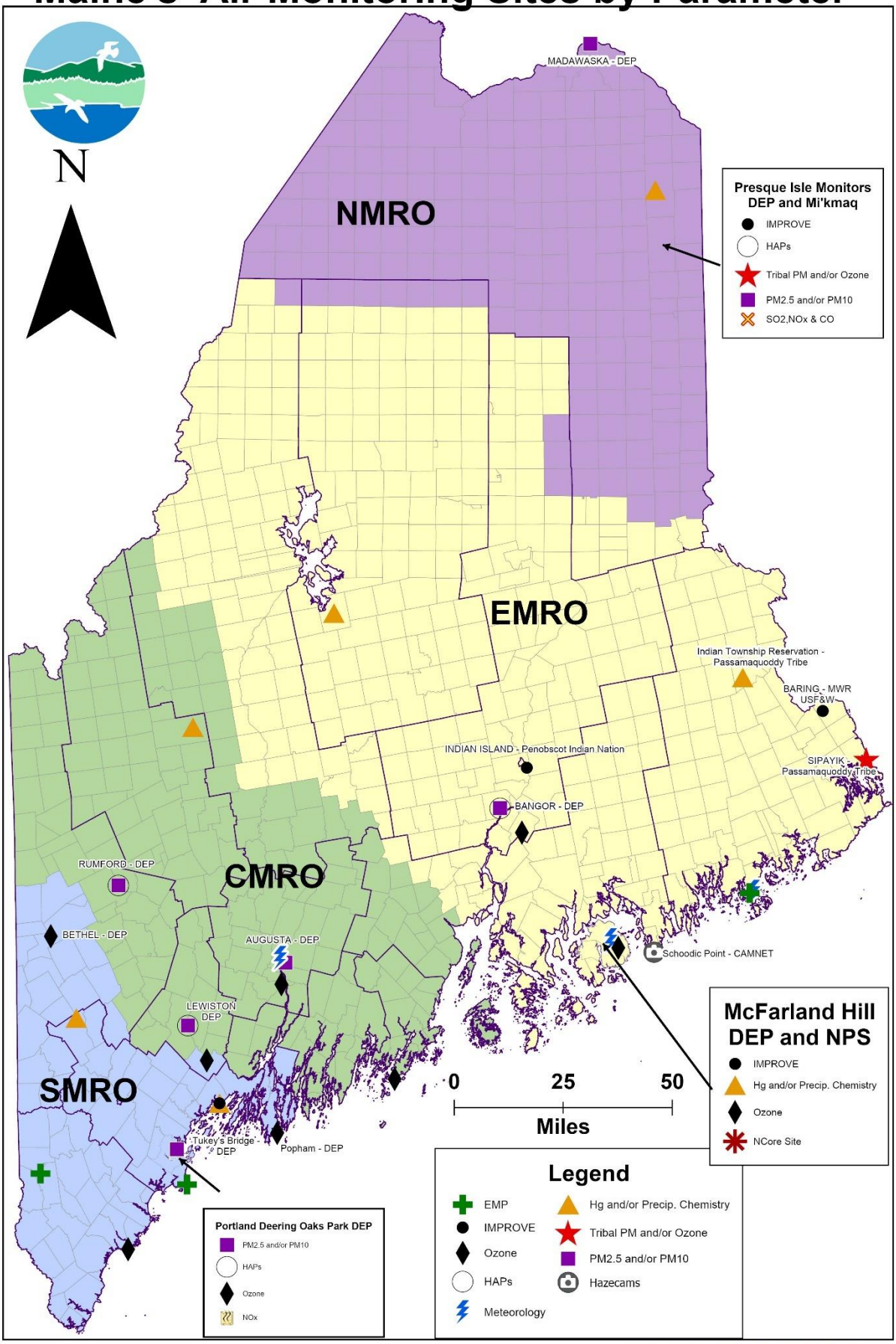
Annual Air Monitoring Plan 2026

Maine Department of Environmental Protection
Bureau of Air Quality
July 1, 2025

Maine's Air Monitoring Sites by Parameter



Data Source MEGIS and MEDEP; updated 5/15/2024

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Introduction

The Maine Department of Environmental Protection (DEP), Bureau of Air Quality (BAQ) operates and maintains a network of air samplers in the state to evaluate ambient air quality in Maine. The Code of Federal Regulations (CFR) and the Environmental Protection Agency (EPA) require state and local agencies to conduct ambient air quality monitoring to determine whether the ambient concentrations of pollutants in the state exceed EPA's National Ambient Air Quality Standards (NAAQS). The State of Maine has been and remains in attainment with all NAAQS since 2004. Air quality data is also used to document trends that may be occurring in the concentrations of monitored pollutants and to support the Maine DEP by providing background information for the licensing program and, when necessary, the development of pollution control strategies. For many of the monitored pollutants, the BAQ maintains an automated polling and reporting technology that provides continuous hourly data to the public and scientific community. These data are also used for timely forecasting of regional air quality conditions for Maine citizens and visitors to the state.

The Maine BAQ has been monitoring air quality in Maine since the DEP was formed in 1972, working in partnership with the EPA to uphold the tenets of the 1970 Clean Air Act and subsequent amendments. The BAQ is responsible for most of the ambient air quality monitors located in Maine. Additional monitoring is conducted by several federal agencies such as the EPA, the National Park Service, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, as well as several of the Indian tribes in Maine. In 2007, Maine BAQ entered into a Primary Quality Assurance Organization (PQAO) agreement with the Mi'kmaq[1] Nation, the Passamaquoddy Tribe at Pleasant Point, and the Penobscot Indian Nation in Maine to conduct air monitoring with shared quality assurance plans, practices, and procedures.

The air monitoring program in Maine has evolved as air quality standards have tightened, scientific knowledge has improved, the levels of concern for different pollutants have evolved, and the technology to monitor these pollutants has developed. The DEP initially concentrated resources on neighborhood monitoring of air pollutants, primarily from local sources. As the impact on the ambient environment from local sources was reduced, the state monitoring network began to focus on establishing statewide background levels and improving air quality forecasts.

Maine is a state with many regions of varying topography. Pollutant impacts in one area of the state may be very different from pollutant impacts in another area. Mountain valleys in the western part of the state may experience higher pollution levels at times because of atmospheric inversions, which trap ground-level pollution in the valleys for extended periods, whereas the coastal locations, with higher dispersion of pollutants due to the constant onshore and offshore winds, may not. Aroostook County may record higher particulate levels because of widespread farming operations and the type of soil found in the county. Southern Maine may record higher ozone levels because of air masses originating from other areas of the United States. Some pollutants monitored may even come from the other side of the world, such as particulates from volcanic eruptions, large forest fires, or emissions from less-controlled sources in some of the rapidly developing countries.

The DEP is also aware of heightened interest in air quality issues by Maine citizens. Many internet sites provide real-time or near real-time ambient air quality data. Low-cost air sensors are on the market and becoming more readily available. As a result, the citizens the DEP serves are more informed and frequently more engaged in air quality issues than ever before. That expanding knowledge is creating demand for

[1] The Mi'kmaq (MIG-mah) Nation is federally recognized as the 'Aroostook Band of Micmacs'; however, this document uses 'Mi'Kmaq Nation' which is the traditional name and the nation's preferred name.

broadened air quality monitoring across the state and increasing interest in monitoring for non-criteria pollutants, such as hazardous air pollutants (HAPs) and aeroallergens (e.g., pollen, dust, and mold).

he DEP must also deal with changing federal regulations. As more data are collected and more health study results are published, the impacts of various pollutants are reviewed. Pollution standards and controls may need to be updated to reflect revised recommendations. The EPA is required to review the NAAQS every five years, and changing standards may require the implementation of additional monitoring requirements. A list of the current NAAQS is presented below.

National Ambient Air Quality Standards (NAAQS)[2]

The EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" air pollutants. The current standards are listed below in units of parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air ($\mu g/m^3$).

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 $\mu g/m^3$ (1)	Not to be exceeded
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 (2)	Annual Mean
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	9.0 $\mu g/m^3$	annual mean, averaged over 3 years
		secondary	1 year	15.0 $\mu g/m^3$	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	1 year	10 ppb	Annual mean, averaged over 3 years

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

[2] https://www.epa.gov/criteria-air-pollutants/naaqs-table

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

Network Overview

By July 1st of each year, the DEP is required to submit to the EPA a proposed monitoring plan for the next calendar year. In 2006, the EPA also required states to make their proposed plan available for a 30-day comment period prior to submittal. The DEP annual monitoring plan is constantly subject to change as standards are revised, new pollutants of concern are identified, monitoring sites are no longer acceptable to property owners, and staffing and budget cuts affect the ability to meet program objectives. Consequently, the monitoring plan proposed in this document is our best effort to project what we will be able to do next year given our current standards, staffing, and budget constraints.

The Maine DEP BAQ monitors air quality as required by the 1970 Clean Air Act and subsequent amendments, the Code of Federal Regulations (CFR), and the federal Environmental Protection Agency (EPA.) Much of the monitoring effort focuses on the six criteria pollutants: ground-level ozone, particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead.

Ozone monitoring continues to be a priority for the DEP. Ozone at ground level can trigger a variety of health effects, particularly in young children, the elderly, and those with existing health conditions. It is also harmful to vegetation, buildings, and infrastructure. Ground-level ozone is not usually emitted directly into the air from a source but is created through the presence of sunlight acting on other airborne pollutants like those found in vehicle exhaust, chemical solvents, and gasoline vapors. The primary ozone precursors are nitrogen oxides and volatile organic compounds. Since the Clean Air Act of 1970, Maine has operated ozone monitoring stations at many locations, each selected to optimize the assessment of ozone levels across the state.

Quantification of fine airborne particulate matter ($PM_{2.5}$) is another major component of the DEP ambient monitoring program. Particulate matter (PM) is the term used for any airborne mixture of solid particles and liquid droplets, such as those found in soot, dust, and smoke. The particles can be large enough, like pollen, to be seen with the unaided eye, while others are so fine that they can only be detected with electron microscopes. Of particular concern are those particles, generally 10 microns in size and less (PM_{10}), which are inhalable, for they can become lodged in the lungs. $PM_{2.5}$ particles can be respired deeply into the lungs and even enter the bloodstream. Fine particulate ($PM_{2.5}$) monitoring in Maine has evolved since 1999 when the program was established. The Total Suspended Particulate (TSP) and PM_{10} program in Maine began shortly after the DEP was established in 1972. DEP efforts have focused on introducing more of the continuous $PM_{2.5}$ monitors into the network. Most monitoring sites where particulate sampling takes place today include a continuous $PM_{2.5}$ monitor. In addition, the DEP is intending to increase mobility with particulate monitoring in order to be more responsive to localized air quality issues.

Nitrogen dioxide (NO_2) is one of a group of highly reactive gasses known as “oxides of nitrogen,” or “nitrogen oxides (NO_x).” EPA’s National Ambient Air Quality Standard uses NO_2 as the term representing the larger group of nitrogen oxides that include NO, NO_2, NO_x, and NO_y. Nitrogen Oxide (NO) is created during the combustion stage of engine and boiler operations. The NO, NO_2, NO_x, and NO_y forms of nitrogen oxides react at different rates in the atmosphere in a process that is dependent on sunlight and temperature. NO_x is measured at ground level while NO_y is the reactive form measured at ten meters above ground level. In addition to contributing to the formation of ground-level ozone and fine particle pollution, the oxides of nitrogen are linked with a number of adverse health effects on the respiratory system.

Sulfur dioxide (SO_2) and a group of other sulfur oxides, collectively known as SO_x, are emitted into the atmosphere from the burning of fossil fuels by power plants, industrial facilities, ships, locomotives, and heavy equipment. Short-term exposure to SO_2 and SO_x compounds can harm the respiratory system. Children, the elderly, and those with asthma or other breathing problems are particularly sensitive to these sulfur compounds.

Carbon monoxide (CO) is another harmful gas emitted during combustion processes. Most of this colorless, odorless, yet extremely harmful gas comes from mobile sources such as cars and trucks, and in the United States it is found primarily in and around large urban areas. CO reduces the amount of oxygen that can be absorbed by the body, particularly the heart and the brain. At high concentrations, CO can lead to death.

Lead (Pb) is emitted into the atmosphere in particulate form – mainly from smelters, ore and metal processing facilities, waste incinerators, public utilities, and lead-acid manufactures. Piston aircraft continue to use leaded aviation fuel. Since tetraethyl lead was removed from motor vehicle fuel, the ambient levels of lead in Maine have dropped significantly and concentrations are currently at or below minimum detection levels for most Pb monitors.

The DEP also tests ambient air samples for many non-criteria yet hazardous air pollutants (HAPs). Based on the HAPs testing of ambient air, a priority list of hazardous pollutants was tabulated and the DEP has established background concentrations for several of the pollutants on the list. The list is modified as additional data become available.

The following section details the individual networks for the various parameters monitored in Maine, lists any changes proposed for monitored parameters, and identifies future needs for monitoring. Though the spirit and intent of this document is to specify how the network will appear and function for calendar year 2026, the potential exists for additional short-notice changes to the network. If circumstances dictate a change to the network, proposed changes will still be made available for public review and comment prior to implementation.

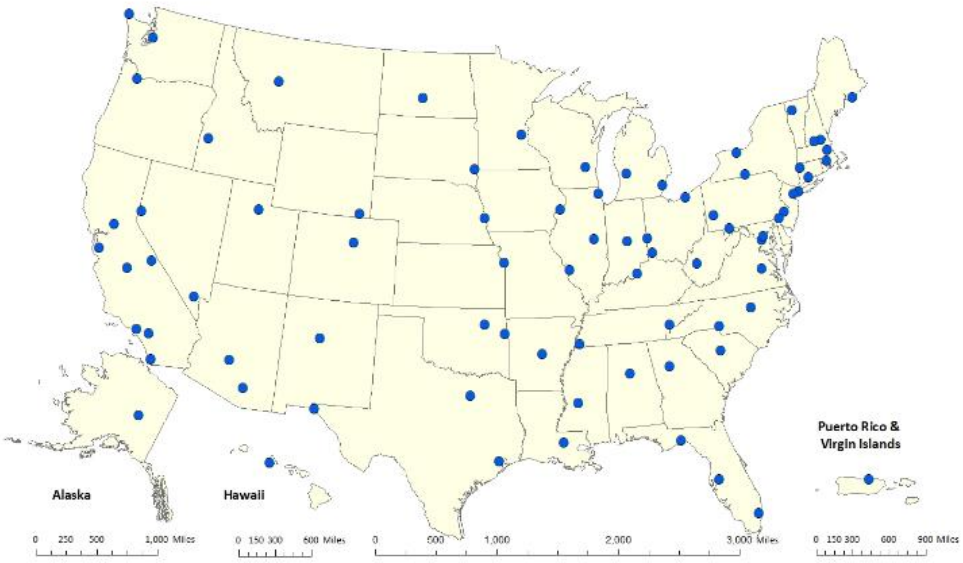
Monitoring Site Types

SLAMS

Most of the sites in the Maine air monitoring network are designated as state or local air monitoring stations (**SLAMS)**. The SLAMS in Maine are part of a standardized, national network administered by the EPA in accordance with the Clean Air Act and subsequent federal regulations. Every state must monitor for the criteria air pollutants, following strict criteria set by the EPA that govern all aspects of the monitoring and reporting process. SLAMS sites must meet all stringent monitor siting requirements and utilize specified equipment types. The pollution monitoring instruments at these sites must be approved by the EPA and be designated as either a federal reference method (FRM) or a federal equivalent method (FEM). In addition, SLAMS site operators must follow all quality assurance criteria and must submit detailed quarterly and annual monitoring results to the EPA. Data from SLAMS locations are used as one of the factors to define attainment/nonattainment areas and to determine if an area is meeting the NAAQS.

NCORE

Established in 2011, the National Core **(NCore**) network is comprised of a specialized subset of SLAMS sites.[3]



The purpose of the NCore network, in addition to aiding in the determination of nonattainment/ attainment areas, is to provide data to the scientific community from a specific suite of monitors that are used to make health and ecosystem assessments, establish long-term trends for criteria and certain precursor pollutants, and develop and evaluate pollutant transportation models. The NCore site in Maine, located at McFarland Hill in Acadia National Park, near Bar Harbor, is designated as a rural or background site. At McFarland Hill the following parameters are monitored:

[3] https://www.epa.gov/amtic/ncore-monitoring-network#:~:text=NCore%20is%20a%20multi%20pollutant,network%20on%20January%201%2C%202011

Air Pollutant Parameters Monitored at NCore Sites

$PM_{2.5}$ speciation	Organic and elemental carbon, major ions and trace metals (24-hour average; every 3rd day); IMPROVE or CSN
$PM_{2.5}$ FRM mass	Filter-based 24 hr. average every 3rd day
Continuous $PM_{2.5}$ mass	1-hour reporting interval; FEM
$PM_{(10-2.5)}$ mass – aka PM_{Coarse}	Filter-based 24 hr. average every 3rd day or Continuous
Ozone (O_3)	Continuous, capable of trace levels (low ppm)
Carbon monoxide (CO)	Continuous, capable of trace levels (low ppm)
Sulfur dioxide (SO_2)	Continuous, capable of trace levels (low ppb)
Nitrogen oxide (NO)	Continuous, capable of trace levels (low ppb)
Total reactive nitrogen (NO_y)	Continuous, capable of trace levels (low ppb)
Surface meteorology	Continuous wind speed and direction (reported as "Resultant"), temperature, RH

Special Purpose Monitor (SPM)

The Maine DEP operates several Special Purpose Monitors (SPM) around the state. SPMs are set up at locations to monitor specific pollutants for a short period, usually not exceeding two years, to investigate localized complaints, or to study a location for a possible long-term site.

The Deering Oaks Park site in Portland is a special purpose site; monitoring results at the site provide data useful in tracking relationships between pollutant levels and emergency department visits. Since the Deering Oaks Park location does not meet SLAMS siting requirements for ozone and nitrogen dioxide, and these data are not used in determining attainment or nonattainment status for criteria pollutants; however, the information is useful for other purposes such as quantifying urban air quality in Maine. Fine particulate matter ($PM_{2.5}$) for this site does meet siting requirements and is used of NAAQS compliance. The DEP, with the help of the City of Portland, has identified a new monitoring location across town on Thames Street that would provide a better representation of the city's ambient air quality.

Enhanced Monitoring Plan (EMP)

The State of Maine is required to maintain an Enhanced Monitoring Plan (EMP) because it is within the ozone transport region as defined in 40 CFR, part 58, appendix d, paragraph 5(h).[4] As part of this plan, as approved by the EPA on October 25, 2018, Maine operated a Photochemical Assessment Monitoring Station (PAMS) at Cape Elizabeth – Two Lights State Park (CETL) from 1993 to 2022. Monitoring at CETL began with year-round ozone, NO_y, meteorology, and, from June 1 to August 31, a continuous gas chromatography (GC) system measuring hourly concentrations of hydrocarbon volatile organic compounds (VOCs).

A Pandora sun spectrometer was installed at CETL in 2021. This instrument measures vertical column densities (total columns) of trace gases in the atmosphere using sun and sky radiation in the UV visible part of the spectrum. Staff from the Maine DEP provide in-person support to keep the instrument running, and the EPA

[4] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-58

and NASA provide data analysis. A major joint objective of this initiative is to support the validation and verification of more than a dozen low-earth orbit and geostationary orbit-based UV-visible sensors.

In October of 2022, after years of low concentrations and the need to refocus limited staff availability on other monitoring concerns within the state, the Maine DEP shut down the NO_Y instrument and the GC system at CETL. The meteorology tower had to be replaced due to wear-related safety concerns. The replacement tower is not heavy duty, and to ensure the longevity of the tower through Maine winters, the meteorology equipment is only in operation during the ozone season. The ozone monitor at CETL continues to run year-round as it provides important early spring data for forecasters and modelers. The Maine DEP does plan to reinstall a HAPs sampler at the CETL site when resources allow.

The new EMP plan for Maine includes the operation of ozone monitors beyond those minimally required under 40 CFR, part 58, appendix d, paragraph 4.1 as well as the enhanced monitoring of upper air pollution concentrations produced by the Pandora spectrometer.

In the future, the DEP would like to install a ceilometer at or near the NCore site in Bar Harbor to support ozone forecasting. The addition of this ceilometer is contingent on the availability of funds to acquire and support the instrument.

Tribal

In the 1990 Clean Air Act, Congress recognized EPA's Obligation to work with the Tribes in addressing air quality on Tribal lands. EPA's Tribal air policy emphasizes that, as sovereign governments, Tribes set their own air program goals and determine how monitoring is to be used in achieving these goals. Thus, EPA's role for Tribal air programs is to help the Tribes understand their air quality problems and to establish and meet their air quality goals, rather than to set goals or timetables for the Tribes. As part of a shared PQAO between the Maine DEP, the Penobscot Nation, the Passamaquoddy Tribe at Pleasant Point, and the Mi'kmaq Nation, the Maine DEP works directly with the tribal operators and administrators in a supporting role. This support varies among the tribes: often minimal with only shared quality assurance practices and conducting performance evaluations for criteria pollutant monitors, but occasionally extending to direct technical assistance and short/moderate-term loaning of monitoring equipment.

Other/ Special networks

CASTNET[5]

The Clean Air Status and Trends Network (CASTNET) is a nationwide monitoring operation that collects air pollutant concentrations to evaluate the effectiveness of national and regional emission control programs, to determine compliance with the NAAQS for ozone, and to determine rural trends in ozone, nitrogen, and sulfur concentrations. The network was established in 1991 as a cooperative program with the EPA, the National Park Service, and state and local partners. The single CASTNET site location in Maine is at McFarland Hill in Acadia National Park. There was previously a second CASTNET site in Maine located in Ashland, but that site was unexpectedly shut down in May 2022 due to budget constraints. CASNET data are incorporated in several regional air quality models.

[5] https://www.epa.gov/castnet

Camnet[6]

Camnet is a network of real-time visibility cameras situated throughout the northeastern United States that is coordinated by the Northeast States for Coordinated Air Use Management (NESCAUM). The Maine DEP, along with several other state and local agencies and non-profit organizations, helps support the operation of this network. In Maine, there is an active Camnet location at Schoodic Point with one wide-angle camera pointing west toward Acadia National Park on Mount Desert Island. Air quality sensors at the site allow users of Camnet to see the effects of air pollution on visibility. There was a second Camnet location in Maine at Moosehorn National Wildlife Refuge, but this site was shut down in 2018.

RadNet[7]

RadNet is the EPA's radiation network. The EPA has historically maintained two RadNet sites in Maine with local operators: one site is in Portland operated by the DEP, and one in Orono operated by a University of Maine staff member. Due to a retirement at the University of Maine, the Orono RadNet site was shut down in 2023. The Maine DEP worked with the RadNet program to replace the Orono location with a new site at the DEP Bangor monitoring location, a project that was completed on August 12, 2024. Maine RadNet sites run 24 hours a day, 7 days a week collecting near real-time measurements of gamma radiation. In addition, high-volume air samplers collect particulates continuously at these two sites for laboratory radiation analysis. The full RadNet network includes 140 radiation air monitors in 50 states. The RadNet program monitors the nation's air, precipitation, and drinking water to track radiation in the environment. Over time, RadNet sample testing and monitoring results show the fluctuations in background levels of environmental radiation. The RadNet system is also designed to detect higher than normal radiation levels during a radiological incident.

Gamma radiation comes from many different radioactive elements, both natural and man-made. Able to penetrate several feet of concrete or a few inches of lead, gamma particles can pose a serious health threat inside and outside the body and the radiation can be lethal depending on the amount received. Scientists use the properties of gamma radiation to detect the presence of radioactive elements. RadNet stationary air monitors measure gamma radiation emitted from airborne radioactive particles as they collect on the exposed filters. Tracking gamma radiation over time helps to create a picture of the background levels and allows EPA scientists to detect anomalies.

Other

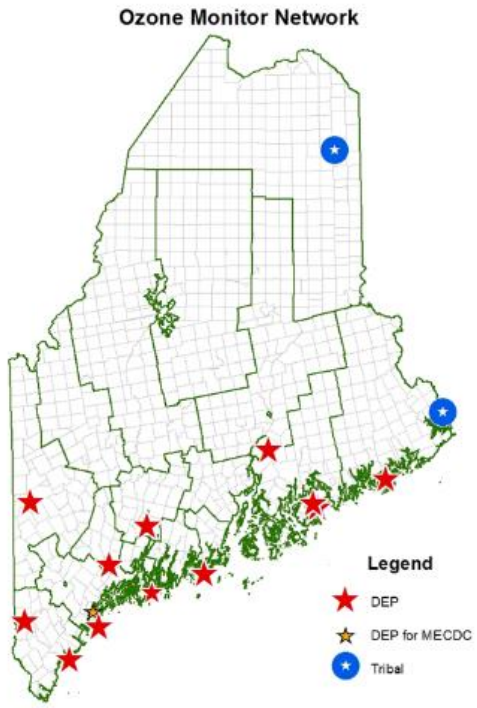
Maine also works with the EPA and national contract labs to conduct PM chemical speciation (e.g., the IMPROVE network) and atmospheric deposition analysis. These networks are discussed in detail in the following section. Additionally, the National Park Service (NPS) and the U.S. Fish and Wildlife Service (USFWS) operate monitoring sites in Maine as part of their respective networks.

[6] https://www.hazecam.net/
[7] https://www.epa.gov/radnet

Monitoring Networks

Ozone Network

The DEP currently operates 12 ground-level ozone monitoring sites throughout the state in accordance with SLAMS network requirements as well as one additional special purpose monitoring station. Three of the DEP ozone sites operate year-round: Bar Harbor, Cape Elizabeth, and Portland Deering Oaks. The remaining DEP ozone sites are seasonal, running April 1 through September 30 each year at a minimum. The Portland Deering Oaks site is the special purpose monitoring location. This site is within a metropolitan area, and the data collected are used for human health studies rather than for regulatory purposes. Expanding on the DEP-operated network, two additional ozone sites in Maine are operated by Maine Indian tribes year-round. The EPA previously operated an additional ozone site in Ashland as part of the CASTNET program, but it was shut down in May 2022.



In 2020, the Gardner Pray Street School monitoring shelter was moved to accommodate a construction project on that property. The shelter was moved a short distance to the Gardiner Area High School property. The Gardiner Area High School was meant to be a temporary ozone monitoring location, since siting is not optimal. DEP staff are reviewing options for this site for future monitoring in Gardiner after the 2025 ozone season.

The DEP, with the cooperation of the Maine Department of Agriculture, Conservation, and Forestry (DACF) installed an ozone site at Popham Beach State Park in 2022. This installation satisfies a long-standing need for a coastal site between Cape Elizabeth and Port Clyde.

At the end of 2022, the DEP moved the monitoring equipment from the Jonesport Public Landing structure to a monitoring shelter in the parking lot of the Jonesport Coast Guard Station. This move was required due to the planned demolition of the Public Landing structure. The move was done outside of the ozone season, and the 2023 monitoring season started as planned at the new location.

The January 18, 2024, storm that battered much of the Maine coastline both moved and damaged the monitoring shelter in Kennebunkport. The shelter had to be removed from the site and repaired. The DEP reinstalled the shelter back into its original location for the 2024 ozone season but are planning to move this monitoring station to Wells in the fall of 2025. The Wells location is in an area with similar exposure to ozone transport, but it is better protected from coastal storms and flooding.

The Mi'kmaq Nation plans to replace their monitoring shelter with a new shelter installed in a nearby field.

Although the federally required ozone season for Maine runs from April through September, most of the Maine sites now operate from the first of March through the first of October, weather permitting. The Maine sites are scattered throughout the state, with most situated along the coast and in southern Maine. The highest ozone concentrations tend to occur along the coast because plumes of contaminated air are often transported into the Gulf of Maine from metropolitan areas to the south. These air masses are subsequently blown ashore and carried inland. In addition to determining attainment/nonattainment status, the ozone sites

in Maine collect data that are used by mapping and forecasting programs to provide the public and scientific community with quality data in a timely fashion and to forecast air quality alerts when necessary.

Proposed changes for the ozone network:

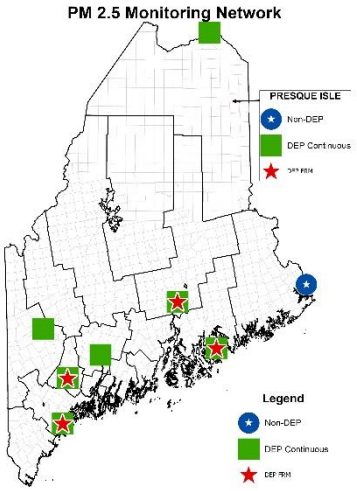
- The Kennebunkport station will be moved from Kennebunkport to Wells.
- If not done in 2025, the Mi'kmaq may move their ozone monitoring to a new shelter in a nearby field.
- The location of the Gardiner area ozone monitor may be moved. The current sitting is not optimal for ozone coming from the west and this location was meant to be temporary during the construction of a Girls and Boys Club on Pray Street. The DEP is considering options for the future of this site, which include remaining at the current site or moving to another location with better siting in the Gardiner and Augusta area.

Ozone Monitoring Site Summary

Ozone Monitoring Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore & CASTNET	Background, AQI forecasting / Mapping	Continuous
Bar Harbor – Top of Cadillac Mountain	SLAMS	AQI forecasting / Mapping	Continuous – Seasonal
Bethel, Smith Farm Road	SLAMS	Max. Conc., AQI forecasting	Continuous – Seasonal
Cape Elizabeth – Two Lights State Park	SLAMS & EMP	Transport, AQI forecasting	Continuous
Durham – Fire Station – Route 9	SLAMS	Max. Concentration	Continuous – Seasonal
Gardiner – Gardner High School	SLAMS	Max. Conc., AQI forecasting	Continuous – Seasonal
Holden – Rider Bluff	SLAMS	Max. Conc., Mapping	Continuous – Seasonal
Jonesport – Coast Guard Station	SLAMS & EMP	Max. Concentration	Continuous – Seasonal
Kennebunkport – Parsons Way	SLAMS	Max. Conc., Transport, AQI Forecasting	Continuous – Seasonal
Perry – Pleasant Point/Sipayik, 176 County Road	Tribal	-	Continuous
Phippsburg – Popham Beach State Park	SLAMS	Max. Conc., AQI forecasting / Mapping	Continuous – Seasonal
Port Clyde – Marshall Point Lighthouse	SLAMS	Max. Conc., AQI forecasting / Mapping	Continuous – Seasonal
Portland – Deering Oaks	SPM	High Pop. Exposure	Continuous
[PLANNED] Portland – Ocean Gateway	SLAMS	High Pop. Exposure	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous
Shapleigh – Ball Park, West Newfield Road	SLAMS & EMP	Max. Conc., Transport, AQI Forecasting	Continuous – Seasonal
[PLANNED] Well Harbor Community Park	SLAMS	Max. Conc., Transport, AQI Forecasting	Continuous – Seasonal

$PM_{2.5}$ Network

In 1999 the Maine DEP began a $PM_{2.5}$ monitoring program using filter-based samplers that met the federal reference method (FRM) requirements. The network began with 15 sites starting up during the first year of operation. Three years of data collection demonstrated compliance with the $PM_{2.5}$ standard at all monitoring sites, after which some of the samplers were relocated or switched to collect PM_{10} samples. In 2024, the DEP monitored for $PM_{2.5}$ using the filter-based FRM samplers at seven sites and continuous federal equivalent method (FEM) $PM_{2.5}$ monitoring was conducted at 10 sites. Two continuous monitors were operated by Maine Tribes. All of the current sites continue to comply with the $PM_{2.5}$ standard and remain in operation to gather trend data, document future attainment status, and forecast ambient air quality. $PM_{2.5}$ filters can also be analyzed to determine levels of some hazardous air pollutants.



The DEP initiated continuous monitoring of $PM_{2.5}$ in 2000 using tapered element oscillating microbalance (TEOM) samplers. These continuous monitors generated hourly average data that were available in near real-time and were very useful in helping to forecast air quality. TEOM sites were set up in Bangor, Bar Harbor, Greenville, Lewiston, and Portland. The Passamaquoddy Tribe operated a TEOM monitor in Sipayik, and the Mi'kmaq Nation installed TEOM monitors in both Presque Isle and Littleton.

In 2012, the TEOMs were nearing the end of their expected life cycle, so that year the Maine DEP initiated a program to procure new continuous $PM_{2.5}$ monitors known as beta attenuation monitors (BAM). The BAMs are an EPA-approved FEM, so the Maine DEP monitors $PM_{2.5}$ NAAQS using both the filter-based FRM and the continuous FEM monitors throughout the state. BAMs replaced the TEOMs in Lewiston, Bangor, and Bar Harbor. The TEOM in Portland remained in operation alongside the new BAM for comparison of methods until the end of June 2015. BAMs were later installed to supplement the filter-based FRM sampling in Presque Isle, Madawaska, and Rumford, and replaced the Passamaquoddy Tribe TEOM in Sipayik. In 2018, the Met One BAM in Bar Harbor was replaced with a Thermo Fisher Scientific Instruments model 5030i continuous $PM_{2.5}$ sampler. In 2020, the Maine DEP designated the continuous BAMs as the primary monitors, which allowed for the removal of the $PM_{2.5}$ filter based FRM samplers in Lewiston, Bangor, and Madawaska.

In 2020, the TEOM operated by the Mi'kmaq Nation in Littleton stopped reporting data due to a malfunction at the site. There was intention to resume monitoring at this location; however, the malfunction in the TEOM was not able to be overcome and has now been shut down. As of 2025, the TEOM operated by the Mi'kmaq Nation in Presque Isle is the only remaining TEOM in Maine.

In 2022, the Maine DEP applied for an American Rescue Plan (ARP) Grant and requested funds to purchase six Teledyne T640x PM monitors. These instruments use scattered light spectrometry and produce continuous real-time one- minute and hourly data for $PM_{2.5}$, along with PM_{10} and PM_{Coarse} simultaneously. The DEP was awarded the grant, and the six T640x instruments arrived in December of 2022. In January 2023, Maine DEP began the deployment of these instruments, starting at Presque Isle Riverside (replacing a Met One BAM) and Bar Harbor (replacing the Thermo Fisher Scientific Instruments 5030i). The DEP installed the remaining four T640x instruments in Augusta, Portland Tukey's Bridge, Madawaska, and the Presque Isle Background Site throughout 2023. In 2024, the Maine DEP used the remaining ARP funds to help with the purchase of a dedicated spare Teledyne T640x instrument and a semi-portable temperature-controlled telco cabinet to house air monitoring equipment.

The continuous, hourly averaged $PM_{2.5}$ records are reported in near real-time to both the Maine DEP web page and the EPA AirNow web site. Access to this continuous $PM_{2.5}$ data has permitted better forecasting for particulate levels under specific weather conditions for many parts of the state. The Rumford monitoring site was chosen to meet a long-standing interest in having real-time continuous data from western mountain valley locations. Complex meteorological conditions in Maine's western mountains and the subsequent dispersion of fine particulates like wood smoke are of particular interest to the DEP as it strives to produce better air quality forecasts in a region with few monitors and sparse data.

In April of 2024, the DEP installed a Teledyne T640x in Bangor, replacing an older Met One BAM 1020. This installation allows for the reorganization of the required filter-based FRM methods for $PM_{2.5}$ monitoring to increase the efficiency of staff time. On July 1, 2024, the four filter-based FRM PM_{10} monitors (two at Bangor Mary Snow school, one at Augusta Lincoln Street School, and one at the Lewiston County Kitchen Parking lot) were shut down, and two of the monitors were reconfigured for $PM_{2.5}$ monitoring (one at Bangor Mary Snow school and one at the Lewiston County Kitchen Parking lot). On December 31, 2024, the two filter-based FRM $PM_{2.5}$ monitors on the roof of Augusta Lincoln Street School were shut down.

After the Teledyne T640x monitor was installed at the Presque Isle Riverside station in January 2023, the DEP decided to continue operating the PM_{10} BAM as part of a short collocation study between the two methods. In the Spring of 2024, there were growing concerns that Canada would have another active wildfire season in 2024, similar to that experienced in 2023. Smoke plumes from wildfires contain elevated levels of $PM_{2.5}$, and it was determined that this BAM would provide the most beneficial data if used to monitor for $PM_{2.5}$, assisting forecasters in providing accurate air quality forecasts and alerts. This monitor was reconfigured for this purpose from late spring to early fall 2024 before being returned to a PM_{10} configuration.

In the City of Portland, due to a planned expansion of a walking and bike path, the DEP needs to move the Deering Oaks monitoring site. The DEP, with the help of the City of Portland, identified a new monitoring site near the eastern end of the Commercial St. area. This area is subject to multiple sources, and due to the topography of the surrounding area, it is downwind of the Portland downtown area for large portions of the year. This move is expected to occur in the summer of 2025.

The Maine DEP applied for the Inflation Reduction Act (IRA) 60105 Part A and B grant, requesting and receiving funds that allowed for the purchase of three additional Teledyne T640x monitors, intended for Lewiston, Rumford, and Portland. Additionally, this grant provided funding for three replacement monitoring shelters for Lewiston, Rumford, and Presque Isle Riverside station. The installation of these new shelters and monitors will occur throughout 2025. Maine DEP intends to operate the Teledyne T640x, Met One BAM 1020, and a filter-based FRM $PM_{2.5}$ monitor for a minimum of one year at the Lewiston site but will maintain all three methods as resources and staff time allow.

In January 2025, the Maine DEP expanded the Rumford Intra-valley Transport Analysis (RITA) project to determine if the current location of the Rumford monitoring station is in the ideal location for particulate monitoring for the Rumford and Mexico community. Upon the review of the expanded RITA project data, the DEP may consider moving from the current Rumford monitoring site. (Additional information on the RITA project can be found under *Monitoring Projects and Air Quality Studies* on page 34.)

The Mi'kmaq Nation plans to replace their monitoring shelter with a new shelter installed in a nearby field. When this is done, the Mi'kmaq plan to install a T640x to replace their TEOM.

Proposed changes for the $PM_{2.5}$ network:

- Install a Teledyne T640x instrument in Lewiston, located with the current Met One BAM 1020 and planned filter-based sampler for a minimum of 1-year, longer if required.
- If not done in 2025, the Mi'kmaq Nation plans to obtain a new monitoring shelter and replace their TEOM in Presque Isle with a Teledyne T640x.
- The Maine DEP is considering moving the current Rumford monitoring station to another location within the Rumford and Mexico community.
- A security fence will be installed around our platform at Portland Tukey's Bridge.

$PM_{2.5}$ Monitoring Site Summary

$PM_{2.5}$ Monitoring Site Address	**Site Type**	**Monitoring Objective**	**Sampling Method and Frequency**
Augusta – Lincoln Street School	SLAMS	Collocation	FEM[3], Continuous
Bangor – Mary Snow School	SLAMS	200K Pop Coverage/AQI Forecasting/Mapping[1]	FEM[4], Continuous*
Bangor – Mary Snow School	SLAMS	QA-Collocation	FRM[2], every 6 days
Bar Harbor – McFarland Hill	NCore	Transport	FRM[2], every 3 days
Bar Harbor – McFarland Hill	NCore	Mapping	FEM[3], Continuous*
Lewiston – Country Kitchen Lot	SLAMS	200K Pop. Coverage/ Mapping[1]	FEM[4], Continuous*
Lewiston – Country Kitchen Lot	SLAMS	QA-Collocation	FRM[2], every 6 days
Lewiston – Country Kitchen Lot	SLAMS	200K Pop. Coverage/ Mapping[1]	FEM[3], Continuous
Madawaska – Public Safety Bldg.	SLAMS	High Pop. Exposure/ AQI Forecasting/Mapping	FEM[3], Continuous*
Perry – Pleasant Point/Sipayik, 176 County Road	Tribal	Mapping	FEM[4], Continuous
Portland – Deering Oaks	SLAMS	MSA of 200-500K	FEM[4], Continuous*
Portland – Deering Oaks	SLAMS	MSA of 200-500K / QA-Collocation	FRM[2], every 6 days
[PLANNED] Portland – Ocean Gateway	SLAMS	MSA of 200-500K	FEM[3], Continuous*
[PLANNED] Portland – Ocean Gateway	SLAMS	MSA of 200-500K / QA-Collocation	FRM[2], every 6 days
Portland – Tukey's Bridge	SLAMS	High Traffic	FEM[3], Continuous*
Presque Isle – 8 Northern Road	Tribal	Mapping	TEOM, Continuous
Presque Isle – Regional Office	SLAMS	Background	FEM[3], Continuous*
Presque Isle – Riverside Street	SLAMS	200K Pop Coverage/AQI Forecasting/Mapping[1]	FEM[3], Continuous*
Presque Isle – Riverside Street	SLAMS	QA-Collocation	FRM[2], every 6 days
Rumford – Rumford Avenue	SLAMS	High Pop. Exposure/ AQI Forecasting/Mapping[1]	FEM[4] Continuous*

1 – 200K Pop. – 200,000 Population; AQI – Air Quality Index; MSA – Metropolitan Statistical Area

2 – Monitor method: RFPS-1006-143: Thermo-Fisher Scientific Model 2000i

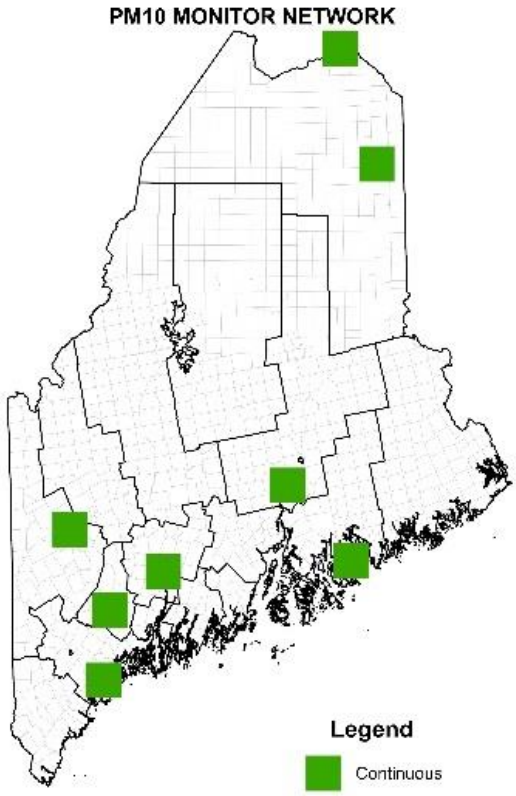
3 – Monitor method EQPM–0516 –238: Teledyne Model T640x

4 – Monitor method: EQPM – 0308-170: Met One Instruments Model 1020 BAM

* – Denotes that monitor is the primary for that site

PM_{10} Network:

Prior to the end of 2022, the Maine DEP met most of the PM_{10} sampling needs using Thermo 2000*i* FRM samplers using Method 126. A continuous Beta Attenuated Monitor (BAM) was operated in Presque Isle as part of the control strategy for the historically high PM_{10} levels there. After a PM_{10} exceedance of the NAAQS on August 12, 2018, a second BAM for PM_{10} was installed in Madawaska at the Public Safety building in 2020 to assess the potential frequency of the exceedances more accurately, document compliance with the NAAQS, and allow for daily averages.



In 2022, the Maine DEP applied for an American Rescue Plan Grant, requesting funds to purchase six Teledyne T640x instruments capable of measuring PM_{10}, along with $PM_{2.5}$ and PM_{Coarse}. The Maine DEP was awarded the grant, and the six T640x instruments arrived in December 2022. This instrument allows for the replacement of both the FRM Method 126 and BAMs at sites where these are installed.

Over the 2023 calendar year, the Maine DEP installed all six Teledyne T640x instruments at (listed in the order they were completed): Presque Isle Riverside, Bar Harbor McFarland Hill, Madawaska Public Safety building, Portland Tukey's Bridge, Augusta Lincoln St. School, and the Presque Isle Background site. The Maine DEP also purchased a seventh T640x and installed it at Bangor Mary Snow School in the spring of 2024. In addition, the Maine DEP installed a PM_{10} BAM at the Lewiston site. The completion of these T640x installations meant that manual FRM Method 126 was redundant, and the shutdown of four remaining Method 126 samplers occurred on June 30, 2024.

After the Teledyne T640x monitor was installed at the Presque Isle Riverside station in January 2023, the Maine DEP decided to continue operating the PM_{10} BAM as part of a short collocation study between the two methods. The BAM was expected to be removed prior to the end of August 2023; however, the DEP saw value in extending the collocation. In the spring of 2024, there were growing concerns of another active wildfire season in 2024, similar to 2023. Smoke plumes from wildfires contained elevated levels of $PM_{2.5}$, and it was determined that this Met One BAM 1020 would provide beneficial data if used to monitor for $PM_{2.5}$ to assist forecasters in providing accurate air quality forecasts and alerts. This monitor was reconfigured for this purpose from May 2024 to October 2024.

The Maine DEP applied for the IRA 60105 Part A and B grant, requesting funds that would allow for the purchase of three additional Teledyne T640x monitors, intended for Lewiston, Rumford, and Portland. In April 2025, the DEP installed one of these T640x monitors at the Lewiston station, replacing the PM_{10} BAM. The installations of the other two monitors are planned in 2025. These instruments will add PM_{10} monitoring in Rumford and add an additional PM_{10} monitoring site in Portland.

Proposed changes to the PM_{10} Network:

- The installation of Teledyne T640x instruments at the Rumford and Portland monitoring stations will allow for the collection of continuous hourly PM_{10} data at those locations.
- The Mi'kmaq Nation plans to replace their TEOM in Presque Isle with a Teledyne T640x, which will allow for the collection of continuous hourly PM_{10} data at their monitoring station.
- A security fence will be installed around our platform at Portland Tukey's Bridge.

PM_{10} Monitoring Site Summary

PM_{10} Monitoring Site Address	**Site Type**	**Monitoring Objective**	**Sampling Frequency**
Augusta – Lincoln Street School	SLAMS	Attainment/Nonattainment	FEM[2], Continuous
Bangor – Mary Snow Elementary School	SLAMS	Attainment/Nonattainment	FEM[2], Continuous
Bar Harbor – McFarland Hill	NCore	Rural Background	FEM[2], Continuous
Lewiston – Country Kitchen Lot	SLAMS	Attainment/Nonattainment	FEM[2] Continuous
Madawaska – Public Safety Bldg.	SLAMS	Attainment/Nonattainment	FEM[2], Continuous
Portland – Tukey's Bridge	SLAMS	Attainment/Nonattainment	FEM[2], Continuous
Presque Isle – Riverside Street	SLAMS	Attainment/Nonattainment	FEM[1,2], Continuous
Presque Isle – Regional Office	SLAMS	Background	FEM[2], Continuous
[PLANNED] Rumford – Rumford Avenue	SLAMS	High Pop. Exposure/ AQI Forecasting/Mapping	FEM[2], Continuous
[PLANNED] Portland – Ocean Gateway	SPM	MSA of 200-500K	FEM[2], Continuous

1- Method EQPM-0798-122: Met One BAM 1020

2- Method EQPM–0516 –239: Teledyne T640x

PM_{Coarse} Network:

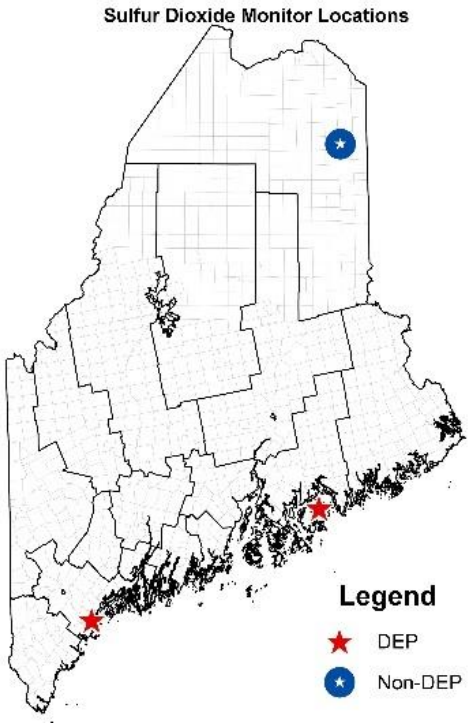
Required PM_{Coarse} ($PM_{10-2.5}$) measurements at the NCore site in Bar Harbor are obtained from the Teledyne T640x PM monitor installed in January of 2023. In addition, $PM_{10-2.5}$ data are collected from the other Teledyne T640x instruments in the network but are not reported to AQS.

***PM_{Coarse}* Site Address**	**Site Type**	**Monitoring Objective**	**Sampling Frequency**
Bar Harbor – McFarland Hill	NCore	Rural Background	FEM[1], Continuous

1- Monitor method EQPM–0516 –240: Teledyne model T640x

Sulfur Dioxide Network:

The Maine DEP currently operates one sulfur dioxide (SO_2) monitor, a trace-level monitor located at the NCore site in Bar Harbor. The Mi'kmaq Nation operates an SO_2 monitor in Presque Isle. The SO_2 monitor previously located at Portland Deering Oaks was shut down in 2021. The purpose of the Portland monitor was to provide health assessment data for the Greater Portland Area; however, after multiple years of exceedingly low data, it was determined that an exceedance of the NAAQS was unlikely. With the planned new monitoring location in Portland, the Maine DEP plans to monitor SO_2 for at least one year to assess attainment of the NAAQS. The SO_2 monitor operated by the Mi'kmaq Nation has exceeded the monitor's anticipated lifespan. If the Mi'kmaq Nation cannot obtain funds to replace the monitor, the Mi'kmaq Nation will have to shut down their monitor.



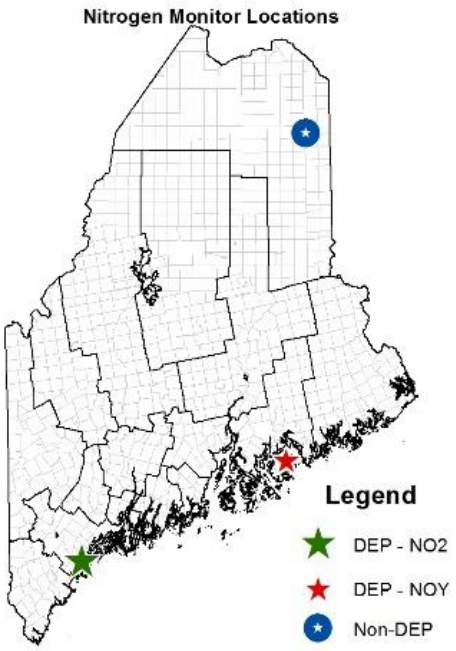
- The Maine DEP plans to install an SO_2 monitor at the new Portland Ocean Gateway station in 2025, to be operated for at least one year. At the conclusion of this year, the Maine DEP may choose to shut down, extend monitoring for another year, or make this monitor permanent.
- The Mi'kmaq operated SO_2 monitor may be shut down if a replacement cannot be funded.

SO_2 Monitoring Site Summary

SO_2 Monitoring Site Address	**Site Type**	**Monitoring Objective**	**Sampling Frequency**
Bar Harbor – McFarland Hill	NCore	Background	Continuous
[Planned] Portland – Ocean Gateway	SPM	Attainment/Nonattainment, Maximum Concentration, Urban Background	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous

Nitrogen Oxides Network (NO_2, NOx, NO, NOy):

The DEP currently operates one trace-level NO_x monitor and one trace-level NO_y monitor. The NO_x monitor is located at the Deering Oaks site in Portland. The NO_x monitor at Deering Oaks is a non-regulatory monitor as it does not meet the EPA siting criteria. The NO_y monitor is located at the NCore site in Bar Harbor. With the planned move from Portland Dearing Oaks to Portland Ocean Gateway, the NO_x monitor will also be moved. The Mi'kmaq Nation had, until recently, operated a trace-level NO_x monitor at their site in Presque Isle, but the monitor, which was far past the monitor's expected lifespan, stopped functioning and has been shut down unexpectedly. If funding for a replacement monitor can be obtained, the Mi'kmaq Nation may resume trace-level NO_x monitoring.



Proposed changes to the Nitrogen Oxides Network:

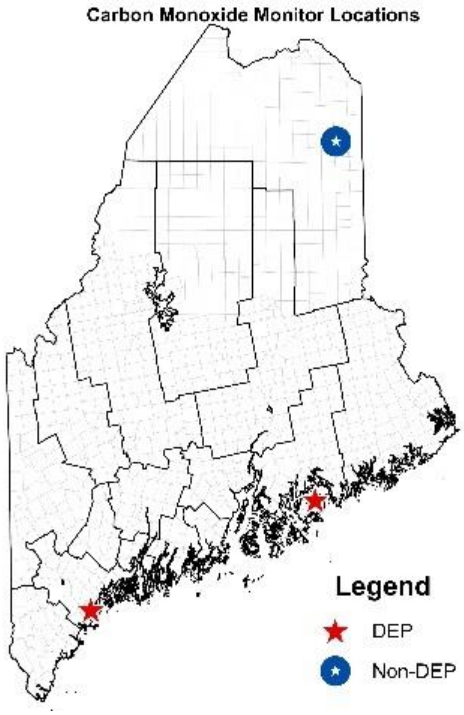
- The Portland NO_x monitor will move from Portland Dearing Oaks to Portland Ocean Gateway.
- The Mi'kmaq may resume trace-level NO_x monitoring if a replacement NO_x monitor can be funded.

NO_x Monitoring Network Summary

Nitrogen Oxides Network Site Address	Site Type	Monitoring Objective	Sampling Frequency
Portland – Deering Oaks (NO_x)	SPMS	Maximum Concentration, Urban Background	Continuous
[Planned] Portland – Ocean Gateway (NO_x)	SPMS	Maximum Concentration, Urban Background	Continuous
Bar Harbor – McFarland Hill (NO_y)	NCore	Transport (trace-level)	Continuous
Presque Isle – 8 Northern Road (NO_2)	Tribal	(trace-level)	Continuous

Carbon Monoxide Network:

The DEP currently operates one trace-level carbon monoxide (CO) monitor located at the NCore site in Bar Harbor. The DEP shut down the CO monitor at the Portland Deering Oaks site early in 2022 as concentrations recorded from this monitor were well below the NAAQS, and resources used for this monitor could be better used elsewhere in the network. The CO monitor operated by the Mi'kmaq Nation is past the monitor's anticipated lifespan. If the Mi'kmaq Nation cannot obtain funds to replace the monitor, the Mi'kmaq Nation will have to shut down their monitor.



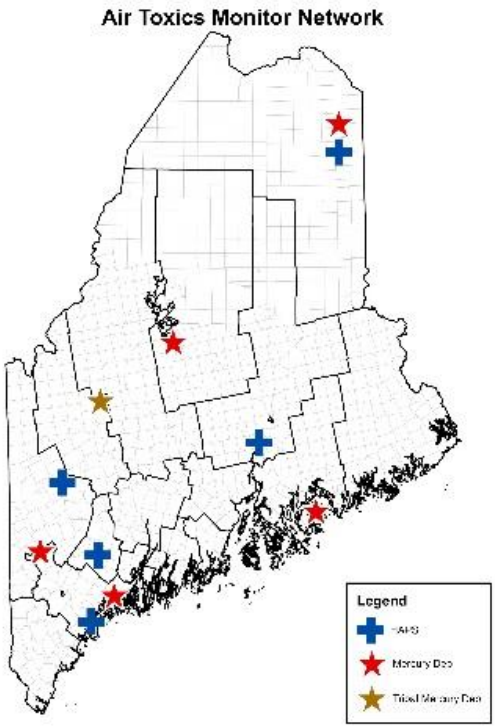
Proposed changes to the Carbon Monoxide Network:

- The Maine DEP plans to install a CO monitor at the new Portland Ocean Gateway station in 2025 for at least one year. At the conclusion of this year, the Maine DEP may choose to shut down, extend monitoring for another year, or make this monitor permanent.
- The Mi'kmaq operated CO monitor may be shut down if a replacement cannot be funded.

CO Monitoring Network Summary

Carbon Monoxide Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore	Transport	Continuous
[PLANNED] Portland – Ocean Gateway	SPMS	Maximum Concentration, Urban Background	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous

Hazardous Air Pollutants (HAPs) Network:



Although not a required monitoring network, the DEP samples for 67 HAPs compounds at five Special Purpose Monitoring (SPM) sites located around the state. The monitoring objective is to document background HAP concentrations around the state and to establish whether there are any trends in the levels of these compounds. Maine monitors for most HAPs compounds using EPA Method TO-15.

In January 2025, the Maine DEP expanded the Rumford Intra-valley Transport Analysis (RITA) project in part to determine if the current location of the Rumford monitoring station is in the ideal location for particulate monitoring for the Rumford and Mexico community. Upon review of the expanded RITA project, the DEP may consider moving from the current monitoring site. (Additional information on the RITA project can be found under *Monitoring Projects and Air Quality Studies* on page 34.)

The Maine DEP also has several SPM HAPs samplers throughout the state. More information on this can be found below in the *Monitoring Projects and Air Quality Studies* on page 34.

Proposed changes to the HAPs monitoring Network:

- Portland Deering Oaks Park will be shutdown. The Maine DEP already operates a HAPs monitoring station at the Portland Ocean Gateway site; however, the quality assurance collocated sampler currently at Deering Oaks Park will be moved to Portland Ocean Gateway.
- The Maine DEP is considering moving the current Rumford monitoring station to another location in the Rumford and Mexico community.

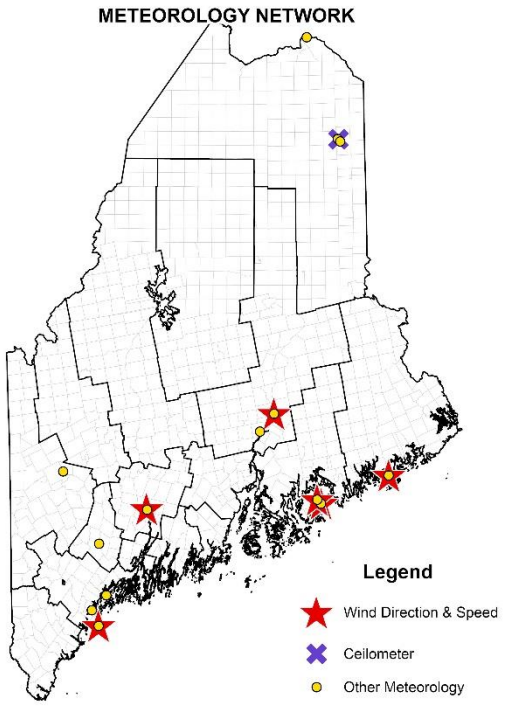
HAPS Monitoring Site Summary

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bangor – Mary Snow School	SPM	Maximum Conc.& Trends	Every 6 days
Lewiston – Country Kitchen Lot	SPM	Maximum Conc.& Trends	Every 6 days
Presque Isle – Riverside Street	SPM	Maximum Conc.& Trends	Every 6 days
Rumford – Rumford Avenue	SPM	Maximum Conc.& Trends	Every 6 days
Portland – Deering Oaks Park	SPM	Maximum Conc.& Trends	Every 6 days
Portland – Ocean Gateway	SPM	Maximum Conc.& Trends	Every 6 days

Meteorological Network:

The DEP operates and maintains year-round and seasonal meteorological monitoring stations across the state measuring parameters such as wind speed and direction, solar and UV-B radiation, ambient temperature, barometric pressure, and relative humidity.

Department air quality forecasters also have access to NOAA weather data from airport stations and other sites located throughout the state. The NOAA airport sites record and report snapshots of one-minute averages in place of one-hour averages, making data from the DEP sites more desirable.



The wind speed and direction sensors installed with the Cadillac Mtn. and Jonesport ozone monitors augment the ozone measured at those sites. Additionally, Cape Elizabeth is part of Maine's EMP network. As part of the EMP plan, Maine monitors a variety of meteorological parameters to assist with forecasting and photochemical assessments.

The Bar Harbor McFarland Hill monitoring location is part of the NCore and CASTNET networks. Both networks require several meteorological parameters to be recorded at the station and reported to AQS.

Ambient temperature and pressure are recorded at particulate monitoring stations. This data is required for the particulate monitors to control air flow through the particulate size selective stages to ensure that correct fractional size is being measured. Historically, there was a requirement to submit these data, and while this is no longer true, the DEP does find value in these data and does continue to submit these data to AQS. Starting January 2024, the DEP switched from submitting the 24-hour temperature and pressure data from the FEM PM samplers, to submitting the continuous one-hour temperature and pressure data from the FEM samplers.

In 2021 the pollutant monitors at the Passamaquoddy site in Sipayik were moved to a new shelter; however, the meteorological tower and equipment have not been moved yet.

In fall 2021 the DEP removed the ozone and meteorological equipment from the Jonesport Public Landing building in preparation for the building being demolished. In spring 2022, the DEP moved this monitoring station to the Jonesport Coast Guard station, about one mile to the east-southeast. This location has excellent fetch for wind speed and direction, and the DEP was requested to monitor wind parameters year-round for at least five continuous years to provide a source of weather modeling data.

Starting in 2023, the Maine DEP had been upgrading the network of wind direction and speed sensors. This upgrade is to replace traditional 'cup and vane' anemometers, many of which were over 20 years old, with sonic anemometers. Part of the funding for these upgrades came from the US EPA IRA 60105 Parts A&B grant. As part of this grant, the DEP also procured a ceilometer intended for Presque Isle. This ceilometer will assist in forecasting local air quality and long-range regional particulate pollution transport.

The Mi'kmaq Nation in Presque Isle also operates a suite of meteorological parameters for the USDA National Water and Climate Center. This is not part of the Maine network, and these data are not reported to AQS.

The DEP operates a UV-B monitoring station for the Colorado State University UV-B Monitoring and Research Program at the Presque Isle background station.

The DEP operates several portable meteorological sensor stations as part of the South Portland VOC study. These sensors do not meet the requirements for AQS-quality data and are not used outside of this study. More information on these stations can be found in the *Monitoring Projects and Air Quality Studies* on page 29.

Proposed changes to the Meteorological Network:

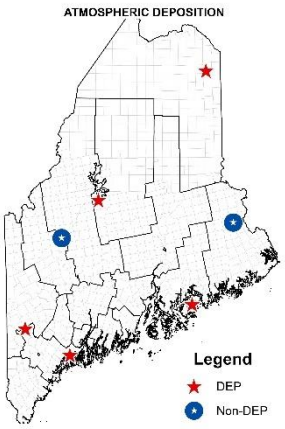
- Continue to replace equipment past their expected lifespans.
- Install a ceilometer at the Presque Isle Riverside site.

Meteorology Monitoring Site Summary

Site Address	Site Type	Monitoring Objective	Sampling Frequency	Monitored Parameters
Augusta State Airport	SLAMS	Data Analyses & Modeling	Continuous	Wind speed and direction
Augusta Lincoln Street School	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
Bangor Mary Snow School	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
Bar Harbor Cadillac Mountain	SLAMS	Transport	Continuous – Seasonal	Wind speed and direction, temperature, and relative humidity
Bar Harbor McFarland Hill	NCore	Transport	Continuous	Wind speed and direction, temperature, barometric pressure, relative humidity, and solar radiation
Cape Elizabeth Two Lights Park	EMP	Transport	Continuous – Seasonal	Wind speed and direction, temperature, barometric pressure, relative humidity, and solar and UV-B radiation
Jonesport Coast Guard Station	SLAMS	Data Analyses & Transport	Continuous	Wind speed and direction, temperature, and relative humidity
Lewiston Country Kitchen Parking	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
Madawaska Public Safety Building	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
Old Town Global Secure Shipping	SPM	Data Analyses	Continuous	Wind speed and direction, temperature, and relative humidity
Portland Dearing Oaks	SPM	Data Analyses	Continuous	Temperature and barometric pressure
Presque Isle Background Site	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure. UV-B radiation for the University of Colorado
Presque Isle Riverside	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
[PLANNED] Portland Ocean Gateway	SLAMS	Data Analyses	Continuous	Temperature and barometric pressure
Rumford Rumford Avenue Parking	SLAMS	Localized Wind & Data Analyses	Continuous	Temperature and barometric pressure. Wind speed and direction at 5 m above ground.

Atmospheric Deposition Network:

There is an extensive atmospheric deposition network in Maine with several sites operated by the DEP. All but two of these sites are part of the National Atmospheric Deposition Program's Mercury Deposition Network (MDN) in addition to the National Trends Network (NTN) that measures precipitation chemistry. Early in the program, several agencies and organizations participated and provided funds for the operation of these deposition network sites. As funds have diminished and budgets have been cut, the continued operation of some of these sites has been in question. The MDN and NTN data are valuable to DEP data users, policy makers, the public, and to various users representing many scientific disciplines: wildlife biologists, water quality specialists, epidemiologists, atmospheric chemists, government regulators, and academic researchers.



In 2021, in response to the Governor's PFAS (perfluoroalkyl and polyfluoroalkyl substances) Task Force's final report released in January 2020, which recommended that the DEP should "consider establishing an air deposition sampling program for a suite of PFAS," the DEP communicated this interest to and had conversations with the NADP Program Office and the Wisconsin State Laboratory of Hygiene. The Maine DEP received a favorable response from them indicating they will be able to include a PFAS analysis whenever there is a sufficient sample volume in the amount of precipitation collected by the NTN sampler. DEP staff began collecting samples for PFAS analysis in early 2021 from the ME96 monitoring station. The analysis cost is currently funded by the EPA; however, funding past September 2025 is currently uncertain.

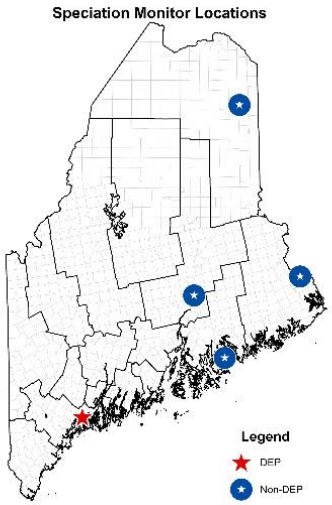
During a series of intensive storms in December 2023 and January 2024, the equipment at the Gilead deposition network site that was operated by the USGS was severally damaged by river flooding. Plans were arranged to move sample collection to the Maine DEP site at the Bethal ozone monitoring location; however, after an unexpected budget shortfall announced in April 2024, the USGS instead decided to permanently shut down the Gilead site.

Deposition Monitoring Site Summary

Site Address and NADP ID	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill (MDN) ME98	NPS-SPMS	Transport/Trends	Weekly Composite
Bridgton – Upper Ridge Road (NTN and MDN) ME02	SPMS	Transport/Trends	Weekly Composite
Caribou – Airport (NTN and MDN) ME00	SPMS	Transport/Trends	Weekly Composite
Carrabassett Valley – Airport (NTN and MDN) ME04	Tribal	Transport/Trends	Weekly Composite
Freeport – Wolfe's Neck Farm (NTN and MDN) ME96	SPMS	Transport/Trends	Weekly Composite
Greenville Station (NTN and MDN) ME09	SPMS	Transport/Trends	Weekly Composite
Indian Township (NTN) ME94	Tribal	Transport/Trends	Weekly Composite

PM Speciation Network (IMPROVE)

Many stunning and breathtaking vistas at National Parks and Wilderness Areas may be lost or diminished due to the haze formed by air pollutants. These light scattering hazes cause discoloration, loss of texture, and reduced visual range. Recognizing the importance of visual air quality, Congress included legislation in the Clean Air Act to prevent and remedy visibility impairment. To aid in the implementation of this legislation, the Interagency Monitoring of Protected Visual Environments (IMPROVE) program was initiated in 1985. The Maine DEP operates one IMPROVE site in Freeport, Maine at Wolfe's Neck Farm. The National Park Service operates an IMPROVE site in Maine's designated Class 1 visibility area in Acadia National Park. The US Fish and Wildlife Service operates an IMPROVE site in Maine's designated Class 1 visibility area in the Moosehorn National Wildlife Refuge in Baring. IMPROVE sites are also operated by the Penobscot and Mi'kmaq Nation on Indian Island and in Presque Isle, respectively.



IMPROVE Network Summary

IMPROVE Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NPS/NCore	Regional Haze	Every 3 days
Freeport – Wolfe's Neck Road	SLAMS	Deposition Project	Every 3 days
Indian Island – Penobscot	Tribal	Regional Haze	Every 3 days
Baring – Moosehorn NWR	USFWS	Regional Haze	Every 3 days
Presque Isle – 8 Northern Road	Tribal	Regional Haze	Every 3 days

Lead Network:

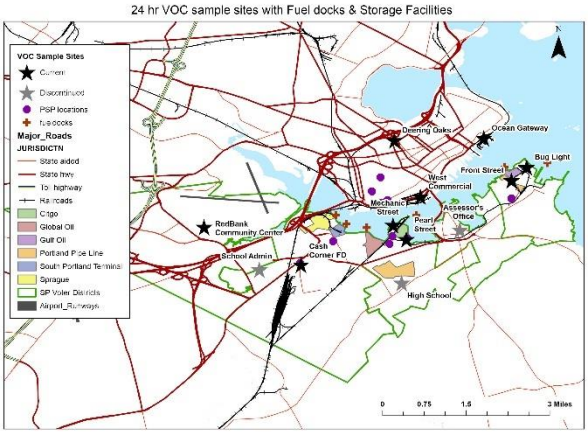
In 2008, EPA promulgated a lead (Pb) standard and issued some minimum monitoring requirements to the states. At that time, the Maine DEP was going to be required to operate one Pb monitor in the Portland Core-based statistical area (CBSA). The state purchased an X-ray fluorescence (XRF) analyzer to measure lead concentrations from PM_{10} filters. The EPA Pb requirement was subsequently revised to require Pb monitoring at urban NCore sites only. The Bar Harbor NCore site is designated as a rural site, so there is no requirement for Pb monitoring in Maine.

The Maine DEP maintained the capability and capacity to analyze particulate filters for Pb and other several other metals that are listed as HAPs, such as arsenic and chromium until 2024. The department still owns the XRF analyzer; however, a critical part of the analyzer failed, and fixing this instrument would require a significant investment by the DEP.

Monitoring Projects and Air Quality Studies:

The purpose of monitoring projects and air quality studies is to assess the health risks to the public in areas with localized air quality concerns or that do not fall within the scope of the criteria pollutants with a NAAQS. These projects typically involve spatial scales of neighborhood size or smaller but may span to the regional size. These projects and studies may have a wide range of pollutants associated with the project, and the Maine DEP relies on the use of low-cost sensors to complete some of this air quality monitoring. Due to their low cost and ease of operation, these sensors are widely used by private citizens, researchers, and public entities. The data from these sensors may be used to estimate health risk; however, it is important to note that these sensors are not regulatory monitors and do not have a Federal Reference Method (FRM) or Federal Equivalent Method (FEM) designation. Without FRM or FEM destination, these sensors may not be used for compliance and enforcement actions and may not be submitted to the EPA Air Quality System. These devices may be used to supplement regulatory monitoring, as a screening tool to determine the need for regulatory monitoring, or as part of an air quality study that does not require regulatory monitoring. Sensors may be collocated with regulatory monitors as a tool to provide validation to the sensors' functionality and accuracy. Sensor manufacturers, the EPA, and researchers also benefit from collocated data and have developed better sensor pollutant calculation formulations and corrections over time as more data become available. The sensors used by the Maine DEP may be removed and/or set up in new locations on an as needed basis and are subject to change with little or no notice. The brand of low-cost sensors and their measurable parameter(s) used by the Maine DEP are outlined in the projects below. The use of a certain sensor by the Maine DEP does not constitute a promotion of that sensor or the brand of sensor.

South Portland/Portland VOC Monitoring Project:



24-hour Sampling locations

At the request of South Portland City officials, on April 16, 2019, DEP staff attended a City Council public workshop focused on citizen concerns about odors and air emissions coming from petroleum product storage facilities in the city. One request that was repeatedly expressed by the residents who spoke was the very strong desire for air quality monitoring to be conducted within South Portland's boundaries, since none had been done since the early 2000s. The DEP made a commitment at the workshop that it would work with South Portland to accomplish that goal. On August 28, 2019, officials from the City of Portland formally communicated identical air quality concerns from their citizens about the same VOC sources in South Portland. Since then, Air Bureau staff have collaborated with officials from both cities and other local partners to conduct an ambient air quality monitoring project, where the monitoring objective is to collect data that will help answer the question, "Is the air safe to breathe?"

The focus of the monitoring project is to measure VOCs, since they constitute a large majority of the compounds associated with the types of odors being reported, as well as air emissions that come from the facilities of concern. VOCs were also chosen because that type of measurement is one that the Air Bureau air monitoring program was already capable of supporting.

In calendar year 2019, the project consisted of two phases: 1) an early "grab sampling" effort in South Portland, and 2) a network of eight fixed 24-hour sampling sites (five in South Portland and three in Portland). The grab sampling phase was launched on June 10, 2019, and concluded on September 15, 2019. By November 1, 2019, all planned 24-hour sampling sites were established and samples were collected on a frequency of one sample every six days. By city request, the sites in South Portland were placed so that each of the five voting districts had a sampler established within their boundary.

Fixed 24-hour sampling sites were established at: Bug Light Park in South Portland; the South Portland City Assessors office; South Portland High School; South Portland School Administration building; Red Bank Community Center in South Portland; Ocean Gateway building in Portland; and on West Commercial Street in Portland. The two new monitoring sites in Portland augment data from the DEP's site at Deering Oaks Park. The DEP established portable meteorological monitors at some of the HAPs sampling locations in 2020 and 2021. Resource limitations prevented full deployment of meteorological monitors.

During calendar year 2020, the implementation of phase 3 began, which included the deployment of a portable sampling platform (PSP). The process of installing the meteorological system was still in progress, with the first two sites coming online in June 2020 at the South Portland Assessors Office and the Portland Deering Oaks sites. Additional meteorological systems were established at Bug Light Park, Ocean Gateway, Portland-West Commercial Street, and at South Portland – Mechanic Street. The South Portland Assessors site was taken down due to operational issues. The PSP initially had both a canister sampling system for measuring VOCs (identical to ones used at the fixed 24-hour sampling sites), and a tube sampling system for measuring Polycyclic Aromatic Hydrocarbons (PAHs). A meteorological monitoring system, and a continuous particulate matter monitoring sensor was added in 2021. Since the PSP can easily be moved from one location to another, it allowed 24-hour samples to be taken at a number of additional places early in the program. This PSP data helped improve the overall spatial and temporal understanding of air quality in the project area. The first deployment of the PSP took place at the end of August 2020 and continued through 2021. In 2021 the PSP was established at the Cash Corner Fire Station and remained there through 2021 and became a long-term site in 2022. Further changes were made to this site in October 2023 to improve the inlet siting and provide a more secure placement of the sampler.

After the first full year of concurrent 24-hour sampling by all of the VOC sites in the project's monitoring network, the DEP informed officials in both cities that it intended to extend its support of the project's monitoring activities through 2021. The DEP had originally committed to run these sites for one full year from the network completion date; that is, until November 2020. After review of the entire dataset is completed by the Maine CDC, DEP, and the project's partners, any recommendations for adjustments to the project's monitoring activities will be considered and implemented as resources allow.

For phase 4, the Maine DEP agreed that after at least a year of data had been collected by the South Portland – Portland VOC network, the location of sites would be reevaluated. South Portland proposed some changes. The Maine DEP and representatives from South Portland remain in discussion about the immediate future of the program at this time. The site list below will be updated as new sites begin to measure VOCs and more information will be provided here when all new sites for phase 4 have been agreed upon.

In 2022, the DEP supported continued VOC canister sampling at the locations established in 2019. In addition, DEP applied for an EPA Community-Scale Air Toxics Monitoring grant award. The application was not successful. Had the application been successful, the grant award would have supported expanded monitoring activities for other pollutants, such as PAHs, and continuous monitoring instrumentation for VOCs and

hydrogen sulfide. Continuous monitoring instrumentation would have been operated and maintained by a qualified contractor. Maine will continue supporting this program as with existing grant resources.

In November of 2023, the Portland and South Portland VOC network was reassessed, and it was determined that the South Portland High School sampler could be removed. This was due to a need to expand HAPs monitoring to another location in the state and to not overwhelm the limited capacity of the Maine DEP air lab. This sampler had the lowest cumulative lifetime cancer risk for the project sites, and concentrations recorded at this station have been consistent or decreasing for the length of its inclusion in the study. Another change in spring of 2024 was movement of the South Portland Bug Light Park HAPs monitor to Front Street. This came as a recommendation from the City of South Portland with the goal of collecting data that better characterizes the ambient air quality of the local neighborhood.

Proposed changes to the South Portland/Portland VOC network:

- Changes are assessed on an as-needed basis. This project consumes a large volume of resources from the DEP, and changes are required to allow room for the DEP to be able to handle other monitoring needs throughout the State.

South Portland/Portland VOC Monitoring Sites

Site Address	Site Type	Monitoring Objective	Sampling Frequency
So. Portland – Redbank Community Ctr	SPMS	Max Conc.& Population Exposure	Every 6 days
So. Portland – Mechanics Street	SPMS	Max Conc.& Population Exposure	Every 6 days
So. Portland – Cash Corner Fire Station	SPMS	Max Conc.& Population Exposure	Every 6 days
Portland – Ocean Gateway[1]	SPMS	Max Conc.& Population Exposure	Every 6 days
Portland – West Commercial Street	SPMS	Max Conc.& Population Exposure	Every 6 days
So. Portland – Pearl St.[2]	SPMS	Max Conc.& Population Exposure	Every 6 days
So. Portland – Front St. [2]	SPMS	Max Conc.& Population Exposure	Every 6 days

1 - This site is part of the permanent DEP network.
2 - Denotes that location is serviced by persons who are not affiliated, or staffed by the DEP

Juniper Ridge Landfill:

Over the last several years, the general public's awareness of how local air pollution affects their neighborhood has increased interest in expanded air quality monitoring at the community level. As part of this interest, hydrogen sulfide (H_2S) has become a top public concern in Maine, with numerous complaints coming from the Old Town and Rumford, Maine communities. Maine has a chronic Ambient Air Guideline (AAG) for H_2S of 1 ppb for a one-year annual average, and an acute AAG of 30 ppb for a 30-minute average.[8]

H_2S has very few direct measurement methods. Most rely on complex thermal decomposition into SO_2 or have cross sensitivities, and both of which may cause increased sample noise and/or error when a nearby source has a variety of gas emissions associated with it. Due to the 1 ppb AAG, the Maine DEP thought it was

[8] https://www.maine.gov/dep/waste/publications/documents/ambientairguidelines.pdf

imperative to obtain an instrument that had long-term stability, little to no cross sensitivities or interferents, and was a direct measurement to reduce the inefficiencies and pollutant losses with the thermal decomposition methods. In 2023, through a *Clean Air Act Grants Under the Inflation Reduction Act*, the Maine DEP was able to receive funds to obtain one Entanglement Technologies, Inc. AROMA-TOX instrument, capable of continuously measuring down to 1 ppb of H_2S.

Due to the long history of air quality complaints alleged against the Juniper Ridge Landfill (JRL) in Old Town and a landfill fire at the facility in May 2023, there was a significant push by the community to conduct independent monitoring in the vicinity of the landfill. This resulted in the Maine DEP determining to first use the AROMA-TOX instrument in the Old Town area for one year prior to moving it to Rumford. In addition to H_2S monitoring, the DEP also planned to install at least one HAPs sampler and one Purple Air low-cost PM sensor at this location.

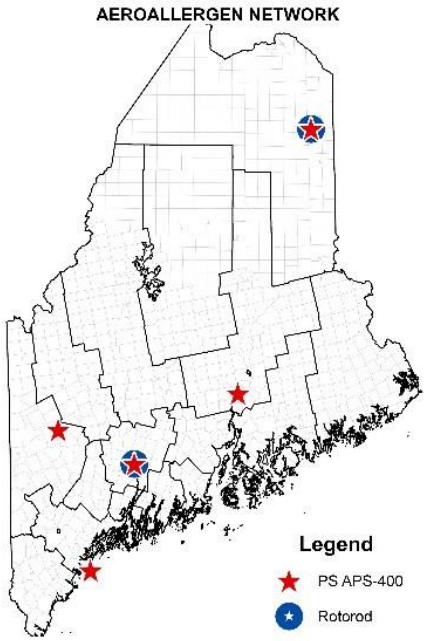
In November of 2023, the Maine DEP installed a HAPs and PM sensor on a property north of the landfill. The AROMA-TOX is expected to be installed in the summer of 2025 on a property to the south.

A project monitoring plan for this study is currently being drafted. Once finalized, the plan and the validated data collected from this project will be publicly available.[9]

Proposed changes to the hydrogen sulfide monitoring network:

- The AROMA-TOX will be installed on a property near the landfill.
- A second HAPs and PM sensor may be installed in another location near the landfill, if the capacity limitations in the Air lab are eased and another location that meets siting requirements is available.

Aeroallergens:



As part of a Building Resilience Against Climate Effects (BRACE) grant from the US CDC, the Maine CDC received funding to initiate pollen monitoring in a state-wide network. The Maine CDC invited the Maine DEP to be a partner on the project and created a Pollen Advisory Group (PAG) that included an allergist and specialists in climate sciences and meteorology. With funding received from the BRACE grant, the state was able to purchase five continuous pollen samplers, the Pollen Sense APS-400 series, and two rotorod pollen samplers. The rotorods are considered the 'traditional method' of pollen monitoring. The primary purpose of this project is to create historical trends over time and to determine any observed impact resulting from climate change. The data from these sensors are also to be used as part of a health alert network, allowing Maine to forecast high allergen days to the public. The DEP deployed four of the APS-400 samplers at separate locations in Maine, providing the best coverage to populations determined to be sensitive to allergens, provide maximum population coverage, and provide maximum geographical coverage. Both rotorods are collocated with an APS-400 sampler to provide an additional layer of quality control over the new continuous units. The

[9] https://www.maine.gov/dep/air/monitoring/juniper-ridge-monitor.html

DEP uses the 5th APS-400 sampler for a two-fold purpose: first, as a dedicated spare to be used in the event that one of the other four samplers has operational issues; second, as a 'floater' sampler that will be used to determine the spatial representation of the APS-400 samplers. Spatial scales are used to define the size of the region in which the collected data from one location is considered representative of another location. Scales of interest are micro, with a scale up to 100m, middle, with a scale from 100 m to 500 m, and neighborhood, with scales from 500 m to 4 km. In addition to the state's efforts, the Mi'kmaq Nation has operated a rotorod sampler in Presque Isle and has recently added a Pollen Sense APS-400.

Proposed changes to the Aeroallergen network:

- The Maine DEP may discontinue use of rotorods in Augusta following an assessment of the 2025 data.

Aeroallergen Monitoring Sites

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Cape Elizabeth – Two Lights Park	SPMS	BRACE Grant – Aeroallergen monitoring	Continuous
Bangor – Mary Snow School	SPMS	BRACE Grant – Aeroallergen monitoring	Continuous
Rumford – Rumford Avenue	SPMS	BRACE Grant – Aeroallergen monitoring	Continuous
Presque Isle – 8 Northern Road	SPMS	-	Continuous
Augusta – East Campus	SPMS	BRACE Grant – Aeroallergen monitoring	Continuous
Presque Isle – 8 Northern Road	SPMS	-	24hr – weekdays*
Augusta – East Campus	SPMS	BRACE Grant – Aeroallergen monitoring	24hr – weekdays*

***** The rotorod requires daily sample collection media changes and cannot be completed when staff are unavailable. Because of this, there may only be four to five samples every week.

Cassidy Point:

The Maine DEP has been working with community members impacted by fugitive dust emissions from a coal storage pile on Cassidy Point in Portland, Maine. In June of 2023, in response to a series of air quality concerns expressed by the public, the DEP Air Licensing and Compliance Division along with the Air Bureau Director requested monitoring to be conducted. Originally, monitoring was conducted using the Purple Air low-cost sensors; however, after several months of monitoring, the DEP staff learned that the light-scattering method used for detecting particulate matter in most low-cost sensors was not reliable for detecting coal dust. In response to this information, the DEP installed a Met One BAM 1020, which has a direct signal response to the accumulation of mass. In late March, the BAM 1020 was installed on a property across the street on a narrow band of land that meets regulatory siting requirements. The BAM was configured to sample for PM_{10}.

After a coal delivery in January 2025 where no exceedances to the NAAQS occurred, it was determined that the DEP would complete one year of PM_{10} monitoring, then reconfigure the BAM to monitor for $PM_{2.5}$. This change from PM_{10} to $PM_{2.5}$ monitoring was completed in April 2025. The Maine DEP will reevaluate continued monitoring at this site once 1-year of $PM_{2.5}$ data has been collected in April 2026.

Rumford Intra-Valley Transport Analysis:

The town of Rumford is in a deep, complex river valley, and for years the DEP has noticed that $PM_{2.5}$ concentrations spiked at the Rumford area parking (RAP) monitoring station during or immediately after light winds shifted away from northwest. This project was launched in 2021 to understand the dynamics of airflow in the river valley. The theory was that this study would identify possible contributors to the spikes in $PM_{2.5}$ concentrations that occur around the time of morning inversion breakups. One portion of the valley extends to the northwest and channels air toward the RAP monitor. When inversions break and the air starts mixing vertically, pollution from above is brought down to the surface. To conduct this study, the DEP installed two Purple Air sensors, one collocated at the RAP monitoring station, and the other downriver from the dense residential zones of Rumford and Mexico. Additionally, the Mountain Valley Middle School deployed a Purple Air on school property, at an elevation approximately 200 ft higher than both DEP Purple Air sensors.

$PM_{2.5}$ data collected from all lower-elevation instruments have been collected and viewed graphically to try to understand the airflow in the valley. Staff have noted that PM concentrations from the downriver Purple Air sensor will often spike in the hour before the RAP monitor and sensor, it is likely that the inversion breakup pauses downriver airflow. Whether the airflow reverses and flows up the valley at the surface or the pause in northwest wind flow allows local emissions to combine with the vertical mixing resulting in the PM concentration spike is still undetermined. The Mountain Valley Middle School sensor typically did not detect the PM concentration spike or had a much smaller increase in in concentration compared to the other sensors. The Middle School removed their sensor in 2023.

In January of 2025, the DEP installed three additional Purple Air sensors at the Rumford Elementary School, Mexico Fire Station, and Mexico Recreational Center. These locations are at various elevations between the lower elevation RAP and downriver sensors and the previous high-elevation Mountain Valley Middle School sensor. This increased effort in the RITA project is to investigate the potential to relocate the long-term DEP monitoring site currently at RAP to another location. Recent data from these sensors are publicly available on the Purple Air website.[10] On a semi-regular basis, staff aggregate the data together for graphing purposes to view each event. Currently, the project is expected to continue into 2026.

[10] https://www2.purpleair.com/

Summaries

Summary of Proposed Network Changes:

The following changes are likely to occur in 2025 or 2026.

Equipment/Station	Reason
Presque Isle Riverside Shelter	Replace the current shelter that is in very poor condition.
Rumford Shelter	Replace the current shelter that is in very poor condition.
Lewiston Shelter	Replace the current shelter that is in very poor condition.
Bar Harbor NCore CO monitor	Replace old equipment.
Rumford PM instrument	Replace old equipment.
Portland Dearing Oaks PM instrument	Replace old equipment.
Bar Harbor NCore Multi-gas Calibrator	Replace old equipment.
Augusta MET	Replace old equipment.
Portland Dearing Oaks relocation	The current location is undergoing redevelopment, and we are being removed from the site.
Kennebunkport relocation	Current location vulnerable to coastal storms.
Presque Isle Ceilometer	Assist forecasting in localized events and regional transport of particulate matter.
Portland Tukey's Bridge	A security fence will be installed around our platform.
Cassidy Point Portland Monitoring	Remove site after of 1-year of $PM_{2.5}$ monitoring

The Following changes have potential to occur in 2025 or 2026.

Equipment/Station	Reason
Rumford Station	Relocation to site with higher particulate values.
Cape Elizabeth HAPs	Reinstall historic monitoring, if resources allow.
South Portland / Portland VOC Network	Resource intensive network, allow for relocation of resources elsewhere and reduce redundant monitoring.

The monitors operated by the Maine DEP undergo constant review to ensure that the ambient air monitoring network is appropriate to meet monitoring goals, does not contain irrelevant monitoring, and can be accomplished within the available budget. The table below presents the location of each active monitor in the Maine. In the table, each monitor has been identified as meeting one or more state objective. While there are presently no indications further changes to the network will be made, budget and staffing issues may require cuts in the monitoring program. This table will help to determine the relative importance of each site and assist with the decision-making process.

Summary of Maine Ambient Air Monitoring Locations and Objectives as of 2025

AQS - ID	Site Abbreviation	Operator Agency	Parameter	Monitoring Objective(s)									Comments
				Population Exposure	Maximum Concentration	Historical Trends	Research /Special Studies	CFR Mandate	SIP Required	AQI Forecasting/ Mapping	Data Different from Nearby Monitors	Background Air Quality	
23-001-0011	LCKP	DEP	PM2.5 FRM					x					QA Collolation against FEM.
			PM2.5 FEM Hourly	x	x	x				x		x	Lewiston-Auburn-State's 2nd largest urban area
			PM10 FEM Hourly										Lewiston-Auburn-State's 2nd largest urban area
			VOCs - Canister	x		x	x						Lewiston-Auburn - State's 2nd largest urban area
23-001-0014	DFS	DEP	O3				x	x	x	x			Max. ozone from Greater Portland precursors; Maint. Area
23-003-0014	MPSB	DEP	PM2.5 Hourly	x	x	x				x		x	
			PM10 Hourly	x	x	x		x		x			
23-003-1002	ME00-Caribou	DEP	NADP NTN/MDN			x							Northern Maine precipitation chemistry & Hg deposition
23-003-1008	PIBS	DEP	PM2.5 Hourly			x						x	
23-003-1011	PIRS	DEP	PM2.5 FRM	x	x	x							Northern Maine region's collocated FRM & FEM site
			PM2.5 FEM Hourly	x	x	x				x			
			PM10 FEM Hourly	x	x	x		x	x	x			
			VOCs - Canister	x		x	x						Northern Maine region urban area
23-003-1100	PIMM	Tribal	CO	x						x		x	
			IMPROVE			x	x						Regional haze; Micmac's Presque Isle IMPROVE Protocol site
			NO2	x						x		x	
			O3	x						x			
			PM2.5 Hourly	x						x			
			SO2	x						x		x	
23-005-0002	ME02-Bridgton	LEA	NADP NTN/MDN			x							South-interior Maine precipitation chemistry & Hg deposition
23-005-0015	PTB	DEP	PM2.5 FEM Hourly		x	x					x		High traffic - near road impacts.
			PM10 FEM Hourly		x	x					x		
23-005-0029	PDO	DEP	NO2	x	x	x				x		x	Greater Portland - State's largest urban area
			O3	x		x	x			x			Health effects & exposure correlation study
			PM2.5 FRM	x		x					x		SMRO Collolation against Method 170. Portland MSA requires one site
			PM2.5 Hourly				x		x	x		x	Southern Maine region's collocated FRM & FEM site
			VOCs - Canister	x		x	x						Southern Maine region urban area; SoPo/Po VOC Project
			VOCs - Canister			x	x	x					Collocation for canister method
23-005-2003	CETL	DEP	O3	x	x	x		x		x			Enhanced ozone monitoring site
			VOCs - Canister			x	x						To resume when resources allow
23-005-6606 [Planned Location]	POG	DEP	NO2	x	x	x				x		x	Greater Portland - State's largest urban area
			SO2	x	x		x						Health effects & exposure correlation study
			CO	x	x		x						
			O3	x		x	x			x			
			PM2.5 FRM	x		x					x		SMRO Collolation against Method 170. Portland MSA requires one site
			PM2.5 Hourly				x		x	x		x	
			PM10 FEM Hourly	x			x			x			
			VOCs - Canister	x		x	x						Southern Maine region urban area; SoPo/Po VOC Project
			VOCs - Canister			x	x	x					Collocation for canister method
23-005-9002	CABA1 (ME96-Freeport)	DEP	IMPROVE			x	x						Regional Haze; Freeport - Casco Bay IMPROVE Protocol site
			NADP NTN/MDN			x							South-coastal Maine precipitation chemistry & Hg deposition
23-007-2002	ME04-Carrabassett	Tribal	NADP NTN/MDN			x							Tribal land precipitation chemistry & Hg deposition
23-009-0102	BHCM	DEP	O3	x	x	x			x	x			Long range rural transport. High concentration.
23-009-0103	BHMH	DEP	CO					x		x		x	Ncore - rural
			NOY			x	x	x				x	Ncore - rural
			O3	x		x		x		x			Ncore - rural
			PM2.5 FRM			x		x				x	Ncore - rural
			PM2.5 Hourly			x		x		x		x	Ncore - rural
			PM10 Hourly			x		x				x	Ncore - rural
			$PM_{10-2.5}$ Hourly				x					x	Ncore - rural
			SO2					x				x	Ncore - rural
		NPS	IMPROVE			x	x		x				Regional haze; Class 1 area
	(ME98-Bar Harbor)	NPS/DEP	NADP NTN/MDN			x	x						Acadia NP precipitation chemistry & Hg deposition

Summary of Maine Ambient Air Monitoring Locations and Objectives as of 2025 - Continued

AQS - ID	Site Abbreviation	Operator Agency	Parameter	Monitoring Objective(s)									Comments
				Population Exposure	Maximum Concentration	Historical Trends	Research /Special Studies	CFR Mandate	SIP Required	AQI Forecasting/ Mapping	Data Different from Nearby Monitors	Background Air Quality	
23-011-0016	ALSS	DEP	PM10 Hourly	x				x					
			PM2.5 Hourly	x									
23-011-2001	GAHS	DEP	O3	x	x	x			x	x			Site established as part of a maintenance area requirement. May be moved in an attempt to improve siting.
23-013-0004	PCMP	DEP	O3	x	x	x			x	x			Long range rural transport
23-017-2011	RAP	DEP	PM2.5 Hourly	x		x				x		x	Western Maine mountains / river valley urban area. T640x may be purchased and installed
			PM10 Hourly	x						x		x	
			VOCs - canister	x		x	x						
23-017-3002	BSFR	DEP	O3	x			x			x	x		
23-019-0017	BMSS	DEP	PM10 FEM Hourly										Bangor-Brewer - State's 3rd largest urban area. PM2.5 BAM 1020 replaced with T640x measuring both PM2.5 and PM10.
			PM2.5 FEM Hourly	x	x		x			x			
			VOCs - canister	x		x	x						Bangor-Brewer - State's 3rd largest urban area
23-019-1100	INDIAN ISLAND	Tribal	IMPROVE			x	x						Regional haze; Penobscot's Indian Island IMPROVE Protocol site
23-019-4008	HRB	DEP	O3	x		x	x			x			Regional transport
23-021-0001	ME09-Greenville	DEP	NADP NTN/MDN			x							Central Maine precipitation chemistry & Hg deposition
23-023-0007	PBSP	DEP	O3	x	x	x				x	x		Long range transport
23-029-0021	JCG	DEP	O3	x		x				x			Coverage of coastal downeast area.
23-029-0033	SIPAYIK	Tribal	O3	x						x			
			PM2.5 FEM Hourly	x						x			
23-029-1004	Mooshehorn	USFWS	IMPROVE			x			x				Regional haze; Class 1 area
23-031-0040	SBP	DEP	O3	x		x	x			x	x		Highest springtime ozone levels in the network
N/A	ME94-Indian Twp.	Tribal	NADP NTN			x							Tribal land precipitation chemistry

Summary of Monitoring Equipment Used by the Maine DEP

PARAMETER	INSTRUMENT	DESIGNATION No. (EPA Method Code)[1]
Atmospheric deposition	Aerochem Metrics wet/dry collector N-CON collector	
Barometric pressure	Climatronics Met One	
Carbon monoxide	Thermo Model 48i-TLE Teledyne Model T300U	RFCA-0981-054 (554) RFCA-1093-093 (593)[3]
Hazardous air pollutants	24-hour 6-liter sub-ambient canister samplers, designed and built by ME DEP	TO-15
Lead	R&P/Thermo Single Model 2000i Spectro XEPOS XRF Spectrometer	
Mercury deposition	Aerochem Metrics N-CON Wet Deposition collector	
Nitrogen dioxide	Thermo Model 42i-TLE Therme Model 42i/c	RFNA-1289-074 (574) RFNA-1289-074 (074)
Organic/Elemental Carbon	Sunset Semicontinuous OC/EC Carbon Aerosol Analyzer	
Other metals such as arsenic, chromium, etc.	R&P Single Model 2000i Spectro XEPOS XRF Spectrometer	
Oxides of nitrogen	Thermo Model 42i-Y	
Ozone	Thermo Models 49C, 49i; 49iQ Teledyne N400	EQOA-0880-047 (047) EQOA-0922-087 (087)
PM 10 continuous	MET One BAM Model 1020 Teledyne API Model T640x	EQPM-0798-122 (122) EQPM-0516-239 (639)
PM 2.5 continuous	MET One BAM Model 1020 Teledyne API Model T640x	EQPM-0308-170 (170) EQPM-0516-238 (638)
PM 2.5 FRM	Thermo Single Model 2000i w/ VSCC	RFPS-1006-143 (143)
PM coarse	Teledyne T640x	EQPM-0516-240 (640)
PM speciation	IMPROVE Sampler	
Precipitation	ETI Instrument Systems NOAH IV	
Relative humidity	Climatronics Met One Rotronic HygroClip HC2-S Senva HT10	
Solar radiation	Climatronics Kipp & Zonen	
Sulfur dioxide	Thermo Model 43i-TLE Teledyne Model T200U	EQSA-0486-060 (560) EQSA-0495-100 (600)[3]
Temperature	Climatronics Met One Senva HT10	
Wind speed/direction	Vaisala WXT-530Met One RM Young 86004	

1: Designation number and Federal Reference and Equivalent Methods as of June 27th, 2024.

2: Maine anticipates discontinuing using this method in 2024.

3: Maine DEP currently owns but does not operate the instruments associated with this method. Operation of these instruments may resume when the need for them arises.

2026 Integrated Sample Schedule

# 1 in 3 sample day	# 1 in 3, 1 in 6, and 1 in 12 sample day
# 1 in 3, and 1 in 6 sample day	#* State Holiday

January

Su	M	Tu	W	Th	F	Sa
				1*	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19*	20	21	22	23	24
25	26	27	28	29	30	31

February

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16*	17	18	19	20	21
22	23	24	25	26	27	28

March

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20*	21	22	23	24	25
26	27	28	29	30		

May

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25*	26	27	28	29	30
31						

June

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19*	20
21	22	23	24	25	26	27
28	29	30				

July

Su	M	Tu	W	Th	F	Sa
			1	2	3*	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7*	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12*	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11*	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26*	27*	28
29	30					

December

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25*	26
27	28	29	30	31		

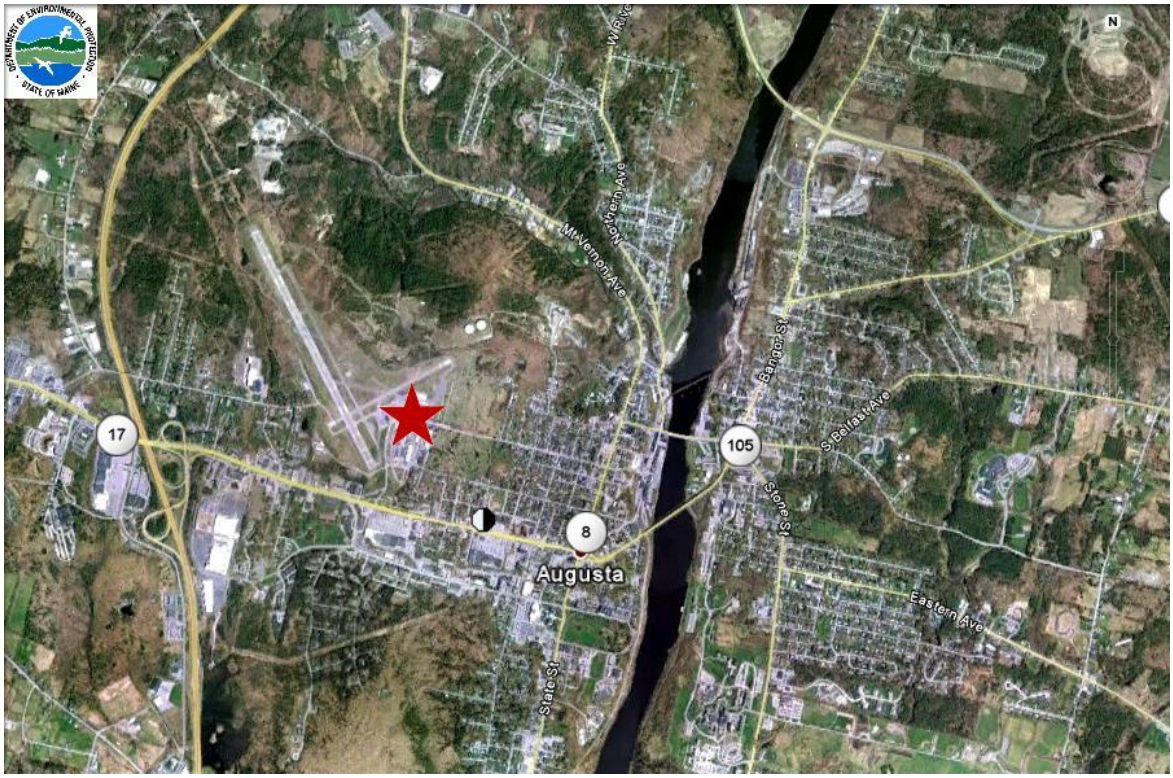
EPA version of sampling schedule can be found at: https://www.epa.gov/amtic/sampling-schedule-calendar

Appendix 1:
Monitoring Station Information

The following page presents descriptions of the ambient air monitoring sites maintained and operated by both the Maine Department of Environmental Protection Bureau of Air Quality and the Tribal Nations. Sites are arranged alphabetically by Town – Site Name. This table offers an index to the sites based on AQS Site ID.

2025 Monitoring Site Information

Town – Site:	**Augusta – Airport**		
County:	**Kennebec**	Latitude:	**44.3179**
Address:	**Augusta State Airport**	Longitude:	**-69.7919**
AQS Site ID:	**23-011-0008**	Elevation:	**107 Meters**
Spatial Scale:	**Regional**	Year Established:	**1981**
Statistical Area:	**Augusta-Waterville, ME**		



Augusta – Airport
Pollutant and Meteorological Parameters:

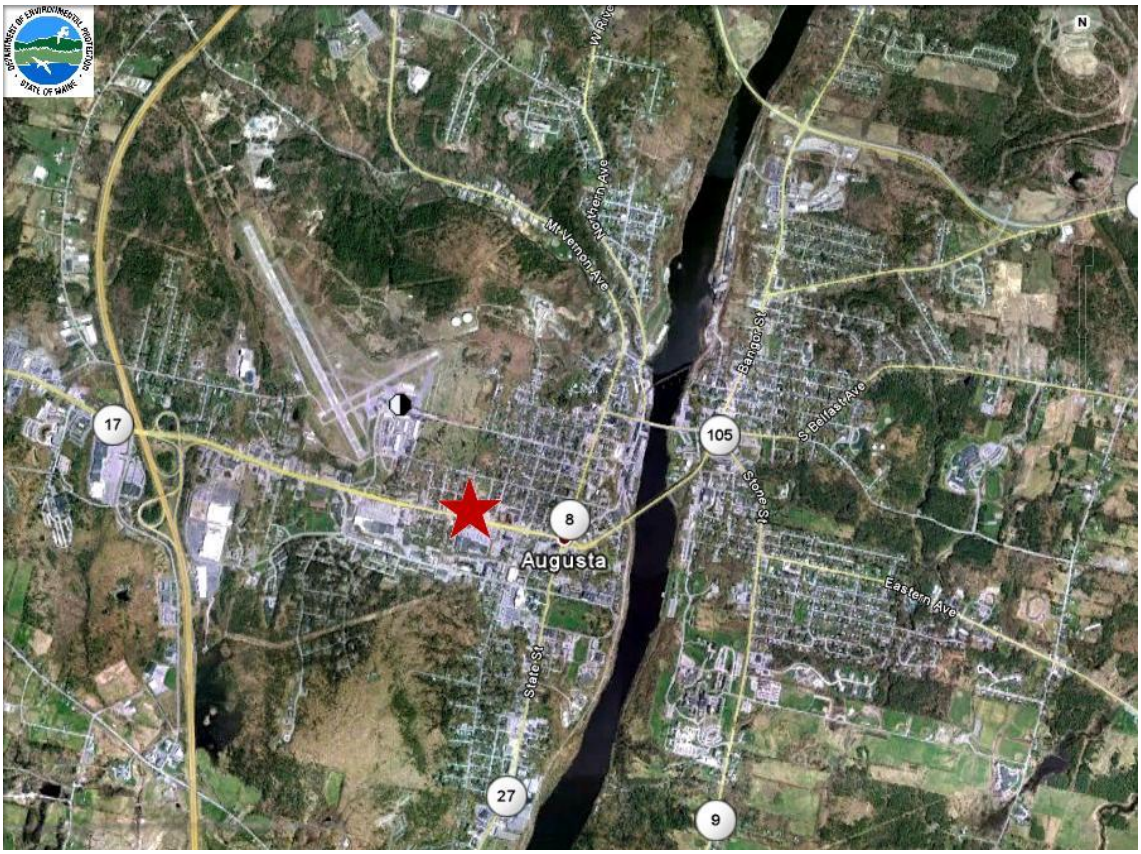
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	01/20/1981	
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
A retractable tower with wind speed and direction sensors is situated on the roof of the Airport Terminal Building at the Augusta State Airport, 0.8 miles NW of the state capitol. The data acquisition equipment and modem are located in the adjacent equipment shed to the west. The 10 m tower is raised only to the height of the surrounding antennae due to the proximity of the flight line. The tower and equipment were moved to the terminal in October 2015 because the Civil Air Patrol Hanger, where the tower was originally situated, was slated for replacement.

Monitoring Objectives:
Modeling.

Planned changes:
If not completed prior to July 1, 2025, the current meteorological system will be replaced with a new system.

Town – Site:	**Augusta – Lincoln Street School**		
County:	**Kennebec**	Latitude:	**44.3123**
Address:	**30 Lincoln Street**	Longitude:	**-69.7867**
AQS Site ID:	**23-011-0016**	Elevation:	**71 Meters**
Spatial Scale:	**Neighborhood**	Year Established:	**1999**
Statistical Area:	**Augusta-Waterville, ME**		



Augusta – Lincoln Street School
Pollutant and Meteorological Parameters:

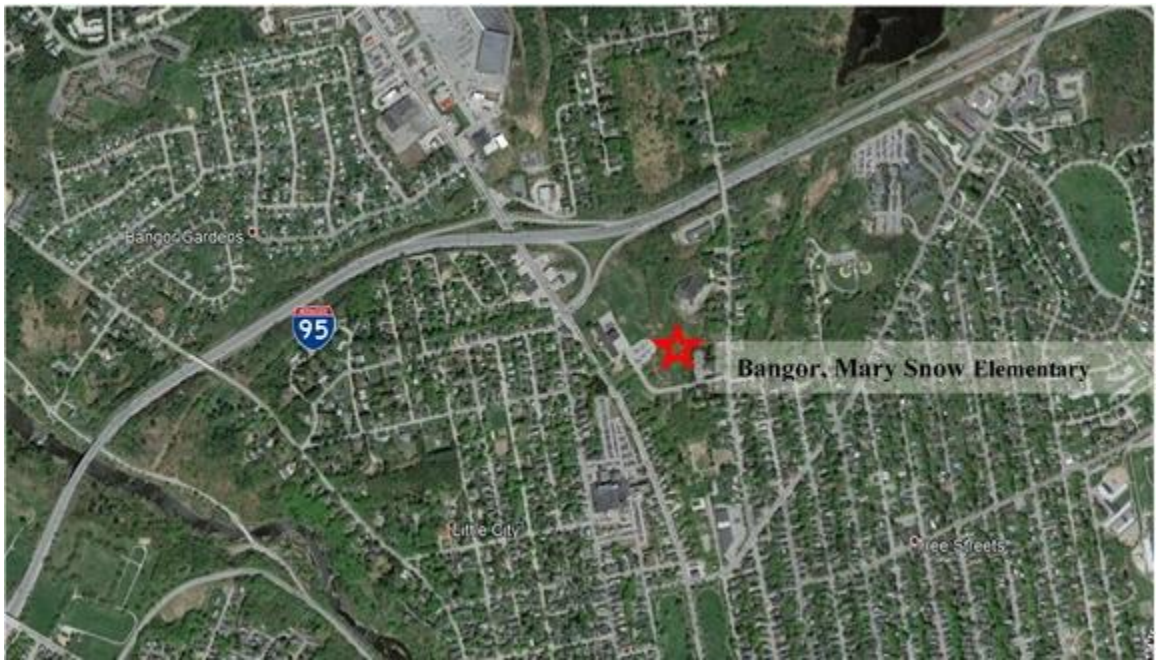
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	01/01/1999	06/30/2024	SO_2		
PM2.5 - 24 Hr. Colo	01/01/1999	12/31/2024	Ozone		
PM2.5 Cont.	07/12/2023		NOx		
PM10 - 24 Hr.	12/02/2002	12/31/2024	NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.	07/12/2023		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature	07/12/2023	
Black Carbon			Bar. Pressure	07/12/2023	
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Lincoln Street School is located in Augusta just off Western Avenue, 0.4 miles northwest of the state capitol. An aluminum platform is situated on the roof of the gymnasium where all the monitoring equipment resides. A Teledyne T640x was installed in July 2023, providing continuous PM2.5 and PM10 data. The T640x also provides continuous outdoor temperature and barometric pressure data, which Maine DEP submits to AQS.

Monitoring Objectives:
SLAMS attainment/non-attainment. High population exposure.

Planned changes:
If not completed by July 1, 2025, the three-filter based 2000i samplers will be removed from the site.

Town – Site:	**Bangor – Mary Snow Elementary School**		
County:	**Penobscot**	Latitude:	**44.817398**
Address:	**435 Broadway St.**	Longitude:	**-68.772762**
AQS Site ID:	**23-019-0017**	Elevation:	**54.2 Meters**
Spatial Scale:	**Neighborhood**	Year Established:	**2017**
Statistical Area:	**Bangor, ME**		



Bangor – Mary Snow Elementary School
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	10/01/2017 07/01/2024	12/31/2019	SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	10/01/2017		NOx		
PM10 - 24 Hr.	10/01/2017	06/30/2024	NOy		
PM10 - 24 Hr. Colo	01/24/2023	06/30/2024	HAPs	10/01/2017	
PM10 Cont.	04/01/2024		VOCs (PAMS)		
PM Coarse	10/01/2017	12/31/2019	Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature	01/01/2024	
Black Carbon			Bar. Pressure	01/01/2024	
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation	8/12/2024		UV-b Radiation		

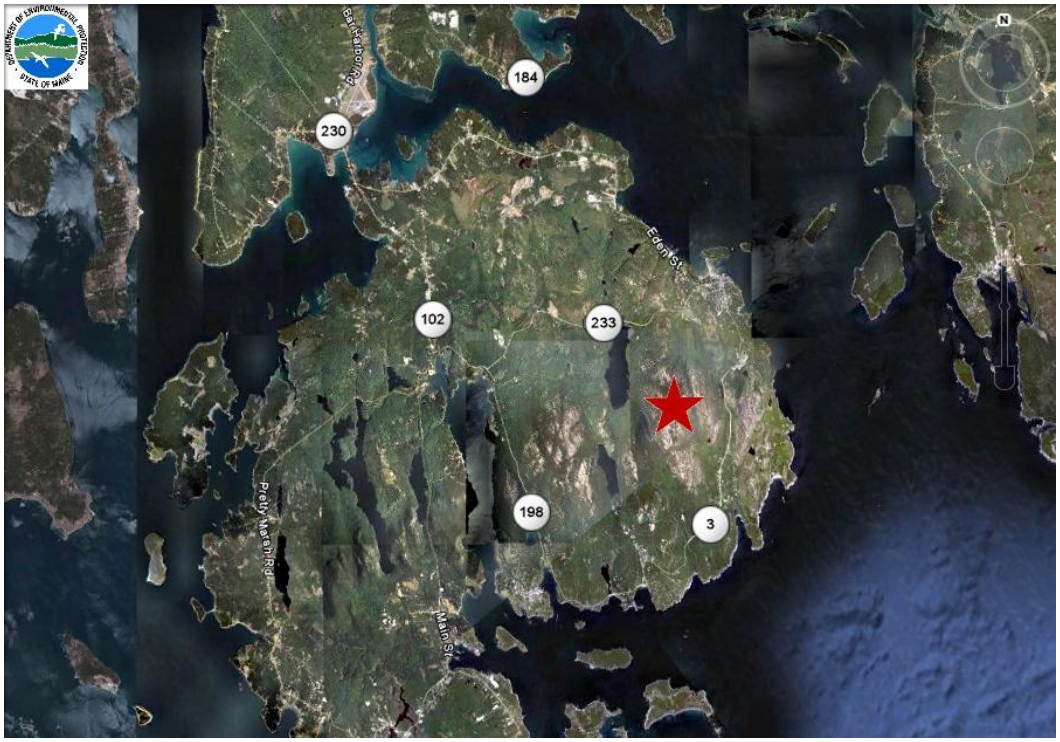
Site Description:
Monitors are located on the roof of Mary Snow Elementary School, located on Broadway just south of the I 95 interchange in Bangor. A second Thermo 2000*i* was installed for the 1/24/2023 SIP date. This sampler became the new PM10 collocation site for method 126, replacing Portland Tukey's bridge as the collocated site.

In spring of 2024, the Met One Bam 1020 measuring PM2.5 was replaced by a Teledyne T640x capable of measuring PM2.5 and PM10 simultaneously. This made the PM10 sampler using Method 126 redundant, which was swapped to PM2.5 sampling on July 1, 2024, using Method 143 to provide quality assurance collocation against the T640x. The Orono RadNet sampler was installed near the existing monitoring platform in Augsut 2024.

Monitoring Objectives:
Attainment/non-attainment/high population exposure site. AQI forecasting and mapping.

Planned changes:
None.

Town – Site:	**Bar Harbor – Cadillac Mountain, Acadia National Park**		
County:	**Hancock**	Latitude:	**44.3517**
Address:	**Top of Cadillac Mountain**	Longitude:	**-68.2272**
AQS Site ID:	**23-009-0102**	Elevation:	**463 M (1519 ft)**
Spatial Scale:	**Regional**	Year Established:	**1995**
Statistical Area:	**None**		



Bar Harbor – Cadillac Mountain, Acadia National Park
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	07/25/1995	
PM2.5 Cont.			NOx	04/01/2004	09/30/2007
PM10 - 24 Hr.			NOy	01/01/2008	09/30/2014
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)	05/01/1996	09/30/2014
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	05/06/1996	
Cont. Sulfate (SO_4)			Outdoor Temperature	04/19/1996	
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity	04/19/1996	
Lead			Dew point		
CO	04/01/2002	10/01/2003	Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Located on the top of Cadillac Mountain in Acadia National Park. It is a seasonal ozone site operating during the months of April to October. Meteorological parameters are also collected seasonally.

In early 2024, the ozone monitor was replaced with a newer model.

Monitoring Objectives:
Monitoring long-range transport of pollutants on a regional scale.

Planned changes:
None.

Town – Site:	**Bar Harbor – McFarland Hill, Acadia National Park**		
County:	**Hancock**	Latitude:	**44.3771**
Address:	**Route 233**	Longitude:	**-68.2609**
AQS Site ID:	**23-009-0103**	Elevation:	**156 Meters**
Spatial Scale:	**Regional**	Year Established:	**1998**
Statistical Area:	**None**		

Bar Harbor – McFarland Hill, Acadia National Park
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	01/01/1999		SO_2	02/01/2004	
PM2.5 - 24 Hr. Colo			Ozone	02/01/1998	
PM2.5 Cont.	10/01/2003		NOx		
PM10 - 24 Hr.	01/01/2010	01/06/2023	NOy	02/01/2004	
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.	01/12/2023		VOCs (PAMS)		
PM Coarse	01/01/2010		Wet Deposition - Mercury	1998	
IMPROVE	03/02/1988		Wet Dep. - Precip Chem.	1998	
Cont. OC/EC	06/29/2004		Wind Direction/Speed	02/01/1998	
Cont. Sulfate (SO_4)	06/26/2004	06/02/2023	Outdoor Temperature	02/01/1998	
Black Carbon			Bar. Pressure	01/01/2024	
Cont. PAH			Relative Humidity	02/01/1998	
Lead			Dew point		
CO	02/01/2004		Precipitation Amount	02/01/1998	
CO_2			Solar Radiation	02/01/1998	
Gamma Radiation			UV-b Radiation		

Site Description:
This site is located in a field on the side of McFarland Hill in Bar Harbor. Site slopes to the south/southeast with the hill rising to the north. The site was established by the National Park Service but has since grown to include a variety of monitors for EPA programs, special studies such as the Rural Aerosol Intensive Network, and as the NCore site for Maine.
A T640x was installed in January of 2023, replacing a Thermo 5030i SHARP, and making the two 2000*i* samplers sampling for PM_{10} redundant, which were removed.
In Summer 2023, due to operational issues, the continuous sulfate analyzer was shut down. This instrument was discontinued by the vendor and was no longer providing parts or technical support.
In December 2023, the older climatronics MET system was replaced by a Vaisala MET system.

The Maine DEP replaced the ozone analyzer with a new make and model in April 2025 with plans to also replace the aging CO monitor at this site.

Monitoring at this site is a joint effort between the NPS/ARD and the Maine DEP.

Monitoring Objectives:
Background. NCore Site. Monitoring long-range transport of pollutants on a regional scale.

Planned changes:
Currently there are no planned changes to this site; however, the continuous organic carbon/elemental carbon analyzer is starting to have performance issues and may get shut down. This analyzer is twice its expected lifespan and has outlived the research project it was purchased and operated for. The DEP does not have plans to replace this instrument.

Town – Site:	**Bethel – Smith Farm Road**		
County:	**Oxford**	Latitude:	**44.377794**
Address:	**Smith Farm Road**	Longitude:	**-70.854697**
AQS Site ID:	**23-017-3002**	Elevation:	**203 Meters**
Spatial Scale:	**Regional**	Year Established:	**2016**
Statistical Area:	**None**		

Bethel – Smith Farm Road

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	05/12/2016	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

The site is located approximately 3.5 miles southwest of Bethel, Maine on Smith Farm Road. The shelter is situated in a field along the power line right of way.

Monitoring Objectives:

SLAMS attainment/non-attainment. Western mountain location

Planned changes:

The shelter may be replaced as the current shelter is underutilized in the current location, and the Maine DEP would benefit from having this shelter available for another use. This will not occur before the next Annual Monitoring Plan.

Town – Site:	**Bridgton**		
County:	**Cumberland**	Latitude:	**44.1074**
Address:	**Upper Ridge Road**	Longitude:	**-70.7290**
AQS Site ID:	**23-005-0002**	Elevation:	**223 meters**
Spatial Scale:	**Regional**	Year Established:	**1980**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		

Bridgton

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury	06/03/1997	
IMPROVE	03/14/2001	01/01/2016	Wet Dep. - Precip Chem.	01/01/1980	
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

Site is located on a ridge in an open field area just off the Upper Ridge Road. While this site is a Maine DEP location, the weekly workload is contracted out to the Maine Lakes Environmental Association (LEA).

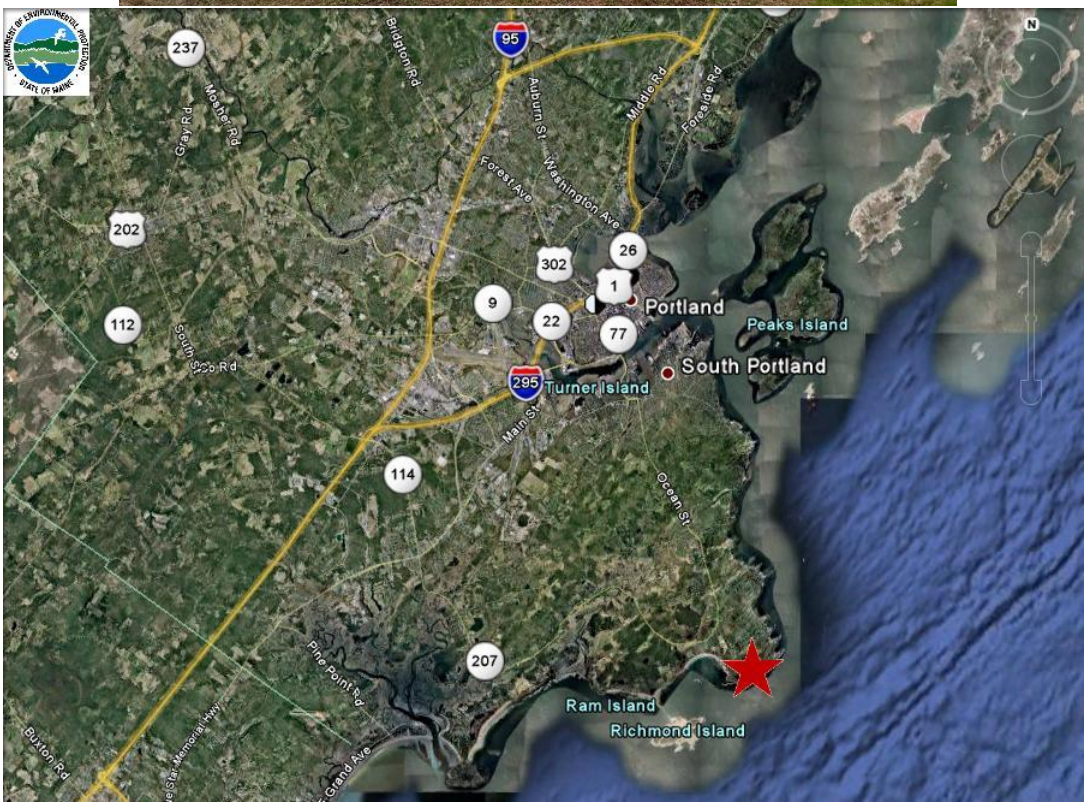
Monitoring Objectives:

Long-term tracking of deposition. Western mountain location

Planned changes:

None.

Town – Site:	**Cape Elizabeth, Two Lights State Park**		
County:	**Cumberland**	Latitude:	**43.5610**
Address:	**Two Lights State Park**	Longitude:	**-70.2073**
AQS Site ID:	**23-005-2003**	Elevation:	**24 meters**
Spatial Scale:	**Regional**	Year Established:	**1981**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		



Cape Elizabeth, Two Lights State Park
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	01/01/1999	12/17/2002	SO_2		
PM2.5 - 24 Hr. Colo			Ozone	01/01/1981	
PM2.5 Cont.			NOx	06/09/1993	10/31/1995
PM10 - 24 Hr.			NOy	06/26/1995	10/25/2022
PM10 - 24 Hr. Colo			HAPs	12/06/2013	05/30/2019
PM10 Cont.			VOCs (PAMS)	06/01/1993 06/01/2020	08/31/2019 08/31/2022
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	06/25/1985	
Cont. Sulfate (SO_4)			Outdoor Temperature	06/07/1994	
Black Carbon			Bar. Pressure	06/07/1994	
Cont. PAH			Relative Humidity	06/07/1994	
Lead			Dew point		
CO	05/01/2001	10/01/2007	Precipitation Amount		
CO_2			Solar Radiation	06/07/1994	
Gamma Radiation			UV-b Radiation	06/01/1995	
			Pandora	June 2021	

Site Description:
The Cape Elizabeth site is located in an open elevated area in the Two Lights State Park in Cape Elizabeth. Ozone is monitored year around, and meteorological parameters are monitored seasonally from April to September. The GC was shut down at the end of the 2022 PAMs season to allow staff to focus on air quality issues more pressing in Maine.

Monitoring Objectives:
Monitoring long-range transport of pollutants on a regional scale.

Planned changes:
This shelter is currently under-utilized. The Maine DEP would benefit from replacing this shelter will a smaller shelter, allowing this shelter to be available for other uses. This will not occur before the next Annual Monitoring Plan.

Town – Site:	**Caribou – Caribou Airport**		
County:	**Aroostook**	Latitude:	**46.8683**
Address:	**Caribou Airport**	Longitude:	**-67.9931**
AQS Site ID:	**23-003-1002**	Elevation:	**191 meters**
Spatial Scale:	**Regional**	Year Established:	**1982**
Statistical Area:	**None**		

Caribou – Caribou Airport
Pollutant and Meteorological Parameters:

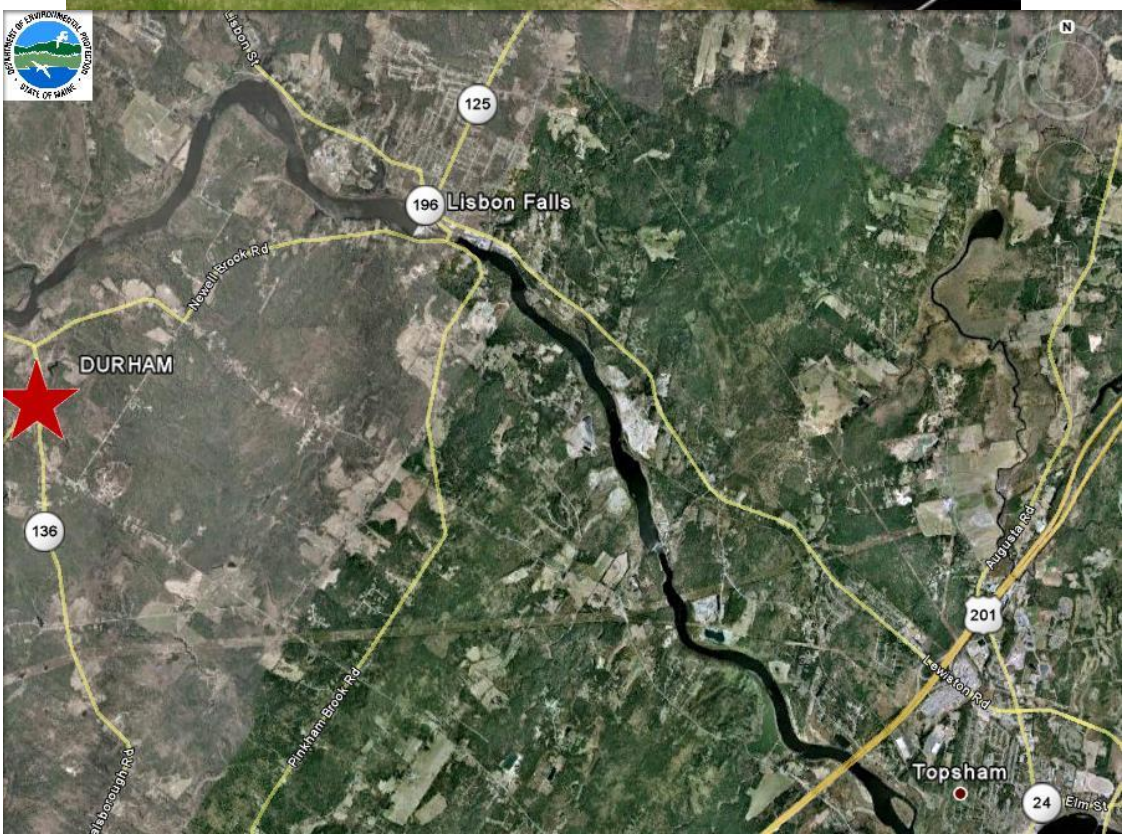
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury	05/09/2007	
IMPROVE			Wet Dep. - Precip Chem.	01/01/1982	
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount	01/01/1982	
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
The site is in a grassy area inside the fence and off the south end of the runway at Caribou Airport.

Monitoring Objectives:
Long-term monitoring of wet deposition chemistry and precipitation amount in northern Maine.

Planned changes:
None.

Town – Site:	**Durham – Fire Station**		
County:	**Androscoggin**	Latitude:	**43.9745**
Address:	**Route 9**	Longitude:	**-70.1249**
AQS Site ID:	**23-001-0014**	Elevation:	**50 meters**
Spatial Scale:	**Regional**	Year Established:	**2004**
Statistical Area:	**Lewiston-Auburn, ME**		



Durham – Fire Station

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	04/01/2004	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

The site is located on the grounds of the Durham Fire Station, 9 ½ miles southeast of Lewiston. An ozone monitor is located within an 8'x8'x8' environmentally controlled shelter. The shelter was installed in 2006, and in the summer of 2022, a new sloped roof was installed onto the shelter.

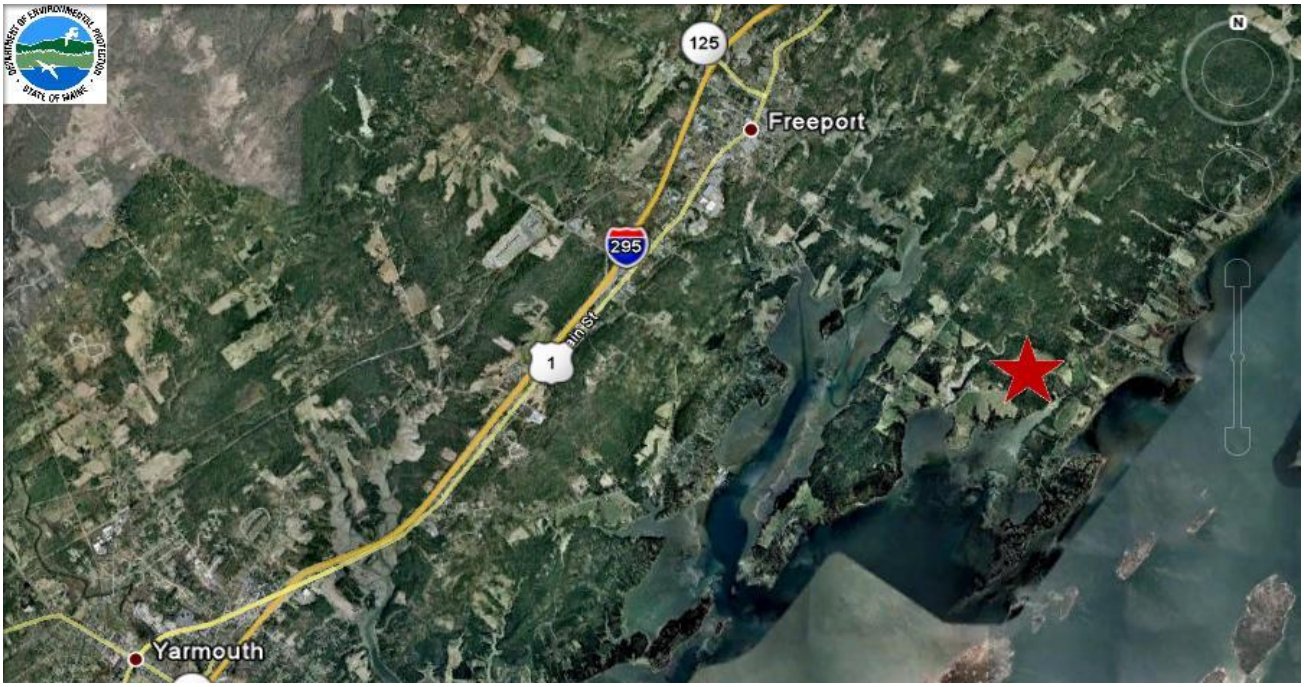
Monitoring Objectives:

SLAMS attainment/non-attainment.

Planned changes:

None.

Town – Site:	**Freeport – Wolfes Neck Farm**		
County:	**Cumberland**	Latitude:	**43.8325**
Address:	**Wolfe's Neck Road**	Longitude:	**-70.0644**
AQS Site ID:	**23-005-9002**	Elevation:	**27 Meters**
Spatial Scale:	**Regional/Neighborhood**	Year Established:	**1998**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		



Freeport – Wolfes Neck Farm
Pollutant and Meteorological Parameters:

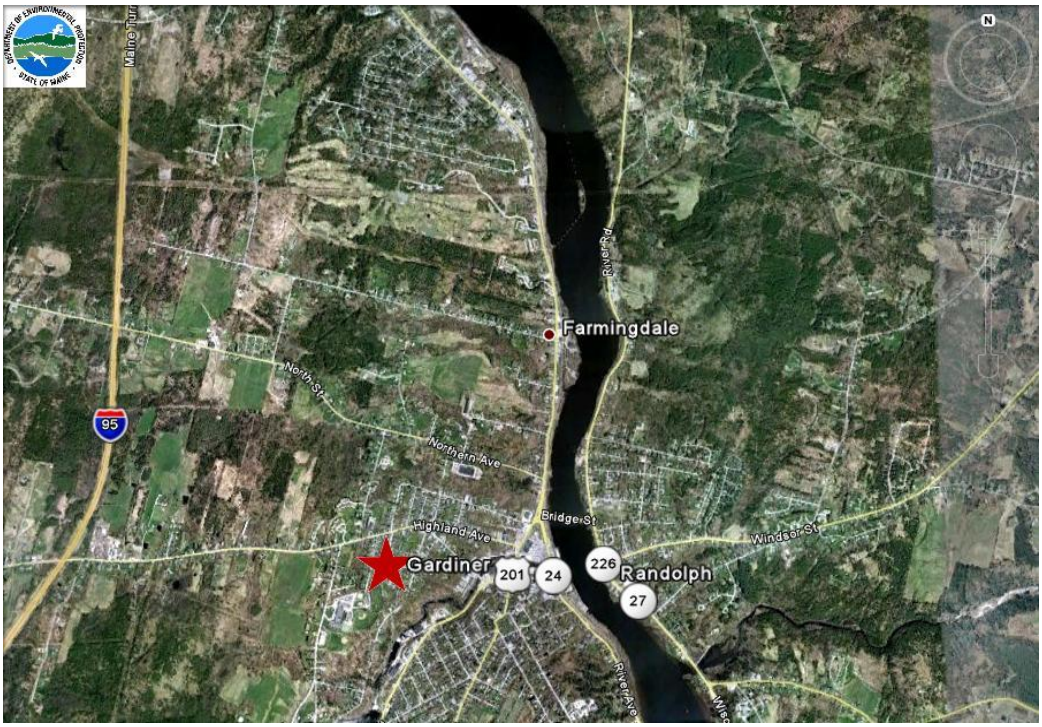
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury	01/07/1998	
IMPROVE	03/14/2001		Wet Dep. - Precip Chem.	01/07/1998	
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount	01/07/1998	
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		
			Wet Deposition - PFAS	10/13/2020	

Site Description:
Site is located within a fenced-in area in the middle of a large open field used as a pasture by the Wolfe's Neck farm. Construction activity near the site may force relocation of the samplers.

Monitoring Objectives:
Long-term monitoring of wet deposition chemistry and precipitation amount in Maine. IMPROVE site.

Planned changes:
None.

Town – Site:	**Gardiner – High School**		
County:	**Kennebec**	Latitude:	**44.226566**
Address:	**West Street**	Longitude:	**-69.788624**
AQS Site ID:	**23-011-2001**	Elevation:	**63.6 Meters**
Spatial Scale:	**Regional**	Year Established:	**2020**
Statistical Area:	**Augusta-Waterville, ME**		



Gardiner – High School

Pollutant and Meteorological Parameters

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	01/01/2020	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

The shelter is located near the southeast corner of the building.

Monitoring Objectives:

SLAMS attainment/non-attainment. Monitoring long-range transport of pollutants on a regional scale.

Planned changes:

This site is unfavorable compared to the old location at the former Pray Street school. Returning to the old location, now a Girls and Boys Club is not possible. Staff are looking into other locations for monitoring in the Gardiner and Augusta areas.

Town – Site:	**Greenville**		
County:	**Piscataquis**	Latitude:	**45.463**
Address:	**Greenville Municipal Airport**	Longitude:	**-69.55579**
AQS Site ID:	**23-021-0001**	Elevation:	**424 Meters**
Spatial Scale:	**Regional**	Year Established:	**2021**
Statistical Area:	**None**		

Greenville

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury	July 2021	
IMPROVE			Wet Dep. - Precip Chem.	July 2021	
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount	July 2021	
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

This site was moved from the private property northwest of Greenville Junction to the Greenville Municipal Airport property. This was done to improve siting for the samplers. This location has much better exposure to regional air flow.

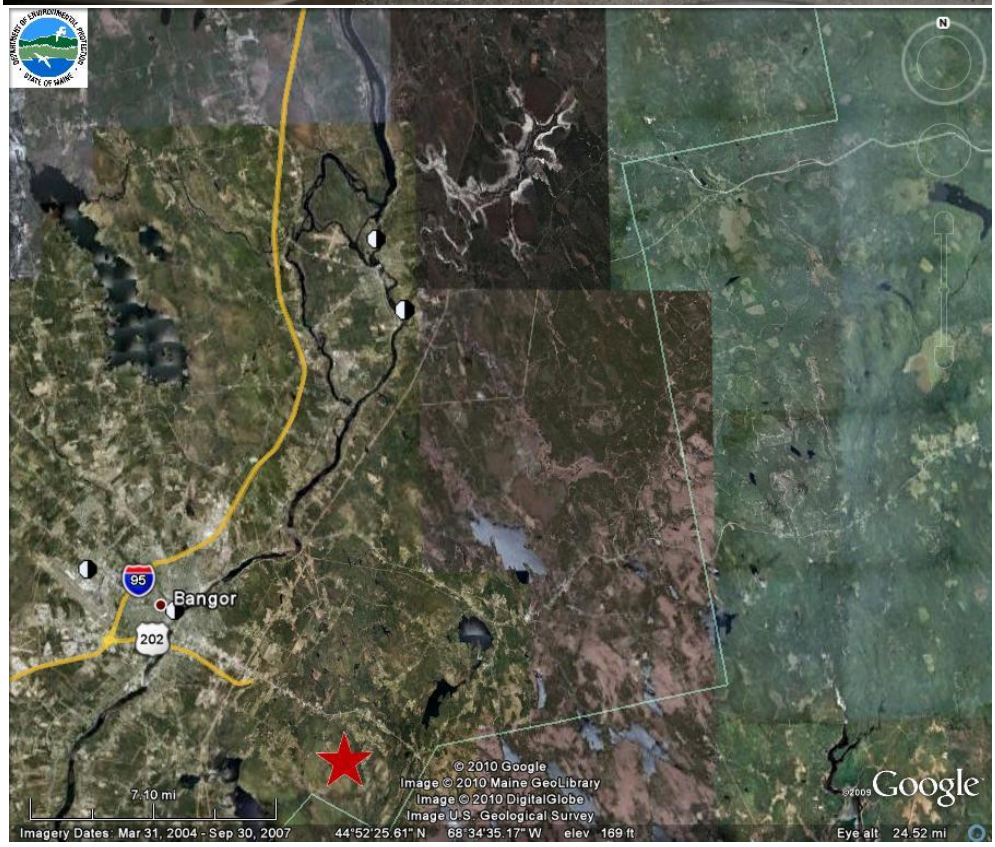
Monitoring Objectives:

Long-term monitoring of wet deposition chemistry and precipitation amount in western Maine

Planned changes:

None.

Town – Site:	**Holden**		
County:	**Penobscot**	Latitude:	**44.7365**
Address:	**Summit of Rider's Bluff**	Longitude:	**-68.6711**
AQS Site ID:	**23-019-4008**	Elevation:	**250 Meters**
Spatial Scale:	**Regional**	Year Established:	**1993**
Statistical Area:	**Bangor, ME**		



Holden

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	05/19/1993	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

Site is a transmission tower location for a local TV station at the top of a hill in Holden with good exposure in all directions. A new make and model of ozone analyzer was installed for the 2024 season.

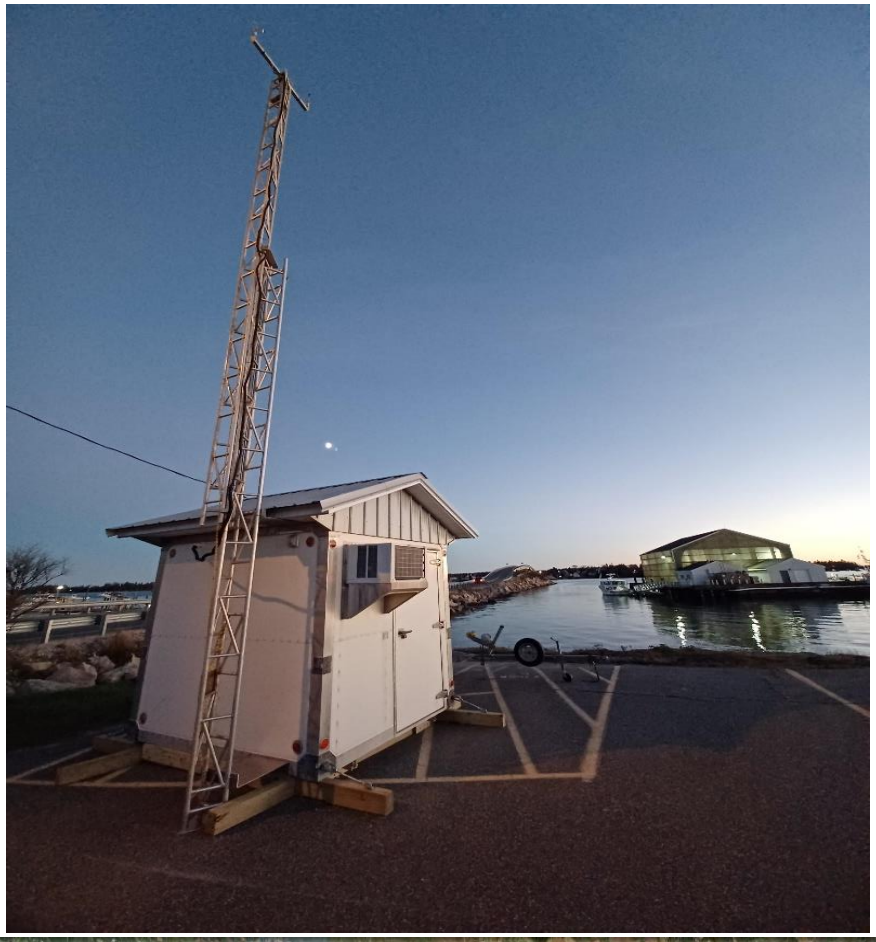
Monitoring Objectives:

SLAMS attainment/non-attainment. Monitoring long-range transport of pollutants on a regional scale.

Planned changes:

None.

Town – Site:	**Jonesport – Coast Guard Station**		
County:	**Washington**	Latitude:	**44.5276553**
Address:	**9 Bridge St.**	Longitude:	**-67.615495**
AQS Site ID:	**23-029-0021**	Elevation:	**2.0 Meters**
Spatial Scale:	**Regional**	Year Established:	**2022**
Statistical Area:	**None**		



Jonesport – Coast Guard Station
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	02/24/2023	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	11/16/2022	
Cont. Sulfate (SO_4)			Outdoor Temperature	11/16/2022	
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity	11/16/2022	
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

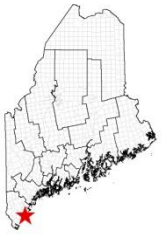
Site Description:
Monitor located in a shelter at the US Coast Guard Station parking lot. This site replaces the Jonesport Public Landing site which was discontinued due to the planned demolition of the public landing structure that housed the monitoring equipment.

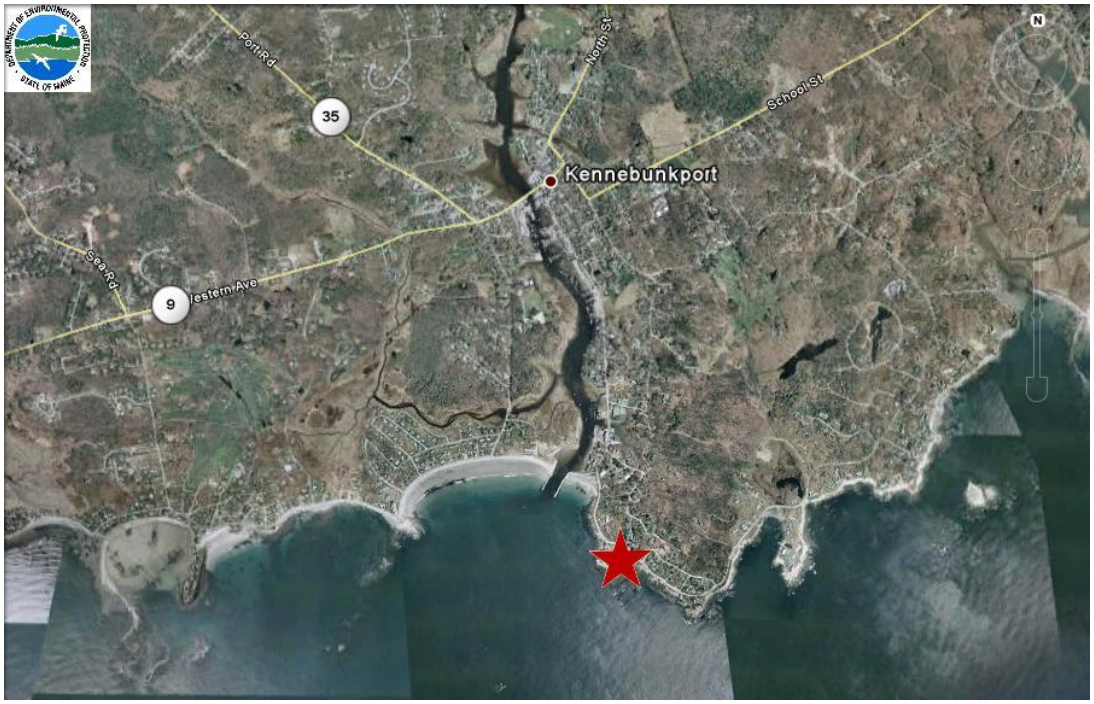
The ozone monitor at this location was replaced with a newer instrument in the first half of 2025.

Monitoring Objectives:
SLAMS attainment/non-attainment. EMP.

Planned changes:
None.

Town – Site:	**Kennebunkport – Parson's Way**		
County:	**York**	Latitude:	**43.3431**
Address:	**Ocean Avenue**	Longitude:	**-70.4714**
AQS Site ID:	**23-031-2002**	Elevation:	**6 Meters**
Spatial Scale:	**Regional**	Year Established:	**1983**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		





Kennebunkport – Parson's Way
Pollutant and Meteorological Parameters:

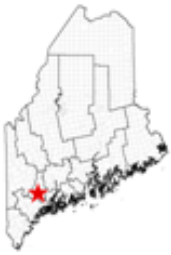
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	1/1/1983	
PM2.5 Cont.			NOx	6/1/1990	9/1/1990
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

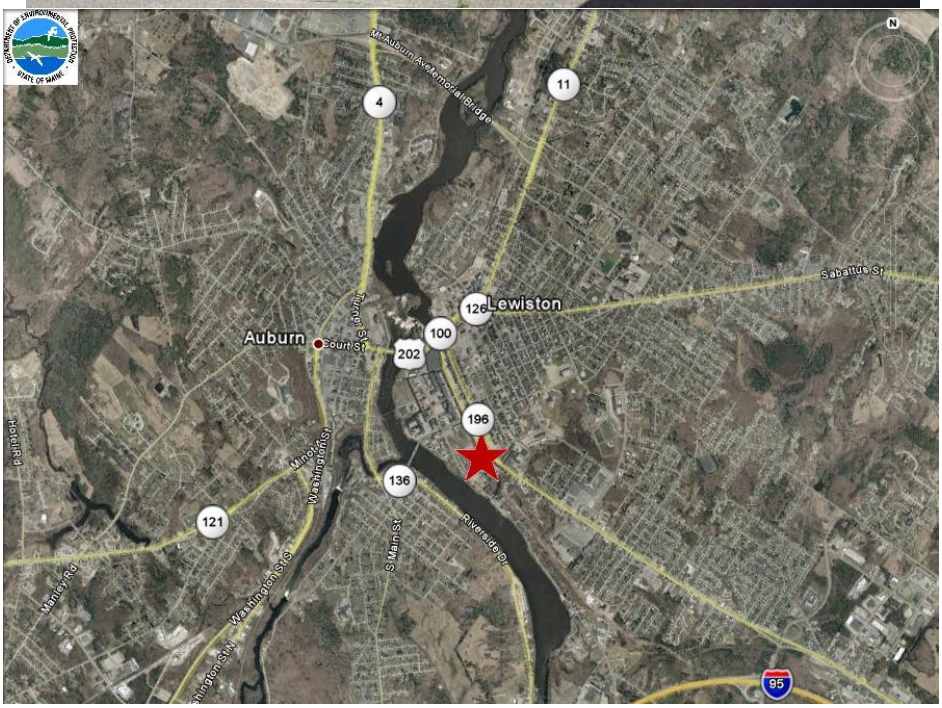
Site Description:
Site is located on a rocky beach area just off Ocean Avenue in a wooden 8'x8'x8' structure. Site has good exposure and has recorded some of the highest ozone concentrations in the state. During a January 2024 storm, the shelter was moved by coastal flooding/waves, and the bedrock anchors came loose. Fortunately, the shelter had minimal damage, and the equipment was removed at the end of the previous ozone season. The shelter was removed to allow the Town of Kennebunkport access to a culvert, and the shelters damaged was repaired.

Monitoring Objectives:
SLAMS attainment/non-attainment. Monitoring long-range transport of pollutants on a regional scale.

Planned changes for 2024/2025:
The Maine DEP is currently looking for a new location for the shelter and monitoring equipment. It is expected that this site be shut down in October 2025.

Town – Site:	**Lewiston – Country Kitchen Parking Lot**		
County:	**Androscoggin**	Latitude:	**44.0894**
Address:	**Canal Street**	Longitude:	**-70.2141**
AQS Site ID:	**23-001-0011**	Elevation:	**50 meters**
Spatial Scale:	**Neighborhood**	Year Established:	**1981**
Statistical Area:	**Lewiston-Auburn ME**		





Lewiston – Country Kitchen Parking Lot
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	01/01/1999 07/01/2024	12/31/2019	SO_2	07/13/1998	12/30/2002
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	01/01/2000		NOx		
PM10 - 24 Hr.	04/01/2004	06/30/2024	NOy		
PM10 - 24 Hr. Colo			HAPs	06/14/2004	
PM10 Cont.	05/03/2024		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead	06/01/1989	12/31/1993	Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
The site is located in downtown Lewiston in the parking lot of the Country Kitchen Bakery. An 8'x8'x8' shelter houses electronic monitoring equipment and a data acquisition system in a climate-controlled environment, with a PM sampler and situated on the roof.
In the spring of 2025, a T640x was installed, replacing the Met One BAM measuring PM10. A new monitoring shelter is planned to be installed in 2025.

Monitoring Objectives:
SLAMS attainment/non-attainment. High population exposure

Planned changes:
If not completed prior to July 1, 2025, the shelter will be replaced with a new 8'x'8' shelter.

Town – Site:	**Madawaska – Public Safety Bldg.**		
County:	**Aroostook**	Latitude:	**47.3553**
Address:	**East Maine St.**	Longitude:	**-68.3211**
AQS Site ID:	**23-003-0014**	Elevation:	**177 meters**
Spatial Scale:	**Neighborhood**	Year Established:	**2009**
Statistical Area:	**None**		

Madawaska – Public Safety Bldg.

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	08/01/2009	12/31/2019	SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	01/17/2014		NOx		
PM10 - 24 Hr.	08/01/2009	12/31/2021	NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.	10/07/2020		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

Monitoring platform established in 2009 on the roof of the Madawaska Public Service Building.
NOTE: The fire department has hosted big BBQ events on certain holidays, and smoke from the grills are quite often detected by the ambient air monitoring equipment. Continuous PM10 sampler was established in fall 2020 to document ambient air quality effects from this festive event. Both Met One BAMs were replaced with a T640x in May 2023.

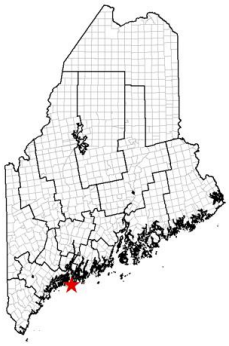
Monitoring Objectives:

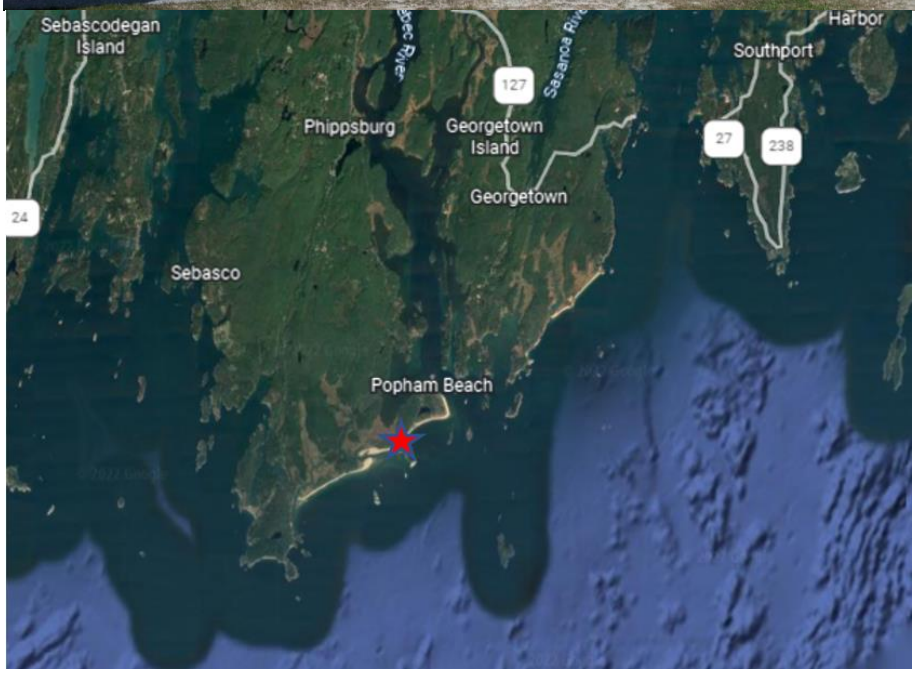
SLAMS attainment/non-attainment.

Planned changes:

None.

Town – Site:	**Popham Beach State Park**		
County:	**Sagadahoc**	Latitude:	**43.736277**
Address:	**711 Popham Road.**	Longitude:	**-69.797654**
AQS Site ID:	**23-023-0007**	Elevation:	**5 meters**
Spatial Scale:	**Regional**	Year Established:	**2022**
Statistical Area:	**None**		





Popham Beach State Park
Pollutant and Meteorological Parameters:

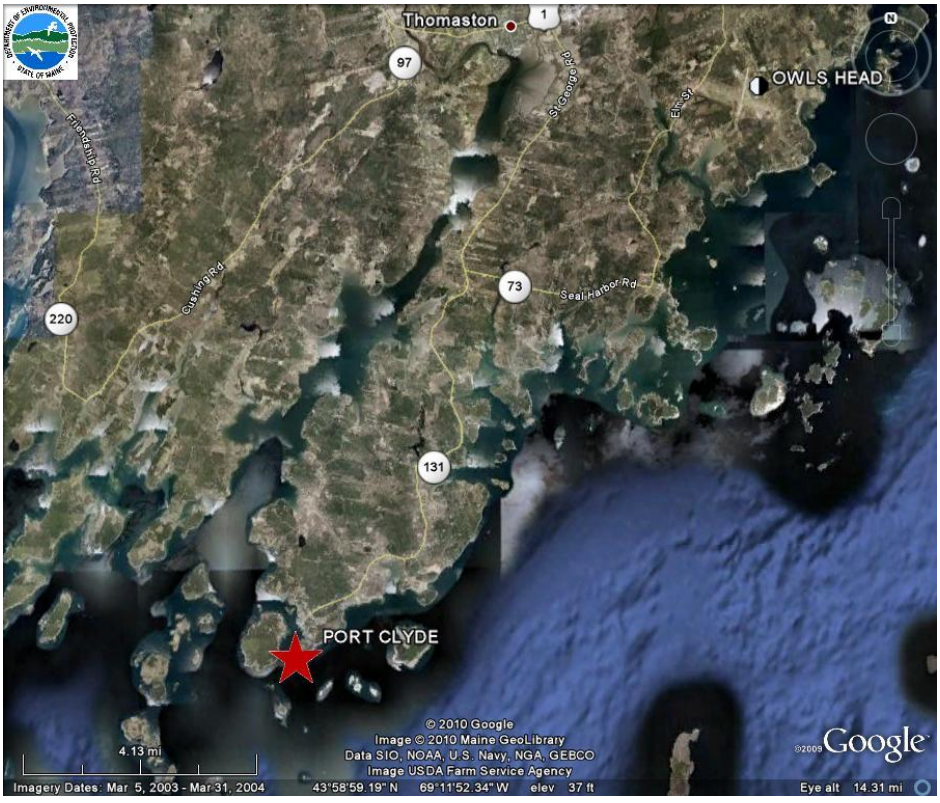
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	04/13/2022	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Environmentally controlled cabinet installed in a utility room of the “Bath House” at the State Park.

Monitoring Objectives:
SLAMS attainment/non-attainment.

Planned changes:
None.

Town – Site:	**Port Clyde – Marshall Point Lighthouse**		
County:	**Knox**	Latitude:	**43.9180**
Address:	**Marshall Point Road**	Longitude:	**-69.2608**
AQS Site ID:	**23-013-0004**	Elevation:	**9 Meters**
Spatial Scale:	**Regional**	Year Established:	**1987**
Statistical Area:	**Rockland, ME**		



Port Clyde – Marshall Point Lighthouse
Pollutant and Meteorological Parameters:

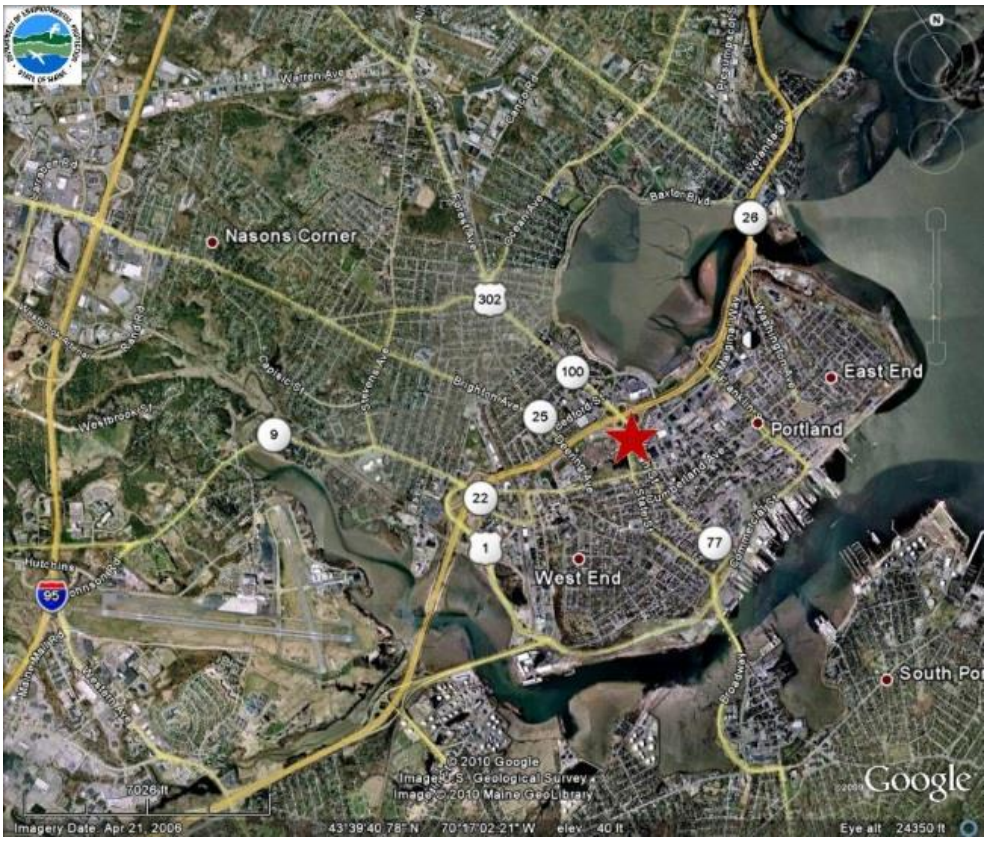
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	05/01/1987	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
The site is located at Marshall Point on the grounds of the Marshall Point Lighthouse Museum about 14.8 miles southwest of downtown Rockland. A 6'x6' environmentally controlled shelter houses the monitor, data acquisition equipment and modem.

Monitoring Objectives:
SLAMS attainment/non-attainment. Monitoring long-range transport of pollutants on a regional scale.

Planned changes:
None.

Town – Site:	**Portland – Deering Oaks Park**		
County:	**Cumberland**		
Address:	**356 State St.**	Latitude:	**43.6602**
AQS Site ID:	**23-005-0029**	Longitude:	**-70.2690**
Spatial Scale:	**Neighborhood**	Elevation:	**4 meters**
Statistical Area:	**Portland-South Portland-Biddeford, ME**	Year Established:	**2008**



Portland – Deering Oaks Park
Pollutant and Meteorological Parameters:

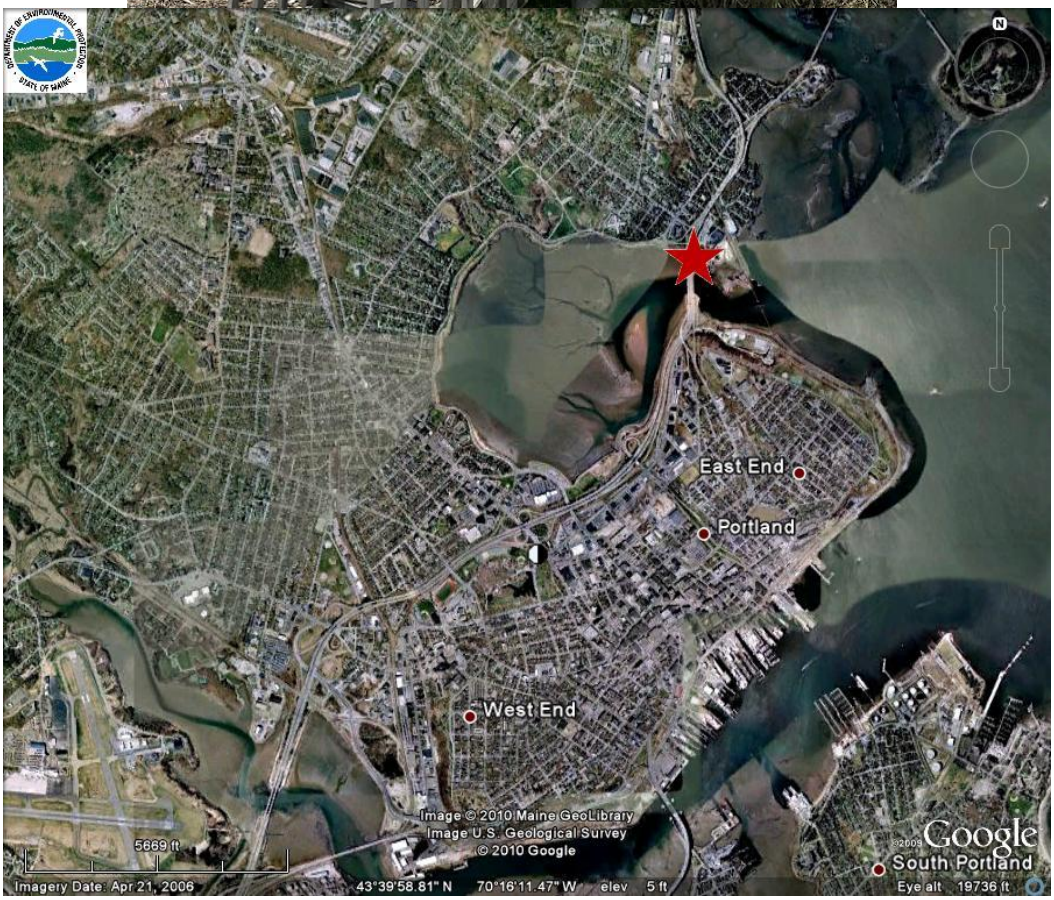
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	1/22/2008		SO_2	1/24/2008	3/1/2021
PM2.5 - 24 Hr. Colo	1/31/2008	1/31/2020	Ozone	1/18/2008	
PM2.5 Cont.	1/18/2008		NOx	2/5/2008	
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs	3/14/2009	
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO	5/1/2008	1/17/2022	Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation	1/29/2009		UV-b Radiation		

Site Description:
The Portland Deering Oaks (PDO) site was established in 2008 to replace the Marginal Way site, which had to be removed to make way for development activity. The site is located in a grassy area of the park near the intersection of Forest Avenue and State Street, and close to an off ramp from I-295. To the west of the site is a wooded area of the park as well as numerous athletic fields. The site does not meet strict EPA siting criteria, so sample results are not used for regulatory purposes. The location was chosen in cooperation with the Maine and American Lung Association for use in their health statistics. There annual average daily traffic volume on Forest Avenue is around 46,000.
Gamma radiation measurements obtained at PDO are included in the EPA radiation network, RadNet.
At present, the City of Portland plans to extend their greenbelt bike path through the location of our shelter. The Maine DEP and the City of Portland are looking for a new location to house monitoring equipment.

Monitoring Objectives:
High population exposure neighborhood scale monitoring. The ozone and nitrogen dioxide monitors are special purpose, non-regulatory monitors installed at the request of the Maine Bureau of Health.

Planned changes for 2024/2025:
The location where the shelter currently resides is planned to be the 'Union branch' of the City of Portland's bike and walking trails. This trail will connect the current Eastern Promenade and Bayside trails to the Fore River Parkway Trail. The Maine DEP is working with the City of Portland to relocate our monitoring equipment to another location within the city.

Town – Site:	**Portland – Tukey's Bridge**		
County:	**Cumberland**	Latitude:	**43.6780**
Address:	**Tukey's Bridge (Route 295)**	Longitude:	**-70.2562**
AQS Site ID:	**23-005-0015**	Elevation:	**6 meters**
Spatial Scale:	**Middle/Micro**	Year Established:	**1981**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		



Portland – Tukey's Bridge
Pollutant and Meteorological Parameters:

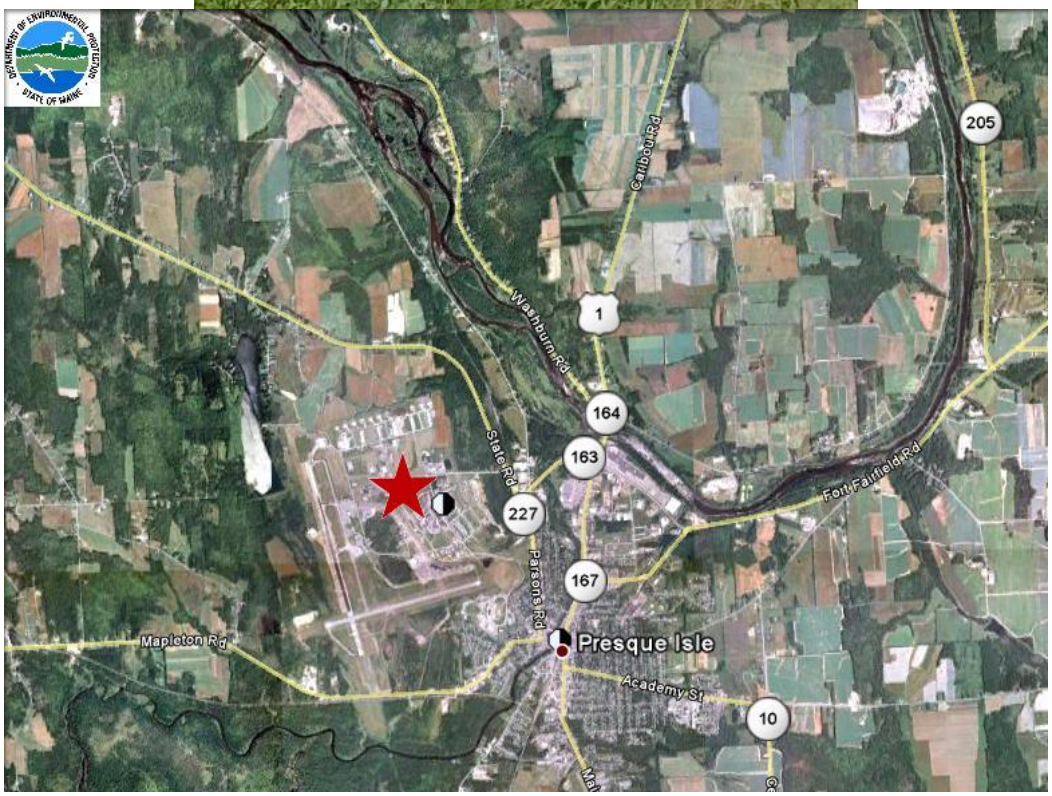
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	01/01/1999	06/12/2023	SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	06/13/2023		NOx		
PM10 - 24 Hr.	02/08/1991	06/12/2023	NOy		
PM10 - 24 Hr. Colo	01/09/2003	01/24/2023	HAPs		
PM10 Cont.	06/13/2023		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Monitors are located on a platform next to I-295/Washington Street. This section of road has some of the highest annual average daily traffic volume in the state. A Teledyne 640x was installed in June of 2023, replacing the three Thermo 2000*i* samplers on the platform and allowing for continuous PM2.5 and PM10 data.

Monitoring Objectives:
SLAMS attainment/non-attainment. High traffic volume**.**

Planned changes:
A security fence will be installed around our platform.

Town – Site:	**Presque Isle – DEP Regional Office**		
County:	**Aroostook**	Latitude:	**46.6984**
Address:	**528 Central Drive**	Longitude:	**-68.0389**
AQS Site ID:	**23-003-1008**	Elevation:	**158 meters**
Spatial Scale:	**Neighborhood**	Year Established:	**1983**
Statistical Area:	**None**		



Presque Isle – DEP Regional Office
Pollutant and Meteorological Parameters:

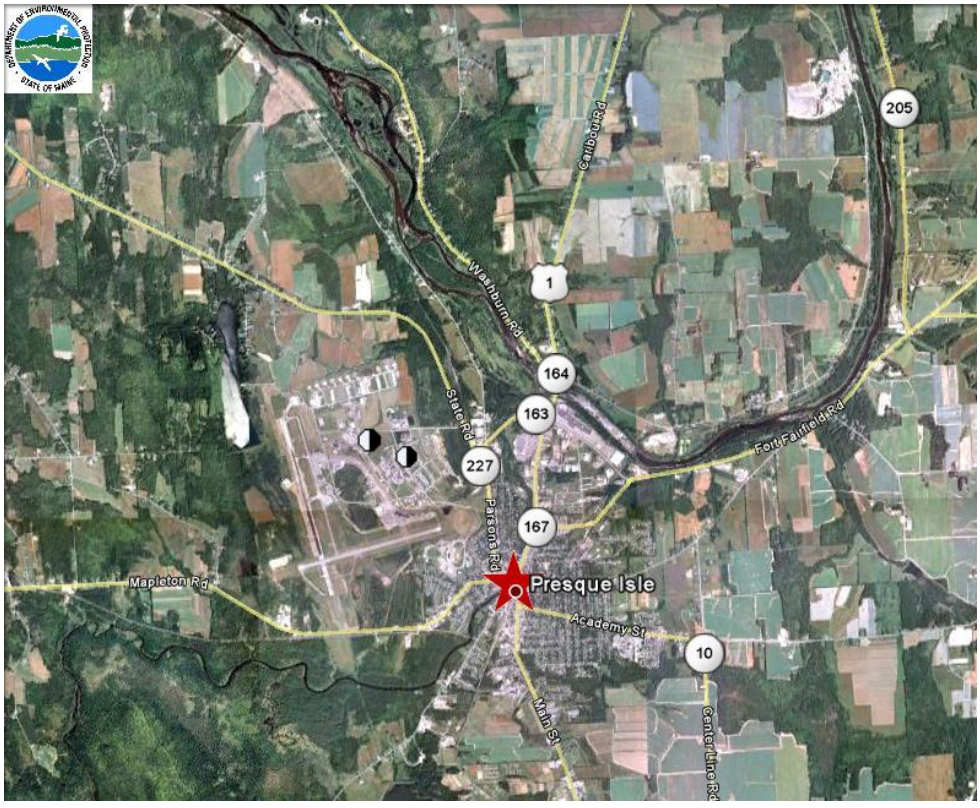
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	09/27/2007	12/31/2023	SO_2	08/01/1988	09/21/1989
PM2.5 - 24 Hr. Colo			Ozone	08/01/1988	09/21/1989
PM2.5 Cont.	11/21/2023		NOx		
PM10 - 24 Hr.	07/01/1989	9/27/2007	NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.	11/21/2023		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	02/13/1983	09/21/2016
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Suburban background site for monitoring PM2.5. The sampler is in a field next to the DEP regional office in Presque Isle. A Teledyne T640x was installed in November 2023, replacing the Thermo 2000*i* that was shut down 12/31/2023.

Monitoring Objectives:
SLAMS attainment/non-attainment. Background Site. Modeling

Planned changes:
None.

Town – Site:	**Presque Isle – Riverside Shelter**		
County:	**Aroostook**	Latitude:	**46.6823**
Address:	**Riverside Street**	Longitude:	**-68.0156**
AQS Site ID:	**23-003-1011**	Elevation:	**131 meters**
Spatial Scale:	**Neighborhood**	Year Established:	**1993**
Statistical Area:	**None**		



Presque Isle – Riverside Shelter
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	10/01/1997		SO_2	09/19/1994	07/02/1996
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	07/18/2014		NOx		
PM10 - 24 Hr.	09/10/1993	11/02/1998	NOy		
PM10 - 24 Hr. Colo			HAPs	12/14/03	
PM10 Cont.	09/15/1995		VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

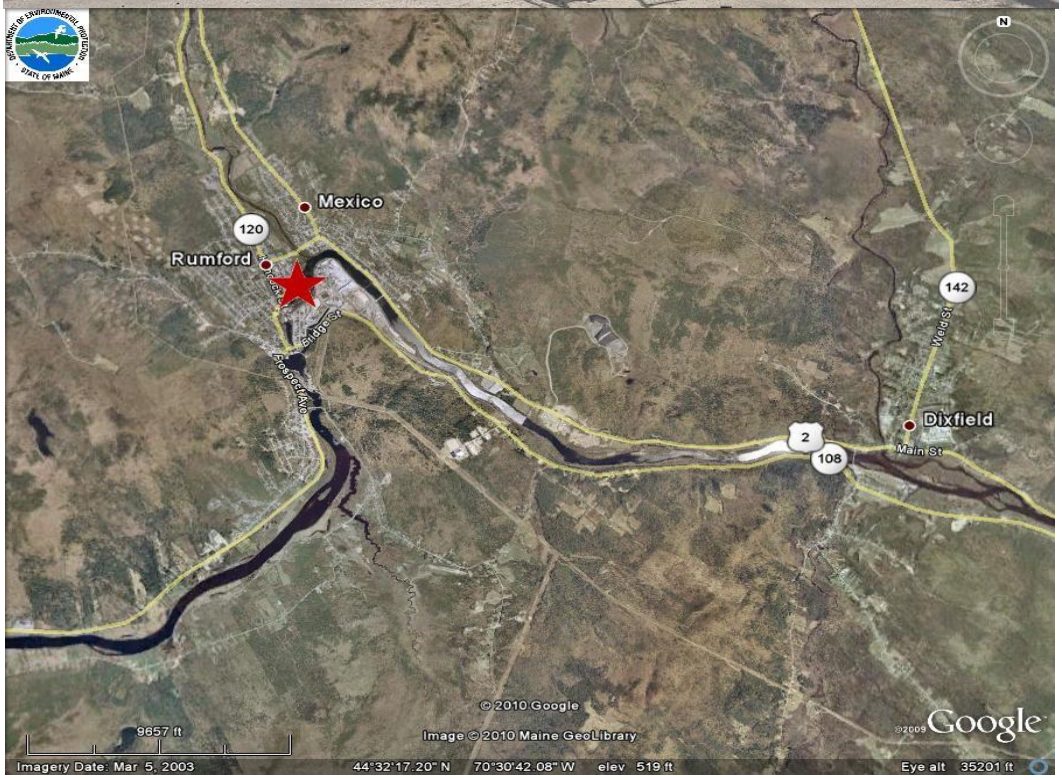
Site Description:
Monitors are located in a parking lot off Main Street in the downtown area of Presque Isle. The site is relatively open, next to the railroad tracks and the Presque Isle Stream. This site is impacted by inversion events that trap what is believed to be road dust close to the ground, creating localized concentration spikes of ground-level PM.

In January of 2023, a Teledyne T640x was installed, replacing the Met One $PM_{2.5}$ BAM. The PM_{10} Met One BAM was left for a collocation study between the two methods. The BAM was temporarily reconfigured for PM2.5 monitoring during the summer of 2024 in anticipation of woodsmoke, which is dominantly PM2.5.

Monitoring Objectives:
SLAMS attainment/non-attainment.

Planned changes:
Maine DEP plans to replace this monitoring shelter during the summer of 2025 with a new 8’ x 8’ shelter. The T640x, the 2000i, and the HAPs sampler will be installed at the new shelter. Additionally, a ceilometer will be installed this year at this monitoring location. The collocated BAM will not be installed in the new shelter.

Town – Site:	**Rumford – Rumford Ave. Parking Lot**		
County:	**Oxford**	Latitude:	**44.5514**
Address:	**Rumford Ave. Parking Lot**	Longitude:	**-70.5463**
AQS Site ID:	**23-017-2011**	Elevation:	**135 Meters**
Spatial Scale:	**Neighborhood**	Year Established:	**1998**
Statistical Area:	**None**		



Rumford – Rumford Ave. Parking Lot
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.	12/01/1998	12/31/2021	SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.	10/1/2014		NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs	07/01/1998	
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	12/16/2016	
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

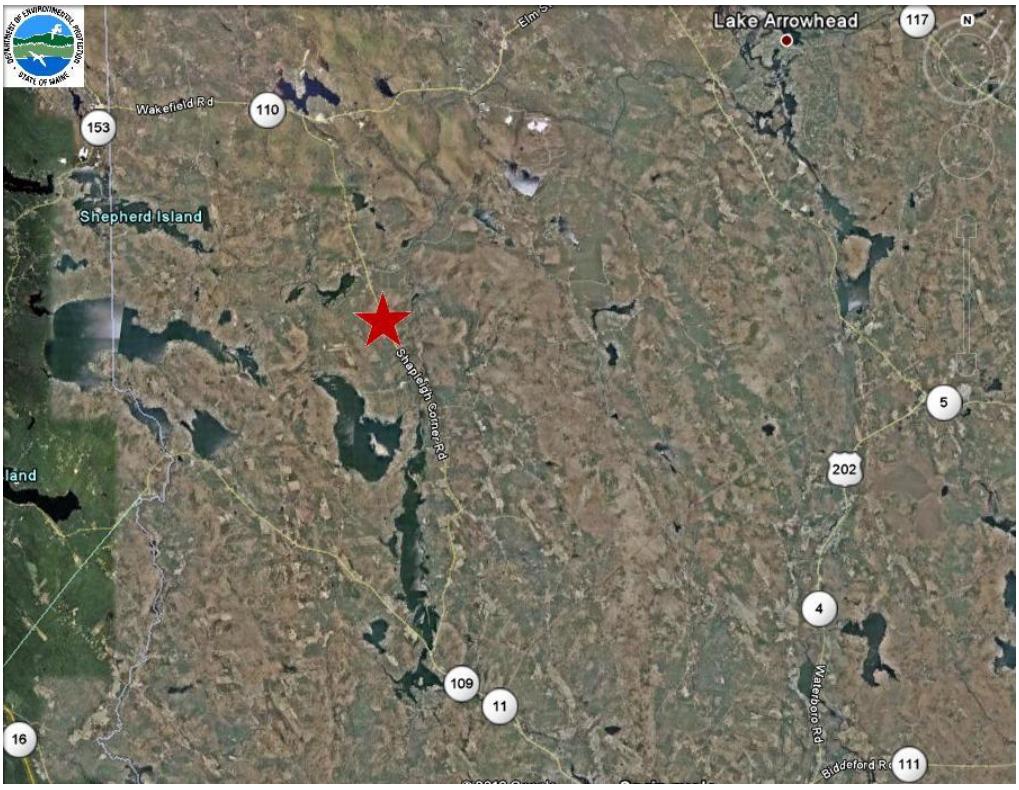
Site Description:
The site is located in a paper mill employees' parking lot off of Rumford Avenue in Rumford, Maine, across the street from the Eagles Club and Bingo Parlor. An 8'x10' environmentally controlled shelter houses HAPs sampling equipment, a data acquisition system, and a BAM 1020 for continuous $PM_{2.5}$ sampling.

Monitoring Objectives:
SLAMS attainment/non-attainment. High population exposure. Western mountain location.

Planned changes:

If not completed prior to July 1, 2025, the shelter will be replaced, and a new T640x will be installed replacing the Met One BAM 1020. Additionally, a study is underway to determine if this is the best site for monitoring particulate pollution in the Rumford area. This site may instead be moved to another location.

Town – Site:	**Shapleigh -- Shapleigh Ball Park**		
County:	**York**	Latitude:	**43.5889**
Address:	**Route 11**	Longitude:	**-70.8773**
AQS Site ID:	**23-031-0040**	Elevation:	**171 Meters**
Spatial Scale:	**Regional**	Year Established:	**2008**
Statistical Area:	**Portland-South Portland-Biddeford, ME**		



Shapleigh -- Shapleigh Ball Park

Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	06/13/2008	
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:

Site is in an open area surrounding a baseball outfield just off Route 11. A sloped roof was installed on top of the shelter to ensure the longevity of the shelter In fall 2023.

Monitoring Objectives:

SLAMS attainment/non-attainment. EMP. Monitoring long-range transport of pollutants on a regional scale.

Planned changes:

None.

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TRIBAL MONITORING SITES

Tribe – Site Name:	**Mi'kmaq Nation -- Presque Isle Shelter**		
County:	**Aroostook**	Latitude:	**46.6964**
Address:	**8 Northern Road**	Longitude:	**-68.0330**
AQS Site ID:	**23-003-1100**	Elevation:	**165 meters**
Spatial Scale:	**Neighborhood**	Year Established:	**2004**
Statistical Area:	**None**		

Mi'kmaq Nation -- Presque Isle Shelter
Pollutant and Meteorological Parameters:

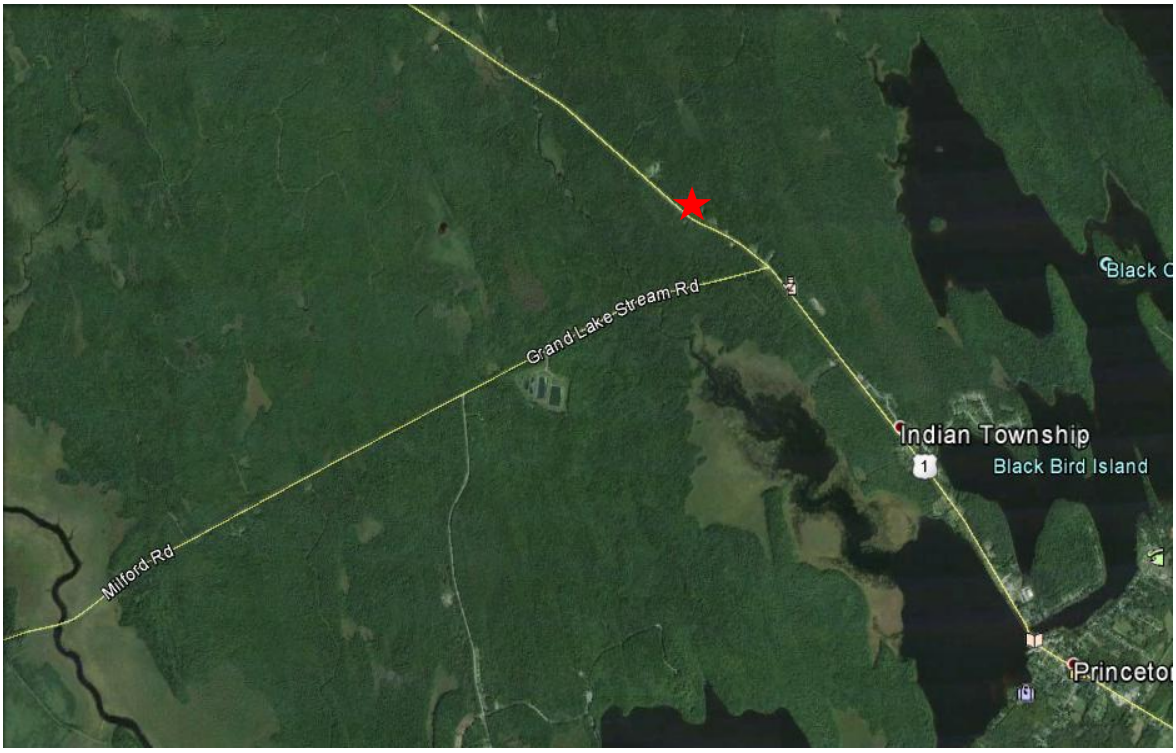
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2	01/01/2006	
PM2.5 - 24 Hr. Colo			Ozone	01/01/2006	
PM2.5 Cont.	01/01/2006		NOx	01/01/2006	
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury	03/01/2014	
IMPROVE	01/01/2004		Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	01/01/2006	
Cont. Sulfate (SO_4)			Outdoor Temperature	01/01/2006	
Black Carbon			Bar. Pressure	01/01/2006	
Cont. PAH			Relative Humidity	01/01/2006	
Lead			Dew point	01/01/2006	
CO	01/01/2006		Precipitation Amount		
CO_2	01/01/2006		Solar Radiation	01/01/2006	
Gamma Radiation			UV-b Radiation		

Site Description:
The Mi'kmaq Nation ambient air monitor site continuously monitors ozone, PM2.5, carbon monoxide, sulfur dioxide, nitrogen dioxide, carbon dioxide, mercury, and meteorological parameters in Presque Isle, ME. The PM and gaseous instruments are audited by the Maine DEP.
The Meteorological parameters are part of a USDA network and are not submitted to AQS.

Monitoring Objectives:
To provide local air quality information to the Mi'kmaq Nation.

Planned changes:
The Mi'kmaq Nation plans to install a new monitoring shelter in a nearby field, and will operate a T640x replacing their TEOM, and ozone at that site. SO2, CO, and NOx will all be shut down.

Tribe – Site Name:	**Passamaquoddy Tribe -- Indian Township**		
County:	**Washington**	Latitude:	**45.2436**
Address:	**Indian Township**	Longitude:	**-67.6308**
AQS Site ID:	**NONE**	Elevation:	**101 meters**
Spatial Scale:	**N/A**	Year Established:	**2013**
Statistical Area:	**None**		



Passamaquoddy Tribe -- Indian Township
Pollutant and Meteorological Parameters:

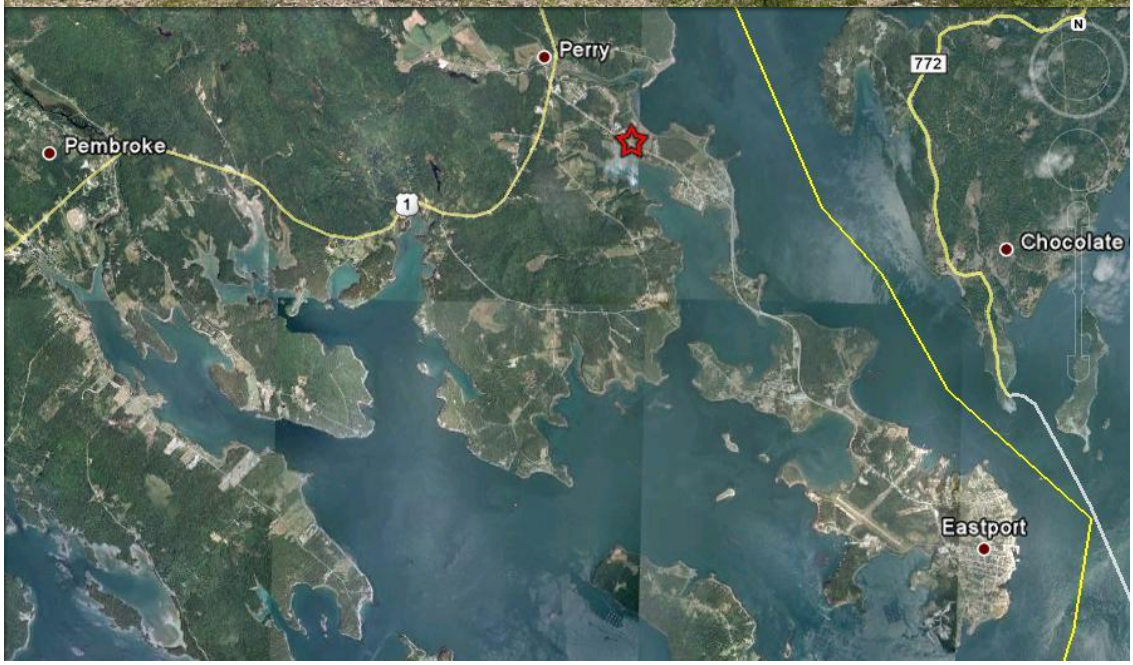
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone		
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.	10/03/2013	
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount	10/03/2013	
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description:
Not available

Monitoring Objectives:
To provide NADP/NDN data from vicinity of the Passamaquoddy Tribe -- Indian Township

Planned changes:
None.

Tribe – Site Name:	**Passamaquoddy Tribe– Perry, Pleasant Point/Sipayik**		
County:	**Washington**		
Address:	**176 County Road**	Latitude:	**44.963894**
AQS Site ID:	**23-029-0033**	Longitude:	**-67.061325**
Spatial Scale:	**Regional**	Elevation:	**4 meters**
Statistical Area:	**None**	Year Established:	**2021**



Passamaquoddy Tribe– Perry, Pleasant Point/Sipayik
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	09/27/2021	
PM2.5 Cont.	10/06/2021		NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE			Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed		
Cont. Sulfate (SO_4)			Outdoor Temperature		
Black Carbon			Bar. Pressure		
Cont. PAH			Relative Humidity		
Lead			Dew point		
CO			Precipitation Amount		
CO_2			Solar Radiation		
Gamma Radiation			UV-b Radiation		

Site Description: The site was needed because area monitoring was going to be shut down in Roosevelt-Campobello International Park on Campobello Island, New Brunswick, Canada. Pleasant Point decided to handle the criteria pollutants and run a meteorological station. Indian Township was going to take on the acid and mercury deposition studies. The Passamaquoddy Tribe wanted to start contributing to the monitoring. The data are polled and used by Maine DEP. The ozone and $PM_{2.5}$ instruments are audited by the Maine DEP on a quarterly basis.

In the Spring of 2024, repairs were made to this shelter.

Monitoring Objectives:
The site is used to provide pollutant data for modeling and forecasting needs. The site fills a void in the region; without it, there would be a data gap in the area.

Planned changes:
The tribal air program is open to monitoring other pollutants if resources are available.

Tribe – Site Name:	**Penobscot Nation - Carrabassett Valley – Town Office**		
County:	**Franklin**	Latitude:	**45.080200**
Address:	**1001 Carriage Rd Carrabassett Valley**	Longitude:	**-70.211817**
AQS Site ID:	**23-007-2002**	Elevation:	**264 Meters**
Spatial Scale:	**Western Mountains**	Year Established:	**2002**
Statistical Area:	**None**		

Carrabassett Valley – Town Office
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO_2		
PM2.5 Colo			SO_4		
PM2.5 TEOM			Ozone		
PM2.5 BAM	11/05/2015	10/01/2017	NOx		
PM10 FRM			NOy		
PM10 Colo			VOCs (PAMS)		
PM10 TEOM			HAPs		
PM10 BAM			Wet Deposition - Mercury	2002	
PM Coarse			Wet Dep. - Precip Chem.	2002	
IMPROVE			Wind Direction/Speed		
Cont. OC/EC			Outdoor Temperature		
Cont. Sulfate			Bar. Pressure		
Black Carbon			Relative Humidity		
Cont. PAH			Dew point		
Lead			Precipitation Amount		
CO			Solar Radiation		
CO_2			UV-b Radiation		

Site Description:
An 8'x 8' shelter is located behind the Carrabassett Valley Town Office, pool and recreation area in a grassy area at the south end of an airport runway, situated adjacent to samplers for the ME04 NADP site. The NADP site is operated by the Penobscot Nation. The ME DEP operated at PM2.5 monitor at this location for two years to assist air quality forecasts with additional data. The PM2.5 monitor was removed after two years as the data provided minimal difference to another Western Mountain site.

Monitoring Objectives:
Wet deposition in Maine's western mountains.

Planned changes:
None.

Tribe – Site Name:	**Penobscot Nation -- Indian Island**		
County:	**Penobscot**	Latitude:	**44.95204**
Address:	**27 Wabanaki Way**	Longitude:	**-68.64768**
AQS Site ID:	**23-019-1100**	Elevation:	**41 meters**
Spatial Scale:	**Regional**	Year Established:	**2006**
Statistical Area:	**None**		

Penobscot Nation -- Indian Island
Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 - 24 Hr.			SO_2		
PM2.5 - 24 Hr. Colo			Ozone	01/01/2006	01/01/2018
PM2.5 Cont.			NOx		
PM10 - 24 Hr.			NOy		
PM10 - 24 Hr. Colo			HAPs		
PM10 Cont.			VOCs (PAMS)		
PM Coarse			Wet Deposition - Mercury		
IMPROVE	01/14/2006		Wet Dep. - Precip Chem.		
Cont. OC/EC			Wind Direction/Speed	July 2002	01/17/2018
Cont. Sulfate (SO_4)			Outdoor Temperature	July 2002	01/17/2018
Black Carbon			Bar. Pressure	July 2002	01/17/2018
Cont. PAH			Relative Humidity	July 2002	01/17/2018
Lead			Dew point		
CO			Precipitation Amount	July 2002	01/17/2018
CO_2			Solar Radiation	July 2002	01/17/2018
Gamma Radiation			UV-b Radiation		

Site Description: The original IMPROVE Site location, established on 6/27/2001, was located near the Marsh Island Apartments. That location was shut down on 5/29/2006 having been made redundant after 1/14/2006 when the current IMPROVE site was established on Indian Island. After several seasons of contending with failing equipment, all ambient air monitoring at Indian Island, except for the IMPROVE monitoring, was officially discontinued in January 2018.

Monitoring Objectives:
IMPROVE. Environmental monitoring for Penobscot Nation

Planned changes:
None.

Appendix 2:
Wyman Station
Update Provision of US EPA'S
2015 Data Requirements Rule

Additional Data to Satisfy Update Provision of USEPA's 2015 "*Data Requirements Rule"*

On August 21, 2015, the United States Environmental Protection Agency (USEPA) finalized the "*Data Requirements Rule for the 2010 1-hour Sulfur Dioxide (SO_2) Primary National Ambient Air Quality Standard*" (DRR) which requires all states to characterize ambient SO_2 levels in areas with large sources of SO_2, specifically for the purpose of demonstrating each source's attainment of the 1-hour SO_2 National Ambient Air Quality Standard (NAAQS).

The DRR, which establishes minimum criteria for identifying sources that may be selected for further examination, states that *"…each air agency is required to submit a list to the USEPA by January 15, 2016, that identifies all sources within its jurisdiction that have SO_2 emissions that exceeded a 2000 ton per year annual threshold during the most recent year from which emissions data for that source are available".*

In a January 13, 2016 letter from the Maine Department of Environmental Protection (MEDEP) to the USEPA Region I Air Programs Branch Chief, MEDEP informed USEPA that it did not have any individual sources with actual reported SO_2 emissions exceeding 2000 tons per year (using the three-year period 2013 – 2015). The letter further stated that Maine did not anticipate that any of its currently regulated sources would likely emit in excess of 2000 tons per year of SO_2 in the foreseeable future.

In a March 17, 2016 response letter from USEPA's Regional Administrator to MEDEP, USEPA stated that they had reviewed Maine's January 13th submittal and were identifying William F Wyman Station (Wyman Station), located in Yarmouth Maine, as a source that the DRR requires to be characterized. USEPA's basis for the request cited *"Though total annual SO_2 emissions from Wyman have declined in recent years, it appears that Wyman's operation from month-to-month is highly variable, and that may continue into the future. For example, in 2015, Wyman had 22 days with SO_2 emissions greater than 40 tons per day. Therefore, the USEPA believes that it is appropriate and necessary to characterize William F Wyman under the Data Requirements Rule."*

In addition, the March 17th letter stated that each air agency must identify the approach that it will use to characterize air quality in the source's respective area by July 1, 2016. Under the DRR, each state must indicate if they will use current representative monitoring data, perform ambient dispersion modeling, or establish federally-enforceable SO_2 emissions restrictions in the source's Title V permit. If the state chose either the ambient monitoring or dispersion modeling options, the DRR required that the appropriate protocol be submitted by July 1, 2016.

On June 29, 2016, MEDEP sent a letter to inform USEPA that performing air dispersion modeling was the chosen option for Wyman Station. Attached to the June 29th letter was Wyman Station's air dispersion modeling protocol which provided in-depth discussions of methodologies and assumptions being proposed for use in the modeling demonstration. After several iterations of written correspondence to resolve questions regarding the modeling protocol, MEDEP received agreement from USEPA that the protocol was acceptable. MEDEP, in close consultation with Wyman Station, conducted an air dispersion modeling analysis using USEPA-approved models and modeling guidance/techniques in a manner consistent with the approved June 2016 modeling protocol. The DRR required that Wyman Station's final modeling analyses, results and all supporting documentation be submitted to USEPA by January 13, 2017.

On January 11, 2017, MEDEP submitted Wyman Station's dispersion modeling results and associated files to USEPA. The results, which were based on 2013-2015 hourly current-actual emissions data, demonstrated that Wyman Station was in compliance with the 1-hour SO_2 NAAQS. On March 9, 2017, MEDEP was contacted by USEPA Region I Air Quality Modeling Manager, Leiran Biton, via telephone stating that the modeling submitted by MEDEP was complete and acceptable to meet the requirements of the DRR.

Federal regulation 40 CFR Part 51 Subpart BB §51.1205(b) states, "*For any area where modeling of actual SO_2 emissions serve as the basis for designating such area as attainment for the 2010 SO_2 NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO_2 emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation*."

Since the effective date for Maine's final SO_2 designation was April 9, 2018 (as published in the January 9, 2018 Federal Register), Maine is submitting the following additional information to meet the above requirements:

As stated previously, Wyman Station's modeling demonstration utilized hourly current-actual emissions and stack flow data from the calendar years 2013 – 2015. Table 1 lists the ton per year (TPY) emissions for the three years modeled (2013 - 2015) as well as the most-recent three-year period (2022 – 2024).

Table 1: Annual Actual SO_2 Emissions Data for Wyman Station

Calendar Year	Actual SO_2 Emissions (TPY)
2013	861.16
2014	844.03
2015	1750.67
2022	687.64
2023	172.42
2024	146.77

Annual actual SO_2 emissions for the most recent three years show that Wyman Station's emissions are significantly lower than those modeled for the 2013 - 2015 period, the timeframe that served as the basis for USEPA's identification of Wyman Station as a DRR source.

There are several factors that can account for these lower TPY values: Wyman Station is primarily relied upon as a peaking power plant (i.e., generally operates only when there is a very high demand for electricity), the migration toward lower sulfur fuel oil, a more consistent supply of natural gas, etc.

The following information was contained in a December 19, 2018 letter from Wyman Station to MEDEP: "*Pursuant to 40 CFR 75.61 (a)(7), FPL Energy Wyman, LLC is hearby providing notice that Units 1 and 2 at the Wyman facility have been shut down, and placed into long-term storage as defined in §72.2. Shutdown of the unit occurred on October 1, 2018 at 0000 hours."* The letter further states that *"…the duration of the shutdown is expected to last for at least two years…*" Units 1 and 2 continue to remain in long-term storage given that Wyman Station has reported zero emissions for both units from 2019 through 2024.

Given that Wyman Station is primarily relied upon as a peaking power plant, Wyman Station's migration toward lower sulfur fuel oil and several of Wyman Station's units remaining in long-term storage, MEDEP does not anticipate a significant increase in future SO_2 emissions from Wyman Station.

Therefore, when all of the above factors are considered, MEDEP finds that the modeling results required by the DRR demonstrate that Wyman Station remains and will continue to remain in compliance with the 1-hour SO_2 NAAQS. Per requirements of the DRR, Maine will continue to update Wyman Station's SO_2 actual TPY emissions (as seen in Table 1) and report those values to USEPA as part of MEDEP's Annual Air Monitoring Plan each subsequent year. Should Wyman Station's actual TPY emissions increase significantly above those 2013 – 2015 values used in the analysis, Maine recognizes that an updated modeling demonstration may be required.

Appendix 3:
Complete Site Name and Abbreviation List

The following are tables outlining all current, and recently disconitnued air monitoring stations and air quailty study and project locations.

Maine PQAO - ME DEP Site	Maine PQAO - Contracted site
Maine PQAO - Tribal Site	Not in Maine PQAO

Long-Term Air Quality Monitoring Stations - Active		
Station Name	**AQS Site Identifier (Left Blank if not Applicable)**	**Site Abbrev. + (Alt./Common shorthand)**
Augusta - Civil Air Patrol Hangor	23-011-0008	Aug MET (Augusta MET)
Augusta Lincoln Street School	23-011-0016	ALSS
Bangor Mary Snow School	23-019-0017	BMSS
Bar Harbor Cadillac Mountain	23-009-0102	BHCM (Cadillac)
Bar Harbor McFarland Hill	23-009-0103	BHMH (McSuper, McHill, MARS)
Bethel Smith Farm Road	23-017-3002	BSFR
Bridgeton	23-005-0002	ME02
Cape Elizabeth Two Lights	23-005-2003	CETL
Caribou - Caribou Airport	23-003-1002	ME00
Carrabesset Valley - Airport		ME04
Durham Fire Station	23-001-0014	DFS
Freeport - Wolfes Neck Farm	23-005-9002	ME96
Gardiner Area High School	23-011-2001	GAHS
Greenville	23-021-0001	ME09
Holden Rider Bluff	23-019-4008	HRB
Indian Island	23-019-1100	
Indian Township		ME94
Jonesport Coast Guard	23-029-0021	JCG
Kennebunkport Parson's Way	23-031-2002	KPW
Lewiston Country Kitchen Parking Lot	23-001-0011	LCKP (CKP)
Madawaska Public Safety Building	23-003-0014	MPSB (MADPSB, MAD)
Moosehorn	23-029-1004	
Pleasant Point Sipayik, Passamaquoddy Tribe	23-029-0032	PPS
Popham Beach State Park	23-023-0007	PBSP
Port Clyde Marshal Point	23-013-0004	PCMP
Portland Deering Oaks	23-005-0029	PDO
Portland Ocean Gateway	23-005-6606	POG
Portland Tukey's Bridge	23-005-0015	PTB
Presque Isle Background Site	23-003-1008	PIBS
Presque Isle Micmac Tribe	23-003-1100	PIMT
Presque Isle Riverside Street	23-003-1011	PIRS
Rumford, Rumford Avenue Parking Lot	23-017-2011	RRAP (RAP)
Shapleigh Ball Park	23-003-0040	SBP
Wells Harbor Community Park		WHCP

Air Quality Study/Project Stations - Active		
Station Name	**Related Air Quality Project**	**Site Abbrev. (Alt./Common shorthand)**
Cassidy Point Portland	Coal Dust Emissions	CPP
Juniper Ridge - Alton, Bennoch Rd. Station	Juniper Ridge Air Toxics Study	JRABS
Old Town Global Secure Shipping	Infomational (Old Town Mill + Juniper Ridge)	OTGSS
Mexico Fire Station	RITA	MFS
Mexico Recreation Center	RITA	MREC
Portland West Commercial	So. Portland / Portland VOC Study	PWC
South Portland Cash Corner	So. Portland / Portland VOC Study	SPCC
South Portland Front St.	So. Portland / Portland VOC Study	SPFS
South Portland Mechanic Street	So. Portland / Portland VOC Study	SPMS
South Portland Pearl St.	So. Portland / Portland VOC Study	SPPS
South Portland Red Bank	So. Portland / Portland VOC Study	SPRB
Rumford - Elementary School	RITA	RES
Rumford - Maine Med	RITA	Maine MED

Air Quality Study/Project Stations - Recently Discontinued		
Station Name	**Related Air Quality Project**	**Site Abbrev. (Alt./Common shorthand)**
South Portland Bug Light	So. Portland / Portland VOC Study	SPBL