

2001 Annual Report on Air Quality in New England

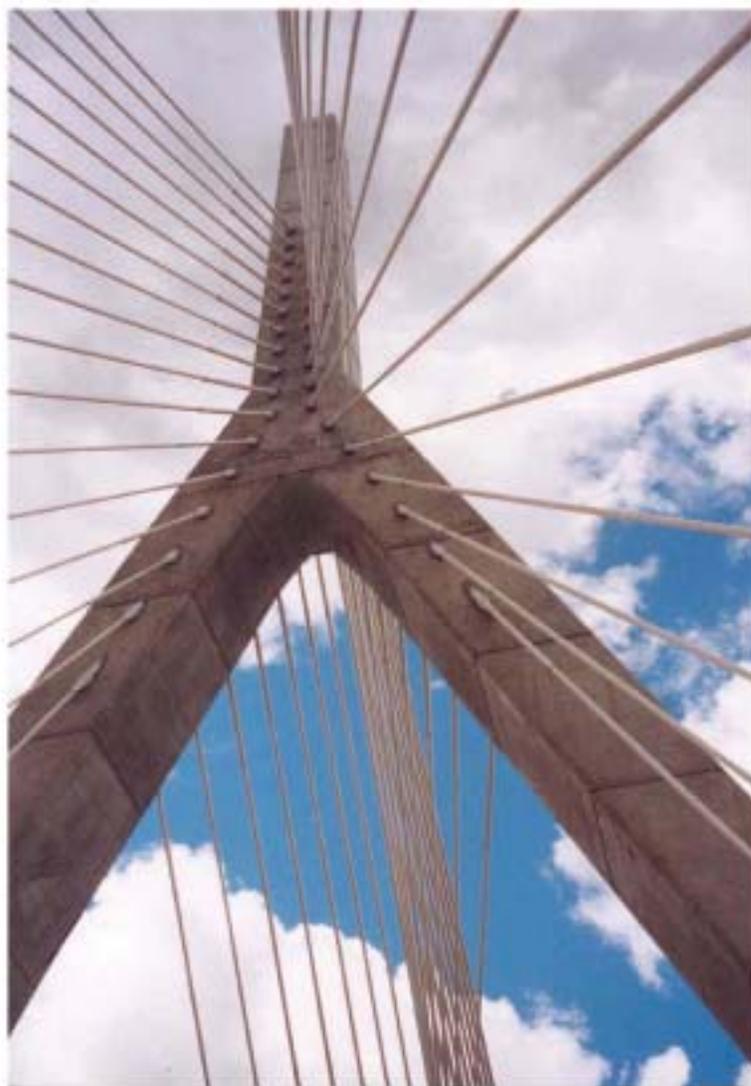


Photo by Katrina Kipp

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2001 ANNUAL REPORT ON AIR QUALITY IN NEW ENGLAND

This report represents 2001 annual air quality information for all states in New England. The majority of the data included in this report were submitted to EPA by the states from their ambient monitoring networks in accordance with 40 CFR 58. The only data from industrial monitors which have been included are from the Massachusetts Industrial Network, EPA-required networks in New Hampshire and Maine's licensing program which supplements the state network.

This report reflects the status of the AIRS database as of September 2002. The majority of data used have been evaluated and verified by EPA. However, for those monitors that appear to be violating an applicable ambient air quality standard, the data may require further evaluation by both EPA and the states. For both the 8-hour ozone standard and the PM_{2.5} standard, EPA has not yet designated areas as either attainment or nonattainment.

A table of the National Ambient Air Quality Standards (NAAQS) follows this introduction.

There is a list of health effects of the criteria pollutants after the NAAQS. Followed by an article on Ozone.

The following table lists, by state, a summary of criteria pollutant data from sites in each state in New England, and from industrial sites in New Hampshire, Massachusetts, and Maine. The information presented compares the measured values to each NAAQS; it includes the number of violations, the maximum and second high values, and the annual means (arithmetic mean or average for SO₂, PM₁₀ and NO₂). An annual mean is not valid for intermittent data unless there are four valid quarters. For PM₁₀, 75% of the scheduled samples must be available for a quarter to be considered valid. For continuous data, 75% of the year must be available to calculate a valid annual average.

Included with this table, are graphs of selected air quality monitoring sites that show a ten-year span of data for PM₁₀, CO, SO₂, and NO₂. A graph of the number of days ozone exceeded the standard during the last five years is used. PM_{2.5} has only been monitored for three years, the chart reflects this.

State maps are included which display the location of monitoring sites.

Precision and accuracy data submitted by the six New England states is graphed in a chart following the data tables. The 95% probability limit for six criteria pollutants are given as a network average for each state.

Finally there are maps of the current areas in New England designated nonattainment by EPA. As stated above, EPA has not yet done designations for the 8-hour ozone and the PM_{2.5} standards.

A discussion of air emission trends in New England is a new feature this year.

The last section is a list of AIRS state and regional Air Quality Contacts and Emission data contacts, their addresses and phone numbers.

NATIONAL AIR QUALITY STANDARDS^a

For Criteria Pollutants

<u>Pollutant</u>	<u>Averaging Time</u>	<u>Primary Standards^b</u>	<u>Secondary Standards^c</u>
SO ₂	Annual Arithmetic Mean	80 ug/m ³ (0.03 ppm)	
	24 hours	365 ug/m ³ (0.14 ppm)	
	3 hours	--	1300 ug/m ³ (0.5 ppm)
Pm _{fine} ^{fg}	Annual (3-year average)	15.0 ug/m ³	Same as Primary
	24 hours	3-year average of 98 th percentile values ≤65 ug/m ³	Same as Primary
PM ₁₀ ^{df}	Annual Arithmetic Mean	50 ug/m ³	Same as Primary
	24 hours	150 ug/m ³	Same as Primary
CO	8 hours	9 ppm	Same as Primary
	1 hour	35 ppm	Same as Primary
O ₃ ^e	1 hour	0.125 ppm	Same as Primary
	8 hour	0.08 ppm	Same as Primary
NO ₂	Annual Arithmetic Mean	(0.05 ppm) 100 ug/m ³	Same as Primary
Pb	Calendar Quarter Arithmetic Mean	1.5 ug/m ³	Same as Primary

^a National standards, other than those based on annual arithmetic means, are not to be exceeded more than once a year.

^b National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

^c National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^d PM₁₀ replaced TSP as the ambient particulate standard effective July 31, 1987, and includes only those particles with an aerodynamic diameter of ≤ a nominal 10 microns. Expected number of exceedances shall not be more than one per year (3 year average) as determined by Appendix K and N of 40CFR Part 50.

^e 1-Hour: Expected number of exceedance days shall not be more than one per year (3 year average) as determined by Appendix H of 40CFR Part 50.

8-Hour: The standards are met at an ambient air quality site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm as determined by Appendix I of 40CFR 50. Both standards (1 and 8 hour) apply until the first standard (1 hour) is met, after which, only the 8 hour standard will apply.

^f Measurements of PM₁₀ and PM_{2.5} for purposes of comparison to the standards shall be reported based on actual ambient temperature and pressure at the monitoring site during the measurement period.

^g Appendix N of 40 CFR Part 50 gives the specific procedures for determining whether the PM_{2.5} Primary and Secondary Annual and 24 Hour Standards are attained.

Health Effects of Criteria Pollutants

Lead (Pb)

Brain damage, kidney damage, and gastrointestinal distress are seen from short-term exposure to high levels of lead. Long-term exposure to lead in humans results in effects on the blood, central nervous system, blood pressure, kidneys, and Vitamin D metabolism. Children are particularly sensitive to the chronic effects of lead, with slowed cognitive development, reduced growth and other effects reported. The major sources of lead air pollution are lead smelters and battery manufacturing plants.

Ozone (O₃)

Ozone can irritate the respiratory system, causing coughing, throat irritation, and/or an uncomfortable sensation in the chest. Ozone can reduce lung function and make it more difficult to breathe deeply and vigorously. Ozone can aggravate asthma and increase susceptibility to respiratory infections. It injures vegetation, and has adverse effects on materials. Ozone is generally highest on sultry summer afternoons. Ozone is formed in the atmosphere by the reaction of nitrogen oxides, and hydrocarbons in the presence of sunlight.

Sulfur Dioxide (SO₂)

Children and adults with asthma who are active outdoors are most vulnerable to the health effects of sulfur dioxide. The primary effect they experience, even with brief exposure, is a narrowing of the airways, which may cause symptoms such as wheezing, chest tightness, and shortness of breath. Long-term exposure to both sulfur dioxide and fine particles can cause respiratory illness, alter the lung's defense mechanisms, and aggravate existing cardiovascular disease. It combines with water to form acid aerosols and sulfuric acid mist which falls to earth as acid rain, causing plant and structural damage, and acidifying bodies of water. Major sources include power plants and industrial boilers.

Nitrogen Dioxide (NO₂)

In children and adults with respiratory disease, nitrogen dioxide can cause respiratory symptoms such as coughing, wheezing, and shortness of breath, and affect lung function. In children, short-term exposure can increase the risk of respiratory illness. Studies suggest that long-term exposure may cause permanent structural changes in the lungs. The sources of nitrogen dioxide are motor-vehicle exhaust, and fuel combustion sources such as electric power generating facilities.

Carbon Monoxide (CO)

People with cardiovascular disease, such as angina, may experience chest pain and more cardiovascular symptoms if they are exposed to carbon monoxide, particularly while exercising. In healthy individuals, exposure to higher levels of carbon monoxide can affect mental alertness and vision. Carbon monoxide forms when the carbon in fuels does not completely burn. Motor vehicles are the most significant source.

Particulate Matter (PM_{2.5} and PM₁₀)

Both fine and coarse particles can accumulate in the respiratory system. When exposed to particulate matter (PM), people with existing heart or lung are at increased risk of premature death or admission to hospitals or emergency rooms. Children and people with existing lung disease may not be able to breathe as deeply or vigorously as they normally would, and they may experience symptoms such as coughing and shortness of breath. PM can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases, causing more use of medication and more doctor visits. PM includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. Sources of fine particles include all types of combustion (motor vehicles, power plants, wood burning, etc.) and some industrial processes. Sources of coarse particles include crushing or grinding operations, and dust from paved or unpaved roads.

Ozone Monitoring

Ground-level (or tropospheric) ozone is created through the interactions of man-made (and natural) emissions of volatile organic compounds and nitrogen oxides in the presence of heat and sunlight. Cars and gasoline-burning engines are large sources of volatile organic compounds (VOCs). VOCs also come from consumer products such as paints, insecticides, and cleaners as well as industrial solvents and chemical manufacturing. Nitrogen oxides (NO_x), the other chemical precursor of ozone, are produced whenever fossil fuels are burned and are primarily produced by motor vehicles and power plants. The sun's direct ultraviolet rays convert these emissions into ground-level ozone, which is unhealthy to breathe.

High concentrations of ozone near ground level can be harmful to people, animals, crops, and other materials. Ozone can irritate your respiratory system, causing you to start coughing, feel an irritation in your throat and/or experience an uncomfortable sensation in your chest. Ozone can aggravate asthma, and can inflame and damage cells that line your lungs. Ozone may also aggravate chronic lung diseases such as emphysema and bronchitis and reduce the immune system's ability to fight off bacterial infections in the respiratory system. Lastly, ozone may cause permanent lung damage. These effects can be worse in children and exercising adults.

EPA's ambient air quality standard for ozone was 0.12 ppm averaged over a one-hour period. That standard is still in effect nationwide. Exceedances of that standard are hourly monitoring values of 0.125 ppm or more. In general, for complete data sets, the 1-hour design value is the fourth highest values during a 3-year period. Once again, the standard is the goal.

In July 1997, EPA promulgated a new 8-hour standard for ground-level ozone set at a level of 0.08 ppm. On Feb. 27, 2001, the U.S. Supreme Court unanimously upheld the constitutionality of the Clean Air Act as EPA had interpreted it in setting this health-protective air quality standard. EPA is now in the process of developing an implementation strategy for the 8-hour standard and has not yet designated areas attainment or nonattainment for the 8-hour standard.

The 0.08 ppm, 8-hour standard is met at an air quality monitoring site when the 3-year average of the annual fourth highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 parts per million (ppm). The design value for the 8-hour average is the actual 3-year average of the annual fourth highest daily maximum 8-hour average. The goal is to get to 0.08 ppm for this value, but many places have not reached this goal, which is why they are in non-attainment.

Many factors impact ground-level ozone development, including temperature, wind speed and direction, time of day, and driving patterns. Due to its dependence on weather conditions, ozone is typically a summertime pollutant and a chief component of summertime smog. Summers which are dry with higher temperatures will have a tendency toward a greater number of ozone exceedance days and higher concentrations in comparison to cooler wetter summers.

Since the 1980s, the trends in the number of exceedance days and the peak concentrations have been downward.

Site Maps, Narratives, Summary Data,
and Charts for the Criteria Pollutants in
the six New England States

Abbreviations and Symbols used in the Ambient Air Quality Data Section

SITE ID	Site Identification number	OBS > 35	Number of observations greater than 35 ppm for CO
POC	Parameter Occurrence Code - differentiates between monitors for a given pollutant	MAX 8-HR:	1 ST Highest 8-hour value recorded in the year
MT	Monitor type: 1=NAMS National Air Monitoring Station, 2=SLAMS State/Local Air Monitoring Station, 3=Other, 4=Industrial, Industrially owned Air Monitoring Station, 6,7,8=PAMS Photochemical Assessment Air Monitoring Station 0=Unknown, C=Non EPA Federal		2 ND Second highest 8-hour value recorded in the year
YR	Year	OBS > 9	Number of 8-hour ave. greater than 9 ppm for CO
REP ORG	Reporting Organization	OBS > 365	Number of 24-hour ave. greater than 365 ug/m ³ for SO ₂
#OBS	Number of Observations	MAX 3-HR:	1 ST Highest 3-hour value recorded in the year
MAX 24-HR:	1 ST Highest 24-hour value recorded in the year		2 ND Second highest 3-hour value recorded in the year
	2 ND Second highest 24-hour value for the year	Obs > 1300	Number of 3-hour ave. greater than 1300 ug/m ³ for SO ₂
	3 RD Third highest 24-hour value for the year.	NUM MEAS	The valid number of days measured
	4 TH Fourth highest 24-hour value for the year.	NUM REQ	The valid number of days in the ozone season
ARITH MEAN	Arithmetic mean	NUM OBS	Number of Observations
WTD ARITH MEAN	Weighted arithmetic mean	SCHEDULED NUM OBS	Number of observations scheduled
GEO MEAN	Geometric mean	% OBS	Percent completed of number of observations scheduled
GEO STD	Geometric standard deviation	VALID DAILY 1-HR MAXIMUM:	Maximum hourly values for
QUARTERLY ARITH MEANS:			1 ST the highest day
	1 ST First quarter arithmetic mean		2 ND the second highest day
	2 ND Second quarter arithmetic mean		3 RD the third highest day
	3 RD Third quarter arithmetic mean		4 TH the fourth highest day
	4 TH Fourth quarter arithmetic mean	VALS > .125: MEAS	Number of measured daily maximum \geq 0.125 ppm
MEANS > 1.5	Number of quarterly means greater than 1.5 ug/m ³ for lead	VALS > .125: EST	Number of expected violations
MAX VALUES:	1 ST Highest 24-hour value recorded for the year	MISS DAYS ASSUMED < STANDARD	Number of missing days assumed to be less than the standard
	2 ND Second highest 24-hour value recorded for the year.	THE DATA IN THE FOLLOWING SECTION CONSISTS OF BOTH STATE AND PRIVATE NETWORKS.	
METH	Method		
MAX 1-HR:	1 ST Highest 1-hour value recorded in the year		
	2 ND Second highest 1-hour value recorded in the year		

2001 SUMMARY OF NEW ENGLAND AMBIENT AIR QUALITY AND ATMOSPHERIC DEPOSITION

The air quality in New England fluctuates with annual weather patterns. In general warm and dry summers result in higher concentrations of regional pollutants such as ozone and haze, than cold wet summers. Recent summer weather patterns in New England have shown an almost biannual pattern of warm and cool summers, and no pattern in seasonal precipitation patterns. During 2001 the summer was moderate, not exceptionally warm nor exceptionally cool. On the whole, significantly less precipitation fell on portions of the region than recent years.

Overall, the air quality in New England during 2001 was similar to 1999 and 1997. Summertime ozone and particulate matter (PM₁₀ and PM_{2.5}) ambient air concentrations were higher in 2001 than in 2000, 1998 and 1996 (no PM_{2.5} measurements were made in 1998 and 1996). In general, these latter years had wetter summers and cool, but not cold winters.

The maximum 1-hr ozone concentrations in 2001 were recorded in Connecticut (162 ppb ozone), Rhode Island (150 ppb ozone), New Hampshire (149 ppb ozone) and Massachusetts (148 ppb ozone). As many as twenty-five (25) ozone monitoring sites measured 1-hr ozone concentrations above or equal to 125 ppb ozone. These levels were much higher compared to 2000, when only eight ozone monitoring sites measured 1-hr ozone levels ≥ 125 ppb ozone. Thirty-five (35) ozone monitoring sites in New England recorded violations of the 8-hr ozone standard (the fourth highest 8-hr average ozone concentration ≥ 85 ppb ozone). Again the maximum single 8-hr average ozone concentration was recorded in Connecticut (133 ppb 8-hr average ozone). Only Vermont had no monitoring sites that exceeded the 8-hr ozone standard.

Since 1993, the New England Photochemical Assessment Monitoring Stations (PAMS) have routinely measured air pollutants that contribute to the regional formation of ozone. These monitoring stations are located in each of the New England states, except Vermont. The regional data for 2001 indicate that the ambient concentrations of hydrocarbon pollutants (total non-methane hydrocarbons-TNMOC) that were measured at these sites during 2000 and 2001 were comparable to ambient concentrations that have been recorded during the most recent five years for the Connecticut and Rhode Island upwind Type 1 PAMS sites. TNMOC measurements for most but not all of the PAMS Type 2 core sites and downwind Type 3 and Type 4 sites indicate a continued decline from the mid-1990's.

For particulate matter, the highest annual average concentrations of fine particulate matter (PM_{2.5}) were measured in urban locations in Massachusetts (16.6 ug/m³) and Connecticut (18.6 ug/m³). Although the data are incomplete, they appear representative, when compared to coarse particulate matter (PM₁₀) levels in the same locations. The highest annual average concentrations of PM₁₀ were also recorded in Connecticut (37 ug/m³) and Massachusetts (31 ug/m³). None of the PM₁₀ monitoring sites approached the previous PM₁₀ primary or secondary NAAQS for PM₁₀. The primary annual and acute (24-hr) exposure standards for fine particulate matter (PM_{2.5}) are based on a three year consecutive average and the fourth highest maximum 24-hr concentration (within a single calendar year), respectively. No PM_{2.5} monitoring sites have been designated non-attainment for either the annual or acute fine particulate matter standards. During the past three years, almost every fine particulate monitoring site in New England experienced start-up problems with measuring PM_{2.5}. The initial start-up problems and sporadic or recurrent problems with some instruments, generally during the cold months, resulted in virtually no complete data for any of the New England states for the period 1999 - 2001. It is anticipated that data capture in 2002 will improve to the point where there will be sufficient data of good quality to determine the attainment status for fine particulate matter sites throughout New England. No sites in New England measured 24-hr PM_{2.5} concentrations exceeding the acute (fourth highest 24-hr) fine particulate standard. Where high quality data exist for 1999-2001, these data show attainment of the annual fine particulate standard in Maine, New Hampshire, Vermont and Rhode Island. Additional data will be necessary to determine the annual PM_{2.5} NAAQS attainment status of several urban areas in Massachusetts and Connecticut.

The concentrations of sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and carbon monoxide (CO) continued a five year trend below any of the chronic or acute NAAQS. The highest annual average concentration of SO₂ in New England was recorded in Keene, New Hampshire. This average was 23% of the annual national standard. For CO, the second highest 8-hour concentration was measured at Hartford, CT, roughly 50% of the standard. Nitrogen dioxide show similar low concentrations. The highest concentrations of NO₂ were recorded in Boston, MA, representing ~60% of the standard.

Atmospheric deposition of pollutants has been routinely measured in the New England region since 1978. Two similar, but separate precipitation monitoring networks collect mercury in precipitation (Mercury Deposition Network-MDN) and “acid rain” (National Trends Network-NTN). In addition to the MDN monitoring sites, there are several “research” mercury deposition monitoring sites located in the Region. Current and historical data from the “research” mercury monitoring sites and the MDN sites indicate that the highest concentration of mercury in New England precipitation falls along the coast and in the mountains. Mercury deposition was greatest at the Freeport (ME) and Underhill (VT) sites, although in 2001 drought conditions significantly reduced the amount of wet mercury deposition (~50%) at these sites (and other sites in New England). The 2001 data for the “acid rain” monitoring network also indicate that the 2001 drought significantly influenced the amount of pollutants measured at some sites. The highest concentrations of sulfate and nitrate in precipitation and the greatest amounts of sulfate and nitrate deposition were recorded at the Underhill (VT) and at the Quabbin Reservoir (MA) monitoring sites. Overall, the “acid rain” data indicated that more sulfate and nitrate fell on the western and south-central landscapes of New England than in Maine. This spatial pattern of deposition was similar to that established over the last two decades. Both pollutant deposition and pollutant concentration in precipitation, are in part, determined by the amount of atmospheric pollutant available (emissions and atmospheric concentrations) and the amount of precipitation. In the northeastern and coastal New England, amounts of precipitation were roughly 60% the normal amount of precipitation.

Use of Data Qualifiers for PM2.5 Data

EPA has developed a set of generic data qualifiers (flags) which allow data to be entered in AIRS that the State/locals believe have value, but are unsure of its quality. The approach tries to provide a balance of ease of use and specificity. Due to limitations in the current AIRS network, the only place for flags is in the exceptional event area where most letters are already in use. There are 4 flags already associated with PM2.5. The flags T, W, X and Y are the flags associated with the sampler acceptance criteria. These flags are associated with the sample being out of specifications for flow rate, filter temperature differential, and/or elapsed time. A "T" flag indicates the sample has multiple flags. There are 6 other flags associated with PM2.5. These are listed below:

1. Deviation from a Code of Federal Regulation requirement- Data collected did not or may not meet all of the critical criteria for sampling and analysis as specified in CFR and the Validation Template critical criteria table. State Agencies may use this flag when it is unclear of the effect of the deviation on data quality. This flag should be rarely used, but there may be instances where other QA/QC information tend to validate the sample or changes/updates to the critical criteria table may allow utilization of the data for some purposes.
2. Operational Deviations- Data quality may be impacted by sampling and analysis procedures which did not or may not comply with acceptable range or threshold values from either the Validation Template or the operational evaluations table.
3. Field Issue- Data that may have been effected by events occurring in the field that could potentially have compromised the integrity of the sample (oil crystallization, excessive dust etc.)
4. Laboratory Issue- Data that may have been effected by events occurring in the laboratory that could potentially have compromised the integrity of the sample (cassette off gassing, etc.)
5. Outlier - Data value that appears to be invalid either because it is outside the normal/expected range of concentrations or fails various statistical or comparison tests. However, there is no additional information available that would provide a reason to invalidate the value(s).
6. Quality Assurance Project Plan (QAPP) - Data collection prior to QAPP approval.

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2001 Air Quality Summary - Connecticut

Five carbon monoxide (CO) ambient monitoring sites operated in 2001. The highest recorded maximum 8-hour concentration (6.1 ppm) was recorded at the Hartford Courthouse site. This contrasts with previous 8-hour maximum measurements in 2000 (8.5 ppm), 1999 (5.6 ppm), and 1998 (7.9 ppm). The trend graphs for the past ten years show maximum concentrations of CO well below the national standards and indicate a slight downward trend in concentrations.

There have been no exceedances or violations of the quarterly lead (Pb) national standard for many years. By the end of 1996, the Connecticut ambient air monitoring program was reduced to one site, Waterbury. In 2001 the Waterbury monitoring site reported a maximum quarterly average Pb concentration of 0.01 ug/m³ (less than 1% of the NAAQS).

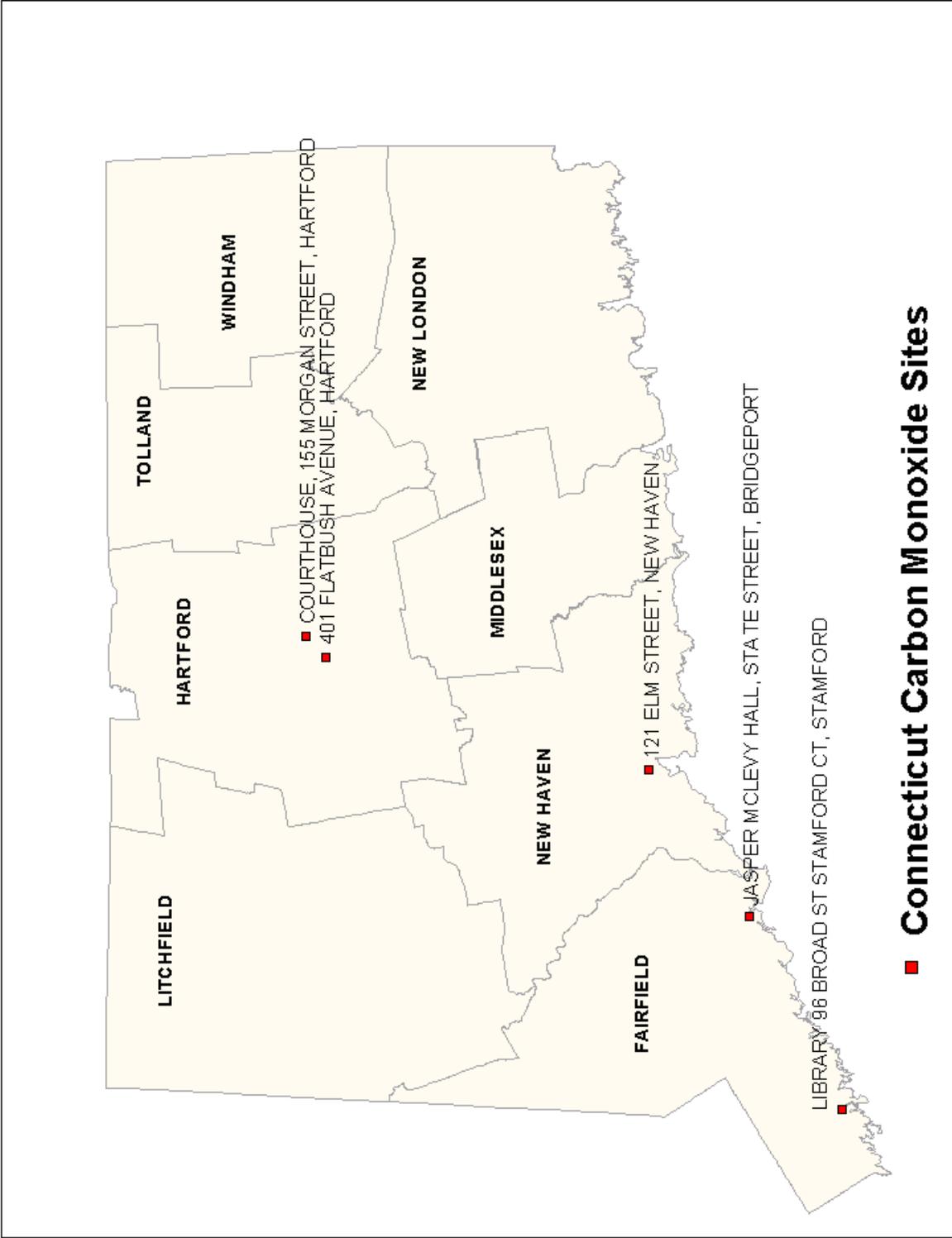
Not one of the five ambient air monitoring sites that measured nitrogen dioxide (NO₂) measured any violations of the NAAQS during 2001. New Haven reported concentrations that were roughly 50% of the NAAQS. The Photochemical Assessment Monitoring Stations (PAMS) located in East Hartford, Westport, Hamden and Stafford Springs all reported concentration of NO₂ well below the NAAQS. The ten-year graphs for these sites show relatively constant annual concentrations of NO₂, and minor year-to-year fluctuations.

In 2001, ten ozone (O₃) monitoring sites exceeded the 1-hour ozone standard and/or were in violation of the 1-hour NAAQS. In 2000 only five sites had comparable concentrations as 2001. In 1999 all of the ozone monitoring sites in Connecticut reported exceedances above the 1-hour NAAQS. Seven of eleven sites exceeded the NAAQS in 1998, and ten of eleven ozone monitoring sites exceeded the NAAQS in 1997. The observed increases of NAAQS exceedances corresponds to summer weather conditions. Warm and dry summers, with more frequent periods of air stagnation and/or pollution transport conditions, generally record increased exceedances of the ozone NAAQS. The Madison ozone monitoring site measured the highest 1-hour maximum ozone concentration (162 ppb) and the second highest 1-hour maximum ozone concentration (146 ppb). The ten-year trend graph for ozone indicates that virtually no upward or downward trend exists in the number of days with 1-hour ozone NAAQS exceedances for the sites recording ozone concentrations in Connecticut.

During 2001, all ten ozone monitoring sites, with complete data, reported a fourth-highest daily 8-hour average ozone concentration above the level of the 8-hour NAAQS. The highest 8-hour ozone concentrations were measured in Westport (133 ppb), Stratford (131 ppb), and Greenwich (131 ppb). These data contrast to those recorded in 2000 and 1998, when the maximum 8-hour concentrations were 124 ppb and 118 ppb respectively. As was the case with the 1-hour exceedances, 2001 measurements were closer to those in 1999 and 1997, than in 2000 and 1998.

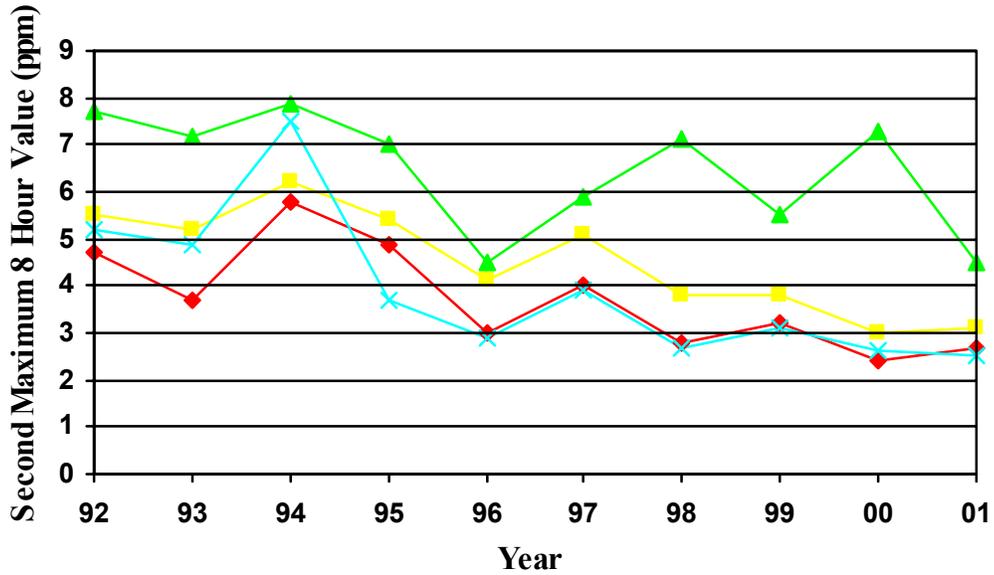
None of the ten monitoring sites that collected particulate matter of less than 10 microns (PM₁₀), recorded exceedances of either the 24-hour or the annual NAAQS for PM₁₀. As in 2000, the Stiles Street site in New Haven recorded the single highest 24-hour measurement (95 ug/m³). Similarly, the Stiles Street fine particulate monitoring site also recorded the highest weighted arithmetic average concentration (39 ug/m³). Of the twelve PM_{2.5} monitoring sites in Connecticut that measured particulate matter in 2001, the New Haven area tended to report the highest concentrations.

There were no exceedances or violations at any of the Connecticut ambient monitoring sites (four sites) for either the 24-hour or 3-hour sulfur dioxide (SO₂) NAAQS. The highest annual arithmetic mean SO₂ concentration was measured at New Haven and at Bridgeport (7 ppb). New Haven measured the highest 24-hour concentration (37 ppb) which was roughly 26% of the NAAQS. The ten-year trend graphs for SO₂ show decreasing SO₂ concentrations with some year-to-year variability.

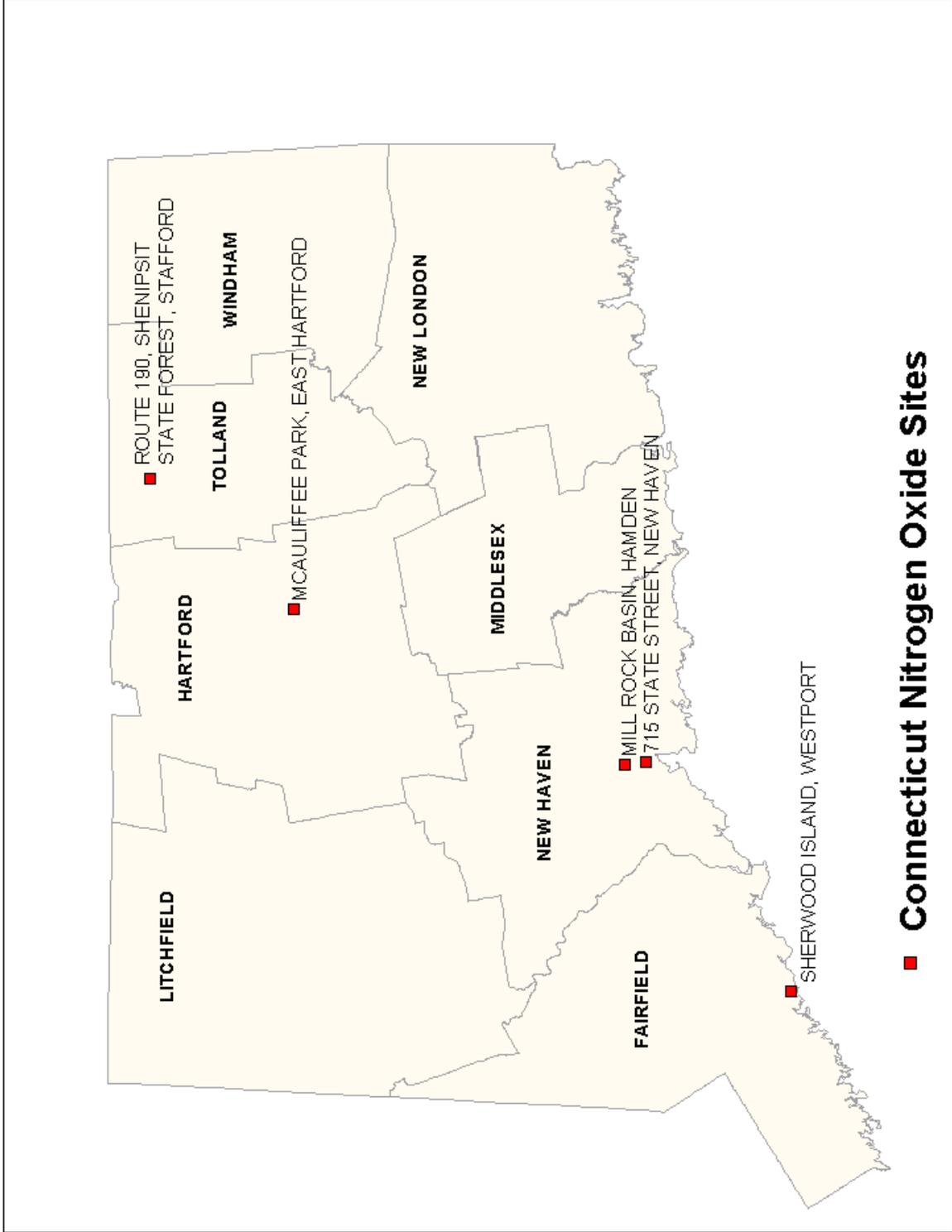


■ **Connecticut Carbon Monoxide Sites**

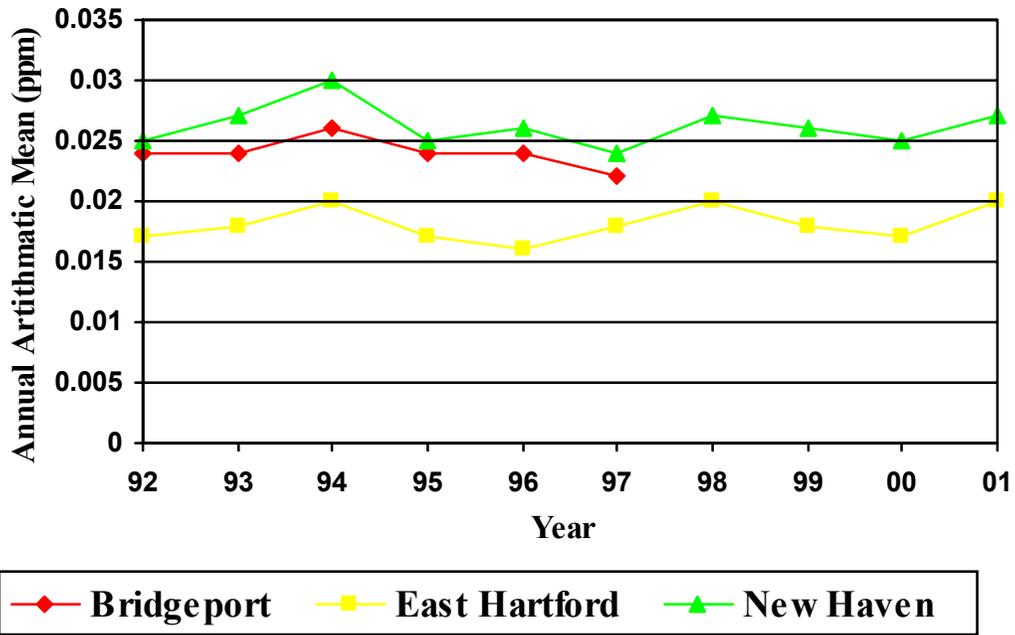
Connecticut Carbon Monoxide



Carbon Monoxide													
All Values are in Units of Parts Per Million													
Site ID	C	Type	City	County	Address	Obs #	1-hour		8-hour		# > 35	# > 9	# Used
							Highest Value	2nd Highest Value	Highest Value	2nd Highest Value			
09-001-0004	1	F	BRIDGEPORT	FAIRFIELD	JASPER MCLEVY HALL, STATE STREET	8,560	4.3	4.2	0	3.6	2.7	0	1
09-001-0020	1	F	STAMFORD	FAIRFIELD	LIBRARY 96 BROAD ST STAMFORD CT	8,437	5.1	4.7	0	3.3	3.1	0	1
09-003-0013	1	F	HARTFORD	HARTFORD	401 FLATBUSH AVENUE	8,650	4.1	3.6	0	3.2	3	0	1
09-003-0017	1	F	HARTFORD	HARTFORD	COURTHOUSE, 155 MORGAN STREET	8,508	8.2	7.8	0	6.1	4.5	0	1
09-009-0025	1	F	NEW HAVEN	NEW HAVEN	121 ELM STREET	8,494	3.9	3.5	0	2.7	2.5	0	1

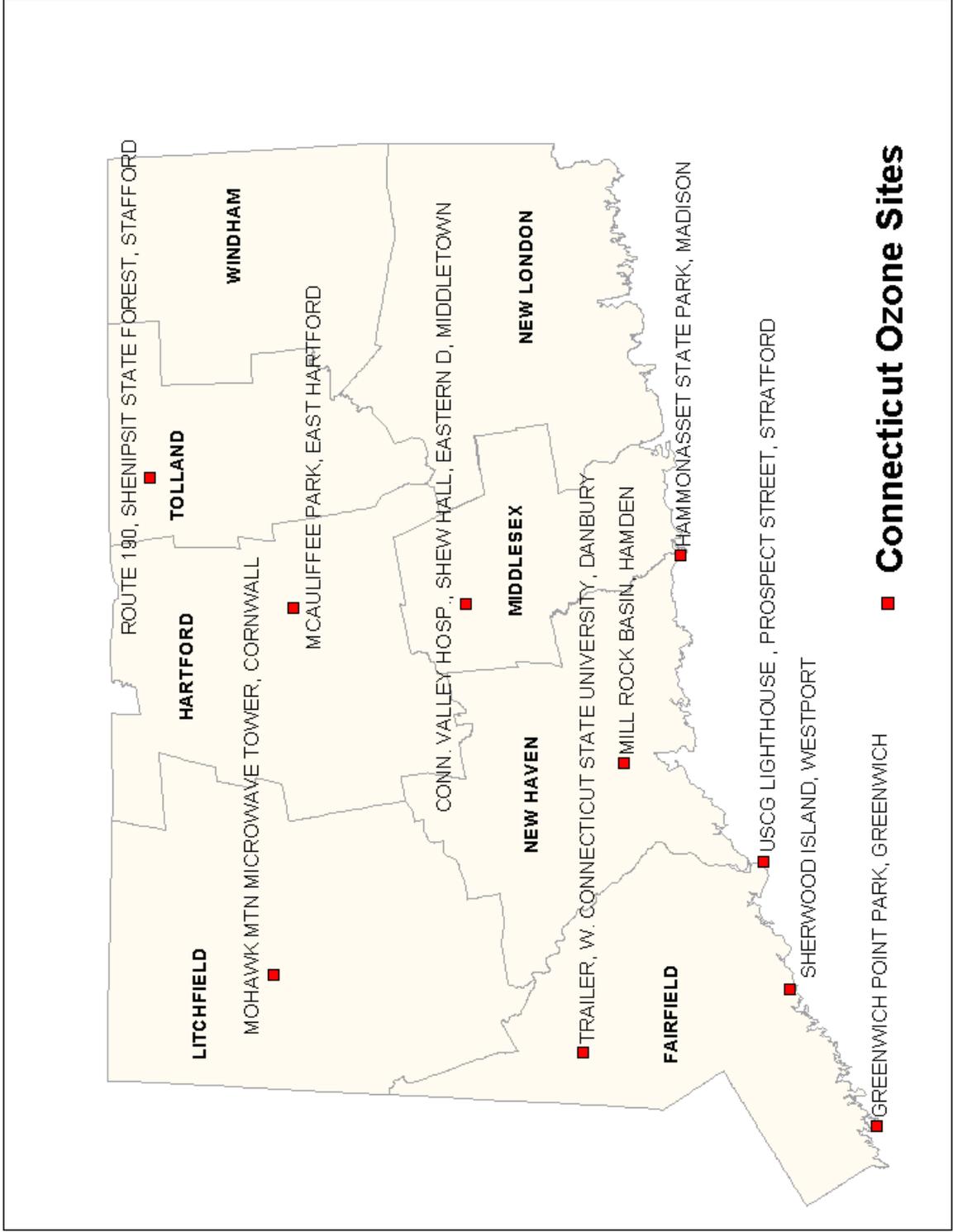


Connecticut Nitrogen Dioxide



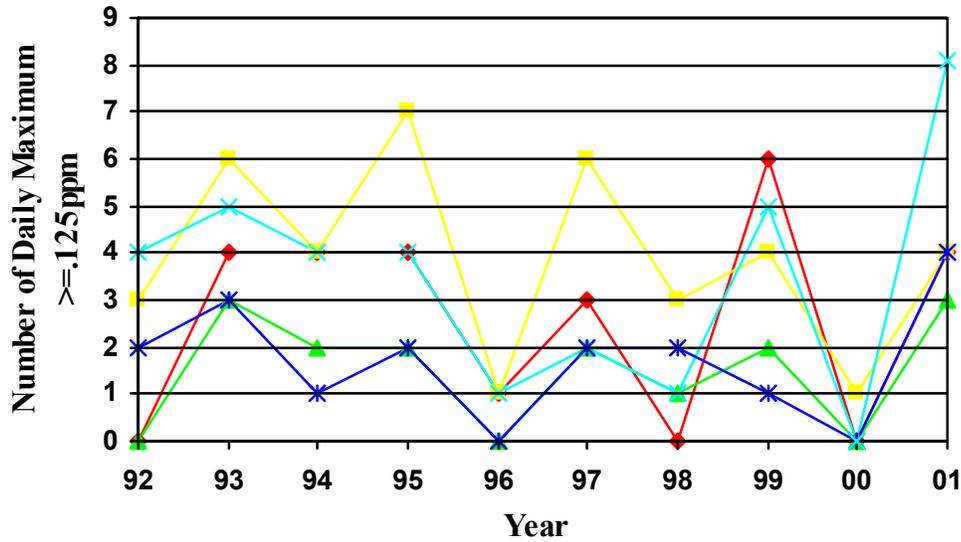
Parameter: Nitrogen Dioxide										
All Values are in Units of Parts Per Million										
								1-hour	1-hour	
	P								2nd	Annual
	O	Org				#		Highest	Highest	Arith.
Site ID	C	Type	City	County	Address	Year	Obs	Value	Value	Mean
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND STATE PARK	2001	8,231	0.086	0.086	0.021
09-003-1003	1	F	EAST HARTFORD	HARTFORD	MCAULIFFEE PARK	2001	8,648	0.095	0.08	0.02
09-009-1123	1	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	2001	8,609	0.095	0.091	0.027
09-009-9005	1	F	HAMDEN	NEW HAVEN	MILL ROCK BASIN	2001	4,321	0.084	0.07	0.015 *
09-013-1001	1	F	STAFFORD	TOLLAND	ROUTE 190, SHENIPSIT STATE FOREST	2001	4,196	0.037	0.033	0.006 *

*Indicates that the mean does not satisfy summary criteria



■ **Connecticut Ozone Sites**

Connecticut Ozone 1-Hour

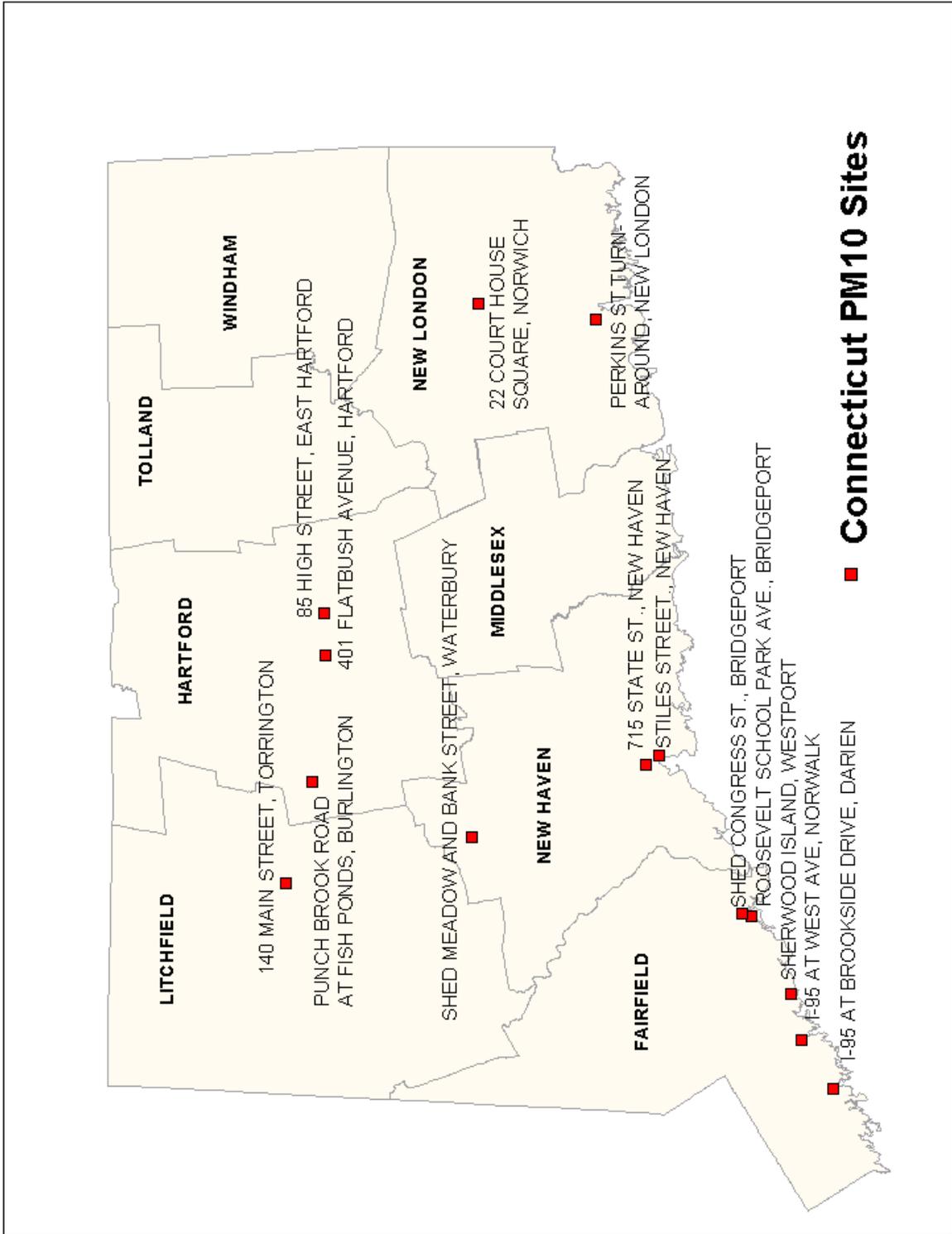


Parameter: Ozone (1-Hour)																
All Values are in Units of Parts Per Million																
	P								2nd	3rd	4th			#	Miss Da	1-Hour
Site ID	O	Org	City	County	Address	Num	Num	Highest	Highest	Highest	Highest	Values	> 0.124	Methods	Assume	Design
	C	Type				Meas	Req	Value	Value	Value	Value	Meas	Est	Used	Standard	Values
09-001-0017	1	F	GREENWICH	FAIRFIELD	GREENWICH POINT PARK	181	183	0.154	0.13	0.126	0.125	4	4	1	1	0.142
09-001-1123	1	F	DANBURY	FAIRFIELD	TRAILER, W. CONNECTICUT STATE UNIVERSITY	180	183	0.14	0.133	0.125	0.122	3	3	1	1	0.136
09-001-3007	1	F	STRATFORD	FAIRFIELD	USCG LIGHTHOUSE , PROSPECT STREET	181	183	0.148	0.144	0.143	0.129	4	4	1	2	0.143
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND STATE PARK	170	183	0.15	0.144	0.139	0.123	3	3.1	1	6	0.143
09-003-1003	1	F	EAST HARTFORD	HARTFORD	MCAULIFFEE PARK	183	183	0.141	0.133	0.129	0.12	3	3	2	0	0.132
09-005-0005	1	F	CORNWALL	LITCHFIELD	MOHAWK MTN MICROWAVE TOWER	37	183	0.117	0.094	0.083	0.082	0	0	1	0	
09-007-0007	1	F	MIDDLETOWN	MIDDLESEX	CONN. VALLEY HOSP., SHEW HALL, EASTERN D	180	183	0.15	0.138	0.137	0.134	8	8.1	1	1	0.147
09-009-3002	1	F	MADISON	NEW HAVEN	HAMMONASSET STATE PARK	177	183	0.162	0.146	0.145	0.129	4	4	1	6	0.146
09-009-9005	1	F	HAMDEN	NEW HAVEN	MILL ROCK BASIN	181	183	0.136	0.134	0.131	0.128	4	4	1	2	
09-011-0008	1	F	GROTON	NEW LONDON	UNIVERSITY OF CONNECTICUT, AVERY POINT	175	183	0.136	0.11	0.108	0.108	1	1	1	2	0.135
09-013-1001	1	F	STAFFORD	TOLLAND	ROUTE 190, SHENIPSIT STATE FOREST	179	183	0.148	0.139	0.13	0.127	4	4	1	2	0.128

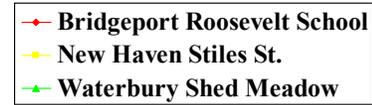
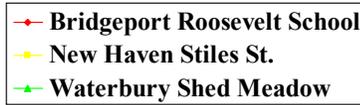
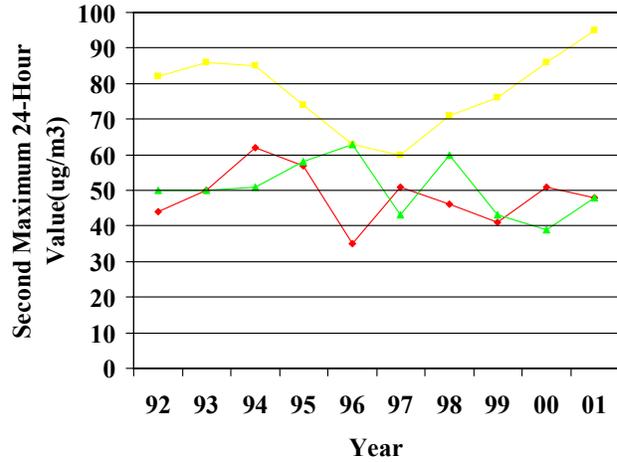
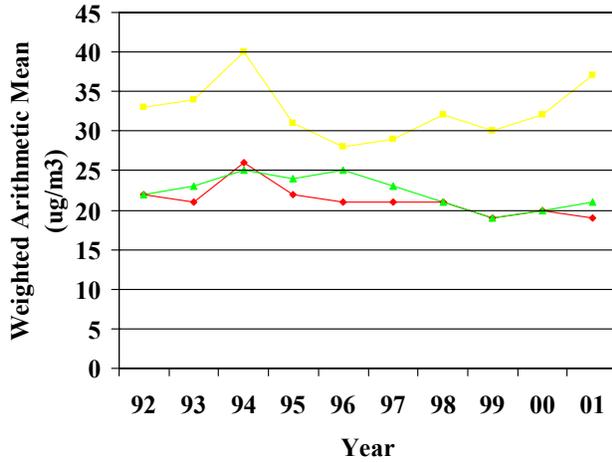
Connecticut Ozone 8-Hour

Parameter: Ozone (8-Hour)														
All Values are in Units of Parts Per Million														
	P								2nd	3rd	4th		Miss Days	8-Hour
	O	Org				#	%	Highest	Highest	Highest	Highest	# >	Assumed	Design
Site ID	C	Type	City	County	Address	Obs	Obs	Value	Value	Value	Value	0.08	Standard	Values
09-001-0017	1	F	GREENWICH	FAIRFIELD	GREENWICH POINT PARK	4,357	98	0.131	0.117	0.107	0.098	13	0	0.096
09-001-1123	1	F	DANBURY	FAIRFIELD	TRAILER, W.	4,318	96	0.112	0.107	0.098	0.096	9	0	0.097
					CONNECTICUT STATE UNIVERSITY									
09-001-3007	1	F	STRATFORD	FAIRFIELD	USCG LIGHTHOUSE ,	4,365	98	0.131	0.12	0.11	0.102	10	0	0.096
					PROSPECT STREET									
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND	4,123	89	0.133	0.122	0.114	0.097	15	0	0.097
					STATE PARK									
09-003-1003	1	F	EAST	HARTFORD	MCAULIFFEE PARK	6,372	99	0.114	0.102	0.096	0.093	8	0	0.088
					HARTFORD									
09-005-0005	1	F	CORNWALL	LITCHFIELD	MOHAWK MTN	886	20	0.098	0.087	0.074	0.067	2	0	*
					MICROWAVE TOWER									
09-007-0007	1	F	MIDDLETOWN	MIDDLESEX	CONN. VALLEY HOSP.,	6,436	96	0.111	0.111	0.108	0.102	11	0	0.099
					SHEW HALL, EASTERN D									
09-009-3002	1	F	MADISON	NEW HAVEN	HAMMONASSET STATE	4,305	96	0.133	0.126	0.105	0.1	11	0	0.097
					PARK									
09-009-9005	1	F	HAMDEN	NEW HAVEN	MILL ROCK BASIN	4,359	98	0.11	0.104	0.102	0.101	9	0	0.095
09-011-0008	1	F	GROTON	NEW LONDON	UNIVERSITY OF	4,214	93	0.099	0.095	0.09	0.09	7	0	0.09
					CONNECTICUT, AVERY									
					POINT									
09-013-1001	1	F	STAFFORD	TOLLAND	ROUTE 190, SHENIPSIT	4,293	96	0.122	0.118	0.108	0.102	10	0	0.09
					STATE FOREST									
* Not enough values to calculate														

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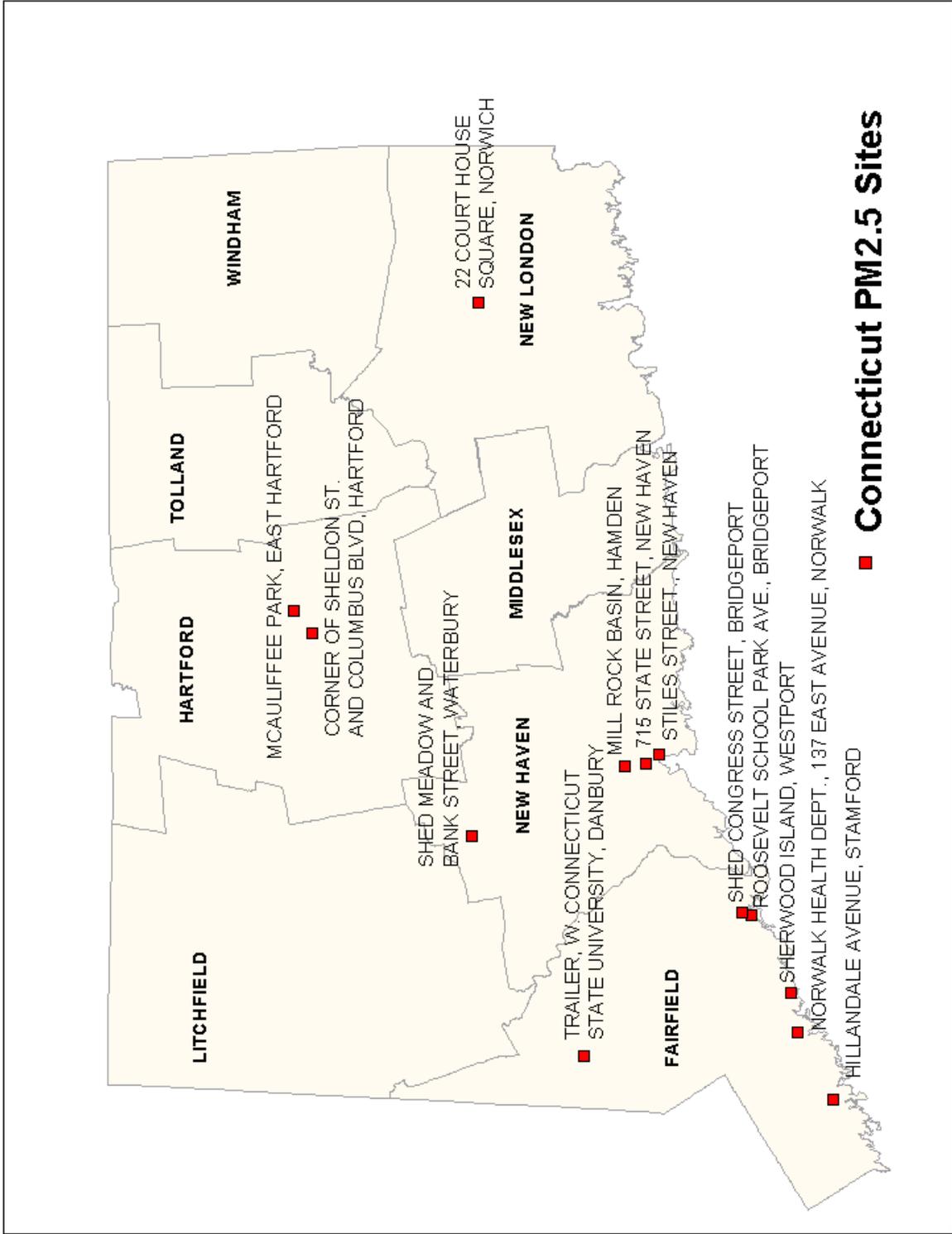


Connecticut PM10



Parameter: PM10													
All Values are in UG/CU Meter (25 C)													
	P							2nd	3rd	4th		Wtd. #	
	O	Org					#	Highest	Highest	Highest	Highest	Arith. Methc	
Site ID	C	Type	City	County	Address	Obs	Value	Value	Value	Value	99%	Mean	Used
09-001-0010	1	F	BRIDGEPORT	FAIRFIELD	ROOSEVELT SCHOOL PARK AVE.	59	56	48	47	39	56	19	1
09-001-0113	3	F	BRIDGEPORT	FAIRFIELD	SHED CONGRESS STREET	57	56	45	38	38	56	19	1
09-001-1401	1	F	DARIEN	FAIRFIELD	I-95 AT BROOKSIDE DRIVE	60	47	43	41	38	47	20	1
09-001-2014	1	F	NORWALK	FAIRFIELD	I-95 AT WEST AVE	58	55	55	53	53	55	28	1
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND STATE PARK	61	42	40	30	28	42	15	1
09-003-0013	1	F	HARTFORD	HARTFORD	401 FLATBUSH AVENUE	59	43	39	36	33	43	16	1
09-003-2001	1	F	BURLINGTON	HARTFORD	PUNCH BROOK ROAD AT FISH PONDS	50	33	32	31	26	33	11*	1
09-003-2006	1	F	EAST HARTFOR	HARTFORD	85 HIGH STREET EAST HARTFORD	53	47	38	34	33	47	17*	1
09-003-2006	9	F	EAST HARTFOR	HARTFORD	85 HIGH STREET EAST HARTFORD	52	52	39	35	34	52	18*	1
09-005-6001	1	F	TORRINGTON	LITCHFIELD	140 MAIN STREET	56	36	36	33	29	36	15	1
09-009-0018	1	F	NEW HAVEN	NEW HAVEN	STILES STREET.	61	62	59	54	52	62	30*	1
09-009-0018	3	F	NEW HAVEN	NEW HAVEN	STILES STREET.	348	98	95	92	85	85	37	1
09-009-0018	4	F	NEW HAVEN	NEW HAVEN	STILES STREET.	261	98	95	92	85	92	39*	1
09-009-1123	1	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	59	56	45	44	40	56	20	1
09-009-1123	2	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	59	53	43	43	39	53	19	1
09-009-2123	1	F	WATERBURY	NEW HAVEN	SHED MEADOW AND BANK STREET	59	63	46	38	37	63	20	1
09-009-2123	2	F	WATERBURY	NEW HAVEN	SHED MEADOW AND BANK STREET	59	68	48	40	38	68	21	1
09-011-0009	1	F	NEW LONDON	NEW LONDON	PERKINS ST TURN-AROUND	61	43	41	38	37	43	16	1
09-011-3002	1	F	NORWICH	NEW LONDON	22 COURT HOUSE SQUARE	49	51	39	39	36	51	17*	1

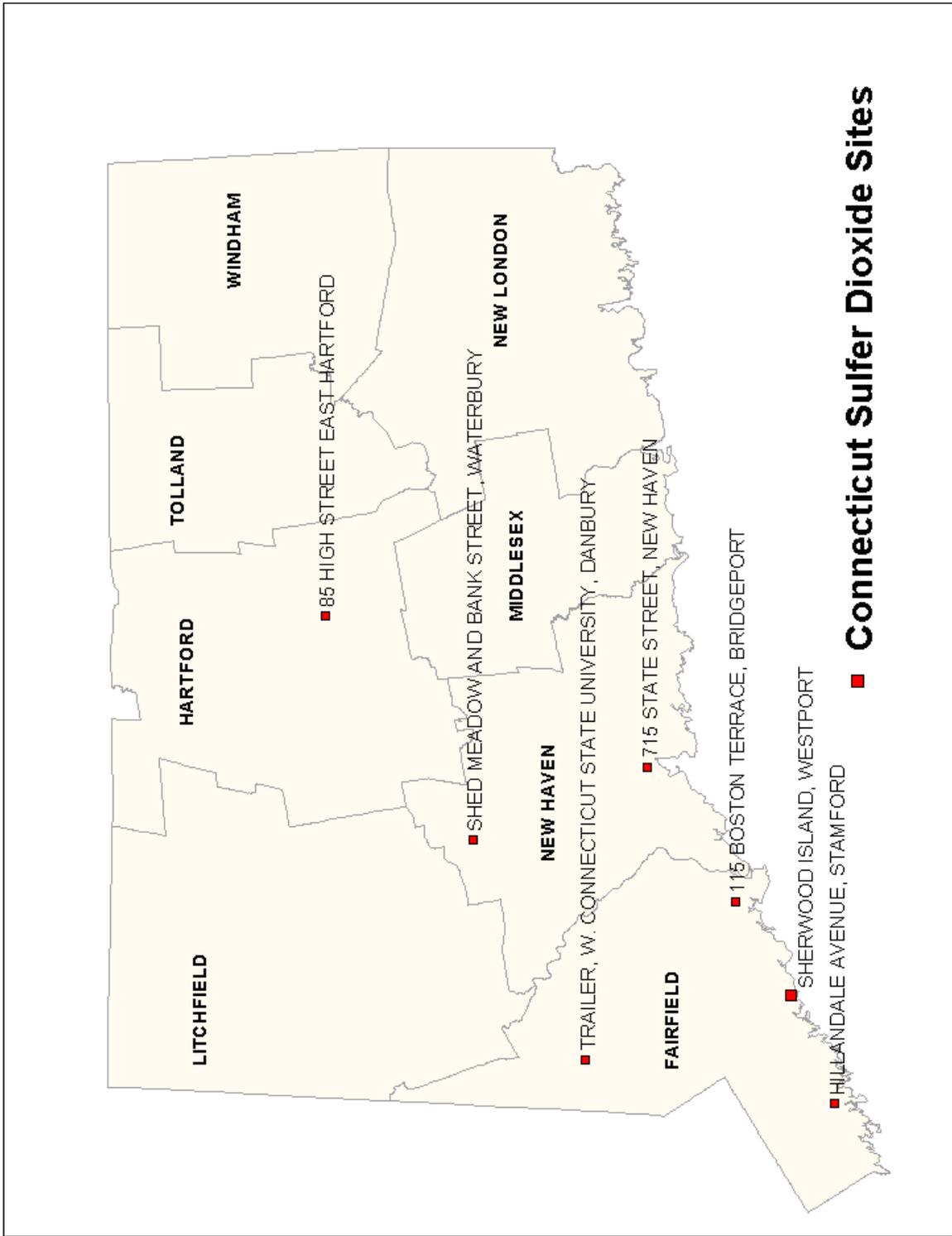
*Indicates that the mean does not satisfy summary criteria



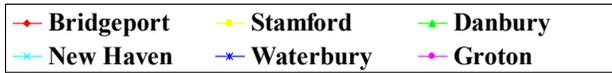
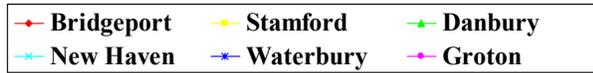
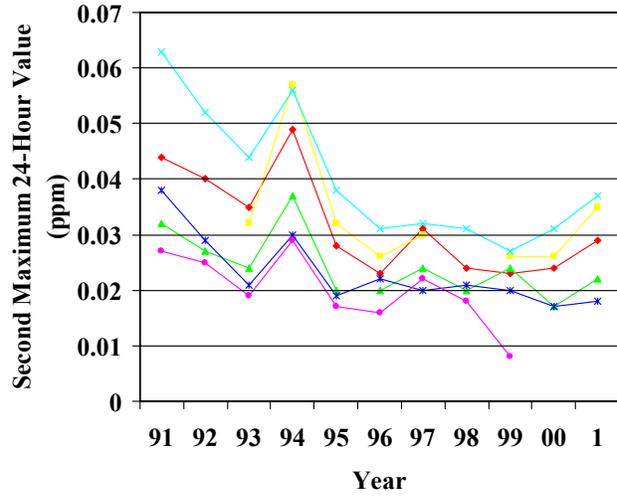
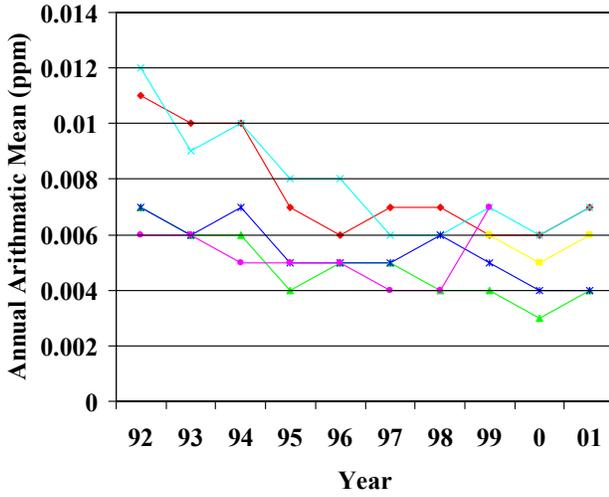
Connecticut PM2.5

Parameter: PM 2.5													
All Values are in UG/CU Meters Local Conditions													
	P						2nd	3rd	4th		Wtd.	#	
	O	Org				#	Highest	Highest	Highest	Highest	Arith.	Methc	
Site ID	C	Type	City	County	Address	Obs	Value	Value	Value	Value	98%	Mean	Used
09-001-0010	1	F	BRIDGEPORT	FAIRFIELD	ROOSEVELT SCHOOL PARK AVE.	121	40.6	40.1	40.1	38.6	40.1	13.7	1
09-001-0010	2	F	BRIDGEPORT	FAIRFIELD	ROOSEVELT SCHOOL PARK AVE.	58	41.4	40.6	38.6	35.2	40.6	13.5	1
09-001-0113	1	F	BRIDGEPORT	FAIRFIELD	SHED CONGRESS STREET	102	55.1	39.3	32.1	29.1	32.1	12.7 *	1
09-001-1123	1	F	DANBURY	FAIRFIELD	TRAILER, W. CONNECTICUT STATE UNIVERSITY	115	37.7	35.4	35.2	34	35.2	13.2	1
09-001-2124	1	F	STAMFORD	FAIRFIELD	HILLANDALE AVENUE	110	41.9	37.9	37.4	33.8	37.4	13	1
09-001-3005	1	F	NORWALK	FAIRFIELD	NORWALK HEALTH DEPT., 137 EAST AVENUE	111	40	38.9	35.7	31.8	35.7	13.4	1
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND STATE PARK	88	38.7	34.5	32	28.1	34.5	12.1	1
09-003-1003	1	F	EAST HARTFORD	HARTFORD	MCAULIFFEE PARK	323	41.3	41.1	39	36.2	32.8	12.3	1
09-003-1018	1	F	HARTFORD	HARTFORD	CORNER OF SHELDON ST. AND COLUMBUS BLVD	112	36.3	34	32.5	31.9	32.5	13	1
09-003-1018	3	F	HARTFORD	HARTFORD	CORNER OF SHELDON ST. AND COLUMBUS BLVD	277	37.8	34.8	34.2	33.5	31.5	10.7	1
09-003-1018	4	F	HARTFORD	HARTFORD	CORNER OF SHELDON ST. AND COLUMBUS BLVD	186	38	35	34	34	34	10.6 *	
09-009-0018	1	F	NEW HAVEN	NEW HAVEN	STILES STREET.	332	58.2	48.4	46.8	44.5	46.8	16.9	1
09-009-0018	2	F	NEW HAVEN	NEW HAVEN	STILES STREET.	57	46.6	43	38.9	38.5	43	18.6 *	1
09-009-1123	1	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	120	45.5	41.9	39.5	34.5	39.5	14.3	1
09-009-1123	2	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	61	42.5	40.6	34	30	40.6	14.6	1
09-009-2123	1	F	WATERBURY	NEW HAVEN	SHED MEADOW AND BANK STREET	117	39	38	35.4	35.1	35.4	14	1
09-009-2123	2	F	WATERBURY	NEW HAVEN	SHED MEADOW AND BANK STREET	58	37.8	34.9	34.5	28.6	34.9	14.2	1
09-009-9005	1	F	HAMDEN	NEW HAVEN	MILL ROCK BASIN	112	38.5	37.2	32.1	28.8	32.1	11.9	1
09-011-3002	1	F	NORWICH	NEW LONDON	22 COURT HOUSE SQUARE	102	43.8	35	34.4	29.5	34.4	12.7 *	1

* Indicates that the mean does not satisfy summary criteria



Connecticut Sulfur Dioxide



Parameter: Sulfur Dioxide																
All Values are in Units of Parts Per Million																
							24-hour	24-hour		3-hour	3-hour		1-hour	1-hour		
	P	O	Org			#	hour	hour	Obs	Highest	Highest	Obs	Highest	Highest	Arith.	Methc
Site ID	C	Type	City	County	Address	Obs	Highest	Highest	> 0.14	Value	Value	> 0.5	Value	Value	Mean	Used
09-001-0012	1	F	BRIDGEPORT	FAIRFIELD	115 BOSTON TERRACE	8,318	0.035	0.029	0	0.057	0.054	0	0.081	0.077	0.007	1
09-001-1123	1	F	DANBURY	FAIRFIELD	TRAILER, W. CONNECTICUT STATE UNIVERSITY	8,298	0.022	0.022	0	0.036	0.033	0	0.038	0.037	0.004	1
09-001-2124	1	F	STAMFORD	FAIRFIELD	HILLDALE AVENUE	8,304	0.037	0.035	0	0.053	0.046	0	0.055	0.054	0.006	1
09-001-9003	1	F	WESTPORT	FAIRFIELD	SHERWOOD ISLAND STATE PARK	7,778	0.025	0.024	0	0.034	0.034	0	0.041	0.04	0.004	1
09-003-2006	1	F	EAST HARTFORD	HARTFORD	85 HIGH STREET EAST HARTFORD	8,303	0.029	0.023	0	0.036	0.034	0	0.046	0.041	0.005	1
09-009-1123	2	F	NEW HAVEN	NEW HAVEN	715 STATE STREET	8,320	0.038	0.037	0	0.057	0.056	0	0.069	0.065	0.007	1
09-009-2123	1	F	WATERBURY	NEW HAVEN	SHED MEADOW AND BANK STREET	8,296	0.018	0.018	0	0.039	0.033	0	0.046	0.043	0.004	1

Ambient Air Quality Summary - Maine Summary

Low-level, highly sensitive CO monitors has been operational at the Cape Elizabeth PAMS site and Acadia National Park PAMS site. Measurements of CO at these sites are made to help understand ozone formation and summertime photochemistry and pollution transport along the Maine coast.

Ambient air monitoring for lead (Pb) has been discontinued because the concentration of lead in the air in Maine is very low, well below the NAAQS.

Ambient air concentrations of nitrogen dioxide (NO₂) were recorded at four sites in Maine. No sites recorded NO₂ concentrations approaching the NAAQS. A long-path UV DOAS monitor measured NO₂ as part of BEAM monitoring effort in Portland. The other NO₂ monitors were located at the PAMS sites in Kittery, Cape Elizabeth and at the Acadia National Park. In addition, the Acadia National Park also measured ambient concentrations of reactive nitrogen compounds as part of a program to understand photochemistry and transport of airborne pollutants along the coast.

During 2001, three of Maine's twelve ozone monitoring sites reported ozone concentrations over 124 ppb. This compares with 2000 and 1999 when none and three monitoring sites, respectively measured exceedances of the 1-hour ozone standard. The highest 1-hour ozone concentrations were recorded at the Cape Elizabeth (126 ppb) and Kennebunkport (126 ppb) monitoring sites. Nine ozone monitoring sites recorded a fourth highest 8-hour average ozone concentration above the level of the 8-hour NAAQS. These include the Acadia National Park (101 ppb), Kennebunkport (96 ppb), and Cape Elizabeth (97 ppb). The pattern of higher ozone concentrations in 1999 and 1997, and lower concentrations of ozone in 2000 and 1998, as measured by the 1-hour standard was also reflected in the 8-hour NAAQS data.

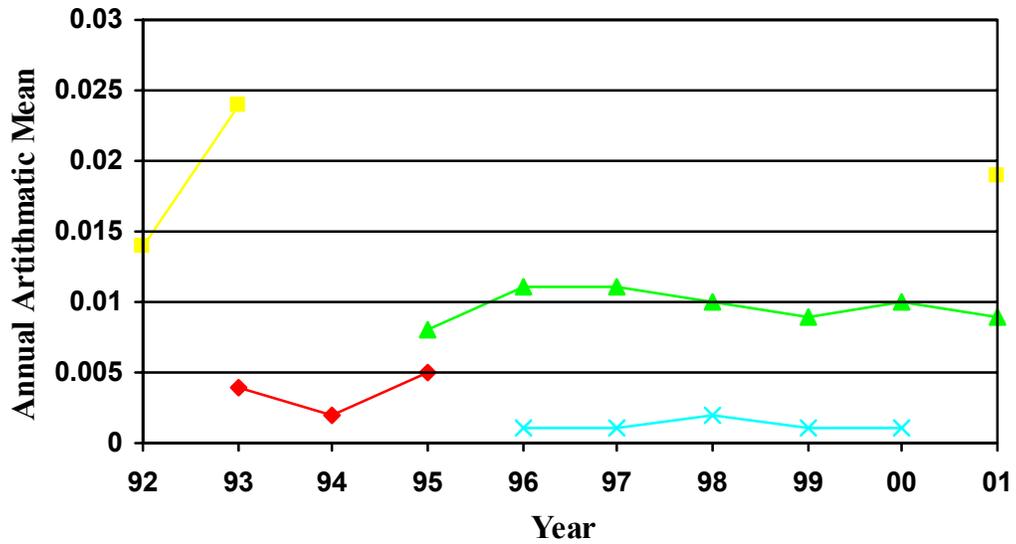
In 2001 no particulate matter sites which measured particles of 10 microns or less (PM₁₀) reported either 24-hour or annual violations of the NAAQS. The highest PM₁₀ concentrations were measured at the Marginal Way site in Portland (136 ug/m³, ~90% of the 24-hour NAAQS). The Tukey's Bridge and Main Street PM₁₀ monitor sites in Portland recorded the highest annual PM₁₀ concentrations (26 ug/m³, ~50% of the NAAQS). The ten-year trend in PM₁₀ show decreasing concentrations. Maine began monitoring fine particulate matter (PM_{2.5}) in 1999. Since then 17 PM_{2.5} monitoring sites have been established in the state. Data for these sites indicate that none of the sites have recorded PM_{2.5} concentrations that would result in exceedances of the 24-hour or annual NAAQS for PM_{2.5}.

There were no exceedances or violations of the sulfur dioxide (SO₂) NAAQS during 2001 in Maine. The highest annual arithmetic mean concentration was reported at the Portland Shelter site (4 ppb). The Lewiston monitoring site recorded the highest 24-hour second maximum at 15 ppb. The highest 3-hour second maximum concentration was recorded also in Portland (32 ppb). The ten-year trends in SO₂ concentrations are well below NAAQS and show small year-to-year changes.

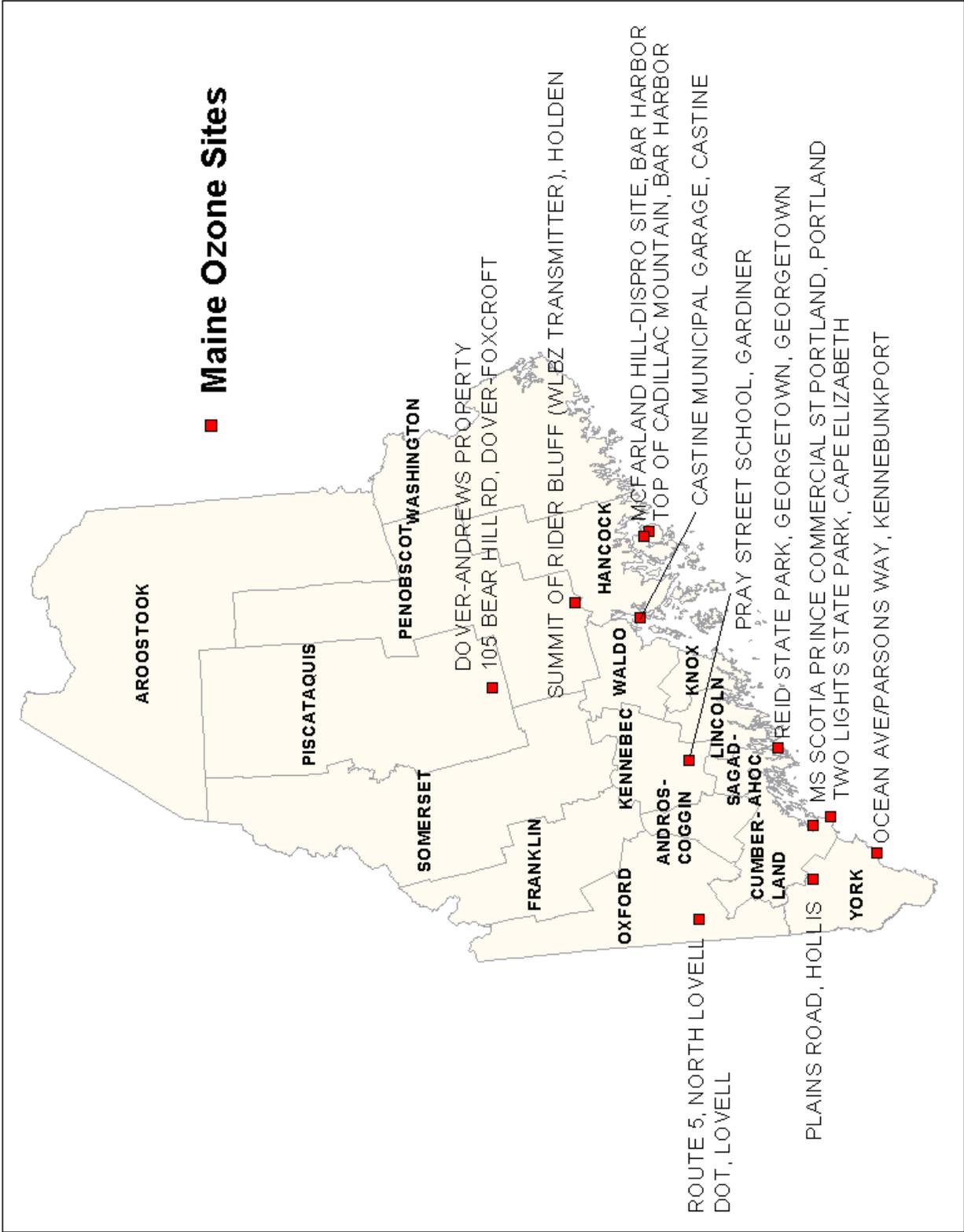
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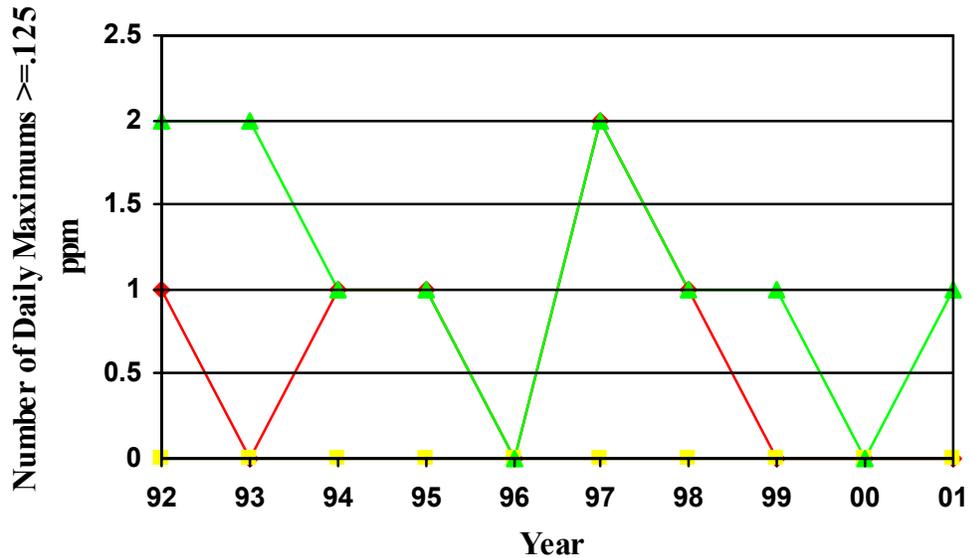
Maine Nitrogen Dioxide



Parameter: Nitrogen Dioxide										
All Values are in Units of Parts Per Million										
							1-hour	1-hour		
	P							2nd	Annual	
	O	Org				#	Highest	Highest	Arith.	
Site ID	C	Type	City	County	Address	Year	Obs	Value	Value	Mean
23-005-0027	1	F	PORTLAND	CUMBERLAND	26 MARGINAL WAY, PORTLAND	2001	4,925	0.089	0.06	0.019
23-031-3002	1	F	KITTERY	YORK	FRISBEE SCHOOL, GOODSOE ROAD	2001	7,739	0.052	0.051	0.009



Maine Ozone 1-Hour



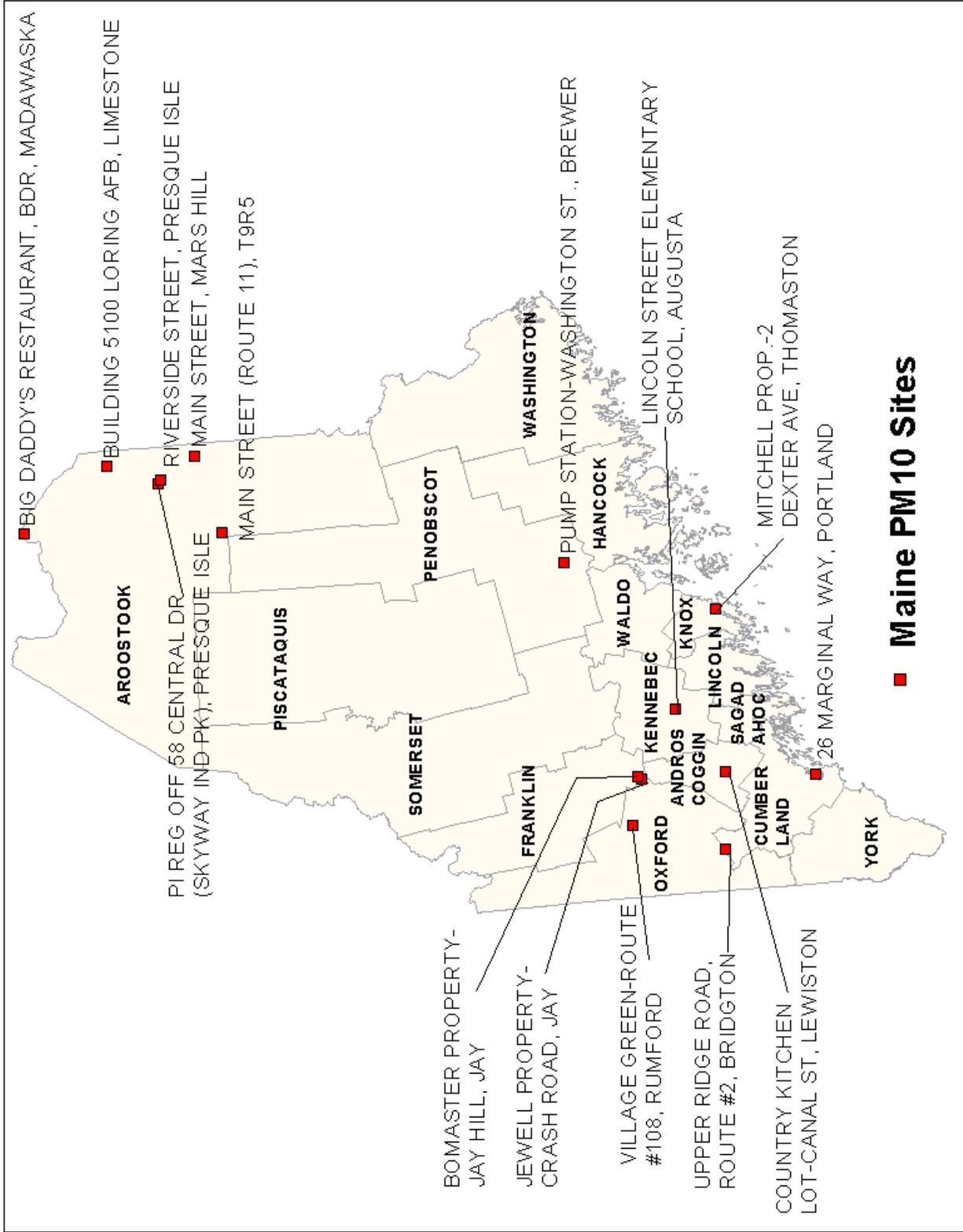
Parameter: Ozone (1-Hour)																	
All Values are in Units of Parts Per Million																	
	P									2nd	3rd	4th		#	Miss Days	1-Hour	
Site ID	O	Org	Type	City	County	Address	Meas	Num	Highest	Highest	Highest	Highest	Values > 0.124	Methods	Assumed<	Design	
23-005-2003	C		F	CAPE ELIZABETH	CUMBERLAND	TWO LIGHTS STATE PARK	178	183	0.124	0.116	0.113	0.111	0	0	1	1	0.111
23-009-0001			F	SEAWALL	HANCOCK	SEAWALL-RANGER GARAGE	174	183	0.102	0.101	0.098	0.096	0	0	2	0	
23-009-0102			F	BAR HARBOR	HANCOCK	TOP OF CADILLAC MOUNTAIN	156	183	0.12	0.117	0.116	0.109	0	0	1	0	0.12
23-009-0103			F	BAR HARBOR	HANCOCK	MCFARLAND HILL-DISPRO SITE	182	183	0.12	0.112	0.111	0.107	0	0	1	0	0.112
23-009-0301			F	CASTINE	HANCOCK	CASTINE MUNICIPAL GARAGE	30	183	0.087	0.073	0.059	0.054	0	0	1	0	
23-011-2005			F	GARDINER	KENNEBEC	PRAY STREET SCHOOL	181	183	0.112	0.107	0.101	0.099	0	0	1	0	0.1
23-013-0004			F	PORT CLYDE	KNOX	PORT CLYDE, MARSHALL POINT LIGHTHOUSE	183	183	0.126	0.109	0.106	0.105	1	1	1	0	0.109
23-017-3001			F	LOVELL	OXFORD	ROUTE 5, NORTH LOVELL DOT	182	183	0.084	0.081	0.078	0.075	0	0	1	1	0.078
23-019-4008			F	HOLDEN	PENOBSCOT	SUMMIT OF RIDER BLUFF (WLBZ TRANSMITTER)	178	183	0.109	0.105	0.103	0.102	0	0	1	1	0.103
23-021-0003			F	DOVER-FOXCROFT	PISCATAQUI	DOVER-ANDREWS PROPERTY 105 BEAR HILL RD	183	183	0.096	0.082	0.075	0.073	0	0	1	0	0.079
23-031-0038			F	WEST BUXTO	YORK	PLAINS ROAD	122	183	0.109	0.107	0.095	0.092	0	0	1	0	0.105
23-031-2002			F	KENNEBUNKPORT	YORK	OCEAN AVE/PARSONS WAY, KENNEBUNKPORT	173	183	0.126	0.124	0.112	0.111	1	1.1	1	0	0.12
23-031-3002			F	KITTERY	YORK	FRISBEE SCHOOL, GOODSOE ROAD	179	183	0.125	0.12	0.117	0.101	1	1	1	2	0.117
23-901-0001			F	PORTLAND	MOBILE MON	MS SCOTIA PRINCE COMMERCIAL ST PORTLAND	137	183	0.121	0.113	0.11	0.107	0	0	1	0	*

* Not enough values to calculate

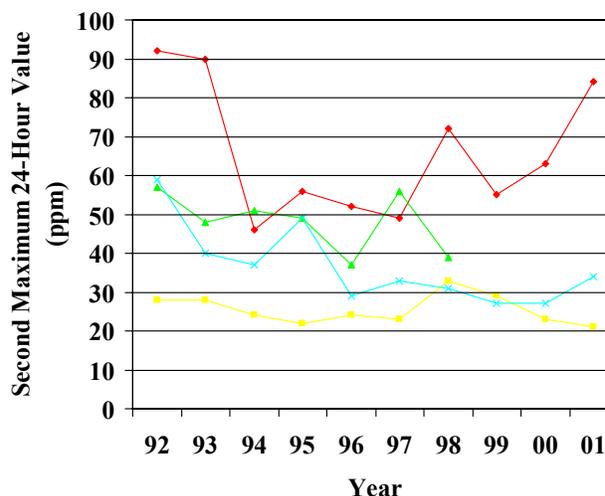
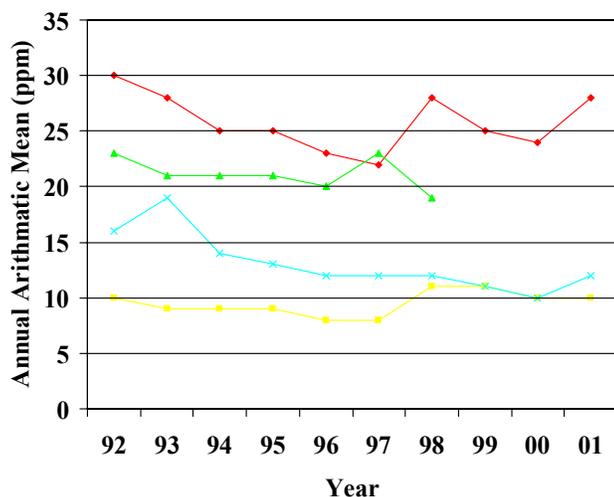
Maine Ozone 8-Hour

Parameter: Ozone (8-Hour)														
All Values are in Units of Parts Per Million														
	P								2nd	3rd	4th		Miss Days	8-Hour
	O	Org				#	%	Highest	Highest	Highest	Highest	# >	Assumed<	Design Val
Site ID	C	Type	City	County	Address	Obs	Obs	Value	Value	Value	Value	0.08	Standard	
23-005-2003	1	F	CAPE ELIZABETH	CUMBERLAND	TWO LIGHTS STATE PARK	4,284	98	0.105	0.103	0.102	0.097	8	0	0.08
23-009-0001	1	F	SEAWALL	HANCOCK	SEAWALL-RANGER GARAGE	4,179	95	0.092	0.089	0.088	0.085	4	0	*
23-009-0102	1	F	BAR HARBOR	HANCOCK	TOP OF CADILLAC MOUNTAIN	3,704	84	0.107	0.102	0.101	0.101	9	0	0.089
23-009-0103	1	F	BAR HARBOR	HANCOCK	MCFARLAND HILL- DISPRO SITE	8,736	99	0.101	0.1	0.098	0.094	9	0	0.085
23-009-0301	1	F	CASTINE	HANCOCK	CASTINE MUNICIPAL GARAGE	2,113	48	0.081	0.067	0.065	0.063	0	0	*
23-011-2005	1	F	GARDINER	KENNEBEC	PRAY STREET SCHOOL	4,347	99	0.097	0.091	0.09	0.084	3	0	0.075
23-013-0004	2	F	PORT CLYDE	KNOX	PORT CLYDE, MARSHALL POINT LIGHTHOUSE	4,383	100	0.111	0.099	0.093	0.091	6	0	0.08
23-017-3001	1	F	LOVELL	OXFORD	ROUTE 5, NORTH LOVELL DOT	4,350	98	0.077	0.072	0.069	0.068	0	0	0.061
23-019-4008	1	F	HOLDEN	PENOBSCOT	SUMMIT OF RIDER BLUFF (WLBZ TRANSMITTER)	4,277	96	0.103	0.092	0.091	0.088	6	0	0.076
23-021-0003	1	F	DOVER- FOXCROFT	PISCATAQUIS	DOVER-ANDREWS PROPERTY 105 BEAR HILL RD	5,544	99	0.08	0.079	0.068	0.068	0	0	0.065
23-031-0038	1	F	WEST BUXTOI	YORK	PLAINS ROAD	2,917	67	0.097	0.074	0.074	0.072	1	0	0.072
23-031-2002	1	F	KENNEBUNKF	YORK	OCEAN AVE/PARSONS WAY, KENNEBUNKPORT	4,131	94	0.107	0.104	0.098	0.096	8	0	0.086
23-031-3002	1	F	KITTERY	YORK	FRISBEE SCHOOL, GOODSOE ROAD	4,321	97	0.096	0.096	0.09	0.09	4	0	0.081
23-901-0001	1	F	PORTLAND	MOBILE MONITC	MS SCOTIA PRINCE COMMERCIAL ST PORTLAND	3,279	75	0.102	0.098	0.092	0.085	4	0	*
* Not enough values to calculate														

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Maine PM 10



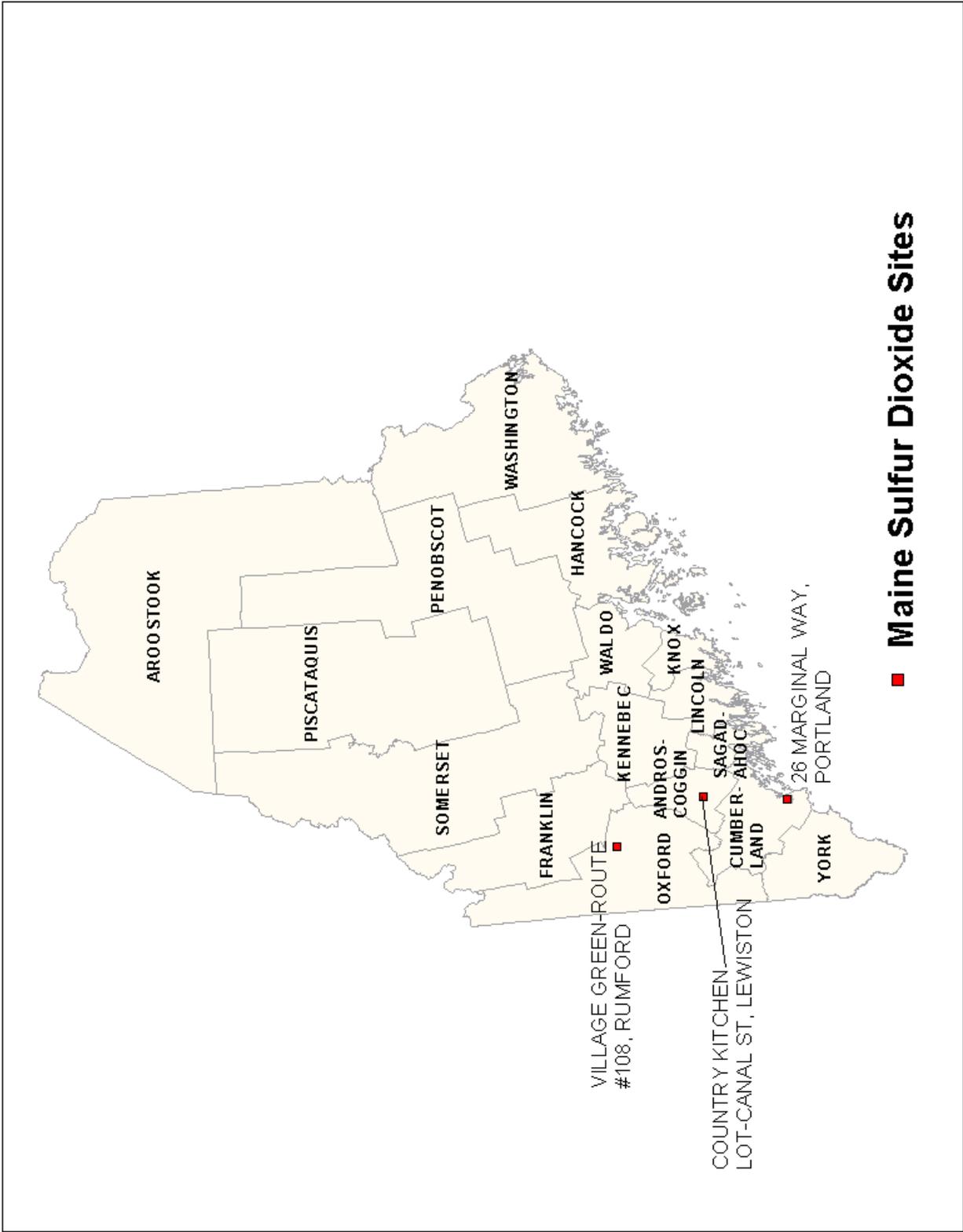
Parameter: PM10													
All Values are in UG/CU Meter (25 C)													
	P						2nd	3rd	4th		Wtd.	#	
Site ID	O	Org	City	County	Address	#	Highest	Highest	Highest	Highest	99%	Arith.	Methc
	C	Type				Obs	Value	Value	Value	Value	Mean	Used	
23-001-0011	1	F	LEWISTON	ANDROSCOGG	COUNTRY KITCHEN LOT-CANAL ST	59	53	47	47	43	53	21	1
23-003-0013	2	F	MADAWASKA	AROOSTOOK	BIG DADDY'S RESTAURANT, BDR	57	99	84	77	75	99	28*	1
23-003-1008	1	F	PRESQUE ISLE	AROOSTOOK	PI REG OFF 58 CENTRAL DR (SKYWAY IND PK)	60	53	42	35	33	53	15	1
23-003-1011	2	F	PRESQUE ISLE	AROOSTOOK	RIVERSIDE STREET PRESQUE ISLE	295	78	76	75	74	75	21*	
23-003-1012	1	F	LORING AFB	AROOSTOOK	BUILDING 5100 LORING AFB	57	31	28	27	27	31	12*	1
23-003-1014	1	F	MARS HILL	AROOSTOOK	MAIN STREET MARS HILL	60	73	61	58	49	73	24	1
23-003-1016	1	F	ASHLAND	AROOSTOOK	MAIN STREET (ROUTE 11)	54	95	92	56	49	95	26	1
23-005-0002	2	F	BRIDGTON	CUMBERLAND	UPPER RIDGE ROAD, ROUTE #2	48	30	21	20	18	30	10*	1
23-005-0015	1	F	PORTLAND	CUMBERLAND	TUKEY'S BRIDGE-BEAN POT RD.	58	66	55	54	52	66	26	1
23-005-0027	1	F	PORTLAND	CUMBERLAND	26 MARGINAL WAY, PORTLAND	60	66	59	52	52	66	24	1
23-007-0003	1	F	JAY	FRANKLIN	JEWELL PROPERTY-CRASH ROAD	61	43	32	30	26	43	13*	1
23-007-0004	3	J	JAY	FRANKLIN	BOMASTER PROPERTY-JAY HILL	61	37	34	34	32	37	12*	1
23-011-0016	1	F	AUGUSTA	KENNEBEC	LINCOLN STREET ELEMENTARY SCHOOL	55	67	57	45	43	67	21	1
23-013-2001	1	J	THOMASTON	KNOX	MITCHELL PROP.-2 DEXTER AVE	60	64	56	52	48	64	16*	1
23-017-2007	1	F	RUMFORD	OXFORD	VILLAGE GREEN-ROUTE#108	61	36	28	27	23	36	11*	1
23-019-0002	2	F	BANGOR	PENOBSCOT	PUMP STATION-WASHINGTON ST.	53	51	35	34	33	51	16*	1

*Indicates that the mean does not satisfy the summary criteria

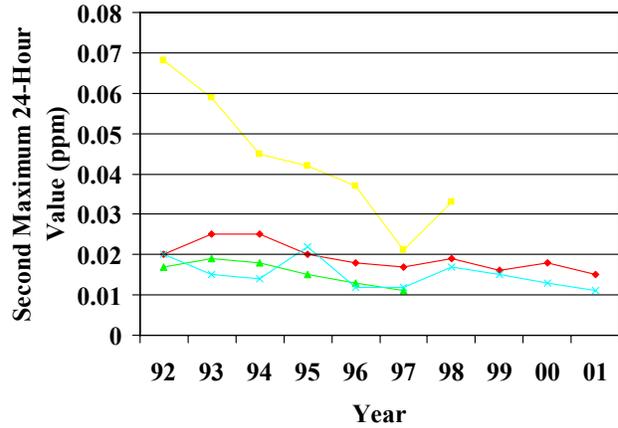
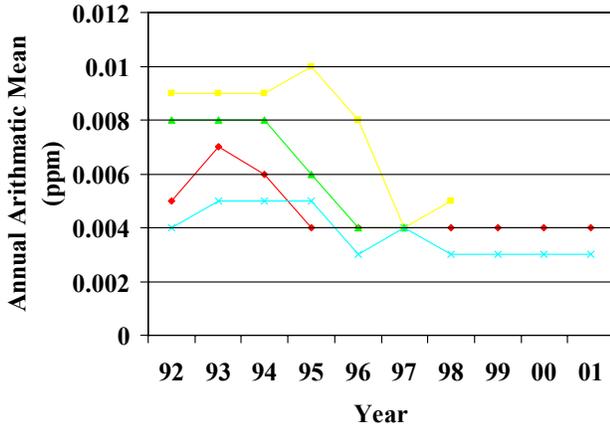
Maine PM2.5

Parameter: PM 2.5													
All Values are in UG/CU Meters Local Conditions													
	P						2nd	3rd	4th		Wtd.	#	
Site ID	O	Org	City	County	Address	#	Highest	Highest	Highest	Highest	Arith.	Methc	
	C	Type				Obs	Value	Value	Value	Value	98%	Mean	Used
23-001-0011	1	F	LEWISTON	ANDROSCOGGIN	COUNTRY KITCHEN	111	41.9	34.6	32.5	30.8	32.5	11.3	1
					LOT-CANAL ST								
23-001-0011	3	F	LEWISTON	ANDROSCOGGIN	COUNTRY KITCHEN	270	38	36	31	30	27	9.7 *	
					LOT-CANAL ST								
23-003-0013	1	F	MADAWASKA	AROOSTOOK	BIG DADDY'S	122	36.4	32.9	25.2	23.7	25.2	11.4	1
					RESTAURANT, BDR								
23-003-1011	1	F	PRESQUE ISLE	AROOSTOOK	RIVERSIDE STREET	118	31.1	20.2	20	19.7	20	8.3	1
					PRESQUE ISLE								
23-005-0015	1	F	PORTLAND	CUMBERLAND	TUKEY'S BRIDGE-BEAN	59	40.7	30.6	29.7	29.3	30.6	12	1
					POT RD.								
23-005-0027	1	F	PORTLAND	CUMBERLAND	26 MARGINAL WAY,	113	39.5	36.9	32.7	30.3	32.7	11.8	1
					PORTLAND								
23-005-0027	3	F	PORTLAND	CUMBERLAND	26 MARGINAL WAY,	346	35	35	34	30	27	8.9	
					PORTLAND								
23-005-0028	1	F	WESTBROOK	CUMBERLAND	MECHANIC'S STREET,	59	39.5	27.4	25.7	25.3	27.4	10.4	1
					WESTBROOK								
23-005-2003	1	F	CAPE ELIZABETH	CUMBERLAND	TWO LIGHTS STATE	85	34.5	28.9	28.3	27.7	28.9	8.8 *	1
					PARK								
23-009-0103	1	F	BAR HARBOR	HANCOCK	MCFARLAND HILL-	83	35.2	28.2	27.5	18.6		6.6	1
					DISPRO SITE								
23-011-0016	1	F	AUGUSTA	KENNEBEC	LINCOLN STREET	61	37	34.3	28.3	27.5	34.3	10.8	1
					ELEMENTARY SCHOOL								
23-011-2002	1	F	WATERVILLE	KENNEBEC	COREY'S MUSIC-99	55	41.7	33.4	27.7	25.6	33.4	11.3 *	1
					MAIN ST.								
23-013-2001	1	F	THOMASTON	KNOX	MITCHELL PROP.-2	56	32.9	31.4	23.9	23.1	31.4	7.7	2
					DEXTER AVE								
23-017-2011	1	F	RUMFORD	OXFORD	RUMFORD AVENUE	51	29.1	26.9	25.2	24.7	26.9	10.8 *	2
					AREA PARKING LOT								
23-019-0002	1	F	BANGOR	PENOBSCOT	PUMP STATION-	118	35.3	33.1	31.1	30.6	31.1	10.1	1
					WASHINGTON ST.								
23-019-0002	3	F	BANGOR	PENOBSCOT	PUMP STATION-	320	32	31	30	30	30	8.9	
					WASHINGTON ST.								
23-019-4003	1	F	OLD TOWN	PENOBSCOT	MARSH ISLAND APTS-S	54	32.5	29.5	26.9	22.8	29.5	9.8 *	1
					MAIN ST.								
23-031-0008	1	F	SACO	YORK	68 FRONT STREET,	56	33.8	25.8	24.6	24.2	25.8	10	1
					SACO, MAINE								

*Indicates that the mean does not satisfy the summary criteria



Maine Sulfur Dioxide



Parameter: Sulfur Dioxide																		
All Values are in Units of Parts Per Million																		
Site ID	P	O	C	Type	City	County	Address	#	24-	24-	3-hour	3-hour	1-hour	1-hour	Arith.	Methc		
									hour	hour	Obs	2nd	Obs	2nd			Value	Value
									Highest	Highest	> 0.14	Highest	Highest	> 0.5	Mean	Used		
23-001-0011	1	F			LEWISTON	ANDROSCOGGIN	COUNTRY KITCHEN LOT-CANAL ST	8,552	0.016	0.015	0	0.035	0.032	0	0.052	0.044	0.004	1
23-005-0027	1	F			PORTLAND	CUMBERLAND	26 MARGINAL WAY, PORTLAND	8,634	0.019	0.018	0	0.034	0.028	0	0.038	0.038	0.004	1
23-017-2007	2	J			RUMFORD	OXFORD	VILLAGE GREEN-ROUTE#108	8,622	0.011	0.011	0	0.028	0.016	0	0.053	0.029	0.003	1

Ambient Air Quality Summary - Massachusetts

Massachusetts maintains nine carbon monoxide (CO) monitoring sites. Four sites are located in Boston (Kenmore Square, Visconti Street-East Boston, Breman Street-East Boston, and the Federal Post Office Building), two sites are located in Springfield (East Columbus Avenue and Liberty Street), two sites are located in Worcester (Central Street and Franklin Street), and a single site in Lowell (Old City Hall). No exceedances of the 8-hour NAAQS for CO was recorded at any site in Massachusetts during 2001 (and 2000, 1999, 1998, and 1997). In general, over the past five years, the concentrations of CO were highest in 1999. The annual fluctuations in CO concentrations are evident in the ten year records. The data show an overall decrease in the concentration of CO over the past ten years.

In 1996, Massachusetts discontinued ambient air monitoring of lead (Pb) at all sites except one site in Boston. The maximum quarterly average concentration of lead at the Kenmore Square (Boston) site (0.03 ug/m³) was well below (~2%) the NAAQS for lead.

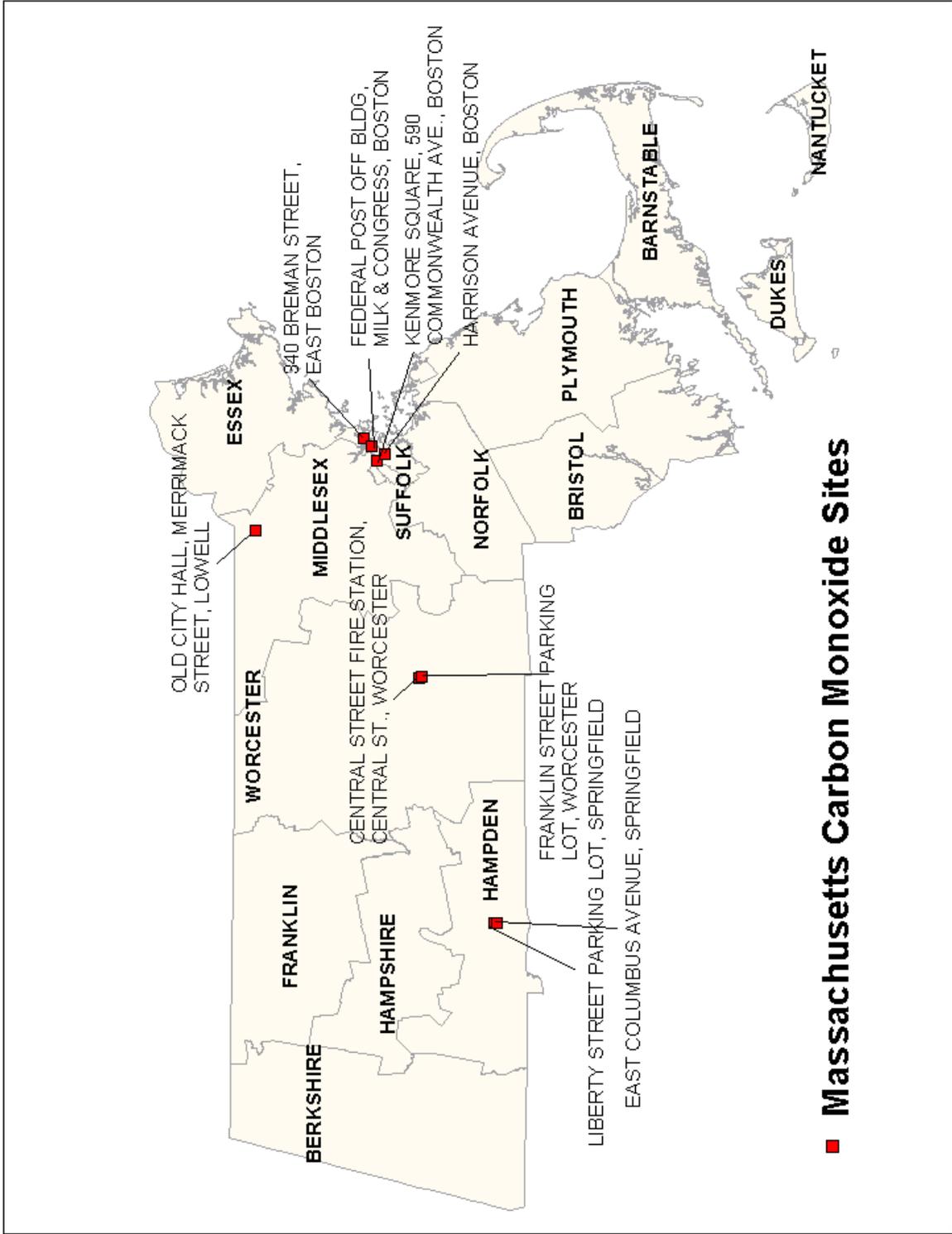
Nitrogen dioxide (NO₂) measurements were made at 14 monitoring sites in Massachusetts during 2001. The highest concentrations of NO₂ were recorded at monitors in Boston, Springfield and Worcester. The lowest concentrations were measured at the Quabbin Summit site (Ware) and at Newbury. The highest NO₂ concentrations were recorded at Kenmore Square (30 ppb) and the lowest concentrations at Newbury and the Quabbin Summit were 4 and 7 ppb, respectively. No upward or downward trend in NO₂ concentration can be detected in the ten-year trend data.

During 2001, fifteen ozone monitoring sites measured ozone (O₃) in Massachusetts. The highest 1-hour concentrations of ozone were recorded at the Quabbin Summit (148 ppb), Newbury (147 ppb), Truro (144 ppb), Fairhaven (142 ppb), and Amherst (138). This compares to 2000, when only Truro measured high (141 ppb) concentrations of ozone. In 2001, eleven of the fifteen ozone monitoring sites recorded a fourth highest 8-hour average ozone concentration above the level for the 8-hour NAAQS. In comparison, not one site in Massachusetts during 2000 recorded an 8-hr average ozone concentration above the 8-hour ozone NAAQS.

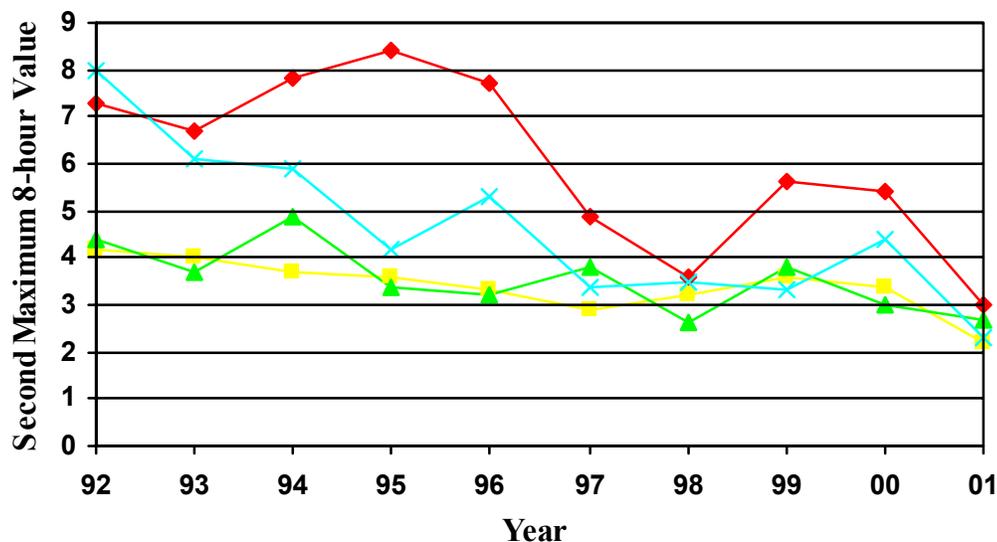
In Massachusetts, during 2001, three forms of particulate matter are measured at various ambient monitoring sites. Total Suspended Particles (TSP) were measured at five sites. The highest TSP concentrations were measured at Kenmore Square. Eight sites measured moderate size (coarse size) particulate matter (PM₁₀). With the exception of the Quabbin Summit site, all of the PM₁₀ monitoring sites were located in urban areas. The highest annual average concentrations of PM₁₀ were recorded at the Boston-City Square (31 ug/m³) and Boston-Kenmore Square (27 ug/m³) monitoring sites. The highest 24-hour PM₁₀ concentration was recorded at the Boston-City Square site (87 ug/m³). In contrast the lowest PM₁₀ concentrations were recorded at the Quabbin Summit site (12 ug/m³ annual average). Over the past 10 years the concentration of PM₁₀ has show some variability in the urban areas. In 1999, Massachusetts establish a fine particulate matter (PM_{2.5}) monitoring network. Since 1999, 26 PM_{2.5} monitoring sites have been deployed in urban, suburban and rural areas. The highest PM_{2.5} concentrations have been measured in the urban areas in Boston and Springfield. In 2001, the Kenmore Square and North Street sites measured annual average PM_{2.5} concentrations of 16.6 ug/m³ and 16.0 ug/m³, respectively.

Twelve sulfur dioxide (SO₂) monitoring sites were operated in Massachusetts during 2001. No exceedances or violation of the annual or 24-hour (primary) or the 3-hour (secondary) NAAQS for SO₂ was recorded in 2001. The highest short-term (3-hour) SO₂ concentrations were recorded at the Liberty Street monitoring site in Hamden (66 ppb). The highest annual SO₂ concentrations were recorded in Boston (East First Street and Harrison Avenue), well below the NAAQS. All SO₂ measurement sites in Massachusetts showed a general decline in SO₂ concentrations over the past ten years.

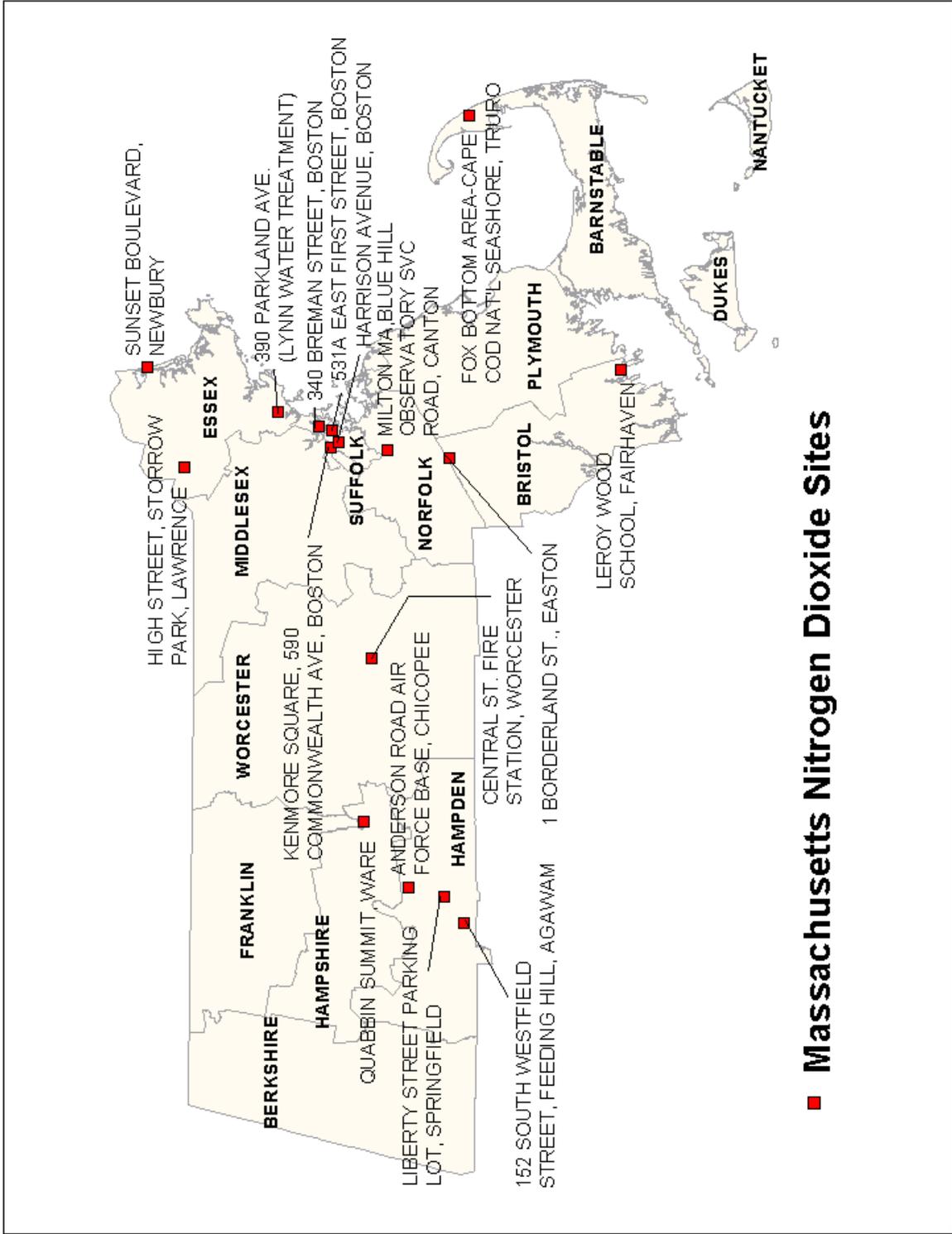
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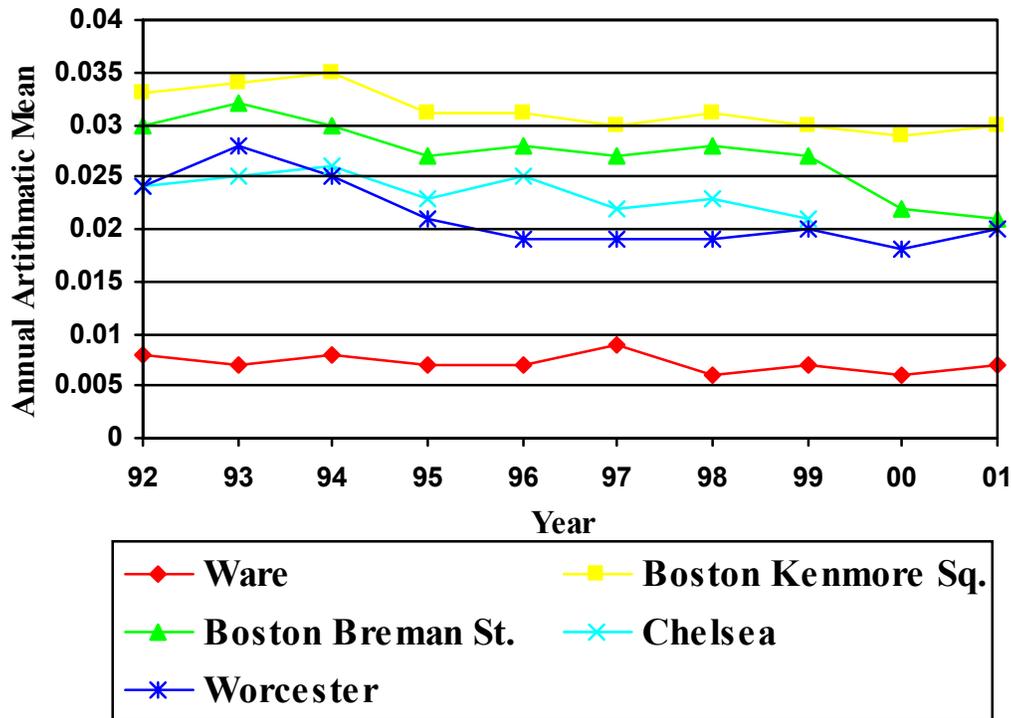
Massachusetts CO



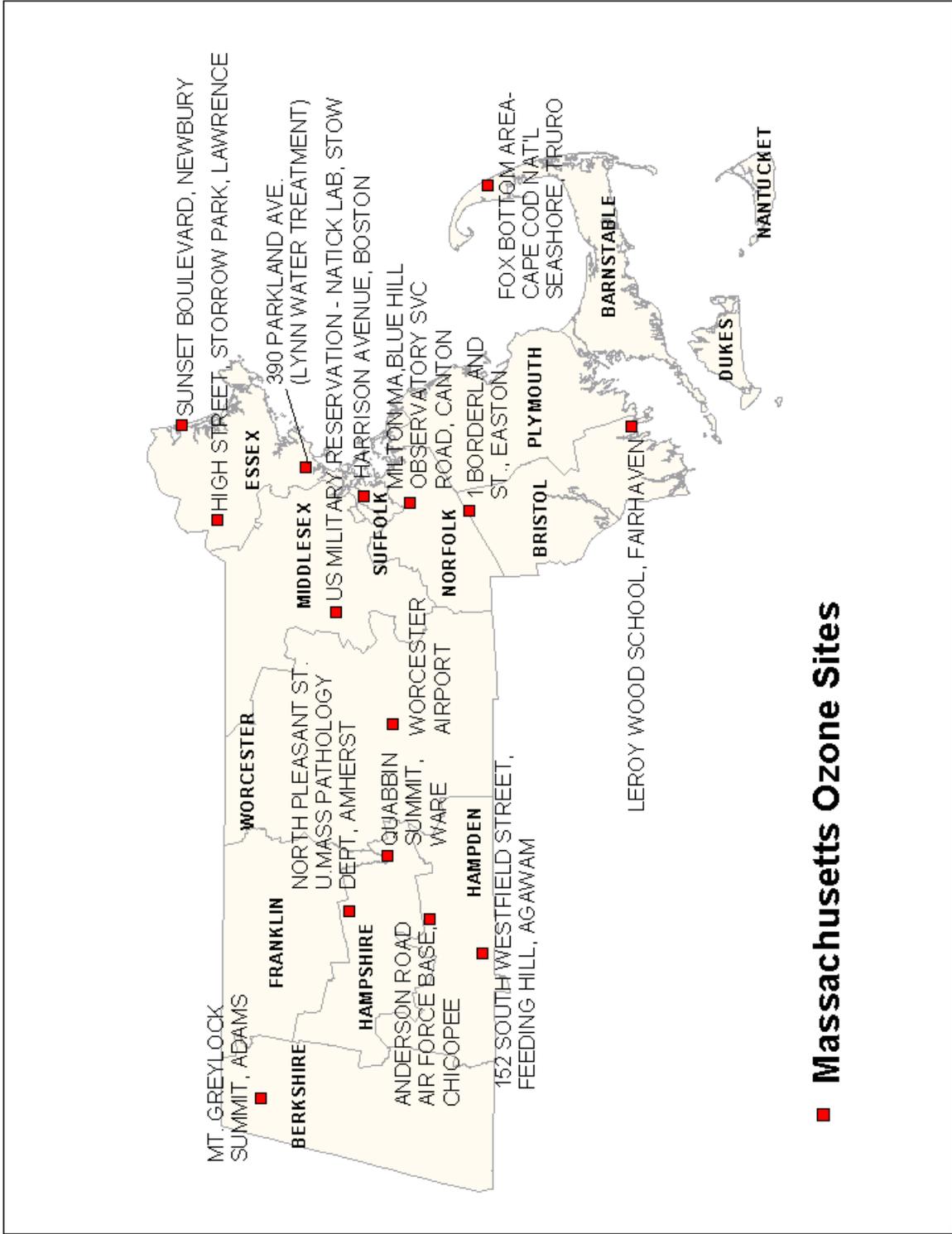
Carbon Monoxide													
All Values are in Units of Parts Per Million													
	P						1-hour	1-hour		8-hour	8-hour		
	O	Org					Highest	2nd		Highest	2nd	#	
Site ID	C	Type	City	County	Address	Obs	Value	Value	# > 35	Value	Value	# > 9	Methods
25-013-0016	1	F	SPRINGFIELD	HAMPDEN	LIBERTY STREET PARKING LOT	8,129	4	4	0	3.1	2.9	0	1
25-013-2007	1	F	SPRINGFIELD	HAMPDEN	EAST COLUMBUS AVENUE	8,030	5.5	4.9	0	3.9	3	0	1
25-017-0007	1	F	LOWELL	MIDDLESEX	OLD CITY HALL, MERRIMACK STREET	8,179	4.2	4.2	0	2.7	2.7	0	1
25-025-0002	1	F	BOSTON	SUFFOLK	KENMORE SQUARE, 590 COMMONWEALTH AVENUE	8,089	3.2	2.8	0	2.3	2.2	0	1
25-025-0021	1	F	BOSTON	SUFFOLK	340 BREMAN STREET, EAST BOSTON	7,797	4.3	3.9	0	2.9	2.7	0	1
25-025-0038	1	F	BOSTON	SUFFOLK	FEDERAL POST OFF BLDG, MILK & CONGRESS	7,500	4.1	3.6	0	2.7	2.6	0	1
25-025-0042	1	F	BOSTON	SUFFOLK	HARRISON AVENUE	5,971	5.6	4.9	0	3.1	2.8	0	1
25-027-0020	1	F	WORCESTER	WORCESTER	CENTRAL STREET FIRE STATION, CENTRAL ST.	7,826	6.6	5.9	0	2.6	2.6	0	1
25-027-0022	1	F	WORCESTER	WORCESTER	FRANKLIN STREET PARKING LOT	8,021	4	3.9	0	2.4	2.3	0	1



Massachusetts NO2

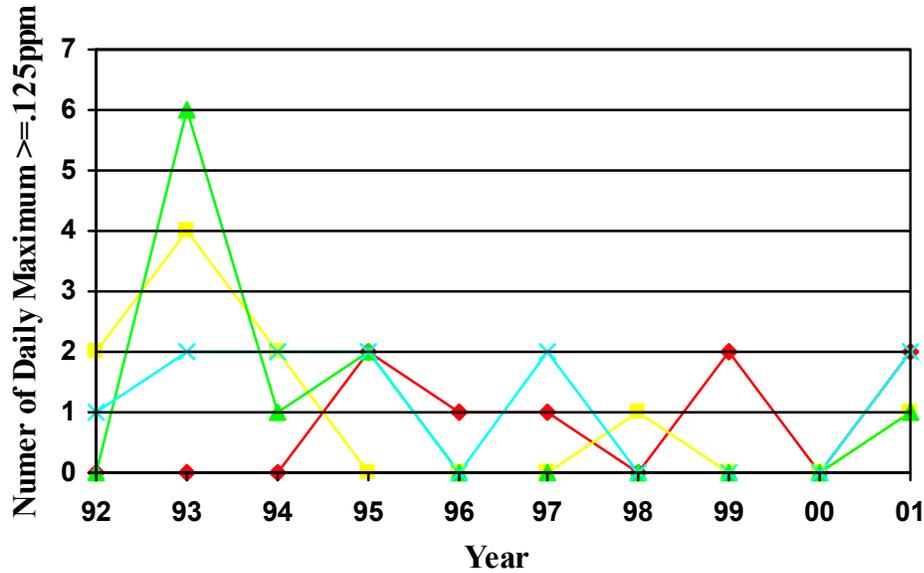


Parameter: Nitrogen Dioxide													
All Values are in Units of Parts Per Million													
Site ID	P	O	C	Type	City	County	Address	Year	#	Obs	1-hour Highest Value	1-hour 2nd Highest Value	Annual Arith. Mean
25-001-0002	1	F			TRURO	BARNSTABLE	FOX BOTTOM AREA-CAPE COD NAT'L SEASHORE	2001	8,376	8,376	0.043	0.043	0.004
25-005-1005	1	F			EASTON	BRISTOL	1 BORDERLAND ST.	2001	5,979	5,979	0.067	0.041	0.008
25-009-2006	1	F			LYNN	ESSEX	390 PARKLAND AVE. (LYNN WATER TREATMENT)	2001	8,112	8,112	0.063	0.054	0.012
25-009-4004	1	F			NEWBURY	ESSEX	SUNSET BOULEVARD	2001	8,436	8,436	0.045	0.043	0.007
25-013-0003	1	F			AGAWAM	HAMPDEN	152 SOUTH WESTFIELD STREET, FEEDING HILL	2001	8,265	8,265	0.054	0.053	0.01
25-013-0008	1	F			CHICOPEE	HAMPDEN	ANDERSON ROAD AIR FORCE BASE	2001	8,232	8,232	0.077	0.07	0.014
25-013-0016	1	F			SPRINGFIELD	HAMPDEN	LIBERTY STREET PARKING LOT	2001	8,388	8,388	0.095	0.084	0.023
25-015-4002	1	F			WARE	HAMPSHIRE	QUABBIN SUMMIT	2001	8,307	8,307	0.058	0.051	0.007
25-025-0002	1	F			BOSTON	SUFFOLK	KENMORE SQUARE, 590 AVENUE	2001	8,156	8,156	0.114	0.097	0.03
25-025-0021	1	F			BOSTON	SUFFOLK	340 BREMAN STREET, EAST BOSTON	2001	7,799	7,799	0.064	0.059	0.021
25-025-0040	1	J			BOSTON	SUFFOLK	531A EAST FIRST STREET	2001	8,544	8,544	0.092	0.086	0.023
25-025-0041	1	F			BOSTON	SUFFOLK	LONG ISLAND HOSPITAL ROAD	2001	8,319	8,319	0.081	0.08	0.012
25-025-0042	1	F			BOSTON	SUFFOLK	HARRISON AVENUE	2001	8,025	8,025	0.079	0.074	0.025
25-027-0020	1	F			WORCESTER	WORCESTER	CENTRAL STREET FIRE STATION, CENTRAL ST.	2001	8,356	8,356	0.09	0.075	0.02



■ Massachusetts Ozone Sites

Massachusetts Ozone 1-Hour

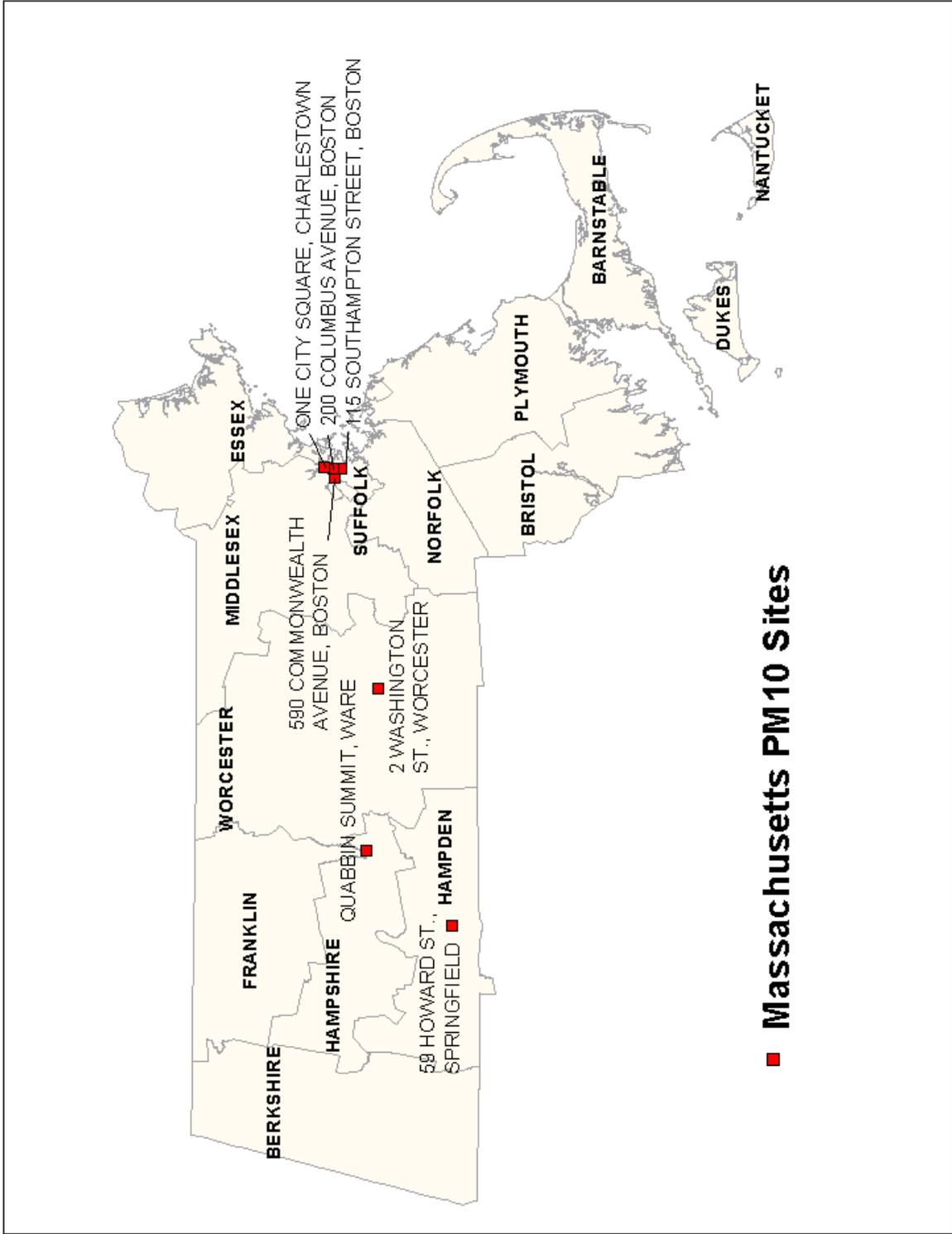


Parameter: Ozone (1-Hour)																		
All Values are in Units of Parts Per Million																		
Site ID	P	O	C	Type	City	County	Address	Num Meas	Num Req	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Values > 0.124 Meas	Est	# Used	Miss Da	1-Hour Assume Design
25-001-0002			1	F	TRURO	BARNSTABL	FOX BOTTOM AREA-CAPE COD NATL SEASHORE	181	183	0.144	0.139	0.121	0.121	2	2	1	2	0.138
25-003-4002			1	F	ADAMS	BERKSHIRE	MT. GREYLOCK SUMMIT	148	183	0.113	0.112	0.106	0.101	0	0	1	1	0.106
25-005-1002			1	F	FAIRHAVEN	BRISTOL	LEROY WOOD SCHOOL	156	183	0.142	0.136	0.123	0.12	2	2.3	1	1	0.125
25-005-1005			1	F	EASTON	BRISTOL	1 BORDERLAND ST.	169	183	0.124	0.116	0.115	0.111	0	0	1	1	0.111
25-009-0005			1	F	LAWRENCE	ESSEX	HIGH STREET, STORROW PARK	172	183	0.081	0.081	0.078	0.076	0	0	1	5	0.082
25-009-2006			1	F	LYNN	ESSEX	390 PARKLAND AVE. (LYNN WATER TREATMENT)	179	183	0.124	0.122	0.117	0.117	0	0	1	4	0.117
25-009-4004			1	F	NEWBURY	ESSEX	SUNSET BOULEVARD	157	183	0.147	0.112	0.108	0.107	1	1.2	1	1	0.112
25-013-0003			1	F	AGAWAM	HAMPDEN	152 SOUTH WESTFIELD STREET, FEEDING HILL	169	183	0.12	0.101	0.1	0.095	0	0	1	4	0.1
25-013-0008			1	F	CHICOPEE	HAMPDEN	ANDERSON ROAD AIR FORCE BASE	178	183	0.138	0.125	0.103	0.098	2	2	1	3	0.113
25-015-0103			1	F	AMHERST	HAMPSHIRE	NORTH PLEASANT ST. U.MASS PATHOLOGY DEPT	178	183	0.138	0.104	0.093	0.092	1	1	1	1	0.104
25-015-4002			1	F	WARE	HAMPSHIRE	QUABBIN SUMMIT	181	183	0.148	0.132	0.117	0.112	2	2	1	2	0.117
25-017-1102			1	F	STOW	MIDDLESEX	US MILITARY RESERVATION - NATICK LAB	182	183	0.123	0.122	0.117	0.116	0	0	1	1	0.116
25-025-0041			1	F	BOSTON	SUFFOLK	LONG ISLAND HOSPITAL ROAD	170	183	0.122	0.119	0.115	0.109	0	0	1	3	0.115
25-025-0042			1	F	BOSTON	SUFFOLK	HARRISON AVENUE	182	183	0.109	0.109	0.094	0.093	0	0	1	1	0.094
25-027-0015			1	F	WORCESTER	WORCESTER	WORCESTER AIRPORT	179	183	0.122	0.118	0.108	0.095	0	0	1	1	0.113

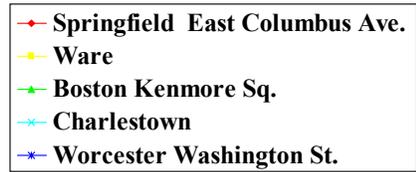
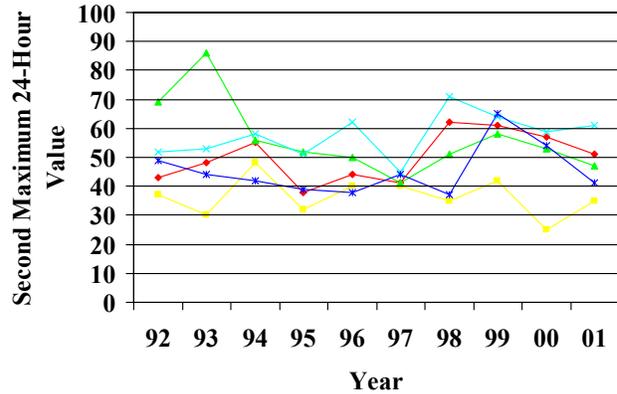
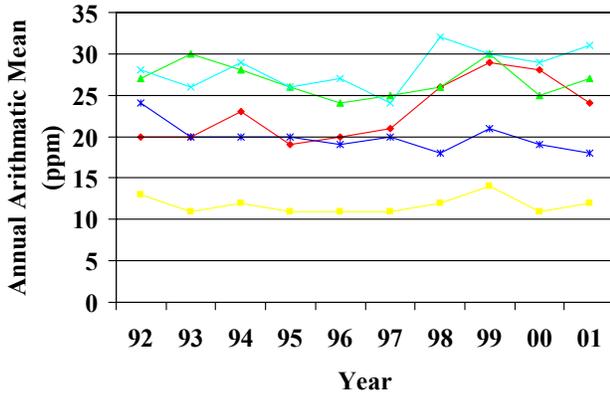
Massachusetts Ozone 8-Hour

Parameter: Ozone (8-Hour)														
All Values are in Units of Parts Per Million														
	P								2nd	3rd	4th		Miss Days	8-Hour
	O	Org			#	%	Highest	Highest	Highest	Highest	# >	Assumed	< Design	
Site ID	C	Type	City	County	Address	Obs	Obs	Value	Value	Value	Value	0.08	Standard	Values
25-001-0002	1	F	TRURO	BARNSTABLE	FOX BOTTOM AREA- CAPE COD NATL SEASHORE	8,656	99	0.124	0.113	0.108	0.105	13	0	0.096
25-003-4002	1	F	ADAMS	BERKSHIRE	MT. GREYLOCK SUMMIT	3,572	81	0.108	0.099	0.093	0.092	16	0	0.079
25-005-1002	1	F	FAIRHAVEN	BRISTOL	LEROY WOOD SCHOOL	3,735	84	0.117	0.113	0.109	0.101	8	0	0.093
25-005-1005	1	F	EASTON	BRISTOL	1 BORDERLAND ST.	4,048	92	0.107	0.103	0.101	0.098	14	0	0.084
25-009-0005	1	F	LAWRENCE	ESSEX	HIGH STREET, STORROW PARK	3,904	85	0.073	0.066	0.063	0.062	0	0	0.063
25-009-2006	1	F	LYNN	ESSEX	390 PARKLAND AVE. (LYNN WATER TREATMENT)	6,464	97	0.111	0.102	0.101	0.1	11	0	0.086
25-009-4004	1	F	NEWBURY	ESSEX	SUNSET BOULEVARD	3,751	85	0.117	0.099	0.095	0.093	8	0	0.083
25-013-0003	1	F	AGAWAM	HAMPDEN	152 SOUTH WESTFIELD STREET, FEEDING HILL	4,083	91	0.091	0.086	0.082	0.081	2	0	0.077
25-013-0008	1	F	CHICOPEE	HAMPDEN	ANDERSON ROAD AIR FORCE BASE	4,331	97	0.105	0.098	0.097	0.09	9	0	0.085
25-015-0103	1	F	AMHERST	HAMPSHIRE	NORTH PLEASANT ST. U.MASS PATHOLOGY DEPT	4,282	96	0.102	0.086	0.085	0.084	3	0	0.077
25-015-4002	1	F	WARE	HAMPSHIRE	QUABBIN SUMMIT	8,703	99	0.119	0.116	0.099	0.093	12	0	0.087
25-017-1102	1	F	STOW	MIDDLESEX	US MILITARY RESERVATION - NATICK LAB	4,304	98	0.105	0.101	0.101	0.098	12	0	0.088
25-025-0041	1	F	BOSTON	SUFFOLK	LONG ISLAND HOSPITAL ROAD	4,024	90	0.111	0.107	0.1	0.094	9	0	0.084
25-025-0042	1	F	BOSTON	SUFFOLK	HARRISON AVENUE	8,712	99	0.093	0.085	0.081	0.08	2	0	0.066
25-027-0015	1	F	WORCESTER	WORCESTER	WORCESTER AIRPORT	8,549	98	0.102	0.093	0.091	0.088	6	0	0.085

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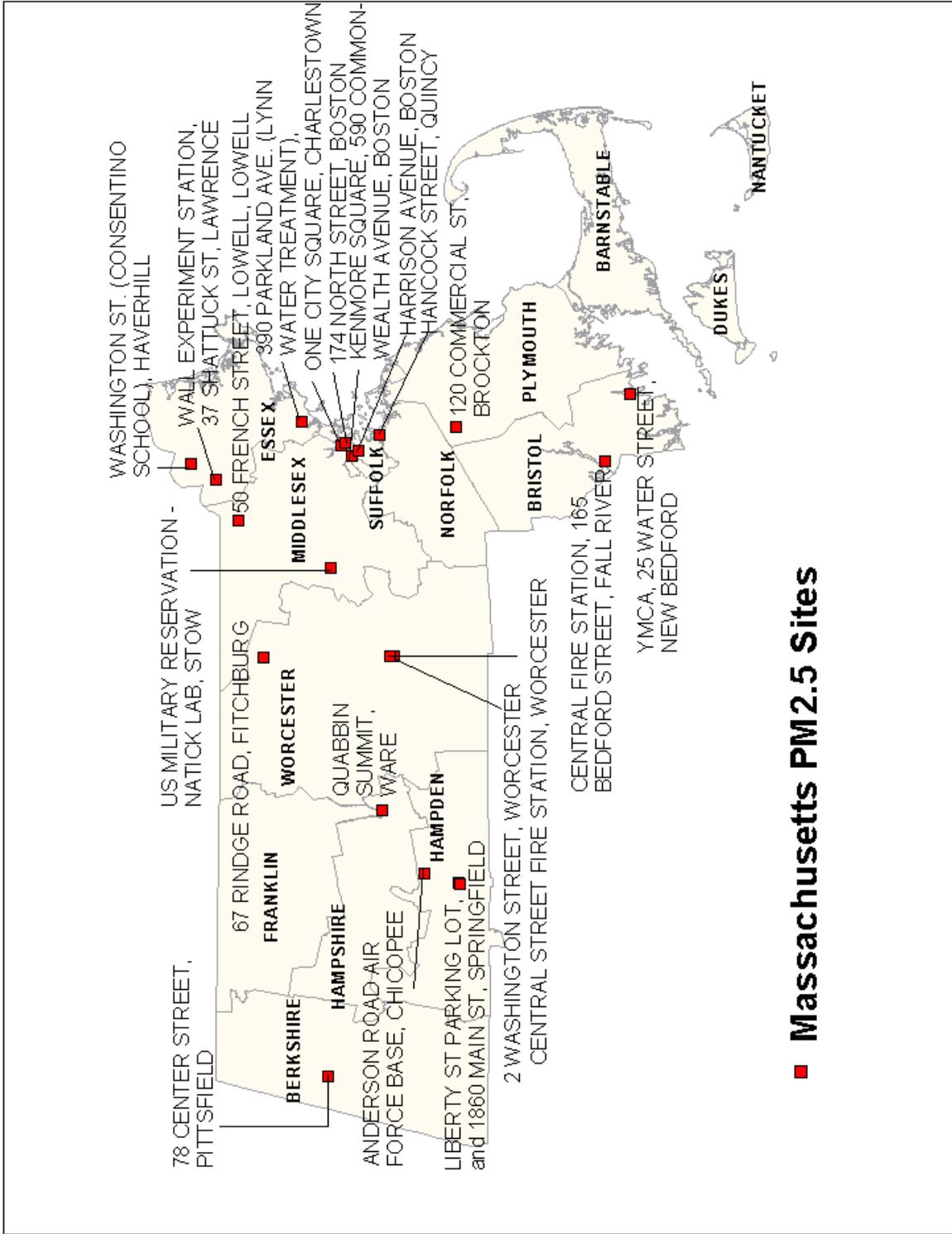


Massachusetts PM10



Parameter: PM10													
All Values are in UG/CU Meter (25 C)													
	P						2nd	3rd	4th				
	O	Org				#	Highest	Highest	Highest	Highest	Wtd. #		
Site ID	C	Type	City	County	Address	Obs	Value	Value	Value	Value	99% Mean	Methc	
25-013-0011	2	F	SPRINGFIELD	HAMPDEN	59 HOWARD STREET	55	62	51	47	43	62	24*	1
25-013-0011	3	F	SPRINGFIELD	HAMPDEN	59 HOWARD STREET	39	63	59	45	43	63	25*	1
25-015-4002	1	F	WARE	HAMPSHIRE	QUABBIN SUMMIT	59	38	35	29	28	38	12	1
25-025-0002	1	F	BOSTON	SUFFOLK	KENMORE SQUARE, 590 COMMONWEALTH AVENUE	50	52	47	47	45	52	27*	1
25-025-0012	1	F	BOSTON	SUFFOLK	115 SOUTHAMPTON STREET	46	50	43	40	35	50	19*	1
25-025-0024	1	F	BOSTON	SUFFOLK	200 COLUMBUS AVENUE	40	60	53	42	41	60	26*	1
25-025-0027	1	F	BOSTON	SUFFOLK	ONE CITY SQUARE, CHARLESTOWN	30	87	61	49	48	87	31*	1
25-025-0027	3	F	BOSTON	SUFFOLK	ONE CITY SQUARE, CHARLESTOWN	18	48	44	43	37	48	28*	1
25-027-0016	1	F	WORCESTER	WORCESTER	2 WASHINGTON STREET	58	43	41	39	36	43	18	1

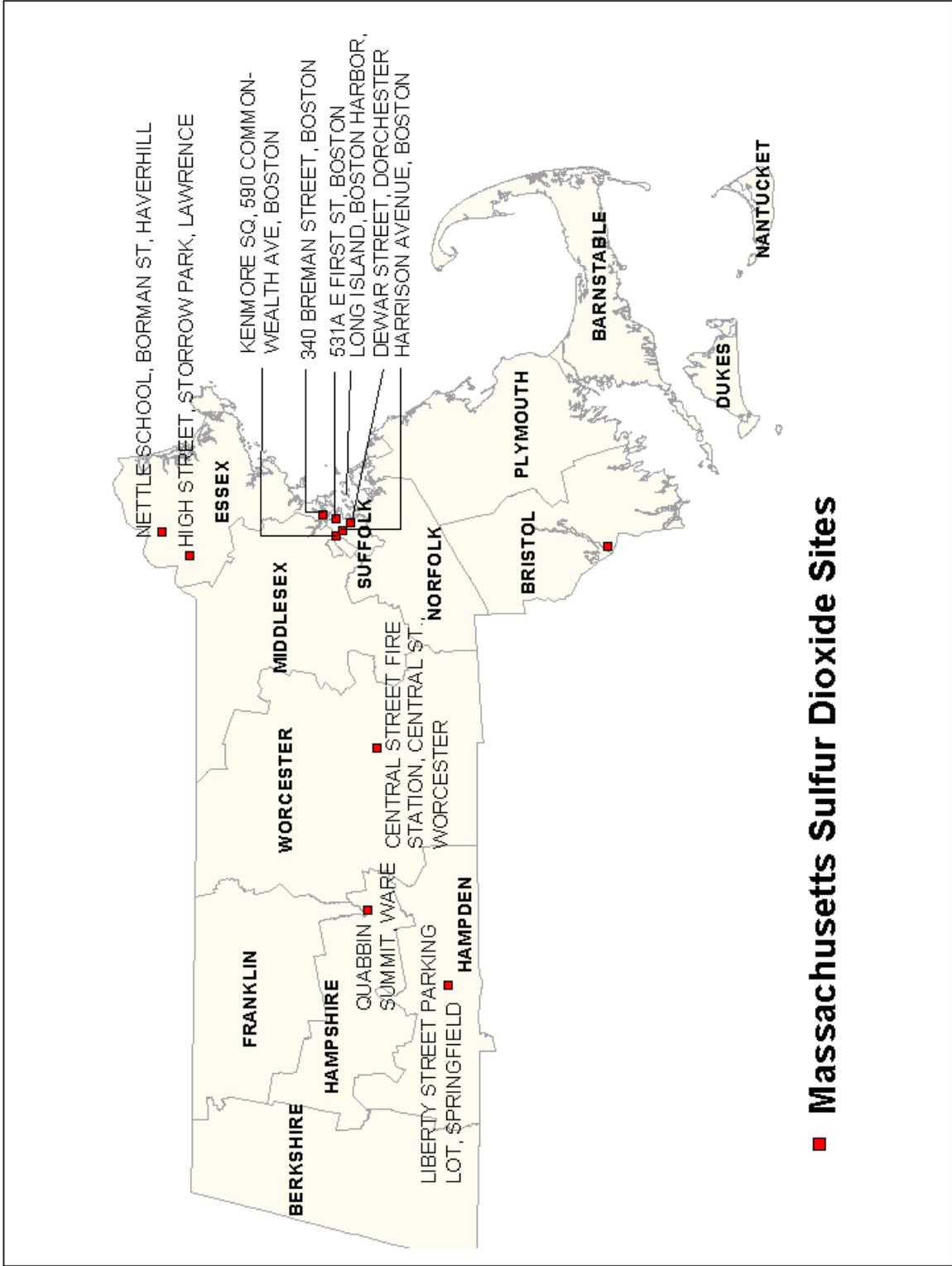
*Indicates that the mean does not satisfy summary criteria



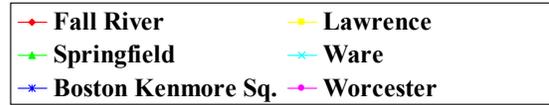
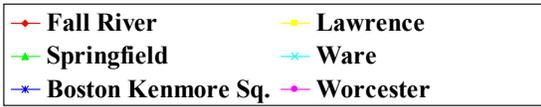
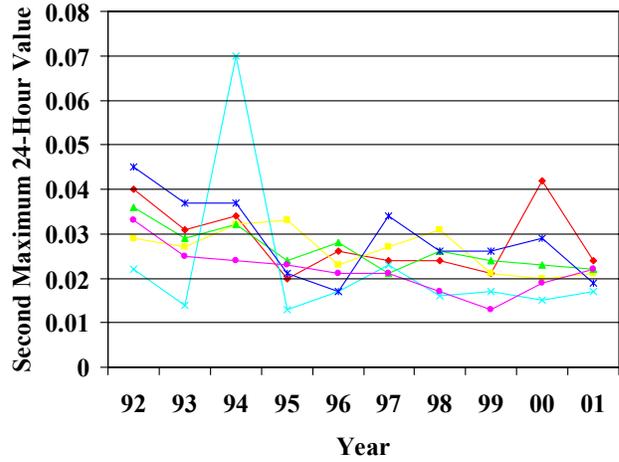
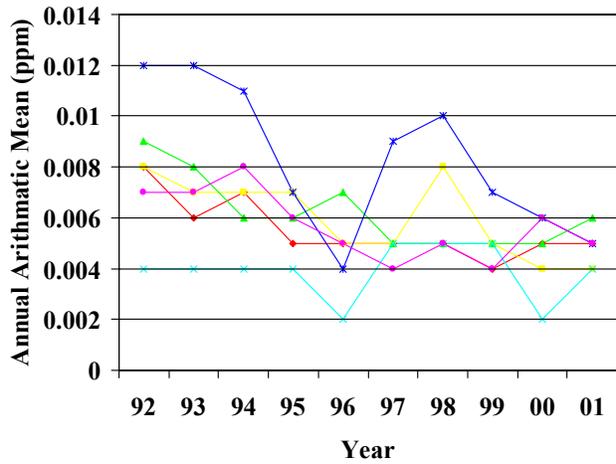
■ **Massachusetts PM2.5 Sites**

Massachusetts PM2.5

Parameter: PM 2.5													
All Values are in UG/CU Meters Local Conditions													
	P						2nd	3rd	4th		Wtd.	#	
	O					#	Highest	Highest	Highest	Highest	98%	Arith.	Methc
Site ID	C	Type	City	County	Address	Obs	Value	Value	Value	Value	Mean	Used	
25-003-5001	1	F	PITTSFIELD	BERKSHIRE	78 CENTER STREET, PITTSFIELD, MA	86	37.2	33.8	32.4	30.8	33.8	13.4	* 1
25-005-2004	1	F	NEW BEDFOR	BRISTOL	YMCA, 25 WATER STREET	86	39.7	39.3	35.2	34	39.3	12.7	* 1
25-005-3001	1	F	FALL RIVER	BRISTOL	CENTRAL FIRE STATION 165 BEDFORD STREET	90	40.1	37	36.7	31.6	37	13.3	* 1
25-009-2006	1	F	LYNN	ESSEX	390 PARKLAND AVE. (LYNN WATER TREATMENT)	79	57	31.5	27.4	27	31.5	12.1	* 1
25-009-5005	1	F	HAVERTHILL	ESSEX	WASHINGTON ST. (CONSENTINO SCHOOL)	51	28.9	27.2	23.6	23.6	27.2	12.6	* 1
25-009-6001	1	F	LAWRENCE	ESSEX	WALL EXPERIMENT STATION, 37 SHATTUCK ST	64	33.4	32	27.5	27.2	32	11.1	* 1
25-013-0008	1	F	CHICOPEE	HAMPDEN	ANDERSON ROAD AIR FORCE BASE	254	63.8	38.2	35.1	34.4	32.6	11.1	* 1
25-013-0008	5	J	CHICOPEE	HAMPDEN	ANDERSON ROAD AIR FORCE BASE	78	30	27.3	24	23.8	27.3	10.1	* 1
25-013-0016	1	F	SPRINGFIELD	HAMPDEN	LIBERTY STREET PARKING LOT	300	63.4	42.8	42.6	38.8	42.6	13.8	1
25-013-0016	2	F	SPRINGFIELD	HAMPDEN	LIBERTY STREET PARKING LOT	79	42	37.2	36.8	30.2	37.2	14.2	* 1
25-015-4002	1	F	WARE	HAMPSHIRE	QUABBIN SUMMIT	107	31.3	27.5	25.6	25.3	25.6	9.2	* 1
25-017-0008	1	F	LOWELL	MIDDLESEX	50 FRENCH STREET, LOWELL	68	31.8	27.2	27.1	25.2	27.2	11.3	* 1
25-017-1102	1	F	STOW	MIDDLESEX	US MILITARY RESERVATION - NATICK LAB	89	27.8	24.8	23.9	23.8	24.8	10.6	* 1
25-021-0007	1	F	QUINCY	NORFOLK	HANCOCK STREET	41	30.4	27.9	27.3	27	30.4	13.1	* 1
25-021-0007	2	F	QUINCY	NORFOLK	HANCOCK STREET	43	30.3	28	25.5	23.3	30.3	12.6	* 1
25-023-0004	1	F	BROCKTON	PLYMOUTH	120 COMMERCIAL ST, BROCKTON	105	34.6	32.2	31.9	31.7	31.9	12.2	1
25-023-0004	2	F	BROCKTON	PLYMOUTH	120 COMMERCIAL ST, BROCKTON	91	32.3	30.7	30	28.7	30.7	11.8	* 1
25-023-0004	3	F	BROCKTON	PLYMOUTH	120 COMMERCIAL ST, BROCKTON	30	28.7	27.3	26.3	22.1	28.7	9.7	* 1
25-025-0002	1	F	BOSTON	SUFFOLK	KENMORE SQUARE, 59 COMMONWEALTH AVENUE	85	41.2	39.7	36.6	32.8	39.7	16.6	* 1
25-025-0027	1	F	BOSTON	SUFFOLK	ONE CITY SQUARE, CHARLESTOWN	174	43.1	39.4	34	33.3	34	13.2	* 1
25-025-0027	2	F	BOSTON	SUFFOLK	ONE CITY SQUARE, CHARLESTOWN	32	40.1	30.5	29.8	27.8	40.1	13.3	* 1
25-025-0042	1	F	BOSTON	SUFFOLK	HARRISON AVENUE	188	42.2	38.4	33.1	32.3	32.3	14.7	* 1
25-025-0042	2	F	BOSTON	SUFFOLK	HARRISON AVENUE	4	13	12	9	5	13	9.8	*
25-025-0042	3	F	BOSTON	SUFFOLK	HARRISON AVENUE	86	28	18	18	15	18	8.4	*
25-025-0042	4	F	BOSTON	SUFFOLK	HARRISON AVENUE	190	38	36	35	35	35	14.6	*
25-025-0042	5	J	BOSTON	SUFFOLK	HARRISON AVENUE	61	32.3	31.8	28.4	27	31.8	11.5	* 1
25-025-0043	1	F	BOSTON	SUFFOLK	174 NORTH STREET BOSTON, MA 02113	58	31.2	31.2	29.7	28.7	31.2	16	* 1
25-027-0016	1	F	WORCESTER	WORCESTER	2 WASHINGTON STREE	92	33.5	33.1	29.3	29	33.1	13.2	* 1
25-027-0020	1	F	WORCESTER	WORCESTER	CENTRAL STREET FIRE STATION, CENTRAL ST.	304	41.8	36.6	36.4	33.6	36.4	12.8	1
25-027-0020	2	F	WORCESTER	WORCESTER	CENTRAL STREET FIRE STATION, CENTRAL ST.	78	35.8	31.4	31.1	27.6	31.4	12.3	* 1
25-027-2004	1	F	FITCHBURG	WORCESTER	67 RINDGE ROAD, FITCHBURG, MA	56	33	26	25.3	24.5	26	10.4	* 1



Massachusetts Sulfur Dioxide



Parameter: Sulfur Dioxide																	
All Values are in Units of Parts Per Million																	
Site ID	P	O	C	Type	City	County	Address	#	24-	24-	3-hour	3-hour	1-hour	1-hour	#		
									hour	hour	Obs	Highest	Highest	Obs		Highest	Highest
									> 0.14	> 0.14	Value	Value	> 0.5	Value	Value	Arith.	Methc
									Value	Value	Value	Value	Value	Value	Mean	Used	
25-005-1004	1	F	FALL RIVER	BRISTOL	GLOBE STREET	8,529	0.032	0.024	0	0.062	0.061	0	0.097	0.096	0.005	1	
25-009-0005	1	F	LAWRENCE	ESSEX	HIGH STREET, STORROW PARK	8,235	0.021	0.021	0	0.053	0.052	0	0.073	0.071	0.004	1	
25-009-5004	1	J	HAVERHILL	ESSEX	NETTLE SCHOOL, BORMAN ST	2,155	0.01	0.01	0	0.02	0.013	0	0.025	0.024	0.004*	1	
25-013-0016	1	F	SPRINGFIELD	HAMPDEN	LIBERTY STREET PARKING LOT	8,510	0.022	0.022	0	0.066	0.051	0	0.077	0.073	0.006	1	
25-015-4002	1	F	WARE	HAMPSHIRE	QUABBIN SUMMIT	8,542	0.017	0.017	0	0.026	0.026	0	0.03	0.028	0.004	1	
25-025-0002	1	F	BOSTON	SUFFOLK	KENMORE SQUARE, 590 COMMONWEAL TH AVENUE	8,447	0.026	0.019	0	0.047	0.038	0	0.062	0.046	0.005	1	
25-025-0019	1	J	BOSTON	SUFFOLK	LONG ISLAND, BOSTON HARBOR	8,631	0.021	0.018	0	0.04	0.034	0	0.063	0.047	0.005	1	
25-025-0020	1	J	BOSTON	SUFFOLK	DEWAR STREET, DORCHESTER	8,633	0.025	0.023	0	0.046	0.045	0	0.059	0.058	0.005	1	
25-025-0021	1	F	BOSTON	SUFFOLK	340 BREMAN STREET, EAST BOSTON	8,519	0.013	0.013	0	0.028	0.025	0	0.035	0.033	0.003	1	
25-025-0021	2	J	BOSTON	SUFFOLK	340 BREMAN STREET, EAST BOSTON	8,637	0.024	0.023	0	0.044	0.043	0	0.059	0.054	0.006	1	
25-025-0040	1	J	BOSTON	SUFFOLK	531A EAST FIRST STREET	8,577	0.027	0.026	0	0.062	0.061	0	0.105	0.075	0.007	1	
25-025-0042	1	F	BOSTON	SUFFOLK	HARRISON AVENUE	8,557	0.028	0.024	0	0.051	0.041	0	0.056	0.05	0.007	1	
25-027-0020	1	F	WORCESTER	WORCESTE R	CENTRAL STREET FIRE STATION, CENTRAL ST.	8,434	0.022	0.022	0	0.048	0.038	0	0.052	0.049	0.005	1	

Ambient air Quality Summary - New Hampshire

In 2001, there were no violations of the 8-hour or 1-hour NAAQS for carbon monoxide (CO) at the two CO monitoring site in New Hampshire. This is the fifth year in a row during which no exceedances occurred. The last exceedances of the 8-hour CO NAAQS occurred in Manchester (13.5 ppm) during the winter of 1996. In 2001, Nashua reported the highest second maximum 8-hour average CO concentration (4.1 ppm) which was roughly 45% of the standard. The most recent ten year trend for CO indicates that CO levels show moderate year-to-year fluctuations, but tend to be well below the NAAQS.

During 1996, New Hampshire discontinued ambient air monitoring for lead (Pb). Historically, lead concentrations in ambient air in New Hampshire have declined to the point where virtually no lead is present. In 2001 nitrogen dioxide (NO₂) was conducted at four monitoring sites. The Portsmouth and Manchester monitoring sites recorded the highest NO₂ concentrations in New Hampshire (well below the standard). The ten-year trend in NO₂ indicates that there has been no upward or downward trend in concentration.

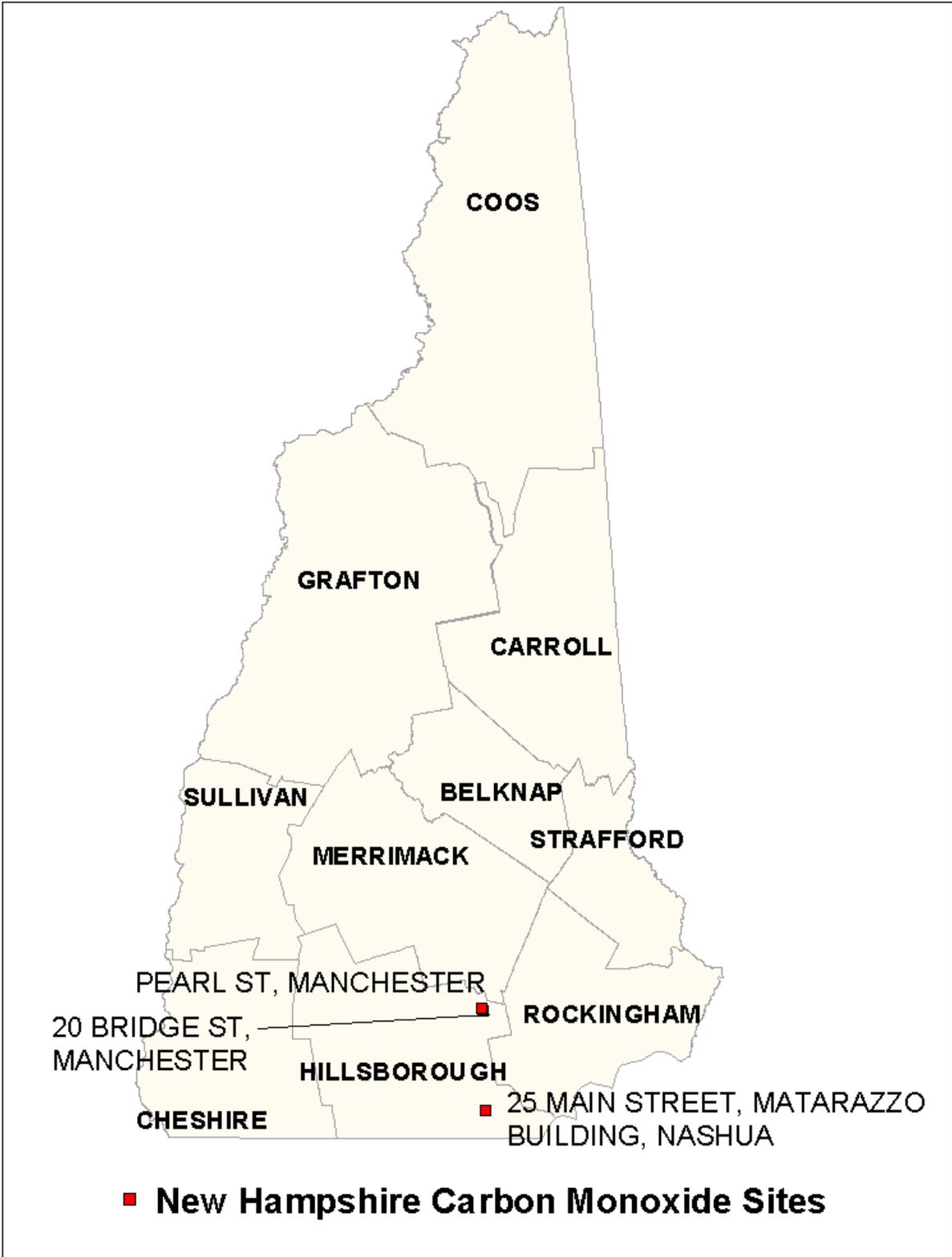
Three of the thirteen ozone monitors in New Hampshire violated the 1-hour NAAQS in 2001. Rye Harbor reported the highest 1-hour daily maximum ozone concentration (149 ppb). 1999 was the last year any sites in New Hampshire reported and exceedance of the 1-hour ozone 1-hour NAAQS. For the 8-hour ozone standard, three of the thirteen O₃ sites reported a fourth highest 8-hr average ozone concentration of at least 85 ppb in 2001. The maximum 8-hour average in 2001 was in Nashua (Saunders Associates site), which recorded an 8-hour concentration of 110 ppb.

None of the sixteen particulate matter-PM₁₀ (with a mass mean diameter of less than 10 microns) sites in New Hampshire had exceedances or violations of the annual or 24-hr NAAQS for PM₁₀ over the past five years (1997-2001). The highest 24-hour concentrations were recorded in Berlin, with a highest second maximum of 69 ug/m³ (roughly 46% of the NAAQS in 2001). The highest maximum annual average PM₁₀ was also recorded in Berlin (31 ug/m³ or ~60+% of the NAAQS). Over the past ten years, all of the PM₁₀ monitors in New Hampshire recorded PM₁₀ concentrations below the national standards. Yearly variability is common, however, due to differences in weather and local PM₁₀ emissions.

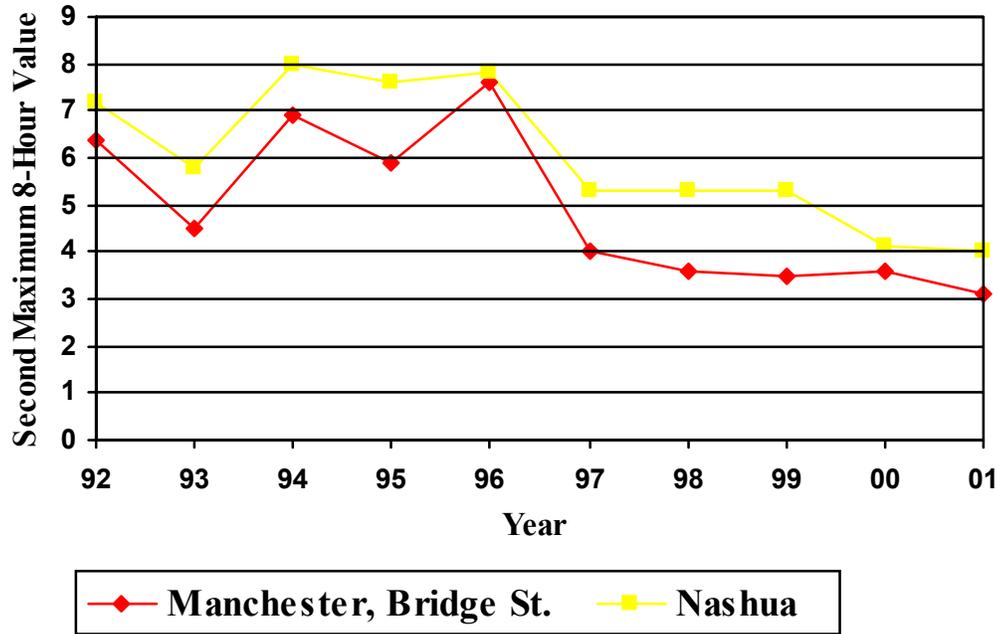
In 1999, New Hampshire established a network of nine fine particulate monitors (PM_{2.5}). By 2001, 12 monitoring sites provided data on the concentration of PM_{2.5} in the state. Over the past several years the highest concentrations of PM_{2.5} have been in the Portsmouth, Manchester and Keene urban areas. The lowest PM_{2.5} levels were recorded on the summit of Mt. Sunapee.

During 2001, no exceedance or violation of the sulfur dioxide NAAQS for any of the sites in New Hampshire occurred. The highest annual SO₂ concentrations were recorded in Keene (8 ppb or ~26% of the NAAQS). Pembroke reported the highest 24-hour second maximum SO₂ concentration of 47 ppb (~33% of the NAAQS), and reported the highest 3-hour SO₂ second maximum concentration (135 ppb). Statewide, the ten-year data trend for SO₂ shows no obvious upward or downward trend in SO₂ concentration.

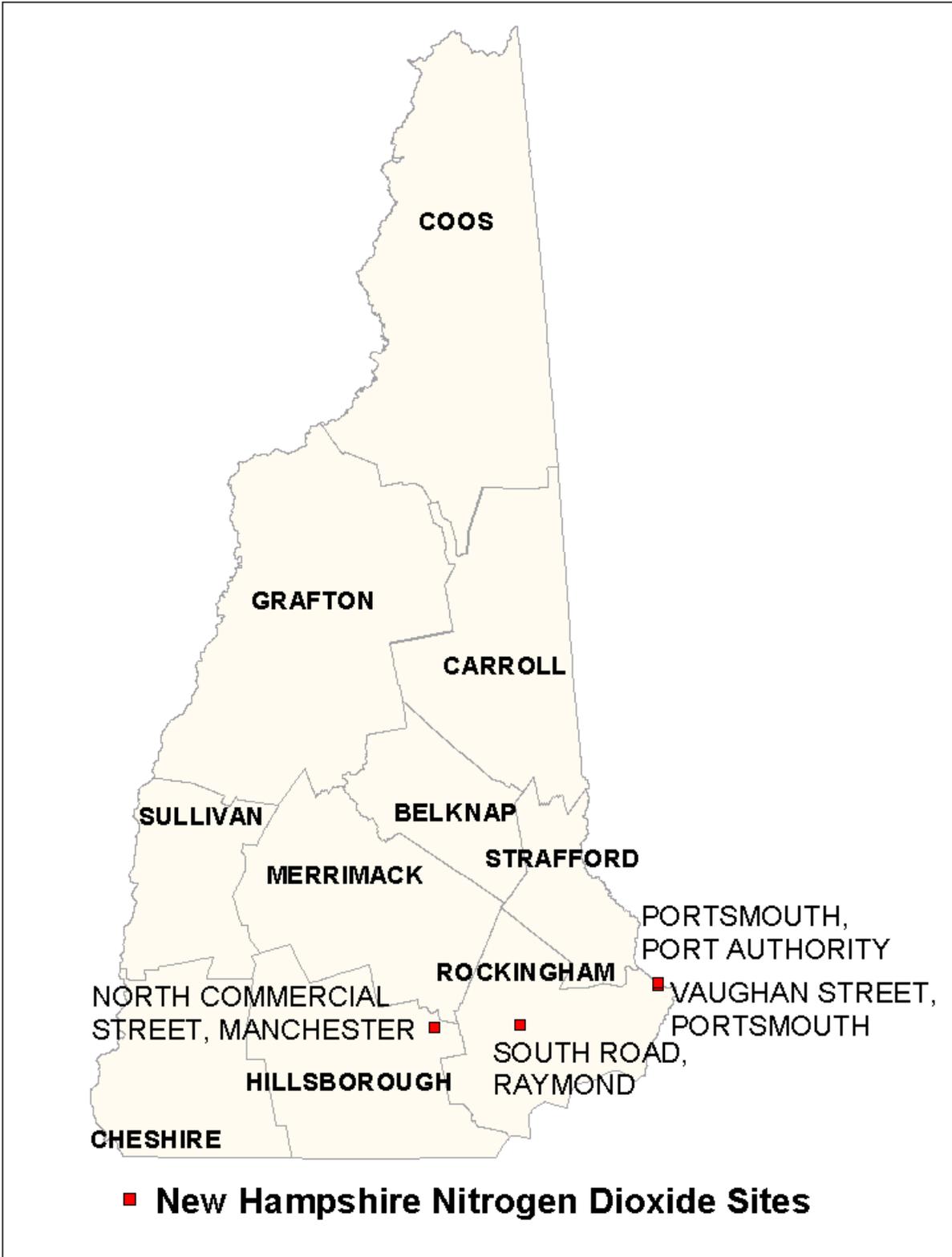
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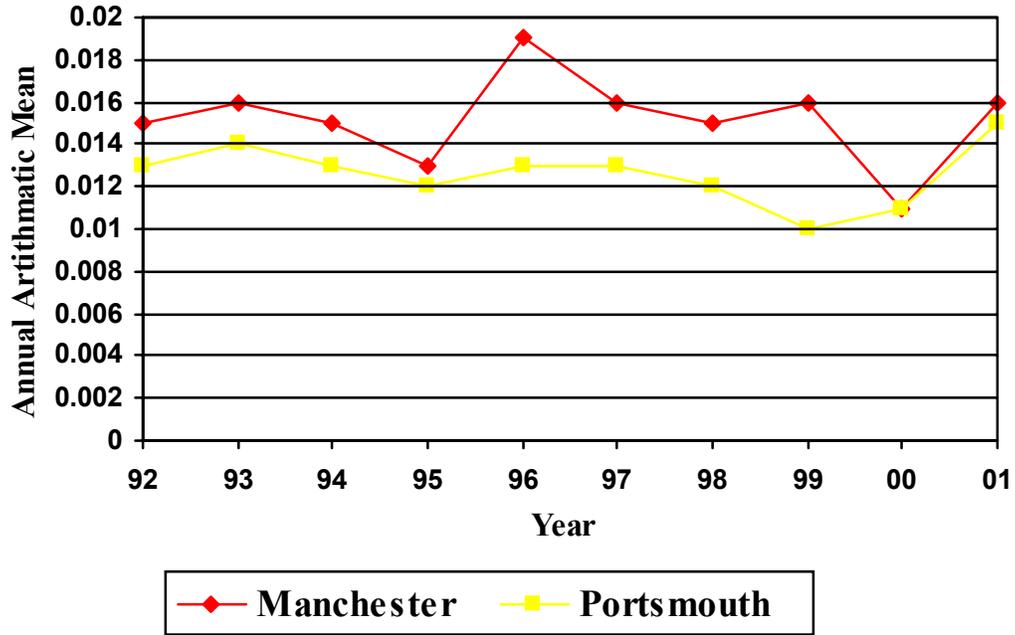
New Hampshire Carbon Monoxide



Carbon Monoxide													
All Values are in Units of Parts Per Million													
	P					1-hour	1-hour		8-hour	8-hour			
	O	Org			#	Highest	Highest		Highest	Highest	#		
Site ID	C	Type	City	County	Address	Obs	Value	Value	# > 35	Value	Value	# > 9	Used
33-011-0018	1	F	MANCHESTER	HILLSBOROUGH	20 BRIDGE STREET	7,929	6.6	4.6	0	3.1	3.1	0	1
33-011-0020	1	F	MANCHESTER	HILLSBOROUGH	PEARL ST	320	2.2	1.8	0	1.6	1.3	0	1
33-011-1009	1	F	NASHUA	HILLSBOROUGH	25 MAIN STREET, MATARAZZO BUILDING	8,533	6.7	6.5	0	4	4	0	1

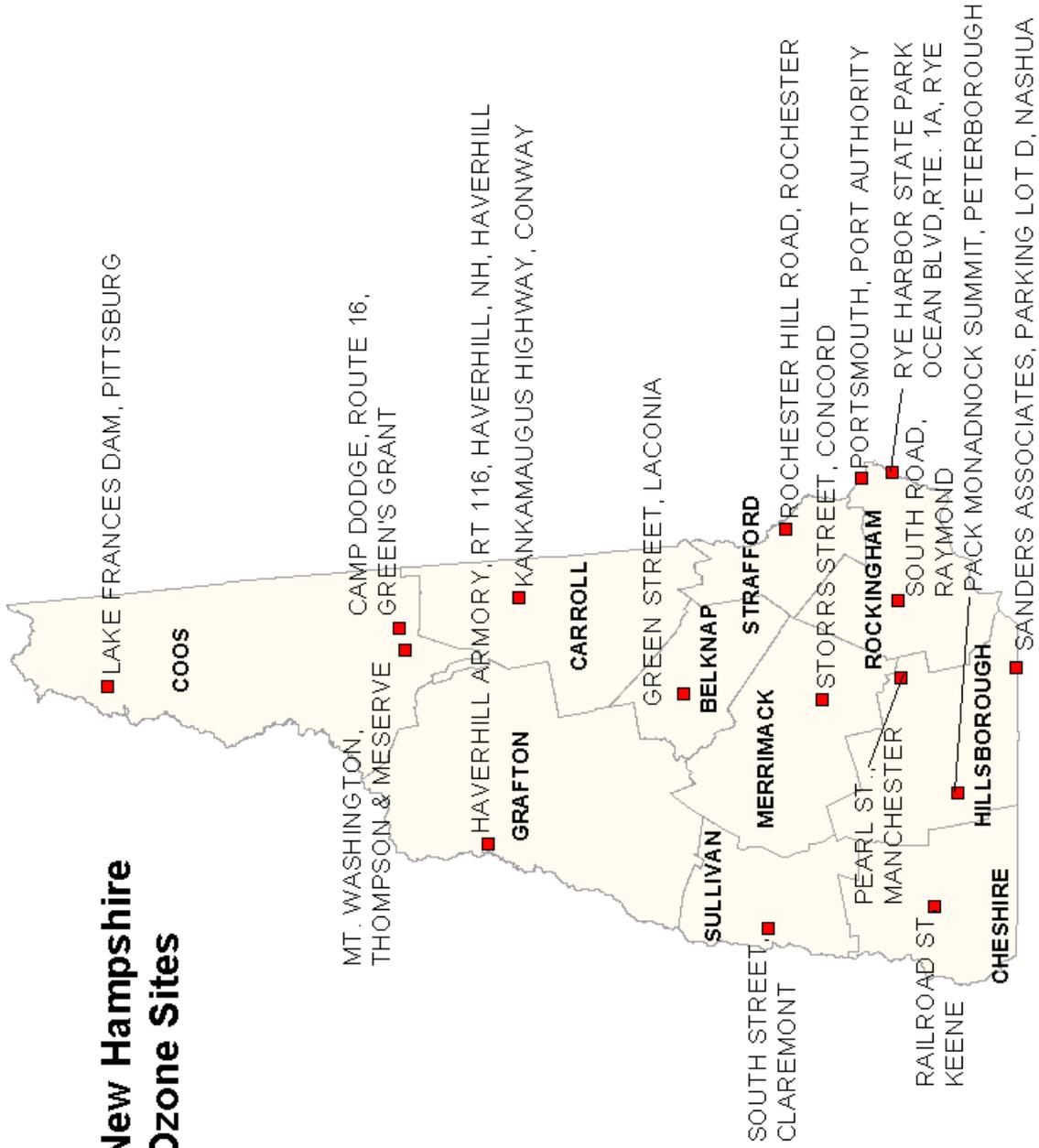


New Hampshire Nitrogen Dioxide

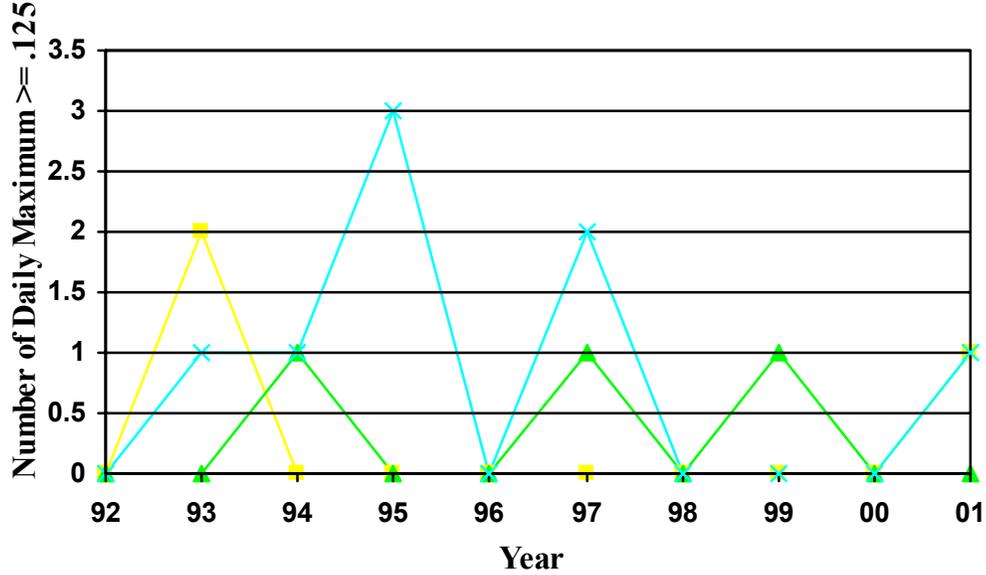


Parameter: Nitrogen Dioxide										
All Values are in Units of Parts Per Million										
								1-hour	1-hour	
	P								2nd	Annual
	O	Org				#		Highest	Highest	Arith.
Site ID	C	Type	City	County	Address	Year	Obs	Value	Value	Mean
33-011-0019	1	F	MANCHESTER	HILLSBOROUGH	NORTH COMMERCIAL STREET	2001	2,077	0.052	0.052	0.016 *
33-011-0020	1	F	MANCHESTER	HILLSBOROUGH	PEARL ST	2001	4,071	0.056	0.055	0.014 *
33-015-0009	1	F	PORTSMOUT	ROCKINGHAM	VAUGHAN STREET	2001	2,076	0.048	0.048	0.017 *
33-015-0013	1	F	BRENTWOOD	ROCKINGHAM	SOUTH ROAD BRENTWOOD NH	2001	8,562	0.048	0.045	0.007
33-015-0015	1	F	PORTSMOUT	ROCKINGHAM	PORTSMOUTH, PORT AUTHORITY	2001	3,503	0.059	0.049	0.015

■ **New Hampshire**
■ **Ozone Sites**



New Hampshire Ozone 1-Hour



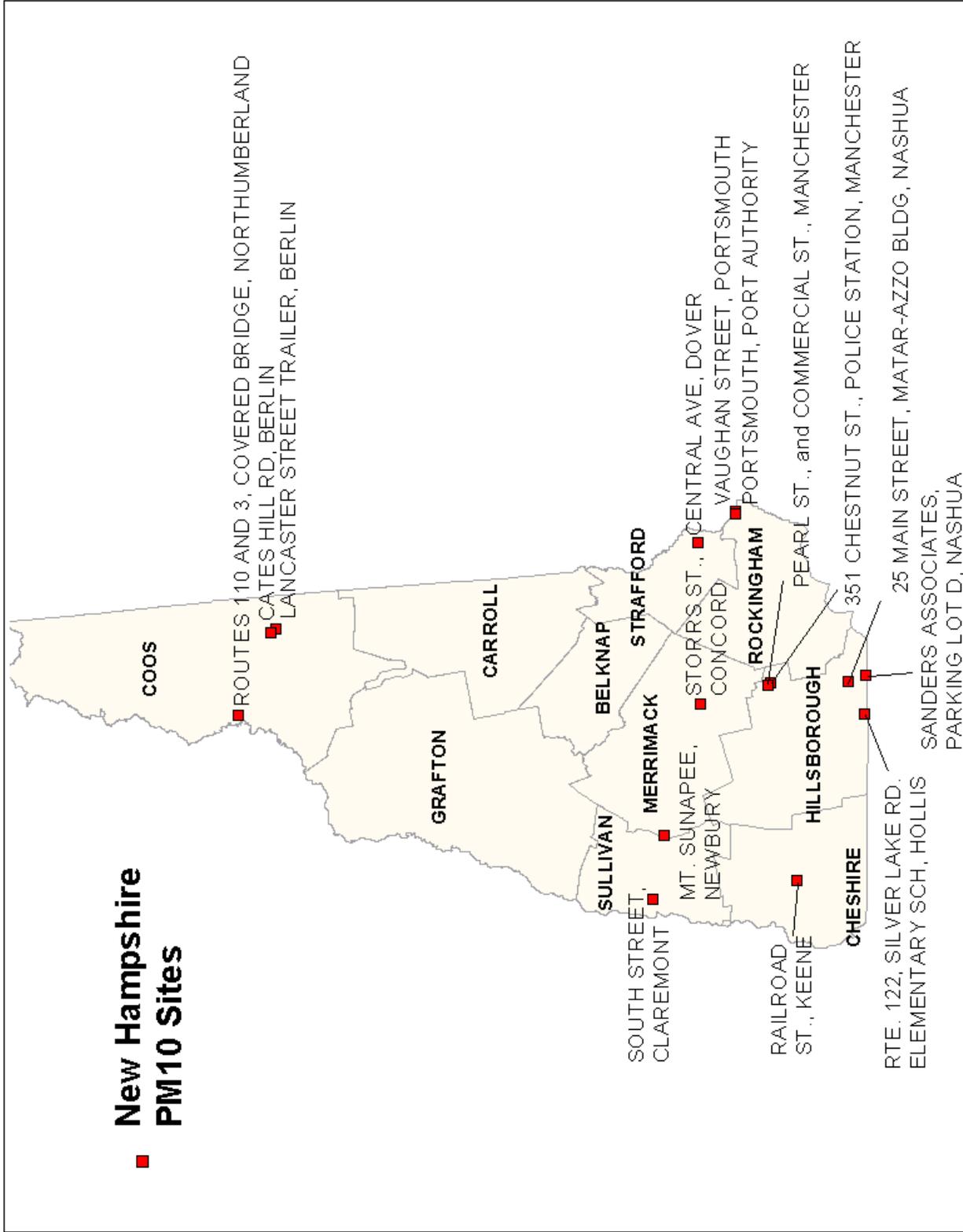
Parameter: Ozone (1-Hour)															
All Values are in Units of Parts Per Million															
	P								2nd	3rd	4th			#	Miss Da
	O	Org							Highest	Highest	Highest	Highest	Values > 0.124	Methods	Assume Design
Site ID	C	Type	City	County	Address	Meas	Req	Value	Value	Value	Value	Meas	Est	Used	Standar
33-001-2004	1	F	LACONIA	BELKNAP	GREEN STREET, LACONIA	169	183	0.112	0.107	0.09	0.082	0	0	1	2
33-003-1002	1	F	CONWAY	CARROLL	KANKAMAUGUS HIGHWAY, CONWAY, NH	183	183	0.089	0.089	0.081	0.08	0	0	1	0
33-005-0007	1	F	KEENE	CHESHIRE	RAILROAD STREET	174	183	0.114	0.086	0.081	0.08	0	0	1	7
33-007-4001	1	J	NOT IN A CITY	COOS	MT. WASHINGTON	127	183	0.087	0.086	0.084	0.084	0	0	1	1
33-007-4002	1	J	NOT IN A CITY	COOS	CAMP DODGE, ROUTE 16, GREEN'S GRANT	108	183	0.091	0.09	0.088	0.084	0	0	1	5
33-007-4003	1	J	PITTSBURG	COOS	LAKE FRANCES DAM	100	183	0.079	0.077	0.073	0.073	0	0	1	0
33-009-0008	1	F	HAVERHILL	GRAFTON	HAVERHILL ARMORY, RT 116, HAVERHILL, NH	179	183	0.087	0.083	0.081	0.077	0	0	1	2
33-011-0020	1	F	MANCHESTER	HILLSBORO	PEARL ST	110	183	0.119	0.087	0.087	0.081	0	0	1	4
33-011-1010	1	F	NASHUA	HILLSBORO	SANDERS ASSOCIATES, PARKING LOT D	177	183	0.125	0.108	0.107	0.103	1	1	1	6
33-013-0007	1	F	CONCORD	MERRIMACK	STORRS STREET	176	183	0.129	0.086	0.081	0.079	1	1	1	1
33-015-0012	1	F	RYE	ROCKINGHA	RYE HARBOR STATE PARK OCEAN BLVD, RTE. 1A	179	183	0.149	0.124	0.11	0.105	1	1	1	0
33-015-0013	1	F	BRENTWOOD	ROCKINGHA	SOUTH ROAD BRENTWOOD NH	180	183	0.114	0.107	0.101	0.095	0	0	1	3
33-015-0015	1	F	PORTSMOUTH	ROCKINGHA	PORTSMOUTH, PORT AUTHORITY	56	183	0.082	0.08	0.077	0.073	0	0	1	1
33-017-3002	1	F	ROCHESTER	STRAFFORD	ROCHESTER HILL ROAD, ROCHESTER	181	183	0.121	0.101	0.097	0.089	0	0	1	2
33-019-0003	1	F	CLAREMONT	SULLIVAN	SOUTH STREET	173	183	0.101	0.089	0.087	0.085	0	0	1	3

New Hampshire Ozone 8-Hour

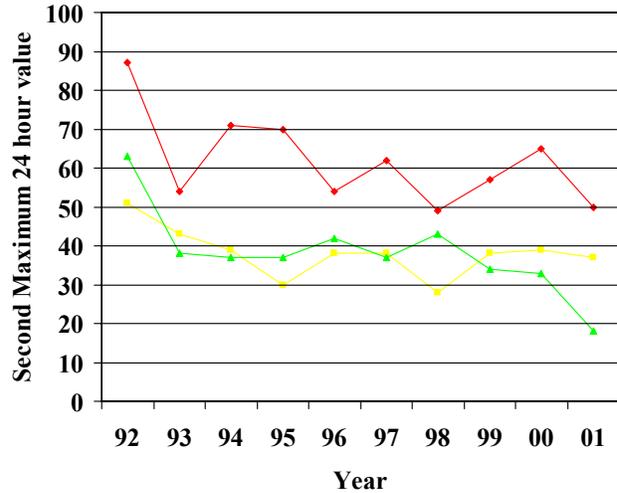
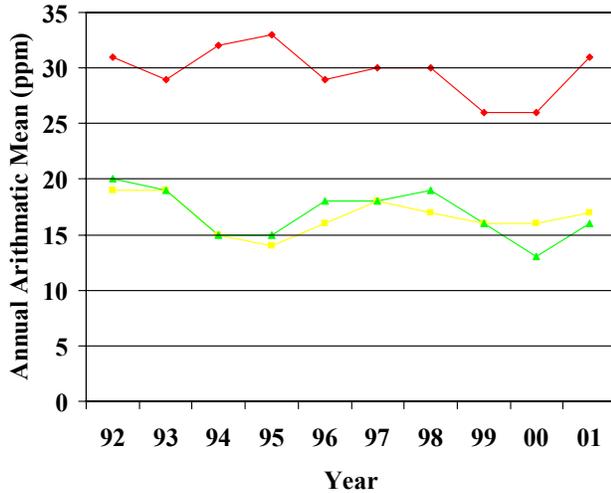
Parameter: Ozone (8-Hour)														
All Values are in Units of Parts Per Million														
	P								2nd	3rd	4th	Miss Days		
	O	Org										8-Hour		
Site ID	C	Type	City	County	Address	#	%	Highest	Highest	Highest	Highest	# >	Assumed	Design
						Obs	Obs	Value	Value	Value	Value	0.08	Standard	Values
33-001-2004	1	F	LACONIA	BELKNAP	GREEN STREET, LACONIA	4,072	92	0.101	0.085	0.084	0.08	2	0	*
33-003-1002	1	F	CONWAY	CARROLL	KANKAMAUGUS HIGHWAY, CONWAY, NH	4,374	99	0.077	0.075	0.074	0.074	0	0	0.066
33-005-0007	1	F	KEENE	CHESHIRE	RAILROAD STREET	4,331	90	0.097	0.079	0.077	0.074	1	0	0.072
33-007-4001	1	J	NOT IN A CITY	COOS	MT. WASHINGTON	3,051	69	0.084	0.084	0.082	0.082	0	0	0.076
33-007-4002	1	J	NOT IN A CITY	COOS	CAMP DODGE, ROUTE 16, GREEN'S GRANT	2,609	53	0.085	0.083	0.074	0.073	1	0	0.064
33-007-4003	1	J	PITTSBURG	COOS	LAKE FRANCES DAM	2,435	55	0.077	0.075	0.07	0.067	0	0	*
33-009-0008	1	F	HAVERHILL	GRAFTON	HAVERHILL ARMORY, RT 116, HAVERHILL, NH	4,299	96	0.082	0.074	0.073	0.072	0	0	0.068
33-011-0020	1	F	MANCHESTER	HILLSBOROUGH	PEARL ST	2,724	63	0.098	0.081	0.075	0.074	1	0	*
33-011-1010	1	F	NASHUA	HILLSBOROUGH	SANDERS ASSOCIATES, PARKING LOT D	4,548	94	0.11	0.092	0.091	0.091	7	0	0.083
33-013-0007	1	F	CONCORD	MERRIMACK	STORRS STREET	4,263	95	0.102	0.076	0.073	0.072	1	0	0.07
33-015-0012	1	F	RYE	ROCKINGHAM	RYE HARBOR STATE PARK OCEAN BLVD, RTE. 1A	4,311	98	0.106	0.095	0.094	0.093	7	0	0.081
33-015-0013	1	F	NOT IN A CITY	ROCKINGHAM	SOUTH ROAD BRENTWOOD NH	4,352	98	0.103	0.091	0.089	0.088	4	0	0.076
33-015-0015	1	F	PORTSMOUTH	ROCKINGHAM	PORTSMOUTH, PORT AUTHORITY	1,338	30	0.067	0.066	0.062	0.059	0	0	*
33-017-3002	1	F	ROCHESTER	STRAFFORD	ROCHESTER HILL ROAD, ROCHESTER	4,347	99	0.104	0.081	0.078	0.078	1	0	0.075
33-019-0003	1	F	CLAREMONT	SULLIVAN	SOUTH STREET	4,204	94	0.083	0.077	0.074	0.072	0	0	0.072
* Not enough values to calculate														

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■ **New Hampshire
PM10 Sites**



New Hampshire PM10

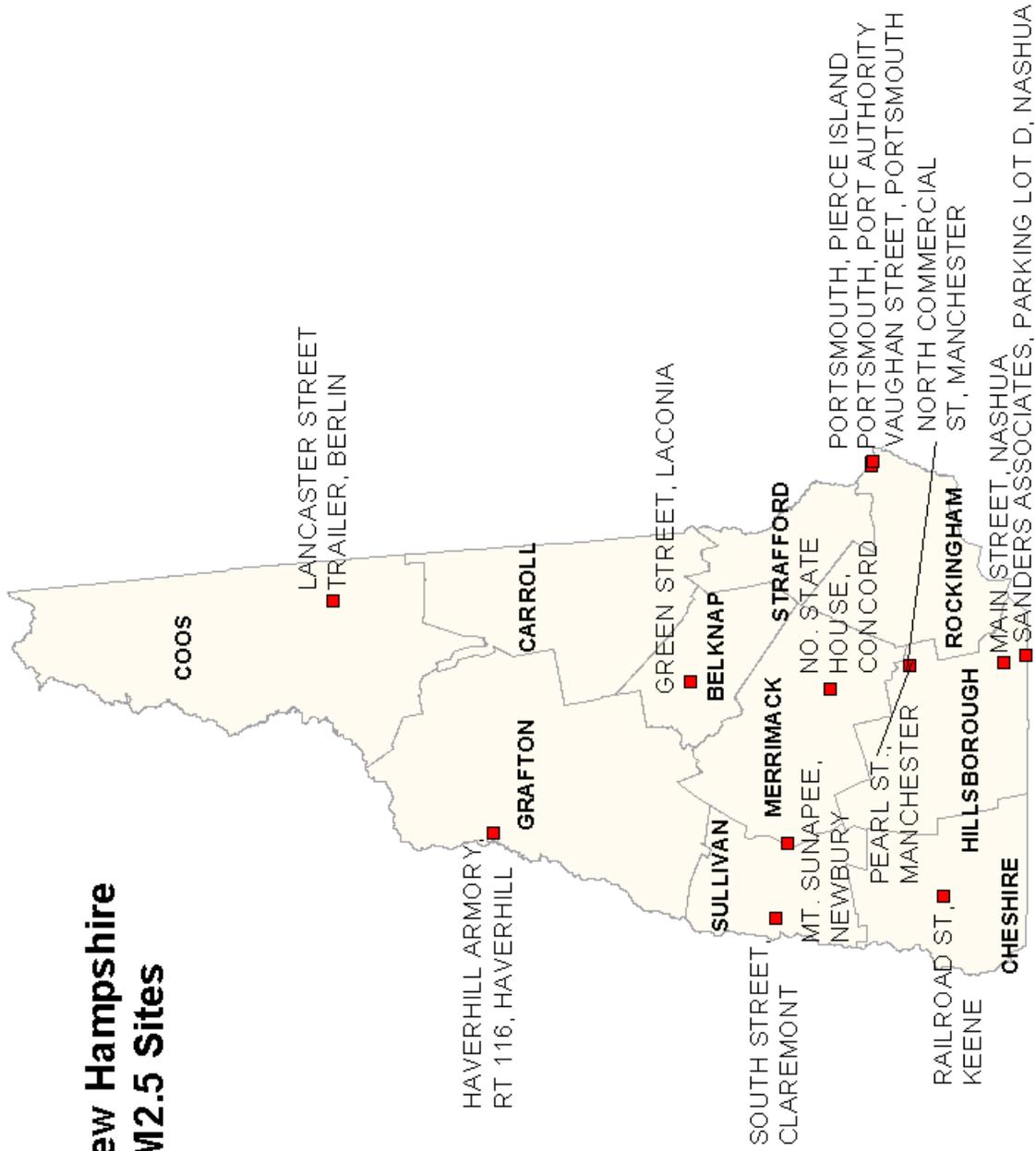


◆ Berlin Lancaster St.
 ■ Manchester
 ▲ Portsmouth

◆ Berlin Lancaster St.
 ■ Manchester
 ▲ Portsmouth

Parameter: PM10																	
All Values are in UG/CU Meter (25 C)																	
Site ID	P	O	Org	C	Type	City	County	Address	#	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	99%	Arith. Mean	#	Methc
33-005-0007	1	F				KEENE	CHESHIRE	RAILROAD STREET	61	42	41	37	34	42	18	1	
33-007-0014	1	J				BERLIN	COOS	LANCASTER STREET	29	66	49	49	45	66	27*	1	
33-007-0014	2	J				BERLIN	COOS	LANCASTER STREET TRAILER	27	69	50	49	49	69	31*	1	
33-007-0019	1	J				BERLIN	COOS	CATES HILL RD	28	39	32	23	20	39	13*	1	
33-007-1007	1	J				NORTHUMBERLAND	COOS	ROUTES 110 AND 3, COVERED BRIDGE, GROVET	59	51	45	44	35	51	17	1	
33-011-0015	1	F				MANCHESTER	HILLSBOROUGH	351 CHESTNUT STREET, POLICE STATION	51	38	37	30	29	38	17*	1	
33-011-0015	3	F				MANCHESTER	HILLSBOROUGH	351 CHESTNUT STREET, POLICE STATION	54	42	37	36	33	42	16*	1	
33-011-0020	1	F				MANCHESTER	HILLSBOROUGH	PEARL ST	2	20	17			20	19*	1	
33-011-0020	2	F				MANCHESTER	HILLSBOROUGH	PEARL ST	3	16	11	6		16	11*	1	
33-011-1007	1	F				NASHUA	HILLSBOROUGH	MAIN STREET	52	42	37	36	34	42	17	1	
33-011-1010	1	F				NASHUA	HILLSBOROUGH	SANDERS ASSOCIATES, PARKING LOT D	55	53	42	38	37	53	17	1	
33-011-2001	1	F				HOLLIS	HILLSBOROUGH	RTE. 122, SILVER LAKE RD. ELEMENTARY SCH	58	49	43	33	29	49	13	1	
33-013-0003	1	F				CONCORD	MERRIMACK	NO. STATE HOUSE	57	41	40	33	33	41	15	1	
33-013-5001	1	F				NOT IN A CITY	MERRIMACK	MT. SUNAPEE	55	42	34	27	24	42	8*	1	
33-015-0006	1	F				PORTSMOUTH	ROCKINGHAM	COURT STREET	17	32	23	15	15	32	13*	1	
33-015-0009	1	F				PORTSMOUTH	ROCKINGHAM	VAUGHAN STREET	8	23	18	18	17	23	16*	1	
33-017-0001	1	F				DOVER	STRAFFORD	CENTRAL AVE	60	47	39	38	32	47	17	1	
33-019-0003	1	F				CLAREMONT	SULLIVAN	SOUTH STREET	59	51	34	32	30	51	14	1	
33-019-0003	2	F				CLAREMONT	SULLIVAN	SOUTH STREET	57	47	34	33	30	47	14	1	

■ **New Hampshire
PM2.5 Sites**

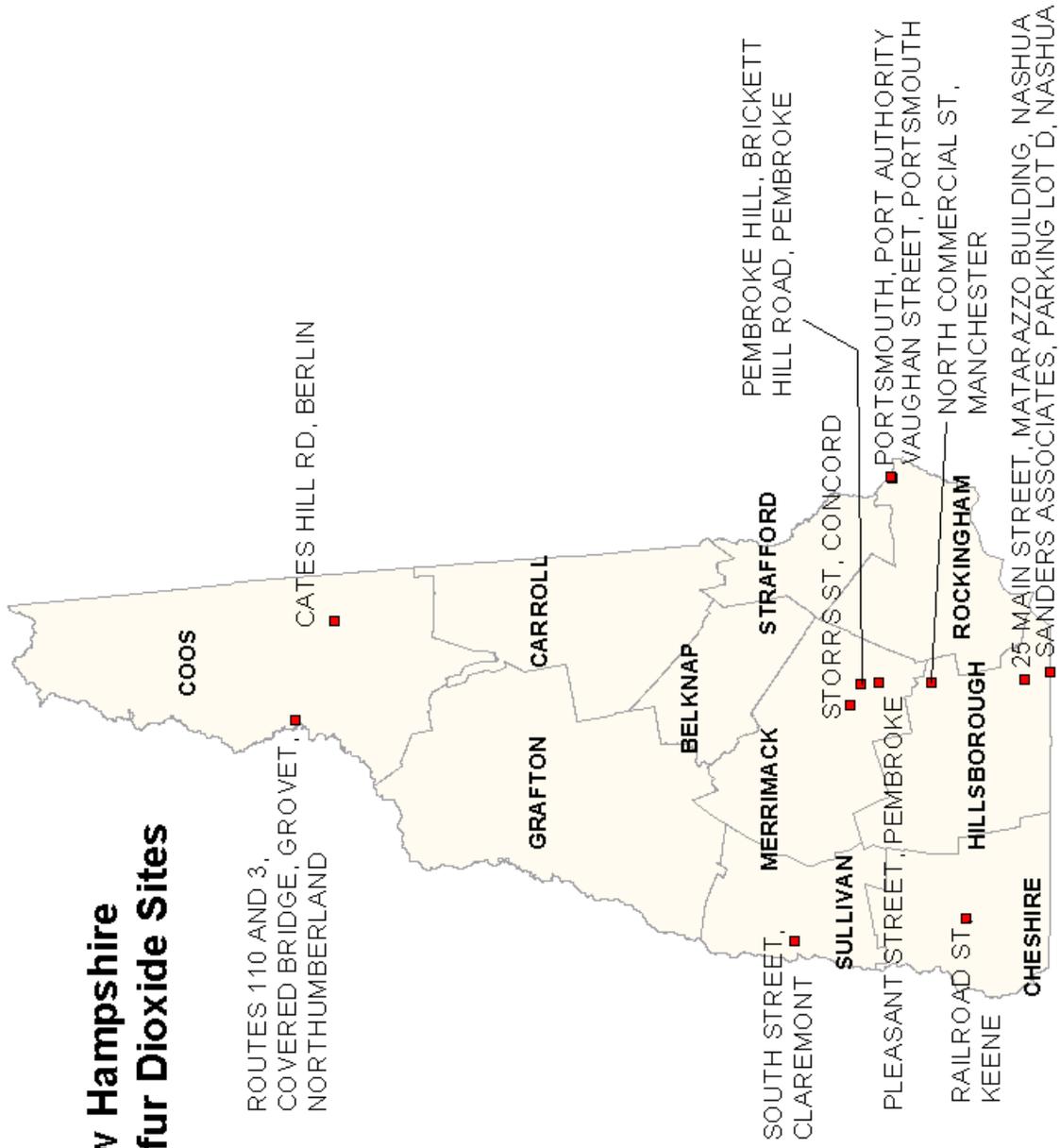


New Hampshire PM2.5

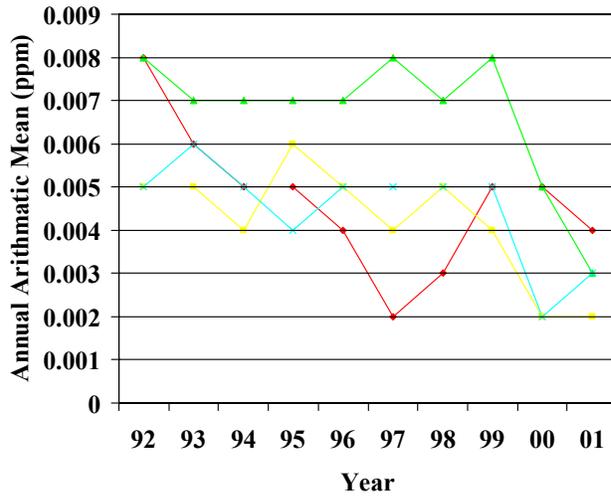
Parameter: PM 2.5													
All Values are in UG/CU Meters Local Conditions													
	P						2nd	3rd	4th		Wtd.	#	
	O	Org									Arith.	Methc	
Site ID	C	Type	City	County	Address	#	Highest	Highest	Highest	Highest	98%	Mean	Used
						Obs	Value	Value	Value	Value	Mean		
33-001-2004	1	F	LACONIA	BELKNAP	GREEN STREET, LACONIA	32	38	24.1	22.7	18.6	38	10.5	* 1
33-001-2004	2	F	LACONIA	BELKNAP	GREEN STREET, LACONIA	32	38.1	23.9	23	18.9	38.1	10.6	* 1
33-005-0007	1	F	KEENE	CHESHIRE	RAILROAD STREET	57	31.9	30.2	24.5	24.2	30.2	11.6	1
33-007-0014	1	F	BERLIN	COOS	LANCASTER STREET TRAILER	102	40.1	33.6	30.2	21.5	30.2	10.6	* 1
33-007-0014	2	F	BERLIN	COOS	LANCASTER STREET TRAILER	50	41.1	34.1	29.5	20.7	41.1	10.9	* 1
33-011-0019	1	F	MANCHESTER	HILLSBOROUGH	NORTH COMMERCIAL STREET	18	24.3	22.1	20.1	16.4	24.3	11.5	* 1
33-011-0019	2	F	MANCHESTER	HILLSBOROUGH	NORTH COMMERCIAL STREET	13	23.7	20	16.8	13.7	23.7	10.6	* 1
33-011-0020	1	F	MANCHESTER	HILLSBOROUGH	PEARL ST	77	34	30.8	27.7	27.7	30.8	11.3	* 1
33-011-0020	2	F	MANCHESTER	HILLSBOROUGH	PEARL ST	41	30.2	28.1	27.4	26.2	30.2	10.7	* 1
33-011-1007	1	F	NASHUA	HILLSBOROUGH	MAIN STREET	104	32.5	28.7	28.2	26.9	28.2	10.8	1
33-013-0003	1	F	CONCORD	MERRIMACK	NO. STATE HOUSE	115	29.3	26.3	25.8	24.2	25.8	9.7	1
33-013-5001	1	F	NOT IN A CITY	MERRIMACK	MT. SUNAPEE	53	37.7	19.7	13.8	12	19.7	5.9	1
33-015-0006	1	F	PORTSMOUTH	ROCKINGHAM	COURT STREET	36	24.5	22.9	14.4	13.3	24.5	8.2	* 1
33-015-0009	1	F	PORTSMOUTH	ROCKINGHAM	VAUGHAN STREET	25	24.6	19.8	17.2	17.1	24.6	8.2	* 1
33-015-0014	1	F	PORTSMOUTH	ROCKINGHAM	PORTSMOUTH, PEIRCE ISLAND	61	28.9	26.2	24.4	24	26.2	13	* 1
33-015-0014	5	J	PORTSMOUTH	ROCKINGHAM	PORTSMOUTH, PEIRCE ISLAND	33	26	24	17.7	13.8	26	10.2	* 1
33-019-0003	1	F	CLAREMONT	SULLIVAN	SOUTH STREET	56	37.5	26.5	24.8	23	26.5	9.8	1

* Indicates that the mean does not satisfy summary criteria

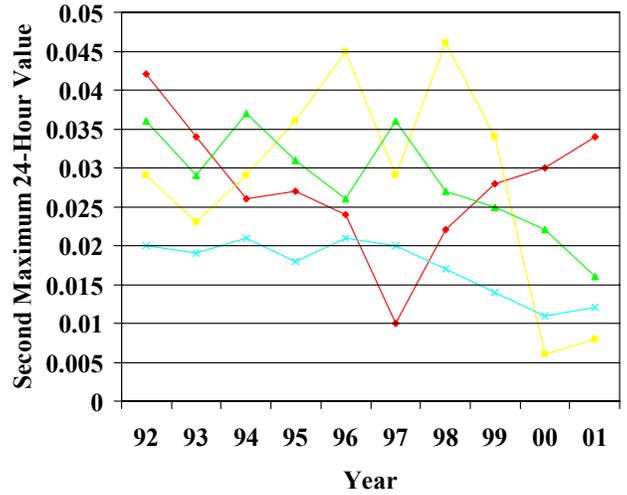
■ **New Hampshire
Sulfur Dioxide Sites**



New Hampshire Sulfur Dioxide



◆ Berlin, Cates Hill ■ Northumberland
▲ Manchester ✕ Nashua, Main St.



◆ Berlin, Cates Hill ■ Northumberland
▲ Manchester ✕ Nashua, Main St.

Parameter: Sulfur Dioxide																
All Values are in Units of Parts Per Million																
	P					24-hour	24-hour		3-hour	3-hour		1-hour	1-hour			
Site ID	C	Org	City	County	Address	#	Highest	Highest	> 0.14	Highest	Highest	> 0.5	Highest	Highest	Arith.	Methc
	Type					Obs	Value	Value	Obs	Value	Value	Obs	Value	Value	Mean	Used
33-005-0007	1	F	KEENE	CHESHIRE	RAILROAD STREET	8,279	0.028	0.026	0	0.051	0.05	0	0.056	0.055	0.008	1
33-007-0019	1	J	BERLIN	COOS	CATES HILL RD	8,219	0.036	0.034	0	0.109	0.095	0	0.238	0.167	0.004	1
33-007-1007	1	J	NORTHUMBERLAND	COOS	ROUTES 110 AND 3, COVERED BRIDGE, GROVET	8,619	0.008	0.008	0	0.018	0.015	0	0.026	0.024	0.002	1
33-011-0019	1	F	MANCHESTER	HILLSBOROUGH	NORTH COMMERCIAL STREET	2,080	0.02	0.019	0	0.045	0.043	0	0.057	0.055	0.007*	1
33-011-0020	1	F	MANCHESTER	HILLSBOROUGH	PEARL ST	4,142	0.017	0.016	0	0.113	0.051	0	0.156	0.148	0.003*	1
33-011-1009	1	F	NASHUA	HILLSBOROUGH	25 MAIN STREET, MATARAZZO BUILDING	8,190	0.015	0.012	0	0.04	0.036	0	0.049	0.042	0.003	1
33-011-1010	1	F	NASHUA	HILLSBOROUGH	SANDERS ASSOCIATES, PARKING LOT D	8,400	0.016	0.015	0	0.036	0.033	0	0.046	0.041	0.004	1
33-013-0007	1	F	CONCORD	MERRIMACK	STORRS STREET	8,507	0.013	0.013	0	0.049	0.045	0	0.123	0.068	0.003	1
33-013-1003	1	F	PEMBROKE	MERRIMACK	PEMBROKE HILL, BRICKETT HILL ROAD	8,493	0.07	0.047	0	0.204	0.135	0	0.243	0.198	0.005	1
33-015-0009	1	F	PORTSMOUTH	ROCKINGHAM	VAUGHAN STREET	2,079	0.012	0.011	0	0.023	0.023	0	0.031	0.031	0.004*	1
33-015-0015	1	F	PORTSMOUTH	ROCKINGHAM	PORTSMOUTH, PORT AUTHORITY	3,426	0.013	0.011	0	0.051	0.04	0	0.076	0.076	0.003	1
33-019-0003	1	F	CLAREMONT	SULLIVAN	SOUTH STREET	8,491	0.017	0.015	0	0.026	0.024	0	0.033	0.033	0.005	1

* Indicates that the mean does not satisfy summary criteria

Air Quality Summary - Rhode Island

No exceedance or violation of the 1-hour or 8-hour carbon monoxide (CO) NAAQS was recorded at the two CO monitoring sites in Rhode Island. The Dorrance Street site in Providence reported the highest 8-hour second maximum CO level (3.8 ppm) which was slightly higher than the previous year. Over the past five years the highest 8-hour second maximum concentration of CO at this site was in 1997 at 6.1 ppm. Lower concentrations of CO were recorded at the east Providence site. The ten-year trend of CO concentrations shows a slight downward trend.

Rhode Island discontinued its ambient air monitoring of lead several years ago because of the extremely low levels of lead that had been recorded in the state.

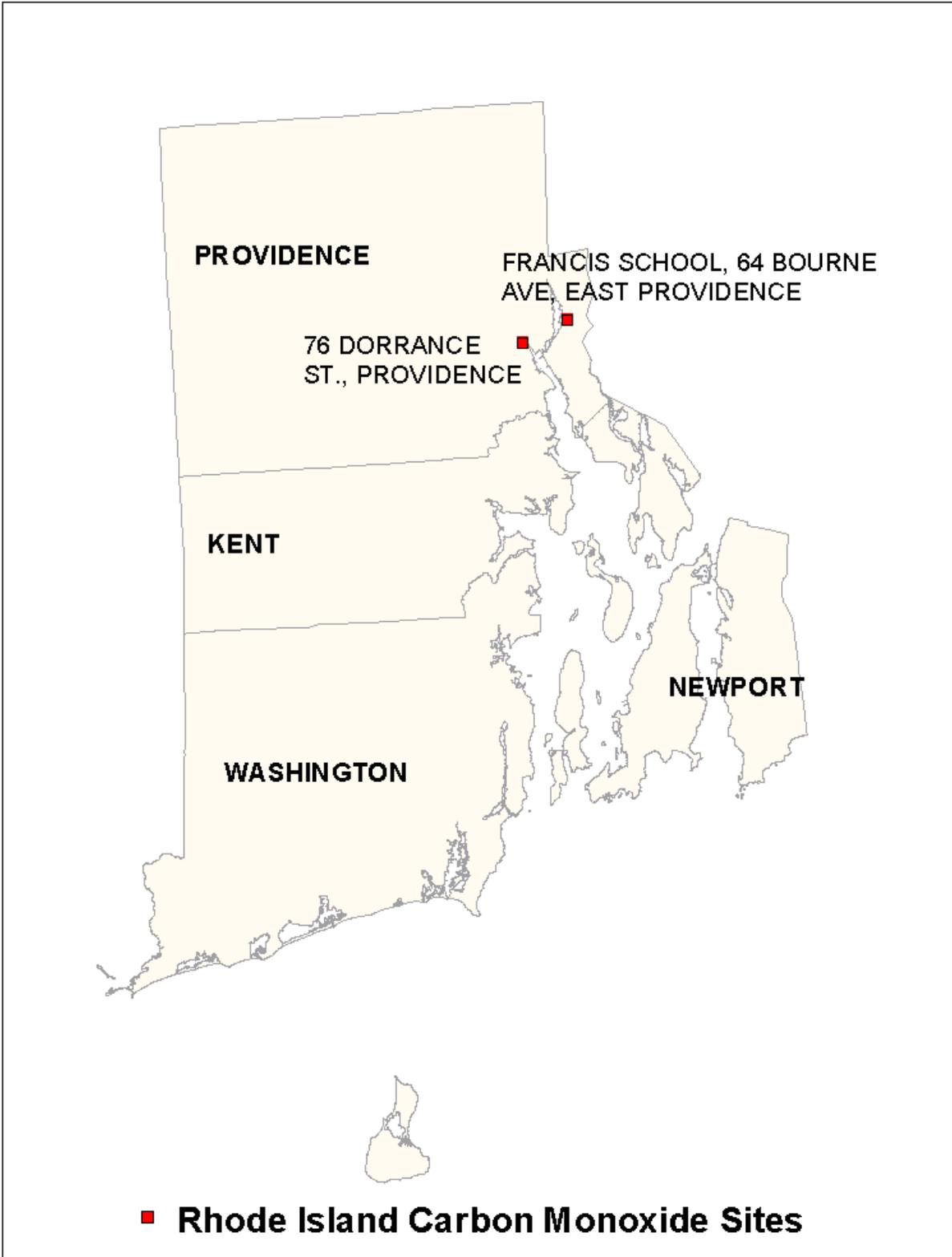
Rhode Island operated three nitrogen dioxide (NO₂) monitoring sites during 2001. NO₂ monitors were located at each of the Photochemical Assessment Monitoring Stations (PAMS) sites and at the Rockefeller Library in Providence. This latter site recorded the highest annual arithmetic mean concentration of NO₂ (0.02 ppm). The trend lines for NO₂ concentrations, over the past ten years, have remained almost flat.

Three ozone monitoring sites in Rhode Island reported exceedances of the 1-hour ozone (O₃) NAAQS during 2001. More sites exceeded the standard in 2001 than in any of the previous five years. The Narragansett site recorded the highest ozone concentration of 150 ppb and the highest 8-hour average concentration (123 ppb ozone).

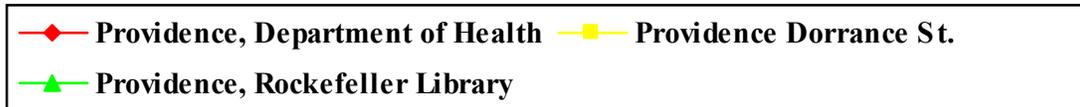
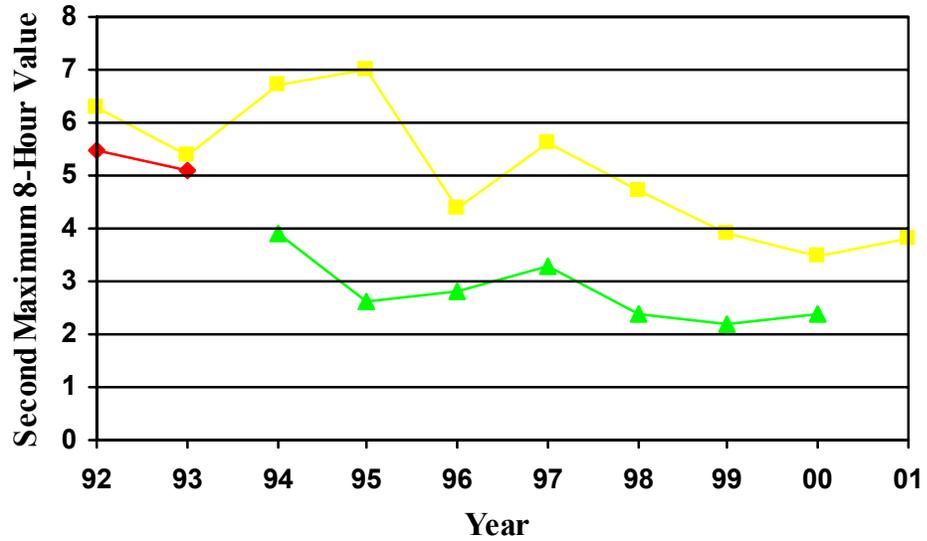
None of the four particulate matter (PM₁₀) sites in Rhode Island had any exceedances or violations of the annual or 24-hour standards over the past five years. The Allens Avenue site reported both the highest 24-hour second maximum value (86 ug/m³) and the highest annual arithmetic mean (39 ug/m³). The ten-year graphs for PM₁₀ show no discernable upward or downward trends. In 2001, Rhode Island operated a network of six fine particulate matter (PM_{2.5}) sites. During 2001, concentrations of PM_{2.5} were highest in the Providence area.

Two air quality monitoring sites measured sulfur dioxide (SO₂) in Rhode Island during 2001. There were no exceedances or violations of the annual, 24-hour, or 3-hour NAAQS. The Rockefeller Library site in Providence reported the highest arithmetic mean concentration of SO₂ (8 ppb), which was ~26% of the NAAQS, the highest 24-hour second maximum concentration (32 ppb), and the highest 3-hour second maximum concentration of SO₂ (57 ppb). The ten year trend for SO₂ concentrations in Rhode Island shows a slight downward trend.

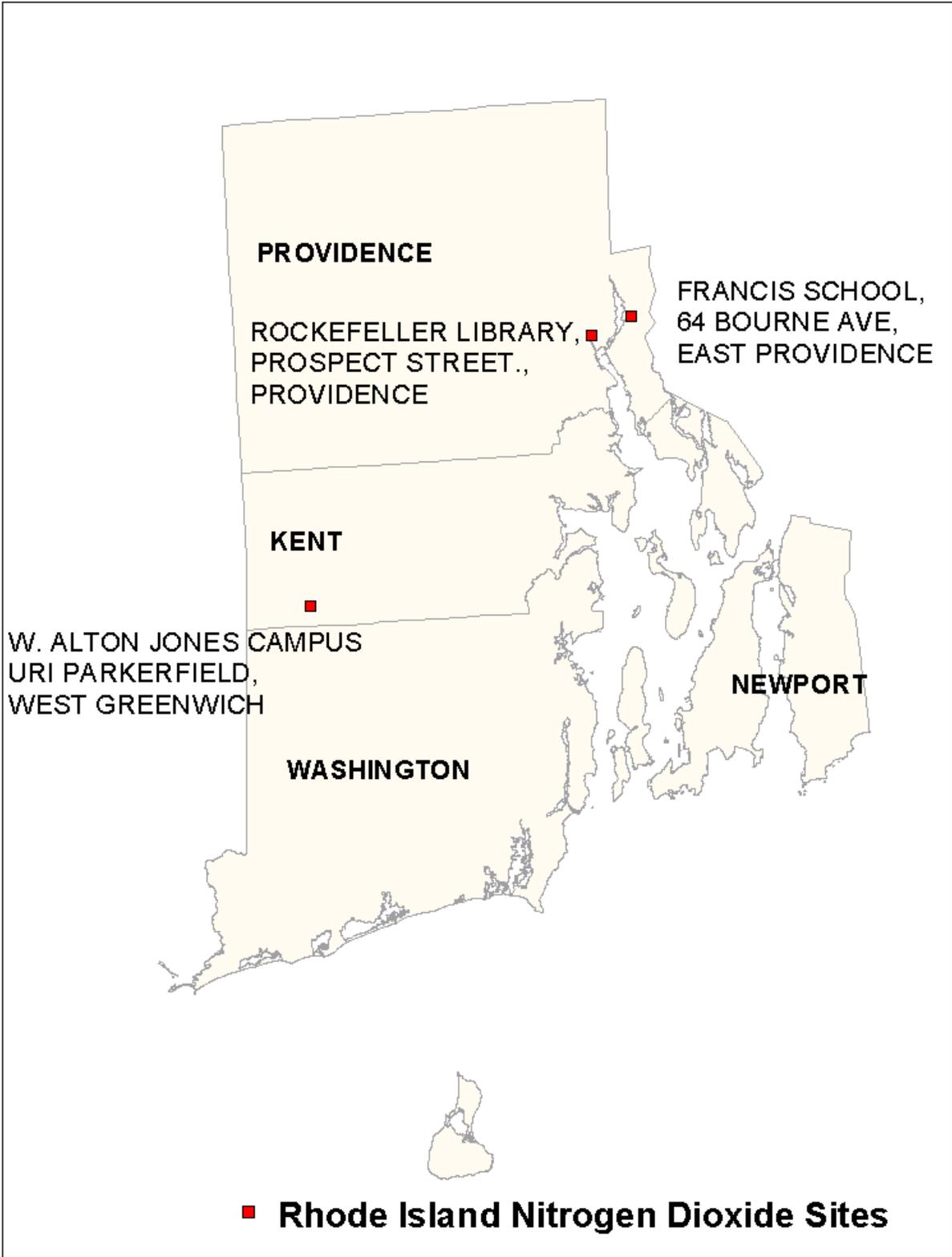
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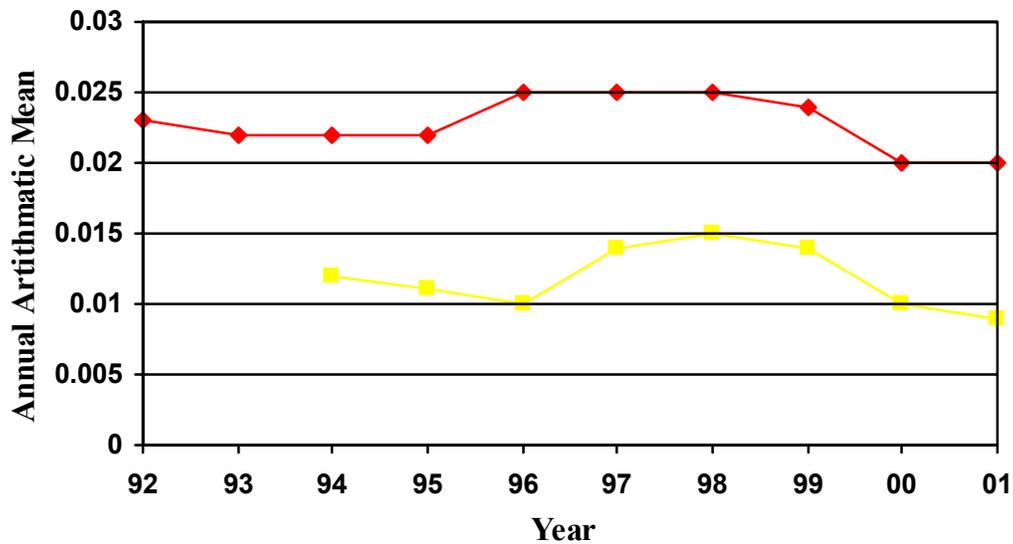
Rhode Island Carbon Dioxide



Carbon Monoxide													
All Values are in Units of Parts Per Million													
						1-hour	1-hour		8-hour	8-hour			
	P					Highest	2nd		Highest	2nd		#	
	O	Org			#	Value	Value	# > 35	Value	Value	# > 9	Methods	
Site ID	C	Type	City	County	Address	Obs	Value	Value	# > 35	Value	Value	# > 9	Used
44-007-1009	1	F	PROVIDENCE	PROVIDENCE	76 DORRANCE STREET.	8,466	12.7	9	0	4	3.8	0	1
44-007-1010	1	F	EAST	PROVIDENCE	FRANCIS SCHOOL, 64	8,220	5.2	4.5	0	3	2.7	0	1
			PROVIDENCE		BOURNE AVE								

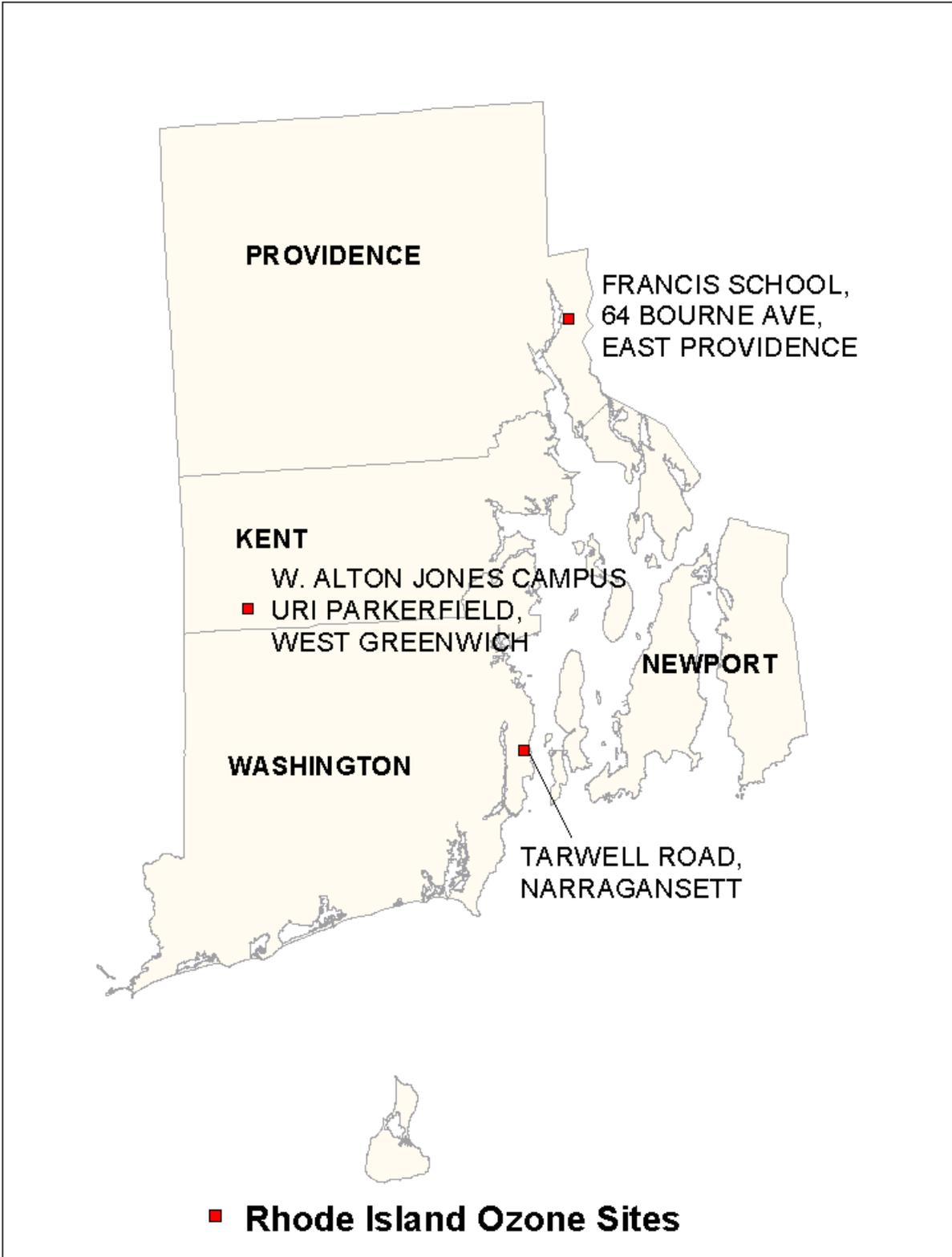


Rhode Island Nitrogen Dioxide

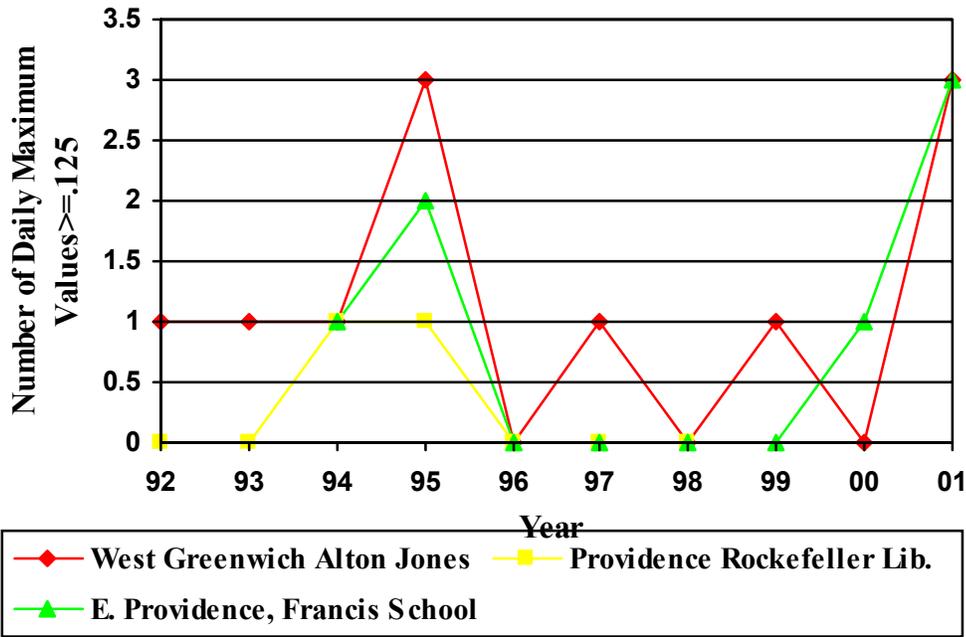


◆ Providence, Rockefeller Library ■ East Providence, Francis School

Parameter: Nitrogen Dioxide										
All Values are in Units of Parts Per Million										
								1-hour	1-hour	
	P							2nd	Annual	
Site ID	O	Org				#	Highest	Highest	Arith.	
	C	Type	City	County	Address	Year	Value	Value	Mean	
44-003-0002	1	F	NOT IN A CITY	KENT	W. ALTON JONES CAMPUS URI PARKERFIELD WE	2001	1,997	0.017	0.014	0.003 *
44-007-0012	2	F	PROVIDENCE	PROVIDENCE	ROCKEFELLER LIBRARY PROSPECT STREET.	2001	8,066	0.091	0.088	0.02
44-007-1010	1	F	EAST PROVIDENCE	PROVIDENCE	FRANCIS SCHOOL, 64 BOURNE AVE	2001	1,891	0.04	0.039	0.009 *



Rhode Island Ozone 1-Hour and 8-Hour



Rhode Island Ozone 1-Hour

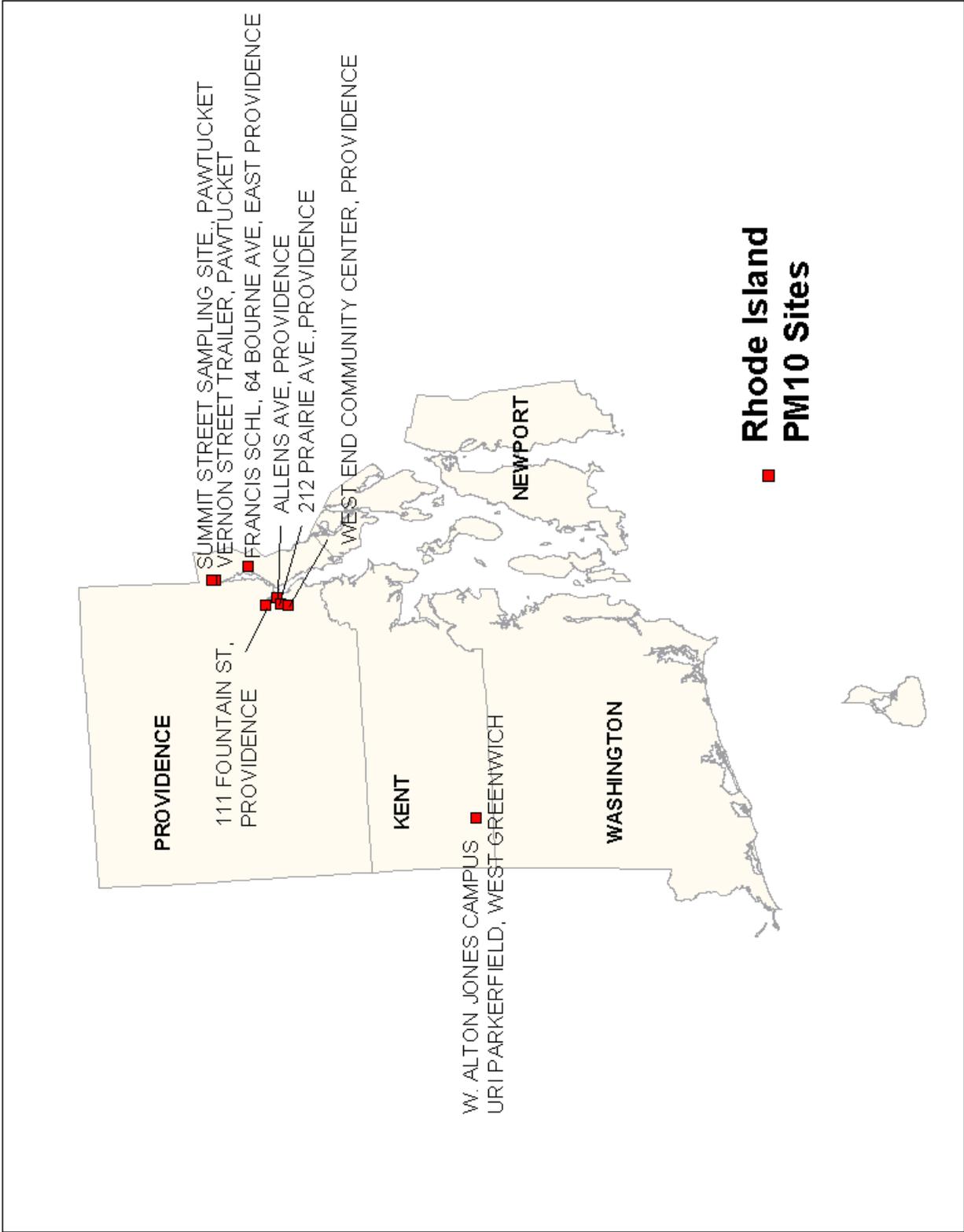
Parameter: Ozone (1-Hour)
All Values are in Units of Parts Per Million

Site ID	P	O	Org	City	County	Address	Num Meas	Num Req	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Values > 0.124 Meas	Est	Methods Used	Miss Days Standard	Assumed <	Design Values
44-003-0002				WEST GREEN	KENT	W. ALTON JONES CAMPUS URI PARKERFIELD WE	171	183	0.136	0.134	0.127	0.124	3	3.2	1	3		0.127
44-007-1010				EAST PROVIDENCE	PROVIDENC	FRANCIS SCHOOL, 64 BOURNE AVE	179	183	0.128	0.128	0.125	0.122	3	3	1	4		0.125
44-009-0007				NARRAGANSEWASHINGT	WASHINGTON	TARWELL ROAD, NARRAGANSETT	181	183	0.15	0.144	0.124	0.115	2	2	1	2		0.144

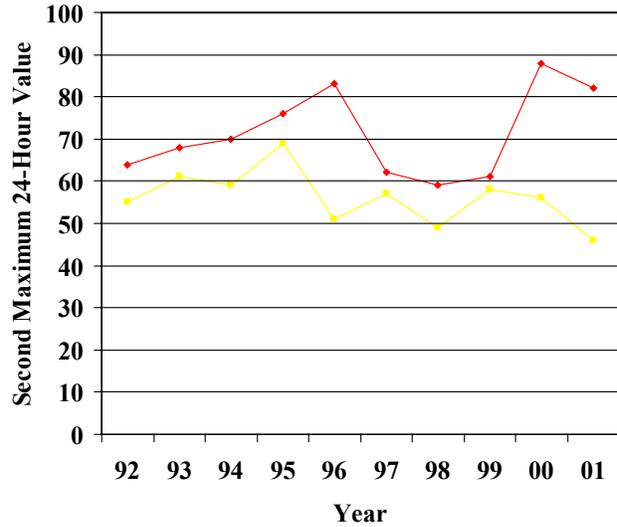
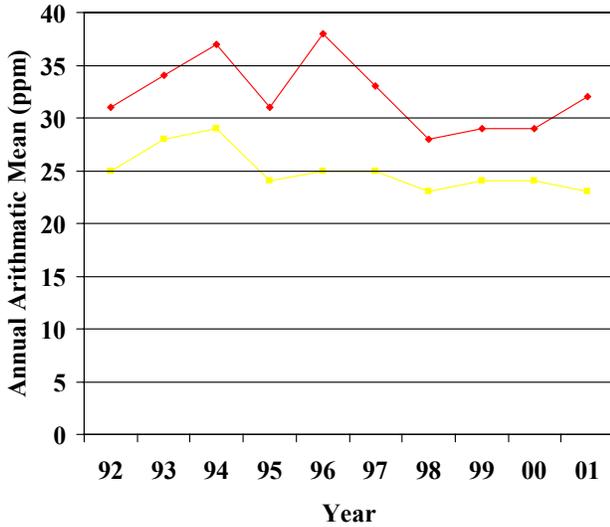
Rhode Island Ozone 8-Hour

Parameter: Ozone (8-Hour)
All Values are in Units of Parts Per Million

Site ID	P	O	Org	City	County	Address	Obs	% Obs	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	Miss Days Standard	Assumed <	Design Values
44-003-0002				WEST GREEN	KENT	W. ALTON JONES CAMPUS URI PARKERFIELD WE	3,707	87	0.118	0.115	0.112	0.105	13	0	0.094
44-007-1010				EAST PROVIDENCE	PROVIDENCE	FRANCIS SCHOOL, 64 BOURNE AVE	3,891	93	0.108	0.108	0.106	0.102	10	0	0.087
44-009-0007				NARRAGANSEWASHINGT	WASHINGTON	TARWELL ROAD, NARRAGANSETT	4,063	99	0.123	0.123	0.101	0.101	11	0	0.092



Rhode Island PM10

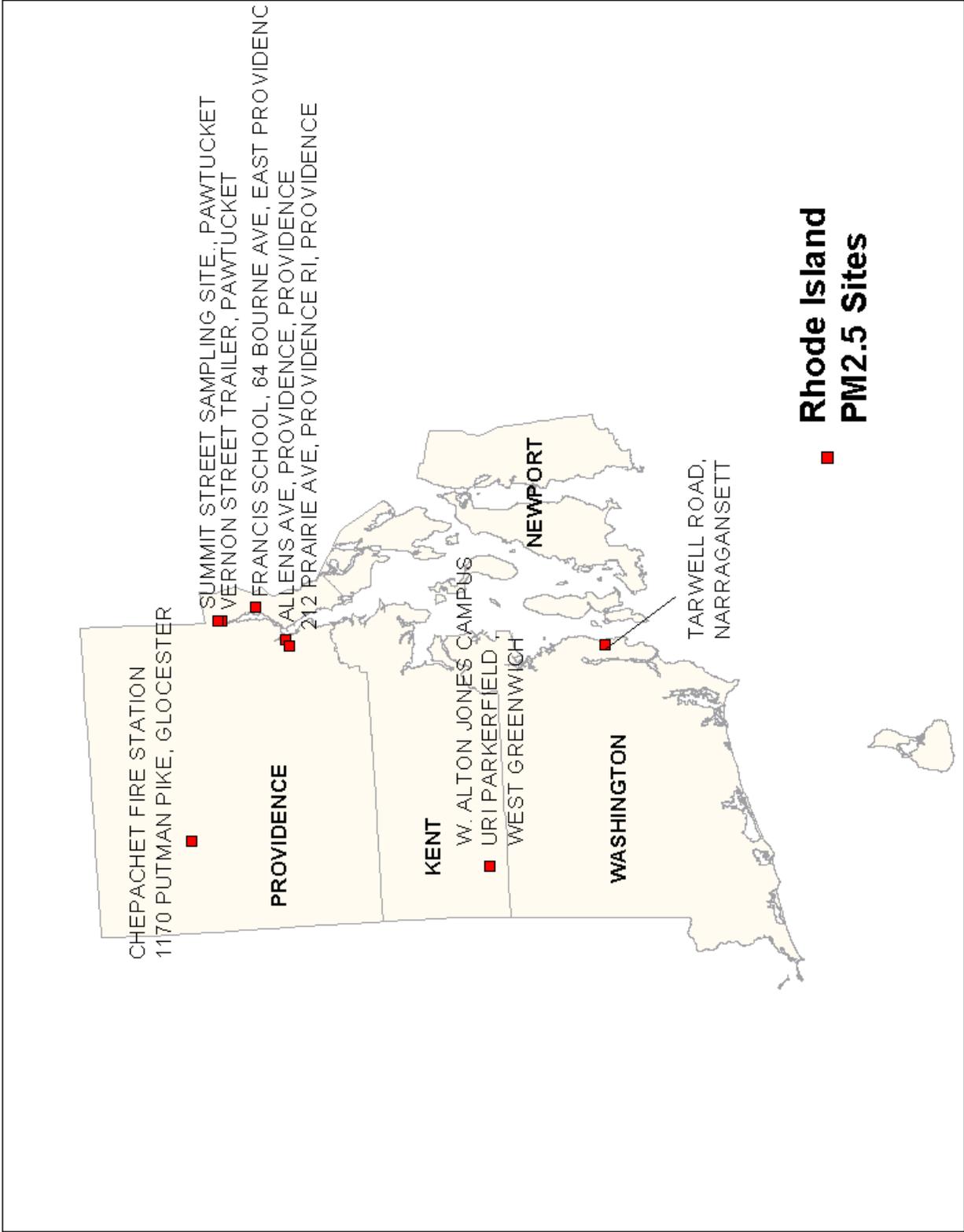


—●— Providence Allens Ave —■— Pawtucket

—●— Providence Allens Ave. —■— Pawtucket

Parameter: PM10																
All Values are in UG/CU Meter (25 C)																
Site ID	P	O	C	Type	City	County	Address	#	Highest Value	2nd Highest Value	3rd Highest Value	4th Highest Value	99% Mean	Arith. Mean	Wtd. #	Methc Used
44-003-0002	1	F			NOT IN A CITY	KENT	W. ALTON JONES CAMPUS URI PARKERFIELD WE	60	45	33	30	29	45	11		1
44-007-0020	1	F			PROVIDENCE	PROVIDENCE	ALLENS AVE, PROVIDENCE	56	85	82	73	67	85	32*		1
44-007-0020	2	F			PROVIDENCE	PROVIDENCE	ALLENS AVE, PROVIDENCE	55	96	86	70	66	96	32*		1
44-007-0021	1	F			PROVIDENCE	PROVIDENCE	111 FOUNTAIN ST	52	56	51	50	49	56	22*		1
44-007-0021	2	F			PROVIDENCE	PROVIDENCE	111 FOUNTAIN ST	50	54	52	50	50	54	21*		1
44-007-0022	1	F			PROVIDENCE	PROVIDENCE	212 PRAIRIE AVE, PROVIDENCE RI	37	51	45	39	32	51	21*		1
44-007-0022	2	F			PROVIDENCE	PROVIDENCE	212 PRAIRIE AVE, PROVIDENCE RI	36	51	44	38	32	51	20*		1
44-007-0024	1	F			PROVIDENCE	PROVIDENCE	8 ABBOTT PARK PLACE	36	48	39	36	32	48	19*		1
44-007-0025	1	F			PROVIDENCE	PROVIDENCE	WEST END COMMUNITY CENTER	37	52	47	45	41	52	23*		1
44-007-0026	1	F			PAWTUCKET	PROVIDENCE	VERNON STREET TRAILER	47	49	46	46	38	49	23		1
44-007-1005	1	F			PAWTUCKET	PROVIDENCE	SUMMIT STREET SAMPLING SITE.	6	62	59	46	27	62	39*		1
44-007-1010	1	F			EAST PROVIDE	PROVIDENCE	FRANCIS SCHOOL, 64 BOURNE AVE	36	51	44	43	37	51	20*		1

* Indicates that the mean does not satisfy summary criteria



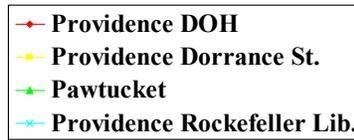
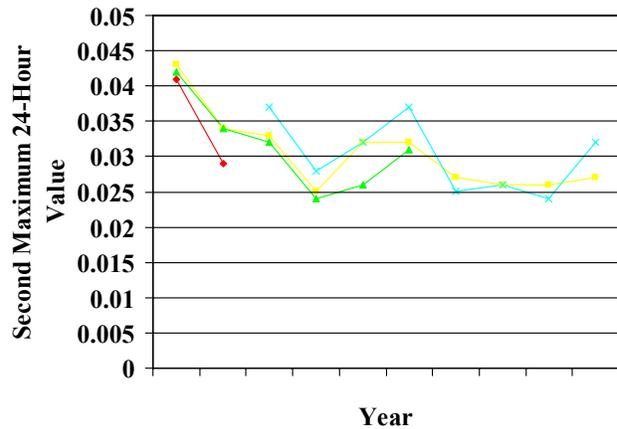
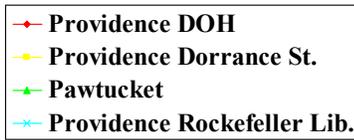
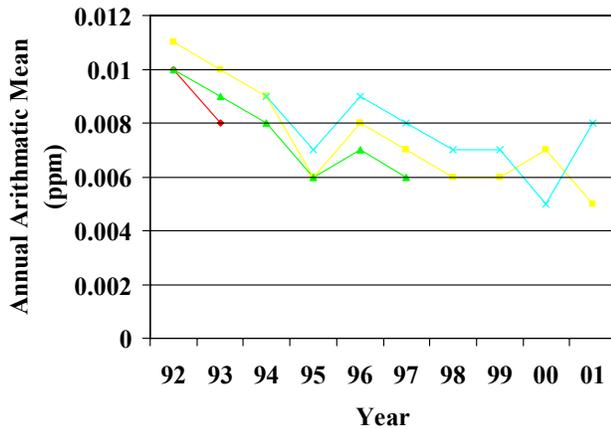
Rhode Island PM2.5

Parameter: PM 2.5													
All Values are in UG/CU Meters Local Conditions													
	P						2nd	3rd	4th		Wtd.	#	
Site ID	C	Type	City	County	Address	Obs	Highest Value	Highest Value	Highest Value	Highest Value	98%	Arith. Mean	Methc Used
44-003-0002	1	F	NOT IN A CITY	KENT	W. ALTON JONES CAMPUS URI PARKERFIELD WE	117	41	33.9	32	26.3	32	9.4	1
44-007-0020	1	F	PROVIDENCE	PROVIDENCE	ALLENS AVE, PROVIDENCE	58	43.4	37.8	36.9	33.4	37.8	14.3	1
44-007-0022	1	F	PROVIDENCE	PROVIDENCE	212 PRAIRIE AVE, PROVIDENCE RI	325	45.1	40.4	38.7	38.3	30.6	12.1	1
44-007-0022	2	F	PROVIDENCE	PROVIDENCE	212 PRAIRIE AVE, PROVIDENCE RI	40	31.2	29.9	29	26.4	31.2	13 *	1
44-007-0023	1	F	PROVIDENCE	PROVIDENCE	CHEPACHET FIRE STATION 1170 PUTMAN PIKE	120	38	31.2	27.4	26	27.4	10.4	1
44-007-0026	1	F	PAWTUCKET	PROVIDENCE	VERNON STREET TRAILER	90	38.9	31.9	29.1	28.7	31.9	12.1	1
44-007-1005	1	F	PAWTUCKET	PROVIDENCE	SUMMIT STREET SAMPLING SITE.	9	30.7	21.8	21.7	17	30.7	17.1 *	1
44-007-1010	1	F	EAST PROVIDENCE	PROVIDENCE	FRANCIS SCHOOL, 64 BOURNE AVE	347	42.6	40.1	37.7	37	32.2	11.7	1
44-007-1010	2	F	EAST PROVIDENCE	PROVIDENCE	FRANCIS SCHOOL, 64 BOURNE AVE	55	37	33.7	33.5	29.1	33.7	11.7	1
44-009-0007	1	F	NARRAGANSE	WASHINGTON	TARWELL ROAD, NARRAGANSETT	95	37	35.6	30.2	25.8	35.6	10.2 *	1

* Indicates that the mean does not satisfy summary criteria



Rhode Island Sulfur Dioxide



Parameter: Sulfur Dioxide																				
All Values are in Units of Parts Per Million																				
						24-hour	24-hour		3-hour	3-hour		1-hour	1-hour							
Site ID	P	O	C	Type	City	County	Address	Obs	Highest	Highest	> 0.14	Value	Highest	Highest	> 0.5	Value	Highest	Highest	Arith.	Methc
																			Mean	Used
44-007-0012	2	F	PROVIDENCE	PROVIDENCE	ROCKEFELLER LIBRARY, PROSPECT STREET.			8,272	0.034	0.032	0	0.068	0.057	0	0.073	0.068	0.008			1
44-007-1009	1	F	PROVIDENCE	PROVIDENCE	76 DORRANCE STREET.			8,466	0.032	0.027	0	0.057	0.055	0	0.095	0.065	0.005			1

Air Quality Summary - Vermont

The state of Vermont operated one carbon monoxide (CO) monitoring site during 2001. The highest first and second 8-hour concentrations of CO, recorded at the Rutland site, were 2.4 ppm and 2.2 ppm CO respectively.

During 2001, Vermont did not conduct ambient air lead monitoring. Historical ambient air concentrations of lead in Vermont have been extremely low and ambient monitoring for this pollutant has not been warranted.

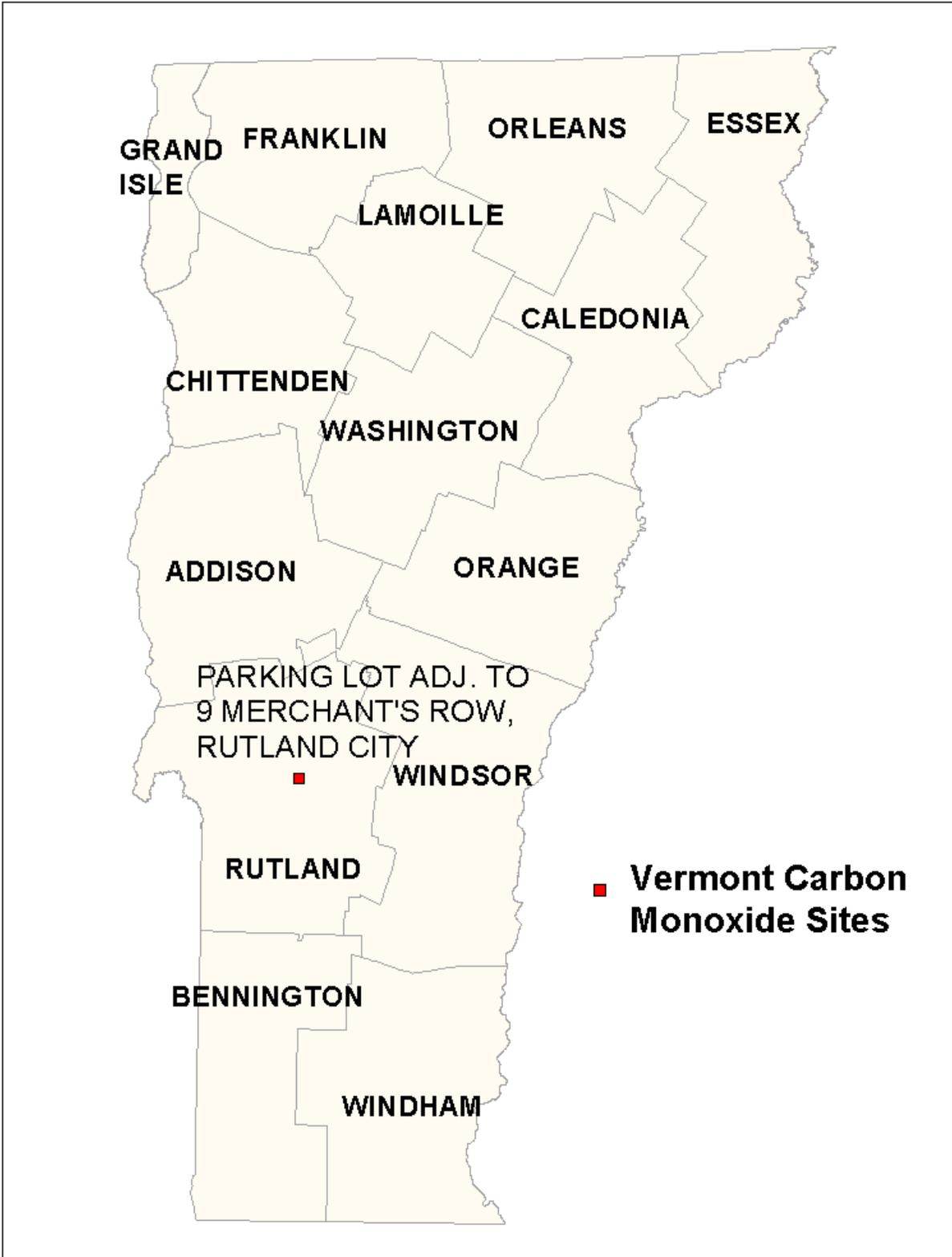
Two nitrogen dioxide (NO₂) monitoring sites (Rutland and Burlington) operated in 2001. No exceedances of the NAAQS for NO₂ were recorded for either site. The last ten years of NO₂ data indicate that the concentrations of NO₂ have remained relatively steady and low in comparison with the NAAQS. The maximum 1-hour concentration of NO₂ (0.053 ppm) was measured at the Rutland site.

Neither of the two ozone monitoring sites in Vermont recorded 1-hour concentrations of ozone in excess of the NAAQS. The highest 1-hour concentration of ozone (102 ppb) was recorded at the Bennington site. The highest 1-hour ozone concentration recorded at the Underhill site was 87 ppb. Since 1987, Vermont has recorded only one exceedance of the 1-hour ozone standard. Neither of the two ozone monitoring sites recorded a fourth highest 8-hour average ozone concentration above the level of the 8-hour ozone NAAQS. The highest 8-hour average ozone concentration (93 ppb) in Vermont was recorded at the Bennington site.

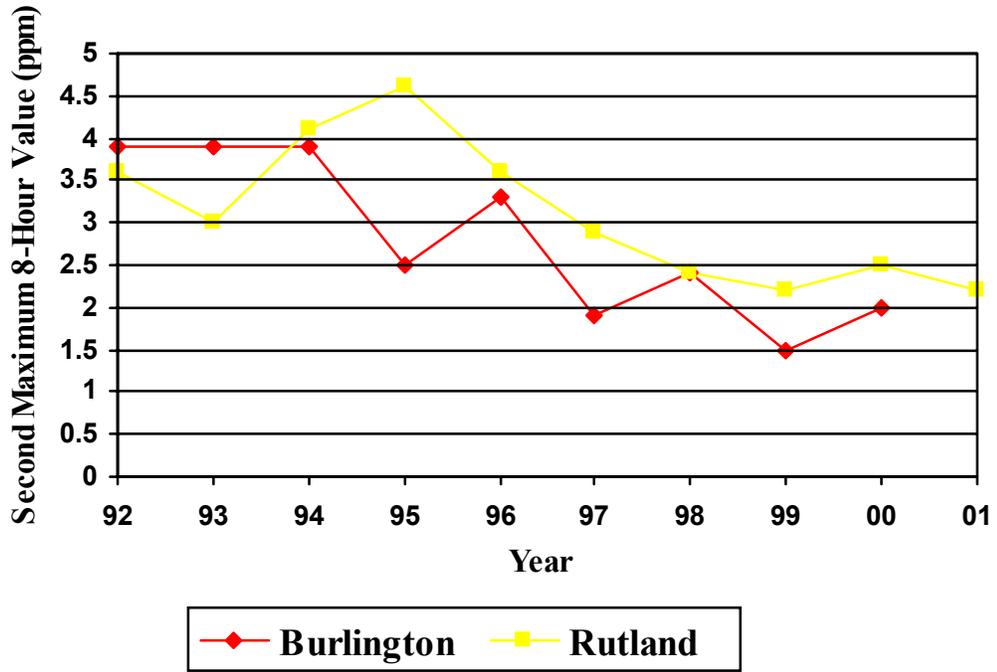
During 2001 Vermont maintained four monitoring sites that measured coarse particulate matter (PM₁₀). Data for 2001 continue the ten-year trend of low PM₁₀ concentrations recorded by Vermont monitoring sites. The highest 24-hour PM₁₀ concentration was recorded at the Rutland monitoring site (50 ug/m³). Rutland also recorded the highest annual average (weighted) PM₁₀ concentration (19 ug/m³). These concentrations are well below the NAAQS. The lowest PM₁₀ concentrations were recorded at the Underhill site. The annual average PM₁₀ concentration at this site was 10 ug/m³, and the maximum 24-hour concentration was 36 ug/m³. Over the past three years, Vermont has established a network of five fine particulate matter (PM_{2.5}) monitoring sites. PM_{2.5} concentrations for these sites have been below the NAAQS. The highest concentrations of fine particulate matter have been recorded at the Rutland site.

Vermont operated one sulfur dioxide (SO₂) monitoring site during 2001. The Rutland site recorded a maximum 3-hour SO₂ concentration of 45 ppb. The 24-hour highest average SO₂ concentration was 24 ppb. The historical data (ten-year trend) indicate a general decline in the concentration of SO₂, with the exception of 1994.

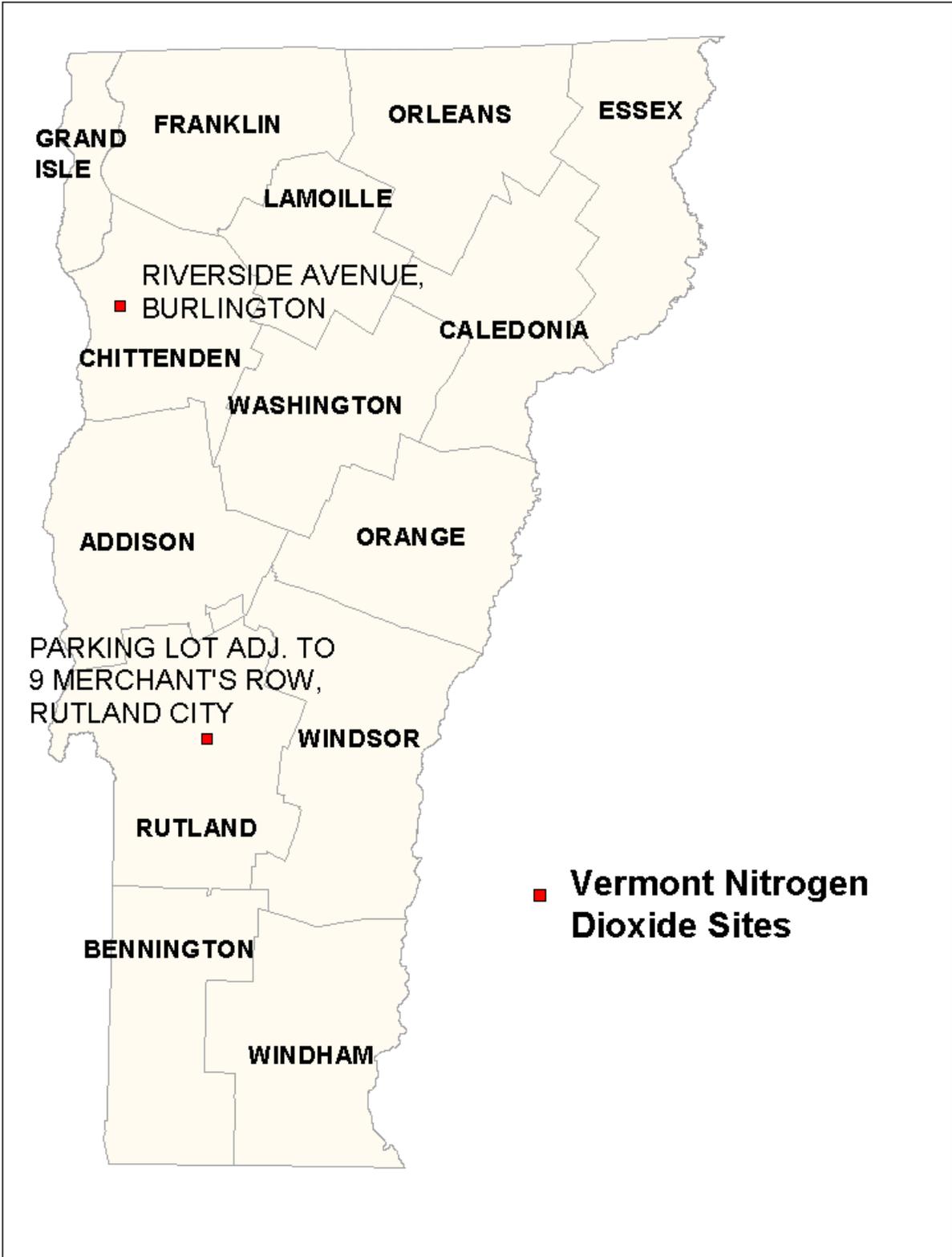
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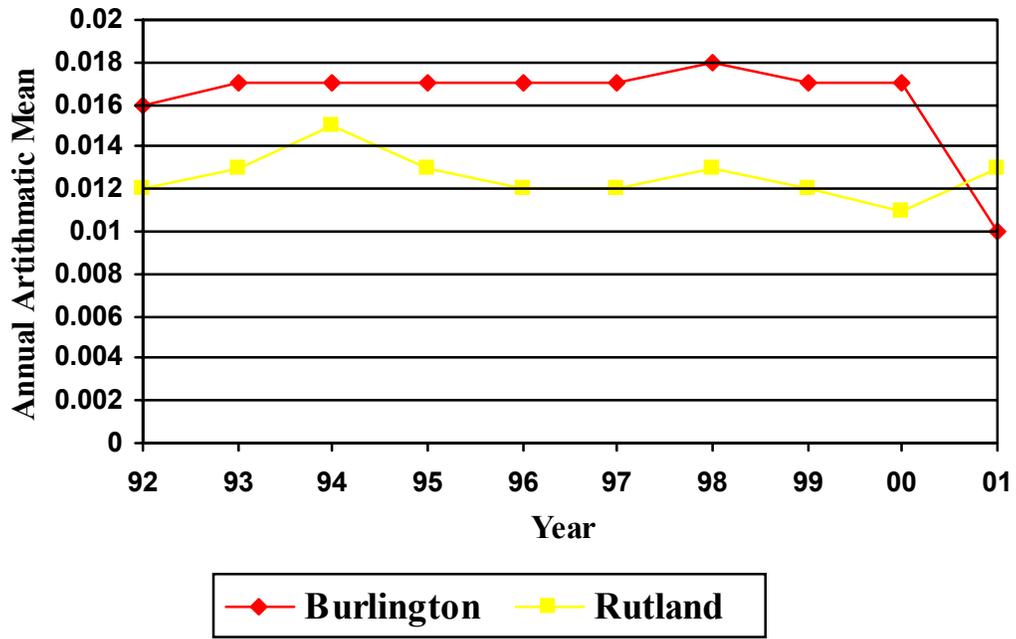
Vermont Carbon Dioxide



Carbon Monoxide													
All Values are in Units of Parts Per Million													
	P						1-hour	1-hour		8-hour	8-hour		#
	O	Org				#	Highest	Highest		Highest	Highest		Methods
Site ID	C	Type	City	County	Address	Obs	Value	Value	# > 35	Value	Value	# > 9	Used
50-021-0002	1	F	RUTLAND	RUTLAND	PARKING LOT ADJ. TO 9 MERCHANTS ROW	8,111	4.4	4.1	0	2.4	2.2	0	2



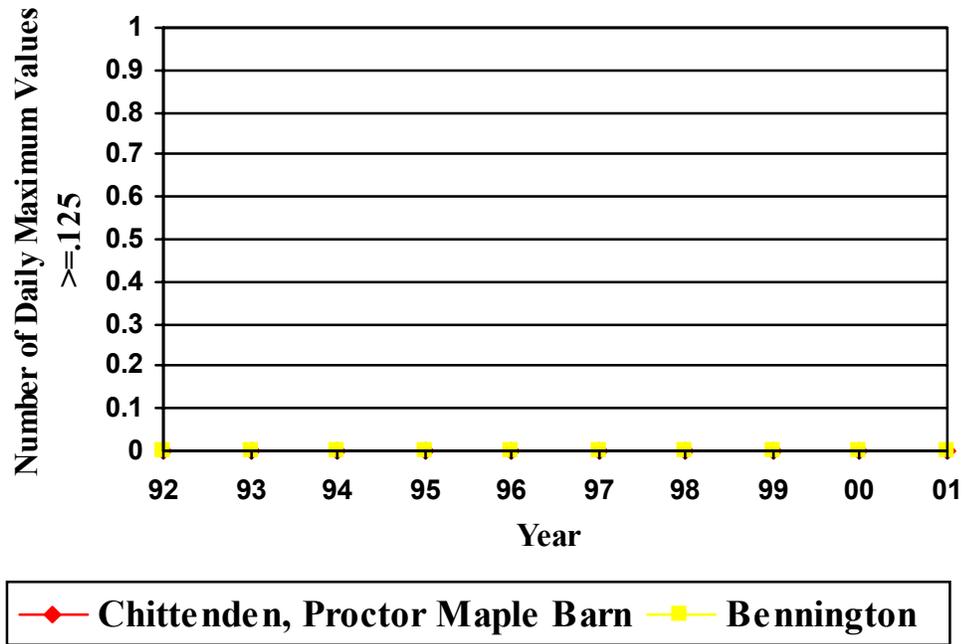
Vermont Nitrogen Dioxide



Parameter: Nitrogen Dioxide										
All Values are in Units of Parts Per Million										
							1-hour	1-hour		
	P							2nd	Annual	
Site ID	O	Org			Year	#	Highest	Highest	Arith.	
	C	Type	City	County	Address		Value	Value	Mean	
50-007-0013	1	F	BURLINGTON	CHITTENDEN	RIVERSIDE AVENUE, BURLINGTON VT	2001	2,772	0.044	0.037	0.01
50-021-0002	1	F	RUTLAND	RUTLAND	PARKING LOT ADJ. TO 9 MERCHANT'S ROW	2001	7,837	0.053	0.052	0.013



Vermont Ozone 1-Hour and 8-Hour

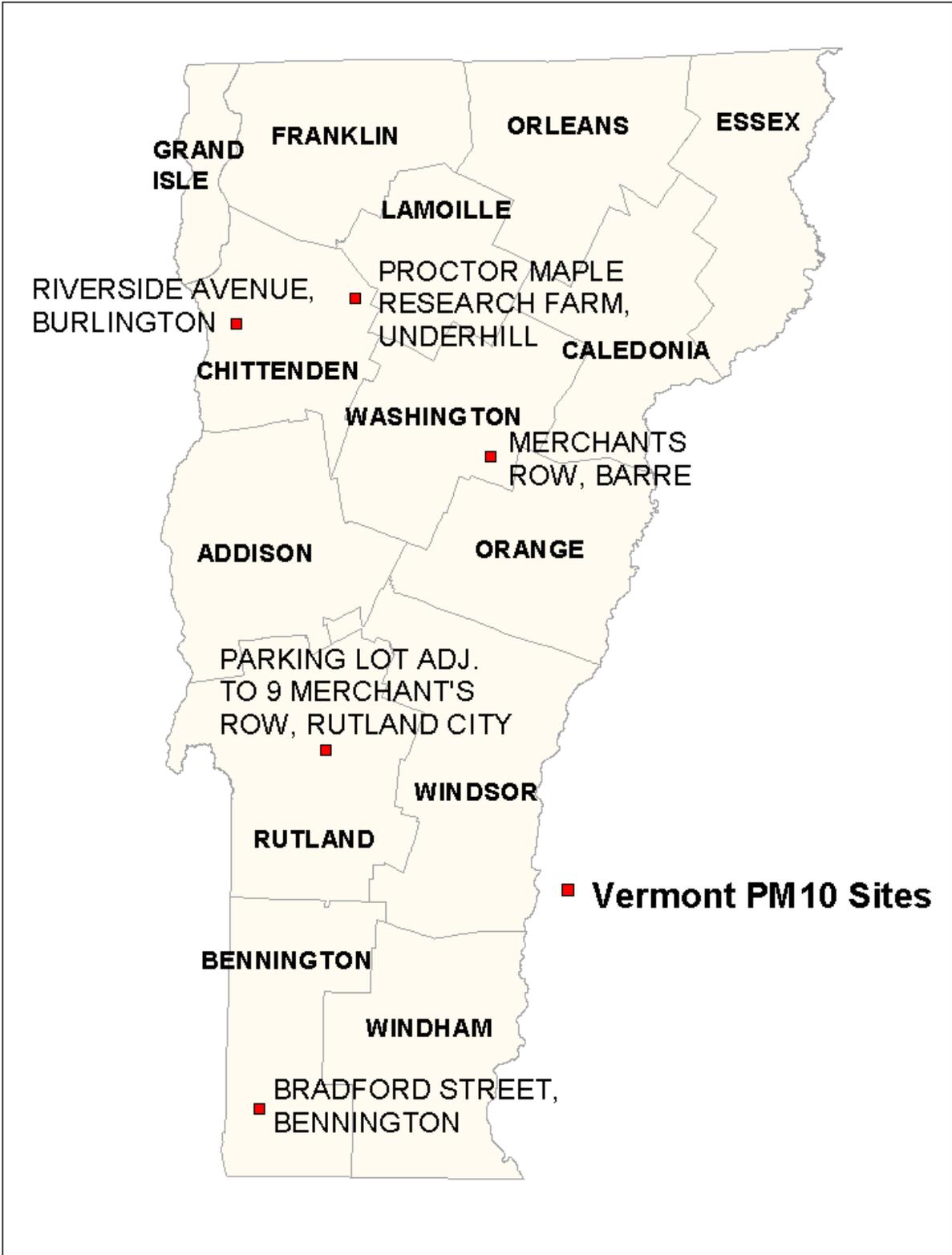


Vermont Ozone 1-Hour

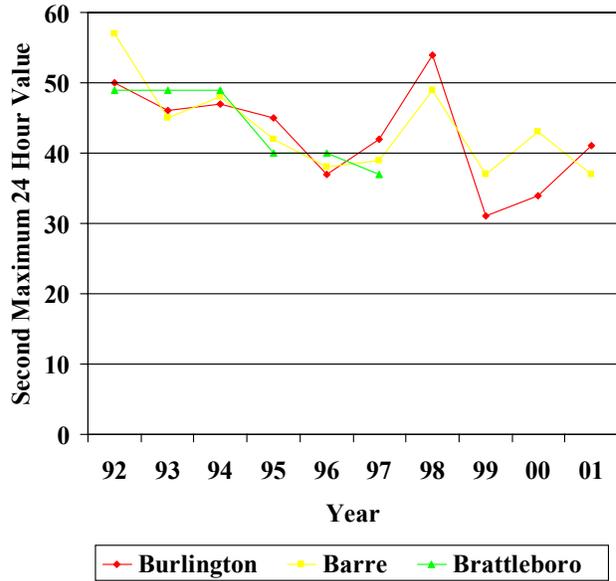
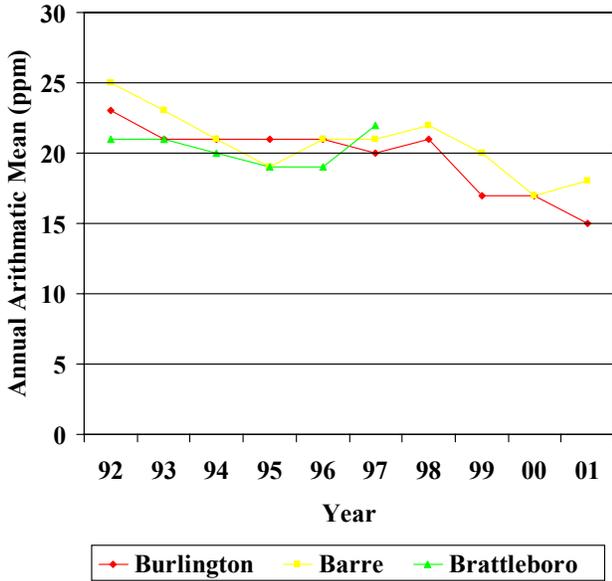
Parameter: Ozone (1-Hour)																
All Values are in Units of Parts Per Million																
	P							2nd	3rd	4th		#	Miss Days	1-Hour		
	O	Org						Highest	Highest	Highest	Values > 0.124	Methods	Assumed<	Design		
Site ID	C	Type	City	County	Address	Meas	Req	Value	Value	Value	Value	Meas	Est	Used	Standard	Values
50-003-0004	1	F	BENNINGTON	BENNINGTON	AIRPORT RD, BENNINGTON, VERMONT	181	183	0.102	0.092	0.092	0.092	0	0	1	2	0.109
50-007-0007	1	F	UNDERHILL	CHITTENDEN	PROCTOR MAPLE RESEARCH FARM	181	183	0.087	0.083	0.082	0.081	0	0	1	2	0.091

Vermont Ozone 8-Hour

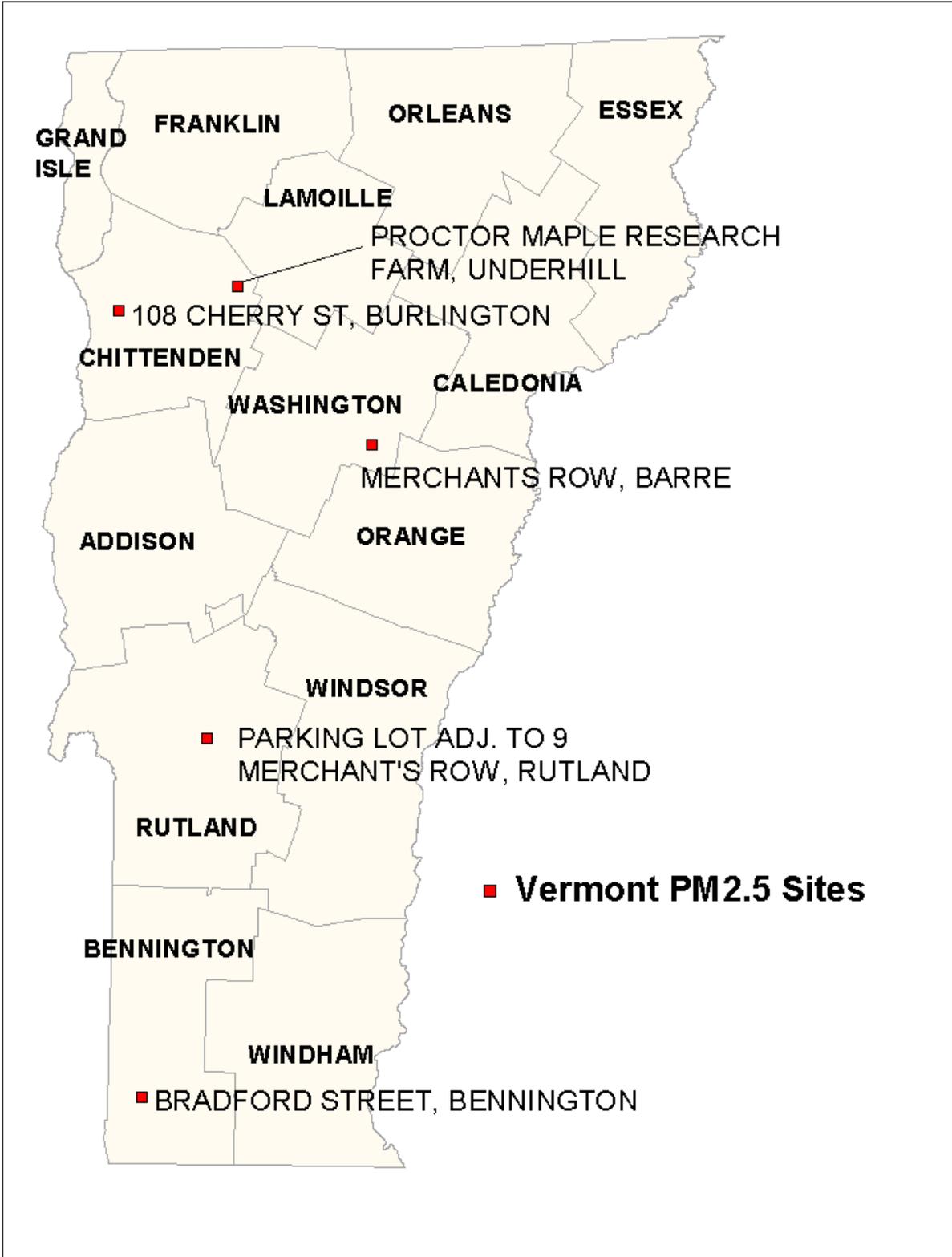
Parameter: Ozone (8-Hour)																
All Values are in Units of Parts Per Million																
	P								2nd	3rd	4th		Miss Days	8-Hour		
	O	Org						#	%	Highest	Highest	Highest	Highest	# >	Assumed<	Design
Site ID	C	Type	City	County	Address	Obs	Obs	Value	Value	Value	Value	Value	0.08	Standard	Values	
50-003-0004	1	F	BENNINGTON	BENNINGTON	AIRPORT RD, BENNINGTON, VERMONT	5,086	98	0.093	0.087	0.084	0.083	2	0	0.079		
50-007-0007	1	F	UNDERHILL	CHITTENDEN	PROCTOR MAPLE RESEARCH FARM	6,535	98	0.082	0.078	0.077	0.076	0	0	0.075		



Vermont PM10



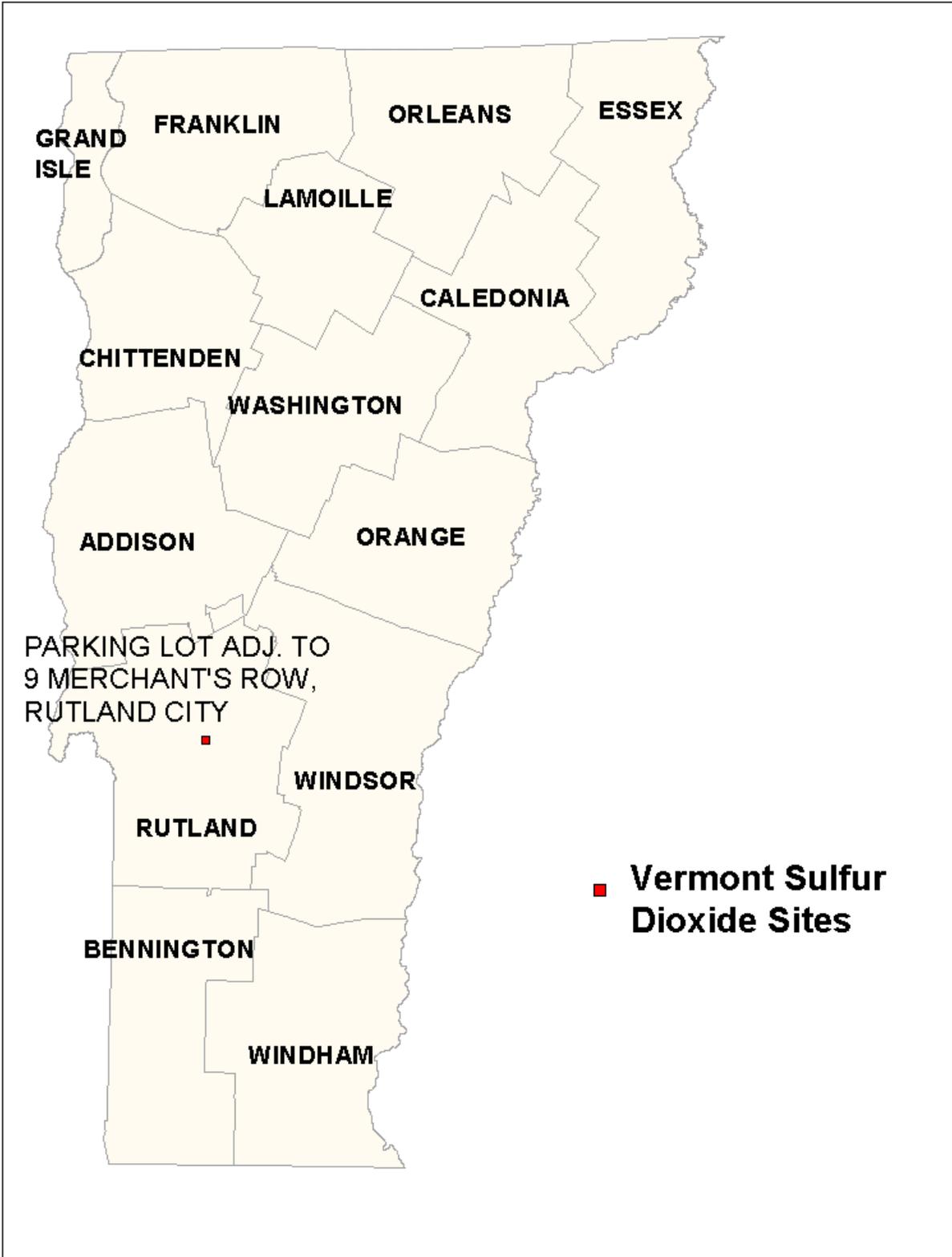
Parameter: PM10													
All Values are in UG/CU Meter (25 C)													
	P												
	O	Org											
Site ID	C	Type	City	County	Address	#	Highest Value	Highest Value	Highest Value	Highest Value	99%	Wtd. Arith.	# Methc
50-003-0005	1	F	BENNINGTON	BENNINGTON	BRADFORD STREET	61	42	38	34	30	42	15	1
					BENNINGTON								
50-007-0007	1	F	UNDERHILL	CHITTENDEN	PROCTOR MAPLE	59	45	36	28	27	45	10	1
					RESEARCH FARM								
50-007-0012	1	F	BURLINGTON	CHITTENDEN	108 CHERRY STREET,	58	51	41	36	35	51	15	1
					BURLINGTON								
50-021-0002	1	F	RUTLAND	RUTLAND	PARKING LOT ADJ. TO	54	48	47	42	38	48	19	1
					9 MERCHANT'S ROW								
50-023-0005	1	F	BARRE	WASHINGTON	MERCHANTS ROW,	60	49	37	36	35	49	18	1
					BARRE								
50-023-0005	2	F	BARRE	WASHINGTON	MERCHANTS ROW,	60	50	38	35	34	50	17	1
					BARRE								



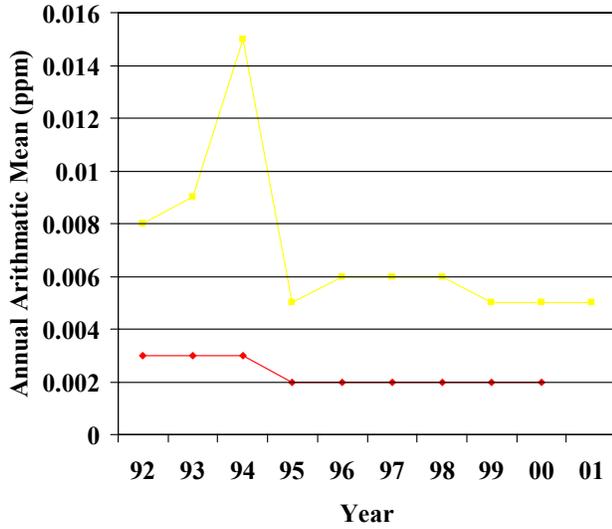
Vermont PM2.5

Parameter: PM 2.5												
All Values are in UG/CU Meters Local Conditions												
	P						2nd	3rd	4th		Wtd.	#
Site ID	O	Org			#	Highest	Highest	Highest	Highest		Arith.	Methc
	C	Type	City	County	Obs	Value	Value	Value	Value	98%	Mean	Used
50-003-0005	1	F	BENNINGTON	BENNINGTON	120	35.4	33.8	30	27.4	30	10.2	1
				BENNINGTON								
50-007-0007	1	F	UNDERHILL	CHITTENDEN	119	39	30.2	24.5	23.9	24.5	7.4	1
				RESEARCH FARM								
50-007-0012	1	F	BURLINGTON	CHITTENDEN	122	38.5	34.2	29.9	28.6		9.7 *	1
				BURLINGTON								
50-007-0012	2	F	BURLINGTON	CHITTENDEN	109	38.4	34.6	30.3	28.3		10 *	1
				BURLINGTON								
50-007-0012	3	F	BURLINGTON	CHITTENDEN	118	40	31	30	27	40	11.3 *	
				BURLINGTON								
50-007-0012	5	J	BURLINGTON	CHITTENDEN	99	41.2	35.2	27.3	26.1	35.2	11 *	1
				BURLINGTON								
50-021-0002	1	F	RUTLAND	RUTLAND	114	37	35.5	32.6	31.5	32.6	12	1
				MERCHANTS ROW								
50-021-0002	4	F	RUTLAND	RUTLAND	166	36	31	27	25	25	10.1 *	
				MERCHANTS ROW								
50-023-0005	1	F	BARRE	WASHINGTON	114	38.6	30.1	28.5	25.1	28.5	10.5	1
				BARRE								

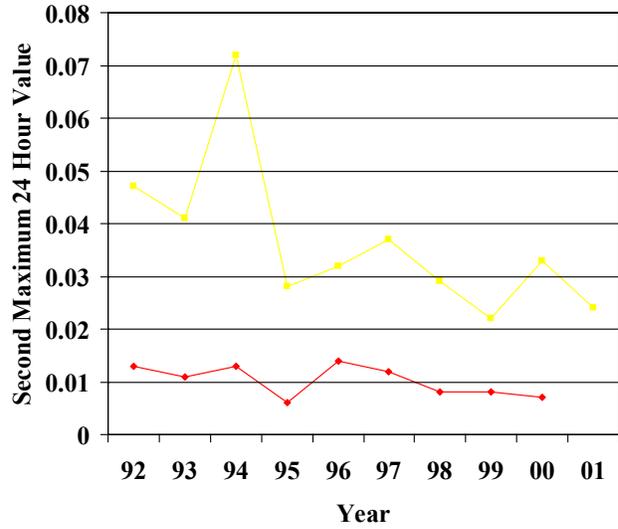
* Indicates that the mean does not satisfy summary criteria



Vermont Sulfur Dioxide



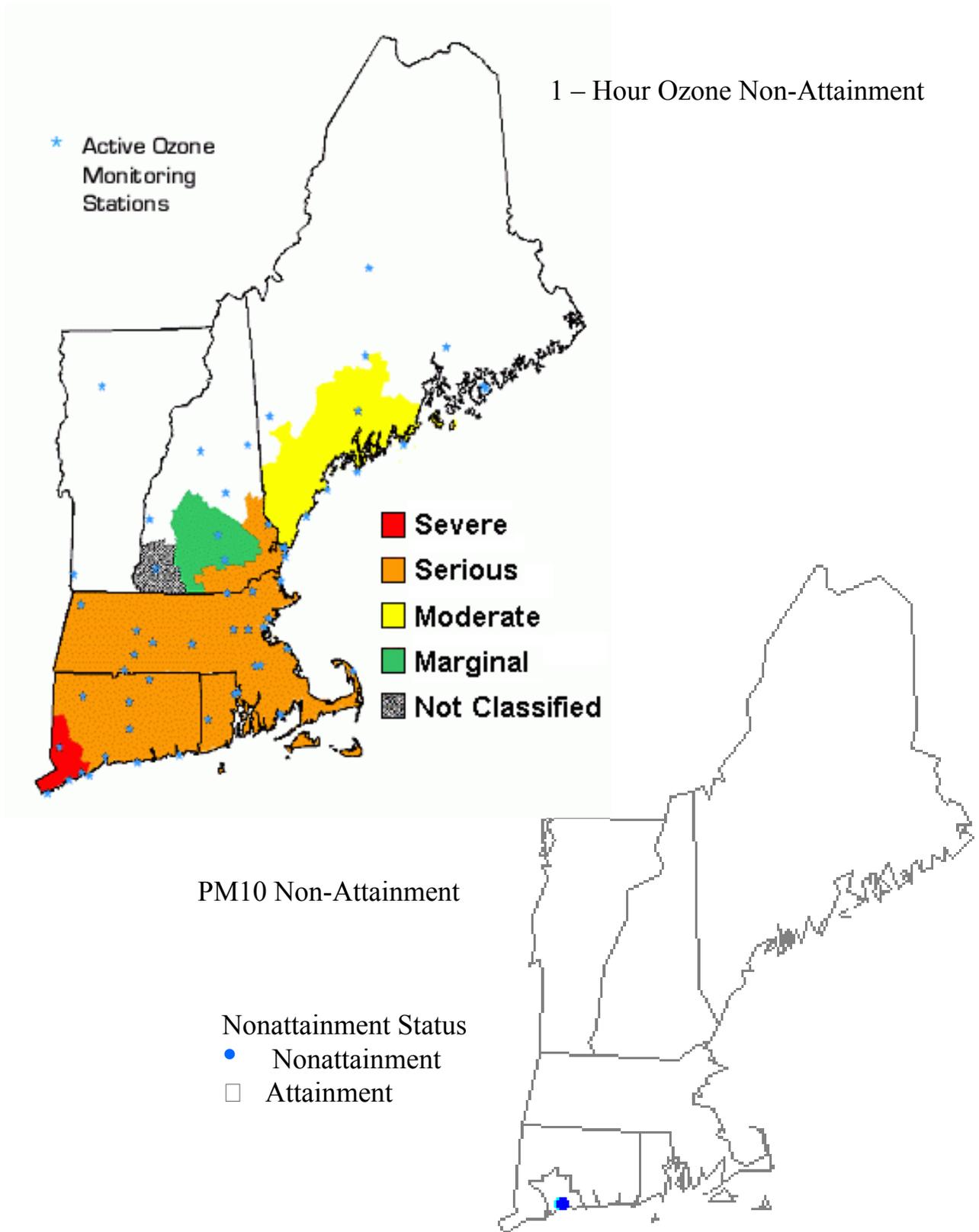
—•— Burlington —■— Rutland



—•— Burlington —■— Rutland

Parameter: Sulfur Dioxide																
All Values are in Units of Parts Per Million																
	P					24-	24-		3-hour	3-hour		1-hour	1-hour		#	
	O	Org			#	hour	hour	Obs	Highest	Highest	Obs	Highest	Highest	Arith.	Methc	
Site ID	C	Type	City	County	Address	Obs	Highest	Highest > 0.14	Value	Value > 0.5	Value	Value	Value	Mean	Used	
50-021-0002	1	F	RUTLAND	RUTLAND	PARKING LOT ADJ. TO 9 MERCHANTS ROW	8,114	0.024	0.024	0	0.045	0.04	0	0.063	0.049	0.005	1

Non-Attainment Areas



Emissions Trends in New England

A review of the air quality data collected in New England over the past decade reveals that substantial progress has been made in reducing the levels of harmful pollutants in the air we breathe. Not surprisingly, air emission trends over this time period also show a substantial decline. This reflects the effectiveness of pollution control measures implemented by the New England States and EPA.

The following discussion reviews, by pollutant, the trend in air emissions in New England from 1991 to 1999, which is the most recent year for which complete air emission estimates are available, and briefly explains the major air pollution control strategies that have caused these emission declines.

Nitrogen Oxides (NOx)

Figure 1 shows the trend in NOx emissions in New England from 1991 to 1999. Overall, NOx emissions declined 11 percent over this time period. As shown in figure 1, on-road mobile sources contribute the most to the NOx emission pollutant loading in New England. Figure 1 also shows that point source emissions declined substantially over this time-frame, and is responsible for the overall decline in total NOx emissions. The states expended considerable effort during the 1990s to implement an important control program on large stationary sources of NOx emissions required by the 1990 amendments to the federal Clean Air Act. This program required the implementation of reasonably available control technology (RACT) on large NOx sources by May of 1995. Additionally, an agreement reached by the New England states with the Ozone Transport Commission required that these sources continue to reduce their NOx emissions through the late 1990s and into the early part of this decade.

NOx emissions from on-road mobile and off-road mobile sources have increased in importance due to the large reduction in NOx emissions from industrial point sources discussed above. Emissions from light-duty on-road motor vehicles peaked in the mid to late 1990s, but are currently declining due to implementation of the federal "Tier 1" emission standards which lowered NOx emissions from such vehicles sold after 1994. However, NOx emissions from gasoline and diesel powered heavy-duty vehicles have increased significantly over the past 10 years, due in large part to the increase in popularity of sport utility vehicles (SUVs). To address this problem, new "Tier 2" motor vehicle emission standards and requirements for a reduction of sulfur levels in motor vehicle fuel will be phased in between 2004 and 2007, and will require emission reductions from most on-road vehicles, including both passenger vehicles and SUVs. Additional regulations will require NOx emission reductions from heavy duty on-road diesel engines. Emissions from off-road vehicles, particularly those fueled with diesel have steadily increased over the past decade. EPA is also developing new standards to reduce these emissions.

Volatile Organic Compounds (VOCs)

An important air quality trend discussed in this report is that for ground level ozone. Ozone is not emitted directly into the air but is formed by the reaction of VOCs and NOx in the presence of heat and sunlight. Figure 2 shows the trend in volatile organic compound (VOC) emissions in New England from 1991 to 1999. Overall, VOC emissions declined 20 percent over this time period. Emissions from industrial point sources, area sources, and on-road mobile sources all declined over this time-frame.

Similar to the NO_x emission control program described above, the New England states implemented RACT regulations to greatly reduce VOC emissions from industrial point sources in the early and mid 1990s. Federal and state control measures on area source categories such as autobody refinishing, architectural paints, and other consumer products led toward reduced VOC emissions from the area source sector in the mid to late 1990s. A variety of control programs were implemented during the 1990s to reduce VOC emissions from on-road motor vehicles, including sale of cleaner burning reformulated gasoline, the Tier 1 motor vehicle standards, and inspection and maintenance programs. Together, these programs reduced on-road motor vehicle VOC emissions by 28 percent from 1991 to 1999. Although emissions from the non-road sector increased during this time, a variety of federal control programs will require that most new non-road engines meet strict emission limits.

Carbon Monoxide (CO)

Figure 3 shows the trend in CO emissions in New England from 1991 to 1999. Overall, CO emissions declined 19 percent over this time period. As shown in Figure 3, on-road mobile sources dominate the CO emission pollutant loading in New England. However, fuel control programs and tighter vehicle emission standards have reduced emissions from this sector over the past decade.

Sulfur Dioxide (SO₂)

Figure 4 shows the trend in SO₂ emissions in New England from 1991 to 1999. Overall, SO₂ emissions declined 29 percent over this time period. As shown in Figure 4, the majority of SO₂ emissions come from industrial point sources, where combustion of large amounts of fossil fuels containing sulfur produces SO₂ emissions. Reductions in SO₂ concentrations and emissions since 1990 are due, in large part, to controls implemented under EPA's acid rain program beginning in 1995. Within the industrial point source sector, the electric utility industry accounts for most of this fuel combustion; in particular, coal-burning power plants have consistently been the largest contributor to SO₂ emissions.

Particulate Matter

Particulate matter is the general term used for a mixture of solid particles and liquid droplets found in the air. Some particles are large enough to be seen as dust or dirt. Others are so small they can be detected only with an electron microscope. PM_{2.5} describes the "fine" particles that are less than or equal to 2.5 micrometers (μm) in diameter. "Coarse" particles are greater than 2.5 μm, but less than or equal to 10 μm in diameter. A particle 10 μm in diameter is about one-seventh the diameter of a human hair.

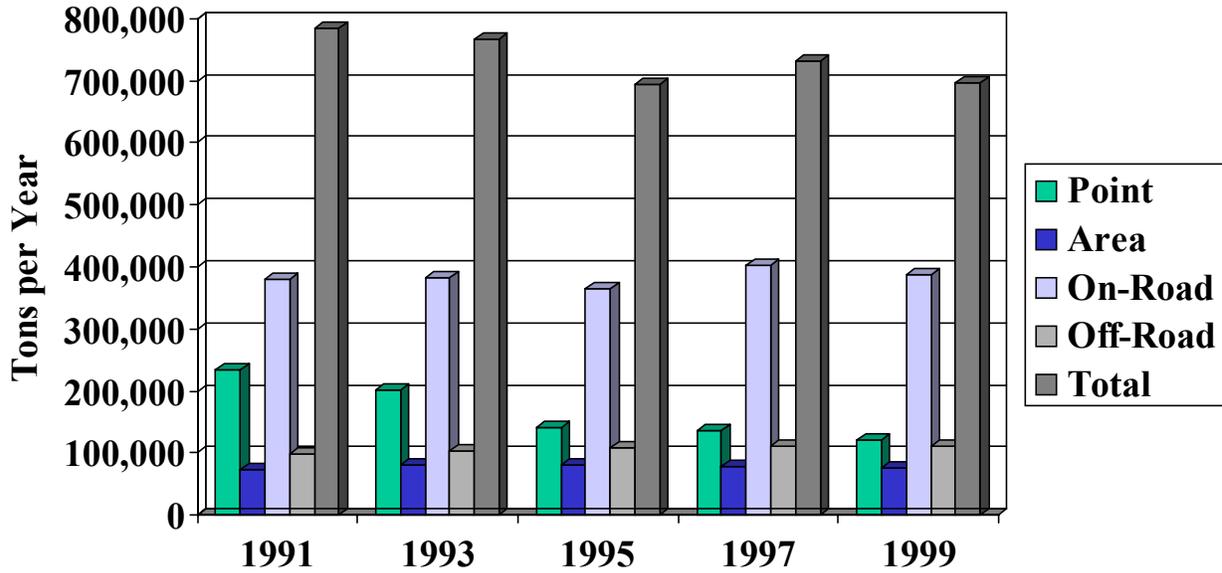
Figures 5 and 6 show the trend in PM₁₀ and PM_{2.5} emissions, respectively, from 1991 to 1999 in New England. Fugitive dust emissions are the primary source of both PM₁₀ and PM_{2.5} emissions in New England, representing approximately two thirds of PM₁₀ emissions, and about one third of PM_{2.5} emissions. Some combustion processes, such as burning of wood in fireplaces and wood stoves, forest fires, and diesel on-road and off-road engines can also emit significant amounts of both PM₁₀ and PM_{2.5}.

Air Emissions Data on the Web

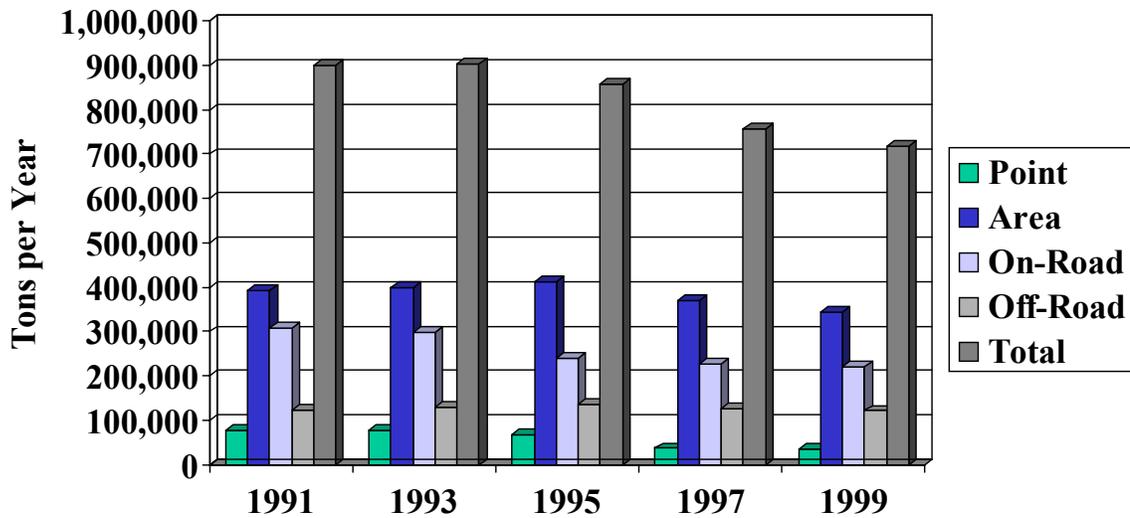
EPA maintains a comprehensive web-site containing emission estimates down to the individual facility level for all 50 states. The address for EPA's air emissions data web-site is: www.epa.gov/air/data. County level, state level, and regional emissions data for area and mobile sources are also available on this website. The site maintains data-sets for a variety of years, and includes emissions estimates provided to EPA by State and Local environmental agencies. Data for both criteria and hazardous air pollutants exist on the web-site. EPA's air data web-site is an invaluable tool to those seeking information on air emissions in the United States.

Emissions Trends Figures

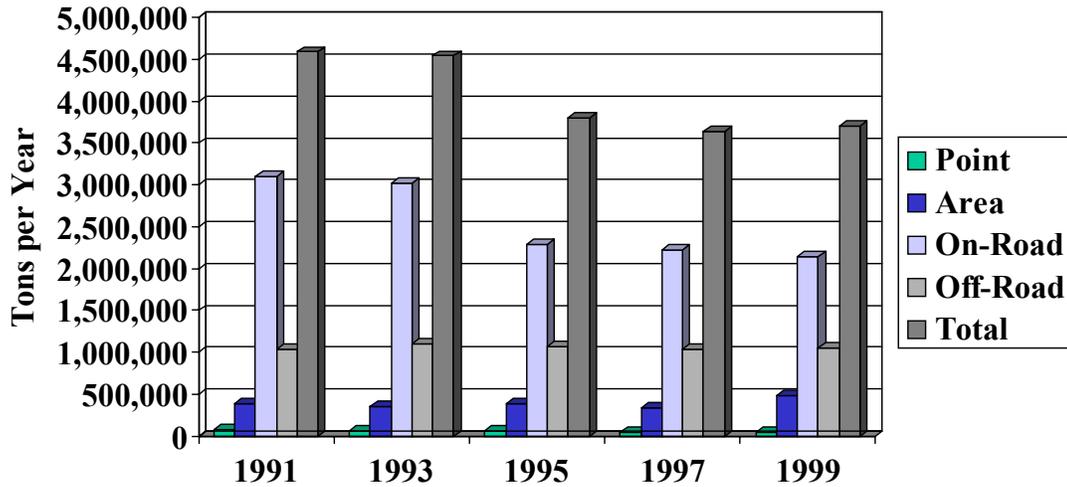
NO_x Emissions Trend in New England



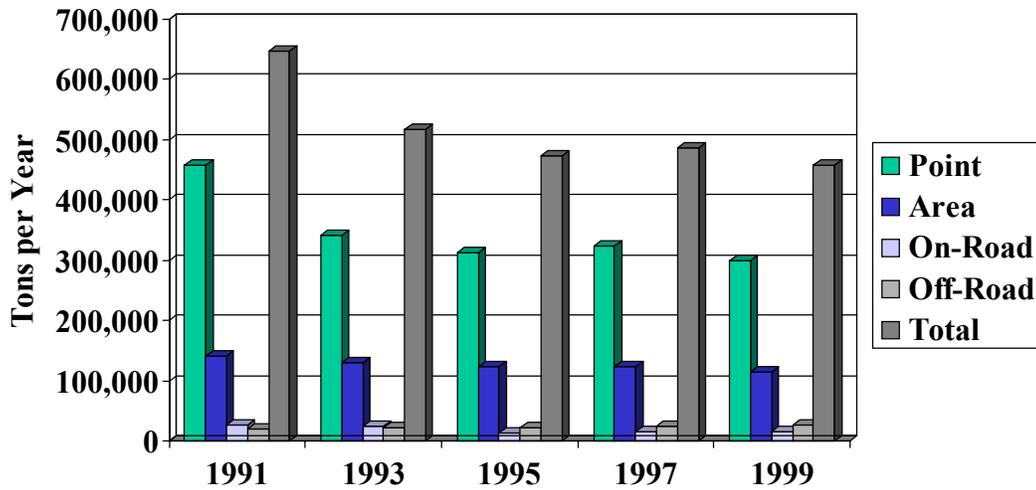
VOC Emissions Trend in New England



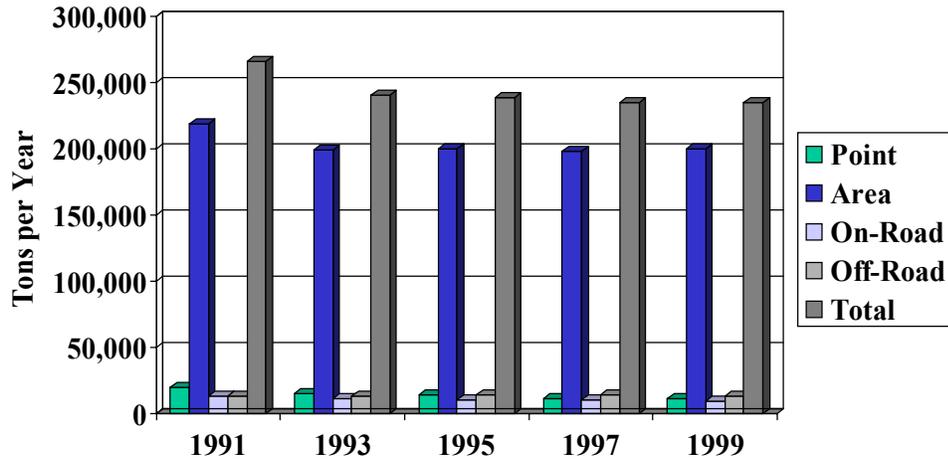
CO Emissions Trend in New England



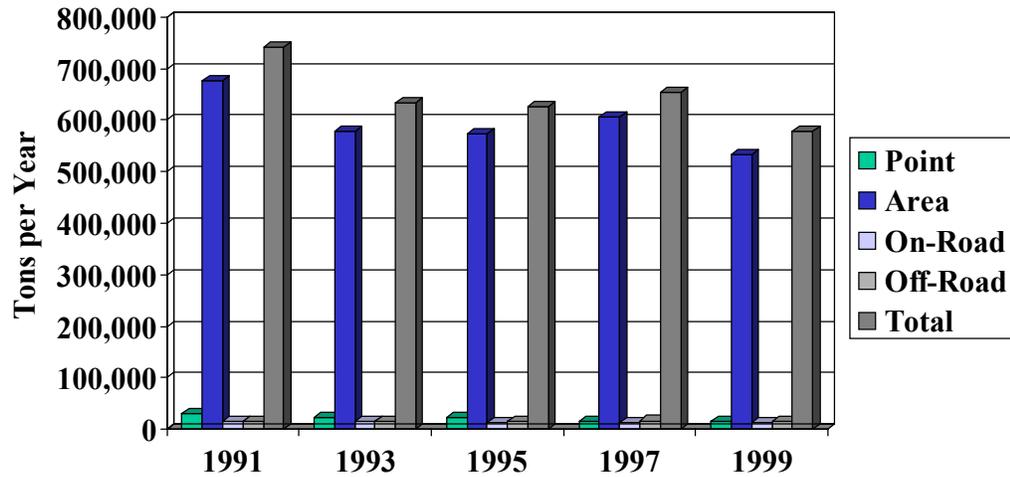
SO2 Emissions Trend in New England



PM2.5 Emissions Trend in New England



PM10 Emissions Trend in New England



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