Overview of New Monitoring Requirements for NAAQS

Bob Judge and Mazeeda Khan

NESCAUM MAC Meeting

October, 2010

NAAQS Review Overall Schedule

Pollutant	NAAQS Level	Status of Current NAAQS Review	Expected Date of Final Decision
Ozone	0.075 ppm 8-hour	Reconsideration of level and secondary NAAQS proposed on January 6, 2010	October, 2010
CO	9 ppm 8-hour 35 ppm 1-hour	Early in Review	May, 2011
SO_2	0.03 ppm annual 0.14 ppm daily New- 75 ppb 1-hour	FRN signed on June 2, 2010 with 1-hour NAAQS. Hybrid monitoring/ modeling approach.	Final Rule signed June 2, 2010
NO_2	53 ppb annual mean New- 100 ppb 1-hour	FRN on January 22, 2010 with 1-hour NAAQS. Includes provisions for near roadway monitoring.	Final Rule signed January 22, 2010
$PM_{2.5}$ PM_{10}	15ug/m^3 annual average 35 ug/m^3 daily 150 ug/m^3 daily	Integrated science assessment nearing completion; Visibility Assessment and Risk Exposure Assessment just reviewed by CASAC.	July, 2011- subject to change.
Pb	0.15 ug/m^3 rolling 3-month average	Reconsideration of monitoring requirements proposed on January 23, 2010	Late 2010

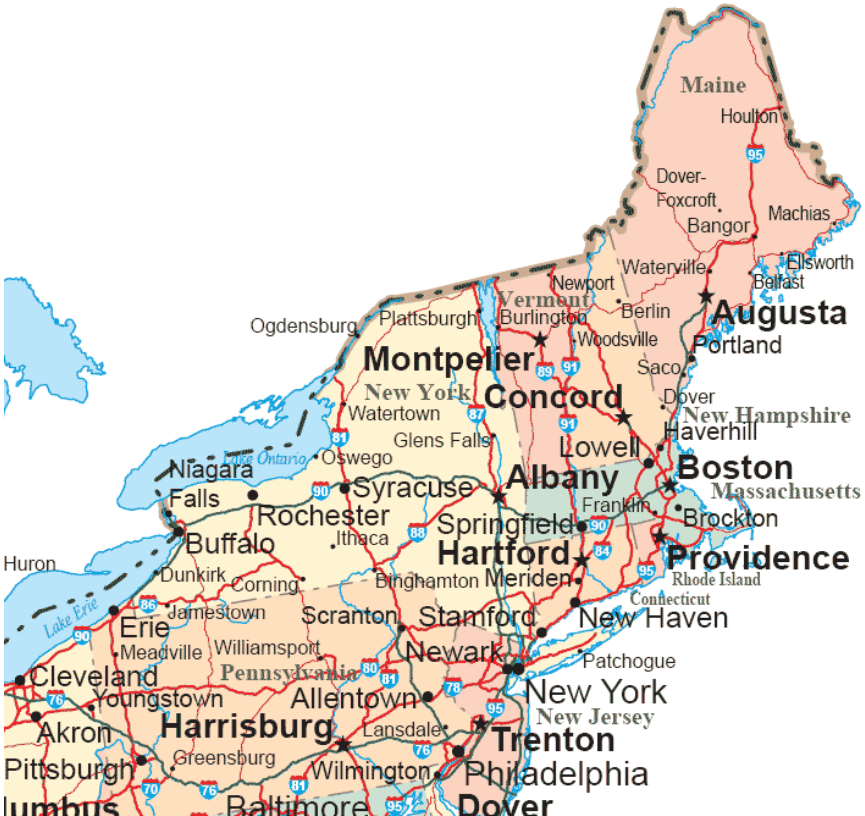
Outline of Today's Presentation

- Review of monitoring issues
  - SO_2 NAAQS FRN
  - Monitoring for Pb NAAQS –NPR based on reconsideration request
  - Ozone NAAQS NPR
  - NO_2 Final Rulemaking Notice- (two-tier network, with near-road)
  - NCore update

SO_2 Monitoring in Region 1 and 2 under FRN for Revised SO_2 NAAQS

Published June 22, 2010- 75 FR 35520

Signed on June 2, 2010



Final SO_2 Primary Standard

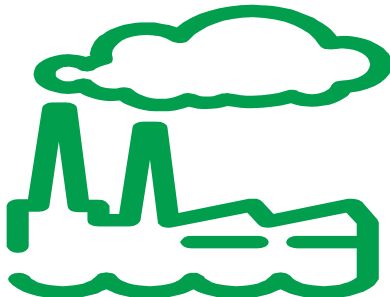
-EPA is establishing a new 1-hour standard SO_2 standard at a level of 75 parts per billion (ppb).

-The 1-hour standard of 75 ppb is below levels measured in many US locations where epidemiologic studies have associated exposure to SO_2 with increased emergency department visits and/or hospitalizations.

-The new 1-hour standard provides substantial protection from high, 5 – 10 minute concentrations of concern.

-Clinical studies reported that five minute SO_2 exposures ≥ 200 ppb can result in respiratory problems such as narrowing of the airways which can cause difficulty breathing and increased asthma symptoms.

-This final standard is consistent with the recommendations of the Clean Air Scientific Advisory Committee (CASAC)



Hybrid Monitoring/Modeling Approach to Assess Compliance with the New Standard

Basis for revising monitoring-focused proposal to hybrid approach that includes modeling:

-Address comments that increasing monitoring was insufficient and too burdensome.

EPA plans to use a combination of monitoring and modeling to assess compliance with the 1-hour standard

-More technically appropriate and efficient to model medium to larger sources and to rely on monitoring for groups of smaller sources and sources not as conducive to modeling.

-Consistent with historic approach to SO_2 compliance that used both monitoring and modeling to make determinations.

Hybrid Monitoring/Modeling Approach to Assess Compliance with the New Standard

For sources or groups of sources that have the potential to cause or contribute to a violation of the standard, EPA anticipates using refined source-oriented dispersion modeling to:

- *identify violations, and*
- *determine compliance.*

EPA plans to develop modeling and implementation guidance for the states addressing a variety of issues including how to:

- *Appropriately compare the model results to the new SO_2 standard, and*
- *Identify and appropriately assess the air quality impacts of smaller SO_2 sources that may potentially cause or contribute to a violation of the new SO_2 standard.*

EPA will provide an opportunity for public comment on the guidance before issuing it in final form.

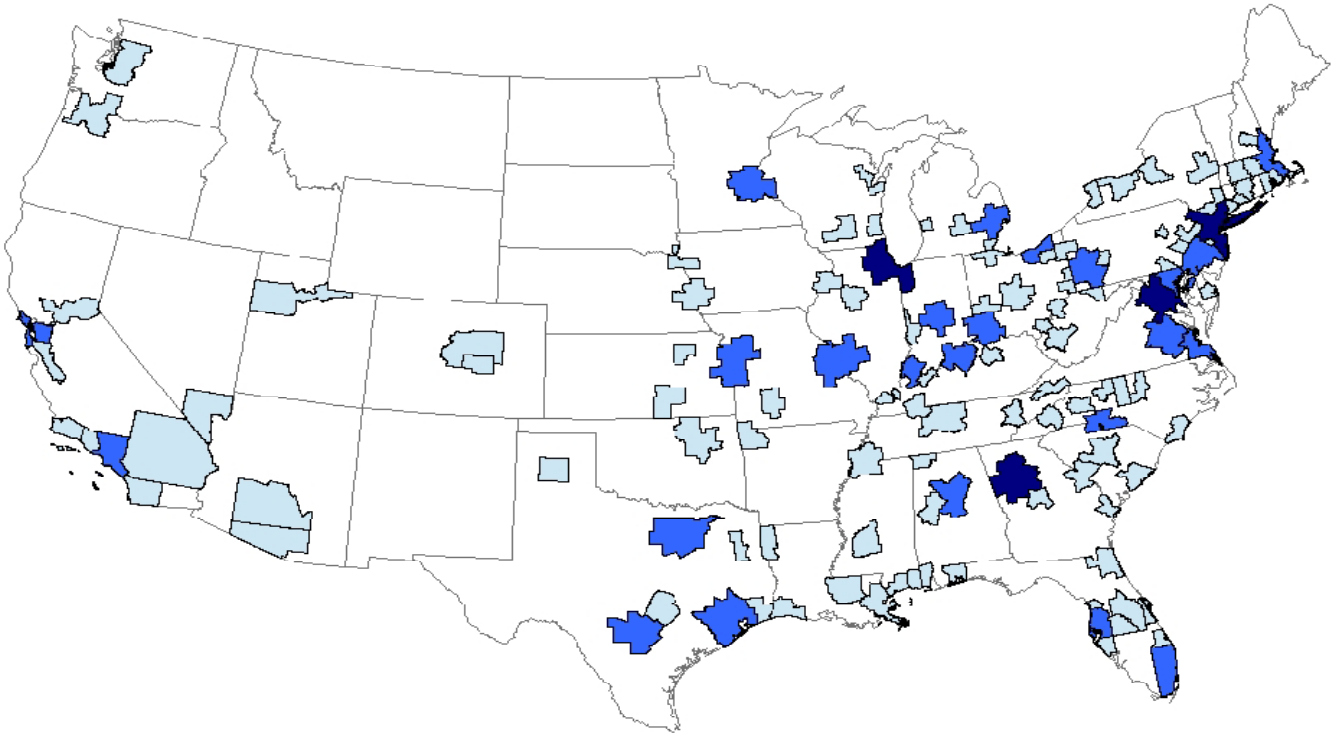
Final SO2 Monitoring Network Requirements

- EPA is setting specific minimum requirements for where states must place SO_2 monitors.
- At least 163 SO_2 monitoring sites nationwide are required by this rulemaking.
- The final monitoring regulations require monitors to be placed in Core Based Statistical Areas (CBSAs) based on a population weighted emissions index for the area . The final rule requires:
  - 3 monitors in CBSAs with index values of 1,000,000 or more;
  - 2 monitors in CBSAs with index values less than 1,000,000 but greater than 100,000; and
  - 1 monitor in CBSAs with index values greater than 5,000.
- All required SO_2 monitors must be operational by January 1, 2013.
- *EPA Regional Administrators have the authority to require additional monitoring in certain circumstances.*

Final SO_2 Data Reporting Requirements

- EPA also finalized changes to data reporting requirements. State and local agencies are required to report two data values for every hour of monitoring conducted:
  - The 1-hour average SO_2 concentration; and
  - The maximum 5-minute block average SO_2 concentration for each hour.

Monitoring Requirements for the Revised Primary 1-Hour Sulfur Dioxide (SO_2) Standard



103 CBSAs require 1 monitor
24 CBSAs require 2 monitors
4 CBSAs require 3 monitors

131 Total CBSAs require at least 1 monitor
(163 monitors total)

Got it?

- What does this mean for me..?

SO_2 Monitoring in Region 1 under this FRN..

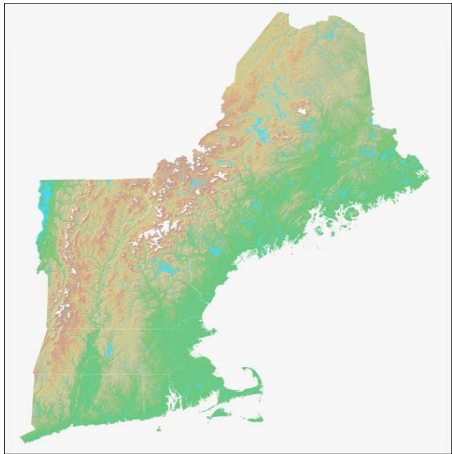
This final rule is different from the proposal in that "State Emissions Triggered" monitor are not required, and the "PWEI" -based SO_2 monitors have different PWEI "cut-offs."

By this FRN:

- 3 in CT (Hartford- East Hartford- West Hartford; Bridgeport-Stamford-Norwalk; New Haven-Milford)
- 1 in NH (Concord)
- 3 in MA (Barnstable; Springfield; Worcester)
- 2 in MA-NH (multi-state Boston area) and
- 1 in MA-RI (multi-state Providence- Fall River)

- 10 total- in Region 1

As Stated earlier, EPA Regional Administrators have the authority to require additional monitoring in certain circumstances to ensure NAAQS compliance.



SO_2 Monitoring in Region 2 under this FRN..

By this FRN:

- 5 in NY (Albany-Schenectady-Troy, Buffalo-Niagara Falls, Poughkeepsie-Newburgh-Middletown, Rochester, Syracuse)
- 2 in NJ-PA (multi-state Allentown-Bethlehem-Easton (1); multi-state Trenton-Ewing (1))
- 3 in NY-NJ-PA (multi-state NY-N. NJ-LI)
- 2 in NJ-PA-MD-DE (multi-state Philadelphia-Camden-Wilmington)

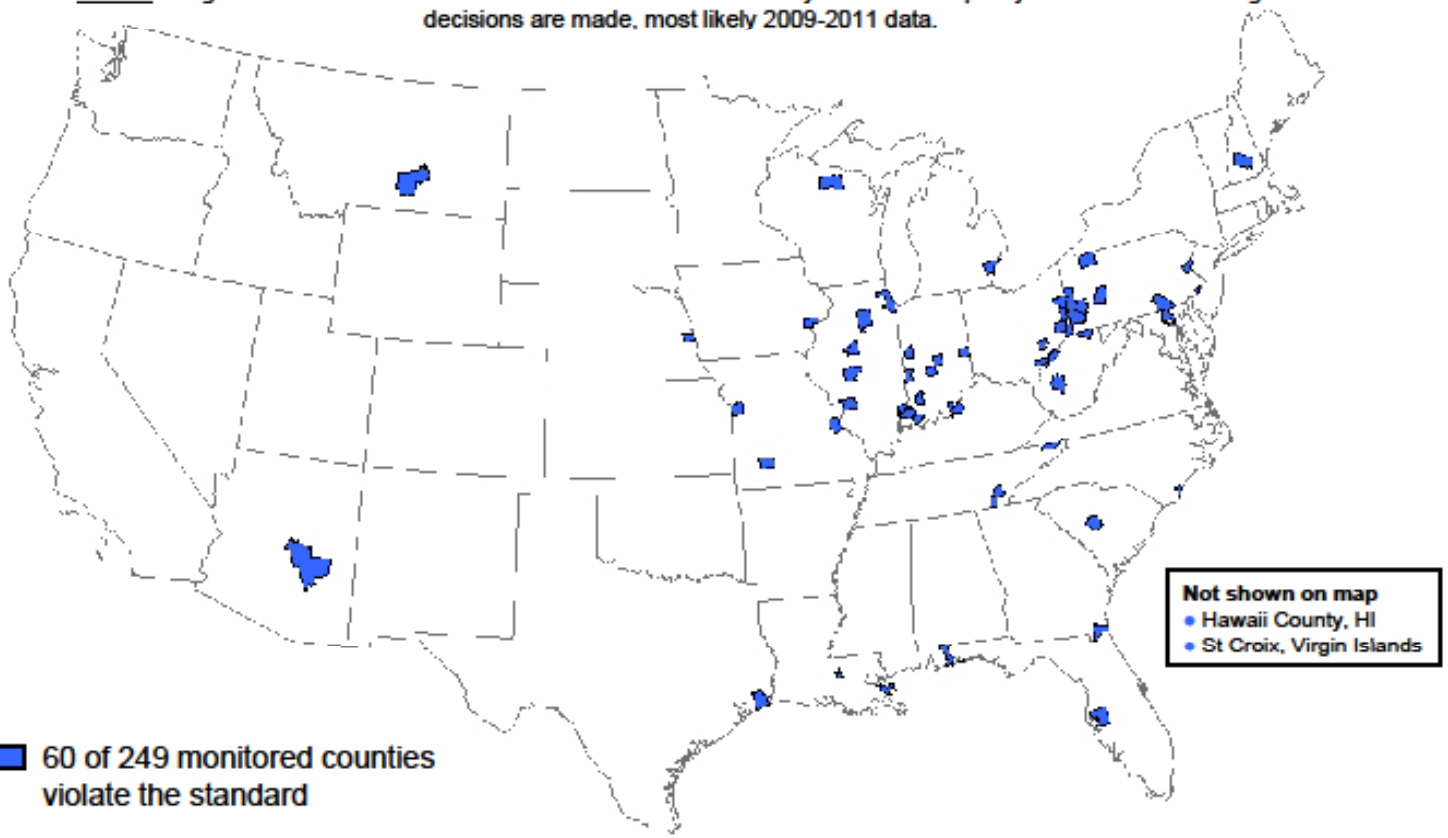
- 12 total- in Region 2

As Stated earlier, EPA Regional Administrators have the authority to require additional monitoring in certain circumstances to ensure NAAQS compliance.

Counties With Monitors Currently Violating the Revised Primary 1-Hour Sulfur Dioxide (SO2) Standard of 75 ppb

(Based on 2007 – 2009 Air Quality Data)

EPA will not designate areas based on these data but will use the currently available air quality data at the time designations decisions are made, most likely 2009-2011 data.



Notes:

1. Data are shown for monitors that met the following criteria: 75% of the day has valid hourly values,75% of the days in a quarter are valid, and all 4 quarters for each of the three years are valid as well as other applicable data handling conventions included in 40CFR50 Appendix T.

Timeline for Implementation

Deadline	Milestone
June 2010	EPA sets new primary SO_2 standard
June 2011	States submit designation recommendations, based on available monitoring data and any modeling they choose to perform in advance of submitting their state implementation plans
June 2012	EPA issues initial designations: ➢ "nonattainment" = monitored **or** modeled violations ➢ "attainment" = monitored **and** modeled evidence of no violations ➢ "unclassifiable" = all other areas
January 2013	New monitoring network operational
June 2013	State plans for basic requirements to implement the revised standards (including appropriate state regulations to carry out monitoring etc.) due to EPA Attainment and unclassifiable area state implementation plans, modeling attainment of the new standard by August 2017, due to EPA.
February 2014	Nonattainment area plans due to EPA
August 2017	All areas attain the standard

Ready for the next pollutant..?

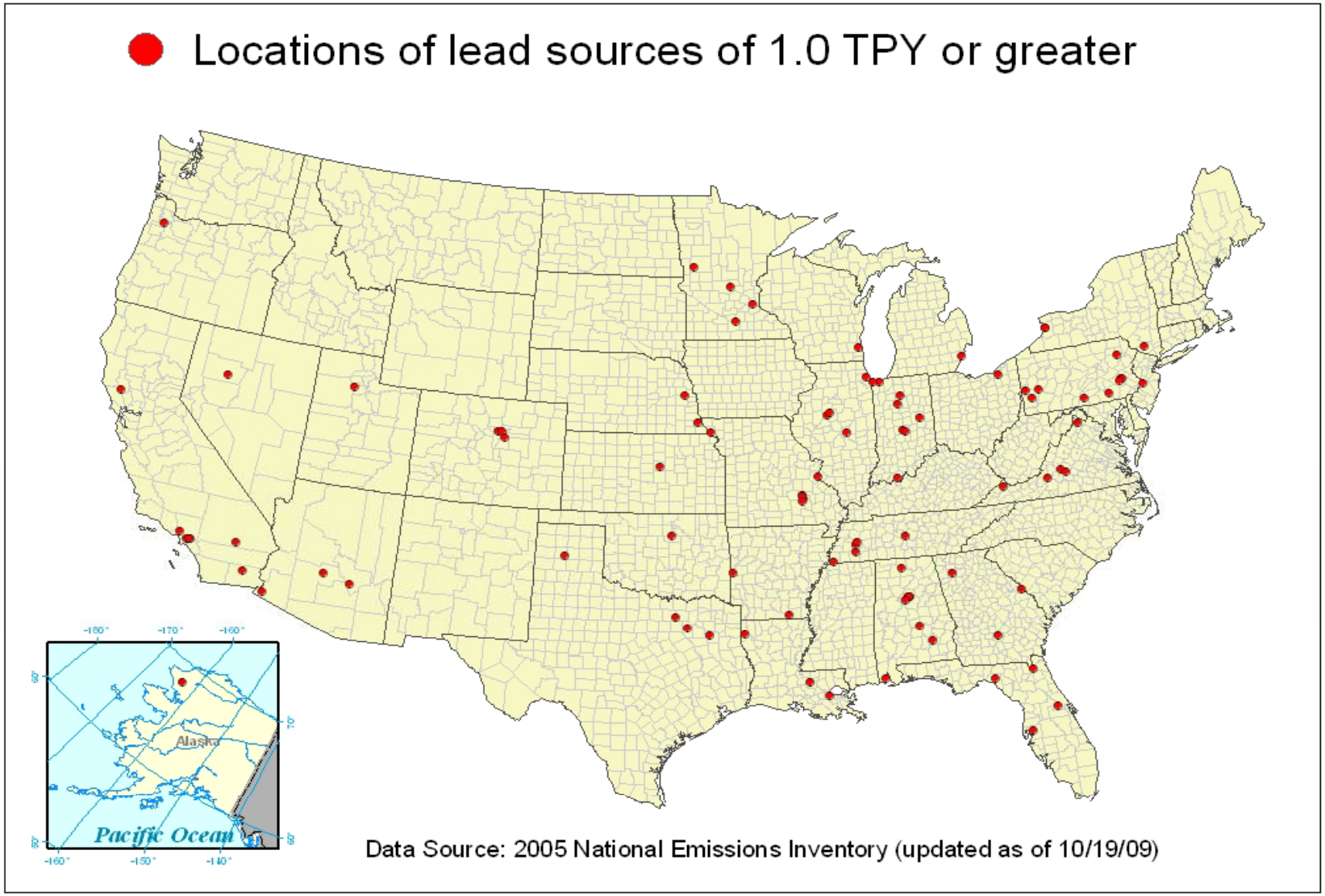
- SO_2 
- Lead (Pb)
- Ozone
- NO_2
- NCore

"New" lead (Pb) Monitoring NPR

On December 23, 2009, the Environmental Protection Agency (EPA) proposed to revise the ambient monitoring requirements for measuring airborne lead.

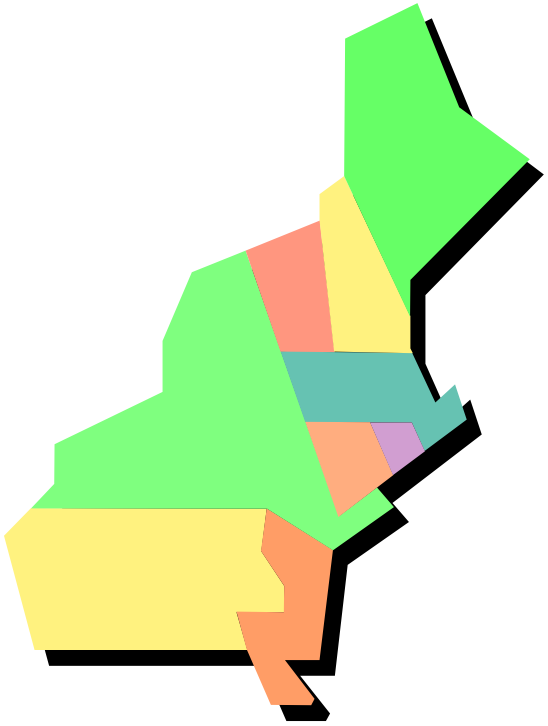
-Published on Dec. 30, 2009 (74 FR 69050)

(Public comment period closed February 16, 2010)


Locations of lead sources of 1.0 TPY or greater
Alaska
Pacific Ocean
Data Source: 2005 National Emissions Inventory (updated as of 10/19/09)

Refresher- The Existing Lead (Pb) Monitoring Rule "Location" Requirements- Current Rule- Fall 2008

- According to New England- there are no lead sources in excess of 1 ton per year (TPY). No point sources.
- Eight New England areas that are CBSAs greater than 500,000. Each area must have a monitor
  - Boston-Cambridge-Quincy, MA-NH
  - Providence-New Bedford-Fall River, RI-MA
  - Hartford-West Hartford-East Hartford, CT
  - Bridgeport-Norwalk-Stamford, CT
  - New Haven-Milford, CT
  - Worcester, MA
  - Springfield, MA
  - Portland-South Portland-Biddeford, ME



- According to Region 2 States - there are no lead sources in excess of 1 ton per year (TPY) in New York and New Jersey.

- Ten Region 2 areas that are CBSAs greater than 500,000
  - Albany-Schenectady-Troy, NY
  - Allentown-Bethlehem-Easton, PA-NJ
  - Bridgeport-Norwalk-Stamford, CT
  - Buffalo-Niagara Falls, NY
  - New York-Northern New Jersey-Long Island, NY-NJ-PA
  - Philadelphia-Camden-Wilmington, PA-NJ-DE-MD
  - Poughkeepsie-Newburgh-Middletown, NY
  - Rochester, NY
  - Syracuse, NY
  - San Juan-Caguas-Guaynabo, PR (outside of NESCAUM Region)

The New Monitoring Proposal (Pb)- Point Source threshold

- EPA is proposing to change the lead emissions monitoring threshold to **0.50** tons per year (tpy). Agencies would use this threshold to determine if an air quality monitor is required to be placed near a facility emitting lead. The current emissions threshold is 1.0 tpy.

- EPA proposes that these source-oriented monitors would begin operating one year after this rule is finalized. Monitors around the largest sources (those that that emit 1.0 tpy or greater) are already required to be operational no later than January 1, 2010.

The New Monitoring Proposal- Nonpoint source monitoring

EPA is also proposing to require lead monitoring at sites comprising the "NCore Network" instead of the current requirement to place lead monitors in each Core Based Statistical Area (CBSA) with a population of 500,000 or more people. The proposal would require lead monitoring at NCore sites to begin January 1, 2011, but this has not yet been finalized. (January 1, 2012?)

(The NCore network is intended to be a long-term, multi-pollutant monitoring network that provides data useful for NAAQS attainment decisions, understanding of air quality conditions and pollutant interactions, evaluating air quality models, developing emission control strategies, and supporting long-term health studies.)

From Proposal: "The EPA seeks comments on the use of the NCore network to meet the non-source-oriented monitoring objectives for lead. The EPA also seeks comments on whether lead monitoring should be required at all NCore sites, or only NCore sites in large urban areas (e.g., in CBSAs with a population greater than 500,000 people).

That was easy….?

- What does this mean for me..?

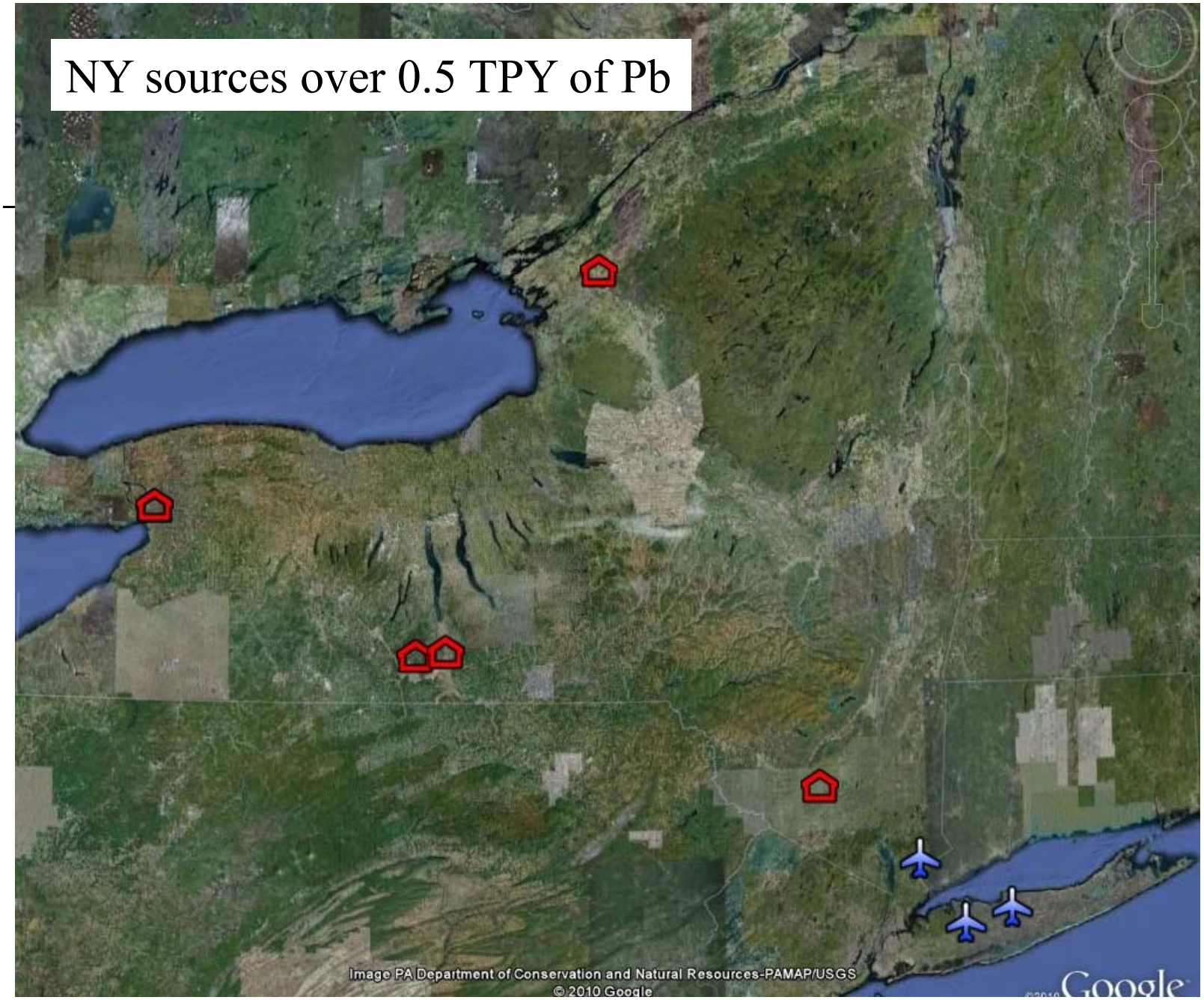
New Proposal's Impacts on EPA –New England for lead (Pb) monitoring

- *VT*- Would require VT to put a monitor at NCore site at Underhill. VT previously had no monitoring requirement.
- *NH*- Would require a monitor at both Pack Monadnock, and Londonderry NCore site. NH had intended to rely on MA monitor.
- *ME*- Would require a monitor at Acadia NCore site- rather than Portland area.
- *RI*- likely no change. Lead would likely be measured at East Providence NCore site.

New Proposal's Impacts on EPA –New England for lead monitoring (cont'd)

- *CT*- Would maintain New Haven NCore as lead site. Would add lead site to Mohawk Mountain NCore. Would not be required to monitor for lead at Hartford-West Hartford-East Hartford; Bridgeport-Norwalk-Stamford; New Haven-Milford, CT.
- *MA*- Would likely continue plan to monitor at NCore Roxbury site. May need to evaluate monitoring near general aviation airports if in excess of 0.5 TPY. Would no longer be required to monitor for lead at Worcester and Springfield, MA.

NY sources over 0.5 TPY of Pb

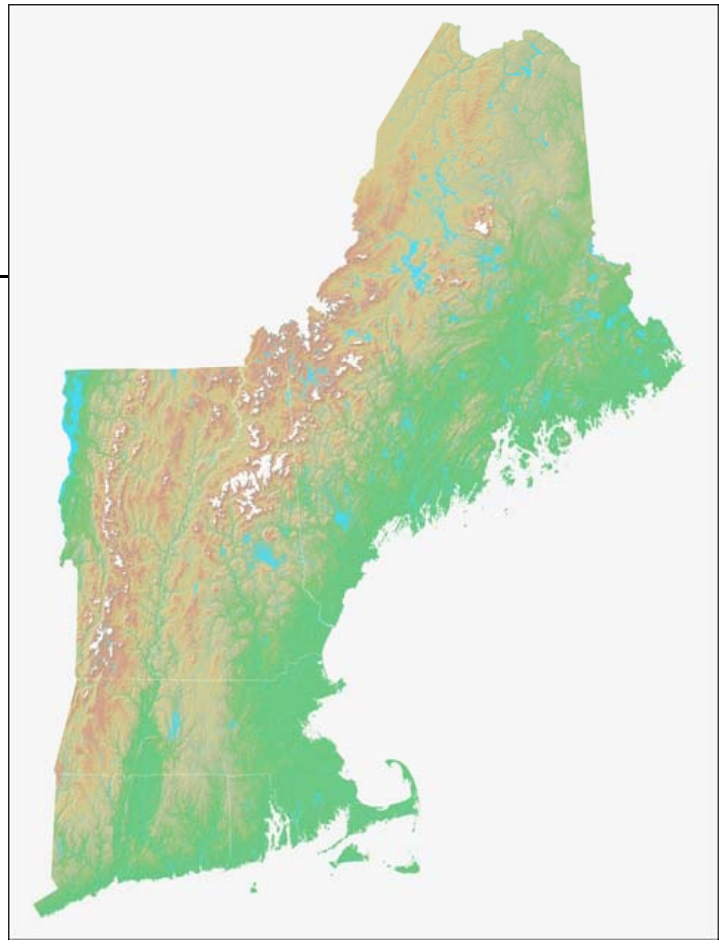


NJ sources over
0.5 TPY of Pb

New Proposal's Impacts on EPA – Region 2 for lead (Pb) monitoring

- *NY* – Would maintain Walkill 3 monitoring sites around lead source. Would require monitoring site at NCORE site. NY will shutdown Kings County lead monitoring site and relocate to one of the required monitoring areas.
- *NJ* – Would require monitoring sites at Newark NCORE site. NJ shares CBSA with NY and PA.

Questions..?



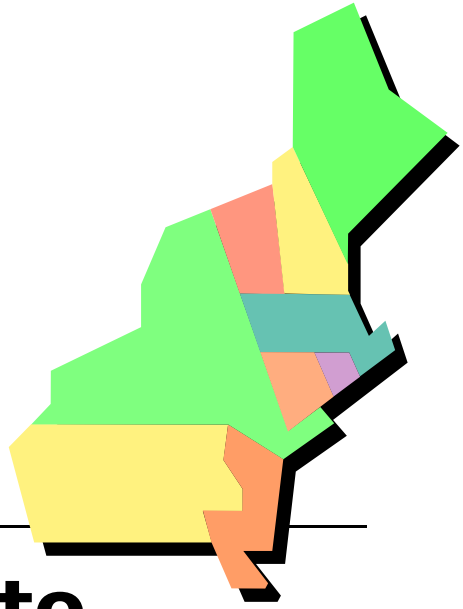
For more information:

http://www.epa.gov/air/lead/actions.html

Ready for the next pollutant..?

- SO_2 
- Lead (Pb) 
- Ozone
- NO_2
- NCore

United States Environmental Protection Agency



January 6, 2010 Proposal to Revise the National Ambient Air Quality Standards for Ground-level Ozone (O_3)…

and its effect on Ozone Monitoring Requirements

What could this mean for monitoring?

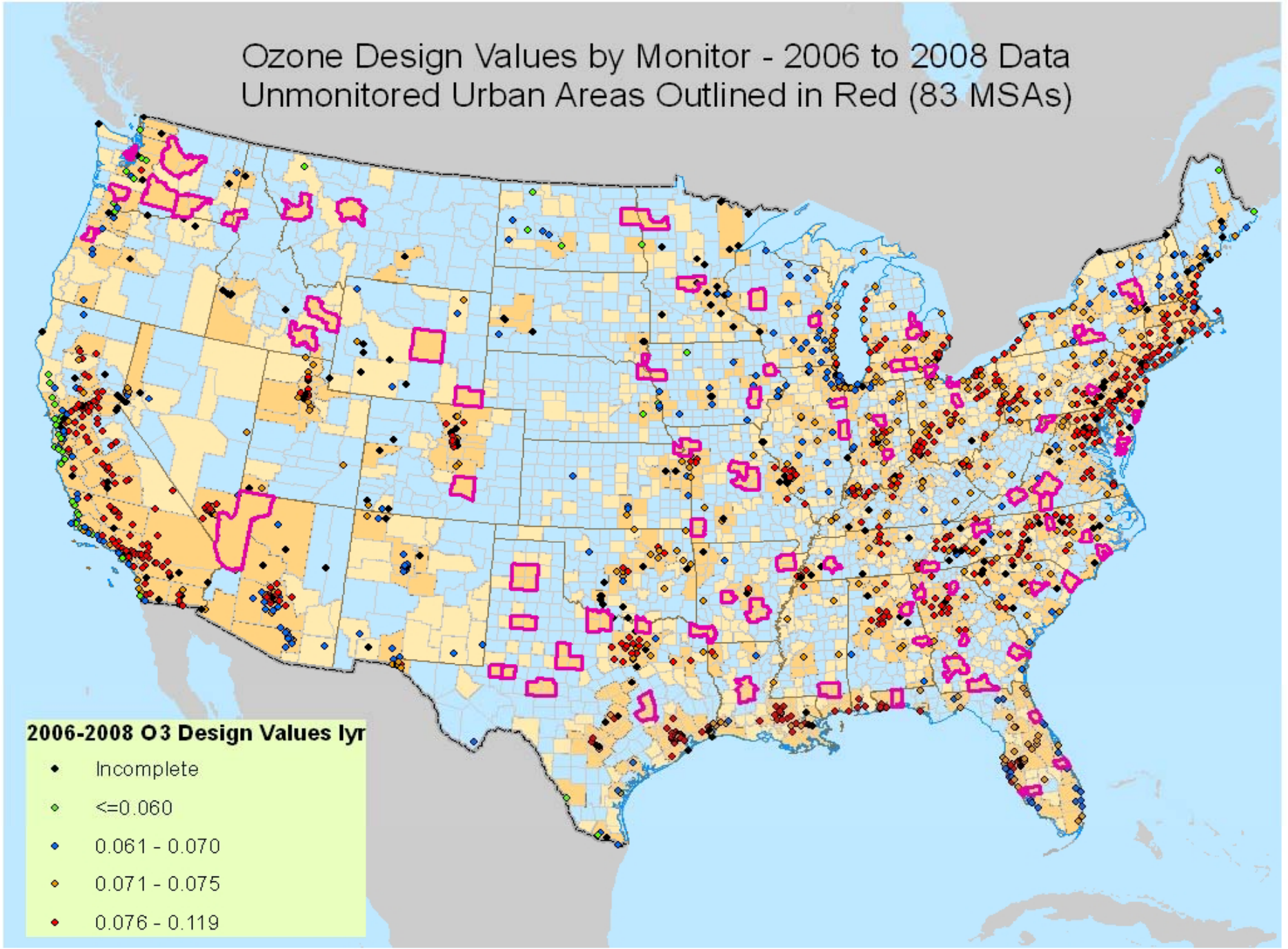
- Monitoring requirements

  (EPA is not proposing anything beyond the July 16, 2009 NPR (74 FR 34525) regarding the ozone the monitoring network requirements. However, these strengthened standards effect where monitoring is required.)

  - Urban network requirements
  - Non-urban network requirements
  - Required O_3 monitoring season

Proposed Urban Requirements

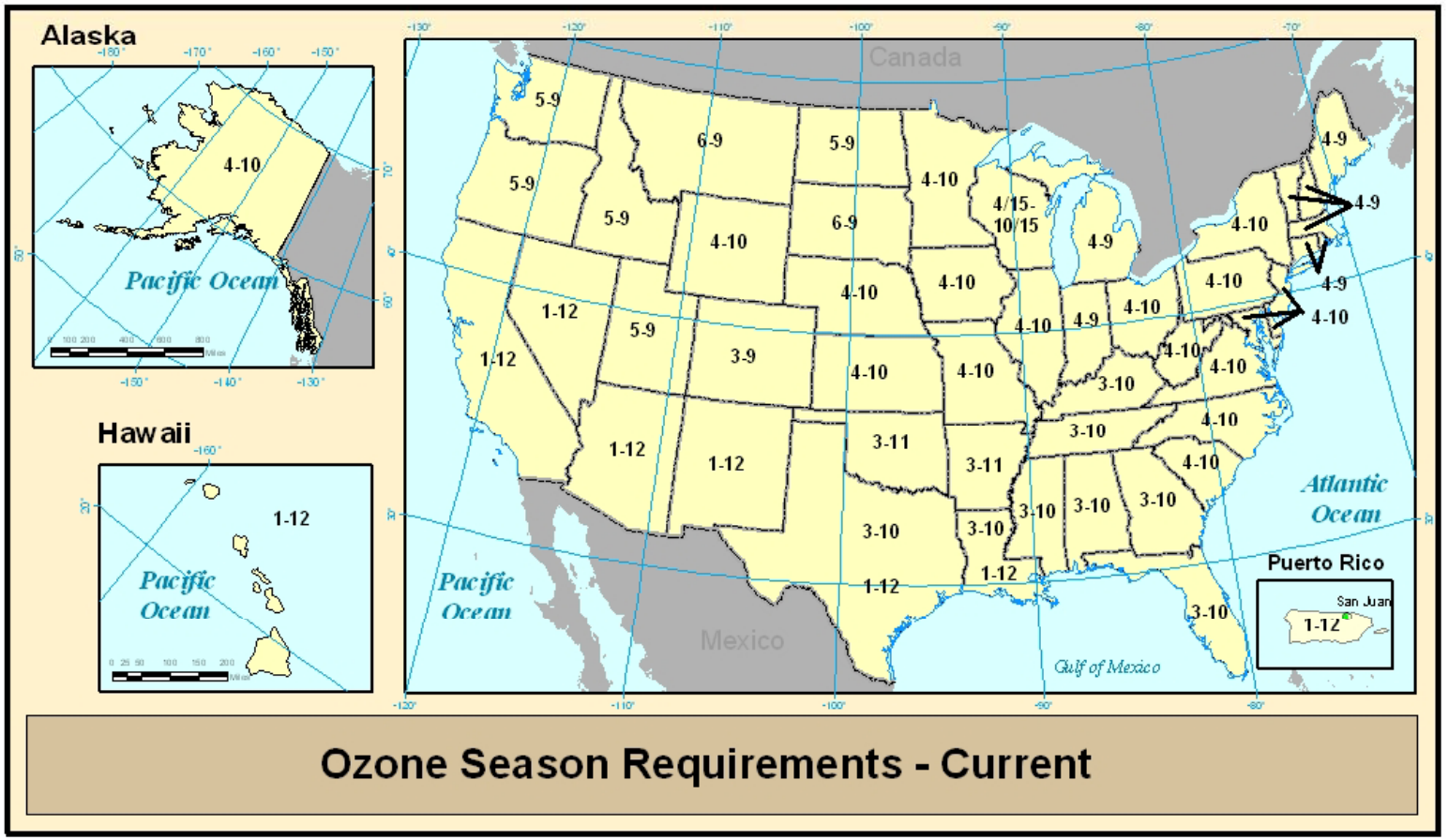
- One ozone monitor required in MSA's between 50,000 and 350,000 population if no monitor already exists and there is no history (within that MSA) of O_3 monitoring within the previous 5 years indicating a design value of less than 85 percent of the NAAQS
  - All Region 1 MSA's between 50,000 and 350,000 population appear to be in compliance with this requirement. **States in Region 1 and 2 should review their network to determine if they will be effected.**
  - Monitor could be removed after demonstrating design value less than 85 percent of NAAQS (needs at least 3 years of data)
  - Because monitoring requirements are based on population and concentration, states should be aware that this new NAAQS proposal may affect MSAs in the population range of population 350,000 or greater if their design values are now greater than 85% where previously they were less than 85%.


Ozone Design Values by Monitor - 2006 to 2008 Data
Unmonitored Urban Areas Outlined in Red (83 MSAs)
2006-2008 O3 Design Values lyr
Incomplete
<=0.060
0.061 - 0.070
0.071 - 0.075
0.076 - 0.119

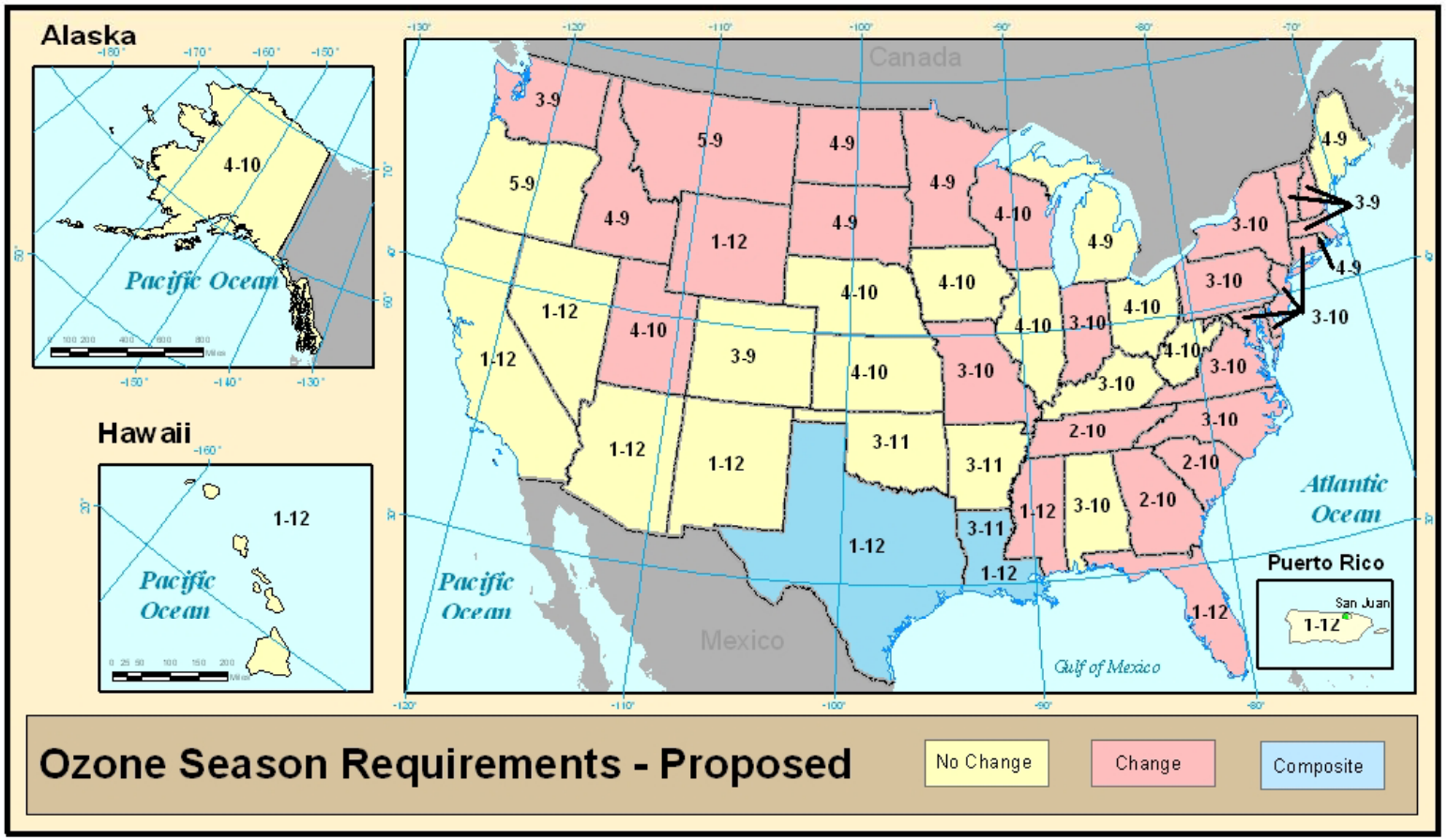
Monitoring in Non-Urban Areas – Proposed Requirements

- Minimum of three required monitors per State to meet the following objectives
  - Provide better characterization of O_3 exposures to O_3-sensitive vegetation and ecosystems in wilderness areas, National Parks, and remote areas to ensure that potential secondary NAAQS violations are measured….
- States can do the following to meet proposed new requirements
  - Establish new monitors
  - Propose that appropriately sited existing non-urban monitors meet requirements
  - Relocate existing monitors (that are in excess of minimum requirements) according to 40 CFR part 58 requirements (with R.A. approval)
  - Propose that CASTNET or NPS monitors be utilized to meet State requirements (with R.A. approval and documentation of compliance with applicable monitoring regulations)
  - Request that R.A. grant deviation from requirements in certain cases, e.g.
    - One monitor meeting multiple objectives
    - A remote or isolated area without significant local pollution sources or likelihood of being impacted by transport of O_3 precursors from another area
    - Lack of non-urban location(s) in a small area subject to requirements (e.g., District of Columbia, **Rhode Island**)

Current Ozone Monitoring Seasons...



EPA is Proposing New Ozone Monitoring Seasons...



Huh..?

- What does this mean for me..?

Proposed Ozone Monitoring season in Region 1 and 2 (NESCAUM)

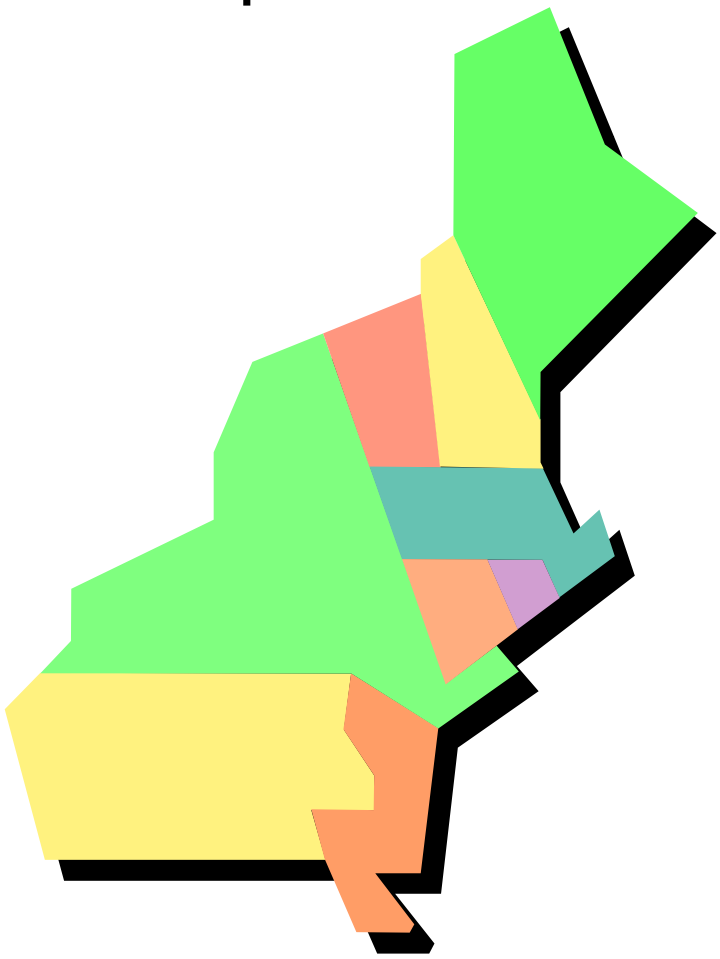
- **Connecticut (March 1- October 31)**
- **Maine (April 1- Sept. 30) *(unchanged)***
- **Massachusetts (March 1- Sept. 30)**
- **New Hampshire (March 1- Sept. 30)**
- **Rhode Island (April 1- Sept. 30) *(unchanged)***
- **Vermont (March 1- Sept. 30)**
- **New Jersey (March 1 – Oct. 31)**
- **New York (March 1 – Oct. 31)**

- NCore stations proposed to be January – December regardless of location
- Possible Deadline – potential revised season requirements to be effective on first day of ozone monitoring season in **2012**
  for existing stations (proposed 2011)

- **New monitors to meet urban and non-urban requirements?**

Questions about Ozone Monitoring?

- http://www.epa.gov/ozonepollution

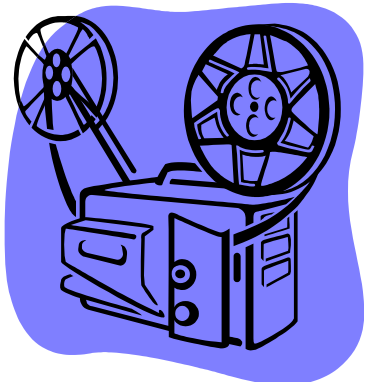


Ready for the next pollutant..?

- SO_2 
- Lead (Pb) 
- Ozone 
- NO_2
- NCore

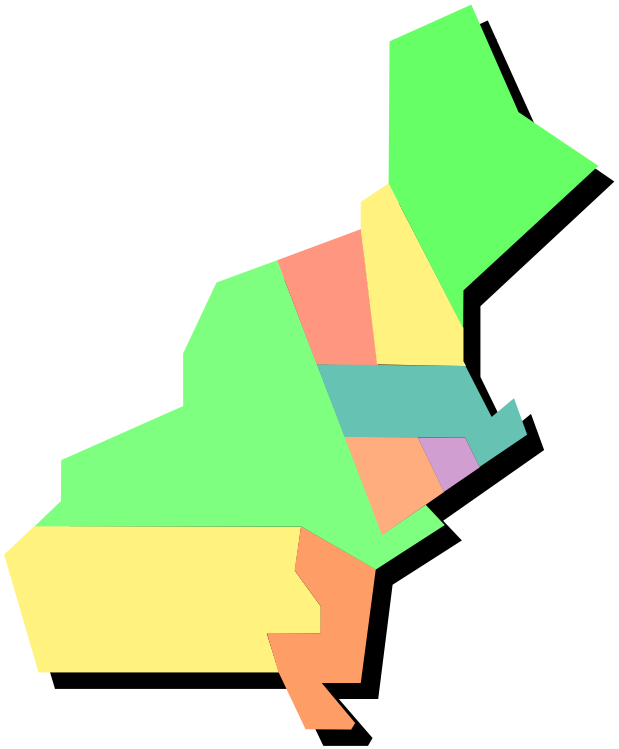
Almost done…

- Ready for a break?



Monitoring in NESCAUM Region under the Revised Primary National Ambient Air Quality Standard for Nitrogen Dioxide (NO_2)

January 22, 2010



Overview of the Final Rule

- On January 22, 2010 EPA strengthened the primary national ambient air quality standard (NAAQS) for nitrogen dioxide (NO_2) to increase protection of public health by:
  - adding a ***1-hour*** NO_2 standard at 100 parts per billion (ppb); and
  - retaining the ***annual*** average NO_2 standard at a level of 53 ppb

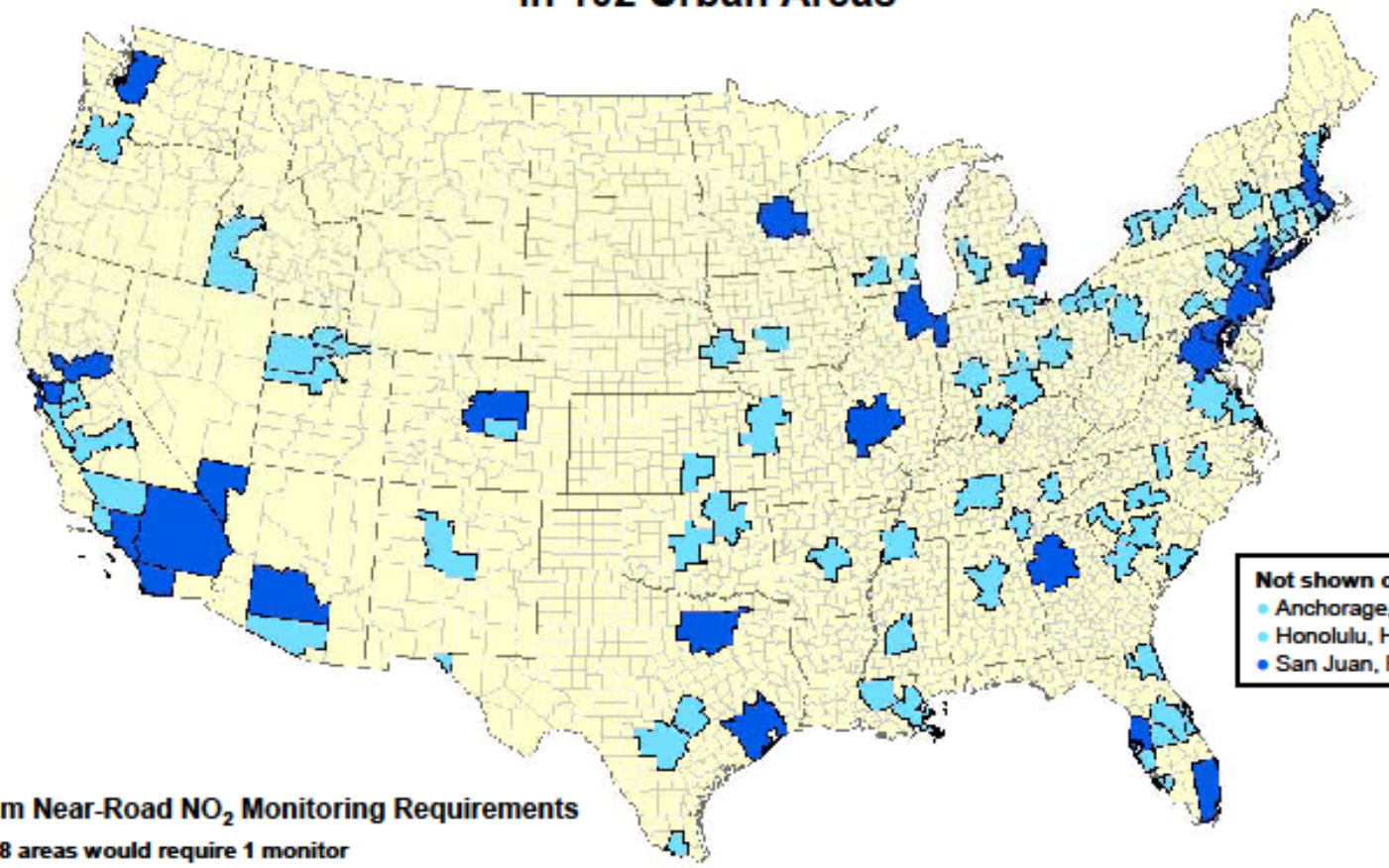
- To determine compliance with the revised NO_2 standard, EPA also is making changes to the NO_2 air quality monitoring network requirements.
  - Monitoring is needed to measure:
    - Peak, short-term concentrations – primarily near major roads in urban areas
    - Highest concentrations of NO_2 that occur over wider community areas, and
    - Concentrations impacting vulnerable and susceptible individuals

Updating the Monitoring Network

- The monitoring networks for NAAQS pollutants **focus on monitoring in locations of maximum concentration**
- EPA is requiring changes to the monitoring network that will capture short-term NO_2 concentrations such as those that occur near roads, in community-wide areas, and in low income or minority at-risk communities
  - **Near Road**
    - At least one monitor would be located near a major road in any urban area with a population greater than or equal to 500,000 people
    - The probes for near road monitors should be within 50 meters of the outside nearest edge of the traffic lane of the target road, and between 2 and 7 meters above the ground
  - **Community-Wide**
    - A minimum of one monitor would be placed in any urban area with a population greater than or equal to 1 million people
    - A second monitor would be required near a major road in areas with either:
      - population greater than or equal to 2.5 million people, or
      - one or more road segments with an annual average daily traffic count greater than or equal to 250,000 vehicles
  - **Susceptible and Vulnerable Communities**
    - Working with the states, EPA Regional Administrators will site at least 40 additional NO_2 monitors nationwide to help protect communities that are susceptible and vulnerable to NO_2 -related health effects

EPA United States Environmental Protection Agency

EPA Plans to Monitor NO_2 Concentrations Near Roads in 102 Urban Areas



Minimum Near-Road NO_2 Monitoring Requirements

- **78 areas would require 1 monitor**
  (≥ 500,000 population)
- **24 areas would require 2 monitors**
  (≥ 2.5 million population or road segments with annual average daily traffic counts ≥ 250,000 vehicles)

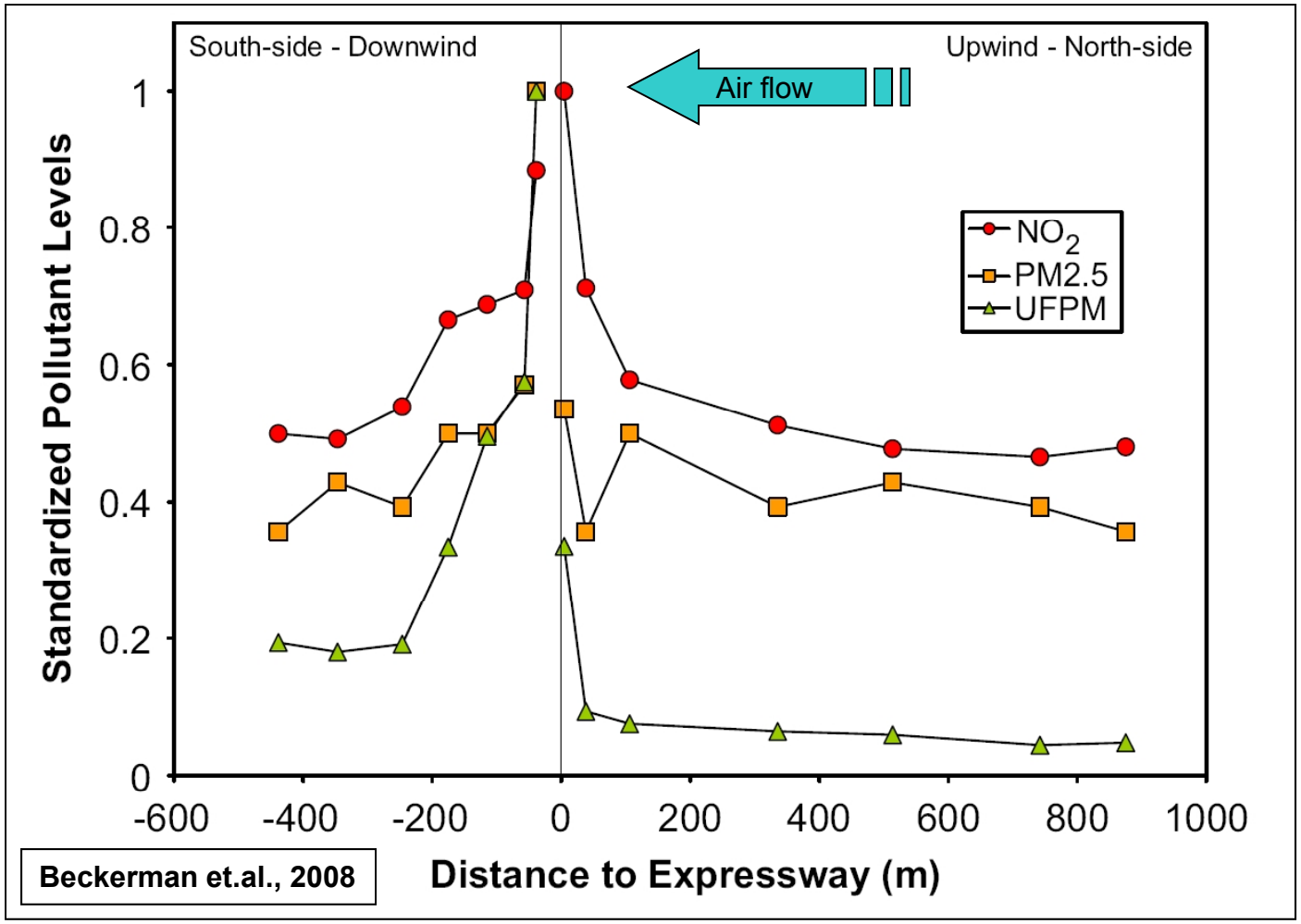
126 total monitors

Approximately 40 additional monitors will be placed in locations to help protect communities that are susceptible and vulnerable to NO2-related health effects

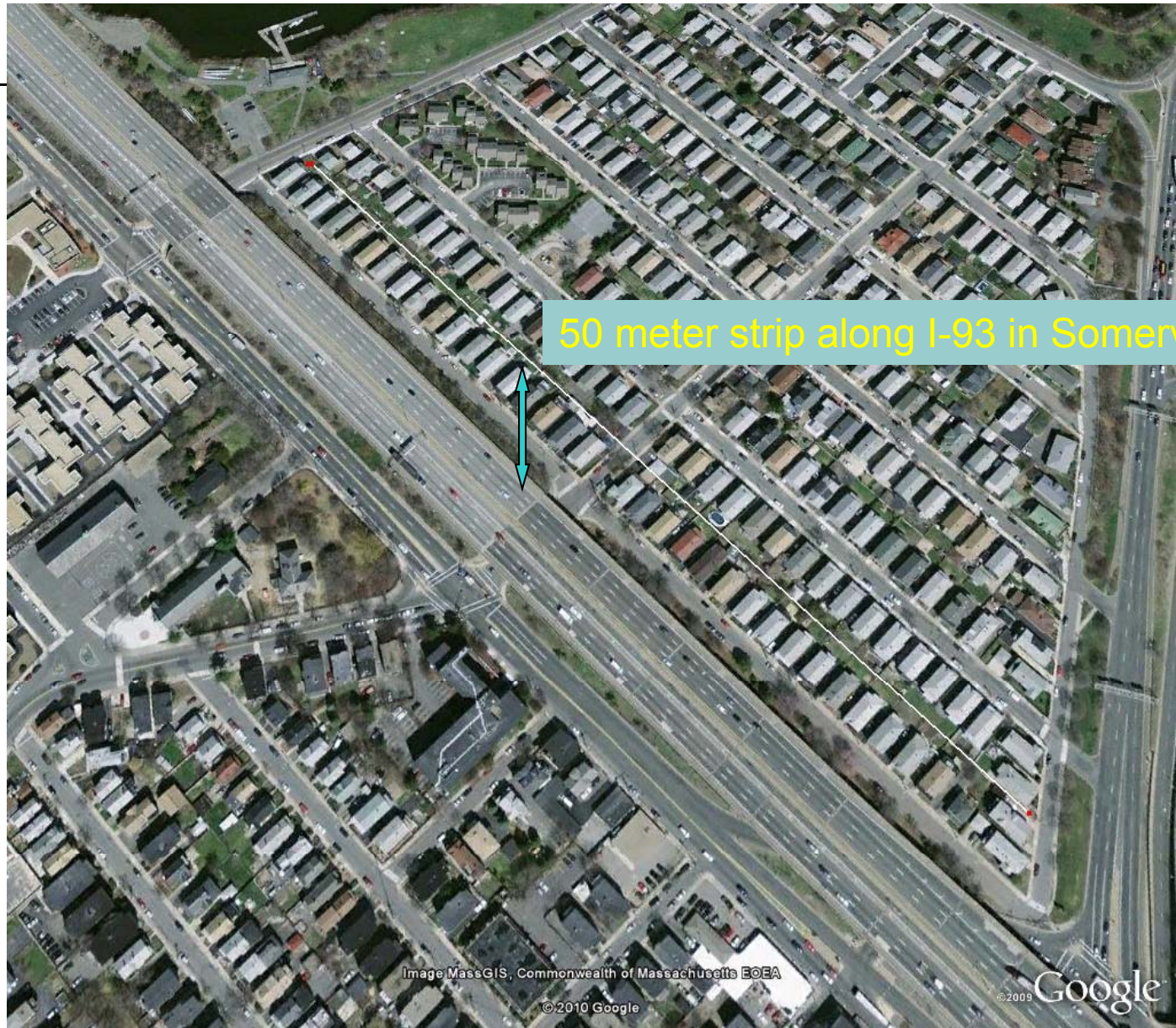
Why worry about near-road exposure?

Tens of millions of people live near major roads – their exposure is higher than areas away from roads

Multiple articles have reviewed NO_2 behavior in the near road, suggesting general ranges of influence



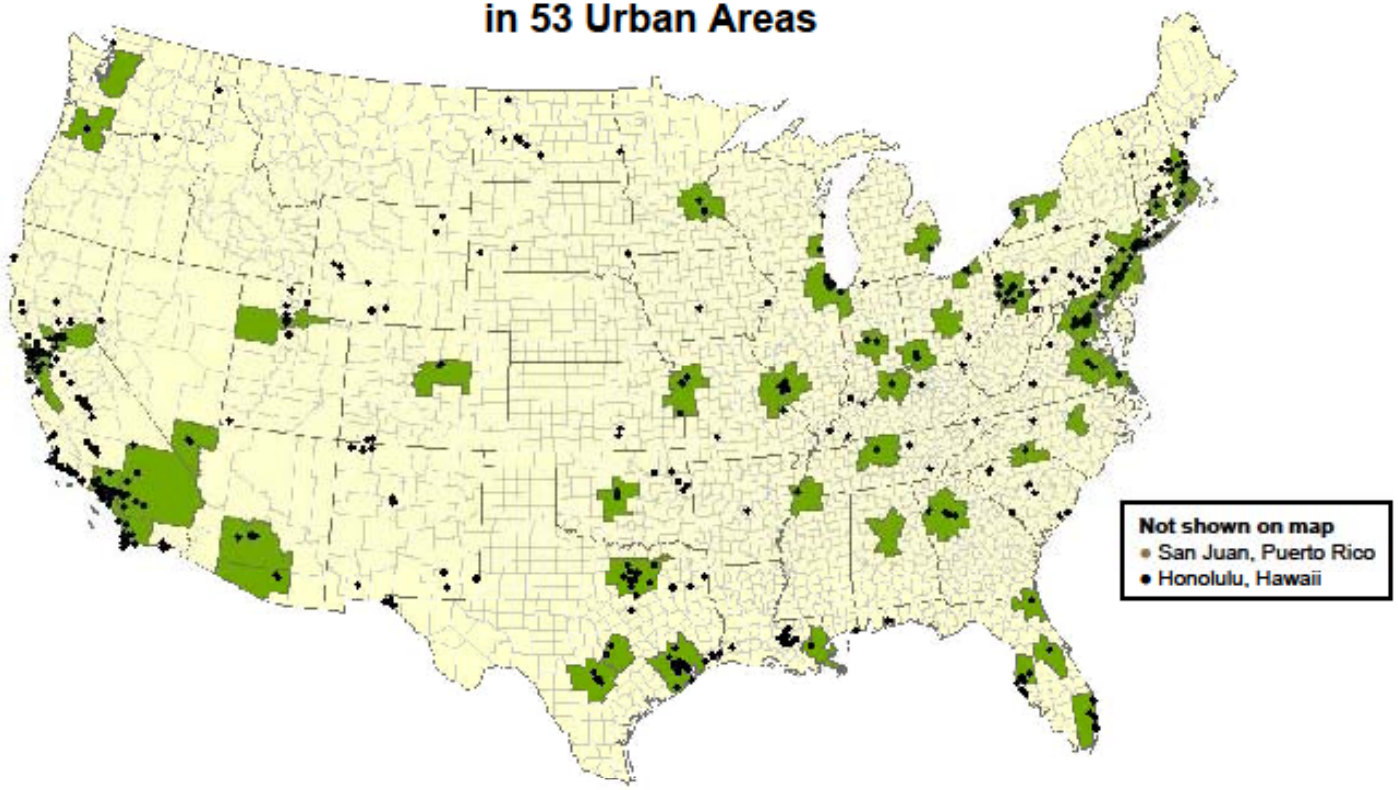
So who lives near a highway?



So who lives near a highway?

EPA United States Environmental Protection Agency

EPA to Monitor NO2 Concentrations Community-Wide in 53 Urban Areas

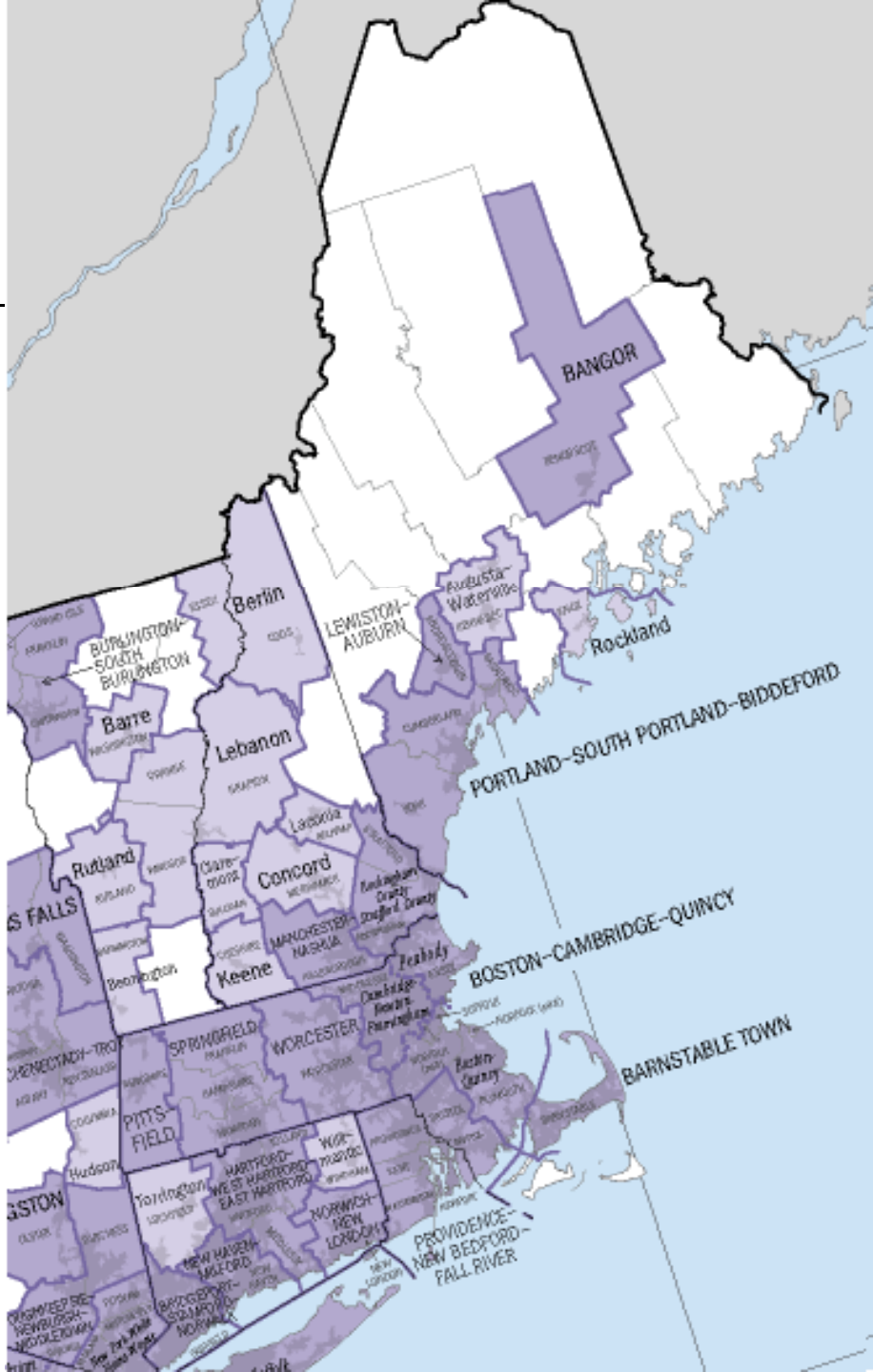


Minimum Community-wide NO_2 Monitoring Requirements

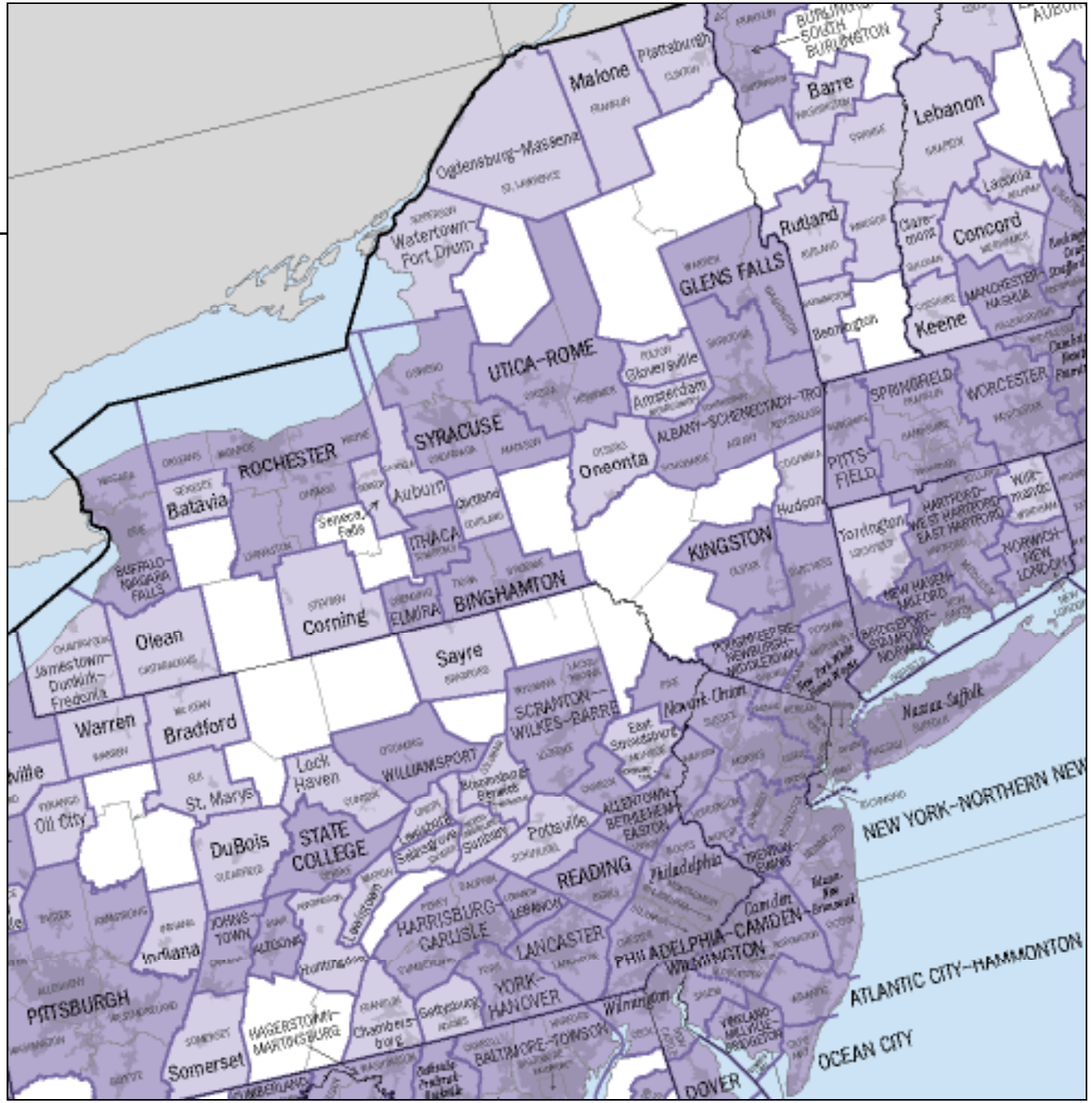
- **53 areas would require 1 monitor**
  (≥ 1 million population)
- **418 existing NO_2 monitoring sites in** 2008
  Many of these sites would satisfy the proposed community-wide monitoring requirements.

What does this mean for me..?

CBSAs in New England



CBSAs in NY & NJ



Legend

- Metropolitan Statistical Area
- Micropolitan Statistical Area
- Metropolitan Division
- Urbanized Area or Urban Cluster with a population of 10,000 or more in 2000
- International
- State
- Core Based Statistical Area County (or statistical equivalent)
- Core Based Statistical Area Incorporated Place that is legally independent of any county
- Outside Core Based Statistical Area County (or statistical equivalent)

Monitoring requirements in New England

CBSA greater than 500,000	Near Road Monitor(s) Required?	Urban Community Wide Monitoring Required?
Bridgeport, CT	**Yes**	**Not required**
Hartford, CT	**Yes**	**Yes**
New Haven, CT	**Yes**	**Not required**
Boston, MA-NH	**Yes (2)**	**Yes**
Worcester, MA	**Yes**	**Not required**
Springfield, MA	**Yes**	**Not required**
Portland, ME	**Yes**	**Not required**
Providence, RI-MA	**Yes**	**Yes**

*Additional monitors in low income or minority at-risk communities…

Monitoring requirements in Region 2

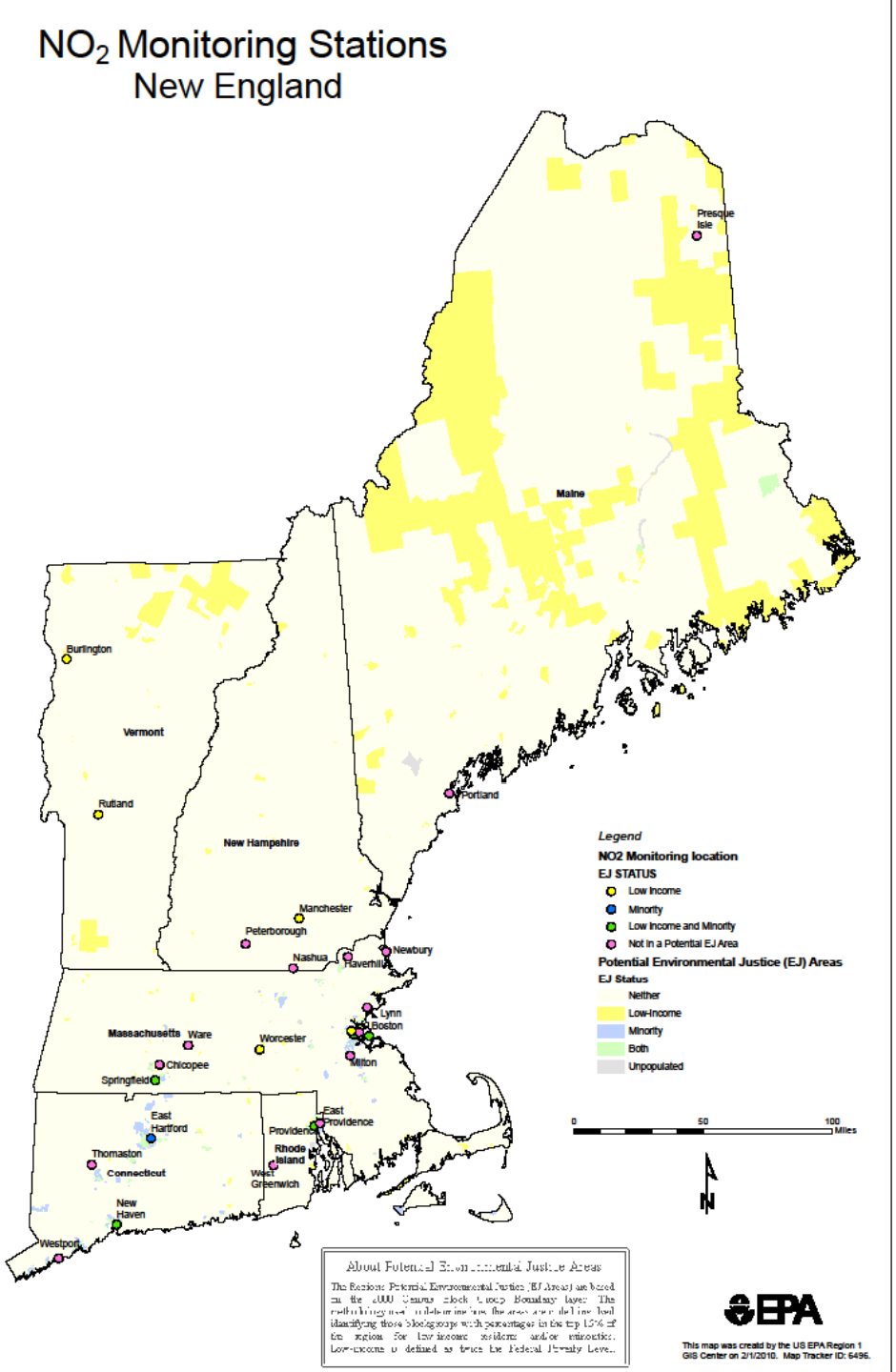
CBSA greater than 500,000	*Near road monitor(s) required?*	*Urban community wide monitoring required?*	*Currently monitoring*
Albany-Schenectady-Troy, NY	***Yes***	***No***	***No***
Buffalo-Niagara Falls, NY	***Yes***	***Yes***	***Yes***
NY-N. NJ-L.I., NY-NJ-PA	***Yes (2)***	***Yes***	***Yes***
Poughkeepsie-Newburgh-Middletown, NY	***Yes***	***No***	***No***
Rochester, NY	***Yes***	***Yes***	***No***
Syracuse, NY	***Yes***	***No***	***No***
Allentown-Bethlehem-Easton, PA-NJ	***Yes***	***No***	***No***
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	***Yes (2)***	***Yes***	***Yes***
San Juan-Caguas-Guaynabo, PR	***Yes (2)***	***Yes***	***No***

*Additional monitors in low income or minority at-risk communities

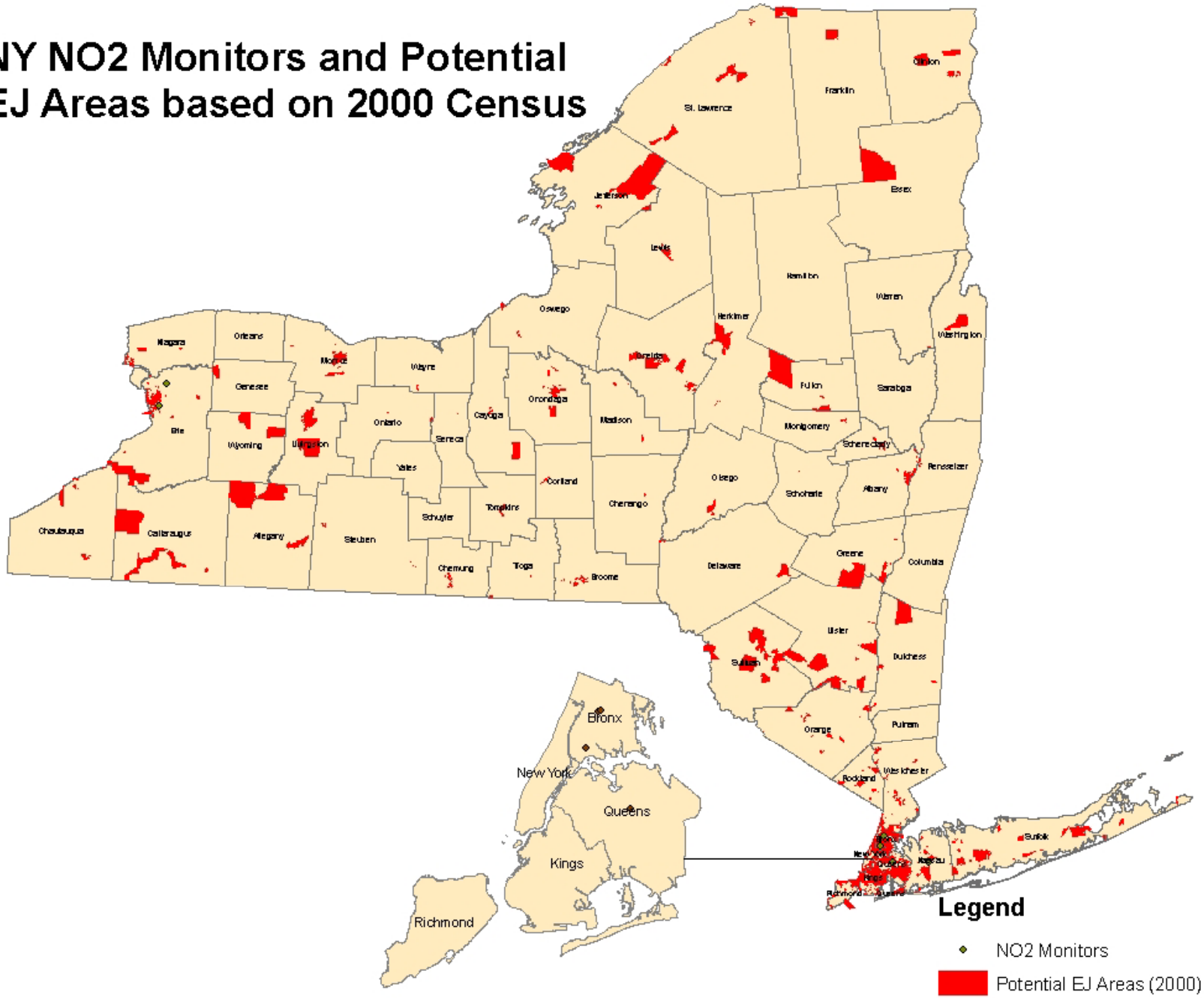
Effects on NESCAUM States

- The current NESCAUM NO_2 network includes at least one monitor in each of the CBSAs listed above required to have a community based monitor (with the exception of Rochester, NY). These monitors may meet the community wide monitoring requirement for those areas.
- In order to meet the near roadway NO_2 monitoring obligations, additional monitors will need to be located. At present, the NO_2 monitoring network is not designed to meet those requirements.
- Additional monitors may be required by the Regional Administrator, including *low income* or *minority at-risk* communities ("susceptible and vulnerable").

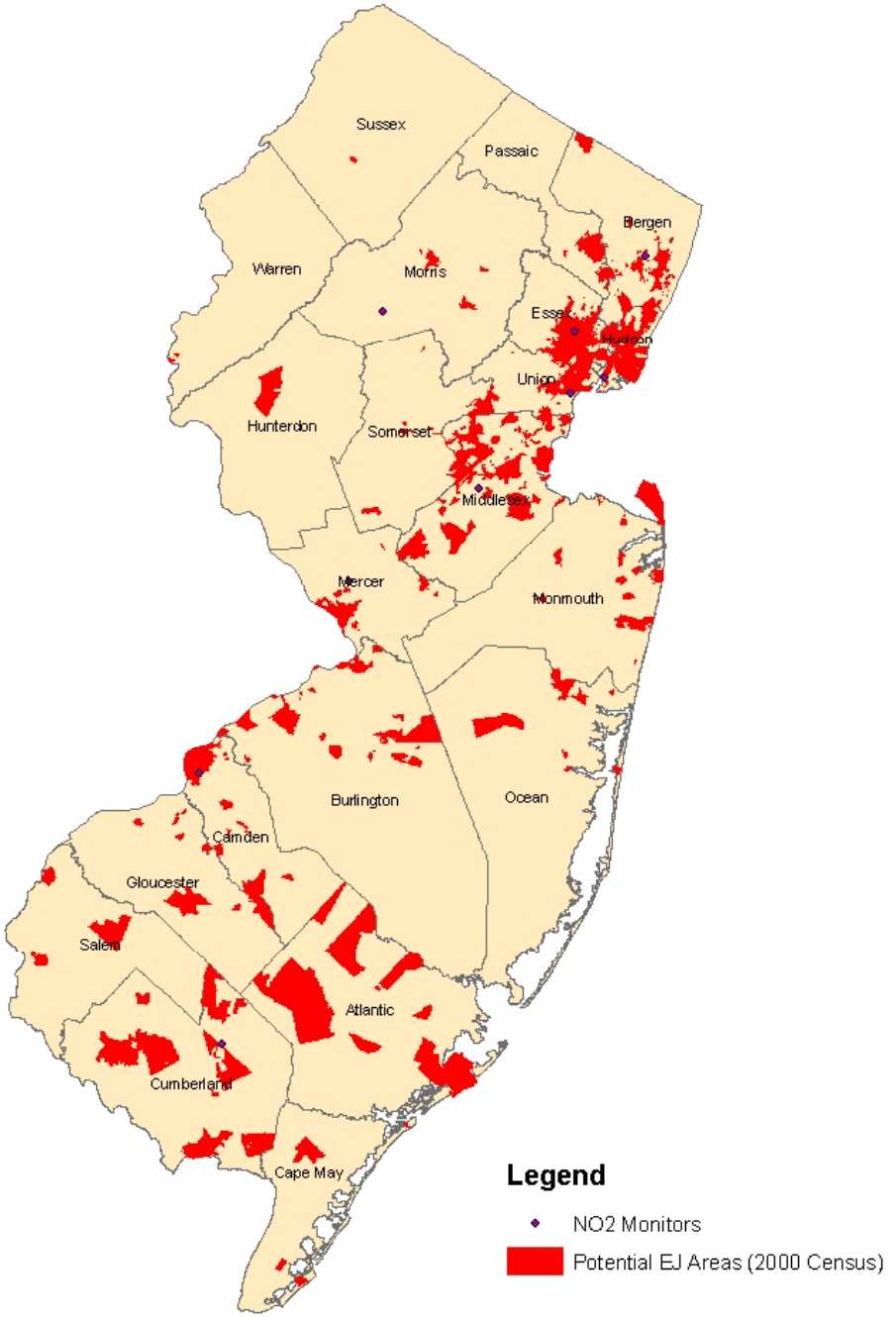
Current NO_2 Monitor and EJ Areas



NY NO2 Monitors and Potential EJ Areas based on 2000 Census



NJ NO_2 Monitors and Potential EJ Areas based on 2000 Census



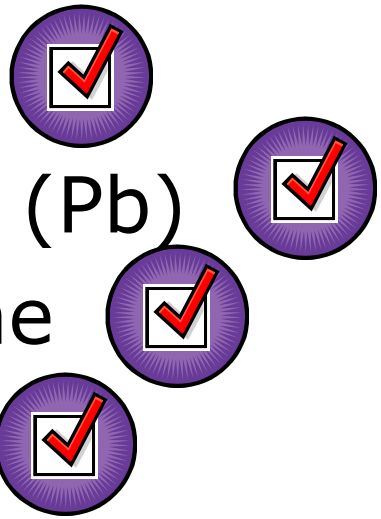
Implementation Schedule

Milestone	Date
State Designation Recommendations to EPA	**January 2011**: One year following promulgation (Based on existing network data)
Designations	**January 2012**: EPA designates all/most areas as "unclassifiable" (because near road monitors not in place)
New NO_2 Monitoring Network	**January 1, 2013: All monitors operating**
Next NO_2 NAAQS Review Completed	**January 2015**: Anticipated time frame
Nonattainment Re-Designations (discretionary)	**January 2016/2017** (depending on date that sites become operational)
Attainment Date	**January 2021/2022** (5 years after date of nonattainment designations)

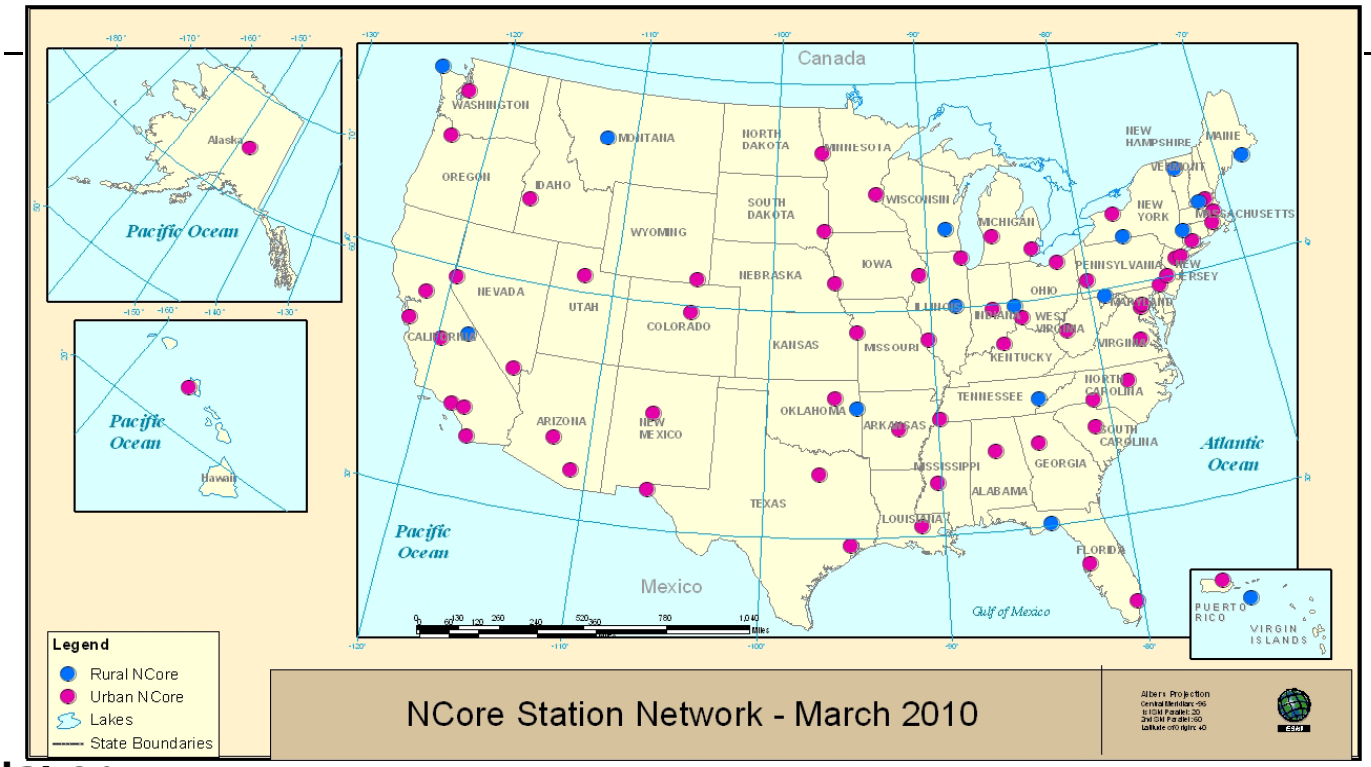
http://www.epa.gov/air/nitrogenoxides/actions.html#jan10

Almost there…

- SO_2
- Lead (Pb)
- Ozone
- NO_2
- NCore



National Core (NCore) Network



Implementation

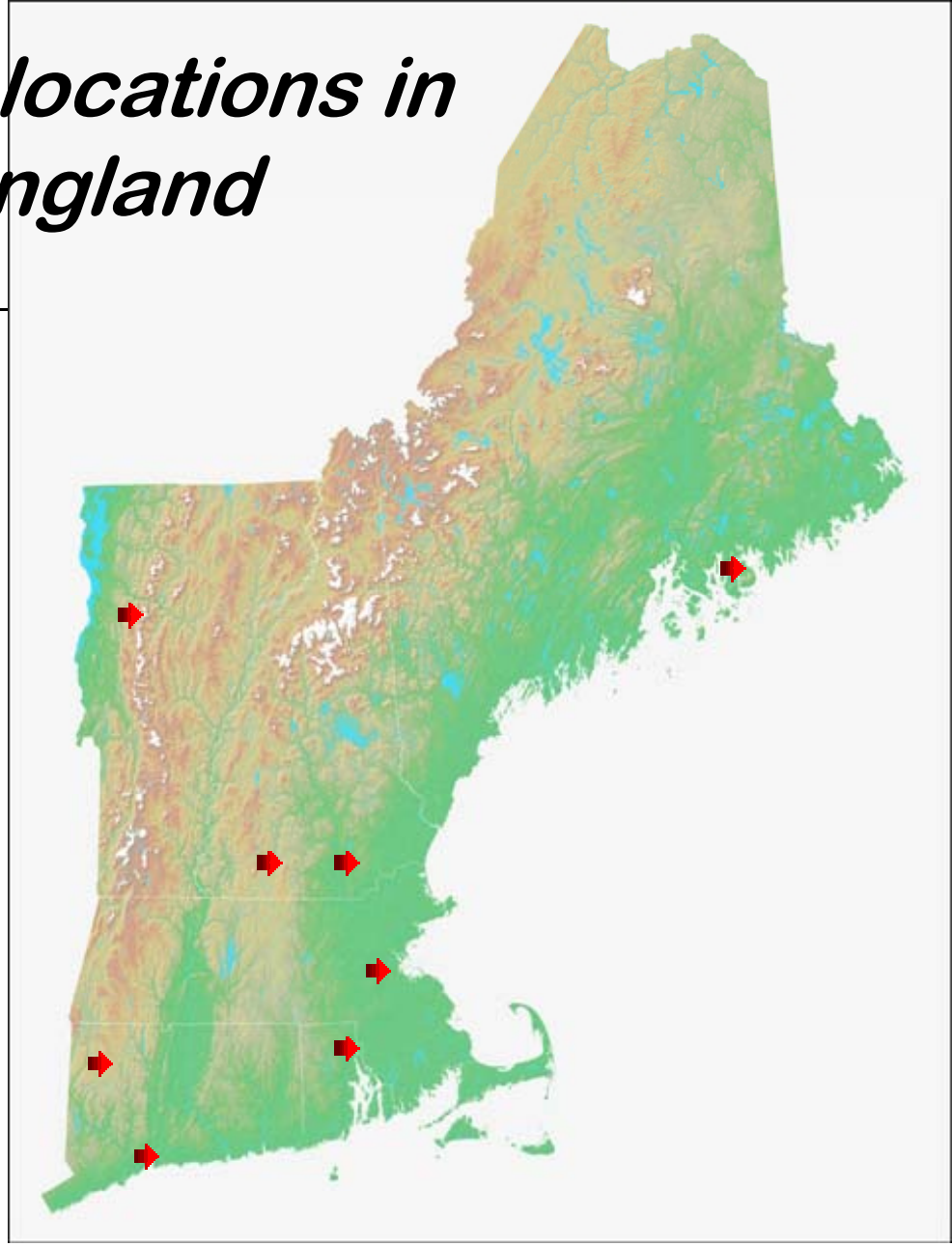
- Most monitoring stations are operational for several measurements, others coming on-line this year.
- Plans received last year with almost all approvals completed.
- Stations to be fully operational by - **January 1, 2011**

Network Size - 80 proposed stations

- urban (about 63 sites)
- rural (about 17 sites)
- May achieve additional rural coverage with National Parks and CASTNET

Approved NCore locations in EPA- New England

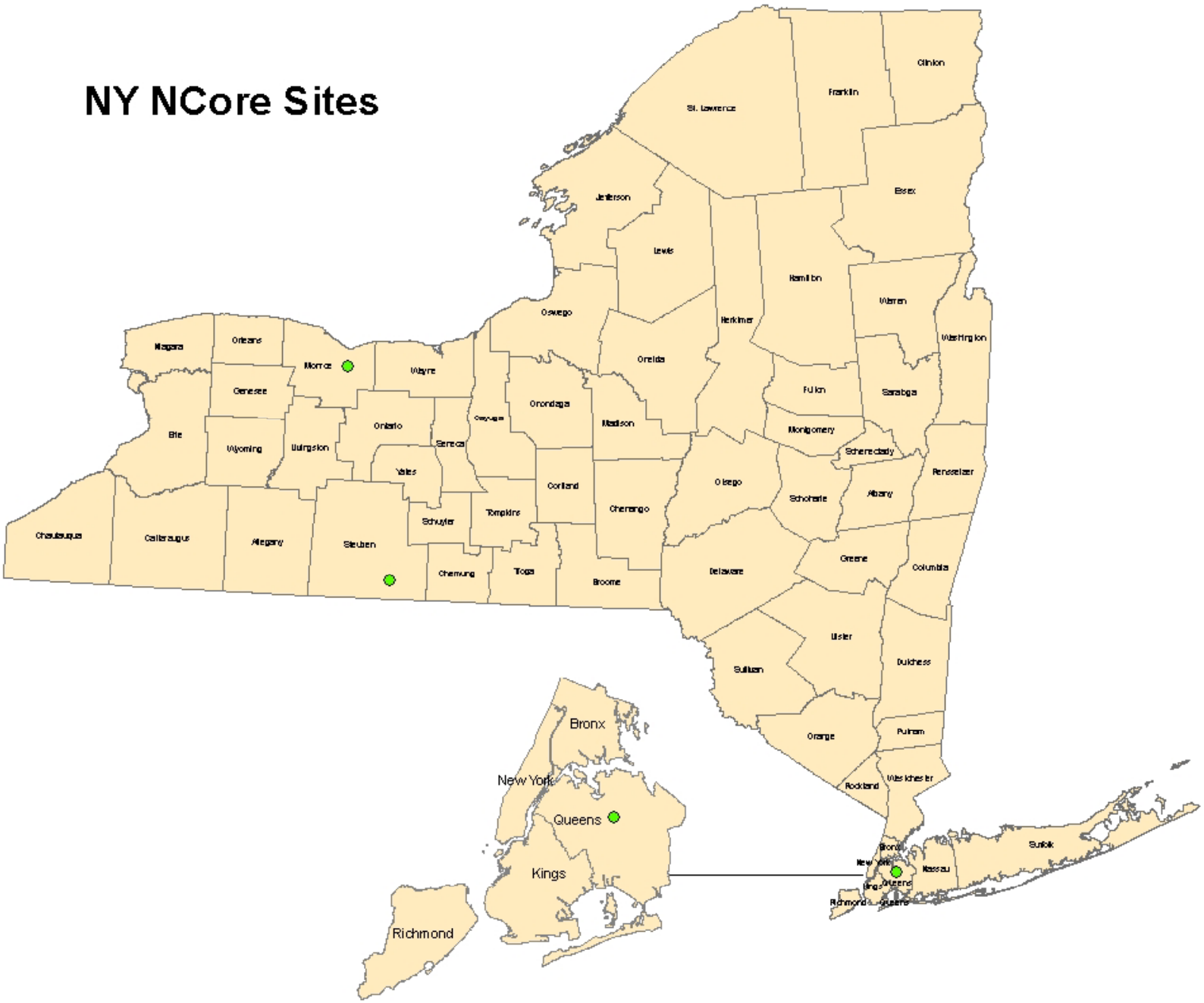
- **Eight NCore site locations throughout New England**
- **From urban to rural**



Approved NCore locations in EPA- NY and NJ

- **Four NCore site locations throughout NY and NJ**
- **From urban to rural**

NY NCore Sites

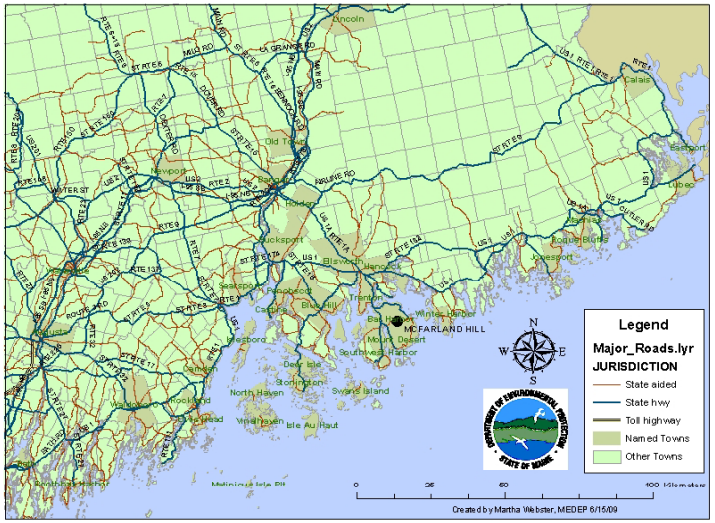


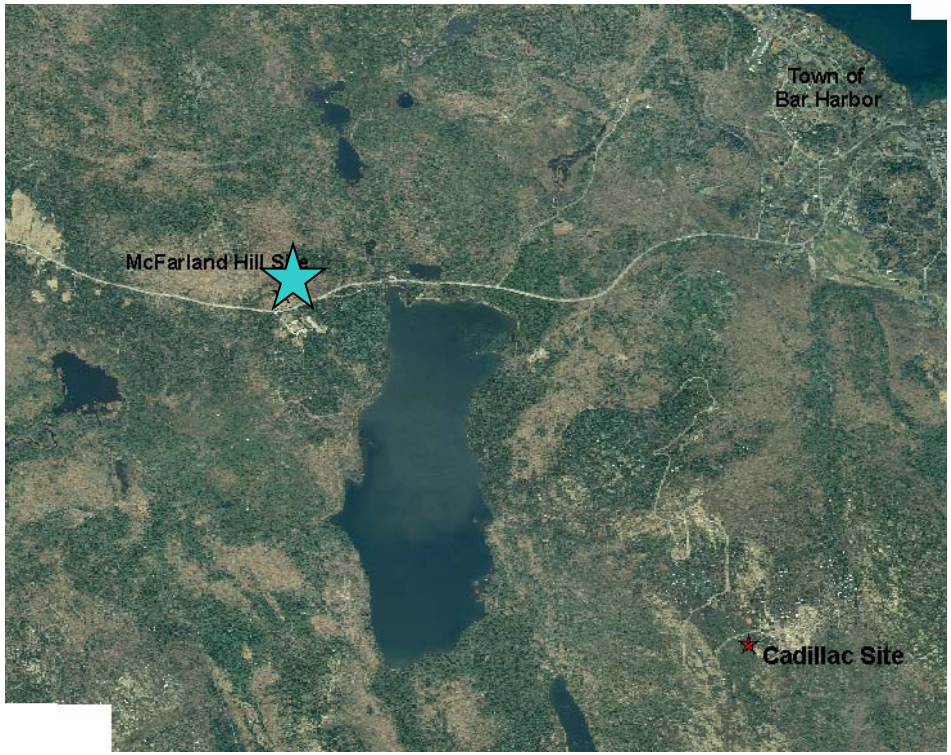
NJ NCore Site

McFarland Hill, Acadia National Park, Maine

- A rural site

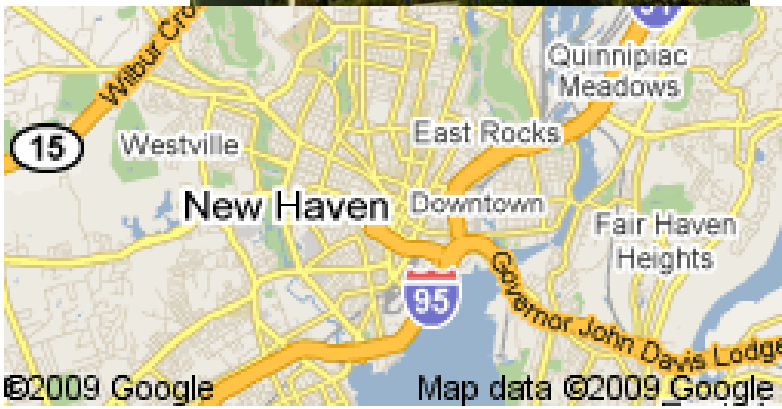
Existing monitoring location in Maine – leverage= success

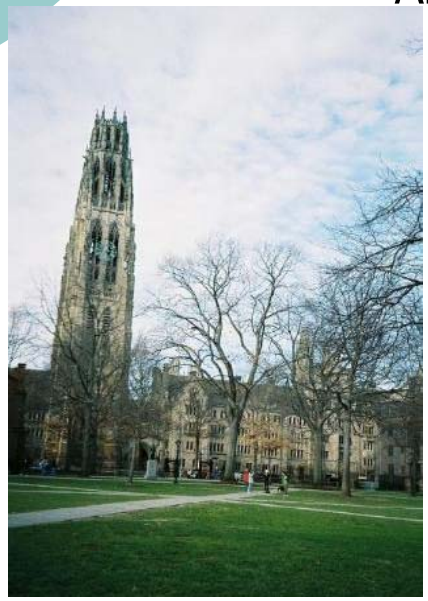


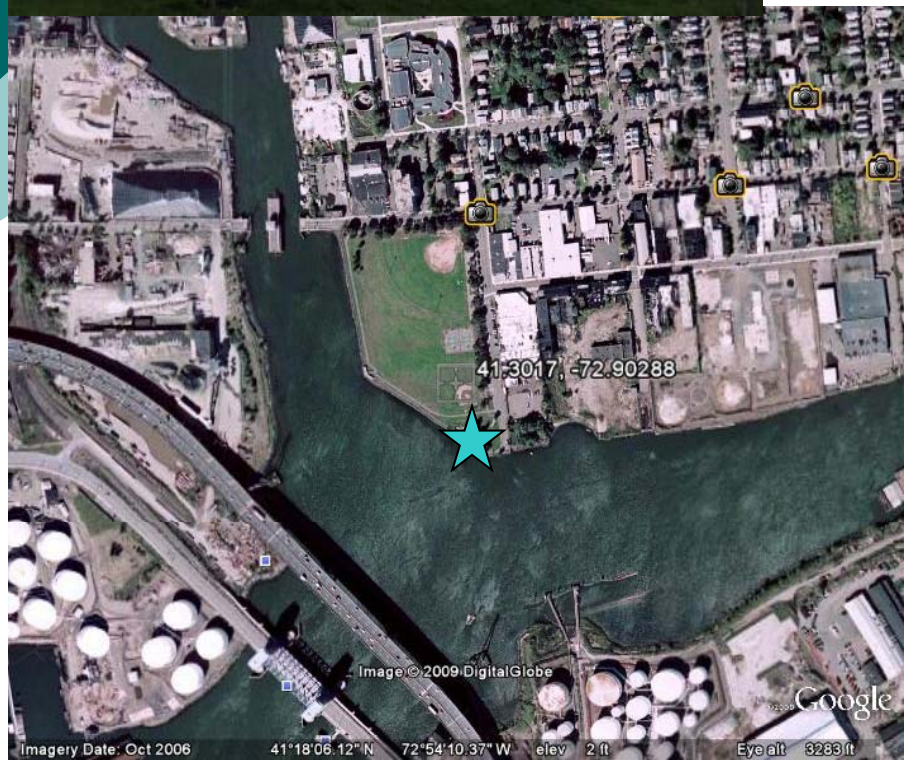


Criscuolo Park, New Haven, CT

- An urban site





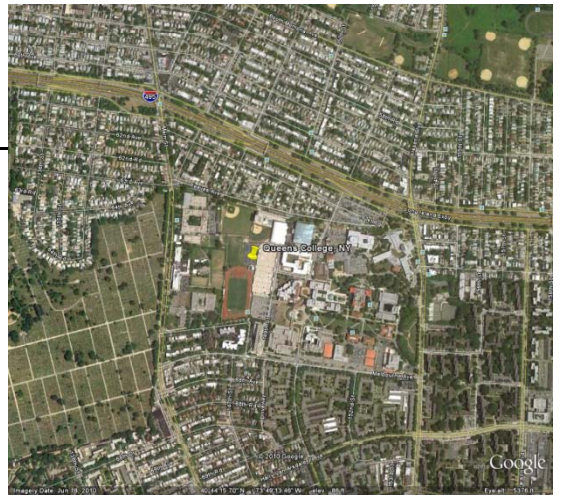


Existing monitoring location in Connecticut- leverage= success

Pinnacle Park, New York

- A rural site, neighborhood scale

Queens College, New York

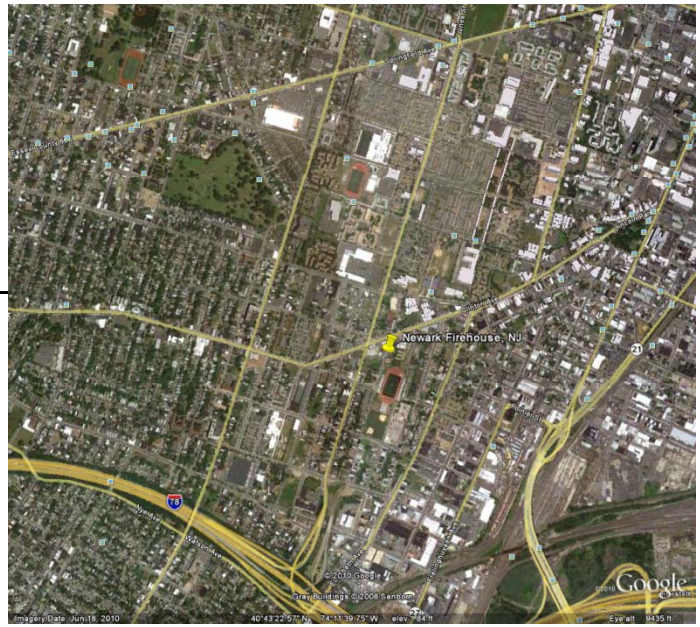


- **A urban site, neighborhood scale**

Rochester, New York

- A urban site, neighborhood scale

Newark, New Jersey



- A urban site, neighborhood scale.

NCore

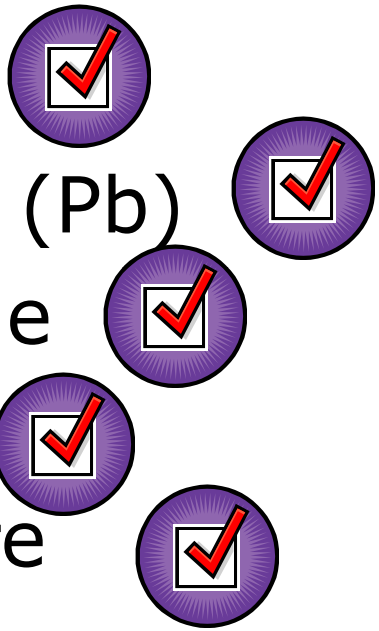
- Timely reporting of data to public by supporting AIRNow, air quality forecasting, and other public reporting mechanisms;
- Support for development of emission strategies through air quality model evaluation and other observational methods;
- Accountability of emission strategy progress through tracking long-term trends of criteria and non-criteria pollutants and their precursors;
- Support for long-term health assessments that contribute to ongoing reviews of the NAAQS;
- Compliance through establishing nonattainment/attainment areas through comparison with the NAAQS;
- Support to scientific studies ranging across technological, health, and atmospheric process disciplines; and
- Support to ecosystem assessments recognizing that national air quality networks benefit ecosystem assessments and, in turn, benefit from data specifically designed to address ecosystem analyses.

Measurements:

- **$PM_{2.5}$ speciation** -Organic and elemental carbon, major ions and trace metals (24 hour average; every 3rd day)
- **$PM_{2.5}$ FRM mass** -typically 24 hr. average every 3rd day
- **continuous $PM_{2.5}$ mass** - 1-hour reporting interval for all cont. species
- **continuous $PM_{(10-2.5)}$ mass** -in anticipation of $PM_{(10-2.5)}$ standard
- **ozone (O_3)**
- **carbon monoxide (CO)** -capable of trace levels (low ppm and below)
- **sulfur dioxide (SO_2)-** capable of trace levels (low ppb and below)
- **nitrogen oxide (NO)** -capable of trace levels (low ppb and below)
- **total reactive active nitrogen (NOy)** -capable of trace levels (low ppb and below)
- **ammonia (NH_3)** -currently under consideration
- **nitric acid (HNO_3)** -currently under consideration
- **surface meteorology** -wind speed and direction, temperature, RH

Phew…

- SO_2
- Lead (Pb)
- Ozone
- NO_2
- NCore



NAAQS Review Overall Schedule

Pollutant	NAAQS Level	Status of Current NAAQS Review	Expected Date of Final Decision
Ozone	0.075 ppm 8-hour	Reconsideration of level and secondary NAAQS proposed on January 6, 2010	October, 2010
CO	9 ppm 8-hour 35 ppm 1-hour	Early in Review	May, 2011
SO_2	0.03 ppm annual 0.14 ppm daily New- 75 ppb 1-hour	FRN signed on June 2, 2010 with 1-hour NAAQS. Hybrid monitoring/ modeling approach.	Final Rule signed June 2, 2010
NO_2	53 ppb annual mean New- 100 ppb 1-hour	FRN on January 22, 2010 with 1-hour NAAQS. Includes provisions for near roadway monitoring.	Final Rule signed January 22, 2010
$PM_{2.5}$ PM_{10}	15ug/m^3 annual average 35 ug/m^3 daily 150 ug/m^3 daily	Integrated science assessment nearing completion; Visibility Assessment and Risk Exposure Assessment just reviewed by CASAC.	July, 2011- subject to change.
Pb	0.15 ug/m^3 rolling 3-month average	Reconsideration of monitoring requirements proposed on January 23, 2010	Late 2010

Questions?

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