

# **Annual Air Monitoring Plan 2016**



**Maine Department of Environmental Protection  
Bureau of Air Quality  
July 27, 2015**

## **Introduction**

The Maine Department of Environmental Protection (DEP) operates and maintains a network of air samplers in the State to evaluate air quality in Maine. Air quality is monitored to determine the attainment status of various pollutants in regions of the state, to document trends that may be occurring in the levels of various pollutants around the state, and to provide data for forecasting air quality conditions for Maine citizens and visitors to the state. The data also supports the Maine DEP in developing control strategies and provides background information for the licensing program.

The Department's Bureau of Air Quality (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 Environmental Protection Agency, the National Park Service, the U.S. Fish and Wildlife Service as well as by several of the Indian Tribes in Maine. In 2007, Maine entered into an agreement with three of the Maine tribes conducting air monitoring to form a common Primary Quality Assurance Organization (PQAO). The members share a variety of quality assurance plans and procedures. The members of the PQAO are the State of Maine, the Aroostook Band of Micmacs, the Passamaquoddy Tribe at Pleasant Point and the Penobscot Indian Nation.

The Maine DEP (Department) has been monitoring air quality in Maine since the Bureau of Air Quality was formed in 1972 to work in partnership with the U.S. Environmental Protection Agency (EPA), to uphold the tenets of the 1970 Clean Air Act and subsequent amendments.

The air monitoring programs have evolved as air quality standards have tightened, scientific knowledge and the levels of concern for different pollutants have evolved, and the technology to monitor these pollutants has improved. The Department initially concentrated resources on neighborhood monitoring of air pollutants primarily from local sources. As the local sources were controlled, their impact on the ambient environment was lessened, and the state monitoring network began to focus more regionally with an interest on the long-range transport of some pollutants. The pollutants monitored now may originate in the large metropolitan areas down the east coast of the U.S. or from some of the utilities and industries located in the central part of the U.S. Some pollutants monitored may even come from the other side of the world, such as particulates from volcanic eruptions, large forest fires, or from less controlled sources in some of the developing countries.

Maine is a state with varying topography. Pollutant impacts in one area of the state may be very different from pollutant impacts in another area. Aroostook County may record higher particulate levels because of the large farming operations and the type of soil in the county, whereas southern Maine may record higher ozone levels because of the impact of the urban areas to the southwest. 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.

The Department must also deal with changing federal regulations. As more data are collected and more health study results are published, the impacts of various pollutants need to be reviewed. Pollution standards and controls may need to be updated to reflect revised recommendations. The EPA is required to review the National Ambient Air Quality Standards (NAAQS) every five years. In recent years, EPA has made significant progress in completing timely reviews of the NAAQS. Currently, the air quality standard for ozone is under review, which may mean additional monitoring requirements may need to be implemented.

In 2011, the First Regular Session of the Maine Legislature enacted Public Law 206 Section 19 which revised 38 MRSA Section 584-A "Ambient Air Quality Standards", so that all State ambient air quality standards would be consistent with the federal ambient air quality standards. The law also repealed the state ambient air quality standards for toluene, perchloroethylene, hydrocarbons and chromium. A listing of the current State and National Ambient Air Quality Standards (NAAQS) are in the table below.

# National Ambient Air Quality Standards (NAAQS)

from: <http://www.epa.gov/air/criteria.html>

(as of May 2015)

Pollutant [final rule citation]	Primary/ Secondary	Averaging Time	Level	Form	
<a href="#">Carbon Monoxide</a> [76 FR 54294, Aug 31, 2011]	primary	8-hour	9 ppm	Not to be exceeded more than once per year	
		1-hour	35 ppm		
<a href="#">Lead</a> [73 FR 66964, Nov 12, 2008]	primary and secondary	Rolling 3 month average	0.15 µg/m <sup>3</sup> <sup>(1)</sup>	Not to be exceeded	
<a href="#">Nitrogen Dioxide</a> [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]	primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	primary and secondary	Annual	53 ppb <sup>(2)</sup>	Annual Mean	
<a href="#">Ozone</a> [73 FR 16436, Mar 27, 2008]	primary and secondary	8-hour	0.075 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	
<a href="#">Particle Pollution</a> [78 FR 3086, Jan 15, 2013]	PM <sub>2.5</sub>	primary	Annual	12 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24-hour	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<a href="#">Sulfur Dioxide</a> [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]	primary	1-hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year	

<sup>(1)</sup> Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m<sup>3</sup> as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

<sup>(2)</sup> The official level of the annual NO<sub>2</sub> standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

<sup>(3)</sup> Final rule signed March 12, 2008. In 2015, EPA revoked the 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and in 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under those standards (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

<sup>(4)</sup> Final rule signed June 2, 2010. The 1971 annual and 24-hour SO<sub>2</sub> standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

The air-monitoring program in Maine is primarily geared to monitoring ozone and its precursors, and fine particulates. By July 1 of each year, the Department is required to submit the 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 to the EPA. 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 a program objective. 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.

## Network Review

Ozone monitoring has been a priority in the Department that has consumed a large amount of resources. Over the years, Maine has operated a number of ozone monitoring sites throughout the state in an attempt to determine ozone levels across the State. Currently under federal review, new proposals may further lower the concentration limit of the ozone standard and create the need for additional monitoring.

Fine particulate (PM<sub>2.5</sub>) monitoring is another important segment of the DEP ambient monitoring program. Fine particulate monitoring in Maine has been evolving since 1999 when the PM<sub>2.5</sub> program was initially established in the State. The EPA reviewed the PM<sub>2.5</sub> standard in 2012, and the primary annual level was lowered from 15 µg/m<sup>3</sup> to 12 µg/m<sup>3</sup>. A secondary annual level at 15 µg/m<sup>3</sup> was also established.

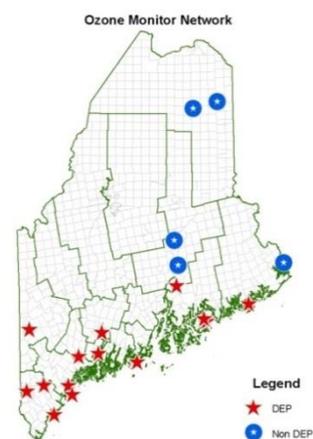
The Department also conducts a review of hazardous air pollutants in the state, and as a result of that effort a priority list of hazardous pollutants has been established. As additional data becomes available that priority list is modified. As resources are available, Maine has been attempting to establish background concentrations for several of the pollutants on the list.

The following sections detail the individual networks for the various parameters being monitored in Maine, any changes that are proposed, and identified future needs for monitoring.

## Monitoring Networks

### *Ozone Network*

The Department currently operates 14 ozone monitoring sites throughout the state in accordance with State and Local Air Monitoring Station (SLAMS) network requirements. In addition, EPA operates two ozone sites (at Howland and Ashland) as part of the Clean Air Status and Trends Network (CASTNet), and Maine Indian Tribes operate three additional sites. Three of the Maine DEP sites operate year-round while the others operate only during the ozone season. The current ozone season for Maine runs from April through September. Because of the tighter standard anticipated and some historical high concentrations recorded in late March, most of the Maine sites now operate from March through September, weather permitting. The Maine sites are scattered throughout the state, with most of them situated along the coast and in southern Maine. The highest ozone concentrations tend to occur along the coast as a result of plumes of contaminated air transported into the Gulf of Maine from metropolitan areas to the south. These air masses are then blown ashore and carried inland. The other sites in Maine are operated to collect data that is used by the mapping and forecasting programs to provide air quality data, and alerts when necessary, to the people in Maine.



The Bowdoinham ozone monitoring site, situated on the Kennebec River about mid-way between Gardiner and Fort Popham, was intended to provide additional insight about ozone fate and transport along the Maine mid-coast and river basins. Ozone levels at Bowdoinham closely follow those obtained at Gardiner and at the Durham site to the west near the Androscoggin River. Thus it is felt that relocating the Bowdoinham monitor and shelter to a location on the coast would be more beneficial to the program. For these reasons, this is a low priority site. Attenuated results obtained from ozone sampling in the woods not far from the beach at the discontinued Reid State Park site emphasized the need for an open path to the ocean if any future monitoring site along the coast is to be useful. The Bowdoinham Site will remain in operation until a suitable coastal site is found.

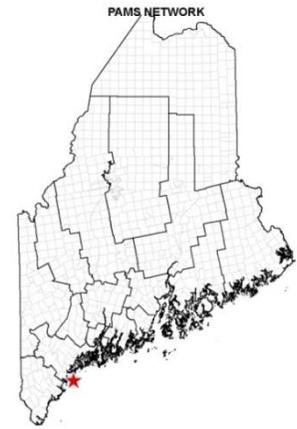
There continues to be concern about the adequacy of the current ozone monitoring site in North Lovell because it is situated in a relatively sheltered location and may not report the higher ozone levels expected in a more open and exposed location. If a new site can be located, it will be operated concurrently with the North Lovell site for a season in order to obtain comparison data of ozone levels in the two locations. Until any new sites can be found, the current ozone network is expected to be maintained during 2016.

<b>Site Address</b>	<b>Site Type</b>	<b>Monitoring Objective</b>	<b>Sampling Frequency</b>
Ashland - Loring AFB	CASTNet	Background	Continuous
Bar Harbor - McFarland Hill	NCore	Transport, Background	Continuous
Bar Harbor - Top of Cadillac Mountain	SLAMS	Transport	Continuous - Seasonal
Bowdoinham - Brown's Point Road	SLAMS	Max. Conc., Transport	Continuous - Seasonal
Cape Elizabeth - Two Lights State Park	SLAMS	Transport	Continuous - Seasonal
Durham - Fire Station - Route 9	SLAMS	Max. Concentration	Continuous - Seasonal
Gardiner - Pray Street, Schoolyard	SLAMS	Max. Conc., Transport	Continuous - Seasonal
Holden - Rider Bluff	SLAMS	Max. Conc., Transport	Continuous - Seasonal
Howland - Seed Orchard Site	CASTNet	Background	Continuous
Indian Island - Penobscot Nation	Tribal	-	Continuous
Jonesport - Public Landing	SLAMS	Max. Concentration	Continuous - Seasonal
Kennebunkport - Parsons Way	SLAMS	Max. Conc., Transport	Continuous - Seasonal
North Lovell - DOT Garage	SLAMS	Transport	Continuous - Seasonal
Perry - Pleasant Point/Sipayik, 184 County Road	Tribal	-	Continuous
Port Clyde - Marshall Point Lighthouse	SLAMS	Max. Conc., Transport	Continuous - Seasonal
Portland - Deering Oaks Park, 356 State St.	SPMS	High Pop. Exposure	Continuous
Presque Isle - 8 Northern Road	Tribal	-	Continuous
Shapleigh - Ball Park, West Newfield Road	SLAMS	Max. Conc., Transport	Continuous - Seasonal
West Buxton - Plains Road Fire Dept.	SLAMS	Transport	Continuous - Seasonal

NCore - National Core; SLAMS - State & Local Air Monitoring Station; SPMS - Special Purpose Monitoring Station

## *PAMS Network*

Regional transport of hazardous air pollutants has been well documented by two Photochemical Assessment Monitoring Station (PAMS) locations that operated in Maine from 1993 until 2014. The data trends from those sites helped track the results of new control strategies in upwind states. The monitoring regulations for PAMS provide for the collection of an “enhanced” ambient air quality database, which can be used to better characterize the nature and extent of the ozone problem, aid in tracking Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) emission inventory reductions, assess air quality trends, make attainment/non-attainment decisions, and evaluate photochemical grid-model performance. These PAMS compounds, known as ozone precursors, play a large role in ozone formation. Both of the PAMS sites in Maine were required by the EPA because of serious non-attainment areas in other states. The Maine PAMS sites were required to be operational for the June – August period, but historically they were in operation during May and September also.



At the end of 2014, the Cadillac Mountain PAMS site in Acadia National Park was shut down. The PAMS network managers, after reviewing the national PAMS database, assessing the scientific importance of each site in the network, acknowledging the increased number of regions now in attainment of the ozone standard and facing shortages in resources recommended a restructure of the PAMS network in the U.S. Both sites in Maine were slated for closure. The Cadillac Mountain PAMS site was considered an extreme downwind site for the Boston non-attainment area. With Boston in attainment and with the departure of the site operator, the Department chose to shut down the Cadillac PAMS. The equipment from Cadillac remains useful in the development of automated methods to measure carbonyls like formaldehyde that will enhance our existing hazardous air pollutants, wood smoke, and reformulated gasoline studies.

The PAMS site in Cape Elizabeth is considered an extreme downwind site for the Greater Connecticut non-attainment area, which continues to remain in a non-attainment status. In addition, with the anticipated tightening of the ozone standard during the coming months, the status of some areas currently in attainment may change, so continued monitoring of the precursors remains important to understand the cause of high ozone levels. The Cape Elizabeth PAMS site may have to be shut down after the restructuring of the PAMS network is finalized, but it is the intent of the Maine DEP to operate the site as long as possible.

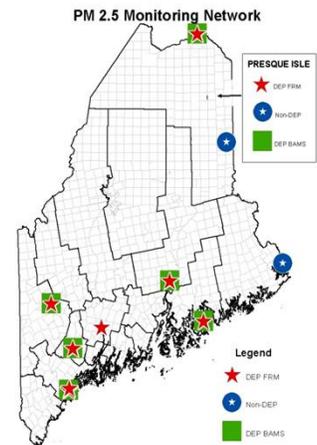
Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor - Top of Cadillac Mountain	PAMS	Transport	CLOSED September 2014
Cape Elizabeth - Two Lights State Park	PAMS	Transport	Continuous - Seasonal

## *PM<sub>2.5</sub> Network*

The Department began a PM<sub>2.5</sub> monitoring program using filter-based monitors that met the Federal Reference Method (FRM) in 1999, with 15 sites started up during the first year of operation. After three years of data were collected, which demonstrated compliance with the standard at all of the sites, some of the sites were relocated or the monitors were modified to collect PM<sub>10</sub> data. Currently the Department is monitoring for PM<sub>2.5</sub> using the filter based FRM samplers at ten sites. All of the current sites comply with the standard and remain in operation to gather additional trend data and to document future attainment status. The filters can be used in additional analyses to determine levels of some of the hazardous air pollutants that are on the priority

list. No changes other than sampling frequency are being proposed for 2016. As presented in the table below, several sites have been operating on a 1-in-3 day sampling schedule. As continuous Federal Equivalence Method (FEM) PM<sub>2.5</sub> monitors are placed into operation at these sites, we propose to reduce sample frequency to a 1-in-6 day schedule.

The Department initiated continuous monitoring of PM<sub>2.5</sub> in 2000 using Tapered Element Oscillating Microbalance (TEOM) samplers. TEOM sites were set up in Bangor, Bar Harbor, Greenville, Lewiston and Portland. The Passamaquoddy Tribe operates a TEOM monitor in Perry, and the Micmac Tribe operates monitors in Presque Isle and Littleton. The TEOMs generate hourly average data that is very useful in helping to forecast air quality. These particular TEOMs were not an EPA approved Federal Equivalent Method (FEM), but the Department did not pursue the required analysis to exclude the use of their data for comparison with the PM<sub>2.5</sub> standards.



In 2012, the TEOMs were nearing the end of their expected life cycle, so that year the Department initiated a program to procure new continuous PM<sub>2.5</sub> monitors known as Beta Attenuation Monitors (BAM), and to install them at most of the existing PM<sub>2.5</sub> stations in the network. These 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, and our current plans call for the Portland TEOM to be removed from service during the summer of 2015. In 2014, BAMs were installed to supplement the filter-based FRM samplers in Madawaska, Presque Isle and Rumford. The Madawaska and Presque Isle BAMs will provide data for use in better forecasting particulate levels under specific weather conditions for that part of the State. The Rumford site was chosen to meet a long-standing interest in having a western mountain valley area site collecting continuous data for use in better forecasting particulate levels under specific weather conditions, and to continue our pursuit of studying wood smoke emissions, primarily from residential heating sources using wood-based fuels. The BAMs are an EPA approved FEM, so Maine DEP will be demonstrating compliance with the PM<sub>2.5</sub> NAAQS using both the filter-based FRM and the continuous BAM FEM monitors.

A new roof was installed at the Bangor, Kenduskeag Pump Station site in January 2014. In order to reduce the size of the DEP footprint on the new roof, a Dichotomous PM sampler was installed, capable of measuring PM<sub>2.5</sub>, PM<sub>10</sub>, and PM<sub>10-2.5</sub>. While one such monitor took the place of two and met the initial goal of reducing the footprint, it was later determined that the Dichotomous monitor constituted a new method and as such required a second, collocated unit, which was procured and installed on the roof in December 2014.

Prior to 2014 the Department was operating the network of PM<sub>2.5</sub> instruments with two different types of particle separators, the original WINS (Well Impactor Ninety-six) and the newer VSCC (Very sharp Cut Cyclone) that shipped with new monitors. The different impactors received different parameter designations from the EPA so in 2014 the Department chose to replace all WINS separators with VSCC's. This decision eliminated the need for a second pair collocated PM<sub>2.5</sub> monitors. At present there are no WINS impactors in the PM<sub>2.5</sub> network.

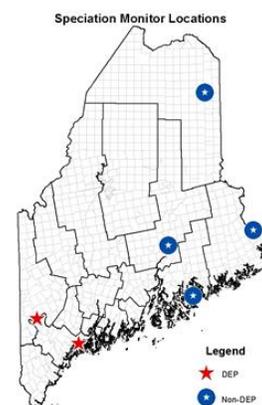
We are continuing to collaborate with the Penobscot Nation to setup and operate a TEOM at their Carrabassett Valley site with a planned installation date in 2015. Complex meteorological conditions in Maine's western mountains and the subsequent dispersion of fine particulates like wood smoke are of particular interest to the Department as it strives to produce better air quality forecasts in a region with few monitors and sparse data.

Site Address	Site Type	Monitoring Objective	Sampling Method and Frequency
Augusta – Lincoln Street School	SLAMS	200K Pop. Coverage	FRM, every 6 days
Augusta – Lincoln Street School	SLAMS	Collocated	FRM, every 12 days
Bangor – Kenduskeag Pump Sta.	SLAMS	AQI Forecasting/Mapping	FEM, continuous
Bangor – Kenduskeag Pump Station	SLAMS	200K Pop. Coverage	FRM, every 3 days
Bar Harbor – McFarland Hill	NCore	Transport	FRM, every 3 days
Bar Harbor – McFarland Hill	SLAMS	Mapping	FEM, continuous
Lewiston – Country Kitchen Lot	SLAMS	200K Pop. Coverage	FRM, every 6 days
Lewiston – Country Kitchen Lot	SLAMS	Mapping	FEM, continuous
Madawaska – Public Safety Bldg.	SLAMS	High Pop. Exposure	FRM, every 3 days
Madawaska – Public Safety Bldg.	SLAMS	AQI Forecasting/Mapping	FEM, continuous
Littleton	Tribal	Mapping	TEOM, continuous
Perry - Pleasant Point/Sipayik, 184 County Road	Tribal	Mapping	TEOM, continuous
Portland – 356 State Street	SLAMS	MSA of 200-500K	TEOM, continuous
Portland – 356 State Street	SLAMS	MSA of 200-500K	FRM, every 3 days
Portland – 356 State Street	SLAMS	Collocated	FRM, every 12 days
Portland – 356 State Street	SLAMS	Mapping	FEM, continuous
Portland – Tukey’s Bridge	SLAMS	High Traffic	FRM, every 6 days
Presque Isle – 8 Northern Road	Tribal	Mapping	TEOM, continuous
Presque Isle – Regional Office	SLAMS	Background	FRM, every 3 days
Presque Isle – Riverside Street	SLAMS	AQI Forecasting/Mapping	FEM, continuous
Presque Isle – Riverside Street	SLAMS	200K Pop. Coverage	FRM, every 3 days
Rumford – Rumford Avenue	SLAMS	AQI Forecasting/Mapping	FEM, continuous
Rumford – Rumford Avenue	SLAMS	High Pop. Exposure	FRM, every 6 days

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

### ***PM Speciation Network (IMPROVE)***

The Department participates in the Interagency Monitoring of Protected Visual Environments (IMPROVE) program. The National Park Service and the U.S. Fish & Wildlife Service operate IMPROVE sites in Maine’s designated Class 1 visibility areas in Acadia National Park and Moosehorn Wildlife Refuge, respectively. DEP operates IMPROVE “Protocol” sites located in Bridgton and Freeport. Protocol sites are also operated by the Penobscot and Micmac Tribes in Old Town and Presque Isle, respectively. The EPA is in the process of assessing the IMPROVE Protocol Sites in an effort to optimize the Chemical Speciation Network. Their current draft assessment results from that effort suggest defunding the Bridgton and Freeport sites after December 2015. The Department has communicated to EPA its determination of the continued value and importance of these two sites to our efforts to adequately characterize and quantify regional haze, dry deposition and other atmospheric chemical reactions statewide.

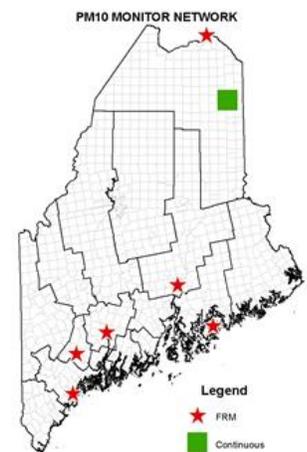


Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NPS/NCore	Regional Haze	Every 3 days
Baring – Moosehorn Wildlife Ref.	USFWS	Regional Haze	Every 3 days
Bridgton – Upper Ridge Rad	SLAMS	Background	Every 3 days
Freeport – Wolfe’s Neck Road	SLAMS	Deposition Project	Every 3 days
Indian Island – Penobscots	Tribal	-	Every 3 days
Presque Isle – 8 Northern Road	Tribal	-	Every 3 days

### ***PM<sub>10</sub> Network***

The Department operates most of the current filter-based PM<sub>10</sub> network using the FRM samplers modified with the fine particle separators removed to collect PM<sub>10</sub> particles. The site in Bangor utilizes a dichotomous sampler that collects PM<sub>2.5</sub> and PM<sub>10-2.5</sub> (a.k.a., PM<sub>coarse</sub>), and PM<sub>10</sub> is calculated as the sum of the two parameters. A continuous PM<sub>10</sub> TEOM monitor is operated in Presque Isle as part of the control strategy for high PM<sub>10</sub> levels. The PM<sub>10</sub> TEOM provides hourly data that can be used to determine when high levels are occurring and whether street sweeping or other control strategies need to be implemented.

PM<sub>10</sub> data is being collected at seven sites around the state. All of the sites are currently meeting the PM<sub>10</sub> NAAQS with no exceedances of the standard having been recorded anywhere during the last several years. The filters collected in the PM<sub>10</sub> program can be used for the lead monitoring program if needed. No other changes are planned for CY 2016.



Site Address	Site Type	Monitoring Objective	Sampling Frequency
Augusta – Lincoln Street School	SLAMS	High Pop. Exposure	FRM, every 6 days
Bangor – Kenduskeag Pump Sta.	SLAMS	High Pop. Exposure	FRM Dichot, every 6 days
Bangor – Kenduskeag Pump Sta.	SLAMS	Collocated	FRM Dichot, every 12 days
Bar Harbor – McFarland Hill	NCore	Background	FRM, every 3 days
Lewiston – Country Kitchen Lot	SLAMS	High Pop. Exposure	FRM, every 6 days
Madawaska – Public Safety Bldg.	SLAMS	High Pop. Exposure	FRM, every 3 days
Portland – Tukey’s Bridge	SLAMS	Maximum Conc.	FRM, every 6 days
Portland – Tukey’s Bridge	SLAMS	Collocated	FRM, every 12 days
Presque Isle – Riverside Street	SLAMS	High Pop. Exposure	TEOM, continuous

### ***PM<sub>Coarse</sub> Network***

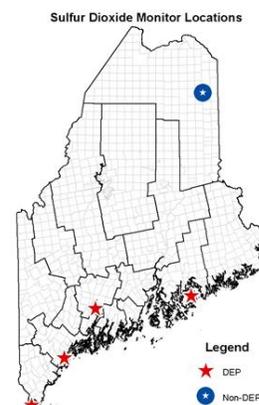
Required PM<sub>Coarse</sub> or PM<sub>10-2.5</sub> measurements at the NCore site in Bar Harbor are obtained by the difference method. At that site two FRM samplers collect PM<sub>10</sub> and PM<sub>2.5</sub> data respectively, and the difference between the two concentrations is reported as PM<sub>10-2.5</sub>. PM<sub>Coarse</sub> data, utilizing the difference method, could also be calculated from the data at sites in Madawaska, Augusta and Portland where simultaneous PM<sub>10</sub> and PM<sub>2.5</sub> data are being collected.

In an attempt to reduce the size of the DEP footprint on the new roof platform at the Bangor, Kenduskeag Pump Station, a dichotomous PM sampler, capable of simultaneously measuring PM<sub>2.5</sub> and PM<sub>10-2.5</sub>, was installed at the beginning of 2014. The sum of these two sample results determines the PM<sub>10</sub> concentration. EPA requirements for method collocation necessitated a second dichotomous PM sampler to be installed on the pump station roof in 2015.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bangor – Kenduskeag Pump Sta.	SLAMS	High Pop. Exposure	FEM, every 6 days
Bar Harbor – McFarland Hill	NCore	Background	FEM, every 3 days

### *Sulfur Dioxide Network*

The Department currently operates three long-term monitors for sulfur dioxide (SO<sub>2</sub>). Two are trace level monitors. A required trace level monitor is located at the NCore site in Bar Harbor and a second one was recently established in 2012 as a rural/background site in Gardiner. The third SO<sub>2</sub> monitor is located in Portland to track levels in the highest population area of the state as well as to provide urban background data for the air emission licensing program. The Micmac Indian Tribe operates an SO<sub>2</sub> monitor in Presque Isle.



Proposed changes to the SO<sub>2</sub> standard were finalized on June 2, 2010. The final rule requires a SO<sub>2</sub> monitor in Core Based Statistical Areas (CBSA) based on a population-weighted emissions index for the area. Maine does not have any CBSAs that would require a monitor. Consequently, the only required monitoring in Maine at this time is the monitor for the NCore site. On May 21, 2013 EPA released a draft Technical Assistance Document, describing in more detail, modeling and monitoring guidance refining the agency’s approach for implementing the SO<sub>2</sub> standard. Additionally, on April 17, 2014 EPA proposed the Data Requirements Rule for the 1-hour SO<sub>2</sub> Primary National Ambient Air Quality Standard (NAAQS) detailing modeling and monitoring guidance for implementing the SO<sub>2</sub> standard. One outcome of these proposals may be a greater reliance on SO<sub>2</sub> monitoring in some circumstances, where the Department will work with EPA to determine if additional SO<sub>2</sub> monitoring in Maine will be required. No changes in the current long term SO<sub>2</sub> network are anticipated for 2016.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore	Background	Continuous
Eliot – Sawgrass Lane	SPMS	Max. Concentration	Continuous
Gardiner – Pray Street, Schoolyard	SLAMS	Background	Continuous
Portland – 356 State Street	SLAMS	High Pop. Exposure	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous

The citizens of Eliot, Maine filed a petition with the EPA based on an ambient air quality dispersion modeling analysis of emissions from Shiller Station. The analysis, provided by the Sierra Club, predicted exceedances of the National Ambient Air Quality Standard (NAAQS) for sulfur dioxide. Based on that action, the

EPA, New Hampshire DES, and Maine DEP established an SO<sub>2</sub> monitor and a met tower in the cul-de-sac at Sawgrass Lane in Eliot late in October 2014. The monitoring location, according to the model analysis, is situated in one of the areas of highest probable SO<sub>2</sub> concentrations. The site is to remain in operation until at least the end of October 2015. Field technicians from New Hampshire have been responsible for maintaining the site and the daily operation of an API trace Level SO<sub>2</sub> monitor provided by ME DEP. The Maine DEP audits the instrument quarterly. The SO<sub>2</sub> and wind data are automatically polled and recorded every hour and the Department reports the values to AirNow. Once a week ME DEP publishes quality assured results to a public FTP site ([http://www.maine.gov/dep/ftp/ELIOT\\_SO2/](http://www.maine.gov/dep/ftp/ELIOT_SO2/)) that is also made available to the Town of Eliot as a link on their town's web page.

### ***Nitrogen Oxides Network (NO<sub>2</sub>, NO<sub>x</sub>, NO, NO<sub>y</sub>)***

The Department currently operates two trace level NO<sub>y</sub> monitors and two NO<sub>2</sub> monitors. The Cadillac NO<sub>y</sub> monitoring was discontinued at the end of the 2014 season along with the PAMS effort there. The two NO<sub>y</sub> monitors are located at the NCore site in Bar Harbor, and the Cape Elizabeth PAMS location. The NO<sub>2</sub> monitors are located at the Deering Oaks site in Portland and at the Pray Street School site in Gardiner.

The NO<sub>2</sub> regulations, which were finalized on January 22, 2010 and revised on March 14, 2013, included provisions for near-roadway monitoring. The EPA has focused efforts on ensuring the near-road sites in large metropolitan areas, with the highest probability for high NO<sub>2</sub> concentrations, are in operation. The smaller (Tier 3) areas, such as Portland, are not required to be in operation until January 1, 2017. These existing plans for additional near-road monitoring in the U.S. are being reviewed because the near-road sites already in operation have not produced the expected high levels of NO<sub>2</sub>. There is nothing in the data to suggest that monitoring along less traveled roads, such as those in Portland, will produce higher concentrations of NO<sub>2</sub> but the Department will continue discussions with the EPA about a possible site in Maine.



The Micmac Tribe also operates a trace level NO<sub>2</sub> monitor at their site in Presque Isle.

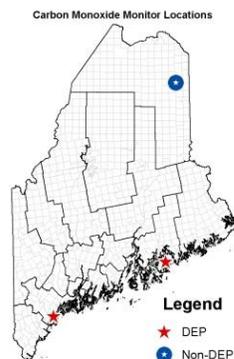
No changes are planned for 2016.

<b>Site Address</b>	<b>Site Type</b>	<b>Monitoring Objective</b>	<b>Sampling Frequency</b>
Portland – Deering Oaks (NO <sub>2</sub> )	SPMS	Maximum Concentration, Urban Background	Continuous
Bar Harbor – McFarland Hill (NO <sub>y</sub> )	NCore	Transport (trace-level)	Continuous
Cape Elizabeth – Two Lights State Park (NO <sub>y</sub> )	PAMS	Transport (trace-level)	Continuous
Gardiner – Pray Street, Schoolyard (NO <sub>2</sub> )	SPMS	Background	Continuous
Presque Isle – 8 Northern Road (NO <sub>2</sub> )	Tribal	(trace-level)	Continuous

## Carbon Monoxide Network

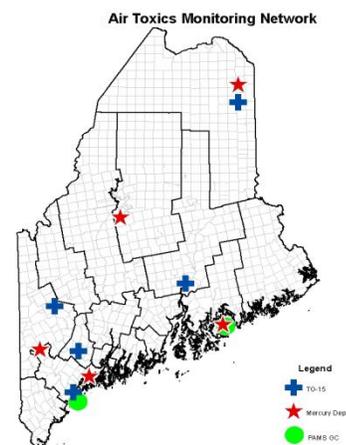
The Department currently operates two carbon monoxide (CO) monitors. Monitors are located at the NCore site in Bar Harbor (a trace level) and the Deering Oaks site in Portland. The Micmac Indian Tribe also operates a trace-level CO monitor at their site in Presque Isle. The CO standard has been reviewed, and no change was made in the level or the form of the standard. No changes are planned for 2016.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore	Transport	Continuous
Portland – 356 State Street	SPMs	High Pop. Exposure	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous



## Hazardous Air Pollutants (HAPs) Network

Although not a required monitoring network, the Department samples for 108 HAPs compounds at five Special Purpose Monitoring Site (SPMS) locations around the state and at the PAMS Site in Cape Elizabeth. The monitoring is to document background concentrations around the state and to establish whether there are any trends in the levels of these compounds. In addition, several of the metals that are listed as HAPs are also being measured at the particulate monitoring sites. Maine continues to expand its sub-ambient canister sampling equipment inventory for measuring acrolein using EOA's TO-15 method and may establish additional monitoring locations if emissions inventory data indicates the potential for a "hotspot" area for any HAPs.

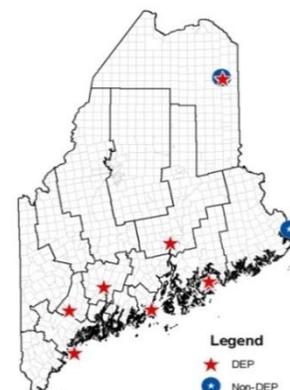


Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bangor – Kenduskeag Pump Sta.	SPMS	Maximum Conc.	Every 6 days
Cape Elizabeth – Two Lights Park	PAMS	Maximum Conc.	Every 6 days
Lewiston – Country Kitchen Lot	SPMS	Maximum Conc.	Every 6 days
Portland – 356 State Street	SPMS	Maximum Conc.	Every 6 days
Presque Isle – Riverside Street	SPMS	Maximum Conc.	Every 6 days
Rumford – Rumford Avenue	SPMS	Maximum Conc.	Every 6 days

## Meteorological Network

The Department currently funds and operates a number of meteorological sites around the state to collect data for use in the analysis and evaluation of air pollutant data. Some of these are stand-alone sites, and some are collocated with air pollutant monitoring sites. With the exception of the monitoring site on Cadillac Mountain, the monitors operate year-around. All of the sites measure scalar wind speed and direction, resultant wind speed and direction and sigma theta (an indicator of the amount of variability in the wind direction). A few of

Meteorological Network



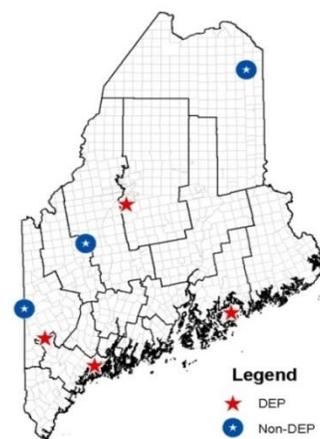
the sites collect additional parameters such as relative humidity, barometric pressure, temperature and solar radiation. Meteorological data is also collected at the Passamaquoddy site in Perry and the Micmac site in Presque Isle. No changes are proposed for 2016.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Auburn – L/A Airport	SLAMS	Data Analyses	Continuous
Augusta – State Airport	SLAMS	Data Analyses	Continuous
Bangor – Air National Guard	SLAMS	Data Analyses	Continuous
Bar Harbor – Cadillac Mountain	SLAMS	Transport	Continuous – Seasonal
Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore	Transport	Continuous
Cape Elizabeth – Two Lights Park	PAMS	Transport	Continuous
Owls Head – Municipal Airport	SLAMS	Data Analyses	Continuous
Presque Isle – Regional Office	SLAMS	Data Analyses	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous
Sipiyak – 184 County Road	Tribal	-	Continuous

### *Atmospheric Deposition Network*

There is an extensive atmospheric deposition network in the State of Maine with several sites operated by the Maine DEP. Several of the sites are part of the National Atmospheric Deposition Program’s (NADP) Mercury Deposition Network (MDN) in addition to being a part of the National Trends Network (NTN) that measures precipitation chemistry. Early in the program, a number of agencies and organizations participated and provided funds for the operation of the sites. As funds have diminished and budgets have been cut, the continued operation of some of these sites has been in question. The data from this program are used by a wide variety of researchers, and the continued operation of these sites is very important to maintain the continuous record of deposition occurring around the state. No other changes are proposed for 2016.

Atmospheric Deposition Network



Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bridgton – Upper Ridge Road (NTN and MDN)	SPMS	Transport/Trends	Weekly Composite
Caribou – Airport (NTN and MDN)	SPMS	Transport/Trends	Weekly Composite
Freeport – Wolfe’s Neck Farm (NTN and MDN)	SPMS	Transport/Trends	Weekly Composite
Greenville – Squaw Brook (NTN and MDN)	SPMS	Transport/Trends	Weekly Composite
Bar Harbor – McFarland Hill (NTN and MDN)	NPS-SPMS	Transport/Trends	Weekly Composite
Carrabassett Valley – Airport (NTN and MDN)	Tribal	Transport/Trends	Weekly Composite
Gilead – White Mtn. Nat’l. Forest	USGS	Transport/Trends	Weekly Composite

## ***Lead Network***

In 2008 EPA promulgated a new lead (Pb) standard and issued some minimum monitoring requirements. At that time Maine was to be required to operate one monitor in the Portland CBSA (Core-based statistical area). The state purchased an X-ray fluorescence (XRF) analyzer to measure lead concentrations from PM<sub>10</sub> 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. Since Maine DEP had the XRF capability to analyze particulate filters for Pb levels, in July 2013 we started analyzing batches of Rhode Island filters for Pb, starting with filters from June 2011. It is the intent at some point in the future, when resources permit, to conduct XRF analysis on a random selection of Maine filters to determine what our background levels might be for lead and other metals such as arsenic and chromium.

## **Proposed Calendar Year 2016 Network Changes**

As usual, the monitoring network proposed for 2016 is an ambitious one and will require a significant effort from Air Bureau staff to accomplish. The program is always subject to adjustment because of staffing changes, budget cuts, and the disposition of landowners who allow air-monitoring sites to be placed on their property. The field monitoring staff continues to look for increased efficiencies, especially through automation and improved remote access to monitors, to optimize Department resources.

Depending on the final outcome of a few remaining revisions proposed for a couple of air quality standards, the need for updated background air quality data, additional review of emissions inventory data and looking for additional opportunities to optimize the operational aspects of our program, the following changes are being contemplated or are likely to occur:

- Existing continuous PM<sub>2.5</sub> TEOM monitor at the Portland - 356 State Street site will be discontinued at the end of June 2015.
- Additional ozone monitoring in the western mountain region (Lovell replacement site).
- Replacement coastal ozone site for Bowdoinham (to be located in the Small Point / Phippsburg area).
- Continuous particulate monitoring at a western mountain valley location for forecasting support and a wood smoke emissions study.
- EPA's proposal to defund the Bridgton and Freeport IMPROVE Protocol sites.

The monitoring program operated by the Maine DEP undergoes constant review to ensure that the monitoring is appropriate to meet monitoring goals, does not contain irrelevant monitoring and can be accomplished within the available budget. While there are presently no indications the following actions would be necessary, should budget and staffing issues require cuts in the monitoring program, some potential initial cuts could include the following monitors and/or sites:

- Bowdoinham ozone monitoring site.
- Portland carbon monoxide monitoring.

Discussions will be held with EPA staff prior to any monitors or sites being discontinued.

## Monitoring Equipment Used by Maine DEP

PARAMETER	INSTRUMENT	METHOD*
Atmospheric Deposition	Aerochem Metrics wet/dry collector	
Barometric Pressure	Climatronics Met One	
Carbon Monoxide	Thermo Model 48C, 48i, 48iTLE Teledyne API Model T300	RFCA-0981-054 RFCA-1093-093
Hazardous Air Pollutants	Xontech 910A	
Lead	R&P Sequential Model 2025 R&P Single Model 2000 Thermo Dichot Model 2025D Spectro XEPOS XRF Spectrometer	
Mercury Deposition	Aerochem Metrics N-CON Wet Deposition collector	
Nitrogen Dioxide	Thermo Model 42C, 42i	RFNA-1289-074
Organic/Elemental Carbon	Sunset Semicontinuous OC/EC Carbon Aerosol Analyzer	
Other Metals such as Arsenic, Chromium, etc.	R&P Sequential Model 2025 R&P Single Model 2000 Thermo Dichot Model 2025D Spectro XEPOS XRF Spectrometer	
Oxides of Nitrogen	Thermo Model 42iY	
Ozone	Thermo Models 49C, 49i Teledyne API Model T400	EQOA-0880-047 EQOA-0992-087
PM 10 Continuous	R&P TEOM Model 1400AB	EQPM-1090-079
PM 10 FRM	R&P/Thermo Sequential Model 2025 R&P/Thermo Single Model 2000 Thermo Dichot Model 2025 D	RFPS-1298-127 RFPS-1298-126 None 785
PM 2.5 Continuous	R&P/Thermo TEOM Model 1400AB MET One BAM Model 1020	- EQPM-0308-170
PM 2.5 FRM	R&P/Thermo Sequential Model 2025 R&P/Thermo Single Model 2000 Thermo Dichot Model 2025D	RFPS-0498-118 RFPS-1006-145 RFPS-0498-117 RFPS-1006-143 EQPS-0509-179
PM Coarse	Thermo Dichot Model 2025D Difference Method PM10-PM2.5	EQPS-0509-180 RFPS-0509-176
PM Speciation	IMPROVE Sampler	
Precipitation	ETI Instrument Systems NOAH IV	
Relative Humidity	Climatronics Met One	
Solar Radiation	Climatronics Met One	
Sulfate Continuous	Thermo Model 5020	
Sulfur Dioxide	Thermo Model 43C, 43C-TLE, 43i, 43i- TLE Teledyne API Model T100	EQSA-0486-060 EQSA-0495-100
Temperature	Climatronics Met One	
Total PAH	Ecochem PAS 2000	
VOC's (PAMS)	Perkin Elmer Clarus 580	
Wind Speed/Direction	Climatronics F460 Met One	

\* Designated Reference and Equivalent Methods as of July 1, 2014.

# Integrated Sampler Schedule

## 2016

JANUARY						
S	M	T	W	T	F	S
					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						
S	M	T	W	T	F	S
	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					

MARCH						
S	M	T	W	T	F	S
		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						
S	M	T	W	T	F	S
					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						
S	M	T	W	T	F	S
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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						
S	M	T	W	T	F	S
			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						
S	M	T	W	T	F	S
					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						
S	M	T	W	T	F	S
	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						
S	M	T	W	T	F	S
				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						
S	M	T	W	T	F	S
						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						
S	M	T	W	T	F	S
		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						
S	M	T	W	T	F	S
				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

  1 in 12, 1 in 6, and 1 in 3 sample dates

  1 in 6 and 1 in 3 sample dates

  1 in 3 sample dates

  State Holiday

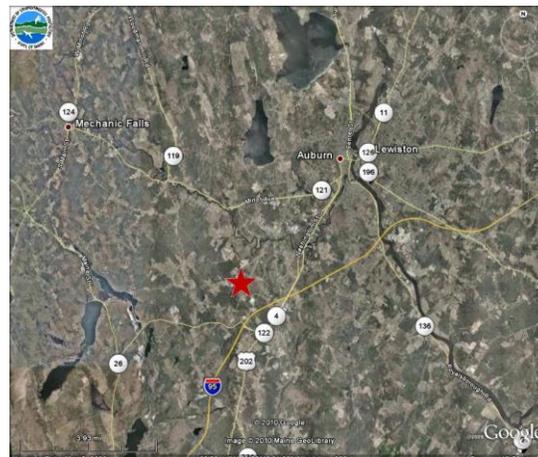
## Monitoring Site Information

The following pages present 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. The pages are sorted alphabetically by Town – Site Name. This table offers an index to the site descriptions based on AQS Site ID's.

AQS Site ID	Town - Site	County	Page #
23-001-0005	Auburn – Lewiston-Auburn Airport	Androscoggin	17
23-001-0011	Lewiston – Country Kitchen Parking Lot	Androscoggin	37
23-001-0014	Durham – Fire Station	Androscoggin	28
23-003-0014	Madawaska – Public Safety Bldg	Aroostook	38
23-003-1002	Caribou – Caribou Airport	Aroostook	27
23-003-1008	Presque Isle – DEP Regional Office	Aroostook	44
23-003-1011	Presque Isle – Riverside St.	Aroostook	45
23-003-1100	Micmac Tribe -- Presque Isle Shelter	Aroostook	49
23-005-0002	Bridgton	Cumberland	25
23-005-0015	Portland – Tukey's Bridge	Cumberland	43
23-005-0029	Portland – Deering Oaks Park	Cumberland	42
23-005-2003	Cape Elizabeth – Two Lights Park	Cumberland	26
23-005-9002	Freeport – Wolfes Neck Farm	Cumberland	30
23-009-0102	Bar Harbor – Cadillac Mountain, Acadia National Park	Hancock	22
23-009-0103	Bar Harbor – McFarland Hill, Acadia National Park	Hancock	23
23-011-0008	Augusta – Civil Air Patrol Hanger	Kennebec	18
23-011-0016	Augusta – Lincoln Street School	Kennebec	19
23-011-2005	Gardiner – Pray Street, Schoolyard	Kennebec	31
23-013-0004	Port Clyde – Marshall Point Lighthouse	Knox	41
23-013-0014	Owls Head – Municipal Airport	Knox	40
23-017-2011	Rumford – Rumford Ave. Parking Lot	Oxford	46
23-017-3001	North Lovell – DOT Garage	Oxford	39
23-019-0002	Bangor – Kenduskeag Pump Station	Penobscot	21
23-019-0010	Bangor – Airport	Penobscot	20
23-019-1100	Penobscot Nation - Indian Island	Penobscot	52
23-019-4008	Holden – Rider's Bluff	Penobscot	33
23-021-0001	Greenville	Piscataquis	32
23-023-0006	Bowdoinham – Merrymeeting Bay	Sagadahoc	24
23-029-0019	Jonesport – Public Landing	Washington	35
23-029-0032	Passamaquoddy Tribe -- Perry, Pleasant Point/Sipiyak	Washington	51
None	Passamaquoddy Tribe -- Indian Township	Washington	50
23-031-0009	Eliot - Sawgrass Lane	York	29
23-031-0038	Hollis/West Buxton – Fire Department	York	34
23-031-0040	Shapleigh – Shapleigh Ball Park	York	47
23-031-2002	Kennebunkport – Parson's Way	York	36

Town – Site: **Auburn – Lewiston-Auburn Airport**  
 County: **Androscoggin**  
 Address: **Lewiston Junction Rd.**  
 AQS Site ID: **23-001-0005**  
 Spatial Scale: **Regional**  
 Statistical Area: **Lewiston-Auburn, ME**

Latitude: **44.0457**  
 Longitude: **-70.2902**  
 Elevation: **79 meters**  
 Year Established: **1978**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	10/18/1978	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

The site is located in a light industrial park located 4 ½ miles southwest of downtown Auburn. Wind Speed and Direction sensors are mounted on a 10-meter retractable tower located on the roof of a maintenance equipment shed at the Auburn-Lewiston Municipal Airport. A data acquisition system and modem are located in a storage room within the equipment shed.

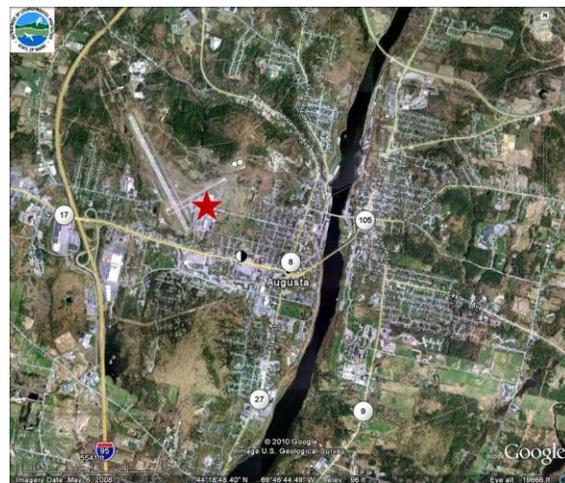
**Monitoring Objectives:**

Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

**Planned changes for 2016:** None planned

Town – Site: **Augusta – Civil Air Patrol Hanger**  
 County: **Kennebec**  
 Address: **Augusta State Airport**  
 AQS Site ID: **23-011-0008**  
 Spatial Scale: **Regional**  
 Statistical Area: **Augusta-Waterville, ME**

Latitude: **44.3179**  
 Longitude: **-69.7919**  
 Elevation: **107 Meters**  
 Year Established: **1981**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	01/20/1981	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

A 10-meter retractable tower with wind speed direction sensors is situated on the roof of the Civil Air Patrol hanger 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.

**Monitoring Objectives:**

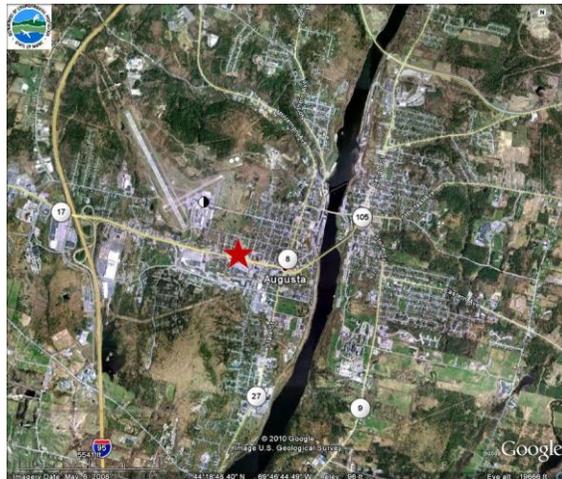
Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

**Planned changes for 2016:**

Sometime in the near future the Airport plans to rebuild the Civil Air Patrol hanger. Building plans have not been finalized nor shared with DEP, so future use of the site as a Meteorological Station is uncertain.

Town – Site: **Augusta – Lincoln Street School**  
 County: **Kennebec**  
 Address: **30 Lincoln Street**  
 AQS Site ID: **23-011-0016**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **Augusta-Waterville, ME**

Latitude: **44.3123**  
 Longitude: **-69.7867**  
 Elevation: **71 Meters**  
 Year Established: **1999**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	01/01/1999		SO <sub>2</sub>		
PM2.5 Colo	01/01/1999		Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM	12/02/2002		VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Lincoln Street School is located in Augusta just off Western Avenue, 0.4 miles northwest of the state capitol. A wooden platform is situated on the roof of the gymnasium. Particulate monitors are attached to the platform.

**Monitoring Objectives:**

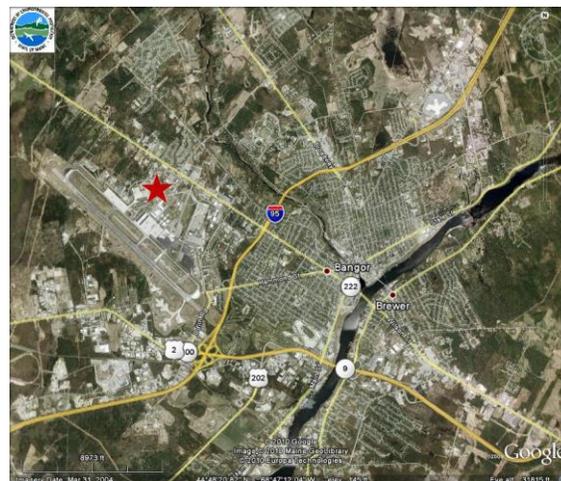
SLAMS – State and Local Air Monitoring Station

**Planned changes for 2016:**

The platform was recently refurbished and the electrical distribution system is scheduled for repairs in the coming months.

Town – Site: **Bangor -- Airport**  
 County: **Penobscot**  
 Address: **BIA Bldg. 489, Bangor Airport**  
 AQS Site ID: **23-019-0010**  
 Spatial Scale: **Urban/Regional**  
 Statistical Area: **Bangor, ME**

Latitude: **44.8166**  
 Longitude: **-68.8204**  
 Elevation: **50 Meters**  
 Year Established: **1987**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	6-1-1987	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Tower and sensors are located on the roof of building 489 on the Air National Guard Base at Bangor International Airport. The area is very open with some large aircraft hangars to the northwest of the tower at sufficient distance so as to not cause any interference. This is an urban to regionally representative site for meteorology.

**Monitoring Objectives:**

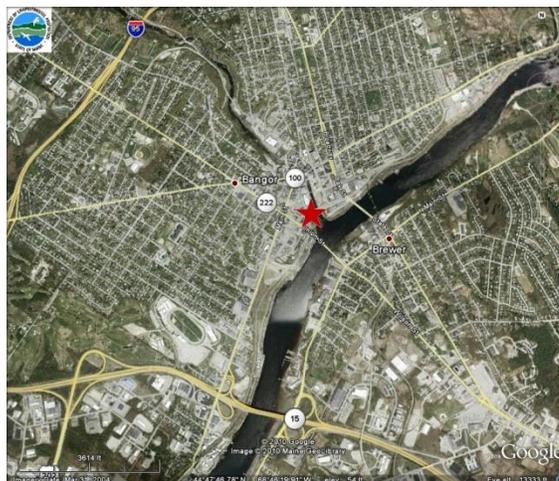
Wind data is collected to use in analysis of air pollutant data in the Bangor area. Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

**Planned changes for 2016:**

None planned

Town – Site: **Bangor – Kenduskeag Pump Station**  
 County: **Penobscot**  
 Address: **Washington Street**  
 AQS Site ID: **23-019-0002**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **Bangor, ME**

Latitude: **44.7989**  
 Longitude: **-68.7697**  
 Elevation: **10 Meters**  
 Year Established: **1977**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-1-1999		SO <sub>2</sub>	1-1-1986	7-1-1987
PM2.5 Colo	12-1-1999	12-29-2003	Ozone		
PM2.5 TEOM	1-1-2007	12-30-2013	NOx		
PM2.5 BAM	2-7-2014		NOy		
PM10 FRM	1-1-2003		VOCs (PAMS)		
PM10 Colo			HAPs	2-12-2004	
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse	2-7-2014		Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead	1-1-1978	10-1-1992	Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Monitors are located on the roof of a pumping station building for the Bangor treatment plant. It is located on the shore of the Kenduskeag Stream near the Penobscot River and sits in the bowl of downtown Bangor. The site was originally established to help define the extent of the particulate problems in Bangor. The pump station roof was replaced, and a new sampler platform was installed in December 2013. The Bureau operates two, collocated, Dichotomous samplers to provide PM<sub>2.5</sub>, PM<sub>10</sub> and PM<sub>coarse</sub> measurements.

**Monitoring Objectives:**

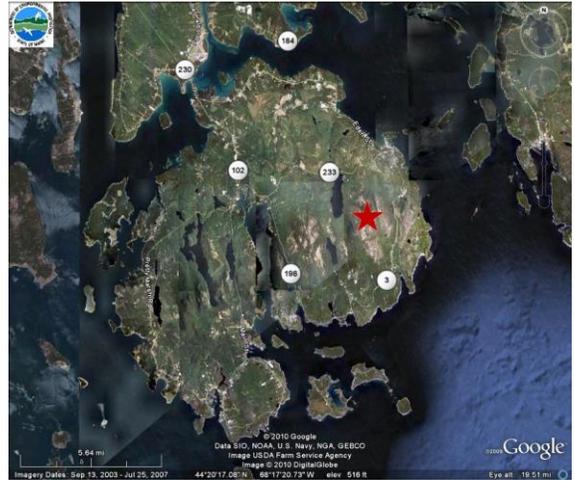
Site was located to pick up maximum concentrations in the downtown area of Bangor.

**Planned changes for 2016:**

None planned

Town – Site: **Bar Harbor – Cadillac Mountain, Acadia National Park**  
 County: **Hancock**  
 Address: **Top of Cadillac Mountain**  
 AQS Site ID: **23-009-0102**  
 Spatial Scale: **Regional**  
 Statistical Area: **None**

Latitude: **44.3517**  
 Longitude: **-68.2272**  
 Elevation: **463 M (1519 ft)**  
 Year Established: **1995**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	7-25-1995	
PM2.5 TEOM			NO <sub>x</sub>	4-1-2004	9-30-2007
PM10 FRM			NO <sub>y</sub>	1-1-2008	9-30-2014
PM2.5 BAM			VOCs (PAMS)	5-1-1996	9-30-2014
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	5-6-1996	
IMPROVE			Outdoor Temperature	4-19-1996	
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity	4-19-1996	
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO	4-1-2002	10-1-2003	UV-b Radiation		

**Site Description:**

Site established as a PAMS site from 1995 to 2014. Located on the top of Cadillac Mountain in Acadia National Park. This is now a seasonal ozone site operating during the months of April to October.

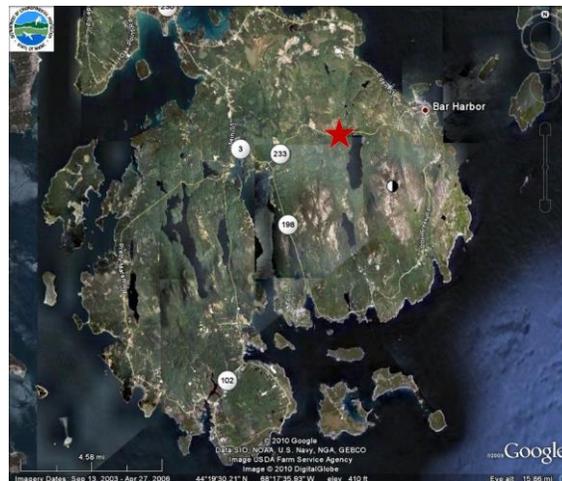
**Monitoring Objectives:**

Site was established to monitor long-range transport of ozone precursors from urban and industrial non-attainment areas to the southwest. It remains in operation to monitor high altitude ozone concentrations associated with interstate transport.

**Planned changes for 2016:**

None planned

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**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-1-1999		SO <sub>2</sub>	2-1-2004	
PM2.5 Colo			Ozone	2-1-1998	
PM2.5 TEOM	10-1-2003	10-30-2013	NOx		
PM2.5 BAM	11-12-2013		NOy	2-1-2004	
PM10 FRM	1-1-2010		VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury	1998	
PM10 BAM			Wet Dep. - Precip Chem.	1998	
PM Coarse	1-1-2010		Wind Direction/Speed	2-1-1998	
IMPROVE	3-2-1988		Outdoor Temperature	2-1-1998	
Cont. OC/EC	6-29-2004		Bar. Pressure		
Cont. Sulfate	6-26-2004		Relative Humidity	2-1-1998	
Black Carbon	2004		Dewpoint		
Cont. PAH			Precipitation Amount	2-1-1998	
Lead			Solar Radiation	2-1-1998	
CO	2-1-2004		UV-b Radiation		

**Site Description:**

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 most recently has received approval as the NCore site for Maine. Monitoring at this site is a joint effort between the NPS and the Maine DEP.

**Monitoring Objectives:**

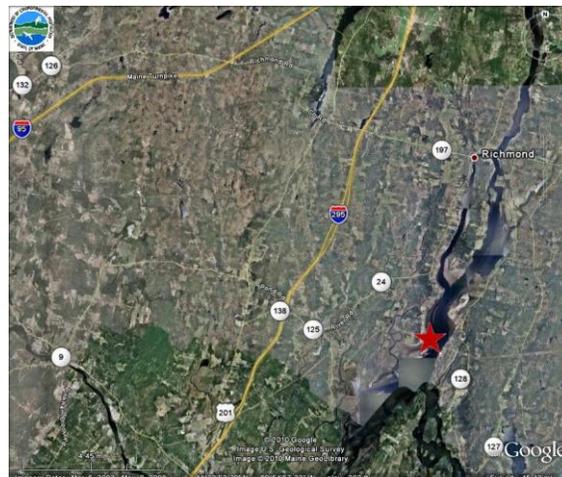
This is a regional scale site operated to determine background levels, transport and for use in the mapping programs to forecast the air quality index.

**Planned changes for 2016:**

Maine DEP and the National Park Service are working cooperatively to replace the two overcrowded and aging shelters at the location with a single structure constructed to meet all current requirements with some extra capacity for future efforts.

Town – Site: **Bowdoinham – Merrymeeting Bay**  
 County: **Sagadahoc**  
 Address: **Brown’s Point**  
 AQS Site ID: **23-023-0006**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-Lewiston-South Portland**

Latitude: **44.0050**  
 Longitude: **-69.8278**  
 Elevation: **3 meters**  
 Year Established: **2008**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	05/08/2008	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

The site is located on the unimproved property of Mr. Alan Kelley, adjacent to 598 Brown’s Point Road in Bowdoinham, approximately 32 miles northeast of Portland. An ozone sampler, data acquisition system and modem are located inside an environmentally controlled 8’x8’x8’ shelter.

**Monitoring Objectives:**

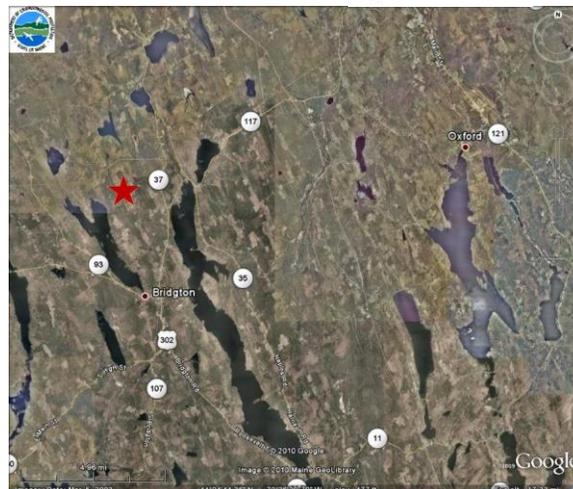
Maximum ozone concentration

**Planned changes for 2016:**

Relocation of this monitor is possible if an acceptable site can be found closer to the coast, south of Phippsburg.

Town – Site: **Bridgton**  
 County: **Cumberland**  
 Address: **Upper Ridge Road**  
 AQS Site ID: **23-005-0002**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **44.1074**  
 Longitude: **-70.7290**  
 Elevation: **223 meters**  
 Year Established: **1980**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury	6-3-1997	
PM10 BAM			Wet Dep. - Precip Chem.	1-1-1980	
PM Coarse			Wind Direction/Speed		
IMPROVE	3-14-2001		Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Site is located on a ridge in an open field area just off the Upper Ridge Road.

**Monitoring Objectives:**

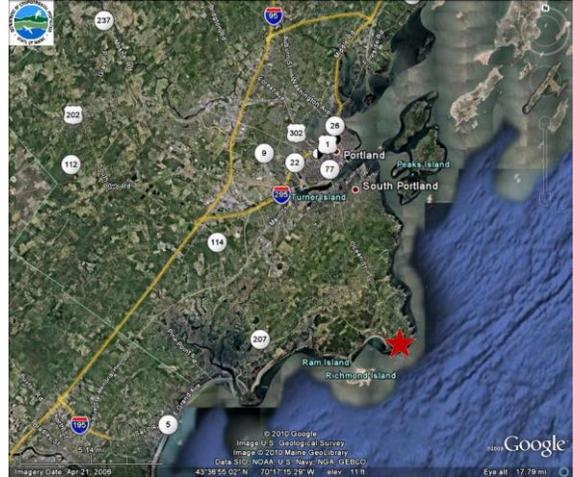
Long-term tracking of deposition in the western mountain area of the state.

**Planned changes for 2016:**

The EPA has been conducting an assessment of the IMPROVE protocol sites and has initially slated Bridgton for defunding by January 2016. The Department is working with EPA in this process.

Town – Site: **Cape Elizabeth**  
 County: **Cumberland**  
 Address: **Two Lights State Park**  
 AQS Site ID: **23-005-2003**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.5610**  
 Longitude: **-70.2073**  
 Elevation: **24 meters**  
 Year Established: **1981**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-1-1999	12-17-2002	SO <sub>2</sub>		
PM2.5 Colo			Ozone	1-1-1981	
PM2.5 TEOM			NO <sub>x</sub>	6-9-1993	10-31-1995
PM2.5 BAM			NO <sub>y</sub>	6-26-1995	
PM10 FRM			VOCs (PAMS)	6-1-1993	
PM10 Colo			HAPs	12-6-2013	
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	6-25-1985	
IMPROVE			Outdoor Temperature	6-7-1994	
Cont. OC/EC			Bar. Pressure	6-7-1994	
Cont. Sulfate			Relative Humidity	6-7-1994	
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation	6-7-1994	
CO	5-1-2001	10-1-2007	UV-b Radiation	6-1-1995	

**Site Description:**

Site is located in an open elevated area in the Two Lights State Park in Cape Elizabeth. A single large new shelter was installed in 2009, replacing two smaller shelters. The site was located to pick up the plumes entering Maine from the urban areas to the southwest. With the exception of the meteorological parameters, this site is normally operated during the ozone season only.

**Monitoring Objectives:**

The site is located to pick up long-range transport of pollutants into the state.

**Planned changes for 2016:**

None planned

Town – Site: **Caribou – Caribou Airport**  
 County: **Aroostook**  
 Address: **Caribou Airport**  
 AQS Site ID: **23-003-1002**  
 Spatial Scale: **Regional**  
 Statistical Area: **None**

Latitude: **46.8683**  
 Longitude: **-67.9931**  
 Elevation: **191 meters**  
 Year Established: **1982**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.	1-1-1982	
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	1-1-1982	
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Site is located in a grassy area inside the fence and off the south end of the runway.

**Monitoring Objectives:**

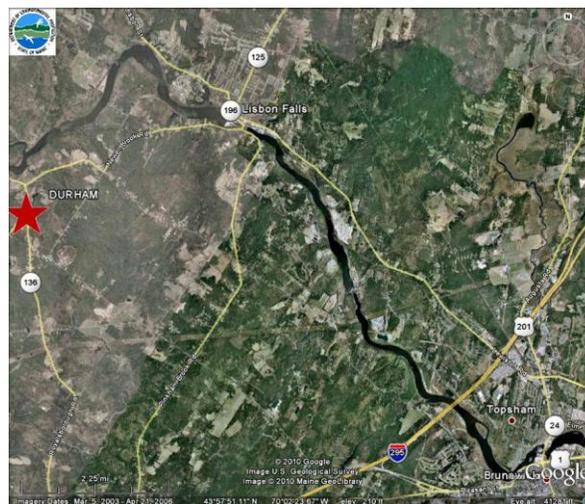
Long-term monitoring of wet deposition chemistry and precipitation amount in northern Maine

**Planned changes for 2016:**

None planned

Town – Site: **Durham – Fire Station**  
 County: **Androscoggin**  
 Address: **Route 9**  
 AQS Site ID: **23-001-0014**  
 Spatial Scale: **Regional**  
 Statistical Area: **Lewiston-Auburn, ME**

Latitude: **43.9745**  
 Longitude: **-70.1249**  
 Elevation: **50 meters**  
 Year Established: **2004**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	04/01/2004	
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

The site is located on the grounds of the Durham Fire Station, 9 ½ miles SE of Lewiston. An ozone monitor is located within an 8'x8'x8' environmentally controlled shelter. The shelter was installed in 2006. During the summers of 2004 and 2005, an ozone monitor was set up temporarily in a corner of the fire station with a probe attached to the roof edge to determine if the location warranted continued monitoring.

**Monitoring Objectives:**

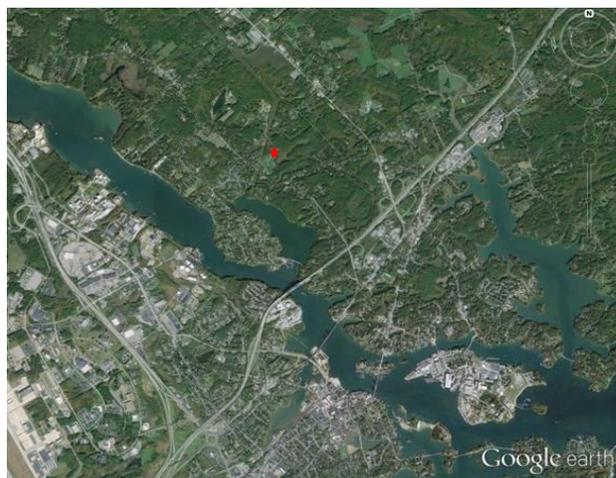
Regional transport of ozone.

**Planned changes for 2016:**

None planned

Town – Site: **Eliot – Sawgrass Lane Cul-de-sac**  
 County: **York**  
 Address: **88 Sawgrass Lane Cul-de-sac**  
 AQS Site ID: **23-031-0009**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **None**

Latitude: **43.111364**  
 Longitude: **-70.769730**  
 Elevation: **13 Meters**  
 Year Established: **2014**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>	10-24-2014	
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	10-24-2014	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Monitors are located in an 8’x12’x8’ shelter in an open cul-de-sac at the end of Sawgrass Lane in Eliot, Maine. The SO<sub>2</sub> analyzer, from ME DEP inventory, is operated by New Hampshire DES staff, and audited by ME DEP. Maine DEP reports hourly values to various web pages.

**Monitoring Objectives:**

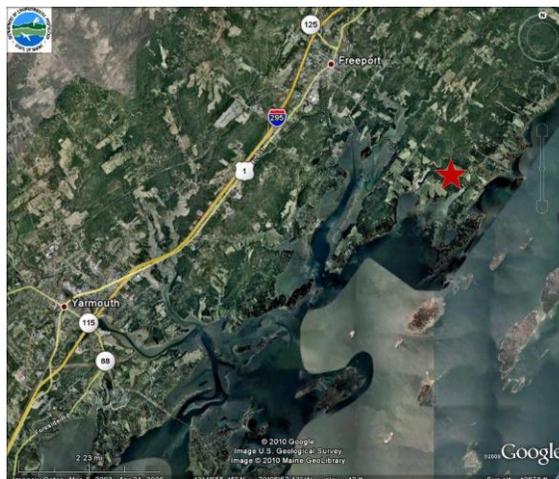
Monitoring at this location was established in response to a lawsuit against the EPA by the citizens of Eliot, Maine over suspected impacts of high SO<sub>2</sub> emissions from coal fired power plants located in New Hampshire, directly across the Piscataqua River from Eliot.

**Planned changes for 2016:**

Site was expected to run for one year, so it is scheduled for removal in October/November 2015.

Town – Site: **Freeport – Wolfes Neck Farm**  
 County: **Cumberland**  
 Address: **Wolfe’s Neck Road**  
 AQS Site ID: **23-005-9002**  
 Spatial Scale: **Regional/Neighborhood**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.8325**  
 Longitude: **-70.0644**  
 Elevation: **27 Meters**  
 Year Established: **1998**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury	1-7-1998	
PM10 BAM			Wet Dep. - Precip Chem.	1-7-1998	
PM Coarse			Wind Direction/Speed		
IMPROVE	3/14/2001		Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	1-7-1998	
Lead			Solar Radiation		
CO			UV-b Radiation		

**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.

**Monitoring Objectives:**

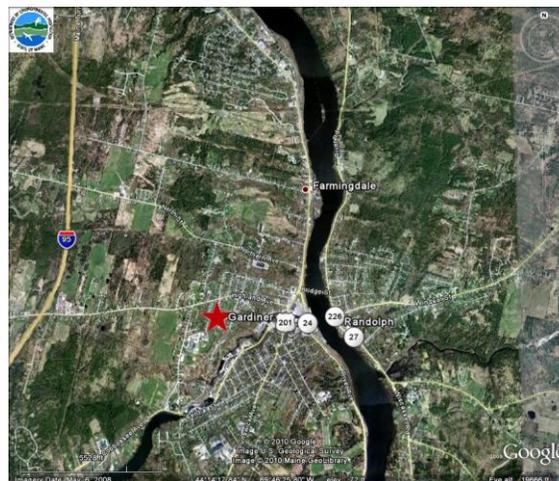
Site designed to monitor the long-range transport of pollutants on a regional scale.

**Planned changes for 2016:**

The EPA has been conducting an assessment of the IMPROVE protocol sites and has initially slated Bridgeton for defunding by January 2016. The Department is working with EPA in this process.

Town – Site: **Gardiner – Pray Street, Schoolyard**  
 County: **Kennebec**  
 Address: **Pray Street**  
 AQS Site ID: **23-011-2005**  
 Spatial Scale: **Regional**  
 Statistical Area: **Augusta-Waterville, ME**

Latitude: **44.2306**  
 Longitude: **-69.7850**  
 Elevation: **55 Meters**  
 Year Established: **1991**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>	03/07/2012	
PM2.5 Colo			Ozone	04/01/1991	
PM2.5 TEOM			NOx	03/07/2012	
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

The site is located on the north edge of the Gardiner Area High School grounds. The Pray Street Elementary School next door at 14 Pray Street has closed and is now housing a Boys and Girls Club. Monitors are housed in an 8'x8'x8' environmentally controlled shelter, situated outside the fence line of the playing fields. The shelter was replaced in 2006.

**Monitoring Objectives:**

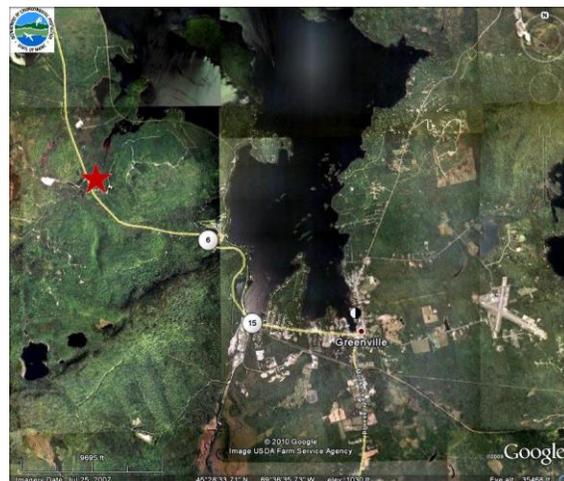
Regional transport

**Planned changes for 2016:**

None planned

Town – Site: **Greenville**  
 County: **Piscataquis**  
 Address: **Squaw Brook**  
 AQS Site ID: **23-021-0001**  
 Spatial Scale: **Regional**  
 Statistical Area: **None**

Latitude: **45.4893**  
 Longitude: **-69.6637**  
 Elevation: **339 Meters**  
 Year Established: **1980**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury	1997	
PM10 BAM			Wet Dep. - Precip Chem.	1980	
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	1980	
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Site is located in a small clearing on private property to the northwest of Greenville Junction. This is one of the oldest deposition monitoring sites in the country.

**Monitoring Objectives:**

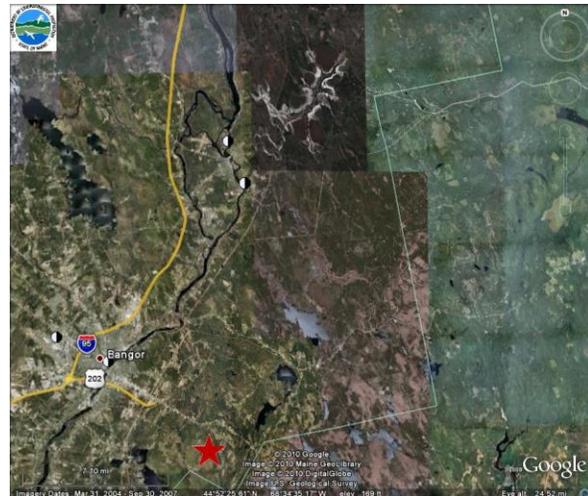
Measure the chemistry of the rain and snowfall in this area of the state.

**Planned changes for 2016:**

None planned

Town – Site: **Holden**  
 County: **Penobscot**  
 Address: **Summit of Rider’s Bluff**  
 AQS Site ID: **23-019-4008**  
 Spatial Scale: **Regional**  
 Statistical Area: **Bangor, ME**

Latitude: **44.7365**  
 Longitude: **-68.6711**  
 Elevation: **250 Meters**  
 Year Established: **1993**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	5-19-1993	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			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.

**Monitoring Objectives:**

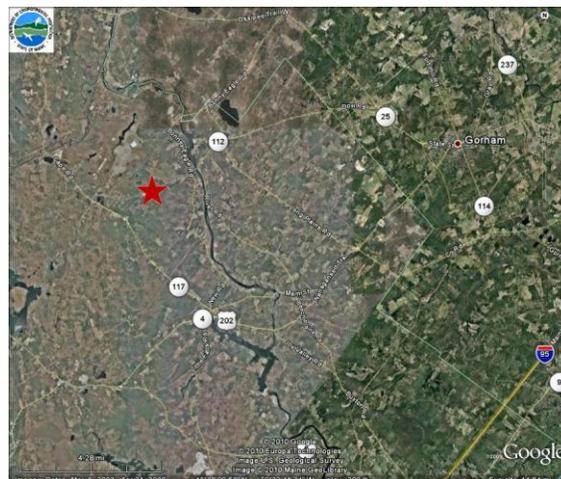
Monitor was located to pick up transport of ozone into the Penobscot County area and to measure maximum impacts in this area.

**Planned changes for 2016:**

None planned

Town – Site: **Hollis/West Buxton – Fire Department**  
 County: **York**  
 Address: **Plains Road**  
 AQS Site ID: **23-031-0038**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.6568**  
 Longitude: **-70.6291**  
 Elevation: **84 Meters**  
 Year Established: **1999**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	4-1-1999	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Monitor is located in an 8x8x8 shelter in an open area around the West Buxton Fire Department building.

**Monitoring Objectives:**

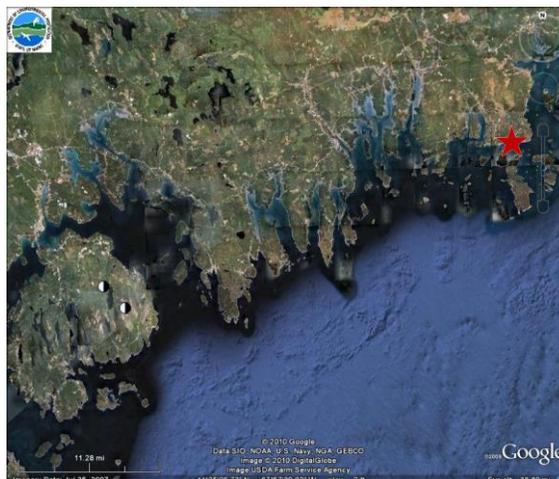
Monitoring location was selected to define the inland extent of the non-attainment area in the southern coastal area of Maine.

**Planned changes for 2016:**

None planned

Town – Site: **Jonesport – Public Landing**  
 County: **Washington**  
 Address: **Public Landing**  
 AQS Site ID: **23-029-0019**  
 Spatial Scale: **Regional**  
 Statistical Area: **None**

Latitude: **44.5319**  
 Longitude: **-67.5959**  
 Elevation: **16 Meters**  
 Year Established: **1989**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	5-19-1989	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Monitor is located in a town building at the Public Landing in Jonesport.

**Monitoring Objectives:**

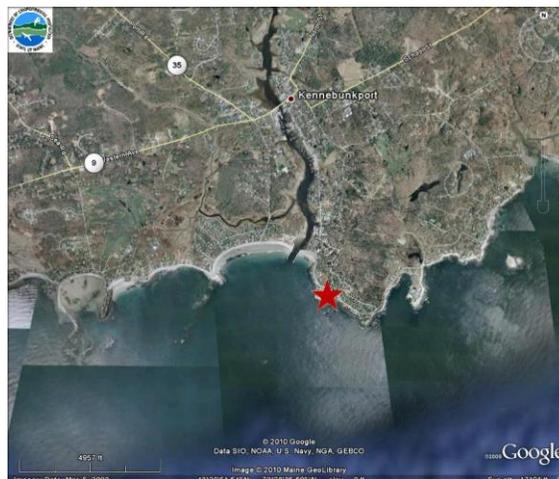
Monitor sited to obtain maximum concentrations in the coastal area of Washington County.

**Planned changes for 2016:**

None planned

Town – Site: **Kennebunkport – Parson’s Way**  
 County: **York**  
 Address: **Ocean Avenue**  
 AQS Site ID: **23-031-2002**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.3431**  
 Longitude: **-70.4714**  
 Elevation: **6 Meters**  
 Year Established: **1983**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	1-1-1983	
PM2.5 TEOM			NOx	6-1-1990	9-1-1990
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Site is located on a rocky beach area just off Ocean Avenue. Site has good exposure and has recorded some of the highest ozone concentrations in the state. The shelter, including the power and phone line, has to be removed each fall and re-installed each spring to avoid winter storm damage.

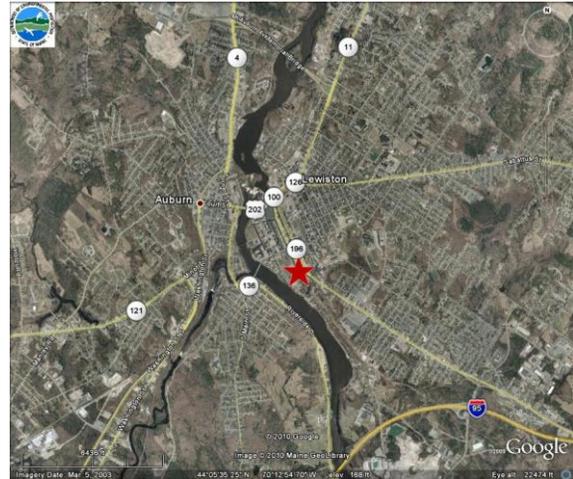
**Monitoring Objectives:**

Monitor was located to measure maximum impacts in the southern coastal area.

**Planned changes for 2016:**

None planned

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**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	01/01/1999		SO <sub>2</sub>	07/13/1998	12/30/2002
PM2.5 Colo			Ozone		
PM2.5 TEOM	01/01/2000	09/12/2013	NOx		
PM2.5 BAM	09/12/2013		NOy		
PM10 FRM	04/01/2004		VOCs (PAMS)		
PM10 Colo			HAPs	06/14/2004	
PM10 TEOM			Mercury Deposition		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead	06/01/1989	12/31/1993	Solar Radiation		
CO			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, data acquisition system and modem, in a climate controlled environment, with PM monitors and intakes situated on the roof.

**Monitoring Objectives:**

Population exposure

**Planned changes for 2016:**

Once the FEM PM<sub>2.5</sub> BAM has a proven track record, the sampling schedule for the FRM PM<sub>2.5</sub> may be reduced to 1 day in 6.

Town – Site: **Madawaska – Public Safety Bldg.**  
 County: **Aroostook**  
 Address: **East Maine St.**  
 AQS Site ID: **23-003-0014**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **None**

Latitude: **47.3553**  
 Longitude: **-68.3211**  
 Elevation: **177 meters**  
 Year Established: **2009**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	8-1-2009		SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM	1-17-2014		NO <sub>y</sub>		
PM10 FRM	8-1-2009		VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Mercury Deposition		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

New site established in 2009 to replace the Tang’s Palace site, which was no longer available for use after June, 2009.

**Monitoring Objectives:**

High population exposure and maximum concentrations for the Madawaska area

**Planned changes for 2016:**

Once the FEM PM<sub>2.5</sub> BAM has a proven track record, the sampling schedule for the FRM PM<sub>2.5</sub> may be reduced to 1 day in 6.

Town – Site: **North Lovell – DOT Garage**  
 County: **Oxford**  
 Address: **Route 5**  
 AQS Site ID: **23-017-3001**  
 Spatial Scale: **Regional**  
 Statistical Area: **None**

Latitude: **44.2509**  
 Longitude: **-70.8606**  
 Elevation: **213 Meters**  
 Year Established: **1998**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	5-6-1992	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Monitor is located in an office section of a garage belonging to the Department of Transportation. Building is in a small cleared area surrounded by woods.

**Monitoring Objectives:**

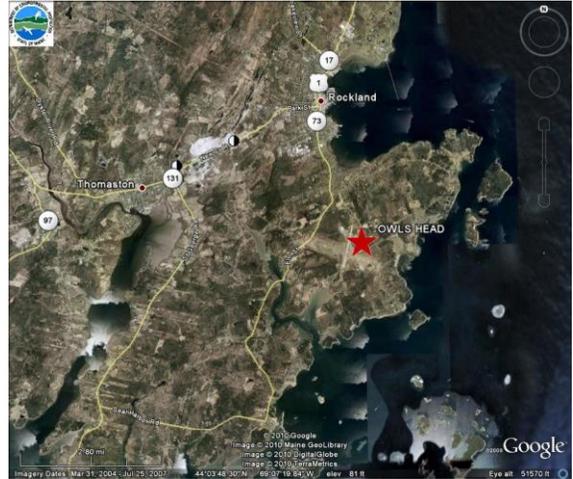
The site is located to get maximum concentrations in the western mountain area of Maine.

**Planned changes for 2016:**

None planned

Town – Site: **Owls Head – Municipal Airport**  
 County: **Knox**  
 Address: **1 Airport Rd.**  
 AQS Site ID: **23-013-0014**  
 Spatial Scale: **Regional**  
 Statistical Area: **Rockland, ME**

Latitude: **44.0627**  
 Longitude: **-69.0934**  
 Elevation: **15 Meters**  
 Year Established: **2002**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	03/01/2002	
IMPROVE			Outdoor Temperature	03/01/2002	
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

The site is located on the grounds of the Knox County Regional Airport, 2.9 miles south southeast of downtown Rockland. Wind speed and direction sensors are mounted on a 10-meter retractable tower located on the roof of a maintenance equipment shed. A data acquisition system and modem are located in an 8’x8’x8’ monitoring shelter between the shed and an office trailer to the east. An outdoor temperature sensor is mounted at the roof line of the monitoring shelter.

**Monitoring Objectives:**

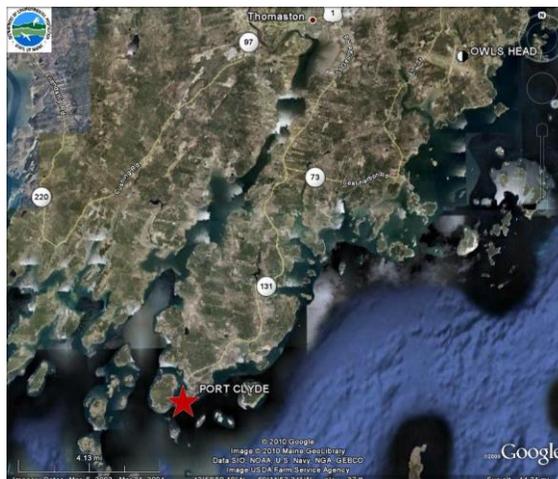
Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

**Planned changes for 2016:**

Airport management is planning on demolishing the maintenance shed and replacing it with a building without a flat roof. This will necessitate relocating the tower to some other site within the airport property.

Town – Site: **Port Clyde – Marshall Point Lighthouse**  
 County: **Knox**  
 Address: **Marshall Point Road**  
 AQS Site ID: **23-013-0004**  
 Spatial Scale: **Regional**  
 Statistical Area: **Rockland, ME**

Latitude: **43.9180**  
 Longitude: **-69.2608**  
 Elevation: **9 Meters**  
 Year Established: **1987**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	05/01/1987	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			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. An 8'x8'x'8 environmentally controlled shelter houses the monitor, data acquisition equipment and modem.

**Monitoring Objectives:**

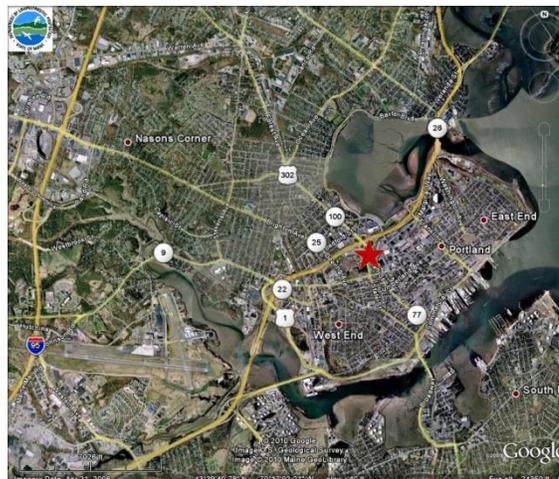
SLAMS – State and Local Air Monitoring Site

**Planned changes for 2016:**

None planned

Town – Site: **Portland – Deering Oaks Park**  
 County: **Cumberland**  
 Address: **356 State St.**  
 AQS Site ID: **23-005-0029**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.6602**  
 Longitude: **-70.2690**  
 Elevation: **4 meters**  
 Year Established: **2008**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-22-2008		SO <sub>2</sub>	1-24-2008	
PM2.5 Colo	1-31-2008		Ozone	1-18-2008	
PM2.5 TEOM	1-18-2008	6-30-2015	NOx	2-5-2008	
PM2.5 BAM	5-7-2013		NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs	3-14-2009	
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO	5-1-2008		UV-b Radiation		

**Site Description:**

The Deering Oaks 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. Annual Average Daily Traffic volume on Forest Avenue is around 46,000. EPA also uses the site for a monitor in their radiation network, RadNet.

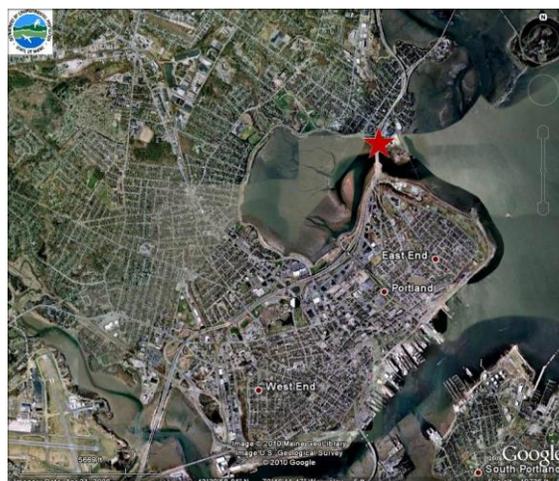
**Monitoring Objectives:**

The site was located on the Portland Peninsula to monitor for maximum impacts in a neighborhood area. The ozone monitor is a special purpose monitor installed for the Bureau of Health and is considered a non-regulatory monitor.

**Planned changes for 2016:**

The PM<sub>2.5</sub> TEOM sampler was shut down on June 30<sup>th</sup>, 2015. It ran for one year with the FEM PM<sub>2.5</sub> BAM for comparison. With the continuous BAM in place, the FRM PM<sub>2.5</sub> sampling schedule was reduced to 1 day in 6 as of July 1<sup>st</sup>, 2015.

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**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-1-1999		SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM	2-8-1991		VOCs (PAMS)		
PM10 Colo	1-9-2003		HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			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.

**Monitoring Objectives:**

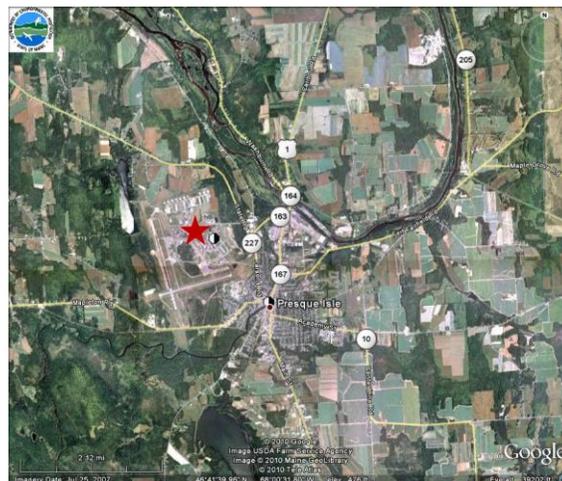
Monitors were located at this site for maximum concentrations and high traffic volume.

**Planned changes for 2016:**

Refurbishment of the monitoring platform is scheduled for the summer/fall of 2015.

Town – Site: **Presque Isle – DEP Regional Office**  
 County: **Aroostook**  
 Address: **528 Central Drive**  
 AQS Site ID: **23-003-1008**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **None**

Latitude: **46.6984**  
 Longitude: **-68.0389**  
 Elevation: **158 meters**  
 Year Established: **1983**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	9-27-2007		SO <sub>2</sub>	8-1-1988	9-21-1989
PM2.5 Colo			Ozone	8-1-1988	9-21-1989
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM	7-1-1989	9-27-2007	VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	2-13-1983	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Suburban background site for monitoring PM and wind. Monitors are located in a field next to the regional office in Presque Isle.

**Monitoring Objectives:**

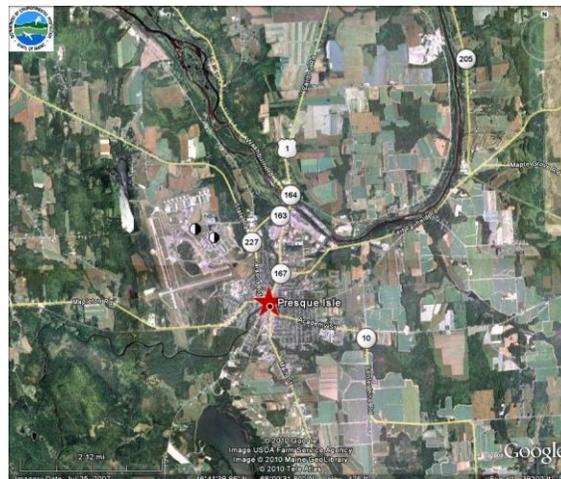
Background concentrations of PM for the Presque Isle area and meteorological data for analysis of pollutant data.

**Planned changes for 2016:**

None planned

Town – Site: **Presque Isle – Riverside Shelter**  
 County: **Aroostook**  
 Address: **Riverside Street**  
 AQS Site ID: **23-003-1011**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **None**

Latitude: **46.6823**  
 Longitude: **-68.0156**  
 Elevation: **131 meters**  
 Year Established: **1993**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	10-1-1997		SO <sub>2</sub>	9-19-1994	7-2-1996
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM	7-18-2014		NOy		
PM10 FRM	9-10-1993	11-2-1998	VOCs (PAMS)		
PM10 Colo			HAPs	12-14-03	
PM10 TEOM	9-15-1995		Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			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.

**Monitoring Objectives:**

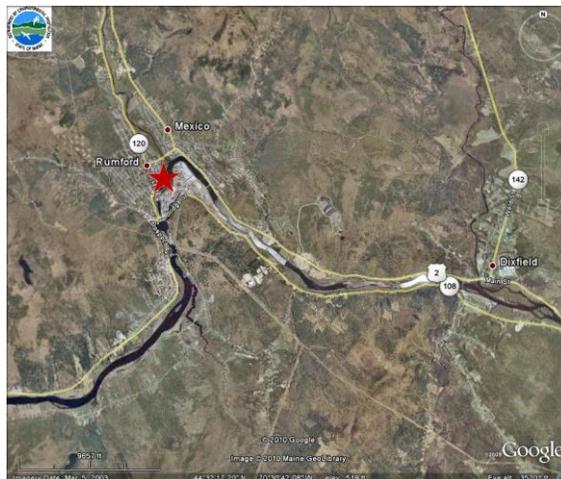
Neighborhood scale monitor. The primary purpose was to locate the continuous PM<sub>10</sub> monitor in the non-attainment area to provide data for determining whether control activity was needed to keep PM<sub>10</sub> concentrations from exceeding the 24-hour standard. The continuous PM<sub>2.5</sub> BAM will provide information critical to AQI forecasting.

**Planned changes for 2016:**

Once the FEM PM<sub>2.5</sub> BAM has a proven track record, the sampling schedule for the FRM PM<sub>2.5</sub> may be reduced to 1 day in 6.

Town – Site: **Rumford – Rumford Ave. Parking Lot**  
 County: **Oxford**  
 Address: **Rumford Ave. Parking Lot**  
 AQS Site ID: **23-017-2011**  
 Spatial Scale: **Neighborhood**  
 Statistical Area: **None**

Latitude: **44.5514**  
 Longitude: **-70.5463**  
 Elevation: **135 Meters**  
 Year Established: **1998**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	12/01/1998		SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM	10/1/2014		NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs	07/01/1998	
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			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’x8’x8’ environmentally controlled shelter houses HAPs sampling equipment, data acquisition system, and a BAM 1020 for continuous PM<sub>2.5</sub> sampling. A Thermo 2025 PM<sub>2.5</sub> sampler is located on the roof of the shelter.

**Monitoring Objectives:**

Population exposure and AQI forecasting. The Thermo 2025 PM<sub>2.5</sub> monitor is set for a 1 day in 3 sampling schedule during the fall and winter seasons to better capture air-mass inversions in the valley. For the remainder of the year the sampler runs on a 1 day in 6 schedule.

**Planned changes for 2016:**

A Met One PM<sub>2.5</sub> BAM 1020 was installed in 2014. Once the FEM PM<sub>2.5</sub> BAM has a proven track record, the sampling schedule for the FRM PM<sub>2.5</sub> may be reduced to 1 day in 6 for the entire year.

Town – Site: **Shapleigh -- Shapleigh Ball Park**  
 County: **York**  
 Address: **Route 11**  
 AQS Site ID: **23-031-0040**  
 Spatial Scale: **Regional**  
 Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.5889**  
 Longitude: **-70.8773**  
 Elevation: **171 Meters**  
 Year Established: **2008**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	6-13-2008	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Site is located in an open field area surrounding a baseball field just off Route 11.

**Monitoring Objectives:**

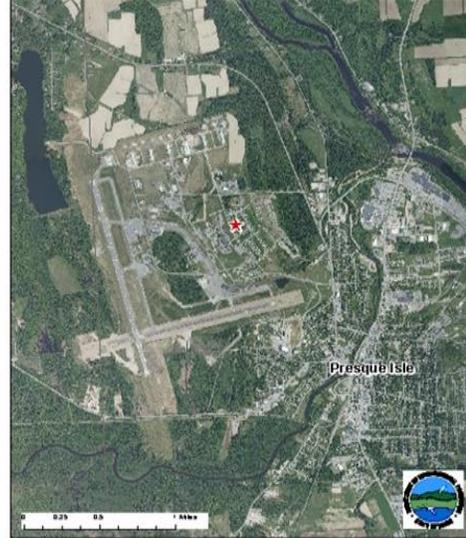
Maximum impact area from transport and the precursors generated in southern New Hampshire.

**Planned changes for 2016:**

None planned

**TRIBAL MONITORING SITES  
FOR 2016**

Tribe – Site Name: **Micmac Tribe -- 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**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>	1-1-2006	
PM2.5 Colo			Ozone	1-1-2006	
PM2.5 TEOM	1-1-2006		NOx	1-1-2006	
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury	3-1-2014	
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	1-1-2006	
IMPROVE	1-1-2004		Outdoor Temperature	1-1-2006	
Cont. OC/EC			Bar. Pressure	1-1-2006	
Cont. Sulfate			Relative Humidity	1-1-2006	
Black Carbon			Dewpoint	1-1-2006	
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation	1-1-2006	
CO	1-1-2006		UV-b Radiation		

**Site Description:**

The Aroostook Band of Micmacs ambient air monitor site continuously monitors ozone, PM<sub>2.5</sub>, carbon monoxide, sulfur dioxide, nitrogen dioxide, carbon dioxide, mercury, and meteorological parameters in Presque Isle, ME. The equipment is audited by Maine DEP.

**Monitoring Objectives:**

Not available

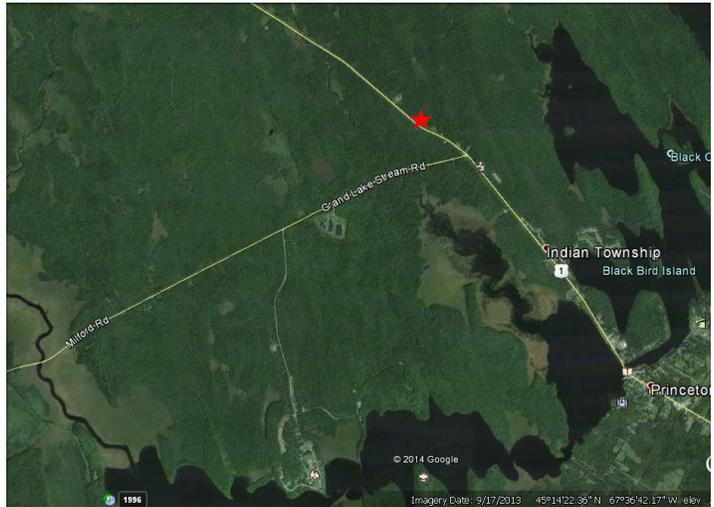
**Planned changes for 2016:**

Not available

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**



No Photo Available



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO <sub>x</sub>		
PM2.5 BAM			NO <sub>y</sub>		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.	10-3-2013	
PM Coarse			Wind Direction/Speed		
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	10-3-2013	
Lead			Solar Radiation		
CO			UV-b Radiation		

**Site Description:**

Not available

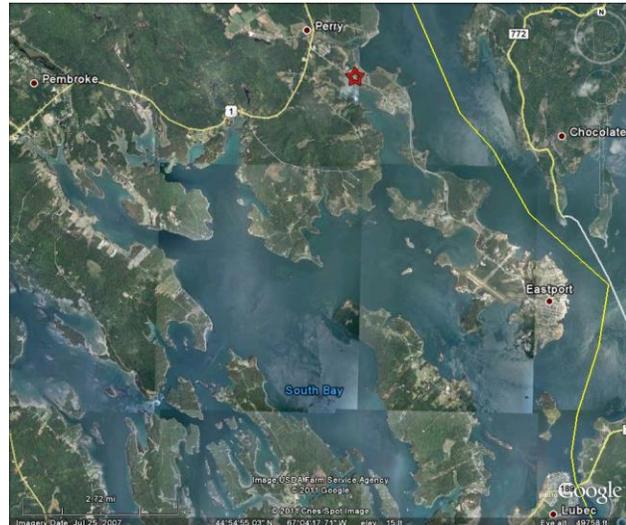
**Monitoring Objectives:**

Not available

**Planned changes for 2016:**

As more information about this NADP/NDN site in Maine becomes available, this page will be updated.

Tribe – Site Name: **Passamaquoddy Tribe– Perry, Pleasant Point/Sipiyak**  
 County: **Washington**  
 Address: **184 County Road** Longitude: **44.9630**  
 AQS Site ID: **23-029-0032** Elevation: **-67.0592**  
 Spatial Scale: **Regional** Year Established: **4 meters**  
 Statistical Area: **None** Year Established: **2006**



**Pollutant and Meteorological Parameters:**

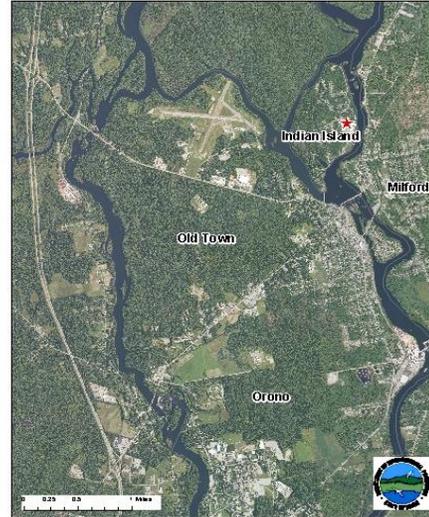
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	3-31-2006	
PM2.5 TEOM	12-18-2008		NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	4-20-2005	
IMPROVE			Outdoor Temperature		
Cont. OC/EC			Bar. Pressure	4-25-2005	
Cont. Sulfate			Relative Humidity	4-22-2005	
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	4-27-2008	
Lead			Solar Radiation	6-16-2005	
CO			UV-b Radiation	6-16-2005	

**Site Description:** The site was needed because area monitoring was going to be shut down on the Canadian and American side. Pleasant Point decided to handle the criteria pollutants and running a MET 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 ME DEP BAQ. The ozone and PM<sub>2.5</sub> instruments are audited by ME DEP on a quarterly basis. Only the ozone hourly data is uploaded into AQS. The met data is shared with the TREX network and posted on their website.

**Monitoring Objectives:** The site is to provide pollutant data for modeling and forecasting needs. The site fills a void in the region. Otherwise, there would be a data gap in the area.

**Planned changes for 2016:** The tribal air program is open to monitoring for other pollutants if resources are available. The air program would like to eventually use newer equipment if available.

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**



**Pollutant and Meteorological Parameters:**

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO <sub>2</sub>		
PM2.5 Colo			Ozone	1-1-2006	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed	7-2002	
IMPROVE	1-14-2006		Outdoor Temperature	7-2002	
Cont. OC/EC			Bar. Pressure	7-2002	
Cont. Sulfate			Relative Humidity	7-2002	
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount	7-2002	
Lead			Solar Radiation	7-2002	
CO			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.

**Monitoring Objectives:**  
 Not available

**Planned changes for 2016:**  
 Not available