19 PM											
8:42 PM											
9:05 PM											
9:28 PM											
9:51 PM											
10:14 PM											
10:37 PM											
11:00 PM											
11:23 PM											
11:46 PM											

Figure D8-SP129: PM 10 AirNow Simulation

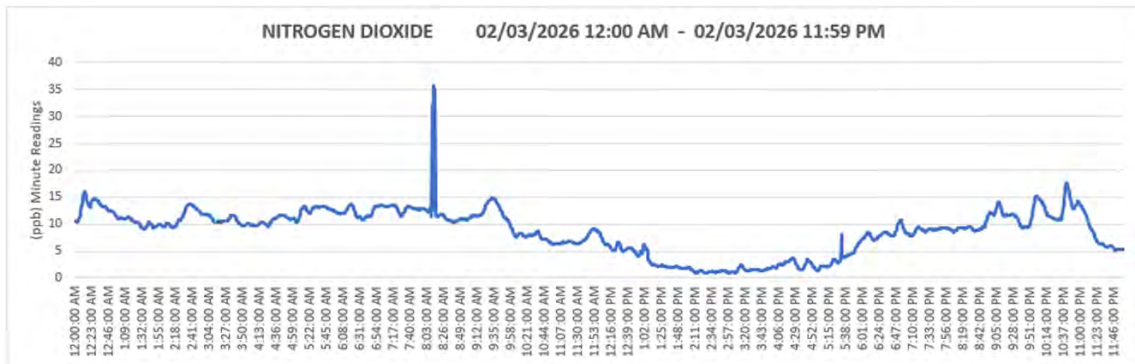


Figure D8-SP130: NO₂ minute readings for February 3, 2026

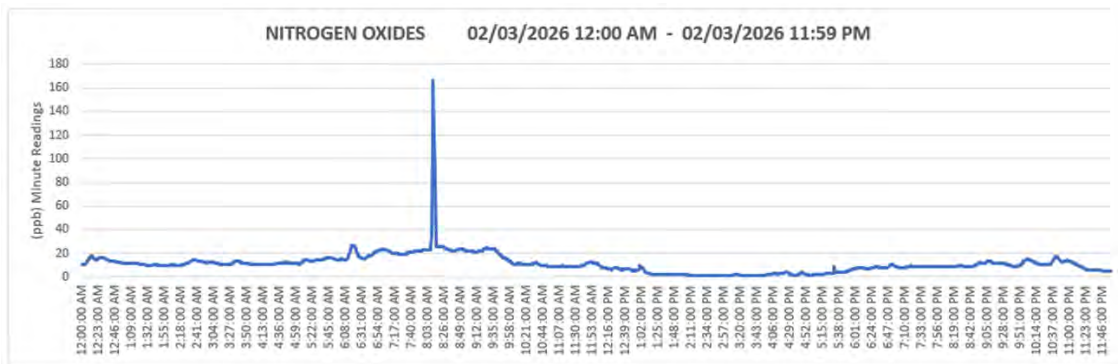


Figure D8-SP131: NO_x minute readings for February 3, 2026

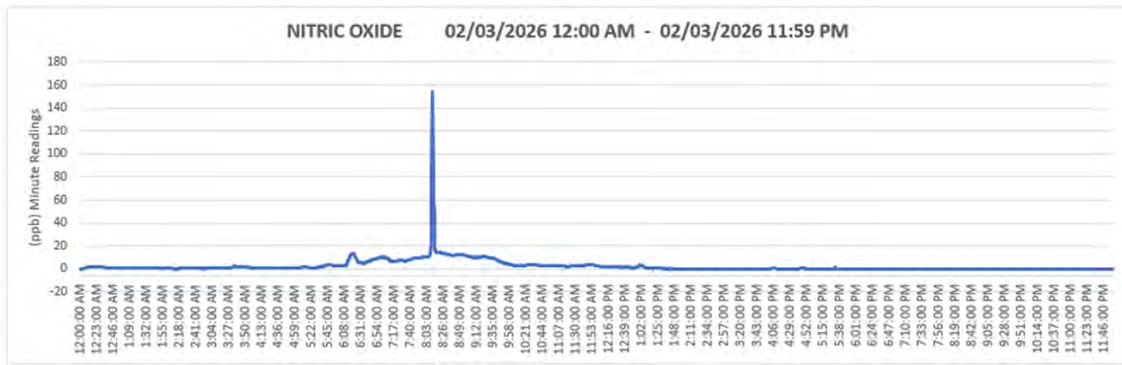


Figure D8-SP132: NO minute readings for February 3, 2026

Figures D8-SP133 through D8-SP135 display the top high concentrations for NO₂, NO_x, and NO for February 3, 2026. The day's high concentrations were during the minutes during the spike, around the 8:11 AM timeframe. Concentrations were lower the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 02/03/2026 12:00 AM - 02/03/2026 11:59 PM		
Rank	Concentration	Time
1	35.6	8:12:00 AM
2	35.0	8:14:00 AM
3	32.1	8:10:00 AM
4	29.7	8:13:00 AM
5	17.6	10:41:00 PM
6	17.5	10:42:00 PM
7	17.0	10:43:00 PM
8	16.8	10:40:00 PM
9	16.4	10:44:00 PM
10	15.9	12:14:00 AM
11	15.7	10:45:00 PM
12	15.7	10:39:00 PM
13	15.7	12:13:00 AM
14	15.5	12:12:00 AM
15	15.4	12:15:00 AM
16	15.2	10:01:00 PM
17	15.2	10:00:00 PM
18	15.1	10:46:00 PM
19	15.1	9:59:00 PM
20	15.0	10:02:00 PM
21	14.9	9:33:00 AM
22	14.9	12:11:00 AM
23	14.8	9:58:00 PM
24	14.8	9:35:00 AM
25	14.8	9:34:00 AM

Figure D8-SP133: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 02/03/2026 12:00 AM - 02/03/2026 11:59 PM		
Rank	Concentration	Time
1	166.5	8:11:00 AM
2	120.9	8:12:00 AM
3	112.0	8:10:00 AM
4	91.7	8:13:00 AM
5	81.8	8:14:00 AM
6	34.1	8:15:00 AM
7	33.9	8:09:00 AM
8	27.1	6:20:00 AM
9	26.9	6:21:00 AM
10	26.9	6:19:00 AM
11	26.3	6:18:00 AM
12	26.1	8:16:00 AM
13	25.9	8:22:00 AM
14	25.9	8:21:00 AM
15	25.9	8:20:00 AM
16	25.9	8:19:00 AM
17	25.8	8:23:00 AM
18	25.8	8:18:00 AM
19	25.7	8:17:00 AM
20	25.6	8:24:00 AM
21	25.5	8:08:00 AM
22	25.5	6:22:00 AM
23	25.4	8:25:00 AM
24	25.1	8:26:00 AM
25	25.0	6:17:00 AM

Figure D8-SP134: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 02/03/2026 12:00 AM - 02/03/2026 11:59 PM		
Rank	Concentration	Time
1	154.1	8:11:00 AM
2	90.9	8:12:00 AM
3	79.9	8:10:00 AM
4	61.0	8:13:00 AM
5	47.3	8:14:00 AM
6	22.6	8:09:00 AM
7	19.3	8:15:00 AM
8	14.5	8:16:00 AM
9	14.4	8:18:00 AM
10	14.4	8:17:00 AM
11	14.3	8:20:00 AM
12	14.3	8:19:00 AM
13	14.1	8:21:00 AM
14	14.0	8:22:00 AM
15	13.9	8:23:00 AM
16	13.8	8:24:00 AM
17	13.7	8:25:00 AM
18	13.6	6:20:00 AM
19	13.5	8:26:00 AM
20	13.4	8:28:00 AM
21	13.4	8:27:00 AM
22	13.4	6:21:00 AM
23	13.3	6:19:00 AM
24	13.2	8:29:00 AM
25	13.0	8:30:00 AM

Figure D8-SP135: NO Top High Readings

Figure D8-SP137 displays the wind speed and direction during the spike. Winds were mostly 1 to 2 mph. Winds were out of the Southwest. Pollution roses in figures D8-SP139 through D8-SP141 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP142 through D8-SP144 show higher concentrations for the day centered near the center of the plot indicating lower wind speeds at less than 3 mph and probable local emissions.

date	no	nox	no2
8:06:00 AM	10.7	22.9	12.3
8:07:00 AM	10.7	22.9	12.2
8:08:00 AM	12.6	25.5	13.0
8:09:00 AM	22.6	33.9	11.3
8:10:00 AM	79.9	112.0	32.1
8:11:00 AM	154.1	166.5	12.5
8:12:00 AM	90.9	120.9	35.6
8:13:00 AM	61.0	91.7	29.7
8:14:00 AM	47.3	81.8	35.0
8:15:00 AM	19.3	34.1	14.8
8:16:00 AM	14.5	26.1	11.6
8:17:00 AM	14.4	25.7	11.3
8:18:00 AM	14.4	25.8	11.4
8:19:00 AM	14.3	25.9	11.6
8:20:00 AM	14.3	25.9	11.7
8:21:00 AM	14.1	25.9	11.8

Figure D8-SP136: Table showing spike levels around 8:11 AM

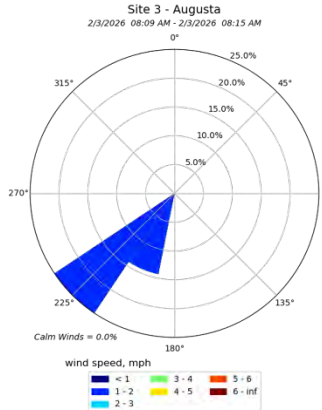


Figure D8-SP137: Wind Rose during spike

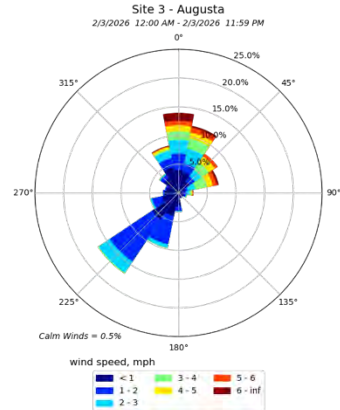


Figure D8-SP138: Wind Rose for the day

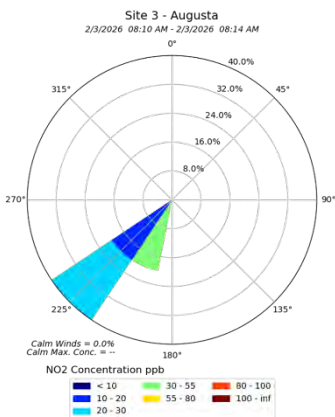


Figure D8-SP139: NO₂ Spike Pollution Rose

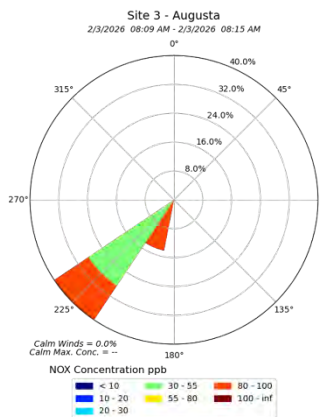


Figure D8-SP140: NO_x Spike Pollution Rose

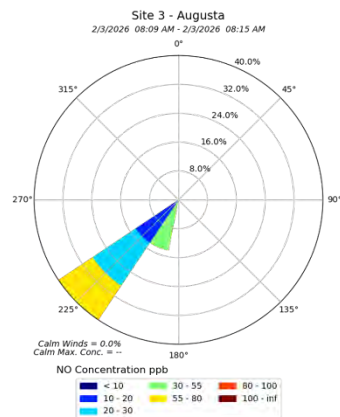


Figure D8-SP141: NO Spike Pollution Rose

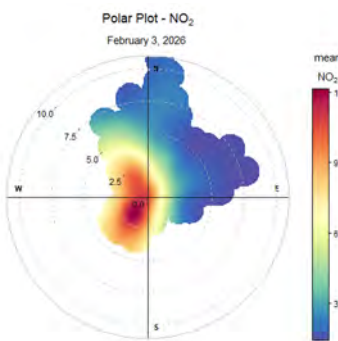


Figure D8-SP142: NO₂ Day Polar Plot

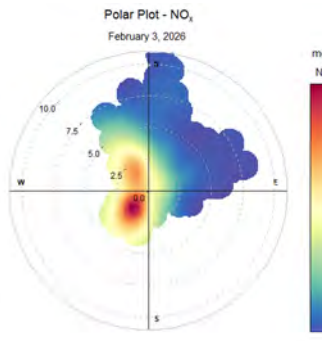


Figure D8-SP143: NO_x Day Polar Plot

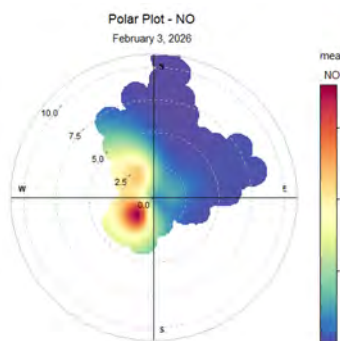


Figure D8-SP144: Day Polar Plot

Spike – PM2.5, PM10, NO₂, NO_x, and NO – February 13, 2026

We received an alert that the NO_x concentration was greater than 100 ppb and NO₂ was greater than 101 ppb at 3:38 PM. NO_x/NO₂/NO spike around 3:27 PM with NO_x recording a concentration of 274.6 ppb, NO₂ at 210.9 ppb and NO at 54.1 ppb. Wind from the South to Southwest direction at 2 to 5 mph. For the day, polar plots for NO_x/NO₂/NO did not indicate local sources. However, wind speeds during spike were relatively low. PM levels were similar across the agency and BEAST monitors with higher concentrations and spikes observed across all the monitors. Smoke was light to medium throughout the region with no immediately nearby fires observed. AQI for the day in the Augusta region – south was yellow moderate for the day. No observable spike in VOCs.

SPIKE SNAPSHOT	
Peak Time/Date:	3:27 PM 2/13/2026
Pollutant (Peak):	NO ₂ (210.9 ppb) NO _x (274.6 ppb) NO (54.1 ppb)
Length:	3 minutes
Wind Direction:	South to Southwest
Wind Speed:	2 to 5 mph
Source:	Possibly local & non-local

SPIKE SNAPSHOT	
Peak Time/Date:	2:22 PM & 2:28 PM 2/13/2026
Pollutant (Peak):	PM 2.5 (18.3 ug/m3) PM 10 (25.6 ug/m3)
Length:	1 hour and 45 minutes
Wind Direction:	Mostly Southwest
Wind Speed:	Mostly 2 to 5 mph
Source:	Probably non-local

Note that the highest concentrations of the day for NO_x and NO₂, when averaged in for the hour only made the 3 PM hour the 10th and 11th highest average hour for the day, respectfully. Demonstrates how extremely high spikes can be lost in the hour averages.

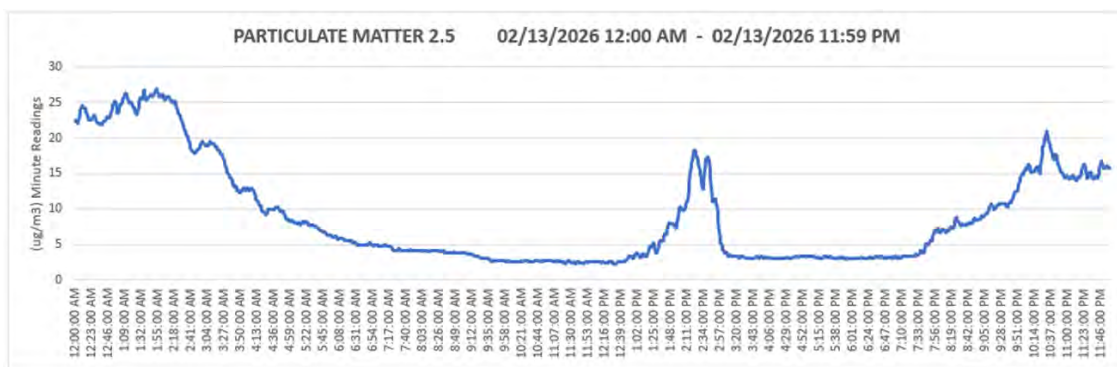


Figure D8-SP145: PM 2.5 minute readings for February 13, 2026

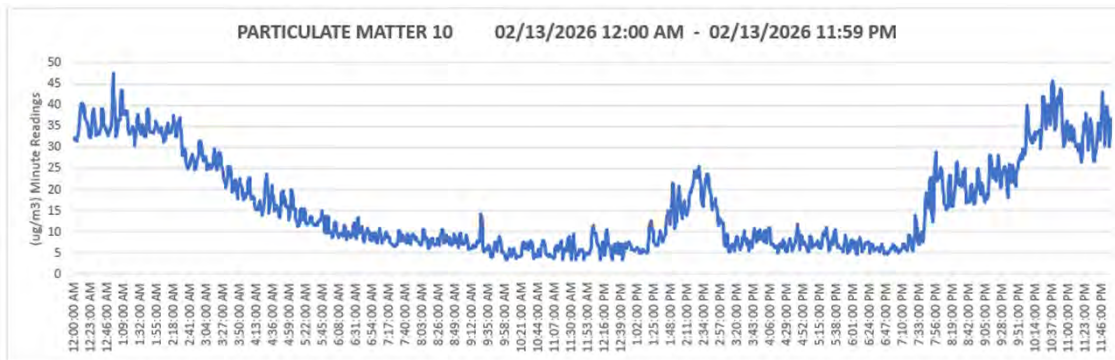


Figure D8-SP146: PM 10 minute readings for February 13, 2026

The day's top 25 high concentrations for PM 2.5 and PM 10 are shown in Figures D8-SP147 and D8-SP148, respectfully.

Most of the day's high readings for PM 2.5 were recorded during the 1 AM hour. While most of the day's high readings for PM 10 were recorded during the 10 PM hour.

PARTICULATE MATTER 2.5 Top 25 Concentrations (ug/m3) Minute Readings		
02/13/2026 12:00 AM - 02/13/2026 11:59 PM		
Rank	Concentration	Time
1	26.9	1:54:00 AM
2	26.8	1:53:00 AM
3	26.7	1:37:00 AM
4	26.6	1:55:00 AM
5	26.6	1:52:00 AM
6	26.6	1:36:00 AM
7	26.4	1:51:00 AM
8	26.3	1:56:00 AM
9	26.3	1:11:00 AM
10	26.2	2:02:00 AM
11	26.2	1:38:00 AM
12	26.2	1:12:00 AM
13	26.1	1:57:00 AM
14	26.1	1:46:00 AM
15	26.1	1:35:00 AM
16	26.1	1:10:00 AM
17	26.0	2:03:00 AM
18	26.0	1:50:00 AM
19	26.0	1:49:00 AM
20	26.0	1:47:00 AM
21	26.0	1:45:00 AM
22	25.9	2:10:00 AM
23	25.9	2:09:00 AM
24	25.9	1:59:00 AM
25	25.9	1:58:00 AM

Figure D8-SP147: PM 2.5 High Concentrations for Feb. 13, 2026

PARTICULATE MATTER 10 Top 25 Concentrations (ug/m3) Minute Readings		
02/13/2026 12:00 AM - 02/13/2026 11:59 PM		
Rank	Concentration	Time
1	47.6	12:55:00 AM
2	45.7	10:38:00 PM
3	44.4	10:39:00 PM
4	44.4	10:37:00 PM
5	43.9	10:49:00 PM
6	43.5	1:06:00 AM
7	43.5	12:54:00 AM
8	43.3	1:07:00 AM
9	43.1	11:47:00 PM
10	43.0	10:50:00 PM
11	42.9	12:56:00 AM
12	42.1	10:26:00 PM
13	42.0	10:46:00 PM
14	41.9	11:48:00 PM
15	41.9	10:23:00 PM
16	41.7	10:48:00 PM
17	41.5	10:45:00 PM
18	41.0	10:51:00 PM
19	40.7	1:08:00 AM
20	40.6	12:53:00 AM
21	40.5	10:47:00 PM
22	40.4	12:12:00 AM
23	40.4	12:10:00 AM
24	40.2	10:32:00 PM
25	40.2	12:57:00 AM

Figure D8-SP148: PM 10 High Concentrations for Feb. 13, 2026

Pollution roses for both PM 2.5 and PM 10 for all day are shown in figures D8-SP149 and D8-SP150.

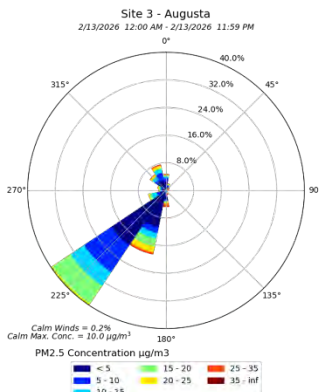


Figure D8-SP149: PM 2.5 Pollution Rose showing all day

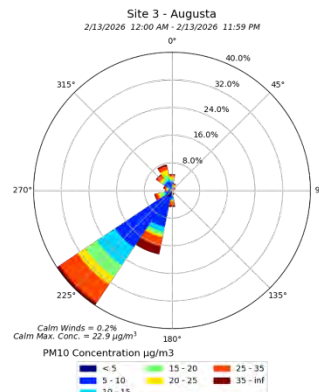


Figure D8-SP150: PM 10 Pollution Rose showing all day

Figure D8-SP151 wind rose displays the wind speed and direction for the entire day. Winds from the Southwest ranged from less than 1 mph over 6 mph. Fewer winds from the North to Northwest which mostly ranged from less than 1 mph up to 2 mph.

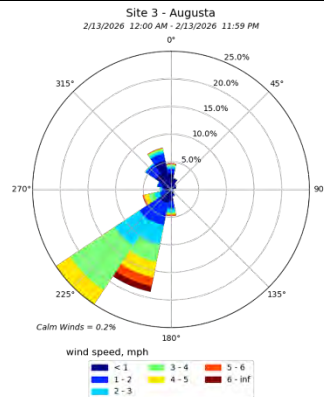


Figure D8-SP151: Wind Rose for the day

The PM 2.5 and PM 10 polar plots show similar results.

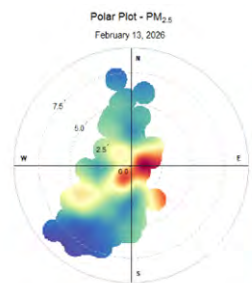


Figure D8-SP152: PM 2.5 Polar Plot

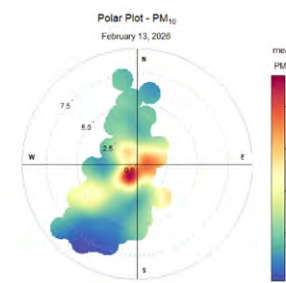


Figure D8-SP153: PM 10 Polar Plot

Figures D8-SP154 and D8-SP155 graphs display the BEAST hourly average data along with raw agency regional monitoring data. There were some medium pockets of smoke in the region, as shown in Figure D8-SP156 throughout the region. The EPA AQI map, Figure D8-SP157, indicated a moderate air quality day. Screening of the agency monitors shows PM 2.5 and PM 10 levels were pretty uniform in the region. There was a late evening spike at the Trenton PM 2.5 monitor.

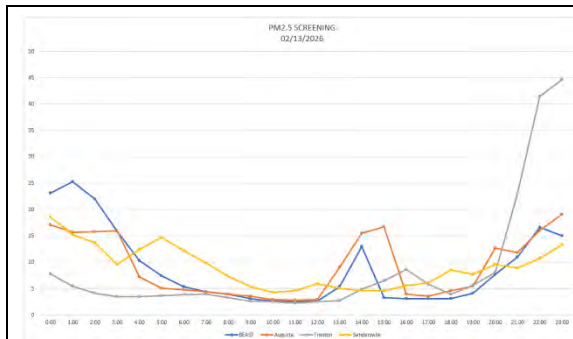


Figure D8-SP154: PM 2.5 Hourly Concentrations

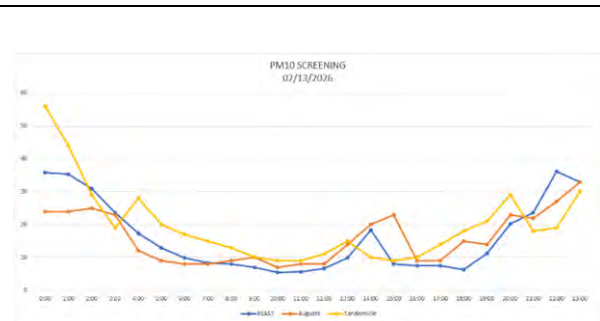


Figure D8-SP155: PM 10 Hourly Concentrations

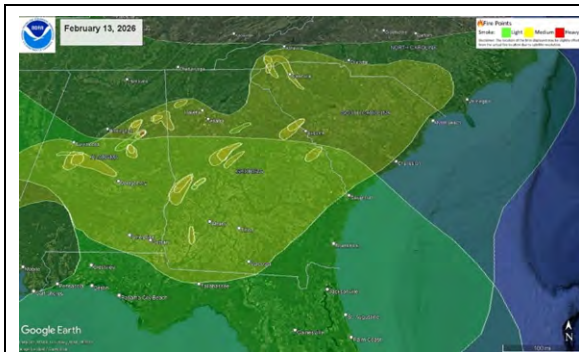


Figure D8-SP156: NOAA Smoke Map

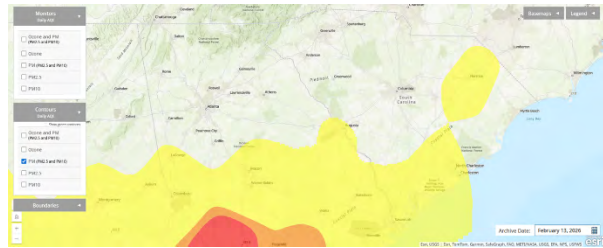


Figure D8-SP157: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-SP158, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Trenton				Sandersville			
February 13, 2026				February 13, 2026				February 13, 2026				February 13, 2026			
EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time			
Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.	Time	PM 2.5	AQI	Data Ck.
12 Mid	15.9	64	OK	12 Mid	17.2	66	OK	12 Mid	10.2	53	OK	12 Mid	14.0	60	OK
1:00 AM	19.5	70	OK	1:00 AM	17.1	66	OK	1:00 AM	9.0	50	OK	1:00 AM	16.3	64	OK
2:00 AM	22.4	76	OK	2:00 AM	16.4	65	OK	2:00 AM	7.2	40	OK	2:00 AM	15.7	63	OK
3:00 AM	22.2	75	OK	3:00 AM	16.1	64	OK	3:00 AM	5.6	31	OK	3:00 AM	14.7	61	OK
4:00 AM	19.0	69	OK	4:00 AM	16.0	64	OK	4:00 AM	4.5	25	OK	4:00 AM	12.1	57	OK
5:00 AM	14.6	61	OK	5:00 AM	11.6	56	OK	5:00 AM	4.0	22	OK	5:00 AM	12.2	57	OK
6:00 AM	11.0	55	OK	6:00 AM	8.3	46	OK	6:00 AM	3.8	21	OK	6:00 AM	13.4	59	OK
7:00 AM	8.1	45	OK	7:00 AM	6.5	36	OK	7:00 AM	3.8	21	OK	7:00 AM	12.8	56	OK
8:00 AM	6.2	34	OK	8:00 AM	5.4	30	OK	8:00 AM	3.8	21	OK	8:00 AM	11.3	55	OK
9:00 AM	5.0	28	OK	9:00 AM	4.6	26	OK	9:00 AM	3.5	19	OK	9:00 AM	9.3	51	OK
10:00 AM	4.0	22	OK	10:00 AM	4.1	23	OK	10:00 AM	3.0	17	OK	10:00 AM	7.3	41	OK
11:00 AM	3.3	18	OK	11:00 AM	3.5	19	OK	11:00 AM	2.7	15	OK	11:00 AM	5.8	32	OK
Noon	2.9	16	OK	Noon	3.1	17	OK	Noon	2.4	13	OK	Noon	5.2	29	OK
1:00 PM	2.7	15	OK	1:00 PM	3.0	17	OK	1:00 PM	2.4	13	OK	1:00 PM	5.5	31	OK
2:00 PM	4.0	22	OK	2:00 PM	6.0	33	OK	2:00 PM	2.6	14	OK	2:00 PM	5.3	29	OK
3:00 PM	8.5	47	OK	3:00 PM	10.7	54	OK	3:00 PM	3.7	21	OK	3:00 PM	4.9	27	OK
4:00 PM	5.9	33	OK	4:00 PM	13.7	60	OK	4:00 PM	5.1	28	OK	4:00 PM	4.7	26	OK
5:00 PM	4.5	25	OK	5:00 PM	8.8	49	OK	5:00 PM	6.8	38	OK	5:00 PM	5.1	28	OK
6:00 PM	3.8	21	OK	6:00 PM	6.2	34	OK	6:00 PM	6.3	35	OK	6:00 PM	5.6	31	OK
7:00 PM	3.4	19	OK	7:00 PM	5.4	30	OK	7:00 PM	5.1	28	OK	7:00 PM	7.0	39	OK
8:00 PM	3.7	21	OK	8:00 PM	5.4	30	OK	8:00 PM	5.3	29	OK	8:00 PM	7.3	41	OK
9:00 PM	5.7	32	OK	9:00 PM	9.0	50	OK	9:00 PM	6.7	37	OK	9:00 PM	8.4	47	OK
10:00 PM	8.3	46	OK	10:00 PM	10.4	53	OK	10:00 PM	14.8	62	OK	10:00 PM	8.6	46	OK
11:00 PM	12.4	57	OK	11:00 PM	13.2	59	OK	11:00 PM	28.1	86	OK	11:00 PM	9.6	52	OK

Figure D8-SP158: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-SP159, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
February 13, 2026				February 13, 2026				February 13, 2026			
EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time			
Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.
12 Mid	32	30	OK	12 Mid	27	25	OK	12 Mid	38	35	OK
1:00 AM	34	31	OK	1:00 AM	26	24	OK	1:00 AM	47	44	OK
2:00 AM	35	32	OK	2:00 AM	25	23	OK	2:00 AM	46	43	OK
3:00 AM	33	31	OK	3:00 AM	25	23	OK	3:00 AM	37	34	OK
4:00 AM	28	26	OK	4:00 AM	24	22	OK	4:00 AM	28	26	OK
5:00 AM	23	21	OK	5:00 AM	18	17	OK	5:00 AM	28	26	OK
6:00 AM	18	17	OK	6:00 AM	13	12	OK	6:00 AM	24	22	OK
7:00 AM	14	13	OK	7:00 AM	11	10	OK	7:00 AM	21	19	OK
8:00 AM	11	10	OK	8:00 AM	9	8	OK	8:00 AM	18	17	OK
9:00 AM	10	9	OK	9:00 AM	9	8	OK	9:00 AM	15	14	OK
10:00 AM	8	7	OK	10:00 AM	10	9	OK	10:00 AM	13	12	OK
11:00 AM	7	6	OK	11:00 AM	8	7	OK	11:00 AM	11	10	OK
Noon	6	6	OK	Noon	8	7	OK	Noon	10	9	OK
1:00 PM	6	6	OK	1:00 PM	8	7	OK	1:00 PM	10	9	OK
2:00 PM	8	7	OK	2:00 PM	11	10	OK	2:00 PM	13	12	OK
3:00 PM	13	12	OK	3:00 PM	16	15	OK	3:00 PM	11	10	OK
4:00 PM	11	10	OK	4:00 PM	19	18	OK	4:00 PM	10	9	OK
5:00 PM	9	8	OK	5:00 PM	14	13	OK	5:00 PM	10	9	OK
6:00 PM	8	7	OK	6:00 PM	12	11	OK	6:00 PM	12	11	OK
7:00 PM	7	6	OK	7:00 PM	13	12	OK	7:00 PM	15	14	OK
8:00 PM	9	8	OK	8:00 PM	14	13	OK	8:00 PM	18	17	OK
9:00 PM	15	14	OK	9:00 PM	18	17	OK	9:00 PM	24	22	OK
10:00 PM	19	18	OK	10:00 PM	20	19	OK	10:00 PM	21	19	OK
11:00 PM	28	26	OK	11:00 PM	24	22	OK	11:00 PM	20	19	OK

Figure D8-SP159: PM 10 AirNow Simulation

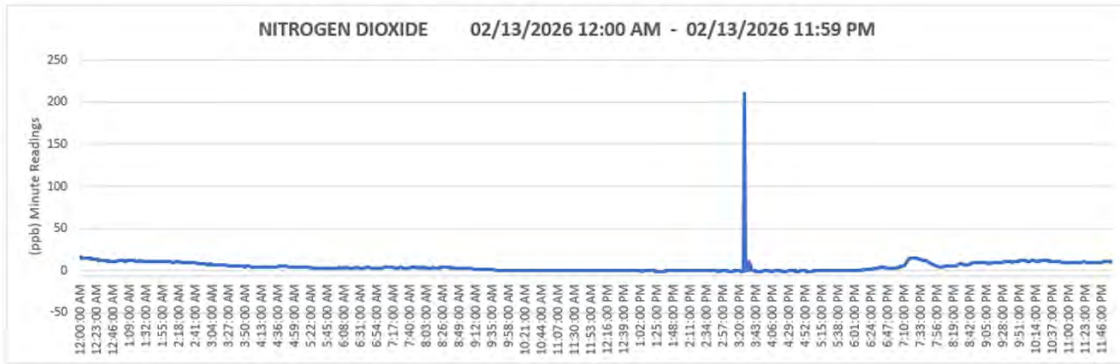


Figure D8-SP160: NO₂ minute readings for February 13, 2026

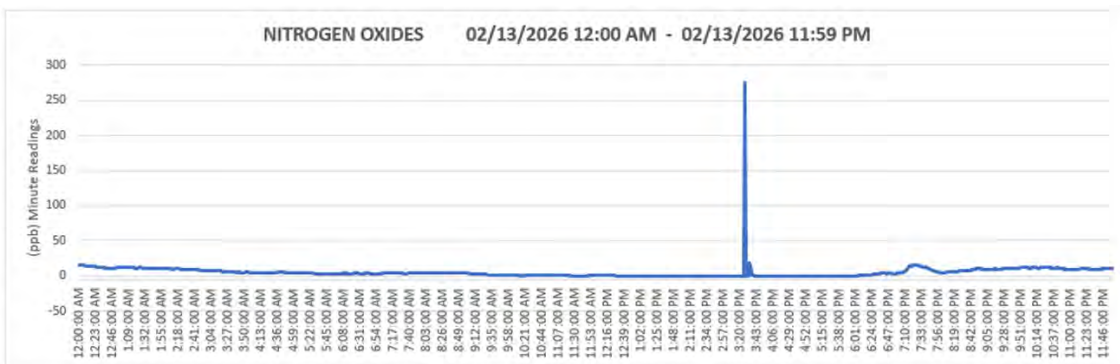


Figure D8-SP161: NO_x minute readings for February 13, 2026

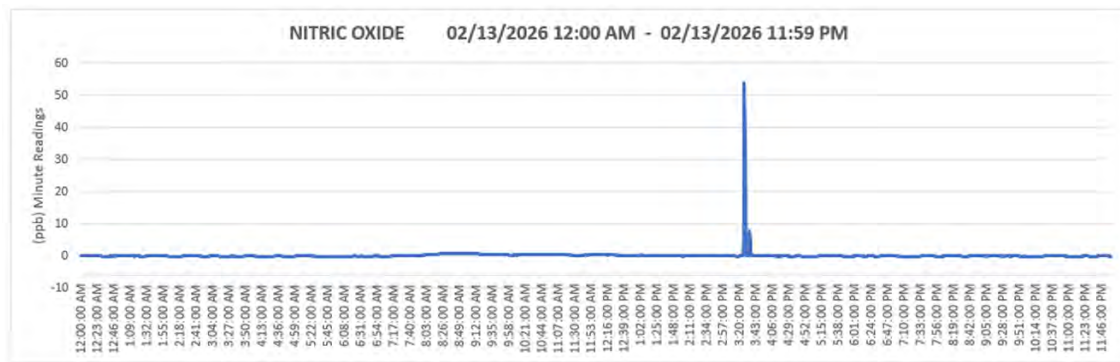


Figure D8-SP162: NO minute readings for February 13, 2026

Figures D8-SP163 through D8-SP165 display the top high concentrations for NO₂, NO_x, and NO for February 13, 2026. The day's high concentrations were during the spike - around 3:27 PM. Concentrations were lower for the remainder of the day.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings 02/13/2026 12:00 AM - 02/13/2026 11:59 PM			
Rank	Concentration	Time	
1	210.9	3:27:00 PM	
2	15.8	12:00:00 AM	
3	15.6	12:01:00 AM	
4	15.4	12:02:00 AM	
5	15.2	12:03:00 AM	
6	14.9	7:27:00 PM	
7	14.9	12:04:00 AM	
8	14.8	7:26:00 PM	
9	14.8	7:25:00 PM	
10	14.8	7:24:00 PM	
11	14.8	7:23:00 PM	
12	14.7	7:28:00 PM	
13	14.7	7:22:00 PM	
14	14.7	7:20:00 PM	
15	14.7	12:05:00 AM	
16	14.6	7:21:00 PM	
17	14.6	12:06:00 AM	
18	14.5	7:19:00 PM	
19	14.5	12:07:00 AM	
20	14.3	7:29:00 PM	
21	14.3	7:18:00 PM	
22	14.3	12:12:00 AM	
23	14.3	12:11:00 AM	
24	14.3	12:10:00 AM	
25	14.3	12:09:00 AM	

Figure D8-SP163: NO₂ Top High Readings

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 02/13/2026 12:00 AM - 02/13/2026 11:59 PM			
Rank	Concentration	Time	
1	274.6	3:27:00 PM	
2	46.6	3:28:00 PM	
3	18.1	3:34:00 PM	
4	15.9	12:00:00 AM	
5	15.7	12:01:00 AM	
6	15.5	12:02:00 AM	
7	15.3	12:03:00 AM	
8	15.1	12:04:00 AM	
9	14.9	12:05:00 AM	
10	14.8	7:27:00 PM	
11	14.8	12:06:00 AM	
12	14.7	7:26:00 PM	
13	14.7	7:25:00 PM	
14	14.7	7:24:00 PM	
15	14.7	12:07:00 AM	
16	14.6	7:28:00 PM	
17	14.6	7:23:00 PM	
18	14.6	7:22:00 PM	
19	14.6	7:20:00 PM	
20	14.6	12:08:00 AM	
21	14.5	7:21:00 PM	
22	14.5	12:11:00 AM	
23	14.5	12:10:00 AM	
24	14.5	12:09:00 PM	
25	14.4	7:19:00 PM	

Figure D8-SP164: NO_x Top High Readings

NITRIC OXIDE Top 25 Concentrations (ppb) Minute Readings 02/13/2026 12:00 AM - 02/13/2026 11:59 PM			
Rank	Concentration	Time	
1	54.1	3:27:00 PM	
2	38.4	3:28:00 PM	
3	7.6	3:34:00 PM	
4	5.8	3:26:00 PM	
5	4.7	3:35:00 PM	
6	1.1	3:33:00 PM	
7	1.0	3:36:00 PM	
8	1.0	9:02:00 AM	
9	1.0	9:01:00 AM	
10	1.0	9:00:00 AM	
11	1.0	8:59:00 AM	
12	1.0	8:58:00 AM	
13	1.0	8:57:00 AM	
14	1.0	8:56:00 AM	
15	1.0	8:40:00 AM	
16	1.0	8:39:00 AM	
17	0.9	9:06:00 AM	
18	0.9	9:05:00 AM	
19	0.9	9:04:00 AM	
20	0.9	9:03:00 AM	
21	0.9	8:55:00 AM	
22	0.9	8:54:00 AM	
23	0.9	8:53:00 AM	
24	0.9	8:52:00 AM	
25	0.9	8:51:00 AM	

Figure D8-SP165: NO Top High Readings

Figure D8-SP167 displays the wind speed and direction during the spike. Winds ranged mostly from 3 to 5 mph from the Southwest. Pollution roses in figures D8-SP169 through D8-SP171 display NO₂, NO_x and NO concentrations during spike associated with wind direction. Polar plots in figures D8-SP172 through D8-SP174 show higher concentrations for the day did not appear near the center of the plot indicating higher concentrations were associated with higher wind speeds greater than 5 mph, which may indicate probable non-localized sources. It is interesting that the NO₂ and NO_x higher concentrations were from the north while NO higher concentrations were southwest.

date	no	nox	no2
3:25:00 PM	0.0	-0.7	-0.7
3:26:00 PM	5.8	5.4	-0.4
3:27:00 PM	54.1	274.6	210.9
3:28:00 PM	38.4	46.6	8.2
3:29:00 PM	0.0	0.0	0.0
3:30:00 PM	0.2	0.1	-0.1
3:31:00 PM	0.2	-0.2	-0.4
3:32:00 PM	0.3	-0.1	-0.5
3:33:00 PM	1.1	1.3	0.2
3:34:00 PM	7.6	18.1	10.5
3:35:00 PM	4.7	13.2	8.4
3:36:00 PM	1.0	5.5	4.5
3:37:00 PM	0.4	1.1	0.8
3:38:00 PM	0.3	0.8	0.6
3:39:00 PM	0.2	0.6	0.4
3:40:00 PM	0.2	0.3	0.1

Figure D8-SP166: Table showing spike levels around 3:27 PM

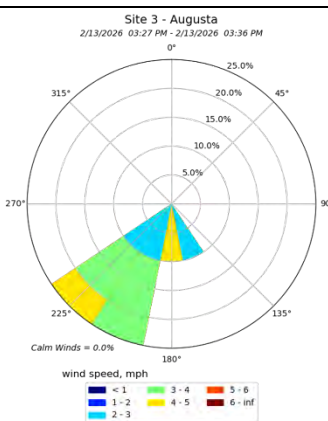


Figure D8-SP167: Wind Rose during spike

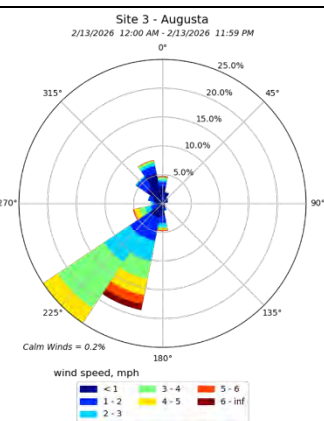
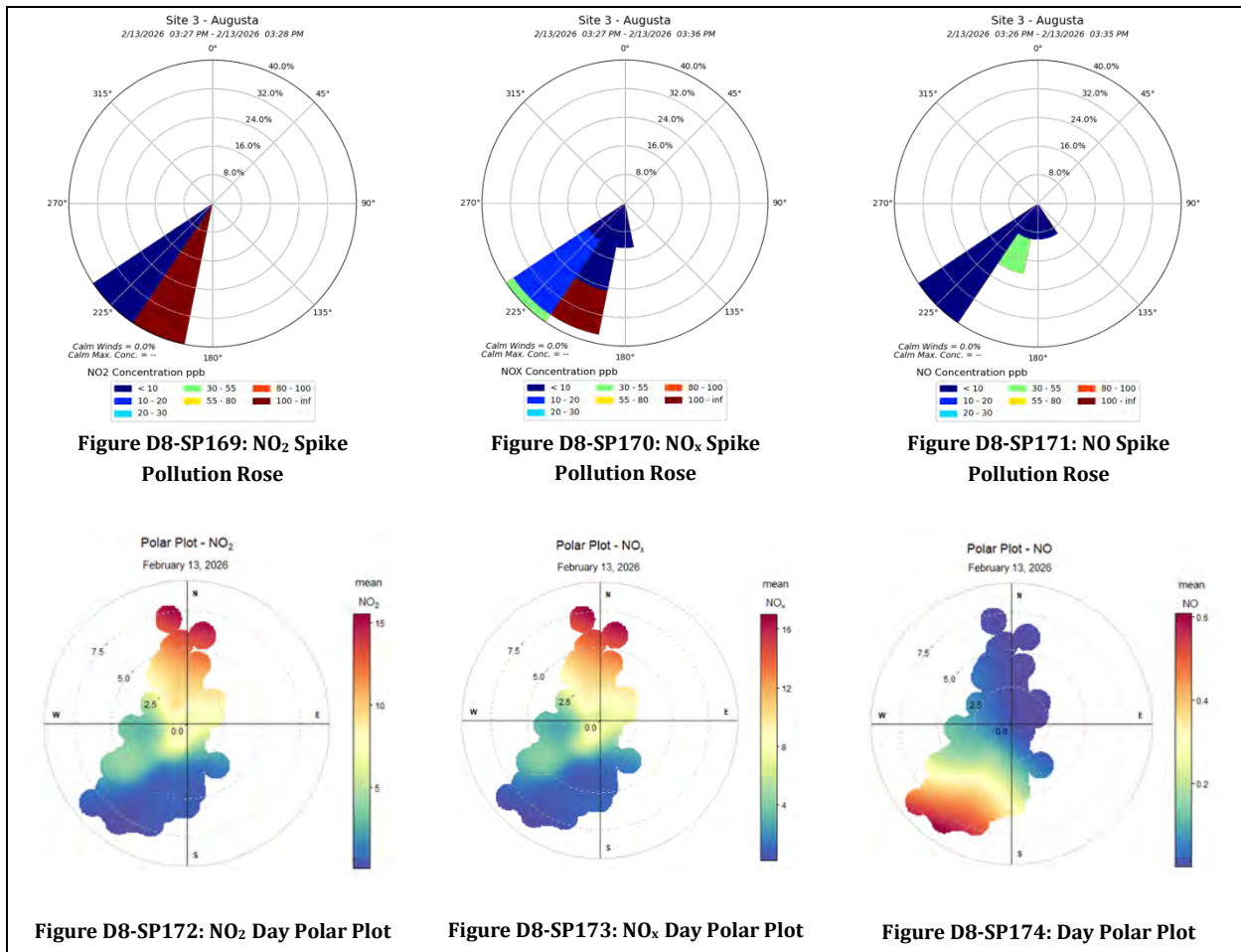


Figure D8-SP168: Wind Rose for the day



Spikes can get lost in the hourly data

As indicated by Figure D8-SP175, the highest NO₂, by far, for the day was a spike of 210.9 ppb at 3:27 PM. However, when looking at hourly averages the 3 PM hour ranked as the 11th hour of the day for the highest average.

NITROGEN DIOXIDE Top 25 Concentrations (ppb) Minute Readings			NITROGEN DIOXIDE Hour Averages Ranked by Highest (ppb) Hour Averages		
Rank	Concentration	Time	Rank	Concentration	Time
1	210.9	3:27:00 PM	1	12.7	12:00:00 AM
2	15.8	12:00:00 AM	2	11.2	1:00:00 AM
3	15.6	12:01:00 AM	3	11.1	10:00:00 PM
4	15.4	12:02:00 AM	4	10.0	9:00:00 PM
5	15.2	12:03:00 AM	5	9.7	11:00:00 PM
6	14.9	7:27:00 PM	6	9.7	7:00:00 PM
7	14.9	12:04:00 AM	7	9.2	2:00:00 AM
8	14.8	7:26:00 PM	8	7.0	8:00:00 PM
9	14.8	7:25:00 PM	9	5.9	3:00:00 AM
10	14.8	7:24:00 PM	10	4.3	4:00:00 AM
11	14.8	7:23:00 PM	11	3.6	3:00:00 PM
12	14.7	7:28:00 PM	12	3.4	7:00:00 AM
13	14.7	7:22:00 PM	13	3.4	5:00:00 AM
14	14.7	7:20:00 PM	14	3.2	8:00:00 AM
15	14.7	12:05:00 AM	15	3.2	6:00:00 AM
16	14.6	7:21:00 PM	16	2.1	6:00:00 PM
17	14.6	12:06:00 AM	17	1.2	9:00:00 AM
18	14.5	7:19:00 PM	18	0.0	11:00:00 AM
19	14.5	12:07:00 AM	19	0.0	10:00:00 AM
20	14.3	7:29:00 PM	20		12:00:00 PM
21	14.3	7:18:00 PM	21		5:00:00 PM
22	14.3	12:12:00 AM	22		2:00:00 PM
23	14.3	12:11:00 AM	23		1:00:00 PM
24	14.3	12:10:00 AM	24		4:00:00 PM
25	14.3	12:09:00 AM			

Figure D8-SP175: Top NO₂ Minute and Hour Averages

As indicated by Figure D8-SP176, the highest NO_x, by far, for the day was a spike of 274.6 ppb at 3:27 PM. The second highest concentration was 46.6 ppb at 3:28 PM and third highest was 18.1 at 3:34 PM. However, when looking at hourly averages the 3 PM hour ranked as the 10th hour of the day for the highest average.

NITROGEN OXIDES Top 25 Concentrations (ppb) Minute Readings 02/13/2026 12:00 AM - 02/13/2026 11:59 PM		
Rank	Concentration	Time
1	274.6	3:27:00 PM
2	46.6	3:28:00 PM
3	18.1	3:34:00 PM
4	15.9	12:00:00 AM
5	15.7	12:01:00 AM
6	15.5	12:02:00 AM
7	15.3	12:03:00 AM
8	15.1	12:04:00 AM
9	14.9	12:05:00 AM
10	14.8	7:27:00 PM
11	14.8	12:06:00 AM
12	14.7	7:26:00 PM
13	14.7	7:25:00 PM
14	14.7	7:24:00 PM
15	14.7	12:07:00 AM
16	14.6	7:28:00 PM
17	14.6	7:23:00 PM
18	14.6	7:22:00 PM
19	14.6	7:20:00 PM
20	14.6	12:08:00 AM
21	14.5	7:21:00 PM
22	14.5	12:11:00 AM
23	14.5	12:10:00 AM
24	14.5	12:09:00 AM
25	14.4	7:19:00 PM

NITROGEN OXIDES Hour Averages Ranked by Highest (ppb) Hour Averages 02/13/2026 12:00 AM - 02/13/2026 11:59 PM		
Rank	Concentration	Time
1	12.7	12:00:00 AM
2	11.2	1:00:00 AM
3	11.0	10:00:00 PM
4	10.0	9:00:00 PM
5	9.6	11:00:00 PM
6	9.6	7:00:00 PM
7	9.2	2:00:00 AM
8	6.9	8:00:00 PM
9	5.8	3:00:00 PM
10	5.7	3:00:00 PM
11	4.2	4:00:00 AM
12	4.0	8:00:00 AM
13	3.5	7:00:00 AM
14	3.3	5:00:00 AM
15	3.2	6:00:00 AM
16	2.1	6:00:00 PM
17	1.8	9:00:00 AM
18	0.4	10:00:00 AM
19	0.3	11:00:00 AM
20	0.1	12:00:00 PM
21		2:00:00 PM
22		5:00:00 PM
23		1:00:00 PM
24		4:00:00 PM

Figure D8-SP176: Top NO_x Minute and Hour Averages

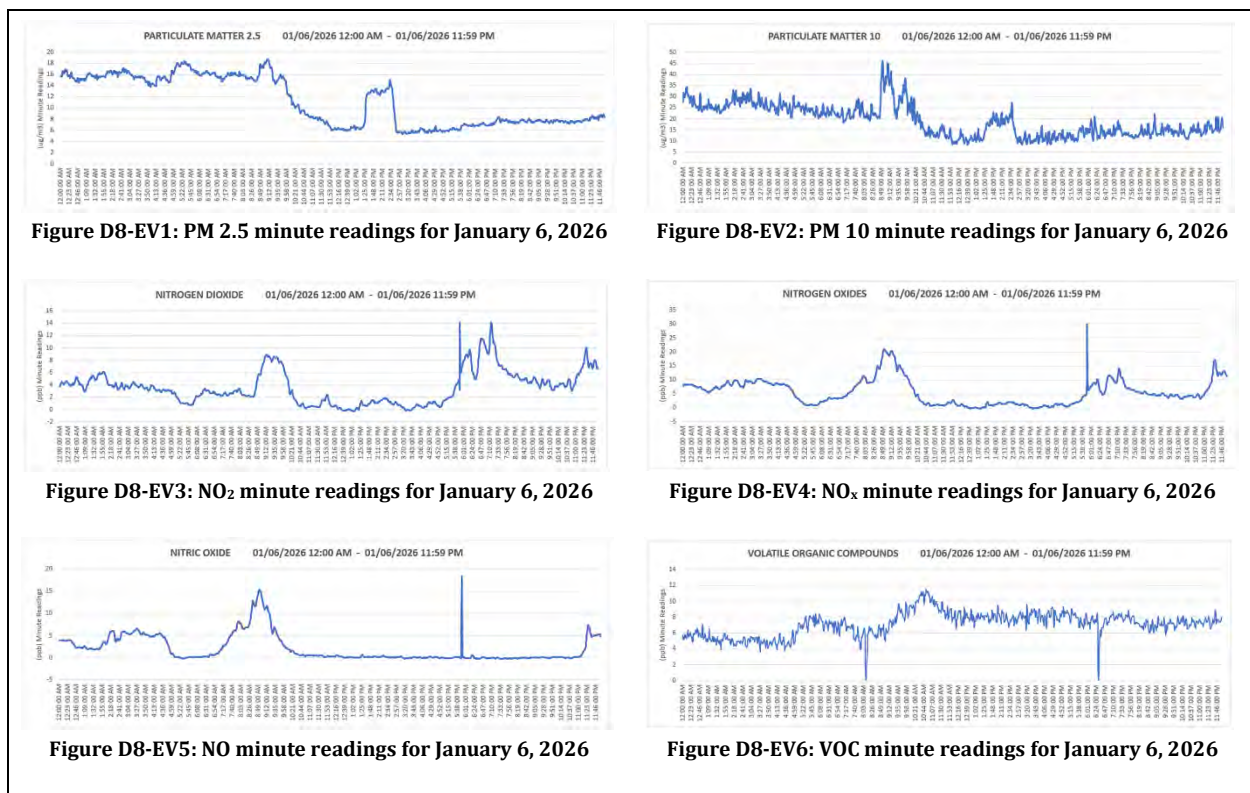
Event – Controlled Burn – January 6, 2026

Fort Gordon conducted a controlled burn from 10:15 AM – 4 PM on Southwest portion of installation with smoke expected to travel Northeast.

We examined our data to determine if there were any noticeable impacts found in the data. We did not find any impacts on this day associated with the controlled burn. This is mainly because the wind was not blowing towards our monitor from the direction of the controlled burn.



Daily Data Graphs



PM2.5/PM10

Levels were in the moderate AQI range prior to the scheduled controlled burn. Particulate matter did decrease shortly after 9:30 AM before rising again around 1:30 PM for about an hour and a half. Winds during PM spikes were coming out of the northeast, which was the opposite direction of the controlled burn. Conclusion is that the BEAST PM data spikes were

not a result of the controlled burn. The Augusta agency monitor did have PM 2.5 spikes. This agency monitor is closer to the controlled burn area and may have been impacted by the burn.

Pollution roses for PM 2.5 and PM 10, Figures D8-EV7 and D8EV8, displaying the wind direction with pollutant concentrations from 1:27 PM to 2:46 PM.

PM 10 pollution rose, Figure D8-EV9, during morning high concentrations from 8:43 AM to 10:34 AM. Wind coming from northeast.

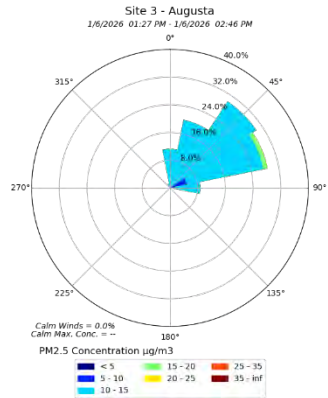


Figure D8-EV7: PM 2.5 Pollution Rose around 1:30 PM spike

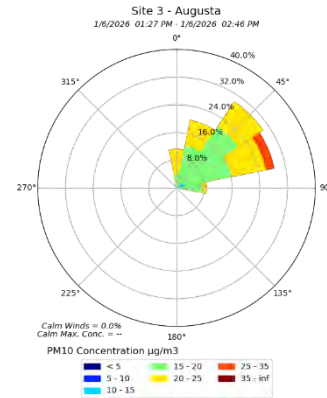


Figure D8-EV8: PM 10 Pollution Rose around 1:30 PM spike

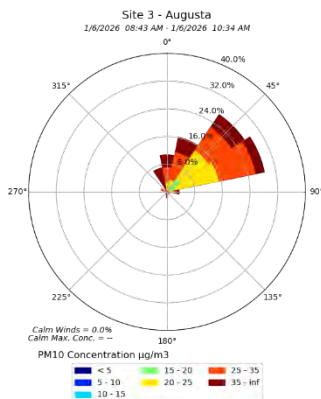


Figure D8-EV9: PM 10 Pollution Rose around 9 AM spike

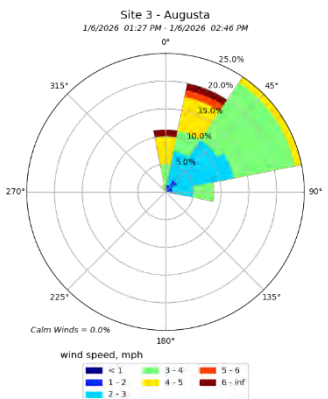


Figure D8-EV10: Wind Rose around 1:30 PM spike

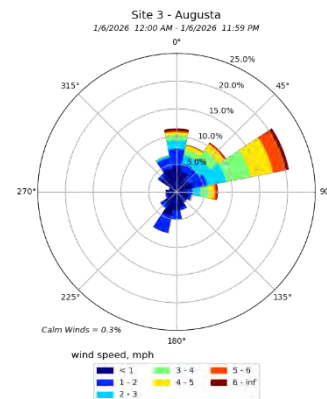


Figure D8-EV11: Wind Rose all day

Polar plots for PM 2.5 and PM 10 for the day are shown in Figures D8-EV12 and D8-EV13.

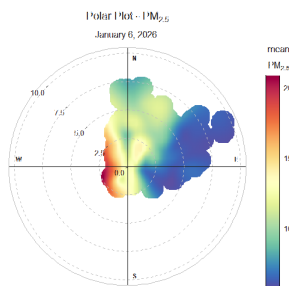


Figure D8-EV12: PM 2.5 Polar Plot

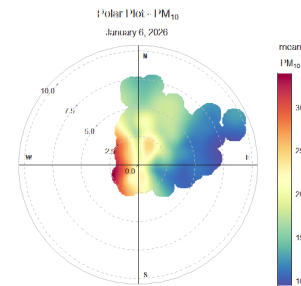


Figure D8-EV13: PM 10 Polar Plot

PM 2.5 and PM 10 were pretty uniform throughout the region with a moderate air quality day as indicated by figures D8-EV14, D8-EV15, D8-EV17, D8-EV18, and D8-EV19. Figure D8-EV16 shows there was no smoke in the area or region.

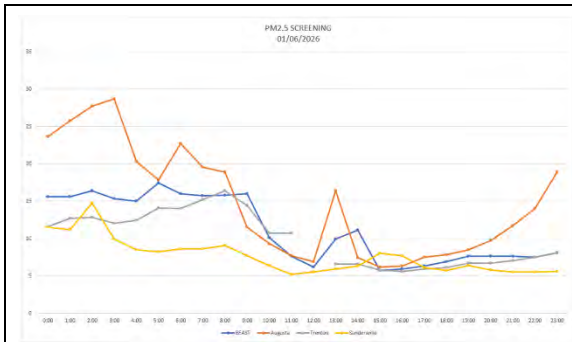


Figure D8-EV14: PM 2.5 Hourly Concentrations



Figure D8-EV15: PM 10 Hourly Concentrations

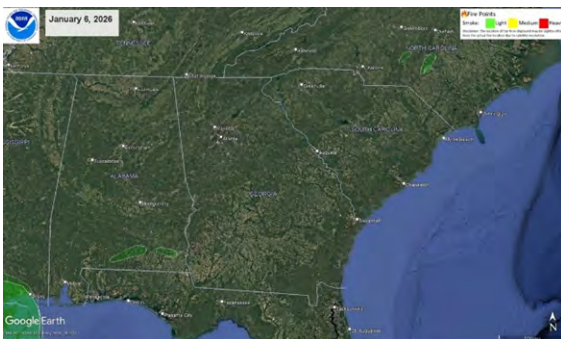


Figure D8-EV16: NOAA Smoke Map

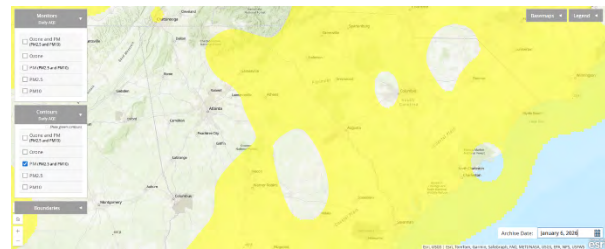


Figure D8-EV17: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-EV18, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST					Augusta					Trenton					Sandersville					
January 6, 2026					January 6, 2026					January 6, 2026					January 6, 2026					
EPA NowCast Observed Time					EPA NowCast Observed Time					EPA NowCast Observed Time					EPA NowCast Observed Time					
Time	PM 2.5	AQI	Data Cl.		Time	PM 2.5	AQI	Data Cl.		Time	PM 2.5	AQI	Data Cl.		Time	PM 2.5	AQI	Data Cl.		
12 Mid	12.9	50	OK		12 Mid	23.2	77	OK		12 Mid	15.4	48	OK		12 Mid	9.5	32	OK		
1:00 AM	14.5	61	OK		1:00 AM	23.4	78	OK		1:00 AM	13.5	59	OK		1:00 AM	10.5	34	OK		
2:00 AM	15.0	62	OK		2:00 AM	24.5	80	OK		2:00 AM	13.1	58	OK		2:00 AM	10.8	34	OK		
3:00 AM	15.6	63	OK		3:00 AM	26.1	83	OK		3:00 AM	12.9	58	OK		3:00 AM	12.7	35	OK		
4:00 AM	15.4	63	OK		4:00 AM	27.4	85	OK		4:00 AM	12.4	57	OK		4:00 AM	11.3	35	OK		
5:00 AM	15.2	62	OK		5:00 AM	23.8	78	OK		5:00 AM	12.4	57	OK		5:00 AM	9.9	32	OK		
6:00 AM	16.1	64	OK		6:00 AM	20.8	73	OK		6:00 AM	13.2	59	OK		6:00 AM	9.0	30	OK		
7:00 AM	16.0	64	OK		7:00 AM	22.0	75	OK		7:00 AM	13.6	59	OK		7:00 AM	8.8	30	OK		
8:00 AM	15.9	64	OK		8:00 AM	21.1	73	OK		8:00 AM	14.4	61	OK		8:00 AM	8.7	30	OK		
9:00 AM	15.8	63	OK		9:00 AM	20.2	72	OK		9:00 AM	15.3	63	OK		9:00 AM	8.9	30	OK		
10:00 AM	15.8	63	OK		10:00 AM	15.6	63	OK		10:00 AM	14.8	62	OK		10:00 AM	8.3	28	OK		
11:00 AM	13.4	59	OK		11:00 AM	12.4	57	OK		11:00 AM	13.3	59	OK		11:00 AM	7.3	28	OK		
Noon	10.3	33	OK		Noon	10.0	33	OK		Noon	12.3	57	OK		Noon	6.2	24	OK		
1:00 PM	8.2	26	OK		1:00 PM	8.4	27	OK		1:00 PM	12.3	57	NO DATA		1:00 PM	5.8	22	OK		
2:00 PM	9.0	30	OK		2:00 PM	12.4	57	OK		2:00 PM	6.2	34	OK		2:00 PM	5.8	22	OK		
3:00 PM	10.0	33	OK		3:00 PM	9.9	32	OK		3:00 PM	6.4	36	OK		3:00 PM	6.1	24	OK		
4:00 PM	7.8	26	OK		4:00 PM	8.0	26	OK		4:00 PM	6.1	34	OK		4:00 PM	6.9	28	OK		
5:00 PM	6.8	23	OK		5:00 PM	7.1	23	OK		5:00 PM	5.8	32	OK		5:00 PM	7.2	26	OK		
6:00 PM	6.5	23	OK		6:00 PM	7.3	23	OK		6:00 PM	5.8	32	OK		6:00 PM	6.7	26	OK		
7:00 PM	6.7	23	OK		7:00 PM	7.5	23	OK		7:00 PM	5.9	33	OK		7:00 PM	6.3	26	OK		
8:00 PM	7.1	23	OK		8:00 PM	8.0	26	OK		8:00 PM	6.3	35	OK		8:00 PM	6.3	26	OK		
9:00 PM	7.3	23	OK		9:00 PM	8.8	29	OK		9:00 PM	6.5	36	OK		9:00 PM	6.1	24	OK		
10:00 PM	7.4	23	OK		10:00 PM	10.2	33	OK		10:00 PM	6.7	37	OK		10:00 PM	5.9	23	OK		
11:00 PM	7.4	23	OK		11:00 PM	12.1	37	OK		11:00 PM	7.1	39	OK		11:00 PM	5.7	22	OK		

Figure D8-EV18: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-EV19, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
January 6, 2026				January 6, 2026				January 6, 2026			
EPA NowCast Observed Time				EPA NowCast Observed Time				EPA NowCast Observed Time			
Time	PM10	AQI	Data Ck.	Time	PM10	AQI	Data Ck.	Time	PM10	AQI	Data Ck.
12 Mid	26	24	OK	12 Mid	32	30	OK	12 Mid	17	16	OK
1:00 AM	27	25	OK	1:00 AM	31	29	OK	1:00 AM	18	17	OK
2:00 AM	26	24	OK	2:00 AM	32	30	OK	2:00 AM	19	18	OK
3:00 AM	27	25	OK	3:00 AM	32	30	OK	3:00 AM	31	29	OK
4:00 AM	27	25	OK	4:00 AM	35	32	OK	4:00 AM	26	24	OK
5:00 AM	26	24	OK	5:00 AM	31	29	OK	5:00 AM	21	19	OK
6:00 AM	26	24	OK	6:00 AM	27	25	OK	6:00 AM	18	17	OK
7:00 AM	24	22	OK	7:00 AM	28	26	OK	7:00 AM	17	16	OK
8:00 AM	24	22	OK	8:00 AM	27	25	OK	8:00 AM	16	15	OK
9:00 AM	24	22	OK	9:00 AM	27	25	OK	9:00 AM	18	17	OK
10:00 AM	27	25	OK	10:00 AM	21	19	OK	10:00 AM	15	14	OK
11:00 AM	24	22	OK	11:00 AM	18	17	OK	11:00 AM	14	13	OK
Noon	18	17	OK	Noon	15	14	OK	Noon	11	10	OK
1:00 PM	14	13	OK	1:00 PM	12	11	OK	1:00 PM	10	9	OK
2:00 PM	15	14	OK	2:00 PM	17	16	OK	2:00 PM	11	10	OK
3:00 PM	16	15	OK	3:00 PM	15	14	OK	3:00 PM	12	11	OK
4:00 PM	14	13	OK	4:00 PM	12	11	OK	4:00 PM	18	17	OK
5:00 PM	13	12	OK	5:00 PM	11	10	OK	5:00 PM	21	19	OK
6:00 PM	13	12	OK	6:00 PM	12	11	OK	6:00 PM	18	17	OK
7:00 PM	13	12	OK	7:00 PM	13	12	OK	7:00 PM	16	15	OK
8:00 PM	14	13	OK	8:00 PM	13	12	OK	8:00 PM	14	13	OK
9:00 PM	14	13	OK	9:00 PM	15	14	OK	9:00 PM	13	12	OK
10:00 PM	14	13	OK	10:00 PM	17	16	OK	10:00 PM	11	10	OK
11:00 PM	14	13	OK	11:00 PM	20	19	OK	11:00 PM	11	10	OK

Figure D8-EV19: PM 10 AirNow Simulation

NO₂, NO_x, and NO

The morning spike around 7:09 AM – 10:30 AM mostly occurred prior to the controlled burn. Based on the wind direction, observed when reviewing the PM 10 morning spike, the wind direction was not coming from the area of the controlled burn. The evening spike was the same, it was only a minute or so. The wind was coming from the northeast like earlier, thus not coming from the direction of the controlled burn.

NO₂, NO_x, and NO Wind and pollution roses during spike around 5:50 PM indicate the spike was not related to controlled burn, which was probably out by this time. The wind direction was coming from northeast, opposite of the burn location.

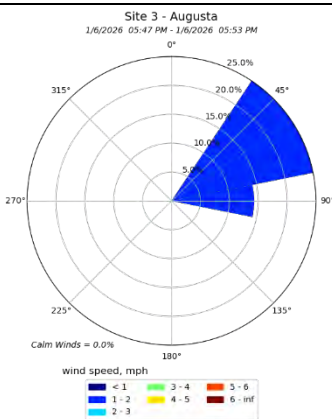


Figure D8-EV20: Wind Rose during spike

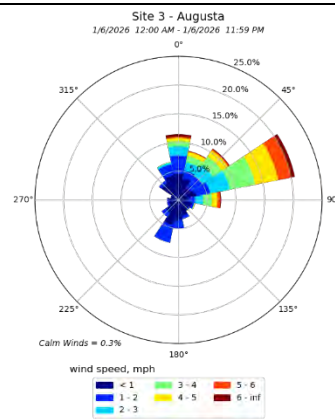
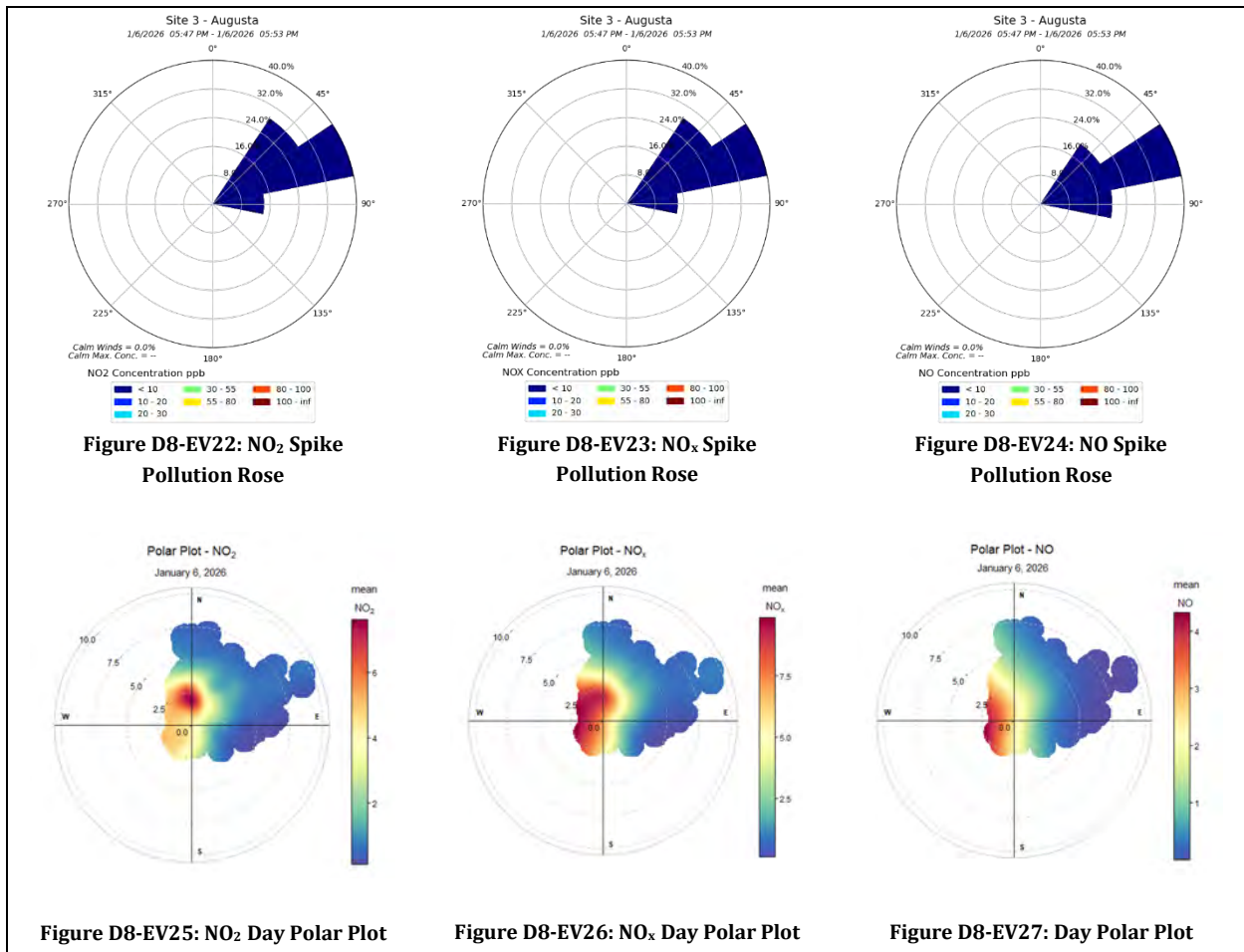
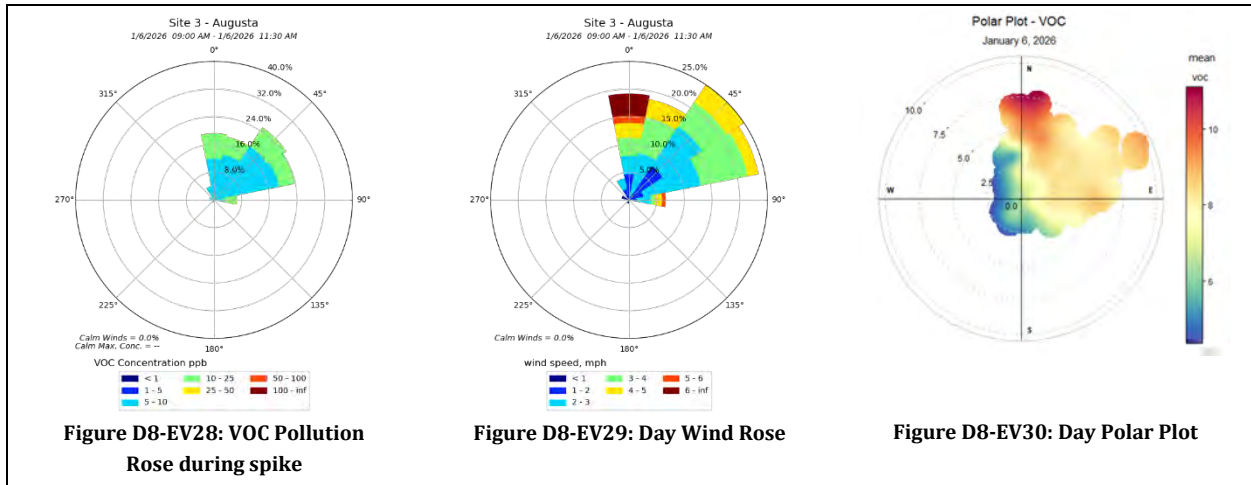


Figure D8-EV21: Wind Rose for the day



VOC

The higher concentrations of VOC occurred in the morning mostly prior to ignition of the controlled burn. The wind during the spike concentration came out of the north to northeast, which was not from the direction of the controlled burn.



Event – Controlled Burn – February 10, 2026

Fort Gordon controlled burn conducted on Southern portion of installation from 10:30 AM to 3:00 PM with smoke expected to travel East to Northeast.

We examined our data to determine if there were any noticeable impacts found in the data. From midnight and throughout the entire day, February 10, 2026, was a bad air quality day. The Augusta agency monitor was indicating high moderate PM 2.5 on the verge of reaching the Unhealthy for Sensitive People range. This burn should have been postponed until a better air quality day. Augusta PM 2.5 24-hour for the day was 25.6 (AQI of 82).



We did not find any impacts on this day associated with the controlled burn. This is mainly because the wind was not blowing towards our monitor from the direction of the controlled burn during mid-day.

RECOMMENDATION: Fort Gordon commanders in charge of the base’s controlled burns should check the local air quality information prior to igniting controlled burns. They should postpone burns on bad air quality days.

Daily Data Graphs



Figure D8-EV31: PM 2.5 minute readings for February 10, 2026



Figure D8-EV32: PM 10 minute readings for February 10, 2026



Figure D8-EV33: NO₂ minute readings for February 10, 2026

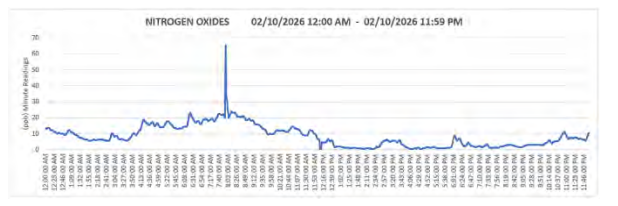


Figure D8-EV34: NO_x minute readings for February 10, 2026

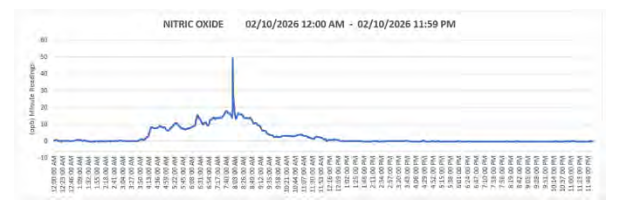


Figure D8-EV35: NO minute readings for February 10, 2026



Figure D8-EV36: VOC minute readings for February 10, 2026

PM2.5/PM10

Levels were in the high AQI range prior to the scheduled controlled burn and throughout the day. Winds during the PM afternoon spike were coming out of the northeast, which was the opposite direction of the controlled burn. The BEAST and Augusta agency monitor had similar spikes and levels during the day. The entire region experienced a moderate AQI day. Conclusion is that the BEAST PM data spikes were not a result of the controlled burn.

Figures D8-EV37 and D8-EV38 display pollution roses for the afternoon during spike of higher concentration of PM 2.5 and PM 10. Wind was coming from the northeast.

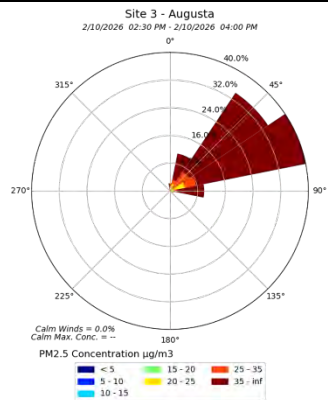


Figure D8-EV37: PM 2.5 Pollution Rose around 2:30 – 4:00 PM spike

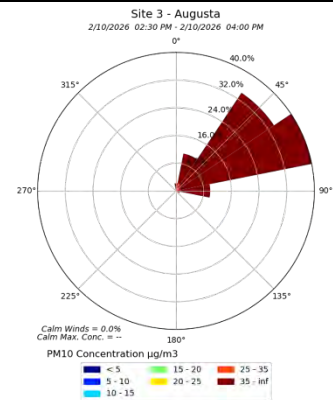


Figure D8-EV38: PM 10 Pollution Rose around 2:30 – 4:00 PM spike

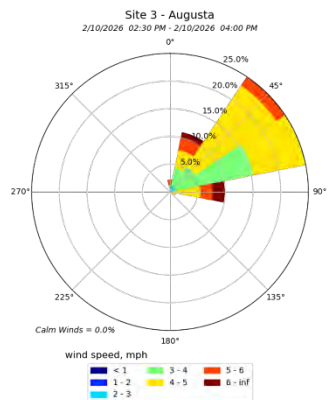


Figure D8-EV39: Wind Rose around 2:30 – 4:00 PM spike

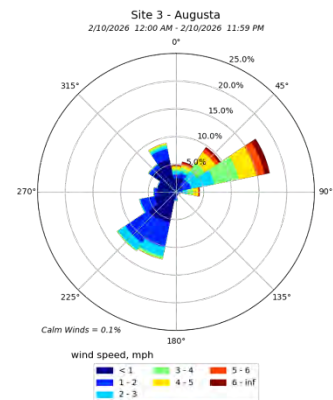


Figure D8-EV40: Wind Rose all day

Figures D8-EV41 and D8-EV42 display polar plots for PM 2.5 and PM 10 for the day. They indicate probably non-localized sources.

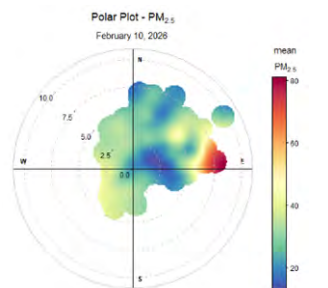


Figure D8-EV41: PM 2.5 Polar Plot

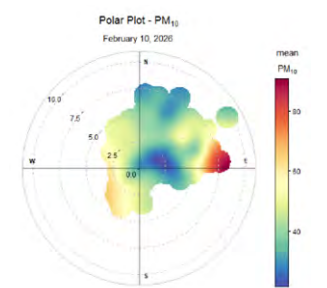


Figure D8-EV42: PM 10 Polar Plot

PM 2.5 and PM 10 were pretty uniform throughout the region with a moderate air quality day as indicated by figures D8-EV43, D8-EV44, D8-EV46, D8-EV47, and D8-EV48. Figure D8-EV45 shows there was smoke in the Augusta area.

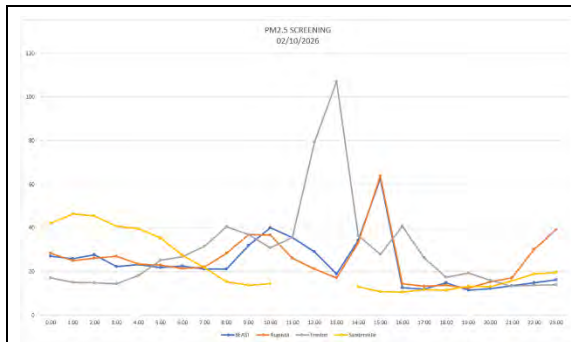


Figure D8-EV43: PM 2.5 Hourly Concentrations

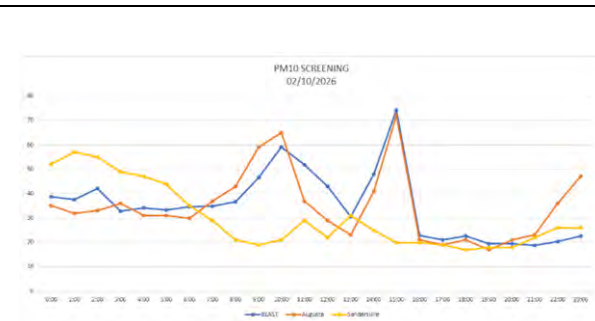


Figure D8-EV44: PM 10 Hourly Concentrations

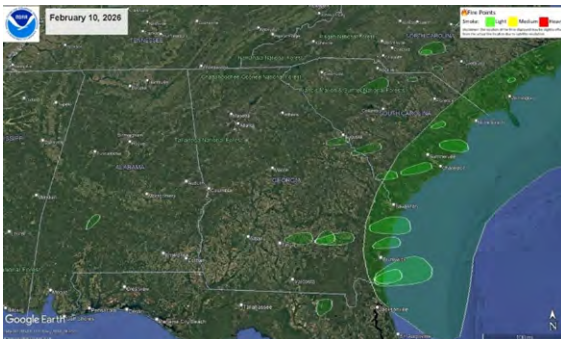


Figure D8-EV45: NOAA Smoke Map



Figure D8-EV46: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-EV47, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Trenton				Sandersville			
February 10, 2026				February 10, 2026				February 10, 2026				February 10, 2026			
Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.
12 Mid	31.5	93	OK	12 Mid	30.1	90	OK	12 Mid	24.0	79	OK	12 Mid	31.8	93	OK
1:00 AM	29.3	89	OK	1:00 AM	29.2	88	OK	1:00 AM	20.5	72	OK	1:00 AM	37.0	105	OK
2:00 AM	27.6	85	OK	2:00 AM	27.1	85	OK	2:00 AM	17.8	67	OK	2:00 AM	41.7	116	OK
3:00 AM	27.7	86	OK	3:00 AM	26.6	84	OK	3:00 AM	16.3	64	OK	3:00 AM	43.6	121	OK
4:00 AM	23.0	81	OK	4:00 AM	25.8	84	OK	4:00 AM	15.3	63	OK	4:00 AM	42.2	117	OK
5:00 AM	24.3	79	OK	5:00 AM	25.1	83	OK	5:00 AM	16.8	65	OK	5:00 AM	40.9	114	OK
6:00 AM	23.8	78	OK	6:00 AM	24.9	80	OK	6:00 AM	21.0	71	OK	6:00 AM	38.1	107	OK
7:00 AM	23.4	78	OK	7:00 AM	23.3	77	OK	7:00 AM	23.9	75	OK	7:00 AM	32.8	95	OK
8:00 AM	22.4	76	OK	8:00 AM	22.8	77	OK	8:00 AM	27.7	86	OK	8:00 AM	27.3	85	OK
9:00 AM	21.9	75	OK	9:00 AM	24.8	80	OK	9:00 AM	34.1	98	OK	9:00 AM	21.2	74	OK
10:00 AM	25.7	82	OK	10:00 AM	30.1	90	OK	10:00 AM	35.5	101	OK	10:00 AM	17.4	66	OK
11:00 AM	32.9	95	OK	11:00 AM	32.9	95	OK	11:00 AM	33.2	96	OK	11:00 AM	15.9	64	OK
Noon	34.2	98	OK	Noon	30.0	90	OK	Noon	34.4	98	OK	Noon	15.9	64	NO DATA
1:00 PM	31.7	93	OK	1:00 PM	26.1	83	OK	1:00 PM	56.9	152	OK	1:00 PM	-	-	NO DATA
2:00 PM	25.3	81	OK	2:00 PM	21.3	74	OK	2:00 PM	81.9	170	OK	2:00 PM	-	-	NO DATA
3:00 PM	25.8	80	OK	3:00 PM	27.2	85	OK	3:00 PM	59.2	154	OK	3:00 PM	-	-	OK
4:00 PM	46.2	127	OK	4:00 PM	45.5	126	OK	4:00 PM	43.6	121	OK	4:00 PM	9.0	50	OK
5:00 PM	29.3	89	OK	5:00 PM	25.9	80	OK	5:00 PM	42.2	117	OK	5:00 PM	9.7	52	OK
6:00 PM	20.6	72	OK	6:00 PM	21.5	74	OK	6:00 PM	34.2	98	OK	6:00 PM	10.7	54	OK
7:00 PM	17.7	67	OK	7:00 PM	17.6	67	OK	7:00 PM	25.7	82	OK	7:00 PM	11.1	55	OK
8:00 PM	14.5	61	OK	8:00 PM	14.9	62	OK	8:00 PM	22.5	76	OK	8:00 PM	11.2	55	OK
9:00 PM	13.3	59	OK	9:00 PM	15.1	62	OK	9:00 PM	19.2	70	OK	9:00 PM	11.5	55	OK
10:00 PM	13.3	59	OK	10:00 PM	16.1	64	OK	10:00 PM	16.2	64	OK	10:00 PM	13.1	58	OK
11:00 PM	14.1	60	OK	11:00 PM	23.1	77	OK	11:00 PM	15.0	62	OK	11:00 PM	16.2	64	OK

Figure D8-EV47: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-EV48, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
February 10, 2026				February 10, 2026				February 10, 2026			
Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.	Time	PM 10	AQI	Data Ck.
12 Mid	44	41	OK	12 Mid	37	34	OK	12 Mid	41	38	OK
1:00 AM	41	38	OK	1:00 AM	36	33	OK	1:00 AM	47	44	OK
2:00 AM	39	36	OK	2:00 AM	34	31	OK	2:00 AM	52	48	OK
3:00 AM	41	38	OK	3:00 AM	33	31	OK	3:00 AM	53	49	OK
4:00 AM	37	34	OK	4:00 AM	35	32	OK	4:00 AM	51	47	OK
5:00 AM	36	33	OK	5:00 AM	34	31	OK	5:00 AM	49	45	OK
6:00 AM	35	32	OK	6:00 AM	33	31	OK	6:00 AM	47	44	OK
7:00 AM	36	33	OK	7:00 AM	32	30	OK	7:00 AM	41	38	OK
8:00 AM	35	32	OK	8:00 AM	34	31	OK	8:00 AM	35	32	OK
9:00 AM	36	33	OK	9:00 AM	36	33	OK	9:00 AM	28	26	OK
10:00 AM	39	36	OK	10:00 AM	49	45	OK	10:00 AM	23	21	OK
11:00 AM	49	45	OK	11:00 AM	57	52	OK	11:00 AM	22	20	OK
Noon	50	46	OK	Noon	47	44	OK	Noon	26	24	OK
1:00 PM	47	44	OK	1:00 PM	38	35	OK	1:00 PM	24	22	OK
2:00 PM	39	36	OK	2:00 PM	30	28	OK	2:00 PM	27	25	OK
3:00 PM	43	40	OK	3:00 PM	36	33	OK	3:00 PM	26	24	OK
4:00 PM	59	53	OK	4:00 PM	54	50	OK	4:00 PM	23	21	OK
5:00 PM	41	38	OK	5:00 PM	37	34	OK	5:00 PM	22	20	OK
6:00 PM	31	29	OK	6:00 PM	28	26	OK	6:00 PM	21	19	OK
7:00 PM	27	25	OK	7:00 PM	25	23	OK	7:00 PM	19	18	OK
8:00 PM	23	21	OK	8:00 PM	21	19	OK	8:00 PM	19	18	OK
9:00 PM	21	19	OK	9:00 PM	21	19	OK	9:00 PM	18	17	OK
10:00 PM	20	19	OK	10:00 PM	22	20	OK	10:00 PM	20	19	OK
11:00 PM	20	19	OK	11:00 PM	29	27	OK	11:00 PM	23	21	OK

Figure D8-EV48: PM 10 AirNow Simulation

NO₂, NO_x, and NO

The morning spike around 8 AM occurred prior to the controlled burn.

NO₂, NO_x, and NO pollution roses during spike around 8 AM indicate the wind was coming from the general direction of the controlled burn, but the burn had not been ignited at this time.

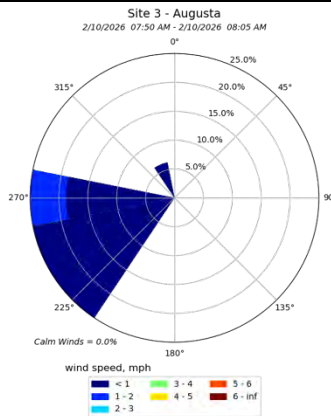


Figure D8-EV49: Wind Rose during spike

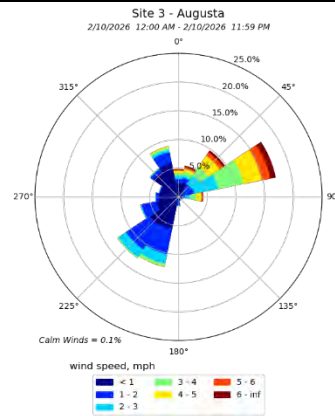
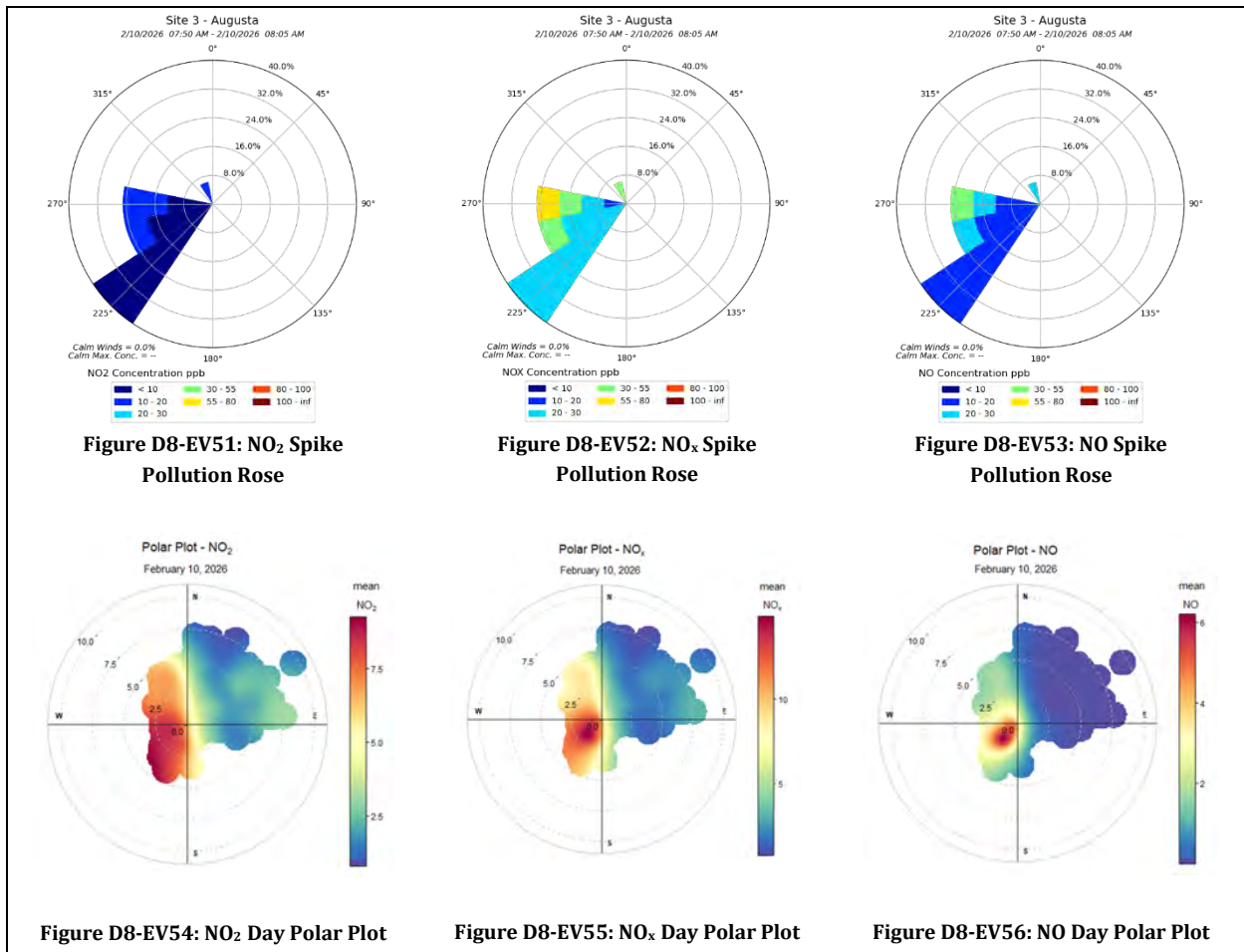


Figure D8-EV50: Wind Rose for the day



VOC

Higher concentrations of VOC occurred overnight and into the early morning hours prior to the ignition of the controlled burn. Figure D8-EV57 displays the VOC pollution rose for the entire day.

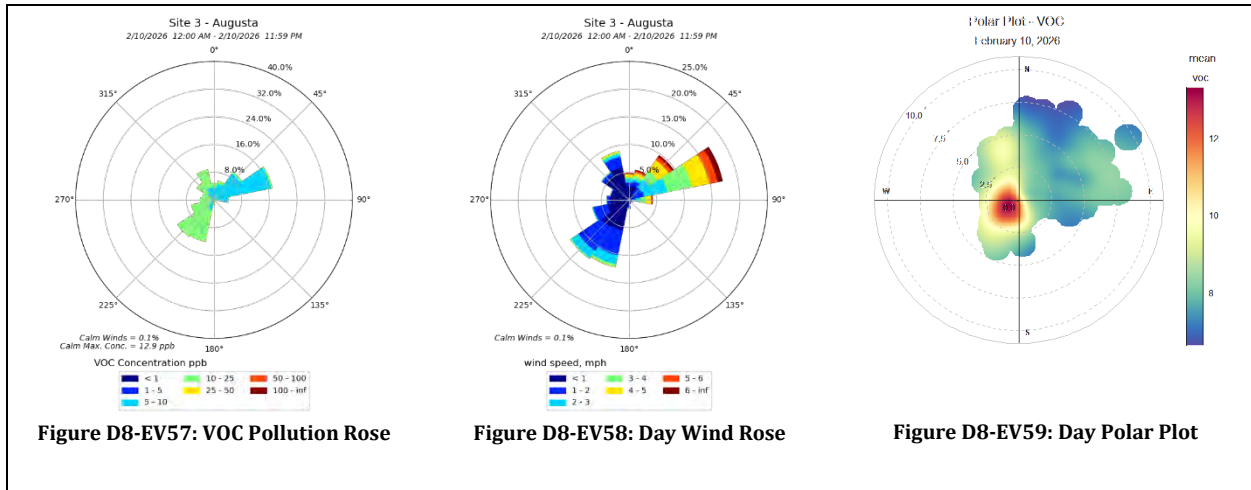


Figure D8-EV57: VOC Pollution Rose

Figure D8-EV58: Day Wind Rose

Figure D8-EV59: Day Polar Plot

Event – Controlled Burn –March 2, 2026

Fort Gordon controlled burn conducted on South-Central portion of installation with smoke expected to travel from Southwest to West.



We examined our data to determine if there were any noticeable impacts found in the data. There was a PM spike from around 5:45 PM – 7:30 PM, after the controlled burn. Winds coming from southwest, close to direction of Ft. Gordon. However, wind direction closer to where Sandersville agency monitor is located. There were some fires and smoke in general direction of where wind was coming from. The Sandersville monitor experienced very high spikes. Regional air quality for PM was in the moderate, yellow for the day. This PM spike most likely from regional smoke/fires considering wind speed was mostly at least 4 to 5 mph and higher. Plus, the spike resembled spikes at other agency monitors. Controlled burns were most likely completed before the spike.

Daily Data Graphs



Figure D8-EV60: PM 2.5 minute readings for March 2, 2026



Figure D8-EV61: PM 10 minute readings for March 2, 2026



Figure D8-EV62: NO₂ minute readings for March 2, 2026



Figure D8-EV63: NO_x minute readings for March 2, 2026

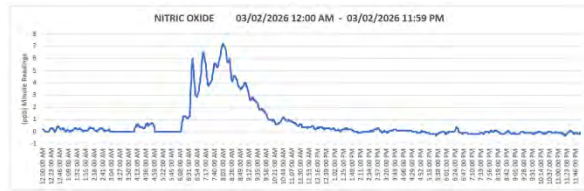


Figure D8-EV64: NO minute readings for March 2, 2026



Figure D8-EV65: VOC minute readings for March 2, 2026

PM2.5/PM10

PM spike from around 5:45 PM – 7:30 PM. Winds coming from southwest, close to direction of Ft. Gordon. However, wind direction closer to where Sandersville agency monitor is located. There were some fires and smoke in general direction of where wind was coming from.

Figures D8-EV66 and D8-EV67 display pollution roses for the early evening during spike of higher concentration of PM 2.5 and PM 10. Wind was coming from the southwest.

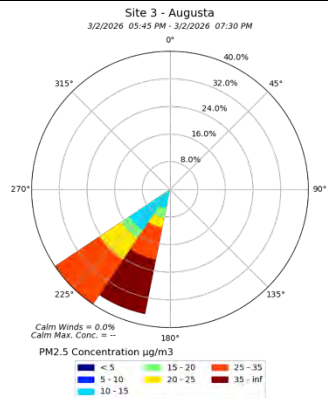


Figure D8-EV66: PM 2.5 Pollution Rose around 5:45 – 7:30 PM spike

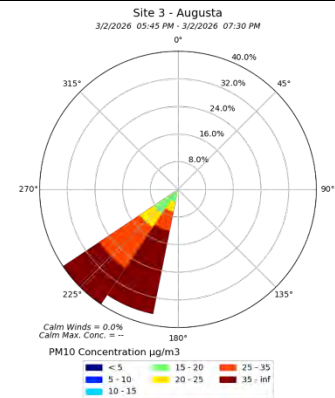


Figure D8-EV67: PM 10 Pollution Rose around 5:45 – 7:30 PM spike

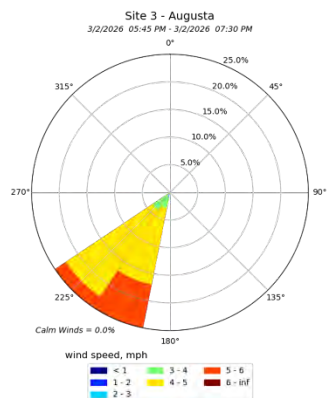


Figure D8-EV68: Wind Rose around 5:45 – 7:30 PM spike

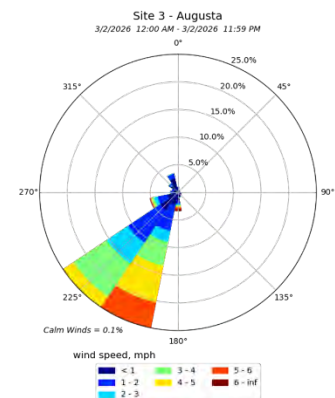


Figure D8-EV69: Wind Rose all day

Figures D8-EV70 and D8-EV71 display polar plots for PM 2.5 and PM 10 for the day. They indicate probably non-localized sources as the higher concentrations were not near the center of the plot and were over 5 mph.

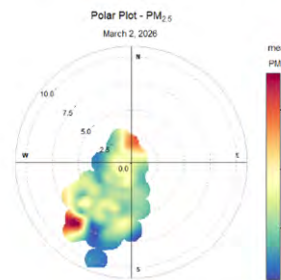


Figure D8-EV70: PM 2.5 Polar Plot

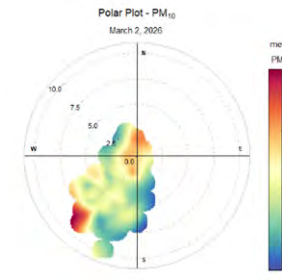


Figure D8-EV71: PM 10 Polar Plot

Some high PM spikes with regional monitors. The BEAST experienced a lower, yet still high spike around 5:45 PM – 7:30 PM. Otherwise, PM 2.5 and PM 10 were pretty uniform throughout the region with a moderate air quality day as indicated by figures D8-EV72, D8-EV73, D8-EV75, D8-EV76, and D8-EV77. Figure D8-EV74 shows there was smoke southwest of the Augusta area.

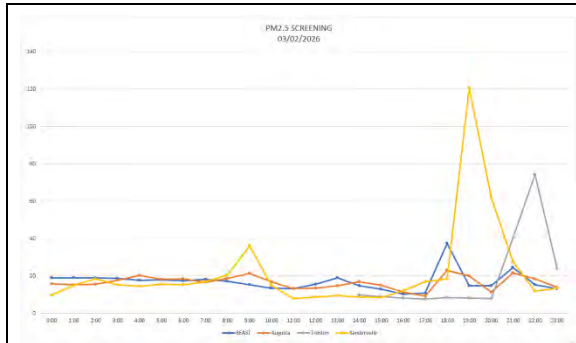


Figure D8-EV72: PM 2.5 Hourly Concentrations

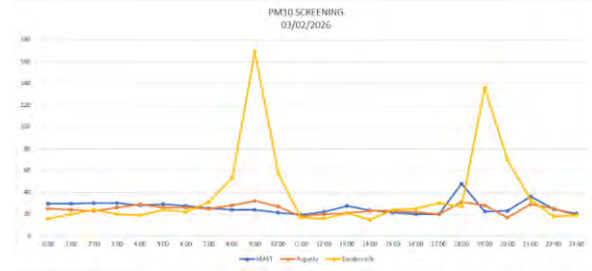


Figure D8-EV73: PM 10 Hourly Concentrations

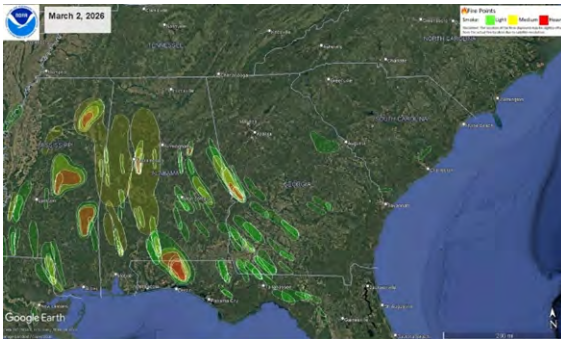


Figure D8-EV74: NOAA Smoke Map

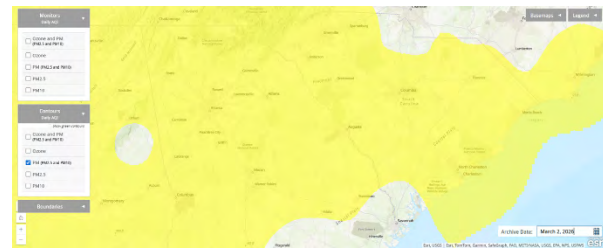


Figure D8-EV75: EPA AQI Map

PM 2.5 AirNow Simulation

The following simulation to the right, Figure D8-EV76, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Trenton				Sandersonville			
March 2, 2026				March 2, 2026				March 2, 2026				March 2, 2026			
Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.	Time	PM 2.5	AQI	Data Cl.
12 Mid	16.9	66	OK	12 Mid	15.4	63	OK	12 Mid	-	-	NO DATA	12 Mid	9.3	51	OK
1:00 AM	17.8	67	OK	1:00 AM	15.6	63	OK	1:00 AM	-	-	NO DATA	1:00 AM	9.1	51	OK
2:00 AM	18.3	68	OK	2:00 AM	15.4	63	OK	2:00 AM	-	-	NO DATA	2:00 AM	12.2	57	OK
3:00 AM	18.6	69	OK	3:00 AM	15.4	63	OK	3:00 AM	-	-	NO DATA	3:00 AM	15.3	63	OK
4:00 AM	18.6	69	OK	4:00 AM	16.4	65	OK	4:00 AM	-	-	NO DATA	4:00 AM	15.2	62	OK
5:00 AM	18.1	68	OK	5:00 AM	18.3	68	OK	5:00 AM	-	-	NO DATA	5:00 AM	14.8	62	OK
6:00 AM	18.0	68	OK	6:00 AM	17.8	67	OK	6:00 AM	-	-	NO DATA	6:00 AM	15.1	62	OK
7:00 AM	17.6	67	OK	7:00 AM	17.8	67	OK	7:00 AM	-	-	NO DATA	7:00 AM	15.1	62	OK
8:00 AM	17.9	67	OK	8:00 AM	17.4	66	OK	8:00 AM	-	-	NO DATA	8:00 AM	16.0	64	OK
9:00 AM	17.6	67	OK	9:00 AM	17.8	67	OK	9:00 AM	-	-	NO DATA	9:00 AM	18.2	68	OK
10:00 AM	17.2	66	OK	10:00 AM	18.7	69	OK	10:00 AM	-	-	NO DATA	10:00 AM	27.1	85	OK
11:00 AM	15.7	63	OK	11:00 AM	18.2	68	OK	11:00 AM	-	-	NO DATA	11:00 AM	21.0	73	OK
Noon	14.9	62	OK	Noon	16.2	64	OK	Noon	-	-	NO DATA	Noon	14.4	61	OK
1:00 PM	15.1	62	OK	1:00 PM	15.1	62	OK	1:00 PM	-	-	NO DATA	1:00 PM	11.5	55	OK
2:00 PM	16.2	64	OK	2:00 PM	15.0	62	OK	2:00 PM	-	-	NO DATA	2:00 PM	10.4	53	OK
3:00 PM	15.7	63	OK	3:00 PM	15.6	63	OK	3:00 PM	-	-	NO DATA	3:00 PM	9.5	52	OK
4:00 PM	14.8	62	OK	4:00 PM	15.4	63	OK	4:00 PM	2.3	13	OK	4:00 PM	8.9	49	OK
5:00 PM	12.4	57	OK	5:00 PM	13.4	59	OK	5:00 PM	4.1	23	OK	5:00 PM	10.5	54	OK
6:00 PM	11.7	56	OK	6:00 PM	11.2	55	OK	6:00 PM	5.3	29	OK	6:00 PM	13.6	59	OK
7:00 PM	24.4	80	OK	7:00 PM	17.0	66	OK	7:00 PM	6.1	34	OK	7:00 PM	16.0	64	OK
8:00 PM	19.5	70	OK	8:00 PM	18.5	69	OK	8:00 PM	6.6	37	OK	8:00 PM	48.2	160	OK
9:00 PM	17.1	66	OK	9:00 PM	14.8	62	OK	9:00 PM	7.0	39	OK	9:00 PM	64.9	158	OK
10:00 PM	20.8	73	OK	10:00 PM	18.1	68	OK	10:00 PM	24.0	79	OK	10:00 PM	46.2	127	OK
11:00 PM	18.0	68	OK	11:00 PM	18.2	68	OK	11:00 PM	49.1	134	OK	11:00 PM	29.0	88	OK

Figure D8-EV76: PM 2.5 AirNow Simulation

PM 10 AirNow Simulation

The following simulation to the right, Figure D8-EV77, indicates what the EPA AirNow would display at the given times for the agency monitors and if the BEAST was part of the monitoring network.

BEAST				Augusta				Sandersville			
March 2, 2026				March 2, 2026				March 2, 2026			
Time	PM 10	ACQI	Data Ck.	Time	PM 10	ACQI	Data Ck.	Time	PM 10	ACQI	Data Ck.
12 Mid	29	27	OK	12 Mid	24	22	OK	12 Mid	15	14	OK
1:00 AM	29	27	OK	1:00 AM	24	22	OK	1:00 AM	16	15	OK
2:00 AM	29	27	OK	2:00 AM	24	22	OK	2:00 AM	17	16	OK
3:00 AM	30	28	OK	3:00 AM	24	22	OK	3:00 AM	21	19	OK
4:00 AM	30	28	OK	4:00 AM	25	23	OK	4:00 AM	20	19	OK
5:00 AM	29	27	OK	5:00 AM	26	24	OK	5:00 AM	20	19	OK
6:00 AM	29	27	OK	6:00 AM	26	24	OK	6:00 AM	21	19	OK
7:00 AM	28	26	OK	7:00 AM	26	24	OK	7:00 AM	22	20	OK
8:00 AM	27	25	OK	8:00 AM	26	24	OK	8:00 AM	26	24	OK
9:00 AM	27	25	OK	9:00 AM	26	24	OK	9:00 AM	40	37	OK
10:00 AM	26	24	OK	10:00 AM	28	26	OK	10:00 AM	104	75	OK
11:00 AM	24	22	OK	11:00 AM	28	26	OK	11:00 AM	81	64	OK
Noon	22	20	OK	Noon	24	22	OK	Noon	49	45	OK
1:00 PM	22	20	OK	1:00 PM	22	20	OK	1:00 PM	33	31	OK
2:00 PM	24	22	OK	2:00 PM	22	20	OK	2:00 PM	27	25	OK
3:00 PM	24	22	OK	3:00 PM	22	20	OK	3:00 PM	21	19	OK
4:00 PM	23	21	OK	4:00 PM	23	21	OK	4:00 PM	22	20	OK
5:00 PM	22	20	OK	5:00 PM	22	20	OK	5:00 PM	24	22	OK
6:00 PM	21	19	OK	6:00 PM	21	19	OK	6:00 PM	27	25	OK
7:00 PM	34	31	OK	7:00 PM	26	24	OK	7:00 PM	27	25	OK
8:00 PM	28	26	OK	8:00 PM	27	25	OK	8:00 PM	81	64	OK
9:00 PM	26	24	OK	9:00 PM	22	20	OK	9:00 PM	76	61	OK
10:00 PM	31	29	OK	10:00 PM	25	23	OK	10:00 PM	54	50	OK
11:00 PM	28	26	OK	11:00 PM	25	23	OK	11:00 PM	36	33	OK

Figure D8-EV77: PM 10 AirNow Simulation

NO₂, NO_x, and NO

There were some higher NO₂, NO_x, and NO levels around the 6 AM - 9 AM time period. This was well before the controlled burn would have been ignited.

NO₂, NO_x, and NO pollution roses during spike around 6 - 9 AM indicate the wind was coming from the general direction of the controlled burn, but the burn had not been ignited at this time.

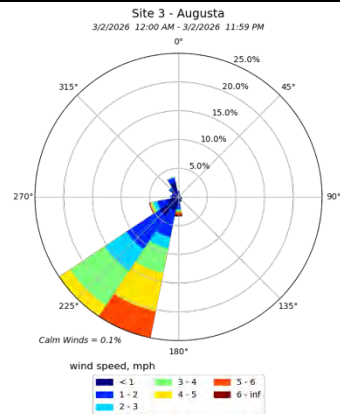
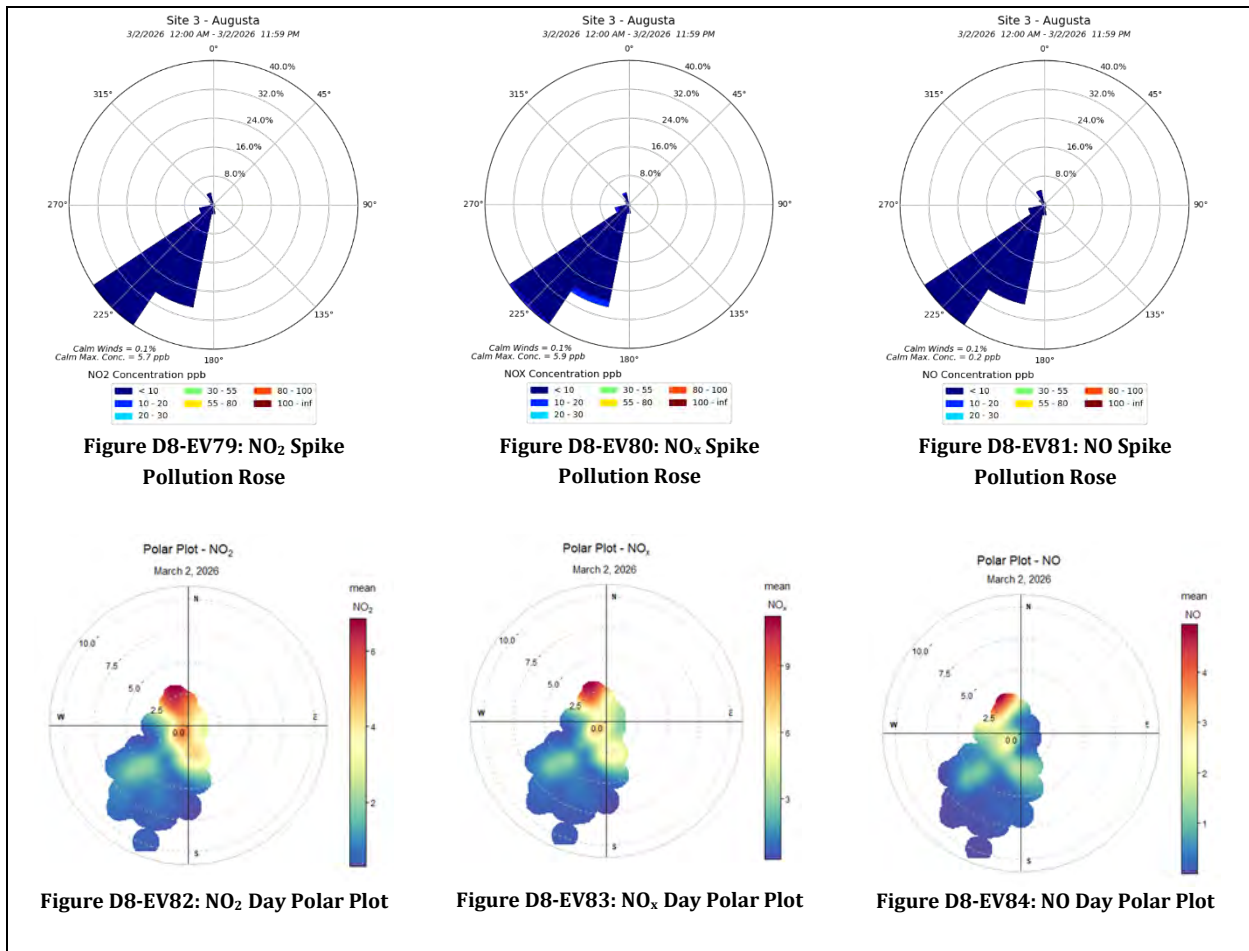
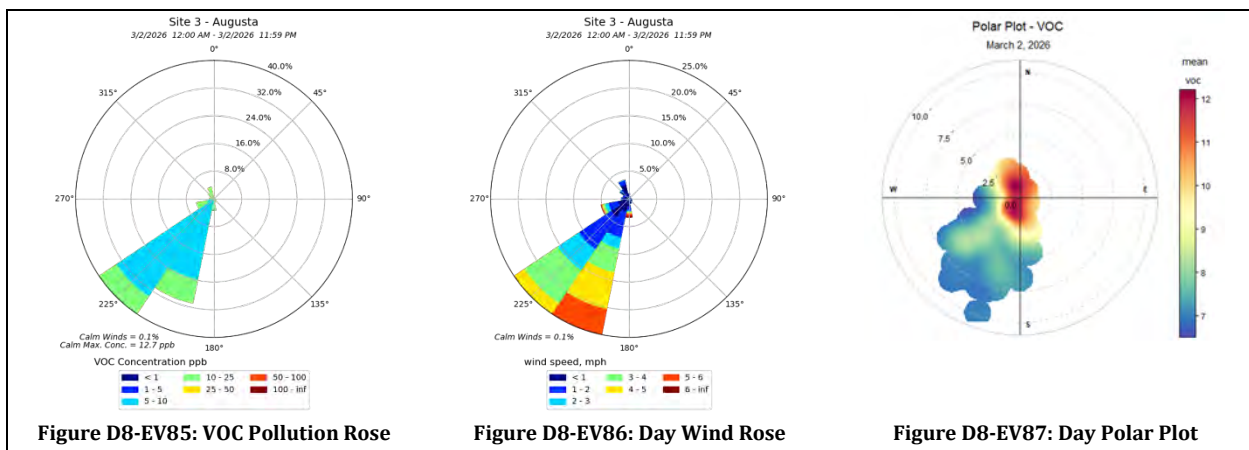


Figure D8-EV78: Wind Rose for the day



VOC

Higher concentrations of VOC occurred overnight and into the early morning hours prior to the ignition of the controlled burn. Figure D8-EV85 displays VOC pollution rose for entire day.



D9: Data Completeness

Data is being delivered to BREDL via daily emails and obtained daily via manual logins to our on-board DAS computer and online for Aeroqual data stored in their cloud. If necessary, data may be obtained monthly directly from the trailer’s central computer. Data will be backed up in several places as mentioned in our QAPP.

At least 75% completeness is our acceptance criteria for each air monitor.²² Each hour requires at least 75% of minute data (45 minutes of data) to be a complete, valid hour. Each day requires at least 75% of hour data (18 hours of data) to be a complete, valid day of data.

All of our pollutant data exceeded EPA’s requirement for completeness at our Site 3 location.

Note that this completeness table includes the entire day for both October 23 and March 12. These are days when we arrived or departed Site 3. Both days had limited hours of operation.

Due to forecasted inclement weather, equipment was powered down around 12:15 – 12:20 PM EST on January 23, 2026, and powered back up and in operation around 2:20 PM EST on January 27, 2026. More details may be found in Section C3: Challenges of this document.

DATA COMPLETENESS						
Augusta						
Data Range: 10/23/2025 - 03/12/2026						
Number of Data Days: 141						
	VOC	PM25	PM10	NO	NOX	NO2
Number of Data Hours	3254	3253	3253	3209	3209	3209
Ave. No. of Hour Readings per day	23.1	23.1	23.1	22.8	22.8	22.8
Hour Data Completeness	96.16%	96.13%	96.13%	94.83%	94.83%	94.83%
Minute Data Completeness	96.25%	96.23%	96.23%	94.82%	94.82%	94.82%

Figure D9-1: Table displaying pollutant data completeness for Site 3.

²² EPA has a history of using 75% completeness for air toxins and VOCs. EPA research documentation and presentations indicate the use of 75% completeness. Reference examples include:
1992: <https://www.tandfonline.com/doi/abs/10.1080/10473289.1992.10467079> ;
2009: https://www3.epa.gov/ttnamti1/files/ambient/airtox/workbook/T-Workbook_Secs1-8.pdf ;
2015: <https://www.tandfonline.com/doi/full/10.1080/10962247.2015.1076538>

D10: Wind Data

We are providing two visual presentations for our air monitoring trailer’s wind speed and direction data. First, the EPA RETIGO wind plots are shown. Those are followed by Wind Roses produced from python scripts.

The wind-pollution plot in EPA’s RETIGO is a polar plot that visualizes the relationship between meteorological conditions and pollution concentrations. In this visualization, the angle represents the wind heading (direction from which the wind originates), while the distance from the center indicates the wind magnitude (speed).

The wind rose is a circular diagram used to visually represent the distribution of wind speed and direction at a specific location over a defined period of time. The chart is structured with spokes radiating from a center point, where the length of each spoke indicates the frequency of wind blowing from that particular direction, and color bands or line thickness denote specific wind speed ranges.

EPA RETIGO Wind Plots

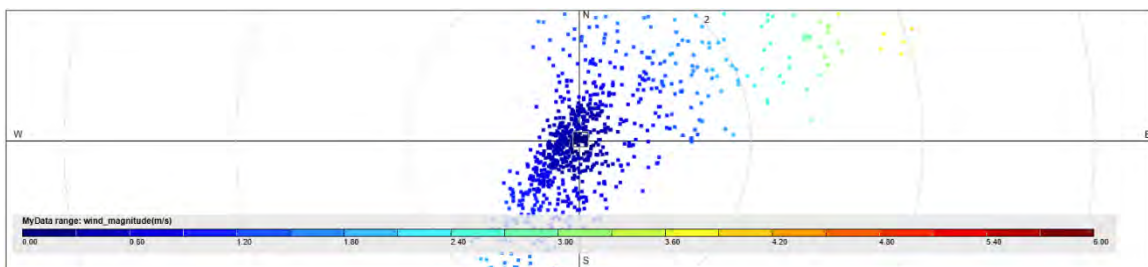


Figure D10-1: Wind Speed for Duration of Collection Period

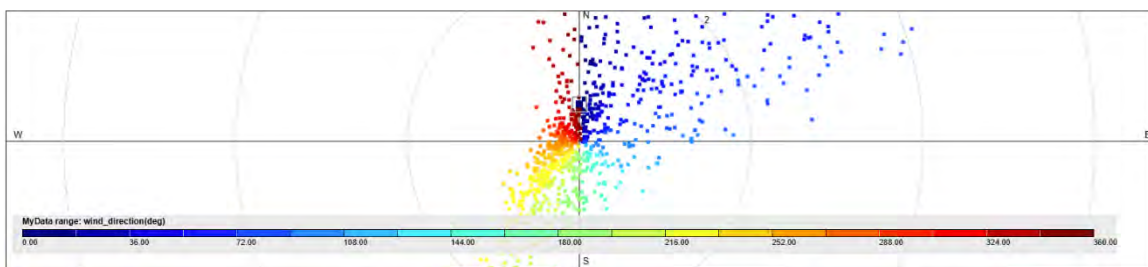


Figure D10-2: Wind Direction for Duration of Collection Period

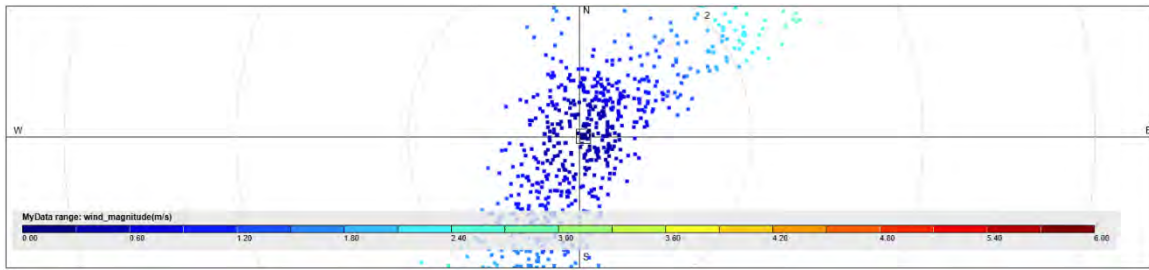


Figure D10-3: Wind Speed for October

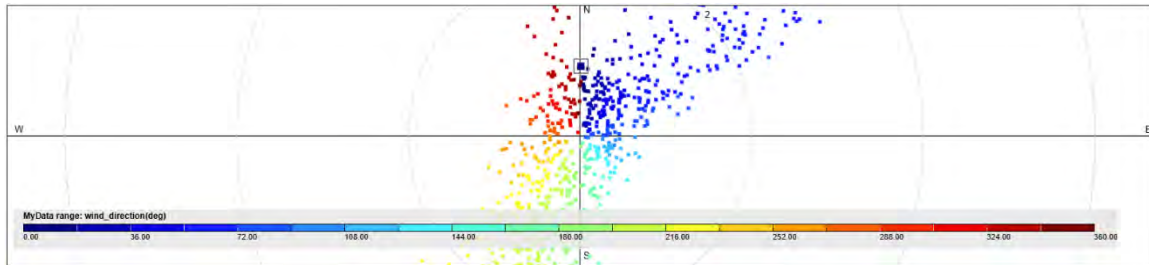


Figure D10-4: Wind Direction for October

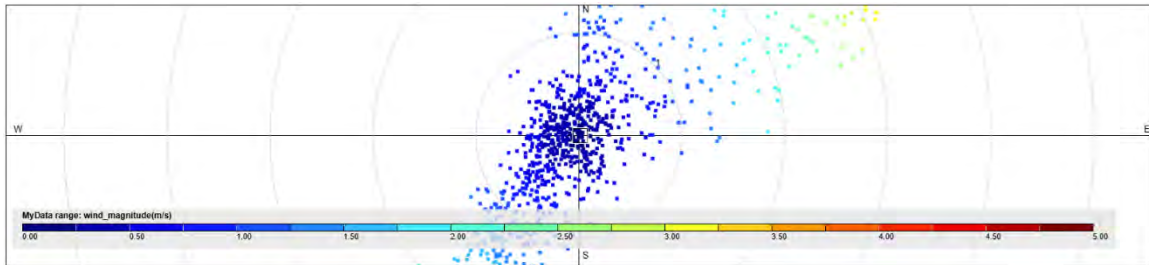


Figure D10-5: Wind Speed for November

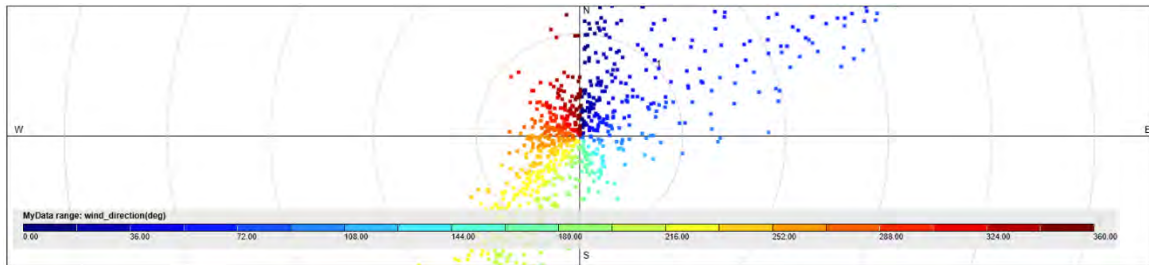


Figure D10-6: Wind Direction for November

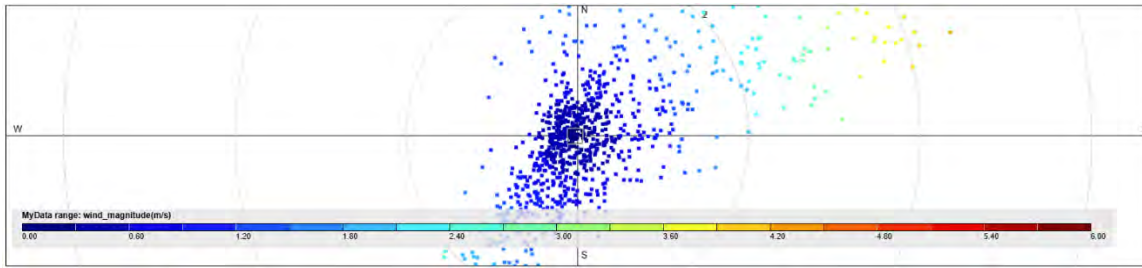


Figure D10-7: Wind Speed for December

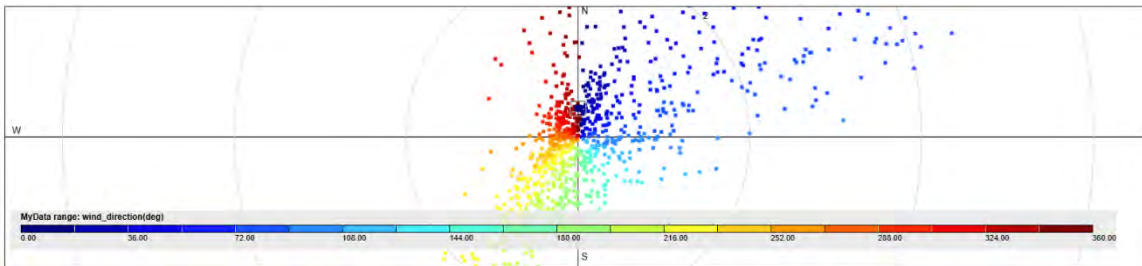


Figure D10-8: Wind Direction for December

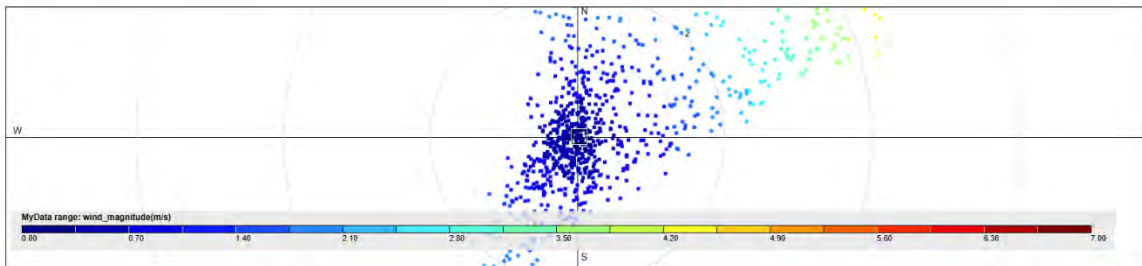


Figure D10-9: Wind Speed for January

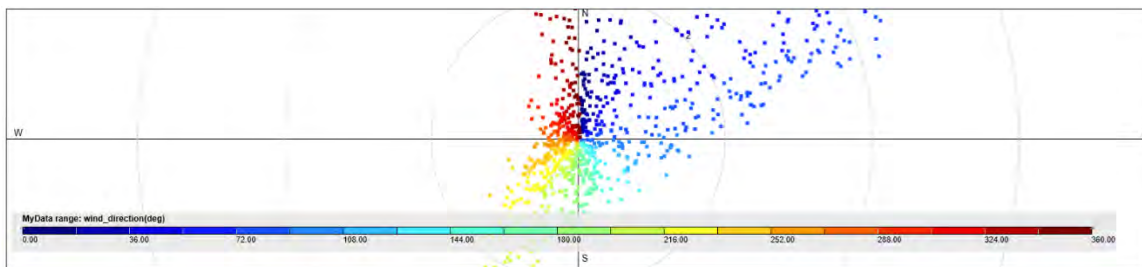


Figure D10-10: Wind Direction for January

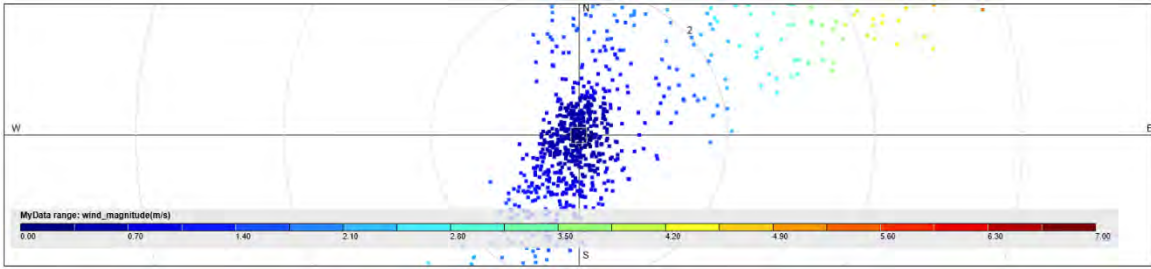


Figure D10-11: Wind Speed for February

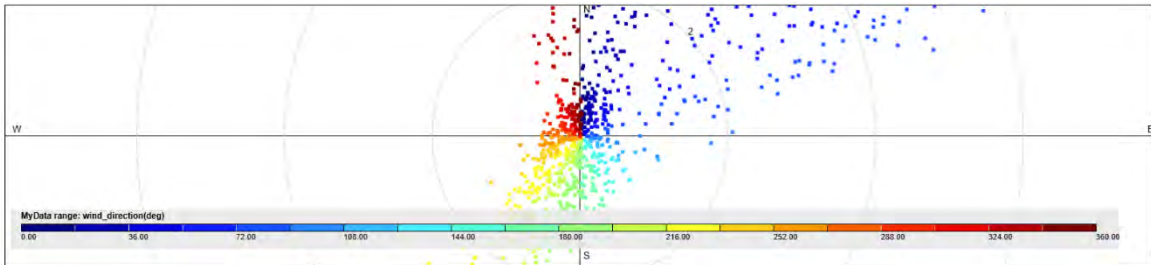


Figure D10-12: Wind Direction for February

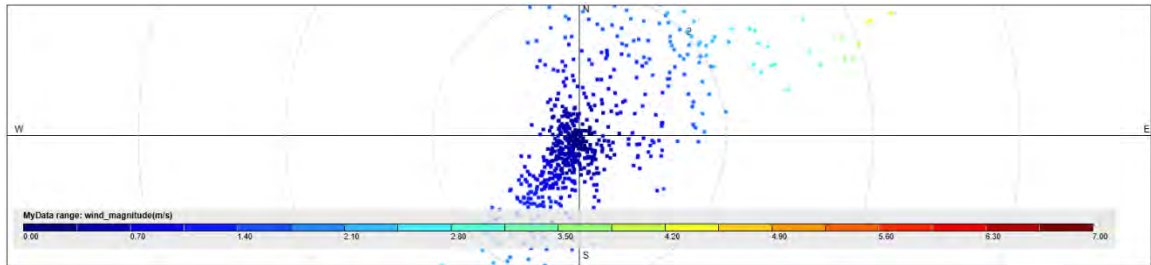


Figure D10-13: Wind Speed for March

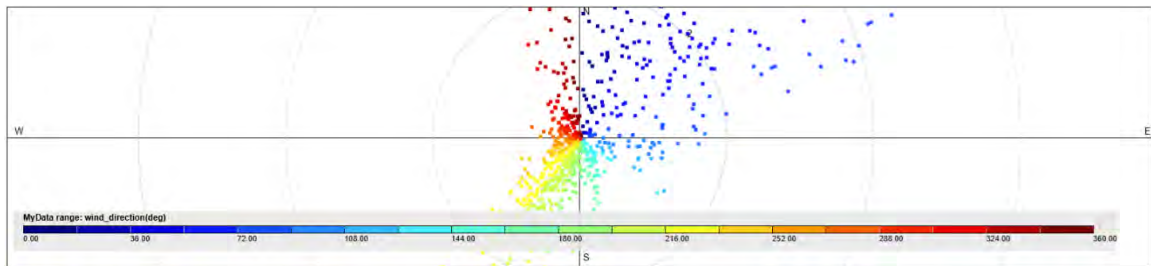


Figure D10-14: Wind Direction for March

Wind Roses

A wind rose gives a diagram view of how wind speed and direction are typically distributed at a particular location. Presented in a circular format, the wind rose shows the frequency of winds blowing from particular directions. In this report, all wind roses directions indicate the direction the wind is blowing from.

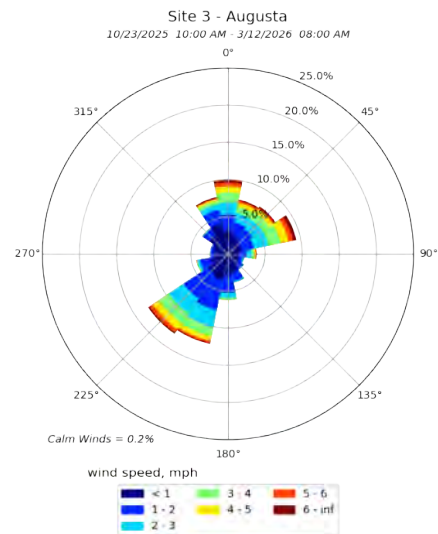


Figure D10-15: Duration of Site 3 Collection

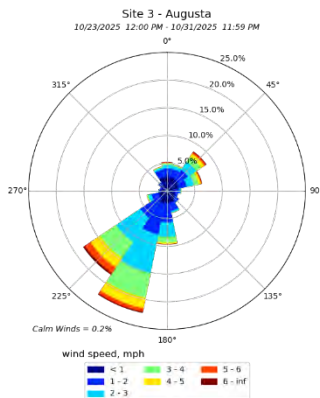


Figure D10-16: October

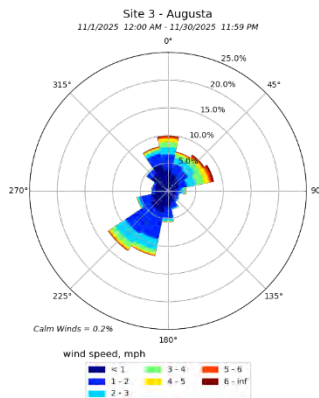


Figure D10-17: November

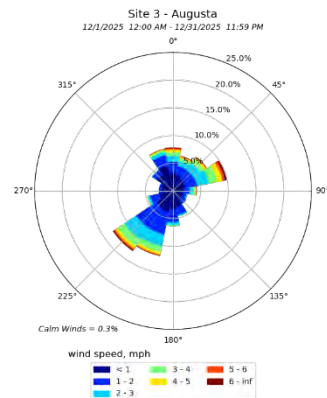


Figure D10-18: December

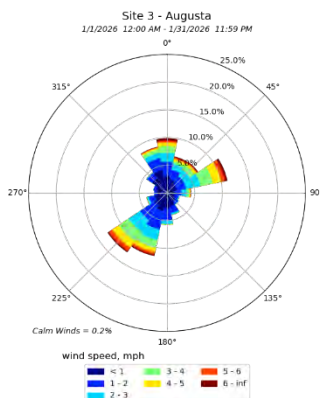


Figure D10-19: January

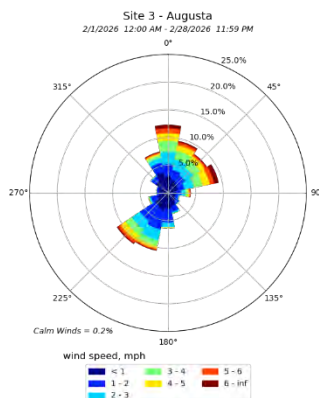


Figure D10-20: February

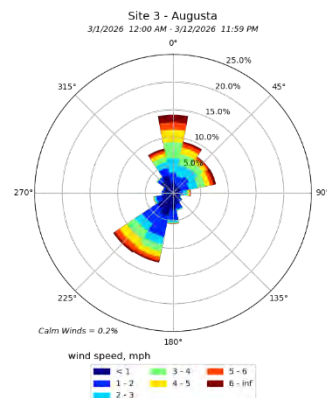


Figure D10-21: March

D11: AQI

Three (PM2.5, PM10, and NO2) of the six pollutants that we are monitoring are criteria pollutants with National Ambient Air Quality Standards with Air Quality Indices. Thus, we compiled our BEAST data’s AQI for commonality.

The AQI data in this section was compiled following guidelines from the EPA Technical Assistance Document for the Reporting of Daily Air Quality – the Air Quality Index (AQI).²³ The EPA’s AirNow website offers more information about AQI.²⁴

AQI and Cautionary Statements for PM 2.5, PM 10, and NO2²⁵

Category	AQI	PM 2.5 /PM 10 (24-hr)	NO2 (1-hr)
Good	0 -50	It's a great day to be active outside.	It's a great day to be active outside.
Moderate	51 - 100	Unusually sensitive people: Consider making outdoor activities shorter and less intense. Go inside if you have symptoms such as coughing or shortness of breath.	Unusually sensitive people: Consider limiting prolonged exertion especially near busy roads.
Unhealthy for Sensitive Groups	101-150	Sensitive groups: Make outdoor activities shorter and less intense. It’s OK to be active outdoors but take more breaks. Watch for symptoms such as coughing or shortness of breath. People with asthma: Follow your asthma action plan and keep quick relief medicine handy. People with heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.	Sensitive groups: Limit prolonged exertion outdoors, especially near busy roads. People with asthma: Follow your asthma action plan and keep quick relief medicine handy.

²³ Technical Assistance Document for the Reporting of Daily Air Quality – the Air Quality Index (AQI), EPA-454/B-24-002, May 2024

²⁴ <https://www.airnow.gov/aqi/aqi-basics/>

²⁵ Table compiled from information from: Technical Assistance Document for the Reporting of Daily Air Quality – the Air Quality Index (AQI), EPA-454/B-24-002, May 2024

Unhealthy 151 - 200	<p>Sensitive groups: Consider rescheduling or moving all activities inside. Go inside if you have symptoms. People with asthma: Follow your asthma action plan and keep quick-relief medicine handy. People with heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider. Everyone else: Keep outdoor activities shorter and less intense. Go inside if you have symptoms.</p>	<p>Sensitive groups: Avoid prolonged outdoor exertion near roadways. People with asthma: Follow your asthma action plan and keep quick relief medicine handy. Everyone else: Limit prolonged outdoor exertion especially near busy roads.</p>
Very Unhealthy 201-300	<p>Sensitive groups: Avoid all physical activity outdoors. Reschedule to a time when air quality is better or move activities indoors.* People with asthma: Follow your asthma action plan and keep quick-relief medicine handy. People with heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider. Everyone else: Limit outdoor physical activity. Go indoors* if you have symptoms.</p>	<p>Sensitive groups: Avoid all outdoor exertion. People with asthma: Follow your asthma action plan and keep quick relief medicine handy. Everyone else: Avoid prolonged outdoor exertion especially near busy roads.</p>
Hazardous 301 +	<p>Sensitive groups: Stay indoors and keep activity levels light. Follow tips for keeping particle levels low indoors.* People with asthma: Follow your asthma action plan and keep quick-relief medicine handy. People with heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider. Everyone: Avoid all physical activity outdoors.*</p>	<p>Sensitive groups: Remain indoors.* People with asthma: Follow your asthma action plan and keep quick relief medicine handy. Everyone else: Avoid all outdoor exertion.</p>
<p>*Note: If you don't have an air conditioner, staying indoors with the windows closed may be dangerous in extremely hot weather. If you are hot, go someplace with air conditioning or check with your local government to find out if cooling centers are available in your community.</p>		

Figure D11-1: EPA AQI and Cautionary Statements for PM 2.5, PM 10, and NO2.

OCTOBER		Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
PM2.5				1	2	3	4		
PM10									
NO2									
	5	6	7	8	9	10	11		
PM2.5									
PM10									
NO2									
	12	13	14	15	16	17	18		
PM2.5									
PM10									
NO2									
	19	20	21	22	23	24	25		
PM2.5					-	7.2	5.4		
PM10						19	15		
NO2						7	5		
	26	27	28	29	30	31			
PM2.5	4.4	2.2	1.4	3.5	3.5	4.5			
PM10	11	5	3	7	7	9			
NO2	1	1	1	2	3	9			

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

OCTOBER		AQI							2025
	S	M	T	W	T	F	S		
PM2.5				1	2	3	4		
PM10									
NO2									
	5	6	7	8	9	10	11		
PM2.5									
PM10									
NO2									
	12	13	14	15	16	17	18		
PM2.5									
PM10									
NO2									
	19	20	21	22	23	24	25		
PM2.5					-	40	30		
PM10						18	14		
NO2						7	5		
	26	27	28	29	30	31			
PM2.5	24	12	8	19	19	25			
PM10	10	5	3	6	6	8			
NO2	1	1	1	2	3	8			

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

NOVEMBER		Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
PM2.5							11.0	1	
PM10							18		
NO2							8		
	2	3	4	5	6	7	8		
PM2.5	11.1	9.3	8.5	16.2	18.7	16.7	13.4		
PM10	17	16	17	30	29	27	20		
NO2	5	14	16	21	11	10	13		
	9	10	11	12	13	14	15		
PM2.5	10.4	2.4	6.0	11.7	12.3	11.9	21.0		
PM10	18	12	15	25	25	26	36		
NO2	6	0	12	17	16	14	8		
	16	17	18	19	20	21	22		
PM2.5	12.3	7.6	10.6	13.7	23.0	18.9	9.6		
PM10	22	17	27	27	32	30	17		
NO2	6	17	14	12	7	9	8		
	23	24	25	26	27	28	29		
PM2.5	9.7	11.0	6.1	6.1	2.9	5.0	5.5		
PM10	16	20	14	12	7	9	10		
NO2	8	9	9	9	2	6	7		
	30								
PM2.5	6.6								
PM10	13								
NO2	2								

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

NOVEMBER		AQI							2025
	S	M	T	W	T	F	S		
PM2.5							55	1	
PM10							17		
NO2							8		
	2	3	4	5	6	7	8		
PM2.5	55	51	47	64	69	65	59		
PM10	16	15	16	28	27	25	19		
NO2	5	13	15	20	11	9	12		
	9	10	11	12	13	14	15		
PM2.5	53	13	33	56	57	56	73		
PM10	17	11	14	23	23	24	33		
NO2	6	0	11	16	15	13	8		
	16	17	18	19	20	21	22		
PM2.5	57	42	54	60	77	69	52		
PM10	20	16	25	25	30	28	16		
NO2	6	16	13	11	7	8	8		
	23	24	25	26	27	28	29		
PM2.5	52	55	34	34	16	28	31		
PM10	15	19	13	11	6	8	9		
NO2	8	8	8	8	2	6	7		
	30								
PM2.5	37								
PM10	12								
NO2	2								

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

Figure D11-2: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

DECEMBER		Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
		1	2	3	4	5	6		
PM2.5		5.9	4.6	8.1	13.3	9.5	9.0		
PM10		11	8	14	26	14	14		
NO2		1	4	10	13	4	6		
		7	8	9	10	11	12	13	
PM2.5		8.9	8.9	11.8	11.9	4.9	12.7	18.8	
PM10		15	13	17	29	10	23	30	
NO2		4	4	7	6	15	13	10	
		14	15	16	17	18	19	20	
PM2.5		4.7	4.3	16.9	34.0	10.2	3.3	6.3	
PM10		9	10	28	48	17	9	12	
NO2		4	15	22	18	12	5	10	
		21	22	23	24	25	26	27	
PM2.5		13.1	4.8	11.4	10.7	11.8	8.3	8.8	
PM10		21	10	22	18	18	14	15	
NO2		12	9	10	7	4	6	6	
		28	29	30	31				
PM2.5		13.2	3.1	3.5	5.4				
PM10		19	9	8	12				
NO2		6	2	12	10				

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

DECEMBER		AQI							2025
	S	M	T	W	T	F	S		
		1	2	3	4	5	6		
PM2.5		33	26	45	59	52	50		
PM10		10	7	13	24	13	13		
NO2		1	4	9	12	4	6		
		7	8	9	10	11	12	13	
PM2.5		49	49	56	56	27	58	69	
PM10		14	12	16	27	9	21	28	
NO2		4	4	7	6	14	12	9	
		14	15	16	17	18	19	20	
PM2.5		26	24	66	97	53	18	35	
PM10		8	9	26	44	16	8	11	
NO2		4	14	21	17	11	5	9	
		21	22	23	24	25	26	27	
PM2.5		58	27	55	54	56	46	49	
PM10		19	9	20	17	17	13	14	
NO2		11	8	9	7	4	6	6	
		28	29	30	31				
PM2.5		59	17	19	30				
PM10		18	8	7	11				
NO2		6	2	11	9				

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

JANUARY		Concentration with AQI color code							2026
	S	M	T	W	T	F	S		
					1	2	3		
PM2.5					7.3	12.6	10.3		
PM10					14	24	17		
NO2					8	9	5		
		4	5	6	7	8	9	10	
PM2.5		25.5	17.1	11.1	12.5	20.2	9.5	4.5	
PM10		35	26	19	22	32	16	9	
NO2		5	12	9	12	9	6	3	
		11	12	13	14	15	16	17	
PM2.5		3.0	5.5	17.1	16.2	3.8	6.6	7.2	
PM10		7	12	28	25	9	14	14	
NO2		1	15	16	12	2	15	7	
		18	19	20	21	22	23	24	
PM2.5		4.1	4.3	5.9	15.9	18.4	-	-	
PM10		8	9	11	25	28	-	-	
NO2		10	12	15	15	13	-	-	
		25	26	27	28	29	30	31	
PM2.5		-	-	-	5.4	6.9	15.3	8.7	
PM10		-	-	-	10	13	24	15	
NO2		-	-	-	14	10	15	3	

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

JANUARY		AQI							2026
	S	M	T	W	T	F	S		
					1	2	3		
PM2.5					41	58	53		
PM10					13	22	16		
NO2					8	8	5		
		4	5	6	7	8	9	10	
PM2.5		82	66	55	57	72	52	25	
PM10		32	24	18	20	30	15	8	
NO2		5	11	8	11	8	6	3	
		11	12	13	14	15	16	17	
PM2.5		17	31	66	64	21	37	40	
PM10		6	11	26	23	8	13	13	
NO2		1	14	15	11	2	14	7	
		18	19	20	21	22	23	24	
PM2.5		23	24	33	64	68	-	-	
PM10		7	8	10	23	26	-	-	
NO2		9	11	14	14	12	-	-	
		25	26	27	28	29	30	31	
PM2.5		-	-	-	30	38	63	48	
PM10		-	-	-	9	12	22	14	
NO2		-	-	-	13	9	14	3	

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

Figure D11-3: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

FEBRUARY Concentration with AQI color code **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
PM2.5	6.1	5.7	22.5	19.4	15.0	7.4	4.9
PM10	9	10	32	26	20	12	9
NO2	9	20	13	8	11	12	10
	8	9	10	11	12	13	14
PM2.5	5.1	12.3	23.8	10.4	7.0	8.9	12.2
PM10	10	20	35	17	15	16	21
NO2	8	17	11	8	14	13	11
	15	16	17	18	19	20	21
PM2.5	6.5	4.6	11.5	8.1	13.3	12.1	9.0
PM10	12	9	23	17	22	23	19
NO2	4	10	8	12	9	10	11
	22	23	24	25	26	27	28
PM2.5	4.4	3.8	14.9	24.2	5.5	4.7	9.2
PM10	10	8	22	35	11	9	14
NO2	3	0	11	8	8	6	5

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

FEBRUARY AQI **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
PM2.5	34	32	76	70	62	41	27
PM10	8	9	30	24	19	11	8
NO2	8	19	12	8	10	11	9
	8	9	10	11	12	13	14
PM2.5	28	57	78	53	39	49	57
PM10	9	19	32	16	14	15	19
NO2	8	16	10	8	13	12	10
	15	16	17	18	19	20	21
PM2.5	36	26	55	45	59	57	50
PM10	11	8	21	16	20	21	18
NO2	4	9	8	11	8	9	10
	22	23	24	25	26	27	28
PM2.5	24	21	62	79	31	26	51
PM10	9	7	20	32	10	8	13
NO2	3	0	10	8	8	6	5

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

MARCH Concentration with AQI color code **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
PM2.5	16.4	16.9	14.6	14.5	13.0	9.0	8.4
PM10	25	26	27	27	24	19	17
NO2	9	7	6	10	8	11	3
	8	9	10	11	12	13	14
PM2.5	7.4	7.1	6.4	10.6	-	-	-
PM10	14	15	16	24	-	-	-
NO2	3	10	16	5	-	-	-
	15	16	17	18	19	20	21
PM2.5							
PM10							
NO2							
	22	23	24	25	26	27	28
PM2.5							
PM10							
NO2							
	29	30	31				
PM2.5							
PM10							
NO2							

PM2.5 concentration is the day's 24-hour average. Truncated to first decimal.
 PM10 concentration is the day's 24-hour average. Rounded to whole number.
 NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.

MARCH AQI **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
PM2.5	65	66	61	61	58	50	47
PM10	23	24	25	25	22	18	16
NO2	8	7	6	9	8	10	3
	8	9	10	11	12	13	14
PM2.5	41	39	36	54	-	-	-
PM10	13	14	15	22	-	-	-
NO2	3	9	15	5	-	-	-
	15	16	17	18	19	20	21
PM2.5							
PM10							
NO2							
	22	23	24	25	26	27	28
PM2.5							
PM10							
NO2							
	29	30	31				
PM2.5							
PM10							
NO2							

PM2.5 AQI is based on the day's 24-hour average.
 PM10 AQI is based on the day's 24-hour average.
 NO2 AQI is based on the day's highest 1-hour average.

Figure D11-4: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

D12: Regional Agency Air Monitors

Three (PM2.5, PM10, and NO2) of the six pollutants that we are monitoring are criteria pollutants with National Ambient Air Quality Standards with Air Quality Indices. We screened the BEAST data with regional agency monitors to see if the current air monitoring network is a sufficient indication of this community’s air quality. In the following map, we used one of the facilities of concern as the map anchor point to conceal the exact location of the BEAST.

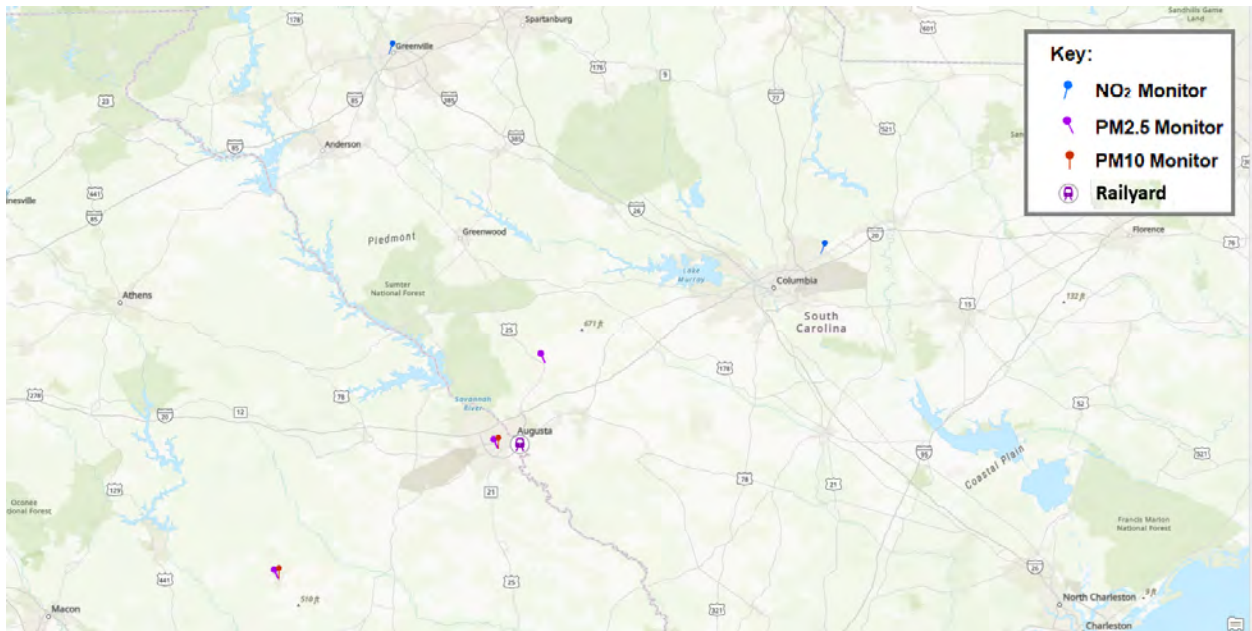


Figure D12-1: Map displaying regional agency air monitors

CARE-4-AIR SITE 3			
Pollutant	Agency Monitor	Monitor ID	Miles from BEAST
PM2.5	Augusta	132450091	5 - 10
PM2.5	Trenton	450370001	15 - 20
PM2.5	Sandersville	840133030001	60 - 65
PM10	Augusta	132450091	5 - 10
PM10	Sandersville	840133030001	60 - 65
NO2	Sandhill	450791001	75 - 80
NO2	Greenville	450450015	95 - 100

Figure D12-2: Table displaying regional air monitors with approximate miles from BEAST

BEAST screened with regional PM 2.5 monitors

OCTOBER		PM 2.5 - Concentration with AQI color code										2025
		S	M	T	W	T	F	S				
BEAST					1	2	3	4				
Augusta												
Trenton												
Sandersville												
		5	6	7	8	9	10	11				
BEAST												
Augusta												
Trenton												
Sandersville												
		12	13	14	15	16	17	18				
BEAST												
Augusta												
Trenton												
Sandersville												
		19	20	21	22	23	24	25				
BEAST						-	7.2	5.4				
Augusta						5.8	9.0	7.8				
Trenton						3.8	4.7	4.4				
Sandersville						6.6	6.9	4.3				
		26	27	28	29	30	31					
BEAST		4.4	2.2	1.4	3.5	3.5	4.5					
Augusta		4.8	2.5	1.7	3.9	3.6	5.3					
Trenton		4.8	2.4	1.9	4.0	3.8	4.7					
Sandersville		4.0	4.0	2.8	2.9	3.9	-					

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

OCTOBER		PM 2.5 - AQI										2025
		S	M	T	W	T	F	S				
BEAST					1	2	3	4				
Augusta												
Trenton												
Sandersville												
		5	6	7	8	9	10	11				
BEAST												
Augusta												
Trenton												
Sandersville												
		12	13	14	15	16	17	18				
BEAST												
Augusta												
Trenton												
Sandersville												
		19	20	21	22	23	24	25				
BEAST						-	40	30				
Augusta						32	50	43				
Trenton						21	26	24				
Sandersville						37	38	24				
		26	27	28	29	30	31					
BEAST		24	12	8	19	19	25					
Augusta		27	14	9	22	20	29					
Trenton		27	13	11	22	21	26					
Sandersville		22	22	16	16	22	-					

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

NOVEMBER		PM 2.5 - Concentration with AQI color code										2025
		S	M	T	W	T	F	S				
BEAST								11.0				
Augusta								14.1				
Trenton								9.2				
Sandersville								-				
		2	3	4	5	6	7	8				
BEAST		11.1	9.3	8.5	16.2	18.7	16.7	13.4				
Augusta		15.6	11.7	9.5	19.1	20.7	22.5	17.6				
Trenton		8.3	15.5	6.5	17.0	17.5	15.4	10.9				
Sandersville		-	-	-	9.9	14.9	11.8	6.4				
		9	10	11	12	13	14	15				
BEAST		10.4	2.4	6.0	11.7	12.3	11.9	21.0				
Augusta		10.6	2.2	5.5	11.8	12.6	16.7	27.0				
Trenton		10.3	2.1	3.2	7.5	9.2	6.9	21.5				
Sandersville		7.6	3.4	5.0	7.3	8.3	10.3	17.2				
		16	17	18	19	20	21	22				
BEAST		12.3	7.6	10.6	13.7	23.0	18.9	9.6				
Augusta		13.6	12.0	28.1	24.3	26.6	23.1	14.0				
Trenton		16.4	6.0	10.1	21.8	27.2	19.8	10.3				
Sandersville		11.0	4.8	10.9	19.8	16.2	14.6	9.1				
		23	24	25	26	27	28	29				
BEAST		9.7	11.0	6.1	6.1	2.9	5.0	5.5				
Augusta		11.5	17.8	10.2	7.0	3.2	5.1	7.4				
Trenton		7.6	13.9	9.3	7.3	3.4	5.2	5.2				
Sandersville		8.1	6.6	7.3	6.9	2.6	3.2	5.0				
		30										
BEAST		6.6										
Augusta		7.6										
Trenton		6.8										
Sandersville		5.1										

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

NOVEMBER		PM 2.5 - AQI										2025
		S	M	T	W	T	F	S				
BEAST								55				
Augusta								60				
Trenton								51				
Sandersville								-				
		2	3	4	5	6	7	8				
BEAST		55	51	47	64	69	65	59				
Augusta		63	56	52	70	73	76	67				
Trenton		46	63	36	66	67	63	54				
Sandersville		-	-	-	52	62	56	36				
		9	10	11	12	13	14	15				
BEAST		53	13	33	56	57	56	73				
Augusta		54	12	31	56	58	65	84				
Trenton		53	12	18	42	51	38	74				
Sandersville		42	19	28	41	46	53	66				
		16	17	18	19	20	21	22				
BEAST		57	42	54	60	77	69	52				
Augusta		59	56	86	79	84	77	60				
Trenton		65	33	53	75	85	71	53				
Sandersville		55	27	54	71	64	61	51				
		23	24	25	26	27	28	29				
BEAST		52	55	34	34	16	28	31				
Augusta		55	67	53	39	18	28	41				
Trenton		42	60	51	41	19	29	29				
Sandersville		45	38	41	38	14	18	28				
		30										
BEAST		37										
Augusta		42										
Trenton		38										
Sandersville		28										

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-3: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

DECEMBER 2025

PM 2.5 - Concentration with AQI color code

	S	M	T	W	T	F	S
BEAST		5.9	4.6	8.1	13.3	9.5	9.0
Augusta		7.0	5.0	9.9	15.2	12.5	10.7
Trenton		6.5	5.0	9.5	16.2	12.8	8.6
Sandersville		5.6	3.8	5.5	11.5	8.1	7.2

	7	8	9	10	11	12	13
BEAST	8.9	8.9	11.8	11.9	4.9	12.7	18.8
Augusta	13.7	9.6	14.2	14.7	5.9	13.2	23.4
Trenton	8.9	8.2	10.1	9.3	4.2	13.4	19.4
Sandersville	7.2	5.0	10.0	9.5	5.5	10.5	16.5

	14	15	16	17	18	19	20
BEAST	4.7	4.3	16.9	34.0	10.2	3.3	6.3
Augusta	5.2	6.9	23.3	44.4	19.1	3.4	9.5
Trenton	4.7	3.7	11.8	21.7	15.3	3.3	8.1
Sandersville	4.1	5.7	22.4	21.2	7.8	5.5	7.9

	21	22	23	24	25	26	27
BEAST	13.1	4.8	11.4	10.7	11.8	8.3	8.8
Augusta	15.3	5.9	13.1	16.0	20.7	9.7	11.8
Trenton	6.9	3.4	7.6	11.3	10.5	8.7	8.9
Sandersville	13.2	5.9	7.6	11.4	10.1	8.1	10.9

	28	29	30	31
BEAST	13.2	3.1	3.5	5.4
Augusta	19.2	3.3	4.1	4.7
Trenton	16.2	3.5	3.6	4.9
Sandersville	11.3	3.7	5.1	5.7

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

DECEMBER 2025

PM 2.5 - AQI

	S	M	T	W	T	F	S
BEAST		33	26	45	59	52	50
Augusta		39	28	52	62	57	54
Trenton		36	28	52	64	58	48
Sandersville		31	21	31	55	45	40

	7	8	9	10	11	12	13
BEAST	49	49	56	56	27	58	69
Augusta	60	52	61	61	33	59	78
Trenton	49	46	53	51	23	59	70
Sandersville	40	28	53	52	31	54	65

	14	15	16	17	18	19	20
BEAST	26	24	66	97	53	18	35
Augusta	29	38	77	123	70	19	52
Trenton	26	21	56	74	63	18	45
Sandersville	23	32	76	74	43	31	44

	21	22	23	24	25	26	27
BEAST	58	27	55	54	56	46	49
Augusta	63	33	58	64	73	52	56
Trenton	38	19	42	55	54	48	49
Sandersville	59	33	42	55	53	45	54

	28	29	30	31
BEAST	59	17	19	30
Augusta	70	18	23	26
Trenton	64	19	20	27
Sandersville	55	21	28	32

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

JANUARY 2026

PM 2.5 - Concentration with AQI color code

	S	M	T	W	T	F	S
BEAST					7.3	12.6	10.3
Augusta					8.9	16.7	11.9
Trenton					7.3	9.3	12.9
Sandersville					7.3	12.4	6.9

	4	5	6	7	8	9	10
BEAST	25.5	17.1	11.1	12.5	20.2	9.5	4.5
Augusta	30.1	21.3	14.7	18.0	26.3	15.6	6.0
Trenton	19.4	13.7	9.9	10.7	17.4	13.2	5.6
Sandersville	12.3	11.7	7.6	11.4	17.4	9.4	5.3

	11	12	13	14	15	16	17
BEAST	3.0	5.5	17.1	16.2	3.8	6.6	7.2
Augusta	3.4	10.0	48.5	18.1	3.8	12.5	11.5
Trenton	3.1	5.7	18.4	11.8	2.9	7.5	8.2
Sandersville	3.9	11.6	12.3	9.0	3.8	7.8	10.3

	18	19	20	21	22	23	24
BEAST	4.1	4.3	5.9	15.9	18.4	-	-
Augusta	4.4	4.5	7.4	23.8	28.1	9.8	7.3
Trenton	3.6	4.4	4.4	8.5	18.1	8.4	6.3
Sandersville	5.0	5.7	6.5	19.2	31.8	7.4	6.4

	25	26	27	28	29	30	31
BEAST	-	-	-	5.4	6.9	15.3	8.7
Augusta	6.3	3.9	4.6	6.0	14.6	22.5	10.6
Trenton	4.1	4.0	3.9	5.5	5.9	11.8	8.9
Sandersville	4.6	4.5	5.5	6.5	7.2	22.6	14.5

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

JANUARY 2026

PM 2.5 - AQI

	S	M	T	W	T	F	S
BEAST					41	58	53
Augusta					49	65	56
Trenton					41	51	58
Sandersville					41	57	38

	4	5	6	7	8	9	10
BEAST	82	66	55	57	72	52	25
Augusta	90	74	61	68	83	63	33
Trenton	70	60	52	54	66	59	31
Sandersville	57	56	42	55	66	52	29

	11	12	13	14	15	16	17
BEAST	17	31	66	64	21	37	40
Augusta	19	53	133	68	21	57	55
Trenton	17	32	68	56	16	42	46
Sandersville	22	56	57	50	21	43	53

	18	19	20	21	22	23	24
BEAST	23	24	33	64	68	-	-
Augusta	24	25	41	78	86	52	41
Trenton	20	24	24	47	68	47	35
Sandersville	28	32	36	70	93	41	36

	25	26	27	28	29	30	31
BEAST	-	-	-	30	38	63	48
Augusta	35	22	26	33	61	76	54
Trenton	23	22	22	31	33	56	49
Sandersville	26	25	31	36	40	76	61

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-4: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

FEBRUARY		PM 2.5 - Concentration with AQI color code							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	34	32	76	70	62	41	27		
Augusta	7.1	7.7	26.5	19.6	15.7	7.6	5.8		
Trenton	5.6	5.3	19.1	21.6	14.1	8.1	5.5		
Sandersville	6.7	7.7	25.0	8.2	7.4	10.0	-		
	8	9	10	11	12	13	14		
BEAST	5.1	12.3	23.8	10.4	7.0	8.9	12.2		
Augusta	6.0	12.7	25.6	13.7	9.2	9.1	18.4		
Trenton	5.8	9.7	29.9	12.2	5.5	8.5	18.7		
Sandersville	-	16.0	22.9	7.9	6.5	9.1	22.1		
	15	16	17	18	19	20	21		
BEAST	6.5	4.6	11.5	8.1	13.3	12.1	9.0		
Augusta	9.4	4.2	16.0	11.4	13.9	13.3	10.8		
Trenton	9.1	4.3	10.9	7.9	12.6	11.1	9.2		
Sandersville	5.7	3.6	9.8	6.7	9.3	11.8	6.8		
	22	23	24	25	26	27	28		
BEAST	4.4	3.8	14.9	24.2	5.5	4.7	9.2		
Augusta	4.2	3.7	17.5	21.7	6.2	4.9	9.2		
Trenton	4.8	6.0	14.6	21.1	5.3	5.3	7.9		
Sandersville	3.9	4.6	12.3	19.8	4.6	2.6	4.8		

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

FEBRUARY		PM 2.5 - AQI							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	34	32	76	70	62	41	27		
Augusta	39	43	83	71	63	42	32		
Trenton	31	29	70	74	60	45	31		
Sandersville	37	43	81	46	41	53	-		
	8	9	10	11	12	13	14		
BEAST	28	57	78	53	39	49	57		
Augusta	33	58	82	60	51	51	68		
Trenton	32	52	90	57	31	47	69		
Sandersville	-	64	77	44	36	51	75		
	15	16	17	18	19	20	21		
BEAST	36	26	55	45	59	57	50		
Augusta	52	23	64	55	60	59	54		
Trenton	51	24	54	44	58	55	51		
Sandersville	32	20	52	37	51	56	38		
	22	23	24	25	26	27	28		
BEAST	24	21	62	79	31	26	51		
Augusta	23	21	67	74	34	27	51		
Trenton	27	33	61	73	29	29	44		
Sandersville	22	26	57	71	26	14	27		

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

MARCH		PM 2.5 - Concentration with AQI color code							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	16.4	16.9	14.6	14.5	13.0	9.0	8.4		
Augusta	13.9	16.4	18.0	17.3	15.4	13.2	9.6		
Trenton	10.4	-	15.3	14.7	11.9	11.4	8.6		
Sandersville	8.1	21.5	8.5	15.1	7.8	9.4	7.2		
	8	9	10	11	12	13	14		
BEAST	7.4	7.1	6.4	10.6	-				
Augusta	7.4	7.5	7.0	14.2	5.9				
Trenton	7.2	6.4	12.0	9.3	6.2				
Sandersville	8.3	7.7	5.7	12.7	5.2				
	15	16	17	18	19	20	21		
BEAST									
Augusta									
Trenton									
Sandersville									
	22	23	24	25	26	27	28		
BEAST									
Augusta									
Trenton									
Sandersville									
	29	30	31						
BEAST									
Augusta									
Trenton									
Sandersville									

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

MARCH		PM 2.5 - AQI							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	65	66	61	61	58	50	47		
Augusta	60	65	68	66	63	59	52		
Trenton	53	-	63	61	56	55	48		
Sandersville	45	74	47	62	43	52	40		
	8	9	10	11	12	13	14		
BEAST	41	39	36	54	-				
Augusta	41	42	39	61	33				
Trenton	40	36	56	51	34				
Sandersville	46	43	32	58	29				
	15	16	17	18	19	20	21		
BEAST									
Augusta									
Trenton									
Sandersville									
	22	23	24	25	26	27	28		
BEAST									
Augusta									
Trenton									
Sandersville									
	29	30	31						
BEAST									
Augusta									
Trenton									
Sandersville									

PM2.5 concentration is the day's 24-hour average. Truncated to the first decimal.
Data from the Augusta, Trenton, and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-5: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

The Augusta PM 2.5 monitor was the nearest regional monitor to our BEAST location; however, the Trenton PM 2.5 monitor had readings that were closest to the BEAST data. 49% of daily 24-hour averages from the Trenton monitor were within 1 ug/m3 of the BEAST. Nearly 67% of the daily 24-hour averages were within 2 ug/m3 of the BEAST. Nearly 80% were within 3 ug/m3.

The Augusta and Sandersville monitors were within 3 ug/m3 of the BEAST daily averages 65% and 69% of the time, respectively.

AMOUNT of Days			
RANGE	Augusta	Trenton	Sandersville
Within 1	45	63	40
Within 2	22	23	27
Within 3	17	17	17
Within 4	8	10	10
Within 5	17	4	9
Within 6	5	4	4
Within 7	6	5	5
Within 8	3	1	4
Within 9	2	1	1
Within 10	1	0	1
More than 10	4	1	4

PERCENTAGE			
RANGE	Augusta	Trenton	Sandersville
Within 1	34.62%	48.84%	32.79%
Within 2	16.92%	17.83%	22.13%
Within 3	13.08%	13.18%	13.93%
Within 4	6.15%	7.75%	8.20%
Within 5	13.08%	3.10%	7.38%
Within 6	3.85%	3.10%	3.28%
Within 7	4.62%	3.88%	4.10%
Within 8	2.31%	0.78%	3.28%
Within 9	1.54%	0.78%	0.82%
Within 10	0.77%	0.00%	0.82%
More than 10	3.08%	0.78%	3.28%

Figure D12-6: The left table provides the number of days within an ug/m3 range of our BEAST data. The second table provides the percentage of days within the ug/m3 range.

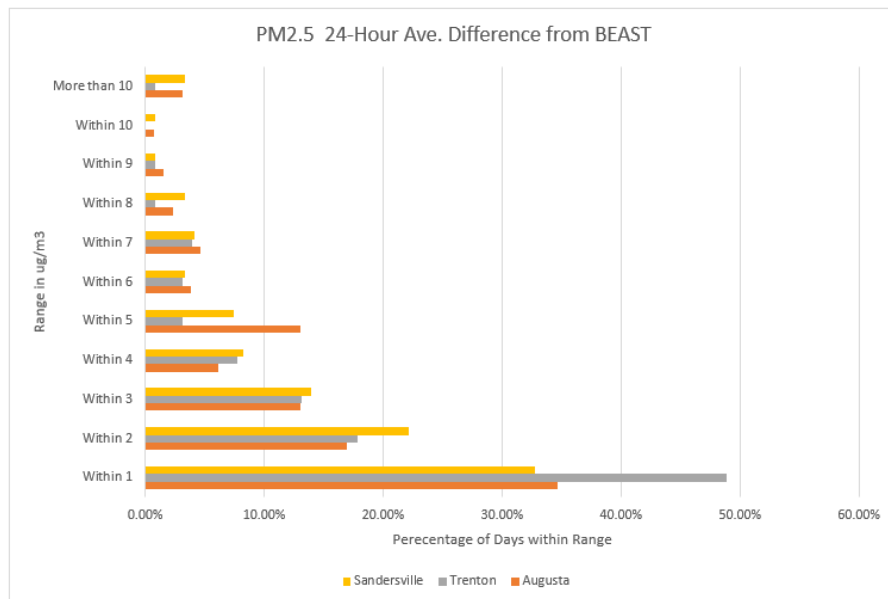


Figure D12-7: Provides a side bar chart of how close regional monitors were when screened with our BEAST data.

BEAST screened with regional PM 10 monitors

OCTOBER		PM 10 - Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
BEAST				1	2	3	4		
Augusta									
Sandersville									
	5	6	7	8	9	10	11		
BEAST									
Augusta									
Sandersville									
	12	13	14	15	16	17	18		
BEAST									
Augusta									
Sandersville									
	19	20	21	22	23	24	25		
BEAST					-	19	15		
Augusta					-	-	-		
Sandersville					17	24	-		
	26	27	28	29	30	31			
BEAST	11	5	3	7	7	9			
Augusta	-	-	-	-	-	-			
Sandersville	-	-	-	8	14	17			

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

OCTOBER		PM 10 - AQI							2025
	S	M	T	W	T	F	S		
BEAST				1	2	3	4		
Augusta									
Sandersville									
	5	6	7	8	9	10	11		
BEAST									
Augusta									
Sandersville									
	12	13	14	15	16	17	18		
BEAST									
Augusta									
Sandersville									
	19	20	21	22	23	24	25		
BEAST					-	18	14		
Augusta					-	-	-		
Sandersville					16	22	-		
	26	27	28	29	30	31			
BEAST	10	5	3	6	6	8			
Augusta	-	-	-	-	-	-			
Sandersville	-	-	-	7	13	16			

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

NOVEMBER		PM 10 - Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
BEAST							18	1	
Augusta							-		
Sandersville							17		
	2	3	4	5	6	7	8		
BEAST	17	16	17	30	29	27	20		
Augusta	-	-	-	-	-	-	24		
Sandersville	12	17	20	19	33	20	12		
	9	10	11	12	13	14	15		
BEAST	18	12	15	25	25	26	36		
Augusta	16	7	10	22	25	31	40		
Sandersville	15	12	16	26	30	29	30		
	16	17	18	19	20	21	22		
BEAST	22	17	27	27	32	30	17		
Augusta	22	26	48	38	37	33	21		
Sandersville	25	20	34	40	31	25	19		
	23	24	25	26	27	28	29		
BEAST	16	20	14	12	7	9	10		
Augusta	18	33	19	12	7	8	12		
Sandersville	15	14	17	18	7	6	9		
	30								
BEAST	13								
Augusta	13								
Sandersville	10								

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

NOVEMBER		PM 10 - AQI							2025
	S	M	T	W	T	F	S		
BEAST							17	1	
Augusta							-		
Sandersville							16		
	2	3	4	5	6	7	8		
BEAST	16	15	16	28	27	25	19		
Augusta	-	-	-	-	-	-	22		
Sandersville	11	16	19	18	31	19	11		
	9	10	11	12	13	14	15		
BEAST	17	11	14	23	23	24	33		
Augusta	15	6	9	20	23	29	37		
Sandersville	14	11	15	24	28	27	28		
	16	17	18	19	20	21	22		
BEAST	20	16	25	25	30	28	16		
Augusta	20	24	44	35	34	31	19		
Sandersville	23	19	31	37	29	23	18		
	23	24	25	26	27	28	29		
BEAST	15	19	13	11	6	8	9		
Augusta	17	31	18	11	6	7	11		
Sandersville	14	13	16	17	6	5	8		
	30								
BEAST	12								
Augusta	12								
Sandersville	9								

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-8: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

DECEMBER 2025

PM 10 - Concentration with AQI color code

	S	M	T	W	T	F	S
		1	2	3	4	5	6
BEAST		11	8	14	26	14	14
Augusta		11	7	16	21	16	15
Sandersville		9	9	15	23	12	13
	7	8	9	10	11	12	13
BEAST	15	13	17	29	10	23	30
Augusta	20	13	17	19	10	21	32
Sandersville	11	9	14	16	15	24	28
	14	15	16	17	18	19	20
BEAST	9	10	28	48	17	9	12
Augusta	9	12	31	58	30	9	22
Sandersville	8	11	43	75	12	23	14
	21	22	23	24	25	26	27
BEAST	21	10	22	18	18	14	15
Augusta	24	12	22	25	29	15	19
Sandersville	24	10	21	28	21	23	22
	28	29	30	31			
BEAST	19	9	8	12			
Augusta	28	8	8	9			
Sandersville	20	10	14	15			

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

DECEMBER 2025

PM 10 - AQI

	S	M	T	W	T	F	S
		1	2	3	4	5	6
BEAST		10	7	13	24	13	13
Augusta		10	6	15	19	15	14
Sandersville		8	8	14	21	11	12
	7	8	9	10	11	12	13
BEAST	14	12	16	27	9	21	28
Augusta	19	12	16	18	9	19	30
Sandersville	10	8	13	15	14	22	26
	14	15	16	17	18	19	20
BEAST	8	9	26	44	16	8	11
Augusta	8	11	29	52	28	8	20
Sandersville	7	10	40	61	11	21	13
	21	22	23	24	25	26	27
BEAST	19	9	20	17	17	13	14
Augusta	22	11	20	23	27	14	18
Sandersville	22	9	19	26	19	21	20
	28	29	30	31			
BEAST	18	8	7	11			
Augusta	26	7	7	8			
Sandersville	19	9	13	14			

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

JANUARY 2026

PM 10 - Concentration with AQI color code

	S	M	T	W	T	F	S
					1	2	3
BEAST					14	24	17
Augusta					15	29	17
Sandersville					17	22	11
	4	5	6	7	8	9	10
BEAST	35	26	19	22	32	16	9
Augusta	38	28	21	27	39	23	11
Sandersville	19	19	16	23	26	15	9
	11	12	13	14	15	16	17
BEAST	7	12	28	25	9	14	14
Augusta	6	15	56	26	7	20	18
Sandersville	11	18	34	17	11	14	18
	18	19	20	21	22	23	24
BEAST	8	9	11	25	28	-	-
Augusta	7	9	12	32	36	14	14
Sandersville	14	19	21	30	41	11	11
	25	26	27	28	29	30	31
BEAST	-	-	-	10	13	24	15
Augusta	9	6	7	10	21	31	16
Sandersville	8	11	16	20	21	34	22

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

JANUARY 2026

PM 10 - AQI

	S	M	T	W	T	F	S
					1	2	3
BEAST					13	22	16
Augusta					14	27	16
Sandersville					16	20	10
	4	5	6	7	8	9	10
BEAST	32	24	18	20	30	15	8
Augusta	35	26	19	25	36	21	10
Sandersville	18	18	15	21	24	14	8
	11	12	13	14	15	16	17
BEAST	6	11	26	23	8	13	13
Augusta	6	14	51	24	6	19	17
Sandersville	10	17	31	16	10	13	17
	18	19	20	21	22	23	24
BEAST	7	8	10	23	26	-	-
Augusta	6	8	11	30	33	13	13
Sandersville	13	18	19	28	38	10	10
	25	26	27	28	29	30	31
BEAST	-	-	-	9	12	22	14
Augusta	8	6	6	9	19	29	15
Sandersville	7	10	15	19	19	31	20

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-9: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

FEBRUARY		PM 10 - Concentration with AQI color code							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	9	10	32	26	20	12	9		
Augusta	9	10	38	24	19	11	9		
Sandersville	14	18	32	11	13	28	13		
	8	9	10	11	12	13	14		
BEAST	10	20	35	17	15	16	21		
Augusta	10	18	35	19	16	16	30		
Sandersville	13	22	30	18	17	20	30		
	15	16	17	18	19	20	21		
BEAST	12	9	23	17	22	23	19		
Augusta	16	8	26	20	21	23	19		
Sandersville	11	8	16	14	16	22	14		
	22	23	24	25	26	27	28		
BEAST	10	8	22	35	11	9	14		
Augusta	8	6	22	28	11	8	13		
Sandersville	10	9	20	26	9	6	9		

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

FEBRUARY		PM 10 - AQI							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	8	9	30	24	19	11	8		
Augusta	8	9	35	22	18	10	8		
Sandersville	13	17	30	10	12	26	12		
	8	9	10	11	12	13	14		
BEAST	9	19	32	16	14	15	19		
Augusta	9	17	32	18	15	15	28		
Sandersville	12	20	28	17	16	19	28		
	15	16	17	18	19	20	21		
BEAST	11	8	21	16	20	21	18		
Augusta	15	7	24	19	19	21	18		
Sandersville	10	7	15	13	15	20	13		
	22	23	24	25	26	27	28		
BEAST	9	7	20	32	10	8	13		
Augusta	7	6	20	26	10	7	12		
Sandersville	9	8	19	24	8	6	8		

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

MARCH		PM 10 - Concentration with AQI color code							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	25	26	27	27	24	19	17		
Augusta	20	24	29	26	25	21	17		
Sandersville	23	38	15	25	16	18	15		
	8	9	10	11	12	13	14		
BEAST	14	15	16	24	-				
Augusta	13	13	13	25	11				
Sandersville	18	22	18	26	16				
	15	16	17	18	19	20	21		
BEAST									
Augusta									
Sandersville									
	22	23	24	25	26	27	28		
BEAST									
Augusta									
Sandersville									
	29	30	31						
BEAST									
Augusta									
Sandersville									

PM10 concentration is the day's 24-hour average. Rounded to whole number.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

MARCH		PM 10 - AQI							2026
	S	M	T	W	T	F	S		
	1	2	3	4	5	6	7		
BEAST	23	24	25	25	22	18	16		
Augusta	19	22	27	24	23	19	16		
Sandersville	21	35	14	23	15	17	14		
	8	9	10	11	12	13	14		
BEAST	13	14	15	22					
Augusta	12	12	12	23	10				
Sandersville	17	20	17	24	15				
	15	16	17	18	19	20	21		
BEAST									
Augusta									
Sandersville									
	22	23	24	25	26	27	28		
BEAST									
Augusta									
Sandersville									
	29	30	31						
BEAST									
Augusta									
Sandersville									

PM10 AQI is based on the day's 24-hour average.
Data from the Augusta and Sandersville agency monitors are raw data that have not been quality assured.

Figure D12-10: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

The Augusta PM 10 monitor was the closest monitor to our BEAST. The Augusta monitor was closer to the BEAST data for daily 24-hour average than the Sandersville monitor. The Augusta monitor was within 1 ug/m³ of the BEAST data nearly 34% of the time. The Augusta monitor was within 2 ug/m³ of the BEAST over 50% of the time. Nearly 62% of the time, the Augusta monitor fell within 3 ug/m³ of the BEAST. By comparison, the Sandersville monitor was within 3 ug/m³ of the BEAST 42% of the time.

AMOUNT of Days			PERCENTAGE		
RANGE	Augusta	Sandersville	RANGE	Augusta	Sandersville
Within 1	38	19	Within 1	33.63%	15.08%
Within 2	19	19	Within 2	16.81%	15.08%
Within 3	13	15	Within 3	11.50%	11.90%
Within 4	10	13	Within 4	8.85%	10.32%
Within 5	4	9	Within 5	3.54%	7.14%
Within 6	8	12	Within 6	7.08%	9.52%
Within 7	5	12	Within 7	4.42%	9.52%
Within 8	3	3	Within 8	2.65%	2.38%
Within 9	4	7	Within 9	3.54%	5.56%
Within 10	1	4	Within 10	0.88%	3.17%
More than 10	8	13	More than 10	7.08%	10.32%

Figure D12-11: The left table provides the number of days within an ug/m³ range of our BEAST data. The second table provides the percentage of days within the ug/m³ range.

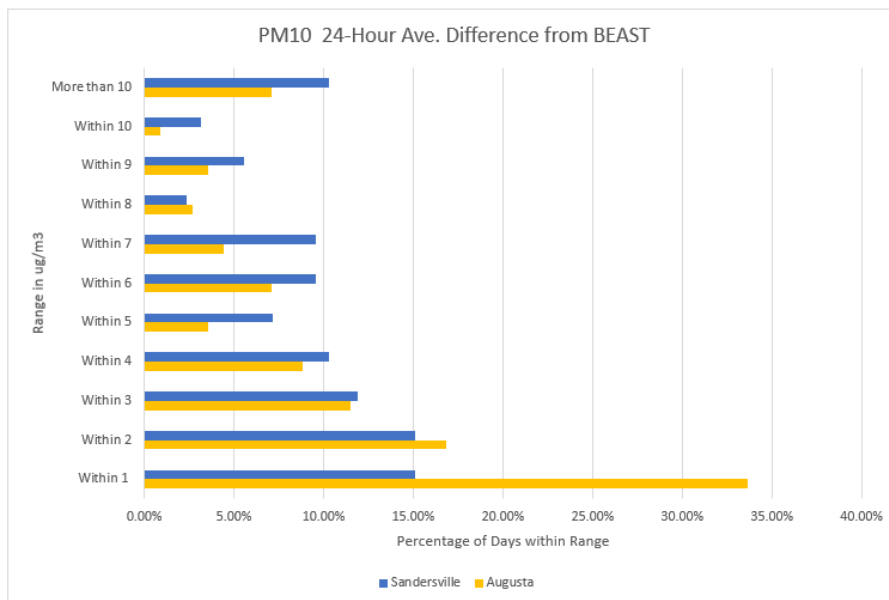


Figure D12-12: Provides a side bar chart of how close regional monitors were when screened with our BEAST data.

BEAST screened with regional NO2 monitors

OCTOBER		NO2 - Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
BEAST				1	2	3	4		
Sandhill									
Greenville									
	5	6	7	8	9	10	11		
BEAST									
Sandhill									
Greenville									
	12	13	14	15	16	17	18		
BEAST									
Sandhill									
Greenville									
	19	20	21	22	23	24	25		
BEAST					-	7	5		
Sandhill					13	9	3		
Greenville					23	25	7		
	26	27	28	29	30	31			
BEAST	1	1	1	2	3	9			
Sandhill	2	2	2	3	7	12			
Greenville	6	4	3	10	8	24			

NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

OCTOBER		NO2 - AQI							2025
	S	M	T	W	T	F	S		
BEAST				1	2	3	4		
Sandhill									
Greenville									
	5	6	7	8	9	10	11		
BEAST									
Sandhill									
Greenville									
	12	13	14	15	16	17	18		
BEAST									
Sandhill									
Greenville									
	19	20	21	22	23	24	25		
BEAST					-	7	5		
Sandhill					12	8	3		
Greenville					22	24	7		
	26	27	28	29	30	31			
BEAST	1	1	1	2	3	8			
Sandhill	2	2	2	3	7	11			
Greenville	6	4	3	9	8	23			

NO2 AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

NOVEMBER		NO2 - Concentration with AQI color code							2025
	S	M	T	W	T	F	S		
BEAST							8	1	
Sandhill							22		
Greenville							26		
	2	3	4	5	6	7	8		
BEAST	5	14	16	21	11	10	13		
Sandhill	4	12	34	20	15	11	7		
Greenville	20	17	32	20	40	29	18		
	9	10	11	12	13	14	15		
BEAST	6	0	12	17	16	14	8		
Sandhill	4	3	19	13	25	15	15		
Greenville	12	9	8	16	30	33	19		
	16	17	18	19	20	21	22		
BEAST	6	17	14	12	7	9	8		
Sandhill	5	42	19	15	14	19	17		
Greenville	7	39	27	24	13	12	20		
	23	24	25	26	27	28	29		
BEAST	8	9	9	9	2	6	7		
Sandhill	16	16	14	9	4	11	5		
Greenville	28	22	16	9	12	20	10		
	30								
BEAST	2								
Sandhill	6								
Greenville	8								

NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

NOVEMBER		NO2 - AQI							2025
	S	M	T	W	T	F	S		
BEAST							8	1	
Sandhill							21		
Greenville							25		
	2	3	4	5	6	7	8		
BEAST	5	13	15	20	11	9	12		
Sandhill	4	11	32	19	14	10	7		
Greenville	19	16	30	19	38	27	17		
	9	10	11	12	13	14	15		
BEAST	6	0	11	16	15	13	8		
Sandhill	4	3	18	12	24	14	14		
Greenville	11	8	8	15	28	31	18		
	16	17	18	19	20	21	22		
BEAST	6	16	13	11	7	8	8		
Sandhill	5	40	18	14	13	18	16		
Greenville	7	37	25	23	12	11	19		
	23	24	25	26	27	28	29		
BEAST	8	8	8	8	2	6	7		
Sandhill	15	15	13	8	4	10	5		
Greenville	26	21	15	8	11	19	9		
	30								
BEAST	2								
Sandhill	6								
Greenville	8								

NO2 AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

Figure D12-13: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

DECEMBER 2025

NO₂ - Concentration with AQI color code

	S	M	T	W	T	F	S
		1	2	3	4	5	6
BEAST		1	4	10	13	4	6
Sandhill		6	6	23	19	11	16
Greenville		10	11	26	20	11	15
	7	8	9	10	11	12	13
BEAST	4	4	7	6	15	13	10
Sandhill	11	5	12	15	26	24	22
Greenville	11	12	25	14	20	29	22
	14	15	16	17	18	19	20
BEAST	4	15	22	18	12	5	10
Sandhill	4	21	26	22	16	9	14
Greenville	5	25	41	42	38	4	30
	21	22	23	24	25	26	27
BEAST	12	9	10	7	4	6	6
Sandhill	11	8	14	18	8	7	7
Greenville	27	17	11	29	27	17	30
	28	29	30	31			
BEAST	6	2	12	10			
Sandhill	9	4	14	14			
Greenville	24	18	18	23			

NO₂ concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

DECEMBER 2025

NO₂ - AQI

	S	M	T	W	T	F	S
		1	2	3	4	5	6
BEAST		1	4	9	12	4	6
Sandhill		6	6	22	18	10	15
Greenville		9	10	25	19	10	14
	7	8	9	10	11	12	13
BEAST	4	4	7	6	14	12	9
Sandhill	10	5	11	14	25	23	21
Greenville	10	11	24	13	19	27	21
	14	15	16	17	18	19	20
BEAST	4	14	21	17	11	5	9
Sandhill	4	20	25	21	15	8	13
Greenville	5	24	39	40	36	4	28
	21	22	23	24	25	26	27
BEAST	11	8	9	7	4	6	6
Sandhill	10	8	13	17	8	7	7
Greenville	25	16	10	27	25	16	28
	28	29	30	31			
BEAST	6	2	11	9			
Sandhill	8	4	13	13			
Greenville	23	17	17	22			

NO₂ AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

JANUARY 2026

NO₂ - Concentration with AQI color code

	S	M	T	W	T	F	S
					1	2	3
BEAST					8	9	5
Sandhill					25	12	9
Greenville					24	9	18
	4	5	6	7	8	9	10
BEAST	5	12	9	12	9	6	3
Sandhill	22	29	18	16	14	11	5
Greenville	25	22	13	23	28	18	19
	11	12	13	14	15	16	17
BEAST	1	15	16	12	2	15	7
Sandhill	3	28	28	19	4	21	9
Greenville	4	27	25	11	7	21	8
	18	19	20	21	22	23	24
BEAST	10	12	15	15	13	-	-
Sandhill	15	12	12	26	20	4	5
Greenville	13	11	37	35	31	26	9
	25	26	27	28	29	30	31
BEAST	-	-	-	14	10	15	3
Sandhill	6	7	10	12	12	16	6
Greenville	11	9	18	33	38	34	9

NO₂ concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

JANUARY 2026

NO₂ - AQI

	S	M	T	W	T	F	S
					1	2	3
BEAST					8	8	5
Sandhill					24	11	8
Greenville					23	8	17
	4	5	6	7	8	9	10
BEAST	5	11	8	11	8	6	3
Sandhill	21	27	17	15	13	10	5
Greenville	24	21	12	22	26	17	18
	11	12	13	14	15	16	17
BEAST	1	14	15	11	2	14	7
Sandhill	3	26	26	18	4	20	8
Greenville	4	25	24	10	7	20	8
	18	19	20	21	22	23	24
BEAST	9	11	14	14	12	-	-
Sandhill	14	11	11	25	19	4	5
Greenville	12	10	35	33	29	25	8
	25	26	27	28	29	30	31
BEAST	-	-	-	13	9	14	9
Sandhill	6	7	9	11	11	15	6
Greenville	10	8	17	31	36	32	8

NO₂ AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

Figure D12-14: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

FEBRUARY **NO2 - Concentration with AQI color code** **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
BEAST	9	20	13	8	11	12	10
Sandhill	7	26	28	15	20	28	5
Greenville	10	36	42	18	9	19	12
	8	9	10	11	12	13	14
BEAST	8	17	11	8	14	13	11
Sandhill	8	9	17	12	23	14	12
Greenville	31	33	37	7	14	42	36
	15	16	17	18	19	20	21
BEAST	4	10	8	12	9	10	11
Sandhill	7	13	17	22	10	10	6
Greenville	22	21	27	15	18	20	19
	22	23	24	25	26	27	28
BEAST	3	0	11	8	8	6	5
Sandhill	5	3	12	9	9	6	15
Greenville	6	6	18	14	16	14	15

NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

FEBRUARY **NO2 - AQI** **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
BEAST	8	19	12	8	10	11	9
Sandhill	7	25	26	14	19	26	5
Greenville	9	34	40	17	8	18	11
	8	9	10	11	12	13	14
BEAST	8	16	10	8	13	12	10
Sandhill	8	8	16	11	22	13	11
Greenville	29	31	35	7	13	40	34
	15	16	17	18	19	20	21
BEAST	4	9	8	11	8	9	10
Sandhill	7	12	16	21	9	9	6
Greenville	21	20	25	14	17	19	18
	22	23	24	25	26	27	28
BEAST	3	0	10	8	8	6	5
Sandhill	5	3	11	8	8	6	14
Greenville	6	6	17	13	15	13	14

NO2 AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

MARCH **NO2 - Concentration with AQI color code** **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
BEAST	9	7	6	10	8	11	3
Sandhill	13	5	7	13	13	16	4
Greenville	21	23	22	13	20	23	17
	8	9	10	11	12	13	14
BEAST	3	10	16	5	-		
Sandhill	6	15	24	13	5		
Greenville	5	6	8	8	6		
	15	16	17	18	19	20	21
BEAST							
Sandhill							
Greenville							
	22	23	24	25	26	27	28
BEAST							
Sandhill							
Greenville							
	29	30	31				
BEAST							
Sandhill							
Greenville							

NO2 concentration is the day's highest 1-hour average. Rounded to the whole number.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

MARCH **NO2 - AQI** **2026**

	S	M	T	W	T	F	S
	1	2	3	4	5	6	7
BEAST	8	7	6	9	8	10	3
Sandhill	12	5	7	12	12	15	4
Greenville	20	22	21	12	19	22	16
	8	9	10	11	12	13	14
BEAST	3	9	15	5	-		
Sandhill	6	14	23	12	5		
Greenville	5	6	8	8	6		
	15	16	17	18	19	20	21
BEAST							
Sandhill							
Greenville							
	22	23	24	25	26	27	28
BEAST							
Sandhill							
Greenville							
	29	30	31				
BEAST							
Sandhill							
Greenville							

NO2 AQI is based on the day's highest 1-hour average.
Data from the Sandhill and Greenville agency monitors are raw data that have not been quality assured.

Figure D12-15: Monthly data tables displaying air monitors' daily concentrations in the left tables with associated AQI in the right tables.

Neither of the two regional NO2 monitors were close to our BEAST location. In this case, the BEAST registered lower NO2 concentrations during our 4.5 months of air monitoring. When screening data, the Sandhill monitor data was much closer to the BEAST data than Greenville. The Sandhill monitor was within 3 ppb of the BEAST data 68% of the time; whereas, the Greenville monitor was within 3 ppb only 20% of the time.

AMOUNT			PERCENTAGE		
RANGE	Sandhill	Greenville	RANGE	Sandhill	Greenville
Within 1	11	6	Within 1	8.59%	4.72%
Within 2	40	6	Within 2	31.25%	4.72%
Within 3	36	13	Within 3	28.13%	10.24%
Within 4	23	20	Within 4	17.97%	15.75%
Within 5	11	12	Within 5	8.59%	9.45%
Within 6	2	20	Within 6	1.56%	15.75%
Within 7	2	13	Within 7	1.56%	10.24%
Within 8	2	9	Within 8	1.56%	7.09%
Within 9	1	11	Within 9	0.78%	8.66%
Within 10	0	8	Within 10	0.00%	6.30%
More than 10	0	9	More than 10	0.00%	7.09%

Figure D12-16: The left table provides the number of days within an ug/m3 range of our BEAST data. The second table provides the percentage of days within the ug/m3 range.

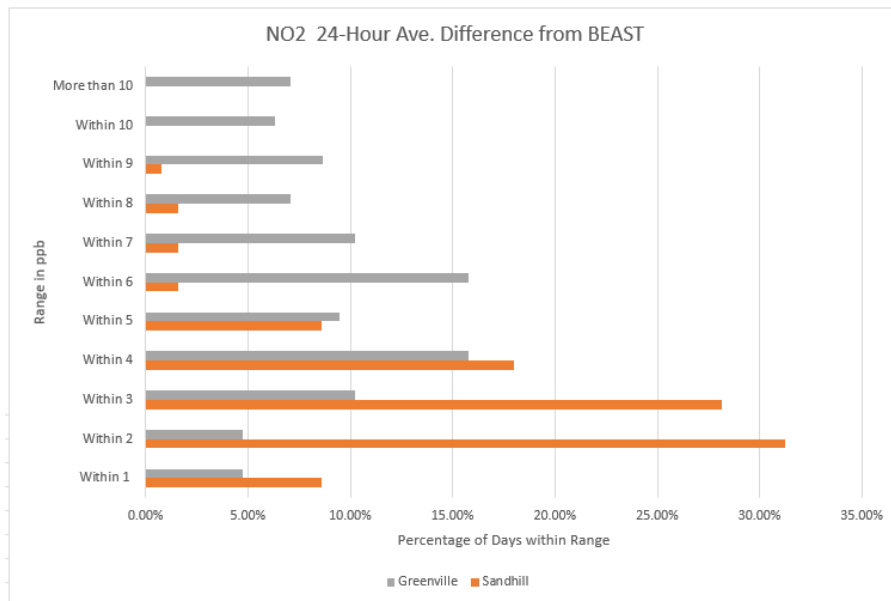


Figure D12-17: Provides a side bar chart of how close regional monitors were when screened with our BEAST data.

The Beast registered lower NO2 concentrations than screened regional NO2 monitors. Figure D12-18 displays the difference of the BEAST screened with regional monitors. Almost all daily averages of the BEAST were lower.

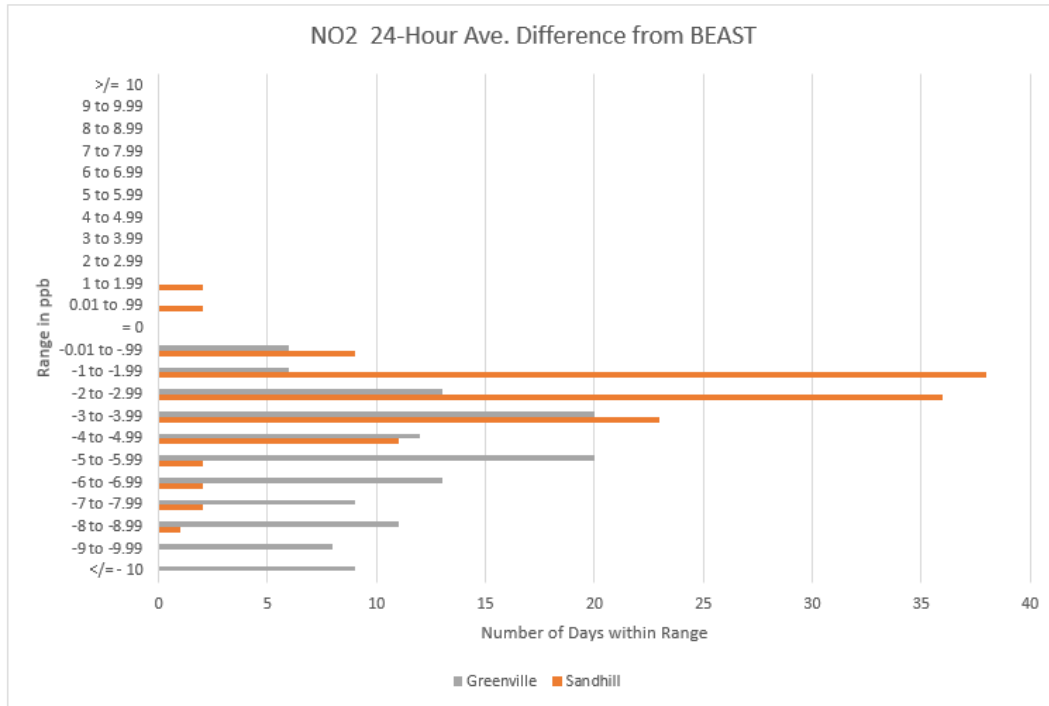


Figure D12-18: Shows that the BEAST registered NO2 levels below the nearest agency NO2 monitors.

