

7-2014

Annual Air Monitoring Plan 2015

Maine Bureau of Air Quality

Maine Department of Environmental Protection

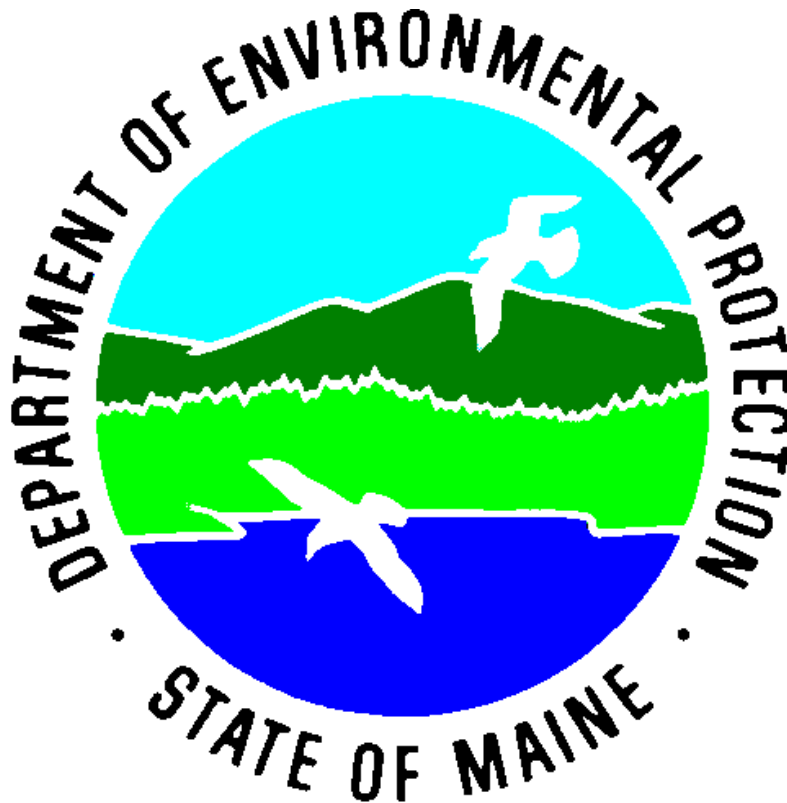
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Annual Air Monitoring Plan 2015



**Maine Department of Environmental Protection
Bureau of Air Quality
July 1, 2014**

Introduction

In the interest of preventing and controlling air pollution in Maine, the Maine Department of Environmental Protection (DEP) monitors ambient air quality in the State of Maine. The Department's Bureau of Air Quality operates and maintains 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 within 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 Nation. The monitoring of air quality is generally conducted 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 the citizens of Maine and visitors to the state. The data is also used to support the Maine DEP licensing and permit programs.

Maine has been monitoring air quality since the early 1970s. The monitoring programs have been evolving since then as standards have changed, pollutants of concern have changed and the technology to monitor these pollutants has changed. The air pollution that was monitored early on was primarily from local sources. As the local sources were controlled their impact was lessened and the monitoring began to look more at the long range transport of some of the pollutants. Pollutants monitored now may originate in the large metropolitan areas down the east coast of the US or it may be from some of the industries located in the central part of the US. Some pollutants monitored may even come from the other side of the world such as particulates from volcanic eruptions, large forest fires or less controlled sources in some of the developing countries.

Maine is also a very large state with varying topography. What impacts one area of the state may be totally different from what impacts another area. Aroostook County may see higher particulate levels because of the large farming operations and the type of soil whereas southern Maine will see higher ozone levels because of the impact of the urban areas to the southwest. Mountain valleys in the western part of the state may see higher pollution levels at times because of inversions which trap the pollution in the valleys for extended periods whereas the coastal locations may have better flushing of pollutants with the fairly constant onshore and offshore winds.

Maine must also deal with changing federal regulations. As more data is collected and more health studies are done the impact of various pollutants needs to be reviewed and standards and controls need to be updated to reflect those changes. The EPA is required to review the National Ambient Air Quality Standards (NAAQS) every five years. Some of those reviews had been delayed for various reasons for a number of years, and even the NAAQS reviews that had been completed and implemented were often challenged in court, which meant even more delays. However, in recent years EPA has made significant progress in completing timely reviews of the NAAQS, and updating them as appropriate. Currently, the air quality standard for ozone is under review and it is likely EPA will make it more stringent, which may mean additional monitoring requirements will need to be implemented. The current National Ambient Air Quality Standards are summarized in the table on page 2.

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. The amended law essentially made all State ambient air quality standards consistent with the federal ambient air quality standards. In addition, the law repealed all state ambient air quality standards that were not federal standards including toluene, perchloroethylene, hydrocarbons, and chromium.

National Ambient Air Quality Standards (NAAQS)

(as of May 2014)

Pollutant [final rule citation]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		Primary	8-hour	9 ppm	Not to be exceeded more than once per year.
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		Primary and Secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded.
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		Primary	1-hour	100 ppb	98 th percentile, averaged over 3 years.
		Primary and Secondary	Annual	53 ppb ⁽²⁾	Annual mean.
Ozone [73 FR 16436, Mar 27, 2008]		Primary and Secondary	8-hour	0.075 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years.
Particle Pollution Dec 14, 2012	PM _{2.5}	Primary	Annual	12 µg/m ³	Annual mean, averaged over 3 years.
		Secondary	Annual	15 µg/m ³	Annual mean, averaged over 3 years.
		Primary and Secondary	24-hour	35 µg/m ³	98 th percentile, averaged over 3 years.
	PM ₁₀	Primary and Secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years.
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		Primary	1-hour	75 ppb ⁽⁴⁾	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.

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ 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.

(2) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. 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 that standard (“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.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ 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 current air monitoring programs in Maine are primarily geared to monitoring ozone and its precursors and fine particulates. Each year Maine is required to submit by July 1 the proposed monitoring plan for the next calendar year. In 2006 EPA also required states to make their proposed plan available for a 30 day comment period prior to submittal to EPA. While an annual monitoring plan is important it 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's 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

The most prevalent air quality issue in Maine, and the one that consumes the most resources, is ozone pollution. Over the years, Maine has operated a number of monitoring sites throughout the state in an attempt to define the extent of the problem. Currently under federal review, proposals may further lower the standard and create the need for additional monitoring. The particulate network has also been evolving since it was established in 1999 when fine particulate monitoring began. This standard was the most recently reviewed by EPA and its primary annual level was lowered from 15 ug/m^3 to 12 ug/m^3 , and a secondary annual level at 15 ug/m^3 was established.

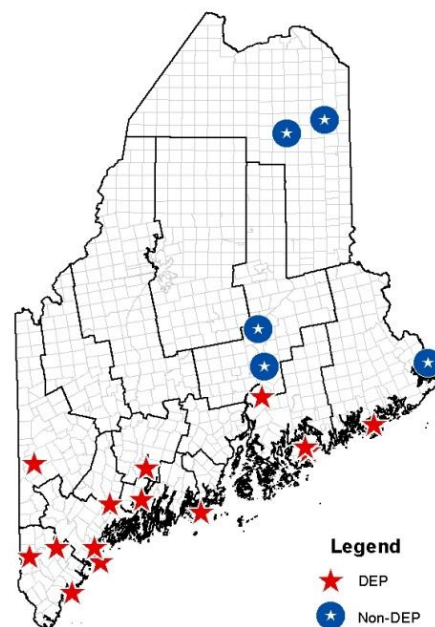
Maine also conducted a review of air toxics in the state and as a result of that review established a priority list of air toxics. As additional data has become available that priority list has been modified. As resources are available Maine has been attempting to establish background concentrations of several of the pollutants on the list.

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

Monitoring Networks

Ozone Network

Maine DEP currently operates 14 ozone monitoring sites in the state. 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 during the ozone season. The current ozone season for Maine runs from April through September. With a lower anticipated standard and some historical high concentrations in late March most of the Maine sites now operate from March through September, weather permitting. Most of the Maine sites are scattered throughout the state with the heaviest concentration of sites along the coast and in southern Maine. The highest concentrations tend to occur along the coast as a result of plumes of contaminated air from metropolitan areas to the south moving along the coast and creating ozone as those pollutants interact with each other in the presence of sunlight. The other sites in Maine are operated to collect data used in the mapping and forecasting programs that 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 emphasize the need for an open path to the ocean if any future monitoring site in the area is to be useful. Attempts to obtain permission to establish an ozone site in a suitable location near the historical location at Small Point in Phippsburg have not been successful. The community along the open coast is not enthusiastic about any prospects of seeing a long term ozone shelter situated in their front yards. The Bowdoinham Site will remain in operation until a suitable coastal site is found.

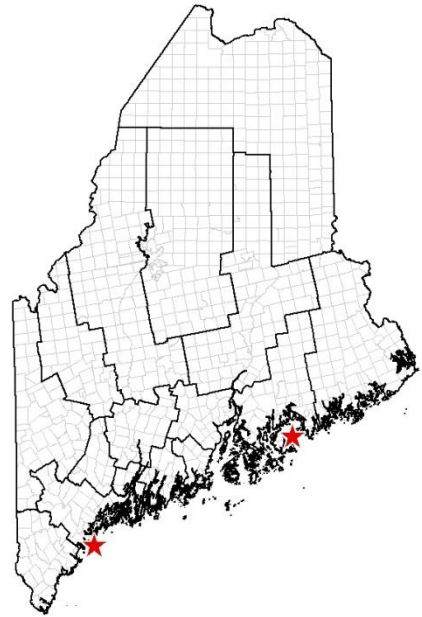
There continues to be concern about the adequacy of the current site in North Lovell because it is sited in a more sheltered location and may not see the higher levels expected in a more open and exposed location. If a new site can be located it will be operated concurrently with the North Lovell site for a season to get a comparison of ozone levels in the two locations. Until a new site can be found, the current ozone network is expected to be maintained for CY 2015.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
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	SPMS	Max. Conc., Transport	Continuous - Seasonal
Cape Elizabeth - Two Lights State Park	SLAMS	Transport	Continuous - Seasonal
Durham - Fire Station - Route 9	SPMS	Max. Concentration	Continuous - Seasonal
Gardiner - Pray Street School	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	SPMS	Max. Concentration	Continuous - Seasonal
Kennebunkport - Parsons Way	SLAMS	Max. Conc., Transport	Continuous - Seasonal
North Lovell - DOT Garage	SPMS	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	SPMS	Max. Conc., Transport	Continuous - Seasonal
West Buxton - Plains Road Fire Dept.	SPMS	Transport	Continuous

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

PAMS Network

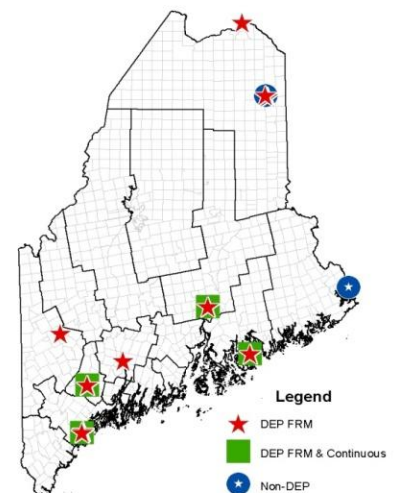
The Photochemical Assessment Monitoring Stations (PAMS) network was originally established in 1993. The monitoring regulations for PAMS provide for the collection of an “enhanced” ambient air quality database which can be used to better characterize the nature and extent of the ozone problem, aid in tracking Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_x) emission inventory reductions, assess air quality trends, make attainment/non-attainment decisions, and evaluate photochemical grid-model performance. The ME DEP operates two PAMS in Maine. These sites are required to be operational for the June – August period but generally operate for May and September also. PAMS are designed to measure the precursors responsible for the development of ozone and were initially required for serious or greater non-attainment areas. Both of the sites in Maine were required as a result of serious non-attainment areas in other states. The site in Cape Elizabeth is considered an extreme downwind site for the Greater Connecticut non-attainment area and the Cadillac Mountain site in Acadia National Park is considered an extreme downwind site for the Boston non-attainment area. As additional controls have been implemented and air quality has improved the serious non-attainment areas have been reduced or eliminated. With the anticipated lowering of the ozone standard the status of some of these areas may change and continued monitoring of the precursors remains important. Personnel changes and a reassessment of resources necessitate the closure of the PAMS operation (i.e. VOC and NO_y) at Cadillac Mountain at the end of the CY 2014 season. The equipment at Cadillac will be useful in the development of automated methods to measure carbonyls like formaldehyde which will enhance our existing Air Toxics, Wood Smoke and future Reformulated Gasoline studies.



Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor - Top of Cadillac Mountain	PAMS	Transport	Continuous – Seasonal - Ending 9/14
Cape Elizabeth - Two Lights State Park	PAMS	Transport	Continuous - Seasonal

PM 2.5 Network

Maine began a PM_{2.5} 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 PM₁₀ data. Currently Maine is monitoring for PM_{2.5} using the filter based FRM samplers at ten sites. All of the current sites are in compliance with the standard and are maintained to gather additional trend data, to document future attainment status and the filters can be used in additional analyses to determine levels of some of the air toxics that are on the priority list. No changes are being proposed for CY 2015.



Maine also initiated continuous monitoring of PM_{2.5} in 2000 using the Tapered Element Oscillating Microbalance (TEOM) method. Sites were initially located in Bangor, Lewiston and Portland. Since that time an additional permanent monitor has been located in Bar Harbor and a temporary one (no longer operating) was in Greenville as part of a special wood smoke study. The Passamaquoddy Tribe operates a monitor in Perry and the Micmac Tribe operates a monitor in Presque Isle. The TEOMs generate hourly average data that is also very useful in helping to forecast air quality. While these particular TEOMs were not an EPA approved Federal Equivalent Method (FEM), Maine did not pursue doing a required analysis to exclude the use of their data for comparison with the PM_{2.5} standards.

The TEOMs were nearing the end of their expected life cycle, so in 2012 new continuous monitors known as Beta Attenuation Monitors (BAMs) were purchased to replace the TEOMs in Portland, Lewiston and Bangor in late 2012 and early 2013. Two more BAMs were purchased in 2013, one which replaced the TEOM in Bar Harbor and the other was added to supplement the filter-based FRM sampler in Madawaska. The BAMs are an EPA approved FEM, so Maine DEP will be demonstrating compliance with the PM_{2.5} NAAQS using both the filter-based FRM and the continuous BAM FEM monitors. Changes to the network anticipated to be in place for CY 2015 are to install three additional BAMs at: 1) the Rumford site to meet a long standing interest of having a western mountain valley area site collecting continuous data for use in better forecasting of 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; 2) the Riverside site in Presque Isle, also to provide data for use in better forecasting of particulate levels under specific weather conditions for that part of the State; and 3) the third BAM will be used in a second wood smoke study (follow-up to the Greenville study) at a likely western Maine location yet to be determined. Plans are to run a BAM prior to initiating a full-fledged multi-pollutant effort at a wood smoke prone municipality.

Lastly, we are continuing to collaborate with the Penobscot Nation to setup and operate a TEOM at their Carrabassett Valley site.

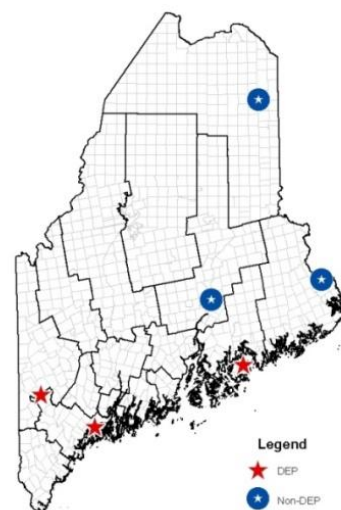
Site Address	Site Type	Monitoring Objective	Sampling Method and Frequency
Augusta – Lincoln Street School	SPMS	200K Pop. Coverage	FRM, every 6 days
Augusta – Lincoln Street School	SPMS	Collocated	FRM, every 12 days
Bangor – Kenduskeag Pump Sta.	SPMS	AQI Forecasting/Mapping	FEM, continuous
Bangor – Kenduskeag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

Site Address	Site Type	Monitoring Objective	Sampling Method and Frequency
Presque Isle – Riverside Street	SPMS	AQI Forecasting/Mapping	FEM, continuous
Presque Isle – Riverside Street	SLAMS	200K Pop. Coverage	FRM, every 3 days
Rumford – Rumford Avenue	SPMS	AQI Forecasting/Mapping	FEM, continuous
Rumford – Rumford Avenue	SPMS	High Pop. Exposure	FRM, every 6 days

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

PM Speciation Network

Maine operates a PM speciation network by participating in the Interagency Monitoring of Protected Visual Environments or IMPROVE program. Monitors are currently located in Bridgton Freeport. Sites are also operated by the National Park Service, Wildlife Service and the Penobscot and Micmac Tribes. No changes are proposed for CY 2015.

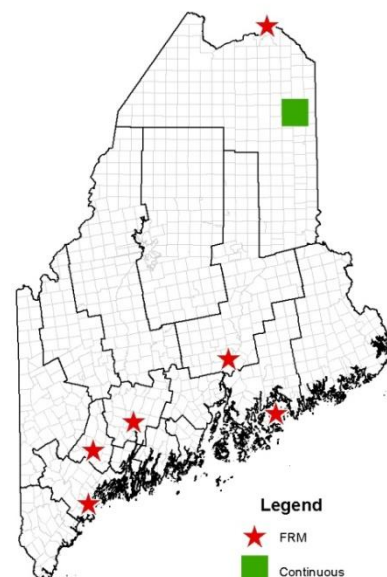


Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NPS/NCore	Regional Haze	Every 3 days
Baring – Moosehorn Wildlife Ref.	USFWS	Regional Haze	Every 3 days
Bridgton – Upper Ridge Rad	SLAMS	Background	Every 3 days
Freeport – Wolfe’s Neck Road	SPMS	Deposition Project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

PM10 Network

Maine operates the current filter-based PM₁₀ network using the FRM samplers that have been modified to collect PM₁₀ particles. Data is being collected at seven sites around the state. All of the sites are currently meeting the PM₁₀ NAAQS with no exceedances of the standard having been recorded anywhere during the last several years. The filters collected in the PM₁₀ program can be used for the lead monitoring program, if needed. An additional site may be established in Aroostook County to gather additional data on PM₁₀ levels in the northern part of the state. No other changes are planned for CY 2015.

A continuous PM₁₀ monitor is operated in Presque Isle. This monitor was located in Presque Isle as part of the control strategy for high



PM₁₀ levels. The monitor provides hourly data which can be used to determine when high levels are occurring and whether street sweeping or other control strategies need to be implemented. No changes are planned for CY 2015. PM₁₀ is calculated, not directly measured, at the Kenduskeag Pump Station in Bangor using the Dichotomous sampler.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Augusta – Lincoln Street School	SPMS	High Pop. Exposure	FRM, every 6 days
Bangor – Kenduskeag Pump Sta.	SPMS	High Pop. Exposure	FEM, every 6 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	SPMS	Maximum Conc.	FRM, every 6 days
Portland – Tukey’s Bridge	SPMS	Collocated	FRM, every 12 days
Presque Isle – Riverside Street	SLAMS	High Pop. Exposure	TEOM, continuous

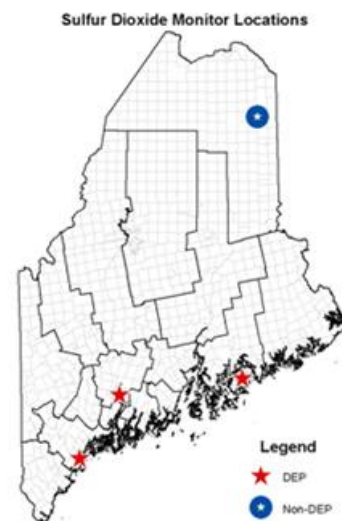
PM Coarse Network

Maine is currently required to measure PM Coarse at the NCore site in Bar Harbor. Monitoring for PM Coarse is conducted there by the difference method utilizing FRM samplers that collect PM₁₀ data and PM_{2.5} data and reporting the difference between the two concentrations as PM Coarse or PM_{10-2.5}. Due to limited space available on the roof platform, a dichotomous PM sampler capable of simultaneously measuring PM_{2.5} and PM_{10-2.5} was installed at the Bangor, Kenduskeag Pump Station at the beginning of 2014. If needed, PM Coarse data could also be calculated utilizing the difference method from sites in Madawaska, Augusta and Portland.

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

Sulfur Dioxide Network

Maine currently operates three monitors for sulfur dioxide. 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 (3/7/12) as a rural/background site in Gardiner. The third SO₂ 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. Proposed changes to the sulfur dioxide standard were finalized on June 2, 2010. The final rule requires a sulfur dioxide 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 Documents, describing in more detail, modeling and monitoring guidance refining the agency’s approach for implementing the

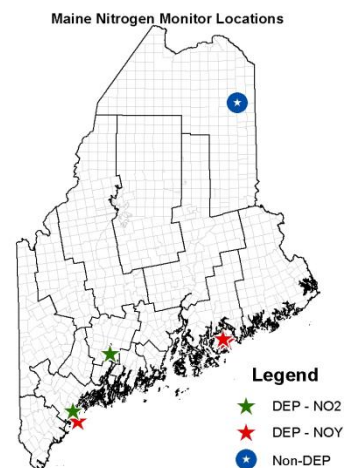


SO₂ standard. Additionally, on April 17, 2014 EPA proposed the Data Requirements Rule for the 1-hour Sulfur Dioxide Primary National Ambient Air Quality Standard (NAAQS) detailing modeling and monitoring guidance for implementing the SO₂ standard. One outcome of these proposals may be a greater reliance on SO₂ monitoring in some circumstances, where we will work with EPA to figure out if that approach has merit. Discussions are underway between the New Hampshire Department of Environmental Services and Maine DEP concerning the location and joint operation of an SO₂ monitor in Eliot, Maine to assess emission impacts from a power generating facility across the border in New Hampshire.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bar Harbor – McFarland Hill	NCore	Background	Continuous
Eliot – Location to be determined	SPMS	Max. Concentration	Continuous
Gardiner – Pray Street School	SPMS	Background	Continuous
Portland – 356 State Street	SPMS	High Pop. Exposure	Continuous
Presque Isle – 8 Northern Road	Tribal	-	Continuous

Nitrogen Oxides Network (NO₂, NO_x, NO, NO_y)

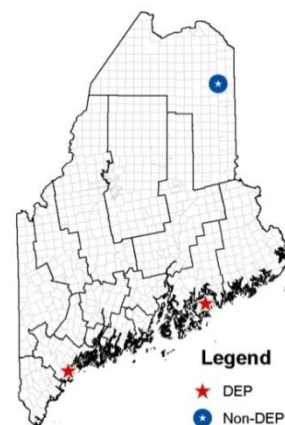
Maine currently operates three trace level NO_y monitors and two NO₂ monitors. The NO_y monitors are located at the NCore site in Bar Harbor and the two seasonal PAMS locations. The NO₂ monitors are located at the Deering Oaks site in Portland and at the Pray Street School site in Gardiner. The NO₂ regulations were finalized on January 22, 2010 and revised on March 14, 2013, which included provisions for near-roadway monitoring. Currently, EPA is working toward ensuring the near-road sites with the highest probability for high NO₂ concentrations begin monitoring as soon as possible, with smaller areas, such as Portland, being operational by January 1, 2017. Maine DEP will be working to demonstrate to EPA that the Portland Deering Oaks site is located at the site of maximum expected NO₂ concentrations. However, at the present time EPA is skeptical the site meets the near-road siting criteria under the rule. If we are unable to make an affirmative demonstration, then an additional monitor will be required. The Micmac Tribe also operates a trace level NO₂ monitor at their site in Presque Isle. The only other monitoring that may be conducted if equipment is available will be for a rural background site in southern Maine in order to provide one hour and annual background numbers for the air emission licensing program. No other changes are planned for CY 2015.



Site Address	Site Type	Monitoring Objective	Sampling Frequency
Portland – Deering Oaks (NO ₂)	SPMS	Maximum Concentration, Urban Background	Continuous
Bar Harbor – Cadillac Mtn. (NO _y)	PAMS	Transport (trace-level)	Continuous
Bar Harbor – McFarland Hill (NO _y)	NCore	Transport (trace-level)	Continuous
Cape Elizabeth – Two Lights State Park (NO _y)	PAMS	Transport (trace-level)	Continuous
Gardiner – Pray Street School (NO ₂)	SPMS	Background	Continuous
Presque Isle – 8 Northern Road (NO ₂)	Tribal	(trace-level)	Continuous

Carbon Monoxide Network

Maine currently operates two carbon monoxide monitors. Monitors are located at the NCore site in Bar Harbor (a trace level) and the Deering Oaks site in Portland. The Micmac 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 CY 2015.



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

Lead Network

In 2008 EPA promulgated a new lead standard and issued some minimum monitoring requirements. At that time the only requirement applicable to Maine would have meant one monitor in the Portland CBSA (Core-based statistical area). They then reconsidered the monitoring requirement and were considering requiring a monitor at the NCore site in Bar Harbor. The final rule required lead monitoring at urban NCore sites only so there is no requirement for lead monitoring in Maine. Maine DEP has begun analyzing selected filters collected since 1999 from all of the PM₁₀ sites in the state for lead levels and based on those results will decide whether a monitoring network for lead will be needed in the future.

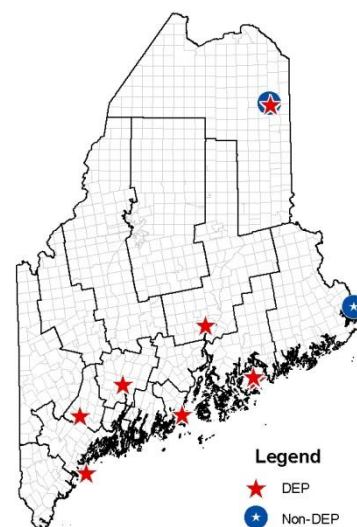
Air Toxics Network

Although not a required monitoring network, Maine has been monitoring for 25 air toxic compounds at five locations around the state. 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 air toxics 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 of the priority air toxics.

Site Address	Site Type	Monitoring Objective	Sampling Frequency
Bangor – Kenduskeag Pump Sta.	SPMS	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

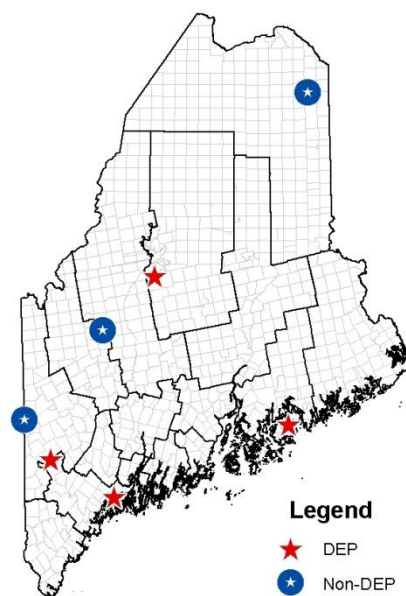
Maine DEP currently funds and operates a number of meteorological sites around the state to collect data for use in the analysis and evaluation of air pollutant data. Some of these are stand-alone sites and some are collocated with air pollutant monitoring sites. With the exception of the PAMS monitoring 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 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 CY 2015.



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

Atmospheric Deposition Network

Maine continues to have a fairly extensive atmospheric deposition network with several sites operated by the Maine DEP. Several of the sites are part of the National Atmospheric Deposition Program's Mercury Deposition Network (MDN) in addition to being a part of the National Trends Network (NTN) which measures precipitation chemistry. Early in the program there were number of agencies and organizations that participated and provided funds for the operation of the sites. As funds have dried up and budgets have been cut the continued operation of some of these sites has been in question. The data from this program is used by a wide variety of researchers and the continued operation the sites is very important to maintain the continuous record of deposition occurring around the state. No other changes are proposed for CY 2015.



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

Proposed CY 2015 Network Changes

As usual the monitoring network proposed for CY 2015 is an ambitious one and will require a significant effort from the staff of the Bureau to accomplish. The program is always subject to change as a result of staffing changes, budget cuts and the willingness of landowners to allow air monitoring sites to be located on their property. We continue to look for increased automation and improved remote access to monitors to lessen some of the impacts from budget cuts and staff retirements.

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 either planned or are likely to occur:

- Existing continuous PM_{2.5} TEOM monitors will be replaced by continuous PM_{2.5} BAM monitors
- Additional ozone monitoring in the western mountain region (Lovell replacement site, see Ozone Network section)
- Replacement ozone site for Bowdoinham (located in same area)
- Continuous particulate monitoring at a western mountain valley location for forecasting support and a wood smoke emissions study
- Additional PM monitoring in Aroostook County

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 extraneous 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 Site Information

Monitoring Equipment Used by Maine DEP

PARAMETER	INSTRUMENT	METHOD*
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 2.5 Continuous	R&P/Thermo TEOM Model 1400AB MET One BAM Model 1020	- EQPM-0308-170
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 Coarse	Thermo Dichot Model 2025D Difference Method PM10-PM2.5	EQPS-0509-180 RFPS-0509-176
PM 10 Continuous	R&P TEOM Model 1400AB	EQPM-1090-079
Organic/Elemental Carbon	Sunset Semicontinuous OC/EC Carbon Aerosol Analyzer	
Total PAH	Ecochem PAS 2000	
PM Speciation	IMPROVE Sampler	
Lead	R&P Sequential Model 2025 R&P Single Model 2000 Thermo Dichot Model 2025D Spectro XEPOS XRF Spectrometer	
Metals	R&P Sequential Model 2025 R&P Single Model 2000 Thermo Dichot Model 2025D Spectro XEPOS XRF Spectrometer	
Ozone	Thermo Models 49C, 49i	EQOA-0880-047
Sulfur Dioxide	Thermo Model 43C, 43C-TLE, 43i, 43i- TLE	EQSA-0486-060
Carbon Monoxide	Thermo Model 48C, 48i, 48iTLE	RFCA-0981-054
Nitrogen Dioxides	Thermo Model 42C, 42i	RFNA-1289-074
Oxides of Nitrogen	Thermo Model 42iY	
VOC's (PAMS)	Perkin Elmer Clarus 580	
Sulfate Continuous	Thermo Model 5020	
Air Toxics	Xontech 910A	
Wind Speed/Direction	Climatronics F460 Met One	
Temperature	Climatronics Met One	
Relative Humidity	Climatronics Met One	
Barometric Pressure	Climatronics Met One	
Solar Radiation	Climatronics Met One	
Atmospheric Deposition	Aerochem Metrics wet/dry collector	
Mercury Deposition	Aerochem Metrics N-CON Wet Deposition collector	
Precipitation	ETI Instrument Systems NOAA IV	

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

Integrated Sampler Schedule

2015

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

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

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

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

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

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

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

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

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

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

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

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

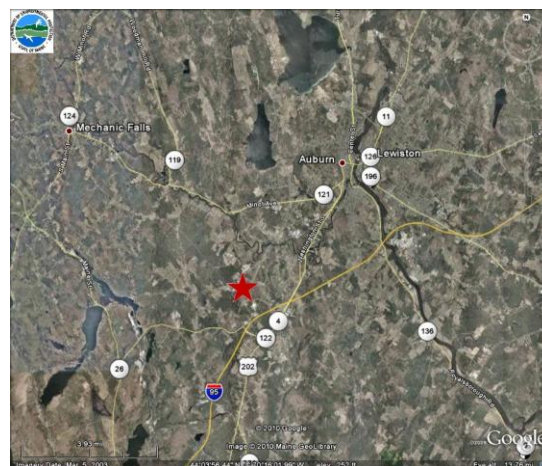
 Third Day Sample
  1/6 Schedule
  Holiday
  1/12 Schedule All Samples

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. These pages are sorted by EPA AQS Site Id's. This table offers an index to the site descriptions based on town and site name.

Town - Site	County	AQS Site ID	2015 Page #
Auburn – Lewiston-Auburn Airport	Androscoggin	23-001-0005	16
Augusta – Civil Air Patrol Hanger	Kennebec	23-011-0008	30
Augusta – Lincoln Street School	Kennebec	23-011-0016	31
Bangor – Airport	Penobscot	23-019-0010	38
Bangor – Kenduskeag Pump Station	Penobscot	23-019-0002	37
Bar Harbor – Cadillac Mountain, Acadia National Park	Hancock	23-009-0102	28
Bar Harbor – McFarland Hill, Acadia National Park	Hancock	23-009-0103	29
Bowdoinham – Merrymeeting Bay	Sagadahoc	23-023-0006	41
Bridgton	Cumberland	23-005-0002	23
Cape Elizabeth – Two Lights Park	Cumberland	23-005-2003	26
Caribou – Caribou Airport	Aroostook	23-003-1002	20
Durham – Fire Station	Androscoggin	23-001-0014	18
Freeport – Wolfes Neck Farm	Cumberland	23-005-9002	27
Gardiner – Pray Street School	Kennebec	23-011-2005	32
Greenville	Piscataquis	23-021-0001	40
Holden – Rider's Bluff	Penobscot	23-019-4008	39
Hollis/West Buxton – Fire Department	York	23-031-0038	43
Penobscot Nation - Indian Island	Penobscot	23-019-1100	49
Jonesport – Public Landing	Washington	23-029-0019	42
Kennebunkport – Parson's Way	York	23-031-2002	45
Lewiston – Country Kitchen Parking Lot	Androscoggin	23-001-0011	17
Madawaska – Public Safety Bldg	Aroostook	23-003-0014	19
North Lovell – DOT Garage	Oxford	23-017-3001	36
Owls Head – Municipal Airport	Knox	23-013-0014	34
Port Clyde – Marshall Point Lighthouse	Knox	23-013-0004	33
Portland – Deering Oaks Park	Cumberland	23-005-0029	25
Portland – Tukey's Bridge	Cumberland	23-005-0015	24
Micmac – Presque Isle Shelter	Aroostook	23-003-1100	47
Presque Isle – DEP Regional Office	Aroostook	23-003-1008	21
Presque Isle – Riverside St.	Aroostook	23-003-1011	22
Rumford – Rumford Ave. Parking Lot	Oxford	23-017-2011	35
Shapleigh – Shapleigh Ball Park	York	23-031-0040	44
Passamaquoddy – Perry, Pleasant Point/Sipiyak	Washington	23-029-0032	48
Passamaquoddy – Indian Township	Washington	None	50

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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:

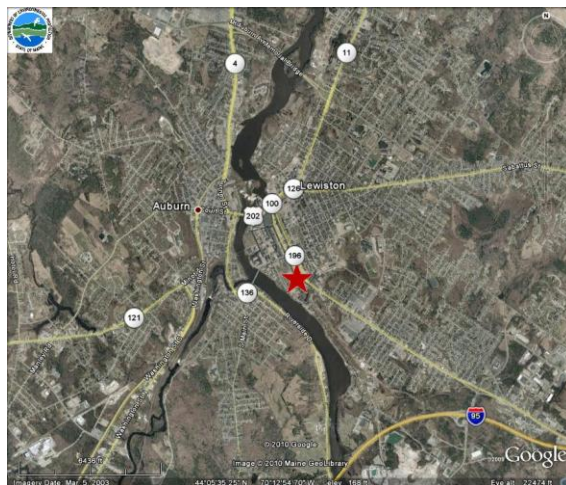
The site is located in a light industrial park located 4 ½ miles SW of downtown Auburn. Wind Speed and Direction sensors are mounted on a 10 meter retractable tower located on the roof of maintenance equipment shed at the Auburn-Lewiston Municipal Airport. A data acquisition system and modem are located 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 2015: None planned.

Town – Site:	Lewiston – Country Kitchen Parking Lot	Latitude:	44.0894
County:	Androscoggin	Longitude:	-70.2141
Address:	Canal Street	Elevation:	50 meters
AQS Site ID:	23-001-0011	Year Established:	1981
Spatial Scale:	Neighborhood		
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 ₂	07/13/1998	12/30/2002
PM2.5 Colo			Ozone		
PM2.5 TEOM	01/01/2000	09/12/2013	NO _x		
PM2.5 BAM	09/12/2013		NO _y		
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. The current location of the monitoring shelter is about 125 feet further SE than the original 1989 site. The shelter move occurred during 12/30/1998 and 1/25/1999.

Monitoring Objectives:

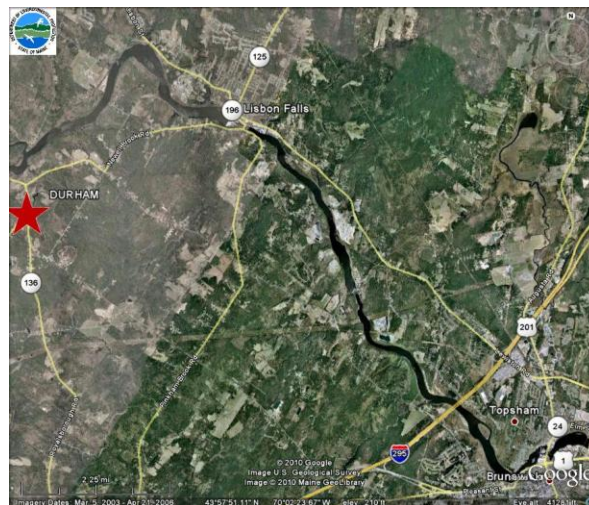
Population Exposure.

Planned changes for 2015:

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 ₂		
PM2.5 Colo			Ozone	04/01/2004	
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 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:

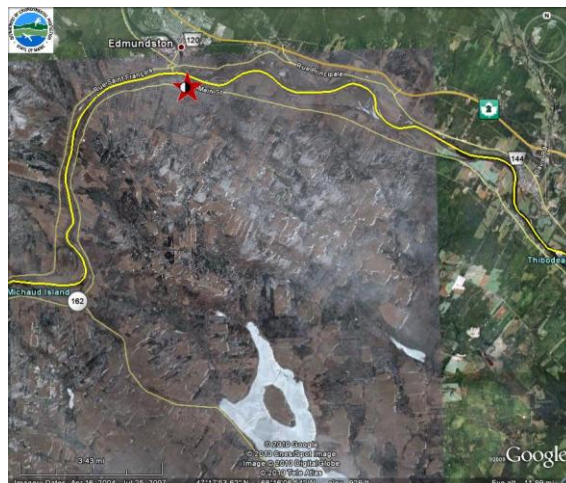
Regional Transport.

Planned changes for 2015:

None planned.

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM	1/17/2014		NOy		
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:

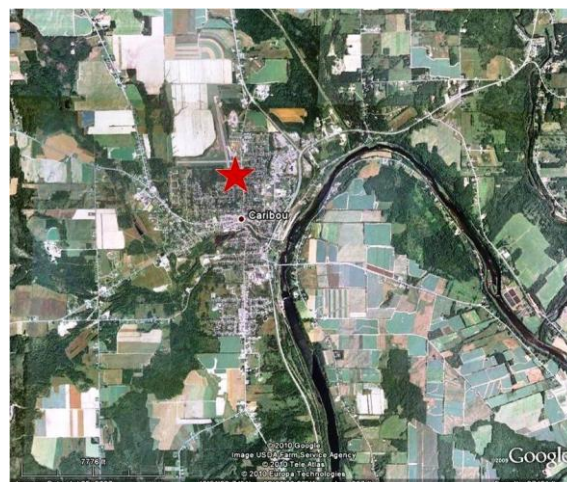
High population exposure and maximum concentrations for the Madawaska area.

Planned changes for 2015:

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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 was moved to its present location in a grassy area inside the fence and off the south end of the runway.

Monitoring Objectives:

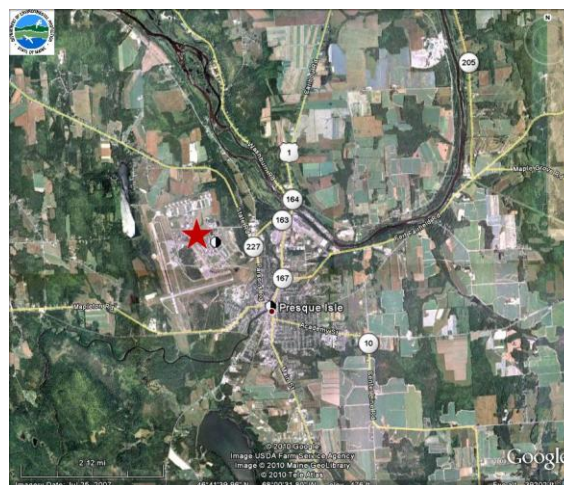
Long term monitoring of deposition in northern Maine

Planned changes for 2015:

None planned.

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 ₂	8-1-1988	9-21-1989
PM2.5 Colo			Ozone	8-1-1988	9-21-1989
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
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:

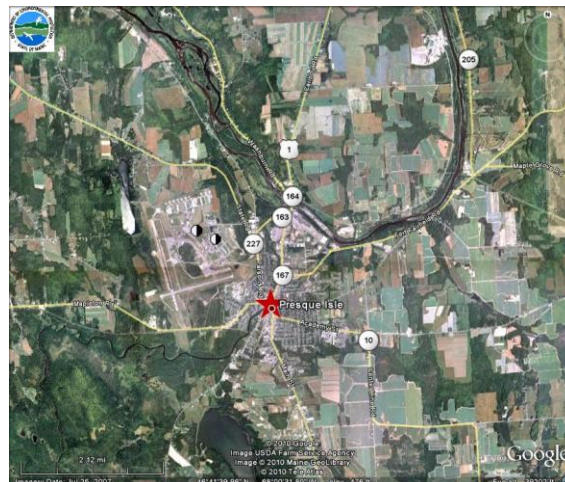
Background concentrations of PM for Presque Isle area and meteorological data for analysis of pollutant data.

Planned changes for 2015:

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 ₂	9-19-1994	7-2-1996
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM	Summer 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:

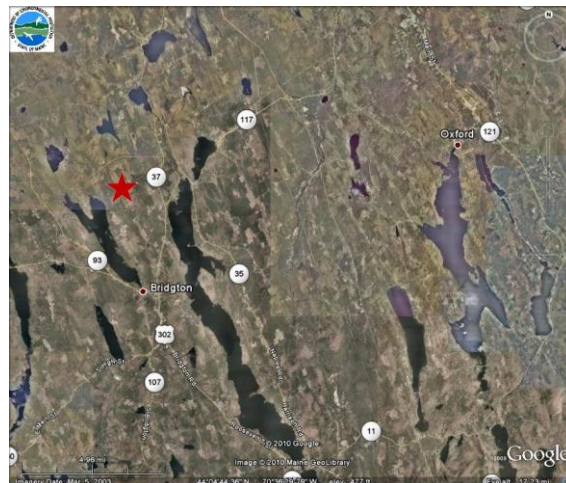
Neighborhood scale monitor. The primary purpose was to locate the continuous PM₁₀ monitor in the non-attainment area to provide data for determining whether control activity was needed to keep PM₁₀ concentrations from exceeding the 24 hour standard. The continuous PM_{2.5} BAM will provide information critical to AQI forecasting.

Planned changes for 2015:

Installation of a Met One PM_{2.5} BAM 1020 began in June 2014 and will become operational during the Summer of 2014. No other changes are expected for 2015.

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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 2015:

None planned.

Town – Site: **Portland – Tukey’s Bridge**

County: **Cumberland**

Address: **Tukey’s Bridge (Route 295)**

AQS Site ID: **23-005-0015**

Spatial Scale: **Middle/Micro**

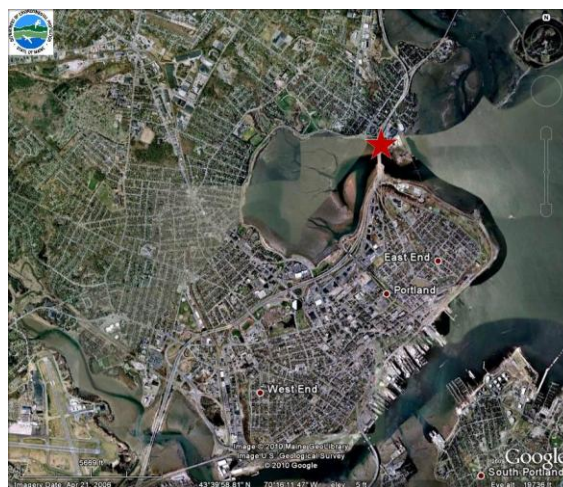
Statistical Area: **Portland-South Portland-Biddeford, ME**

Latitude: **43.6780**

Longitude: **-70.2562**

Elevation: **6 meters**

Year Established: **1981**



Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM	1-1-1999		SO ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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:

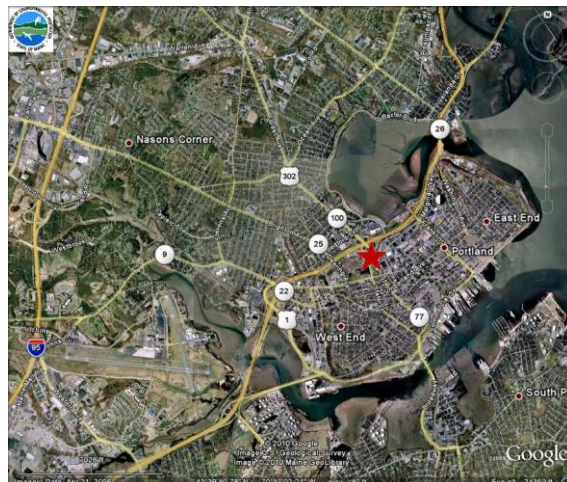
Monitors were located at this site for maximum concentrations and high traffic volume.

Planned changes for 2015:

The wooden equipment platform is due for replacement/refurbishment soon.

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 ₂	1-24-2008	
PM2.5 Colo	1-31-2008		Ozone	1-18-2008	
PM2.5 TEOM	1-18-2008		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:

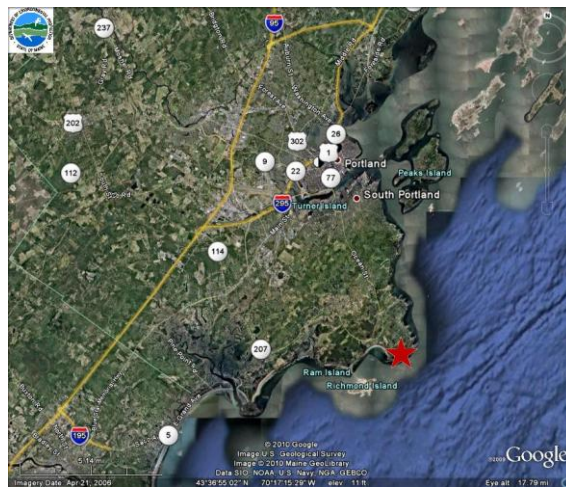
The site was located on the Portland Peninsula to monitor for maximum impacts in a neighborhood area. The ozone monitor is a special purpose monitor installed for the Bureau of Health and is considered a non-regulatory monitor. The nitrogen dioxide monitor has also been considered a non-regulatory monitor because it does not meet the distance from a roadway requirement for a standard monitor. This monitor and location will be reviewed to determine if it will meet the requirements for a near roadway monitor required in the new regulations.

Planned changes for 2015:

None planned.

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 ₂		
PM2.5 Colo			Ozone	1-1-1981	
PM2.5 TEOM			NO _x	6-9-1993	10-31-1995
PM2.5 BAM			NO _y	6-26-1995	
PM10 FRM			VOCs (PAMS)	6-1-1993	
PM10 Colo			HAPs		
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.

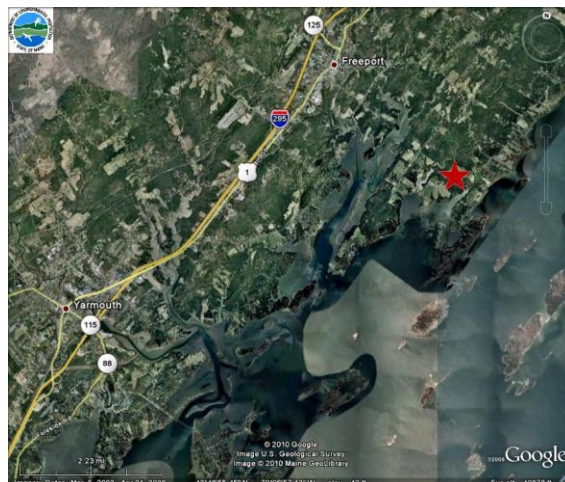
Monitoring Objectives:

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

Planned changes for 2015:

None planned.

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



Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO ₂		
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.

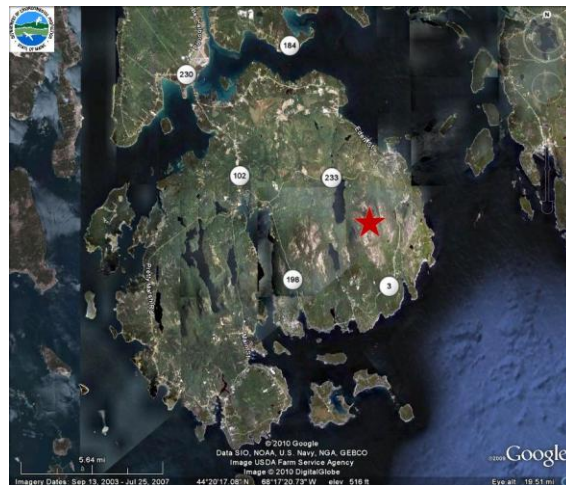
Monitoring Objectives:

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

Planned changes for 2015:

None planned.

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



Pollutant and Meteorological Parameters:

Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO ₂		
PM2.5 Colo			Ozone	7-25-1995	
PM2.5 TEOM			NO _x	4-1-2004	9-30-2007
PM10 FRM			NO _y	1-1-2008	
PM2.5 BAM			VOCs (PAMS)	5-1-1996	
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 in 1995. Located on the top of Cadillac Mountain in Acadia National Park. This is a seasonal site operating during the ozone season only.

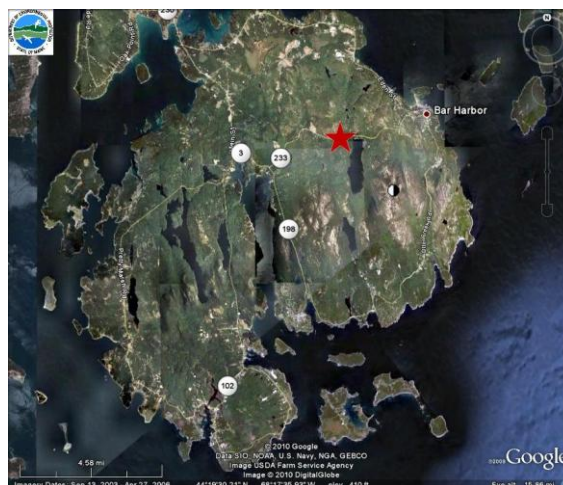
Monitoring Objectives:

Site was established to monitor long range transport of ozone precursors from urban areas to the southwest.

Planned changes for 2015:

Due to personnel changes and a reassessment of DEP resources, the PAMS equipment will be removed from this site after the end of the ozone monitoring season in the fall of 2014. Monitoring of all other parameters will continue.

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 ₂	2-1-2004	
PM2.5 Colo			Ozone	2-1-1998	
PM2.5 TEOM	10-1-2003		NOx		
PM2.5 BAM			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:

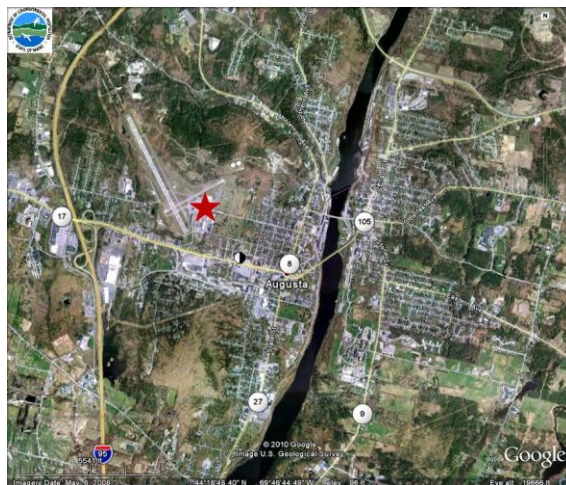
This is a regional scale site operated to determine background levels, transport and for use in the mapping programs to forecast the air quality index.

Planned changes for 2015:

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 ₂		
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:

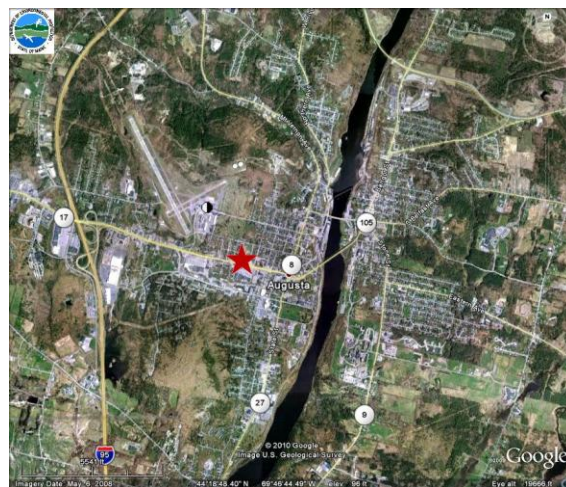
Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

Planned changes for 2015:

None planned.

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 ₂		
PM2.5 Colo	01/01/1999		Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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 NW of the state capitol. A wooden platform is situated on the roof of the gymnasium. Particulate monitors are attached to the platform.

Monitoring Objectives:

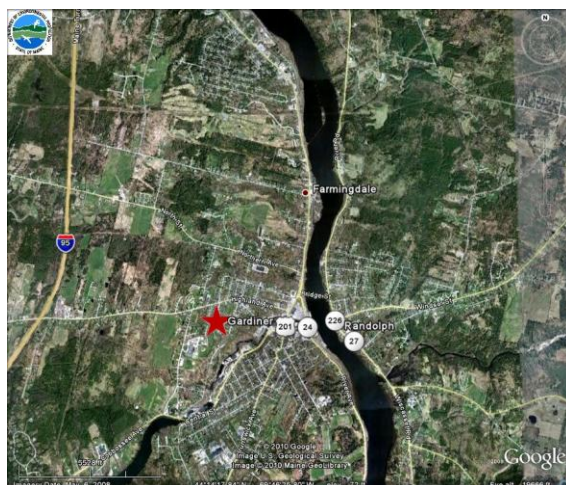
SLAMS – State and Local Air Monitoring Station.

Planned changes for 2015:

None planned.

Town – Site: **Gardiner – Pray Street School**
 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 ₂	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 installed in 2006.

Monitoring Objectives:

Regional Transport

Planned changes for 2015:

None planned.

Town – Site: **Port Clyde – Marshall Point Lighthouse**

County: **Knox**

Address: **Marshall Point Road**

AQS Site ID: **23-013-0004**

Spatial Scale: **Regional**

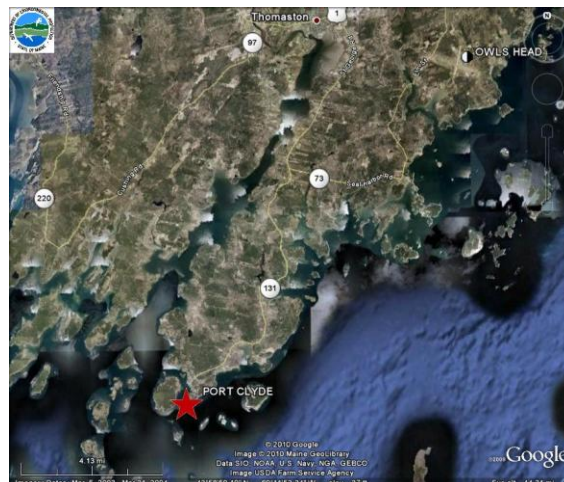
Statistical Area: **Rockland, ME**

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 ₂		
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:

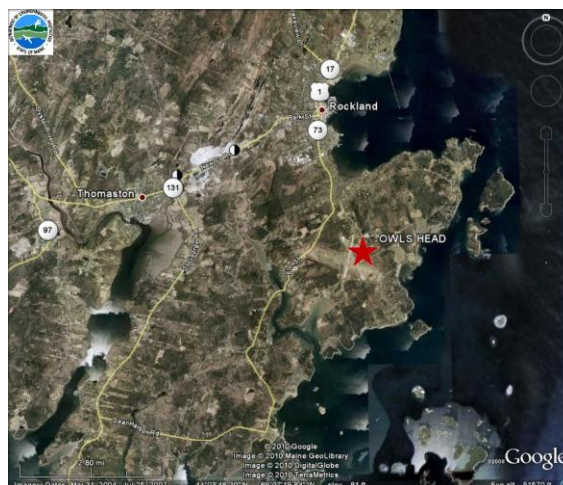
SLAMS – State and Local Air Monitoring Site

Planned changes for 2015:

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 ₂		
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:

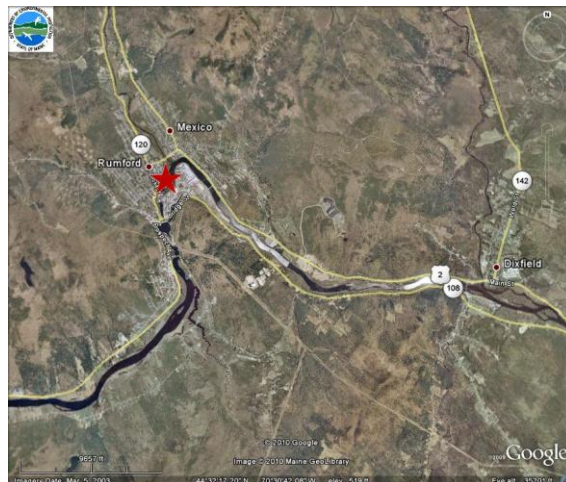
Hourly averaged wind speed and wind direction, combined with other climatological data obtained from the NOAA National Weather Service, are useful in modeling trajectories of air masses.

Planned changes for 2015:

None planned for 2015, but airport management is planning on demolishing the maintenance shed within the next few years 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: **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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NOx		
PM2.5 BAM	Summer 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 employee 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_{2.5} sampling. A Thermo 2025 PM_{2.5} sampler is located on the roof of the shelter.

Monitoring Objectives:

Population exposure and AQI forecasting. The Thermo 2025 PM_{2.5} 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 2015:

A Met One PM_{2.5} BAM 1020 was installed in June 2014 and will become operational during the Summer of 2014. No other changes are expected for 2015.

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 ₂		
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:

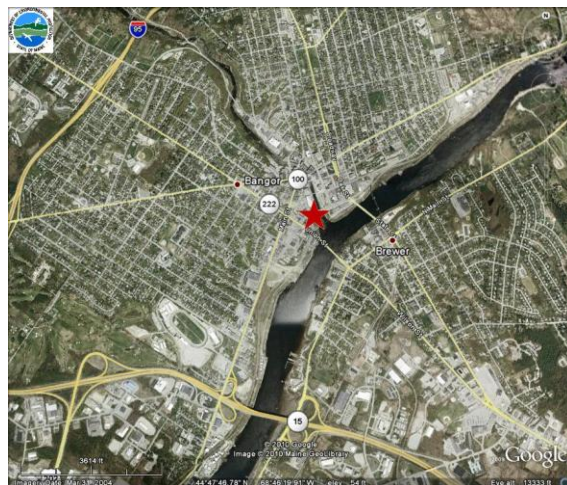
The site is located to get maximum concentrations in the western mountain area of Maine.

Planned changes for 2015:

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 ₂	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	NO _x		
PM2.5 BAM	2-7-2014		NO _y		
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. 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.

Monitoring Objectives:

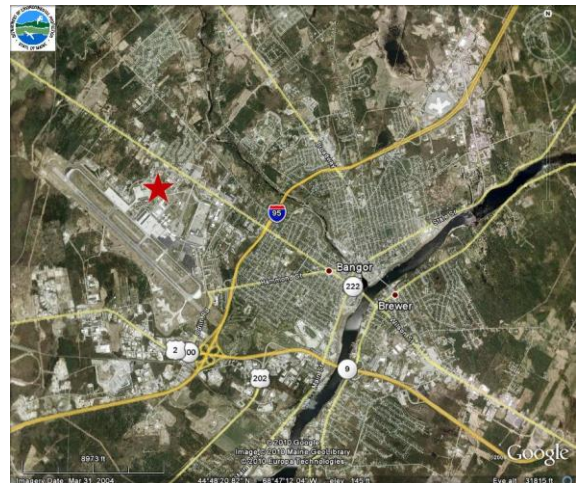
Site was located to pick up maximum concentrations in the downtown area of Bangor.

Planned changes for 2015:

None planned.

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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. 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:

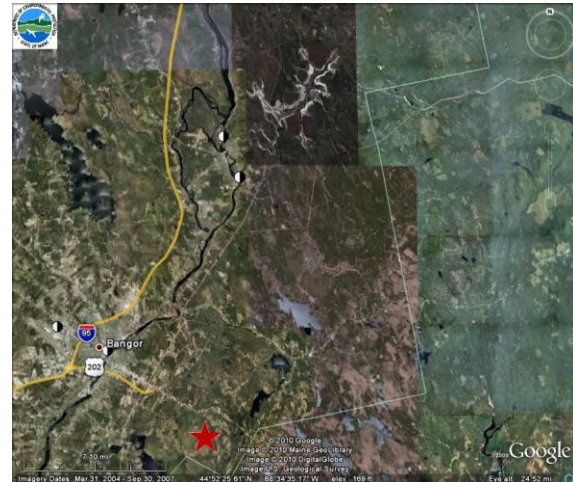
Wind data is collected to use in analysis of air pollutant data in the Bangor area.

Planned changes for 2015:

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 ₂		
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:

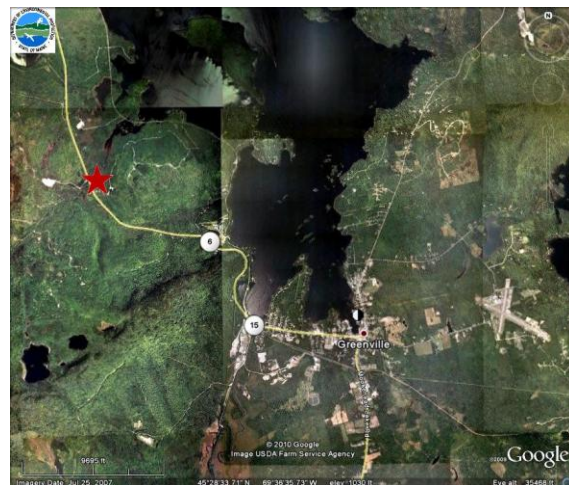
Monitor was located to pick up transport of ozone into the Penobscot County area and to measure maximum impacts in this area.

Planned changes for 2015:

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 ₂		
PM2.5 Colo			Ozone		
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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:

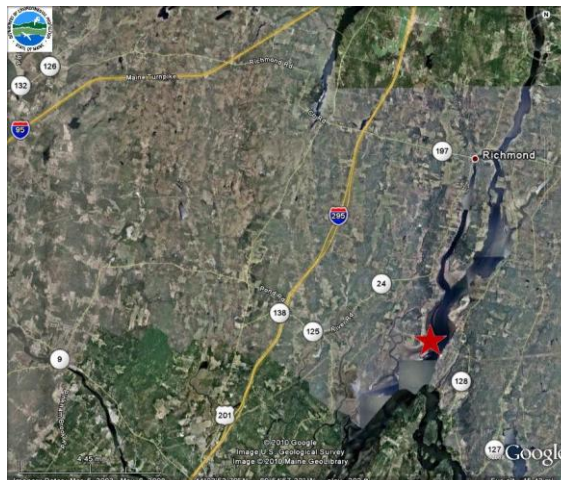
Measure the chemistry of the rain and snowfall in this area of the state.

Planned changes for 2015:

None planned.

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 ₂		
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 Mrs. Erla Kelley, adjacent to 598 Brown's Point Road in Bowdoinham, approximately 32 miles NE of Portland. An ozone sampler, data acquisition system and modem are located inside an environmentally controlled 8'x8'x8' shelter.

Monitoring Objectives:

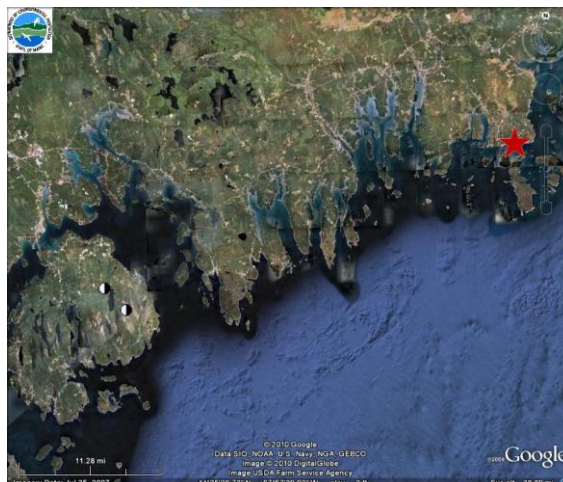
Maximum Ozone Concentration

Planned changes for 2015:

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

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 ₂		
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:

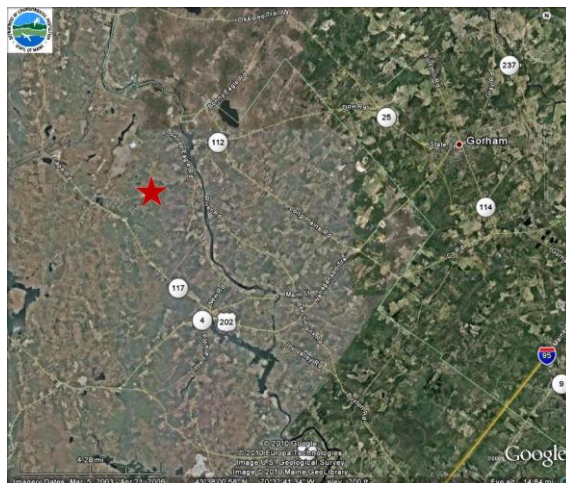
Monitor sited to obtain maximum concentrations in the coastal area of Washington County.

Planned changes for 2015:

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 ₂		
PM2.5 Colo			Ozone	4-1-1999	
PM2.5 TEOM			NO _x		
PM2.5 BAM			NO _y		
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:

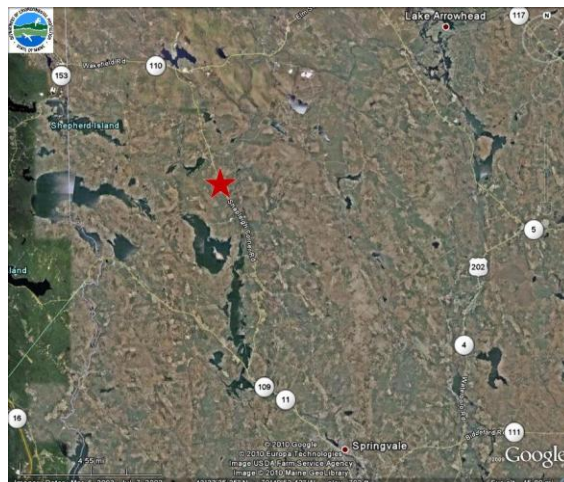
Monitoring location was selected to define the inland extent of the non-attainment area in the southern coastal area of Maine.

Planned changes for 2015:

None planned.

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 ₂		
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:

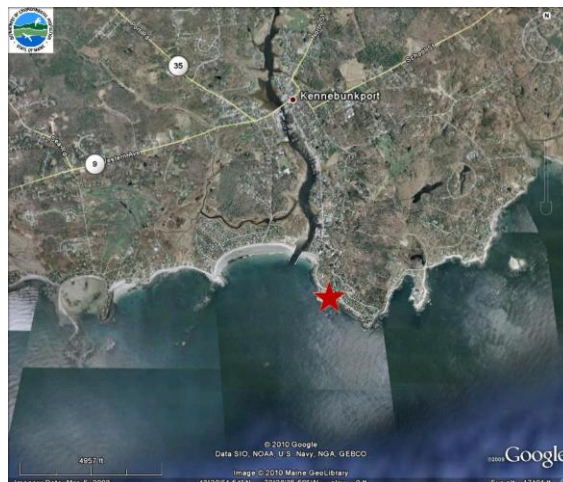
Maximum impact area from transport and the precursors generated in southern New Hampshire.

Planned changes for 2015:

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 ₂		
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 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 2015:

None planned.

TRIBAL MONITORING SITES
FOR 2015

Tribe – Site Name: **Micmac -- Presque Isle Shelter**

County: **Aroostook**

Latitude: **46.6964**

Address: **8 Northern Road**

Longitude: **-68.0330**

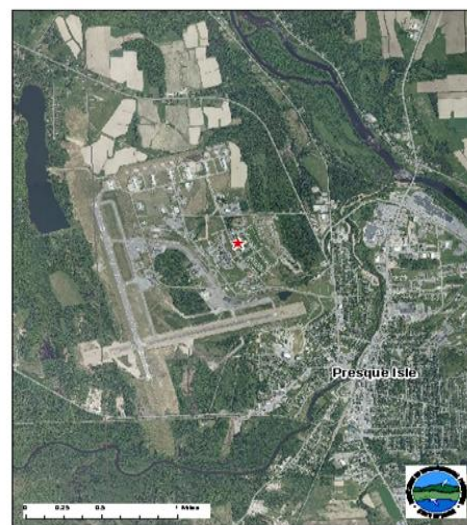
AQS Site ID: **23-003-1100**

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 ₂	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		
Cont. OC/EC			Bar. Pressure		
Cont. Sulfate			Relative Humidity		
Black Carbon			Dewpoint		
Cont. PAH			Precipitation Amount		
Lead			Solar Radiation		
CO	1-1-2006		UV-b Radiation		

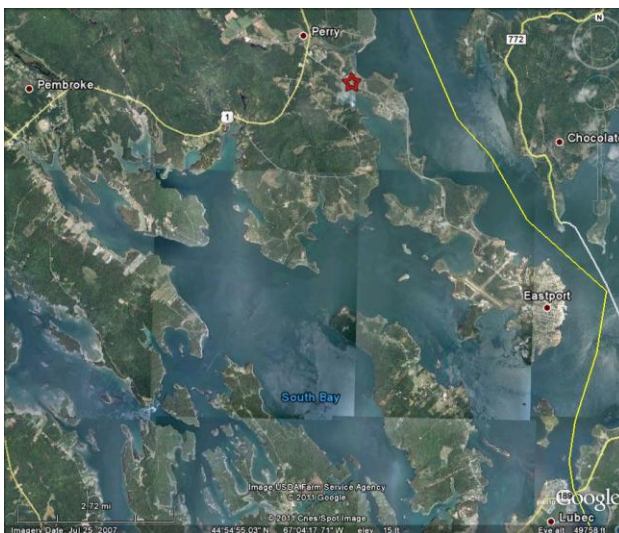
Site Description:

The Aroostook Band of Micmacs ambient air monitor site continuously monitors Ozone, PM2.5, Carbon Monoxide, Sulfur Dioxide, Nitrogen Dioxide, Carbon Dioxide, and Meteorological parameters in Presque Isle, ME

Monitoring Objectives:

Planned changes for 2015:

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



Pollutant and Meteorological Parameters:

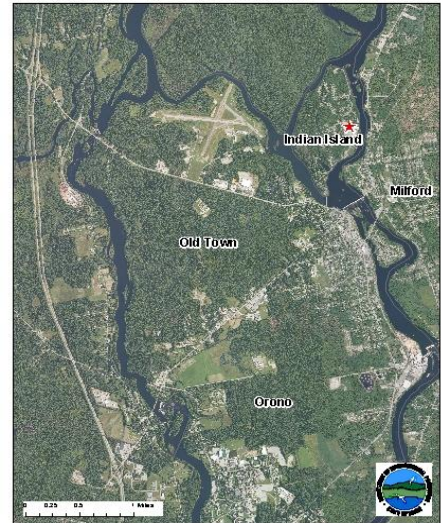
Parameter	Date Began	Date Ended	Parameter	Date Began	Date Ended
PM2.5 FRM			SO ₂		
PM2.5 Colo			Ozone	3-31-2006	
PM2.5 TEOM			NOx		
PM2.5 BAM			NOy		
PM10 FRM			VOCs (PAMS)		
PM10 Colo			HAPs		
PM10 TEOM			Wet Deposition - Mercury		
PM10 BAM			Wet Dep. - Precip Chem.		
PM Coarse			Wind Direction/Speed		
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:

Monitoring Objectives:

Planned changes for 2015:

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 ₂		
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		

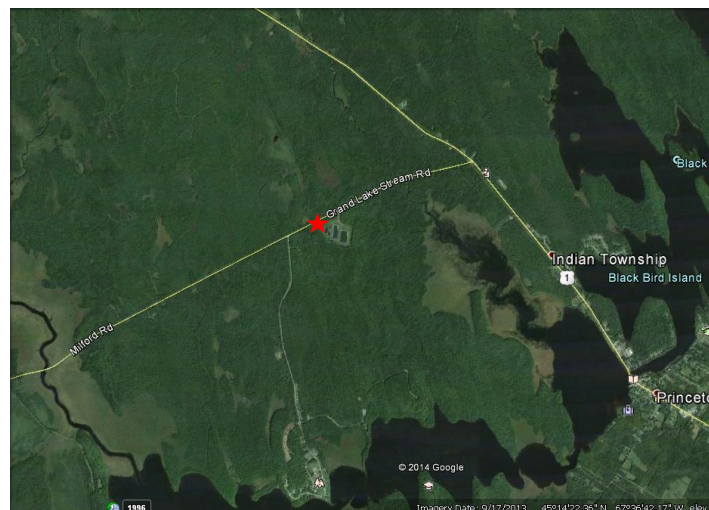
Site Description: The original IMPROVE Site location, established on 6/27/2001, was located near the Marsh Island Apartments. That location was shut down on 5/29/2006 having been made redundant after 1/14/2006 when the current IMPROVE site was established.

Monitoring Objectives:

Planned changes for 2015:

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 ₂		
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.	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:

Monitoring Objectives:

Planned changes for 2015:

This is a newly established NADP site in Maine and as information about it becomes available this page will be updated.