

Figure 1. PM2.5 Design Values in Connecticut (2000 - 2002)

*Note: microscale siting at Stiles Street precludes its use in annual attainment designations

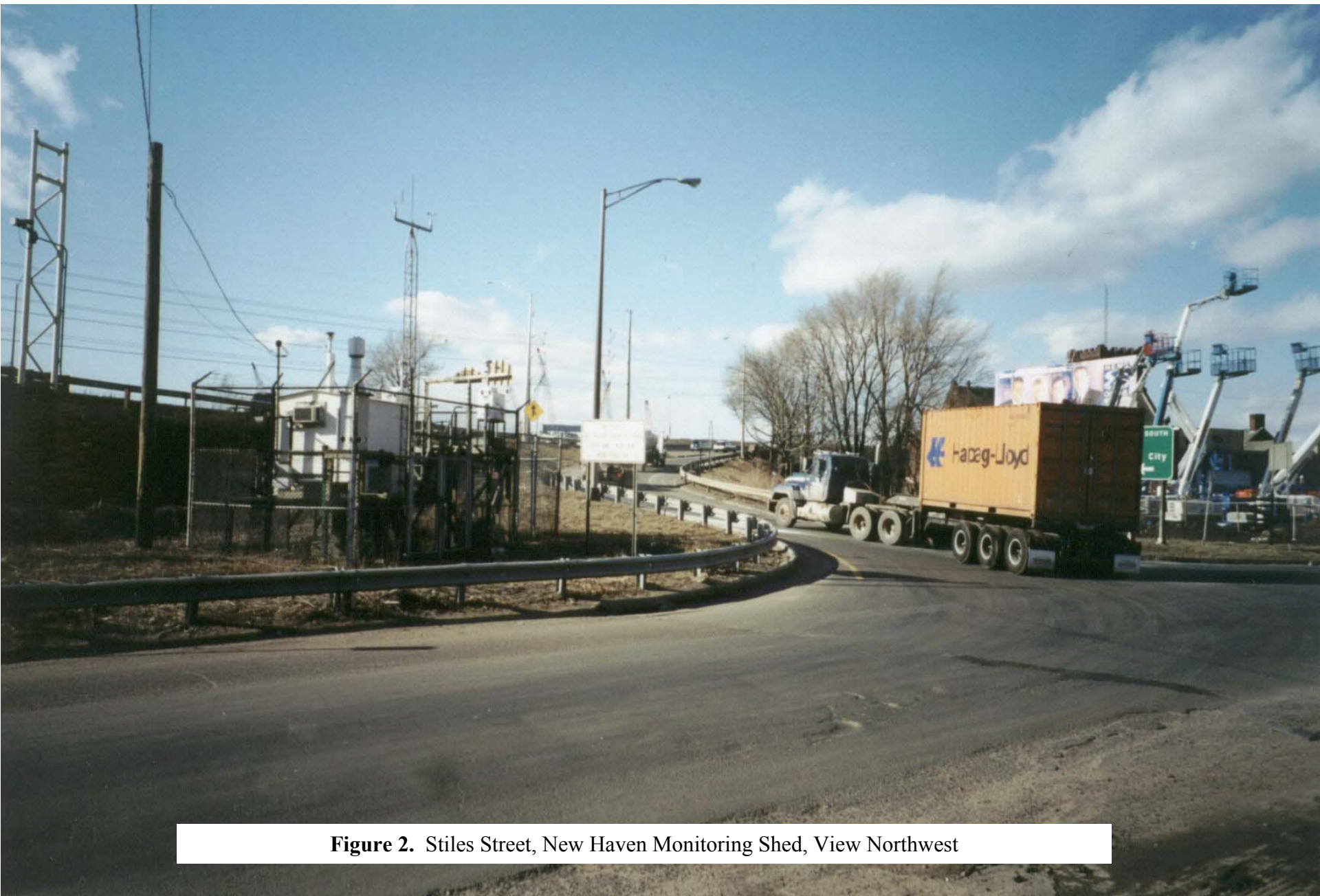


Figure 2. Stiles Street, New Haven Monitoring Shed, View Northwest



Figure 3. Stiles Street, New Haven I-95 Access Ramp, View Northwest

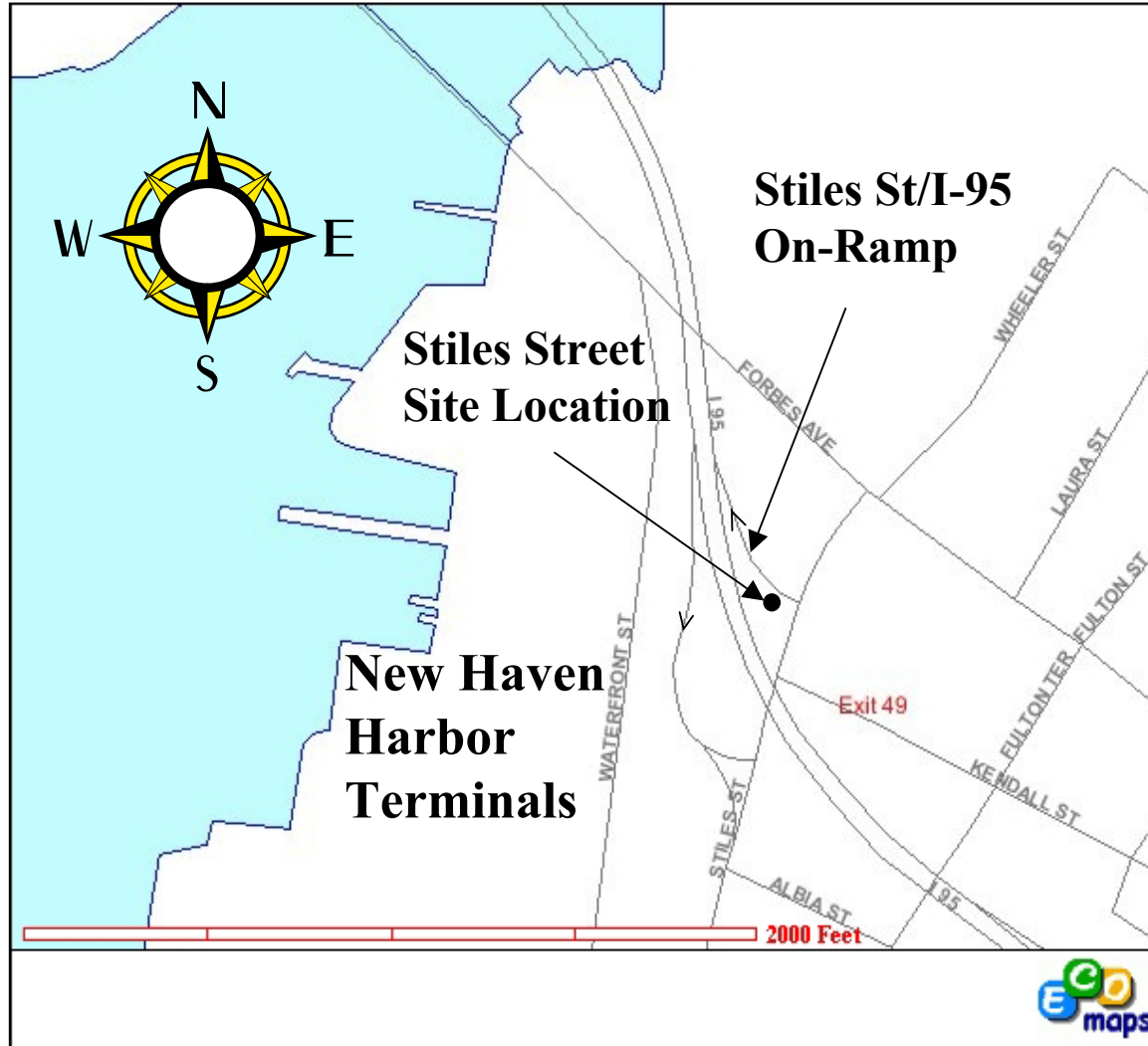


Figure 4. Stiles Street, New Haven Monitoring Site Location

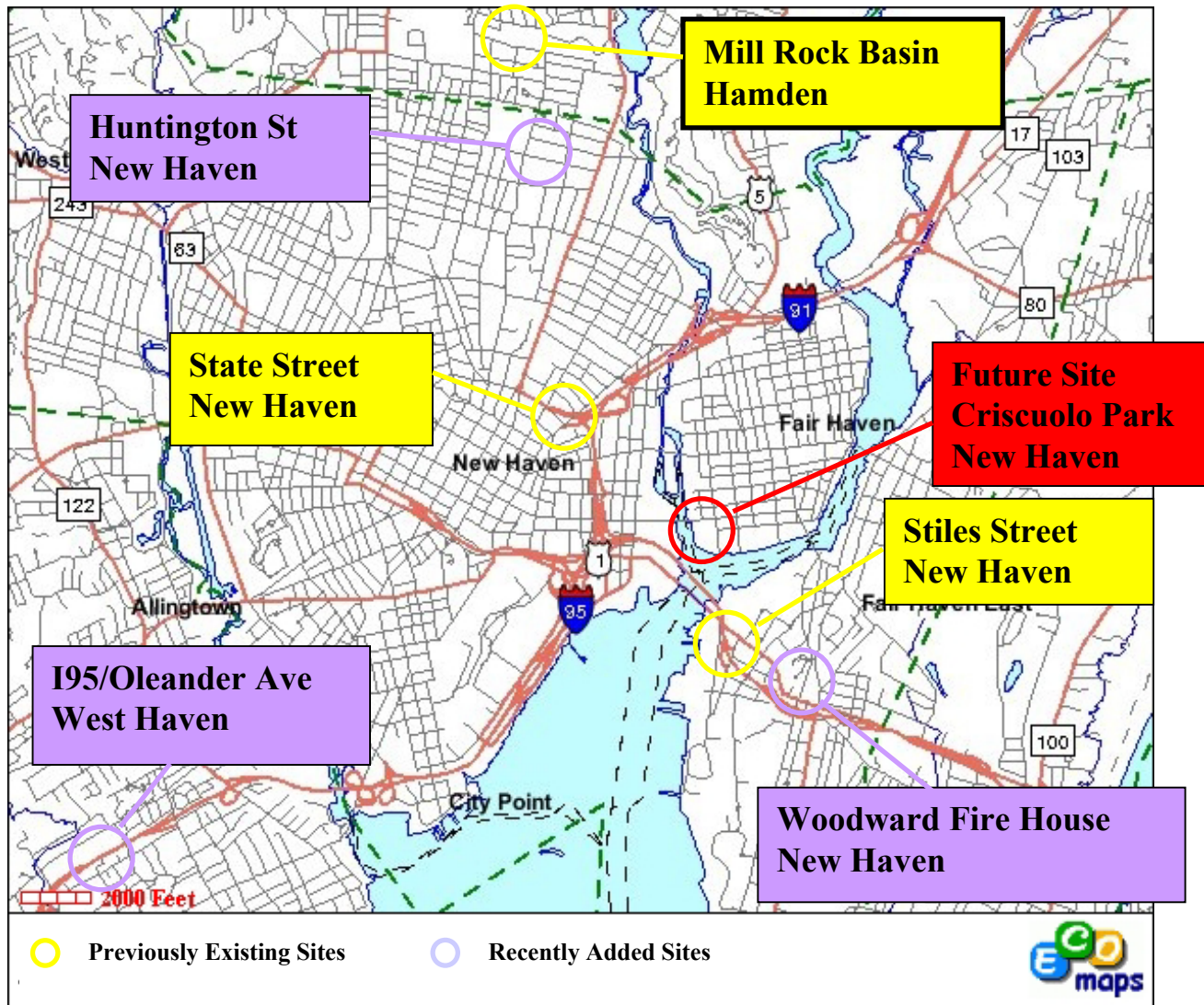


Figure 5. New Haven Area- PM2.5 Monitoring Sites

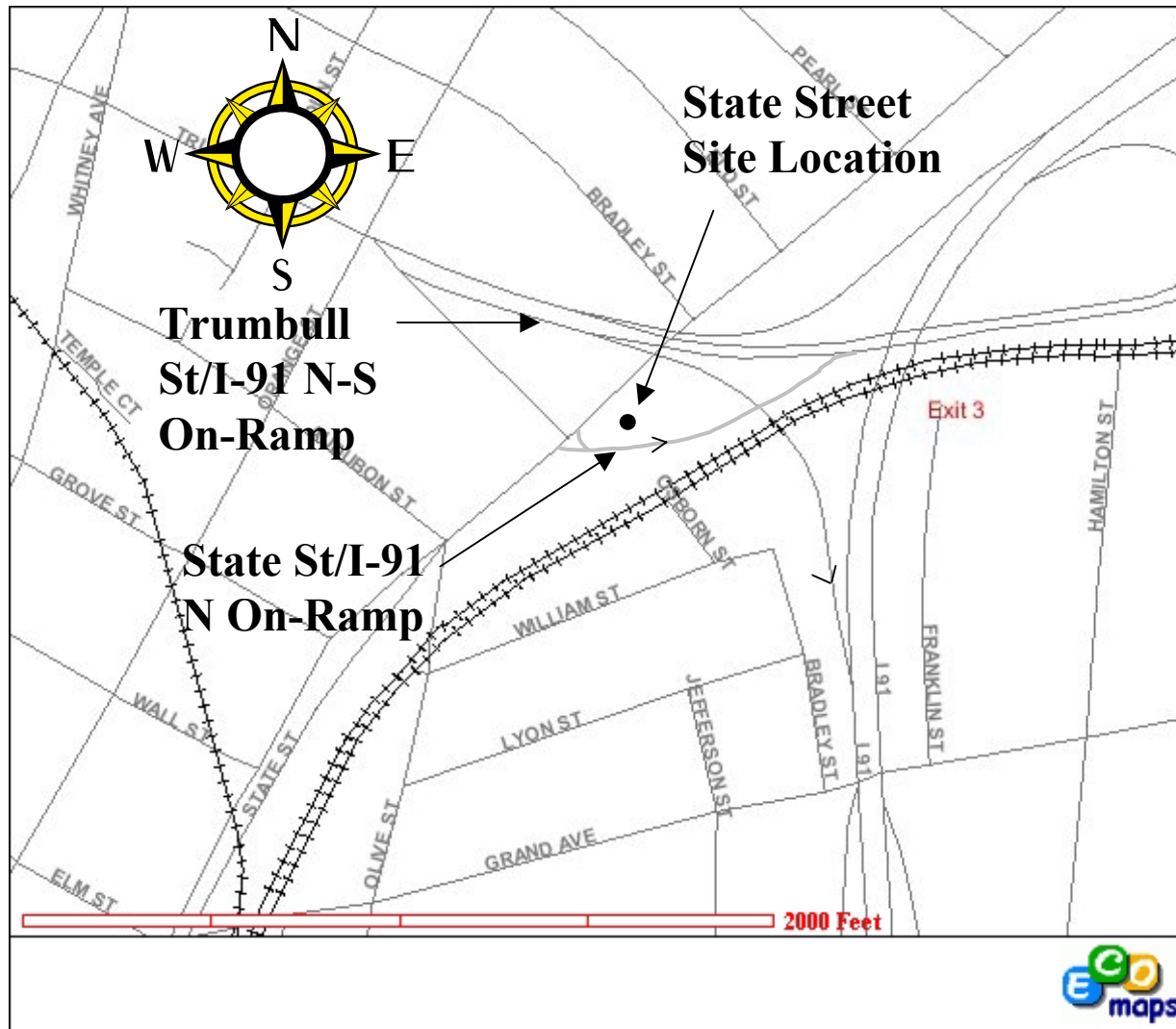


Figure 6. State Street, New Haven Monitoring Site Location

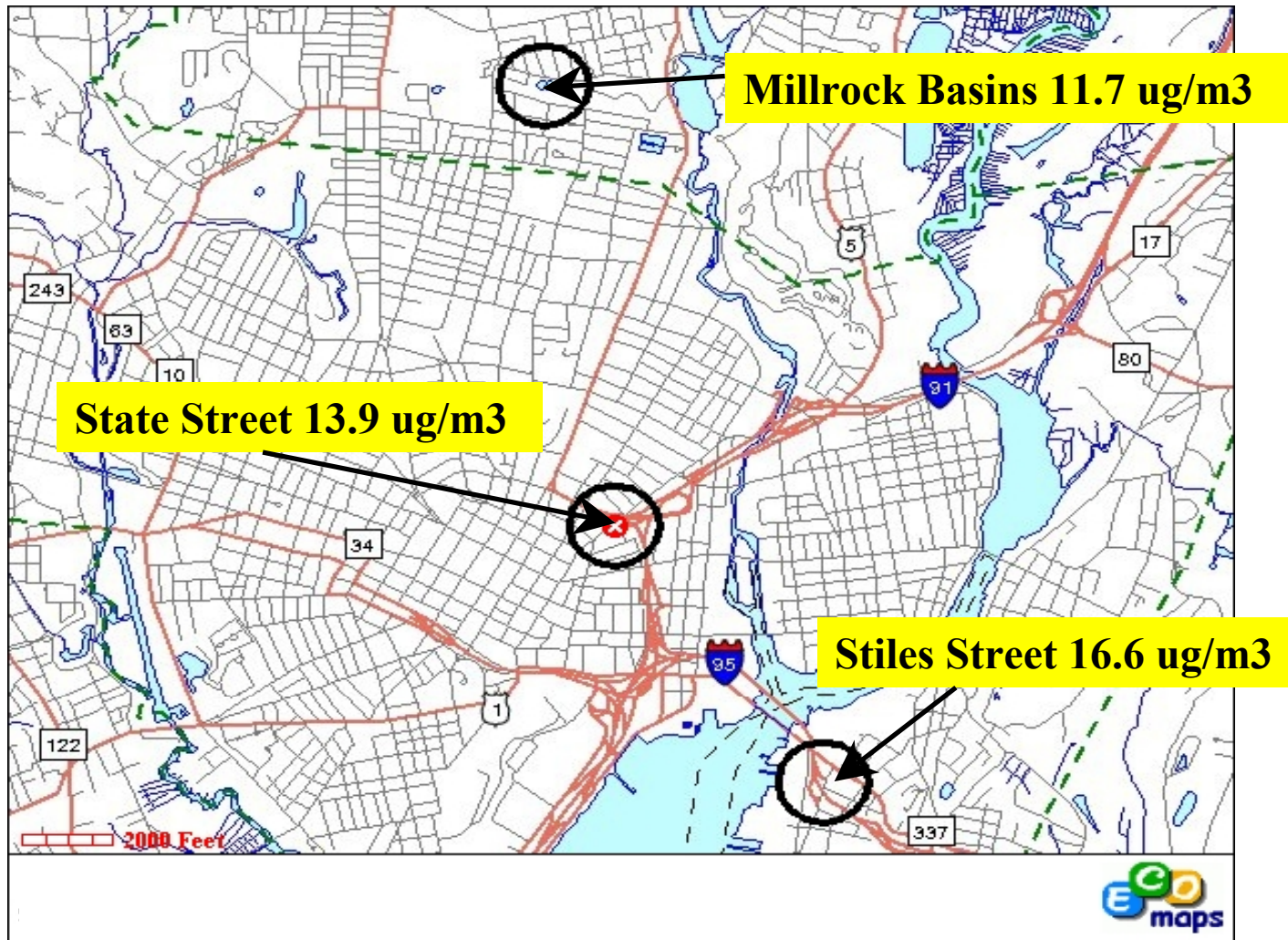


Figure 7. New Haven Area PM_{2.5}-Design Values (2000-2002)

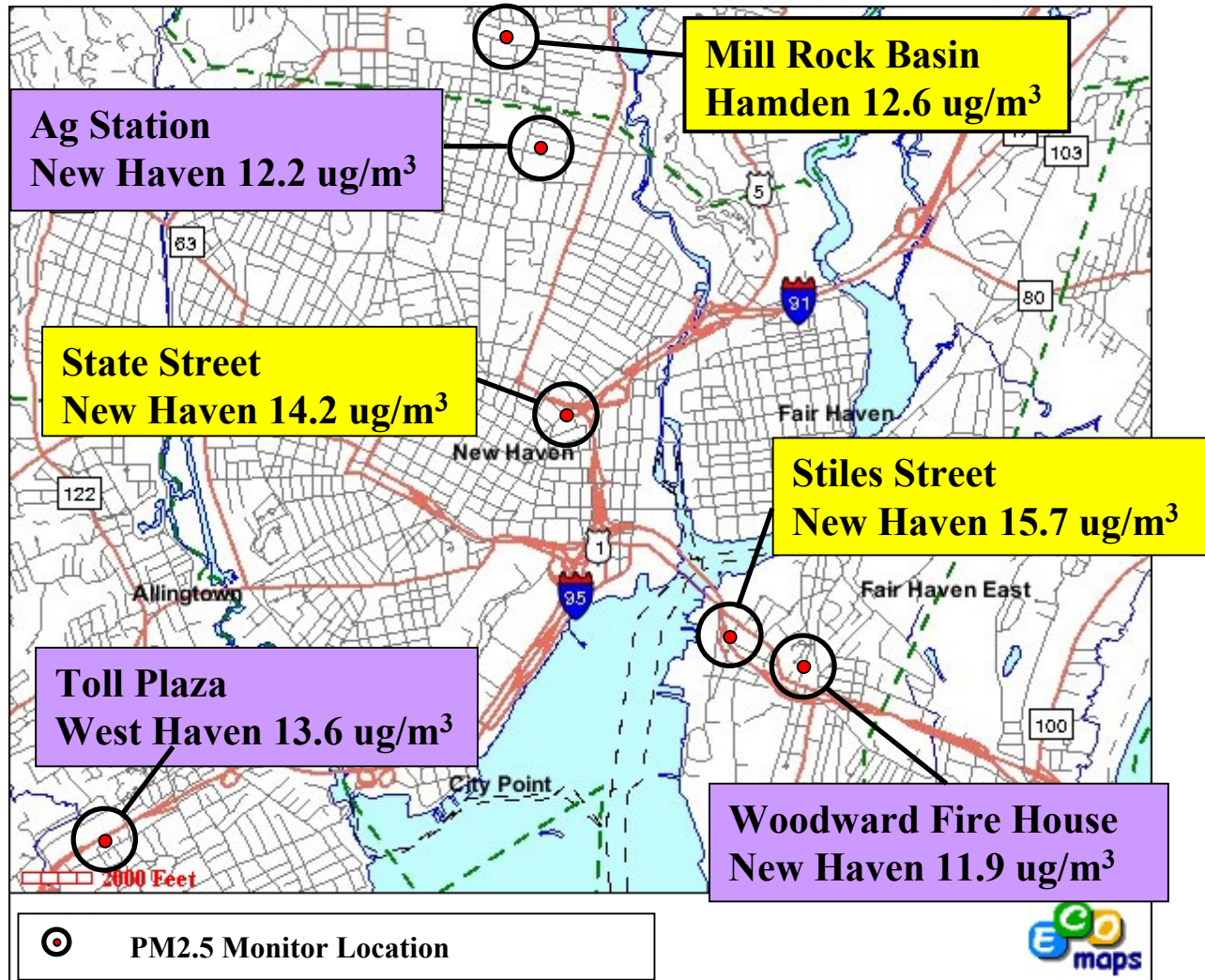


Figure 8. New Haven Area PM2.5 Concentrations: Average of 3rd day samples, April-September 2003, for which there was also a Stiles Street sample.

State Street, New Haven vs. Stiles Street, New Haven PM2.5 Concentrations, Second and Third Quarters, 2003

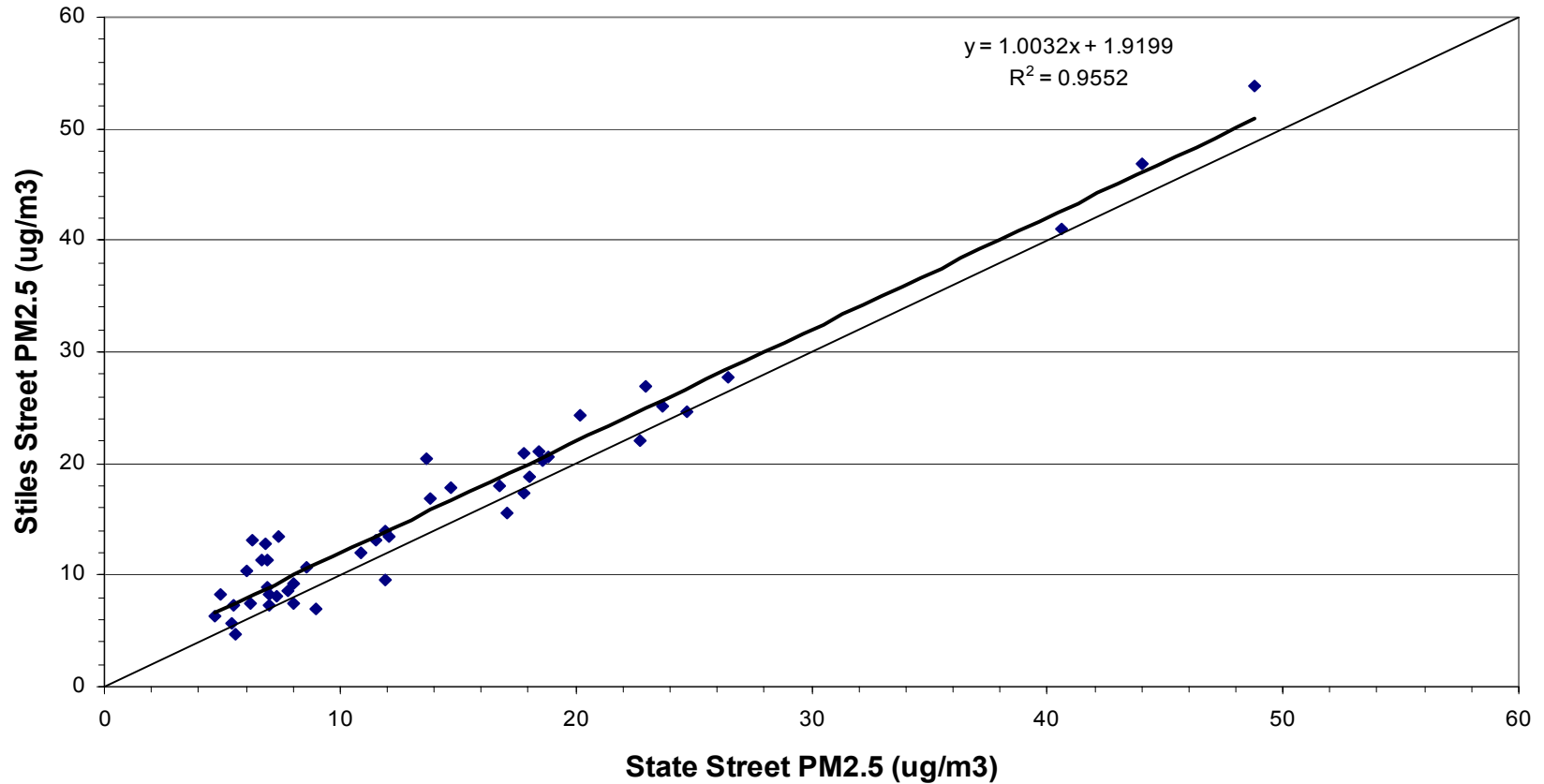


Figure 9. State Street vs. Stiles Street PM2.5 Concentrations

Former Toll Booth, West Haven vs. Stiles Street, New Haven PM2.5 Concentrations, Second and Third Quarters, 2003

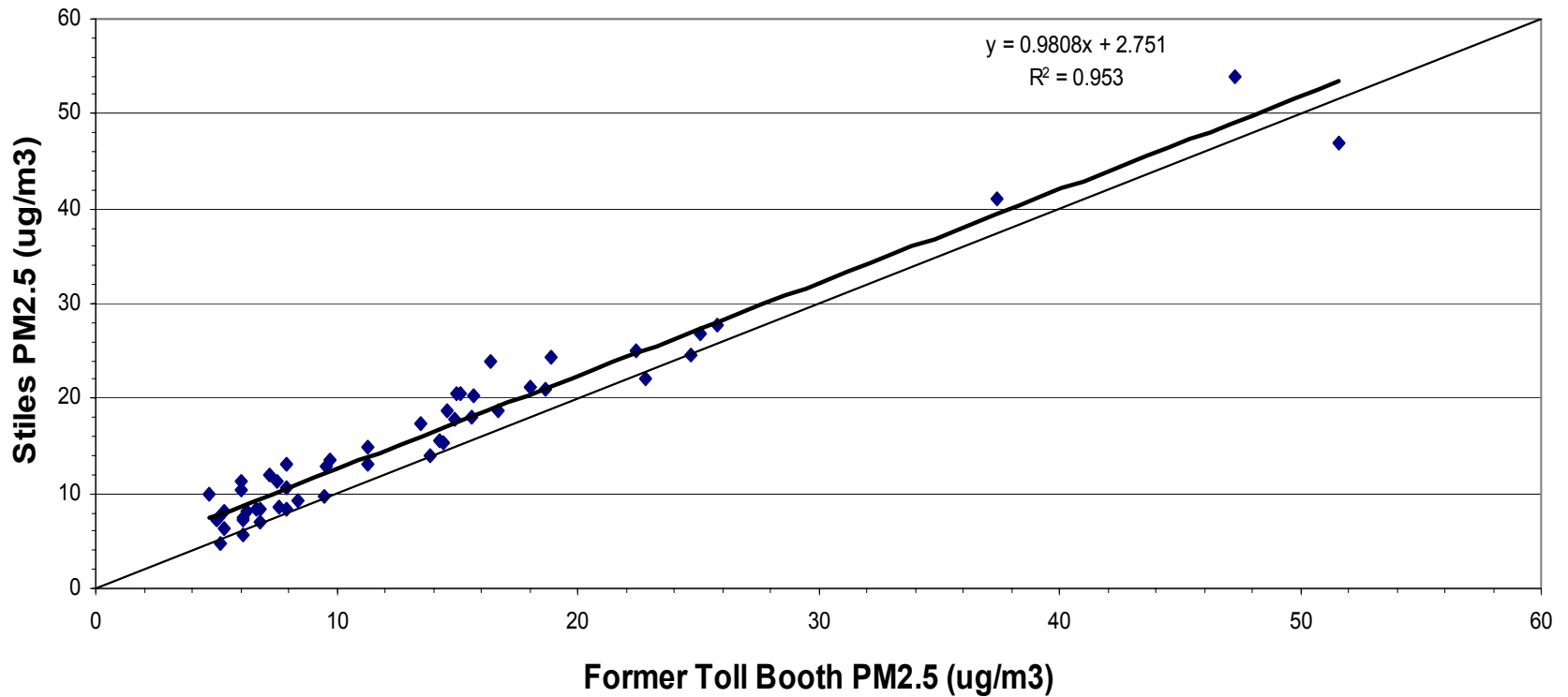


Figure 10. West Haven vs. Stiles Street PM2.5 Concentrations

Mill Rock Basin, Hamden vs. Stiles Street, New Haven PM2.5 Concentrations, Second and Third Quarters, 2003

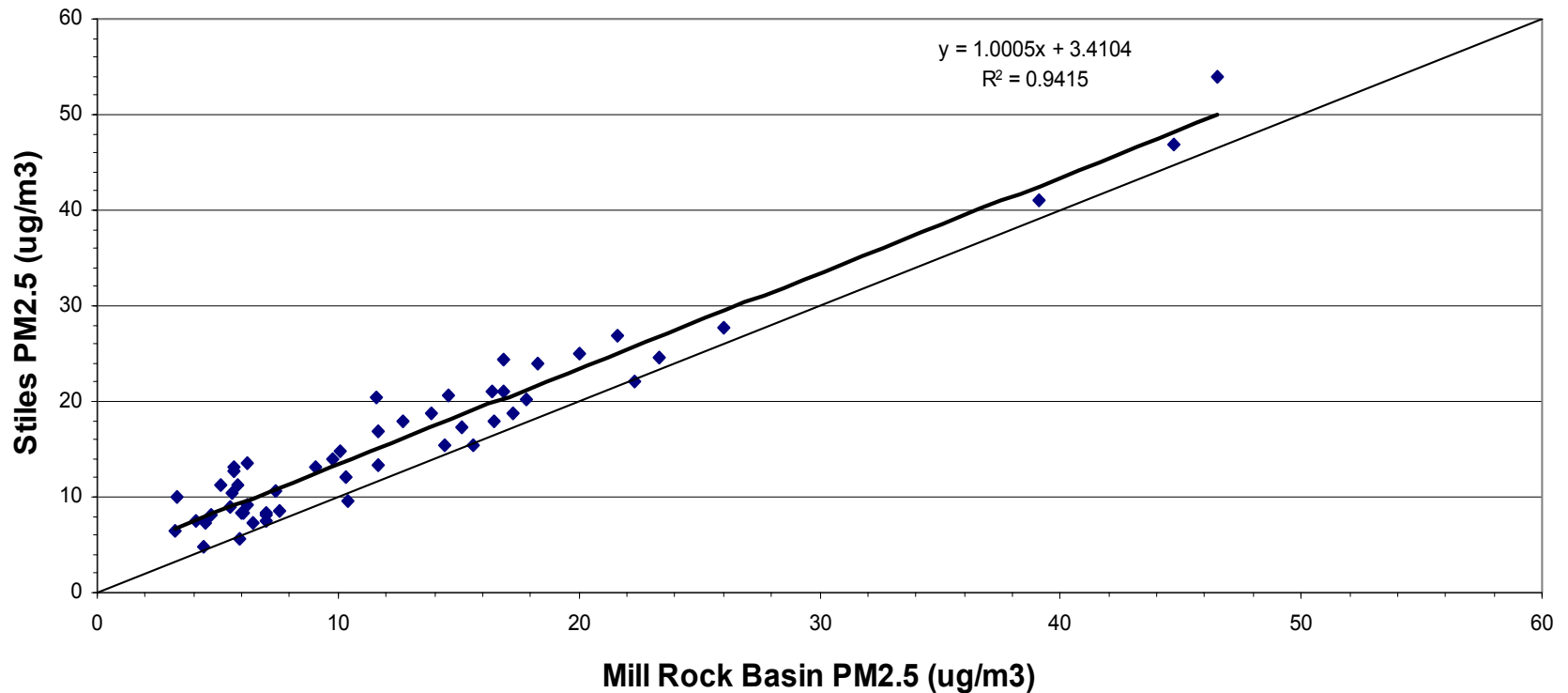


Figure 11. Mill Rock Basin, Hamden vs. Stiles Street PM2.5 Concentrations

CT Agriculture Station, New Haven vs. Stiles Street, New Haven PM2.5 Concentrations, Second and Third Quarters, 2003

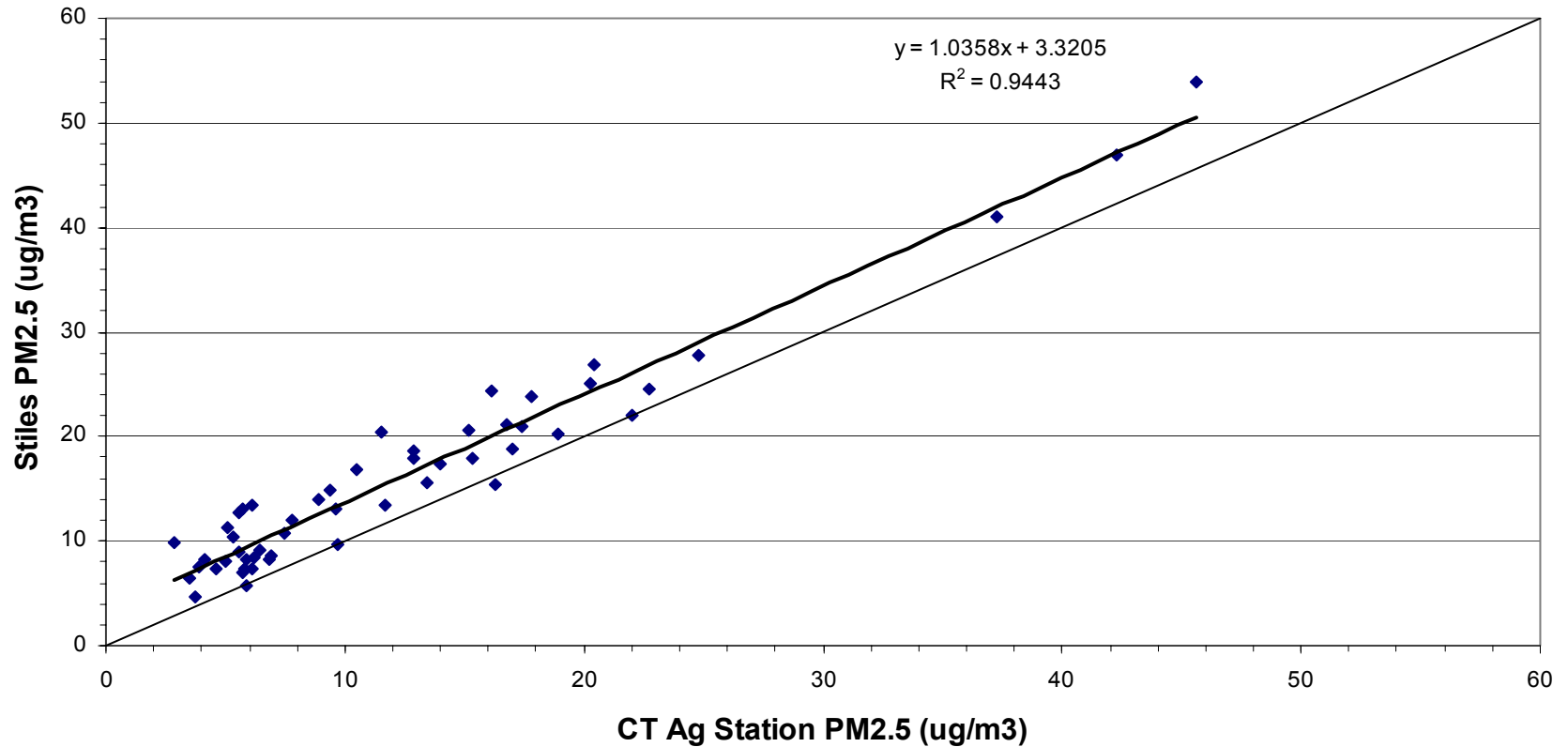


Figure 12. CT Agricultural Station vs. Stiles Street PM2.5 Concentrations

Woodward Fire House, New Haven vs. Stiles Street, New Haven PM2.5 Concentrations, Second and Third Quarters, 2003

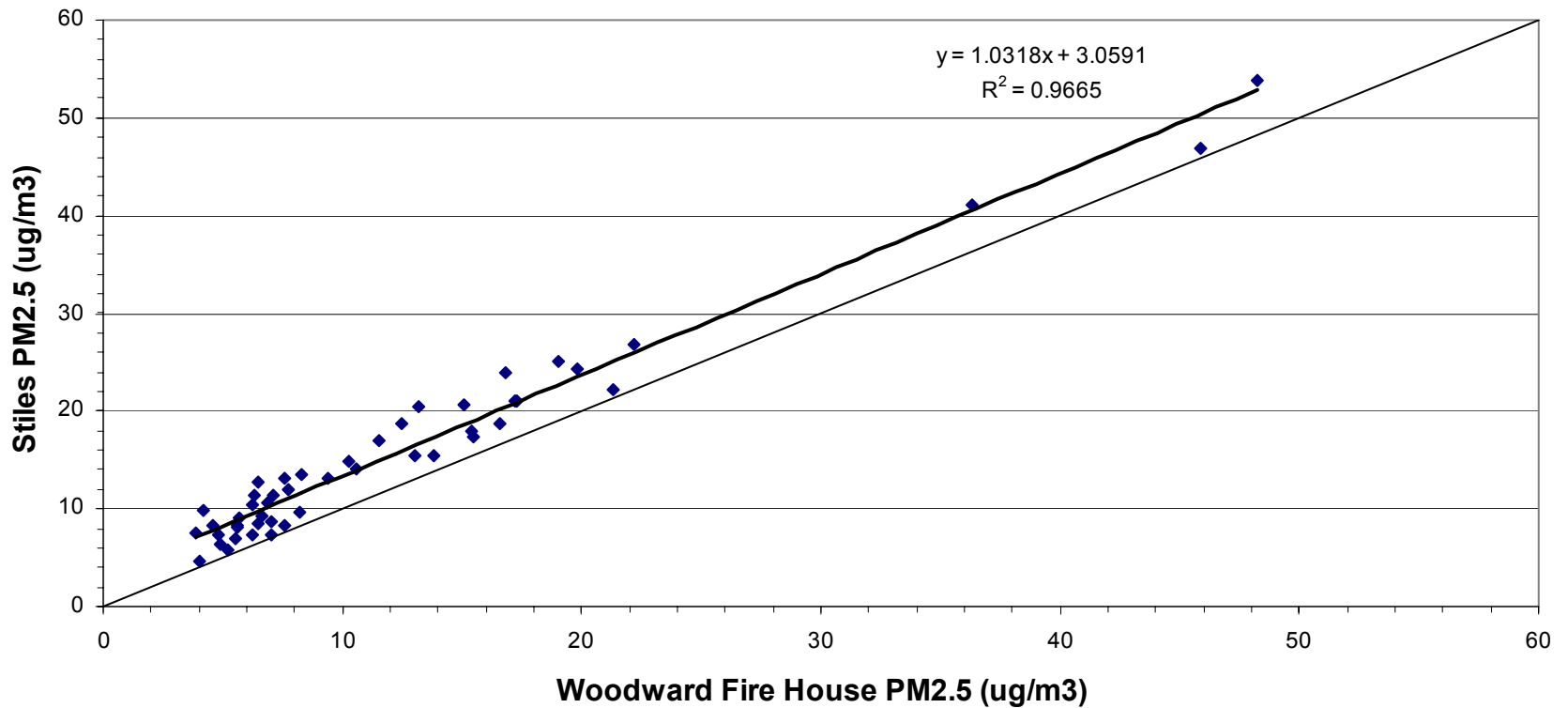


Figure 13. Woodward Fire House vs. Stiles Street PM2.5 Concentrations

Estimated/Measured PM_{2.5} Stiles St, New Haven

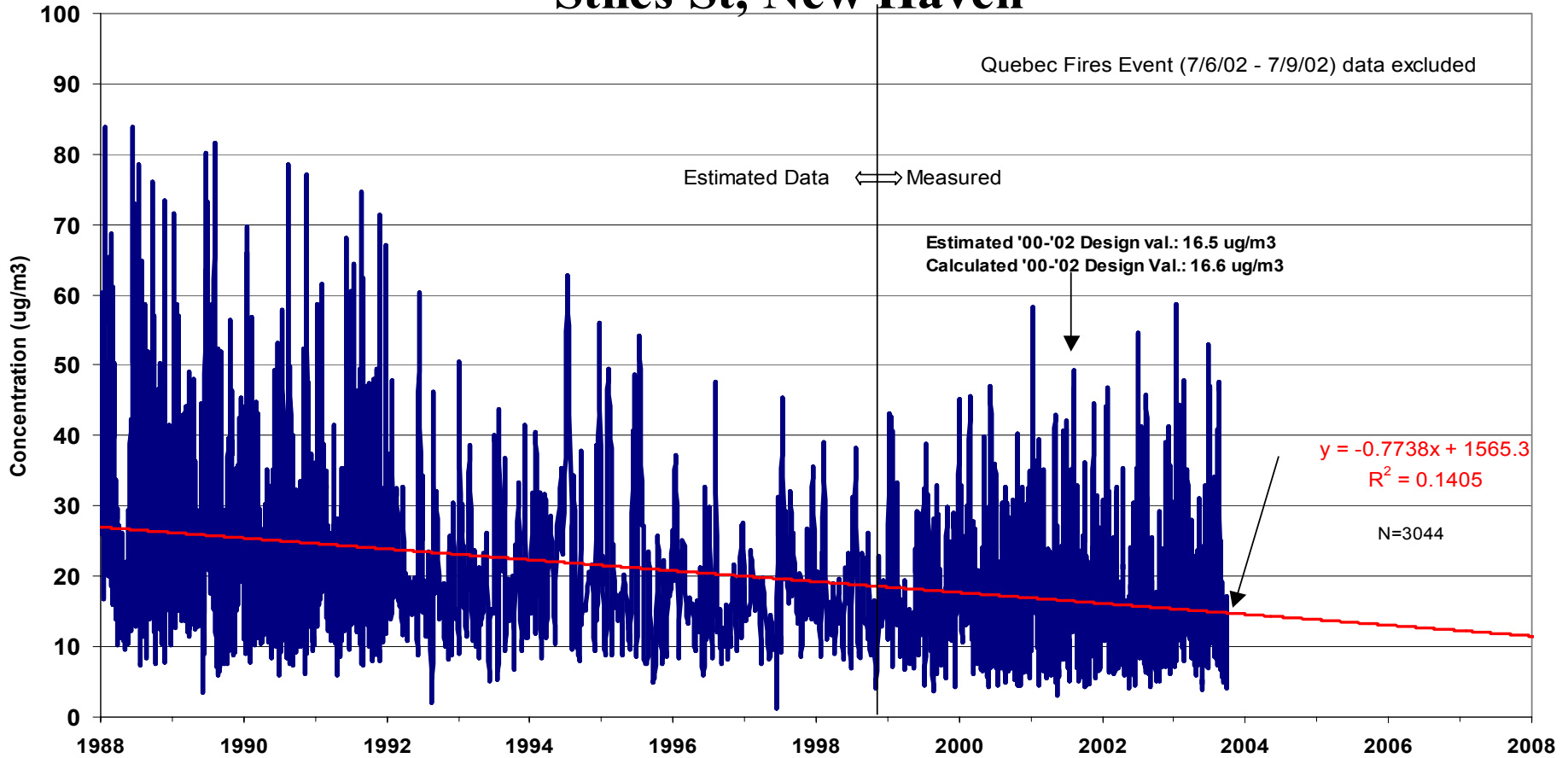


Figure 14. Estimated/ Measured PM_{2.5} Concentrations at Stiles Street, New Haven

Estimated/Measured PM_{2.5} - State Street, New Haven

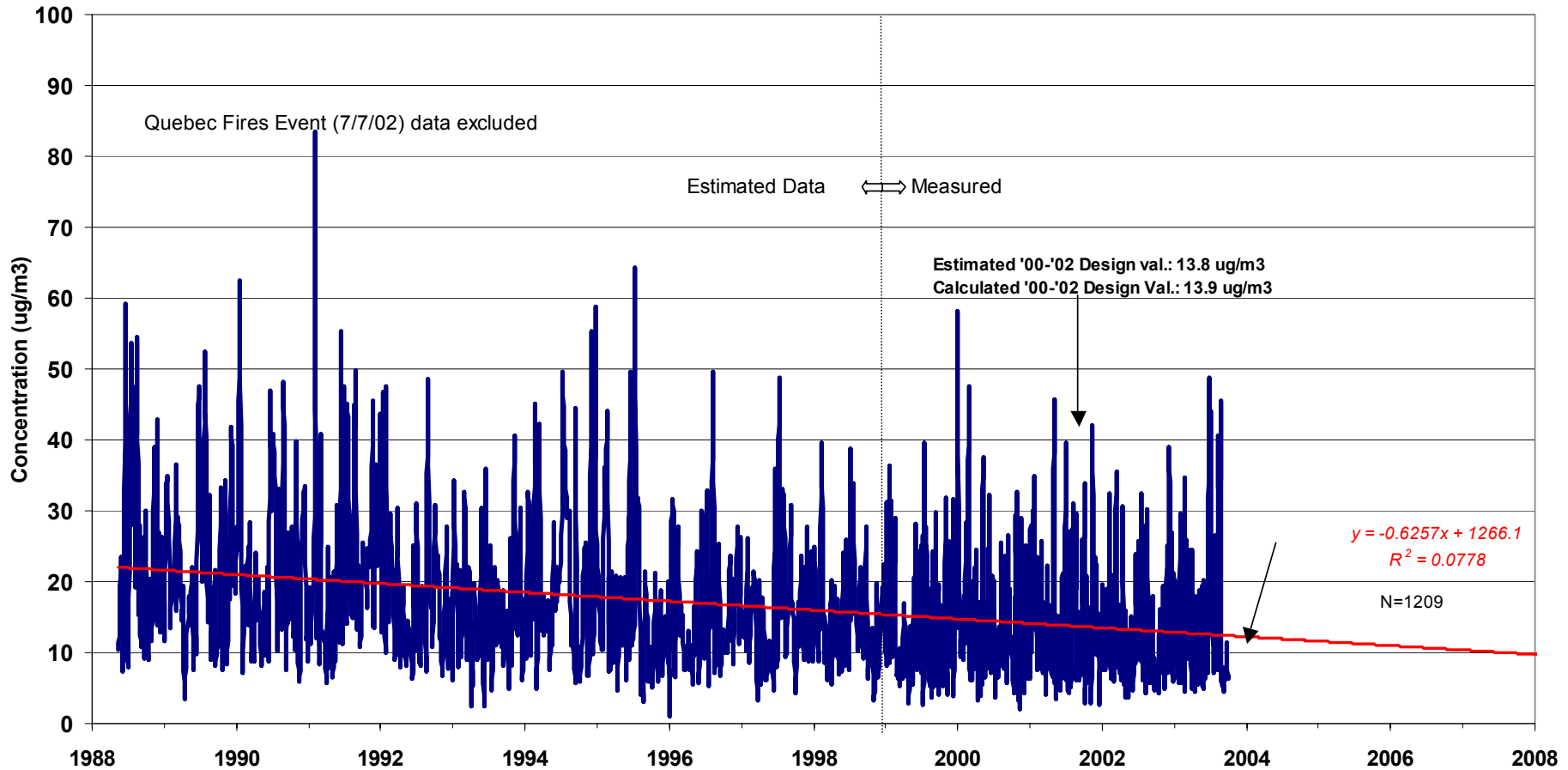


Figure 15. Estimated/ Measured PM_{2.5} Concentrations at State Street, New Haven

Annual Average of Measured/ Estimated PM2.5

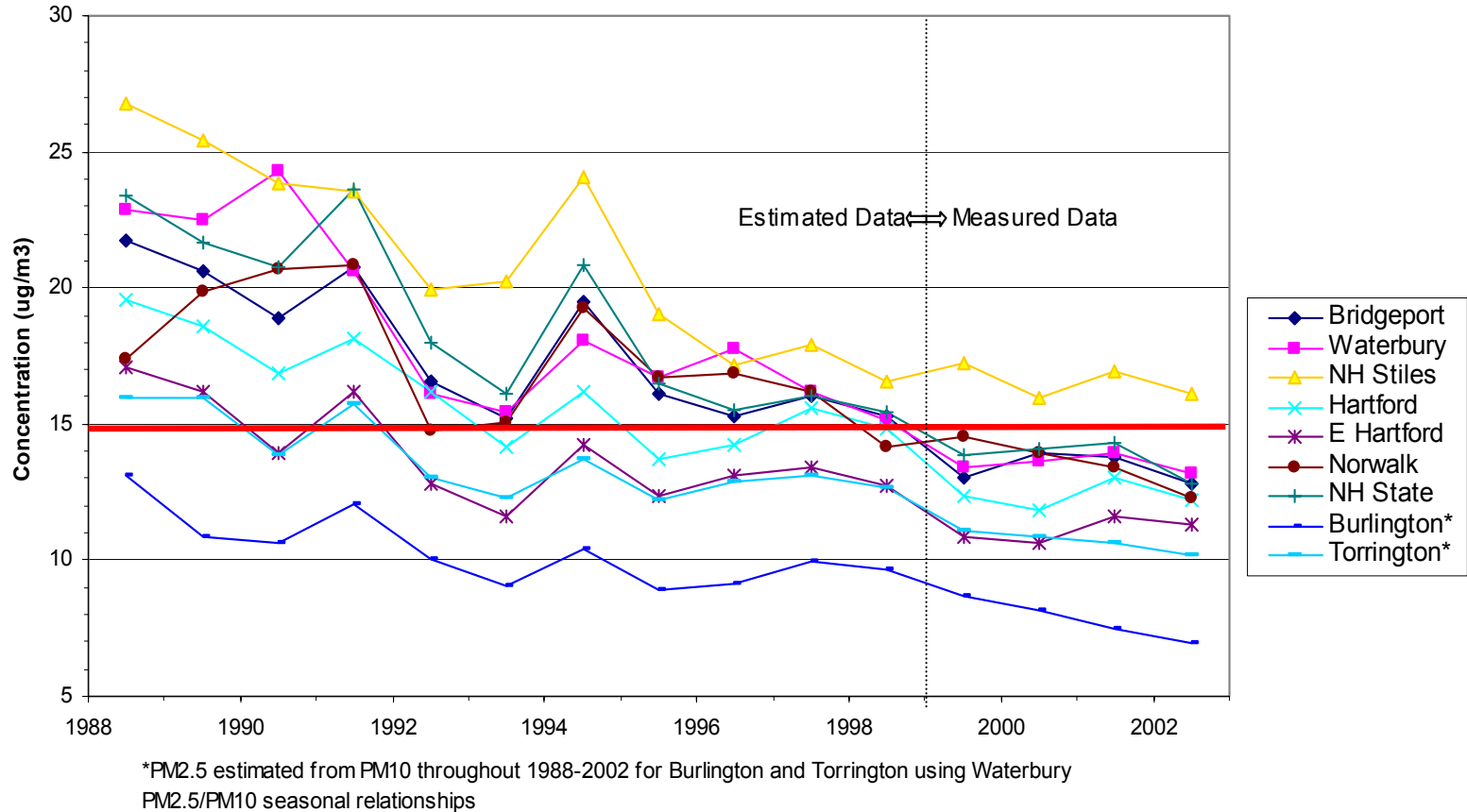


Figure 16. Annual Average of Estimated/ Measured PM2.5 Concentrations

Estimated and Measured PM_{2.5} Trends - New Haven vs. Five Other Urban Areas

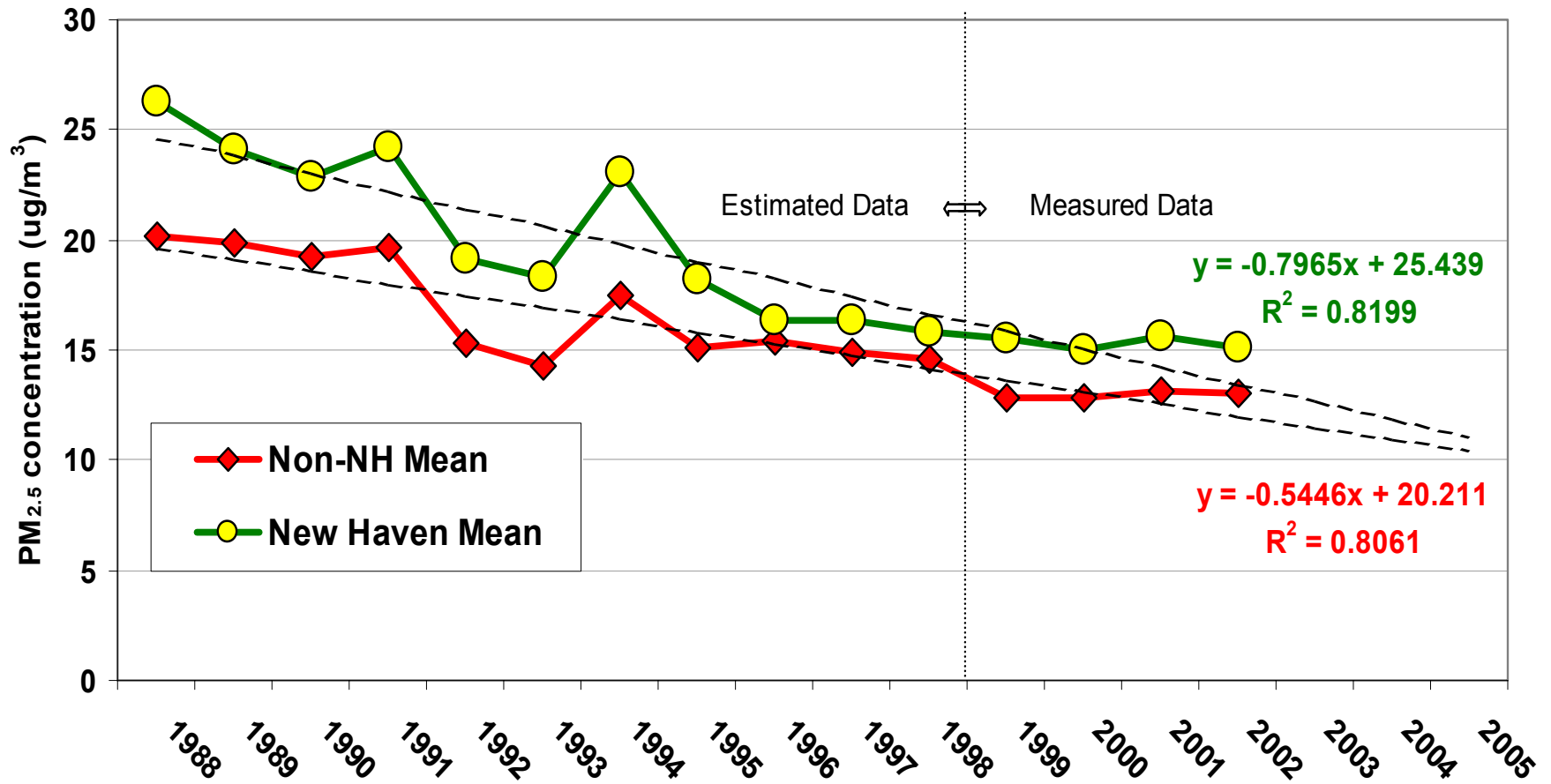


Figure 17. Estimated and Measured PM_{2.5} Trends, Two New Haven vs. Five Non-New Haven Urban Sites

NEPART/ IMPROVE Measured PM_{2.5} Mohawk Mtn., Cornwall, CT

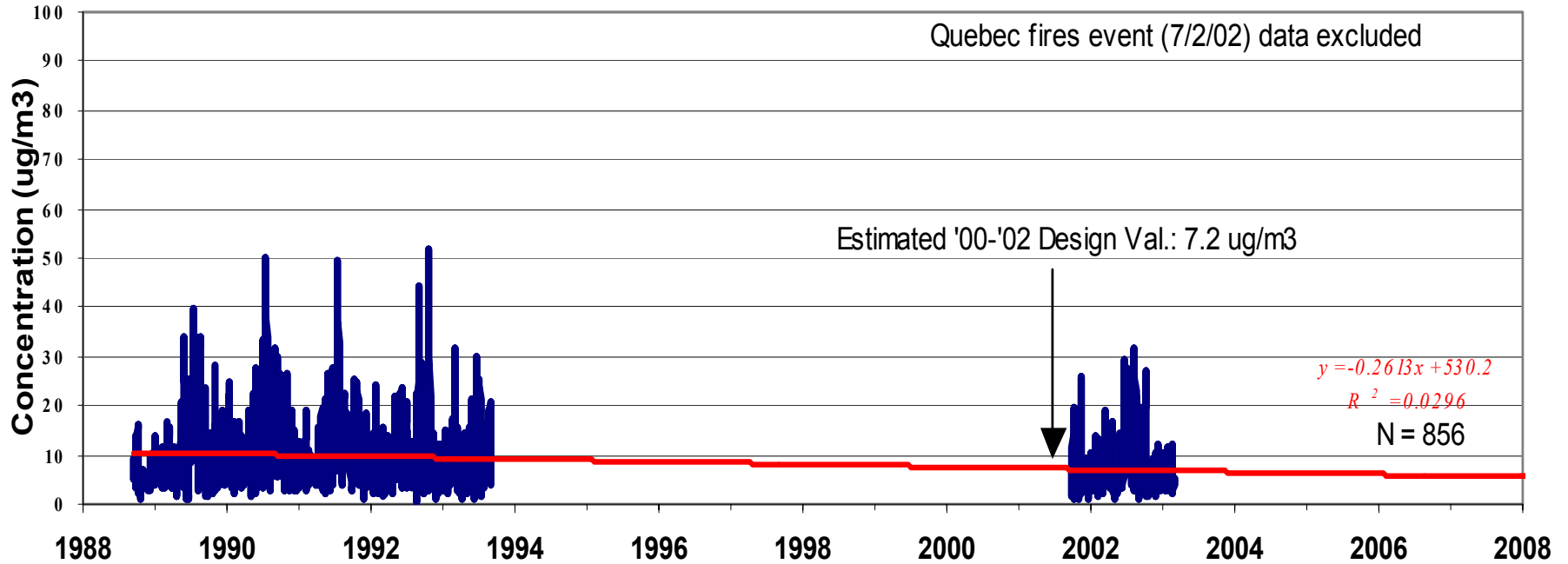


Figure 18. Measured PM_{2.5} Concentrations at Mohawk Mountain, Cornwall, CT

PM2.5 Trends Slopes (1988-2003) vs. Initial Concentrations

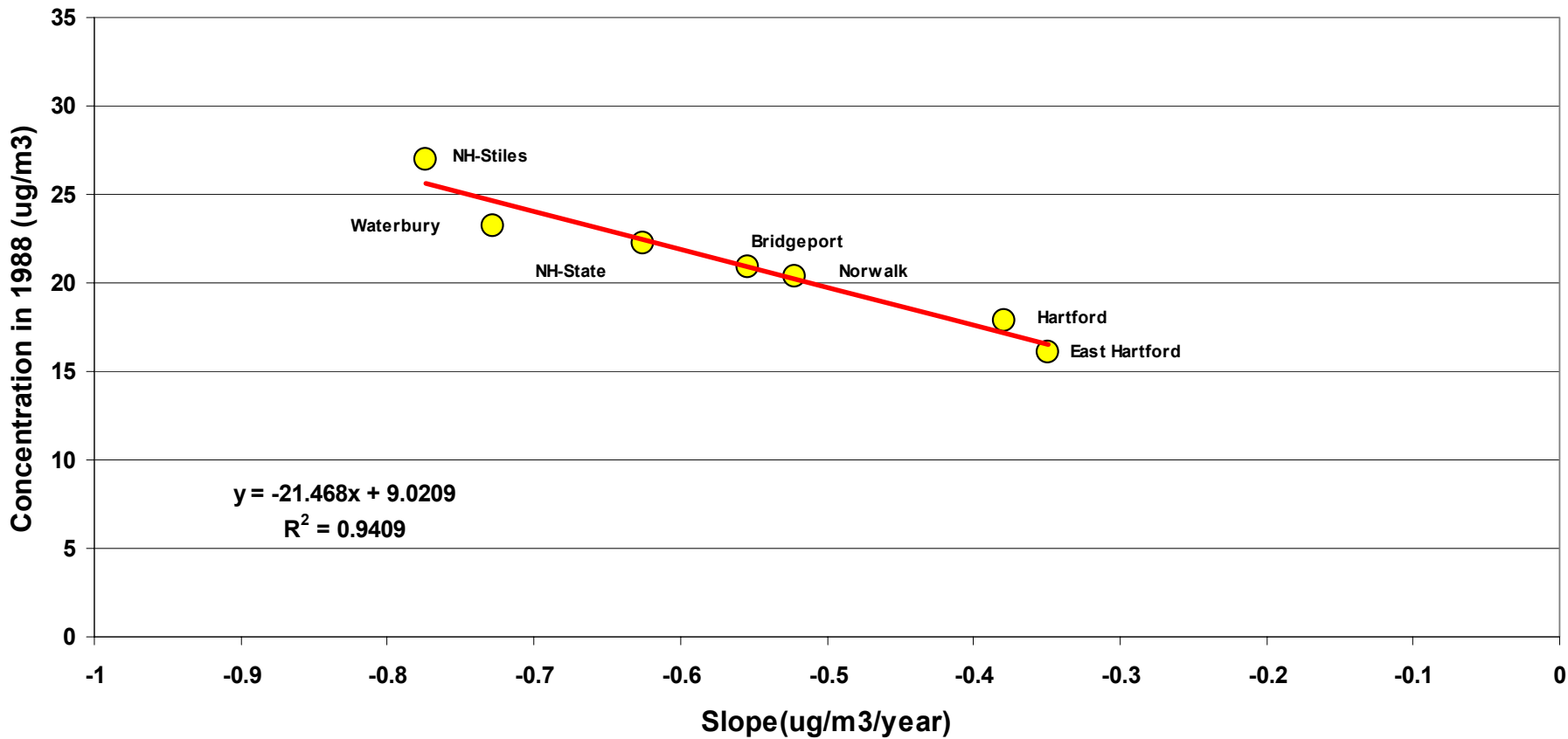
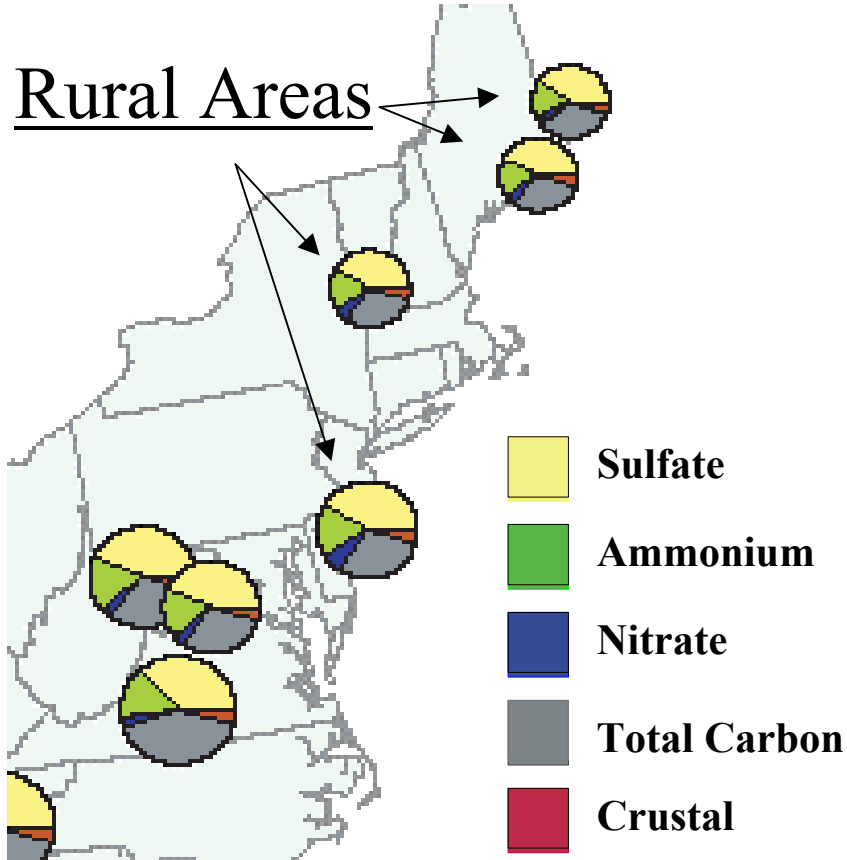


Figure 19. PM2.5 Trends Slopes vs. Initial Concentrations

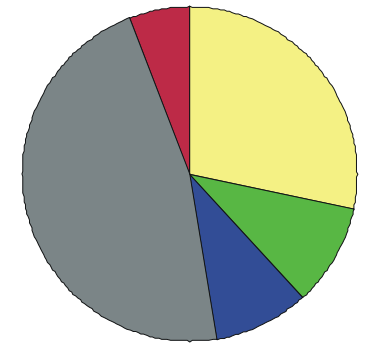
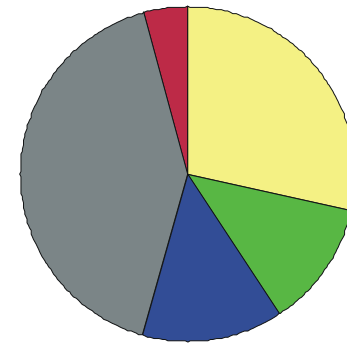
Rural Areas



Urban Areas

New York City (Bronx)

Springfield, MA



Rural Area Source: IMPROVE Network, 1999

Urban Area Source: EPA Speciation Network, 2001

Figure 20. Rural vs. Urban Areas Speciation

Fine Particulate Sulfate - Brigantine Refuge, New Jersey

(Sulfate Measured via IMPROVE Protocol)

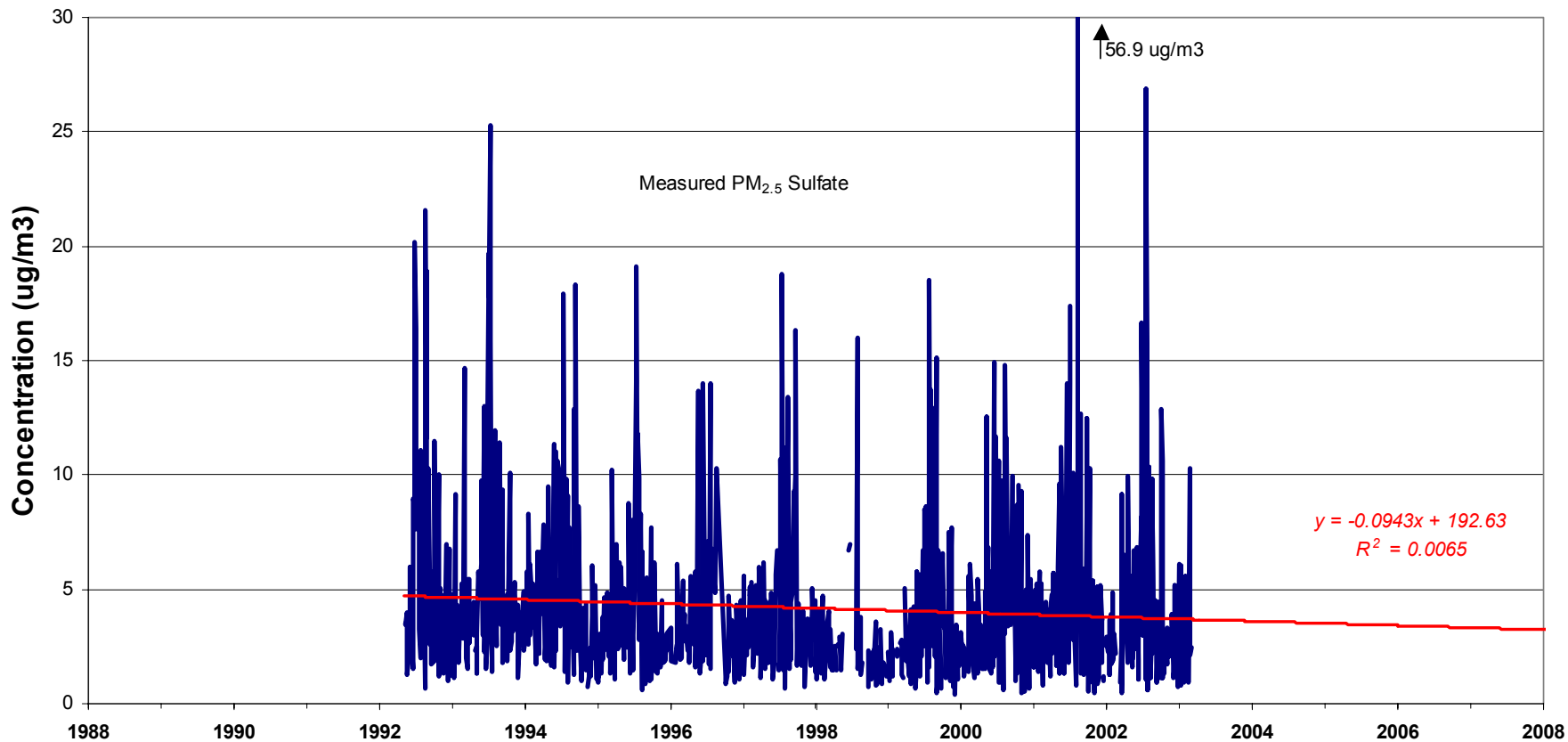


Figure 21. Fine Particulate Sulfate Concentrations at Brigantine Refuge, NJ

Fine Particulate Sulfate - Mohawk Mountain, Cornwall, CT (1988-1993 PM_{2.5} sulfate estimated from measured PM_{2.5} sulfur)

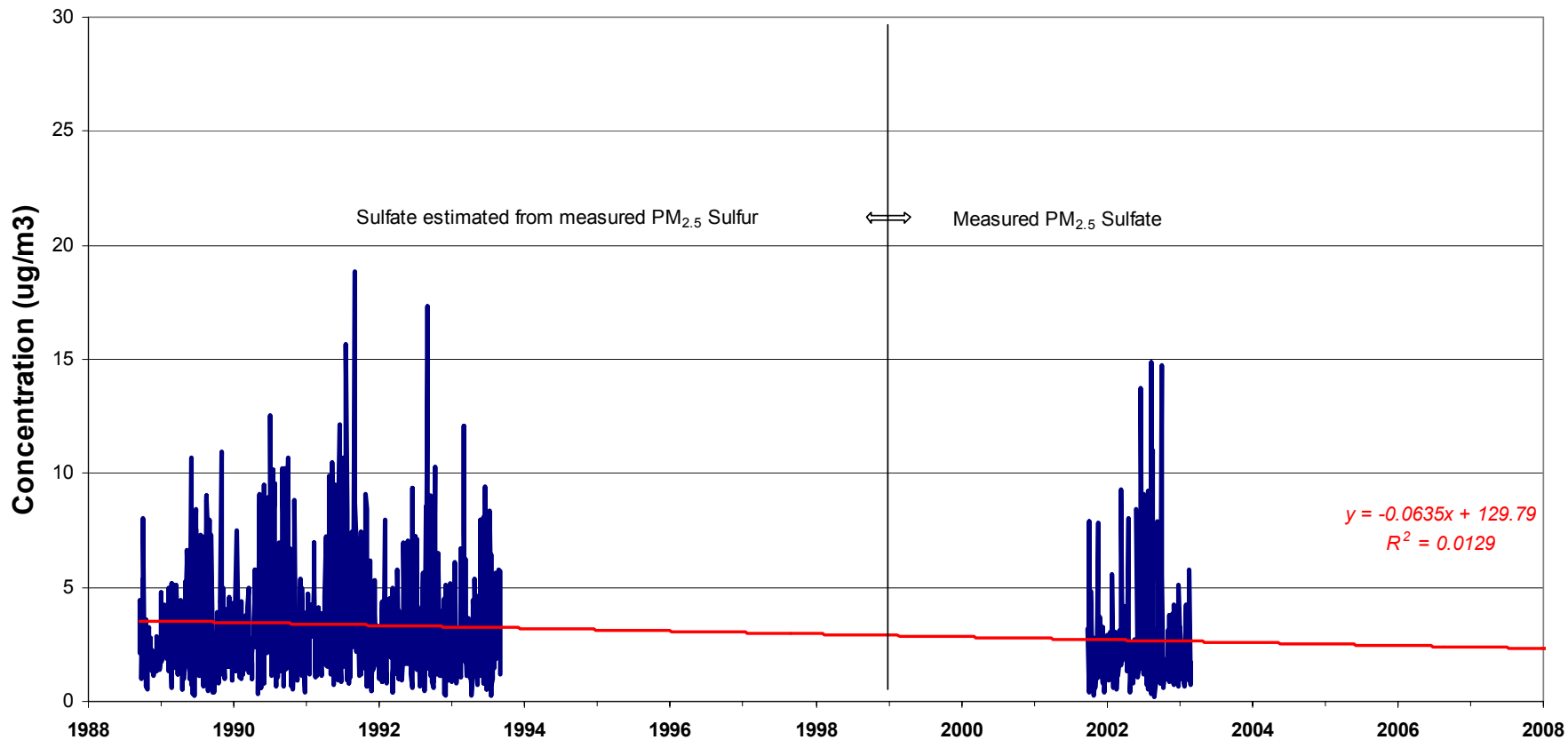


Figure 22. Fine Particulate Sulfate Concentrations at Mohawk Mountain, Cornwall, CT

Fine Particulate Sulfate at Quabbin Summit, Ware, MA (1988-1993 PM_{2.5} sulfate estimated from PM_{2.5} sulfur)

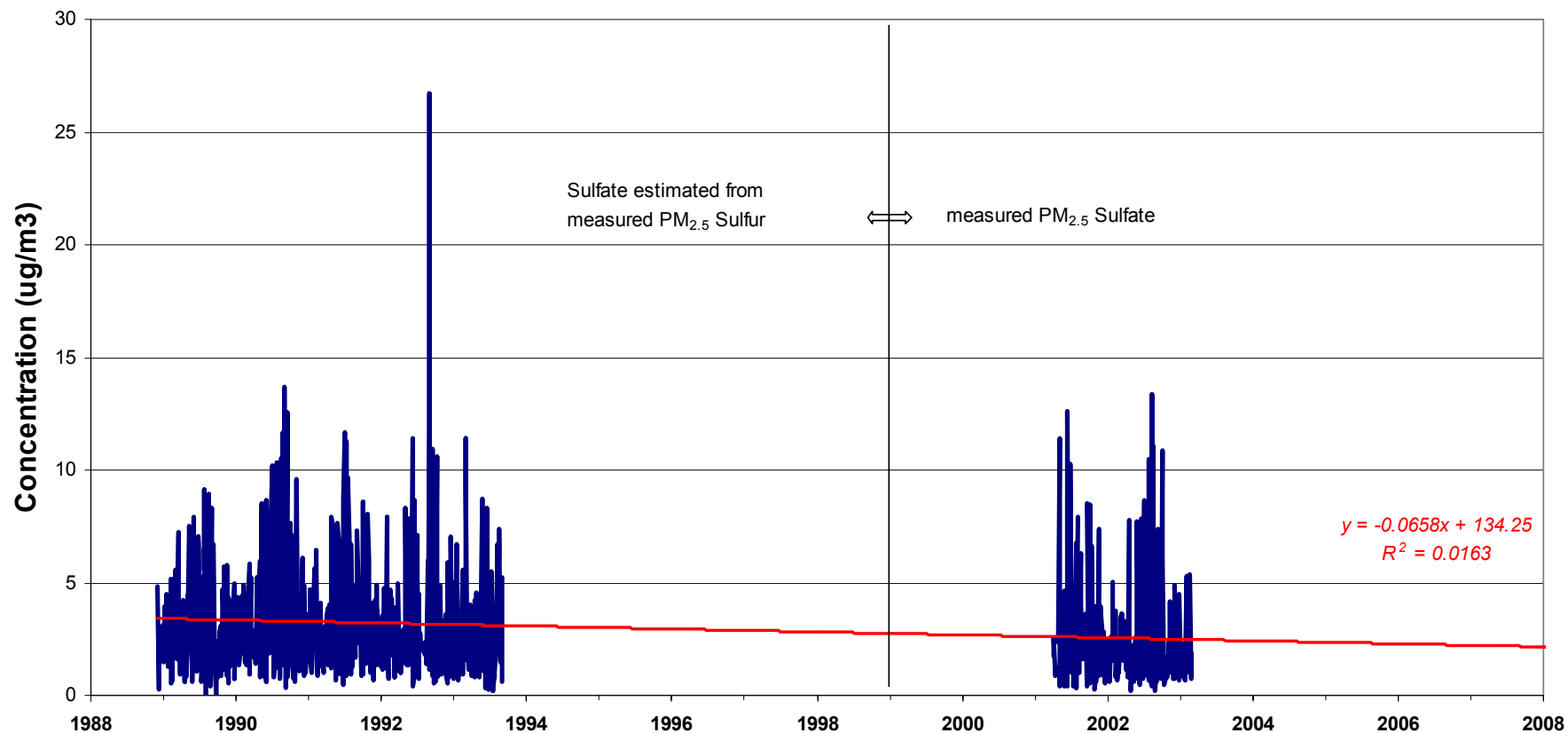


Figure 23. Fine Particulate Sulfate Concentrations at Quabbin Summit, Ware, MA

PM10 Sulfate - Stiles Street, New Haven

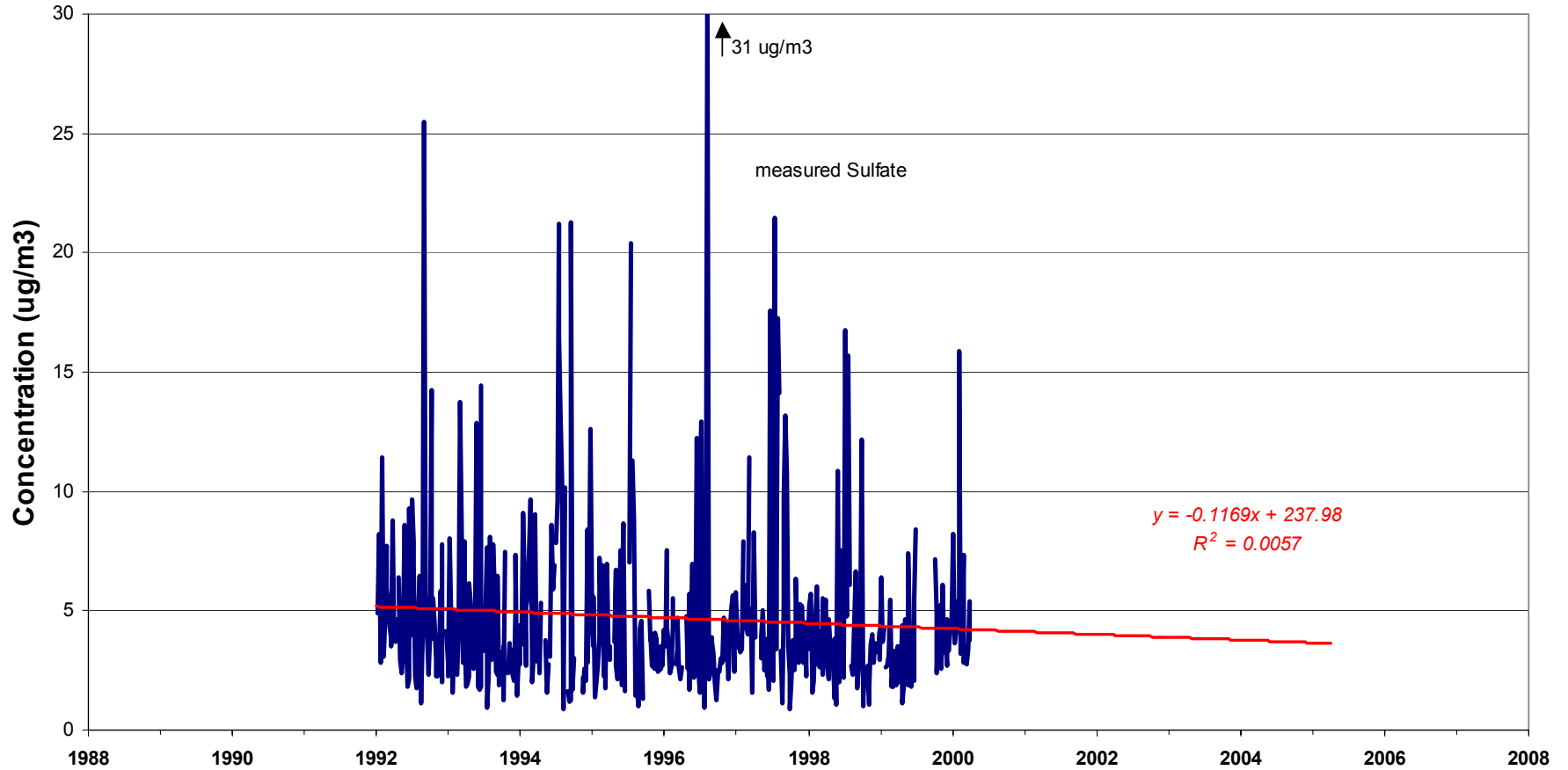


Figure 24. PM10 Sulfate Concentrations at Stiles Street, New Haven

PM10 Sulfate - State Street, New Haven

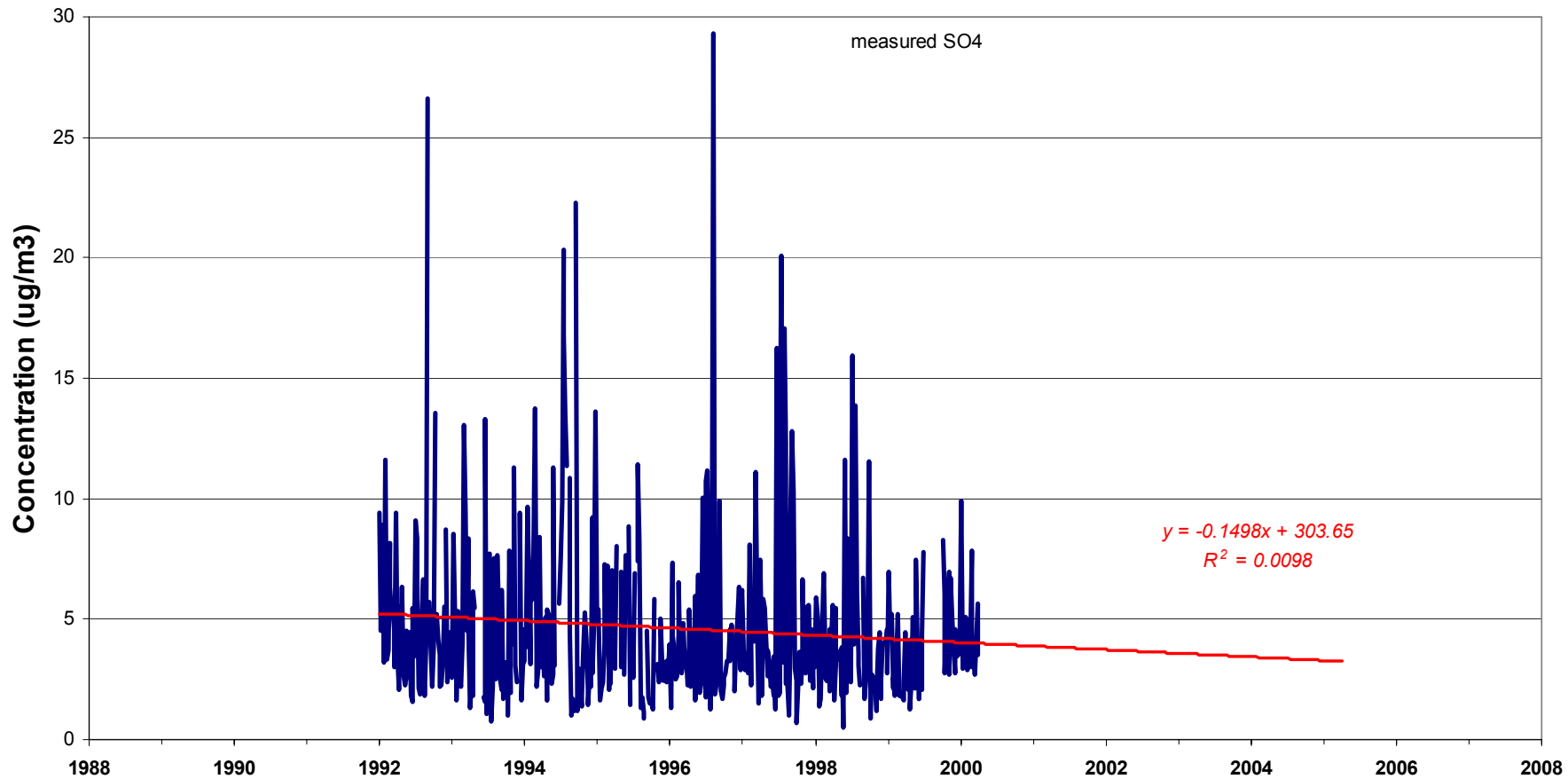


Figure 25. PM10 Sulfate Concentrations at State Street, New Haven

IMPROVE Fine Particulate Total Elemental Carbon, Mohawk Mtn., Cornwall, CT

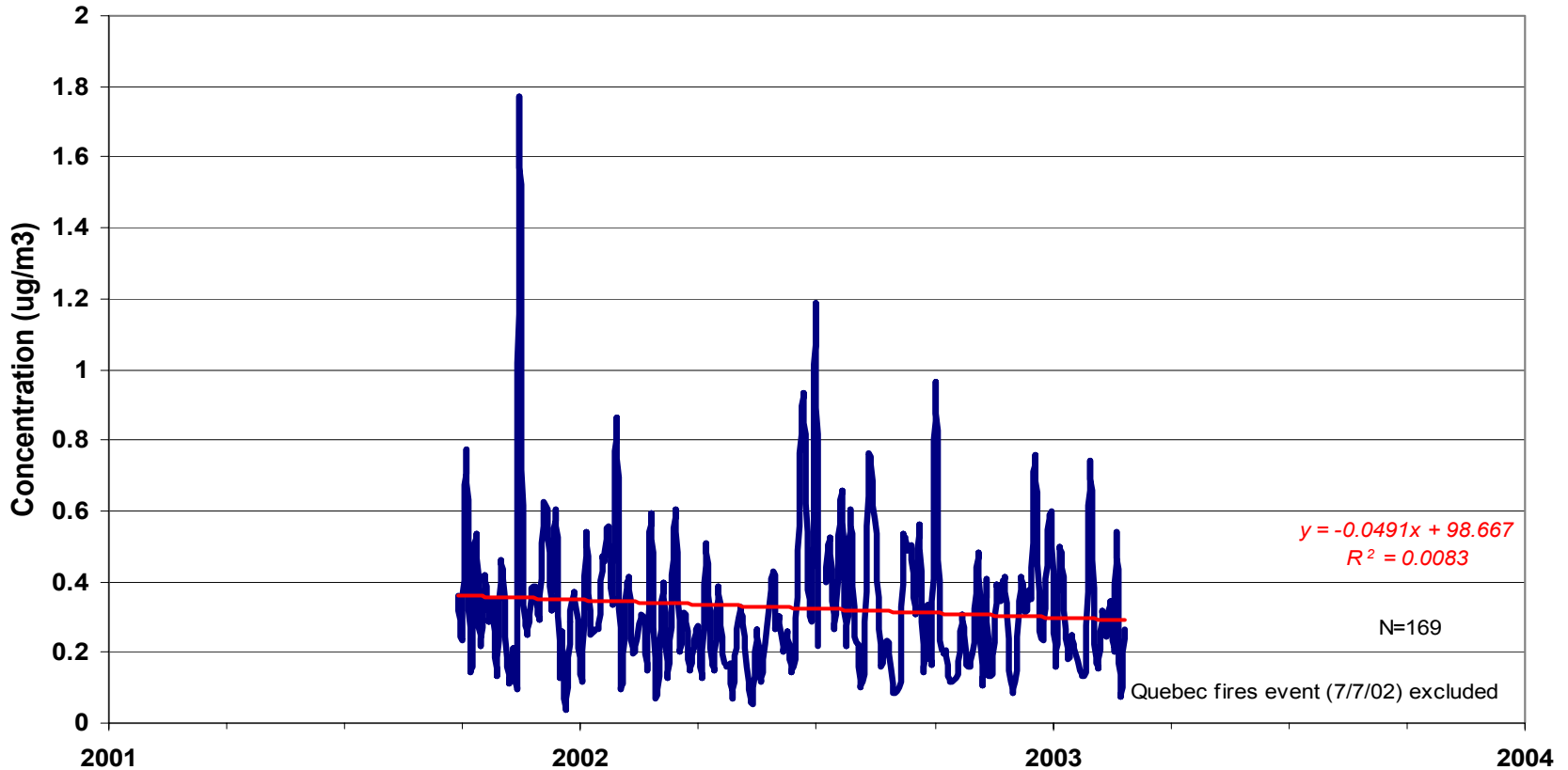


Figure 26. Fine Particulate Total Elemental Carbon, Mohawk Mountain, Cornwall, CT

IMPROVE Fine Particulate Elemental Carbon Quabbin Summit, Ware, MA

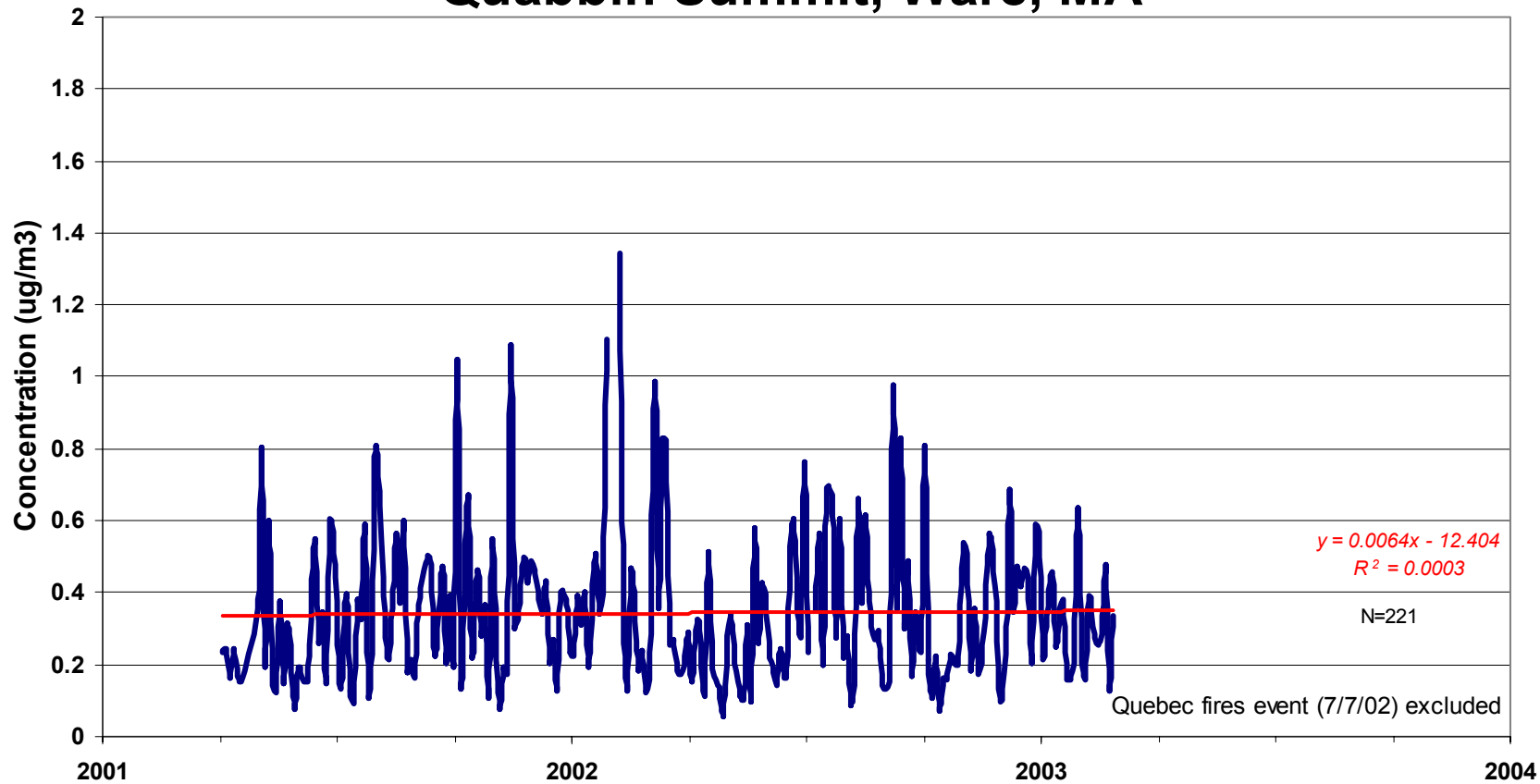


Figure 27. Fine Particulate Elemental Carbon, Quabbin Summit, Ware, MA

Day and Night Black Carbon vs. Wind Direction Octant Stiles Street, New Haven

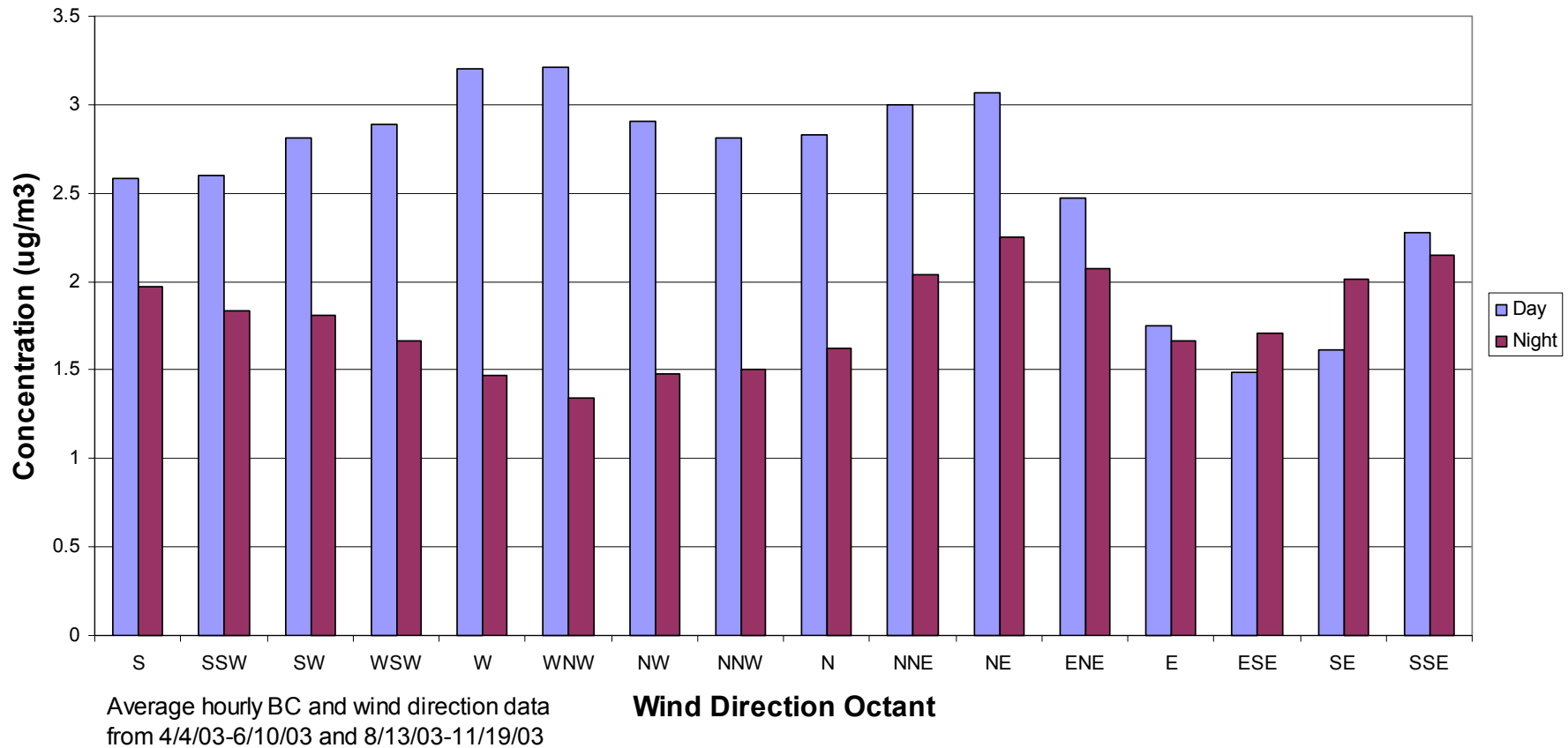


Figure 28. Day and Night Black Carbon vs. Wind Octant at Stiles Street, New Haven

Day and Night Black Carbon vs. Wind Direction Octant State Street, New Haven

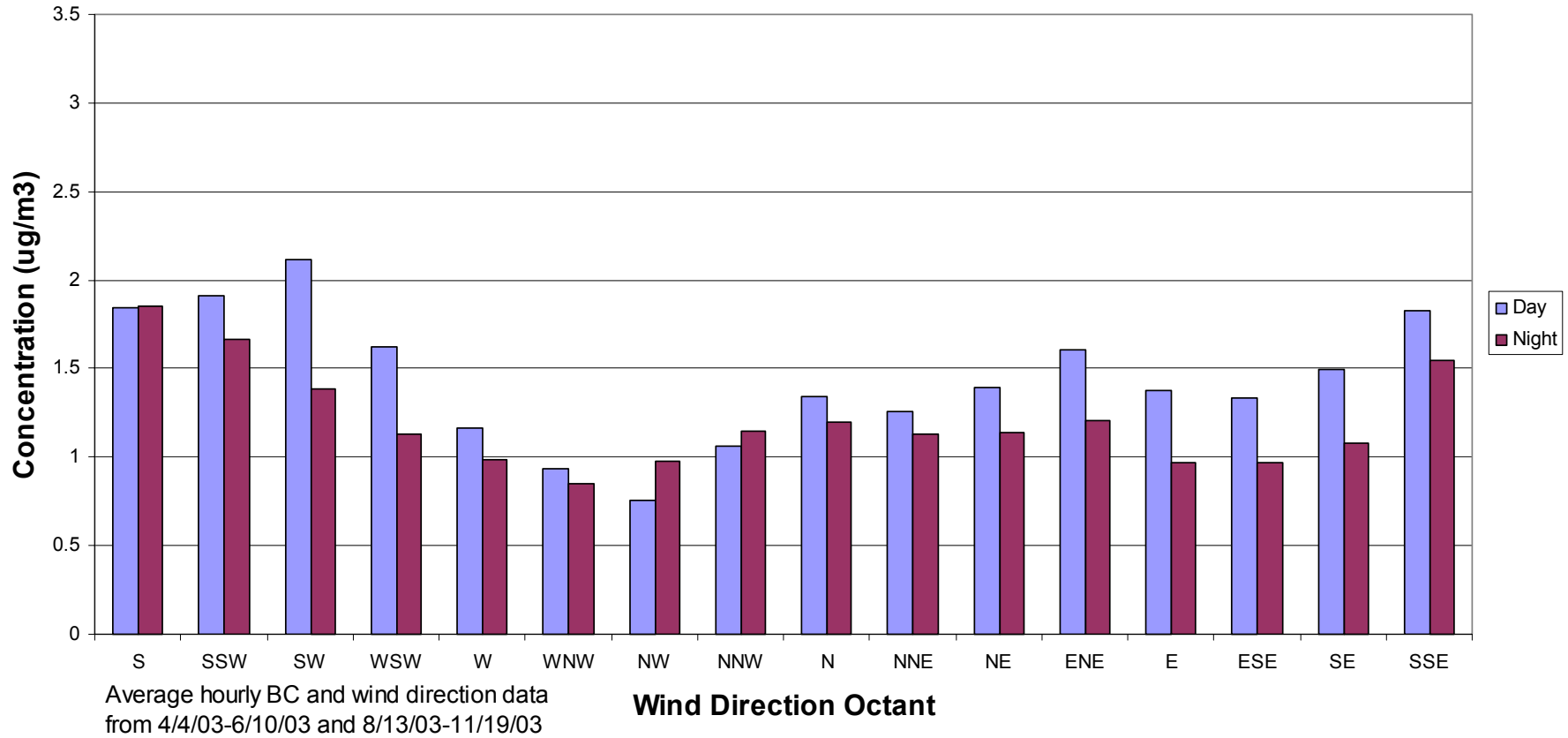
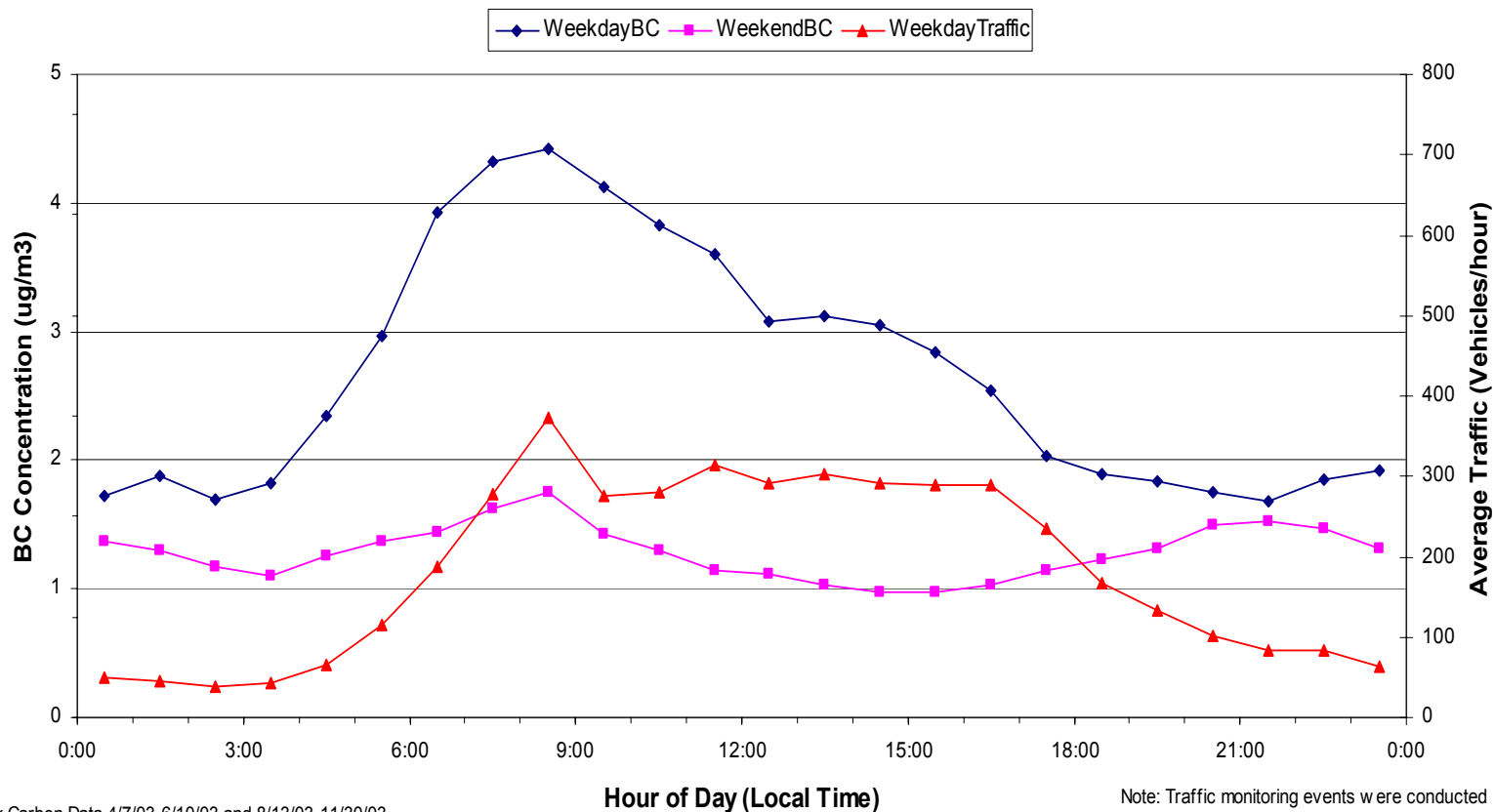


Figure 29. Day and Night Black Carbon vs. Wind Octant at State Street, New Haven

Average Diurnal Black Carbon Concentrations and Average Hourly Traffic, Stiles Street, New Haven



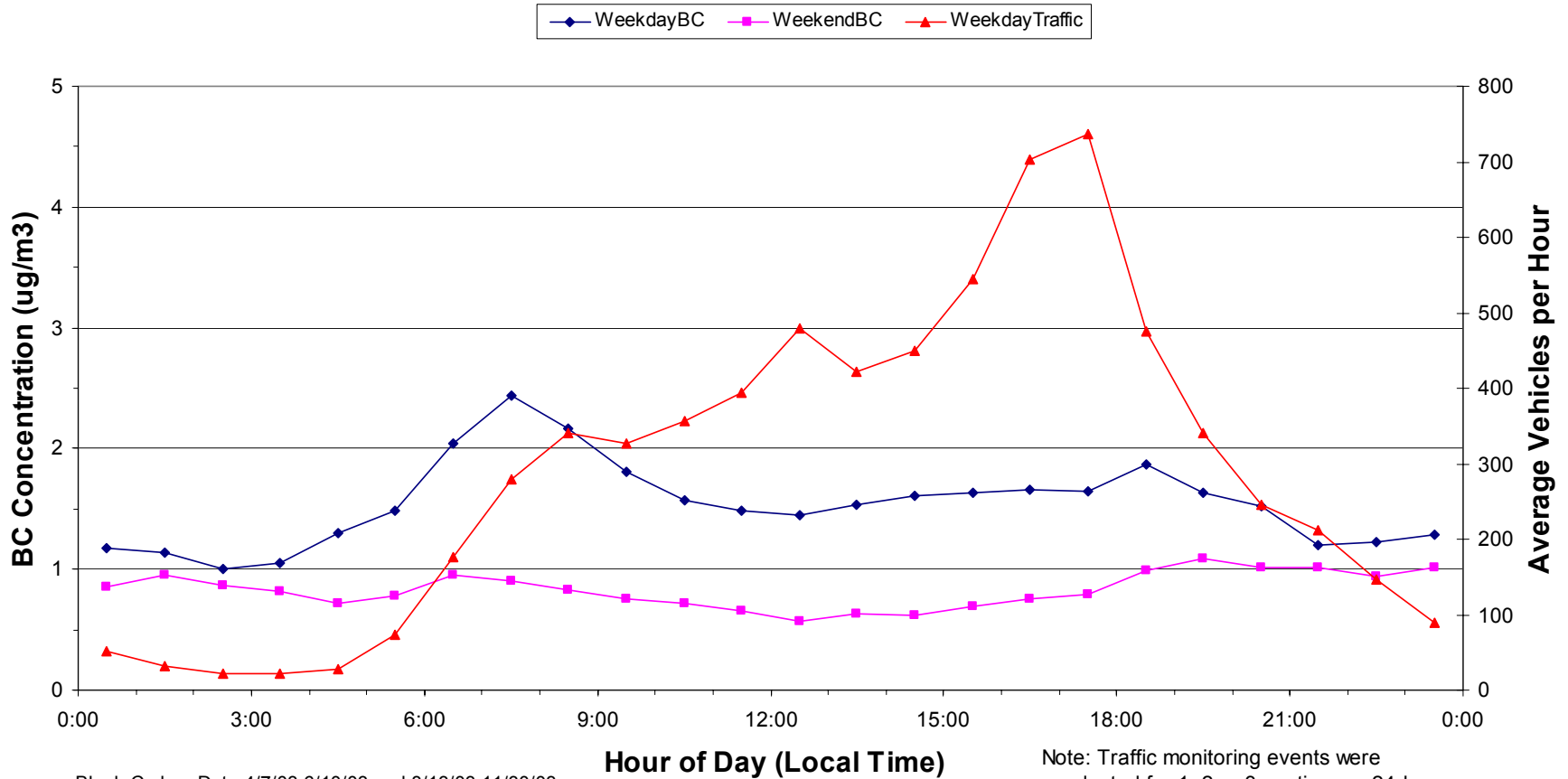
Black Carbon Data 4/7/03-6/10/03 and 8/13/03-11/30/03

Vehicle Counts: 5/14/90-5/18/90, 7/6/93-7/7/93, 10/31/94/11/2/94, 8/8/96-8/9/96, 6/2/99-6/3/99, 6/3/03-6/4/03 (Station #7199)

Note: Traffic monitoring events were conducted for 1, 2 or 3 continuous 24-hour periods, beginning between 4 AM and 10 AM.

Figure 30. Average Diurnal BC Concentrations and Average Hourly Traffic, Stiles Street, New Haven

Average Diurnal Black Carbon and I-91 On-Ramp Traffic State Street, New Haven

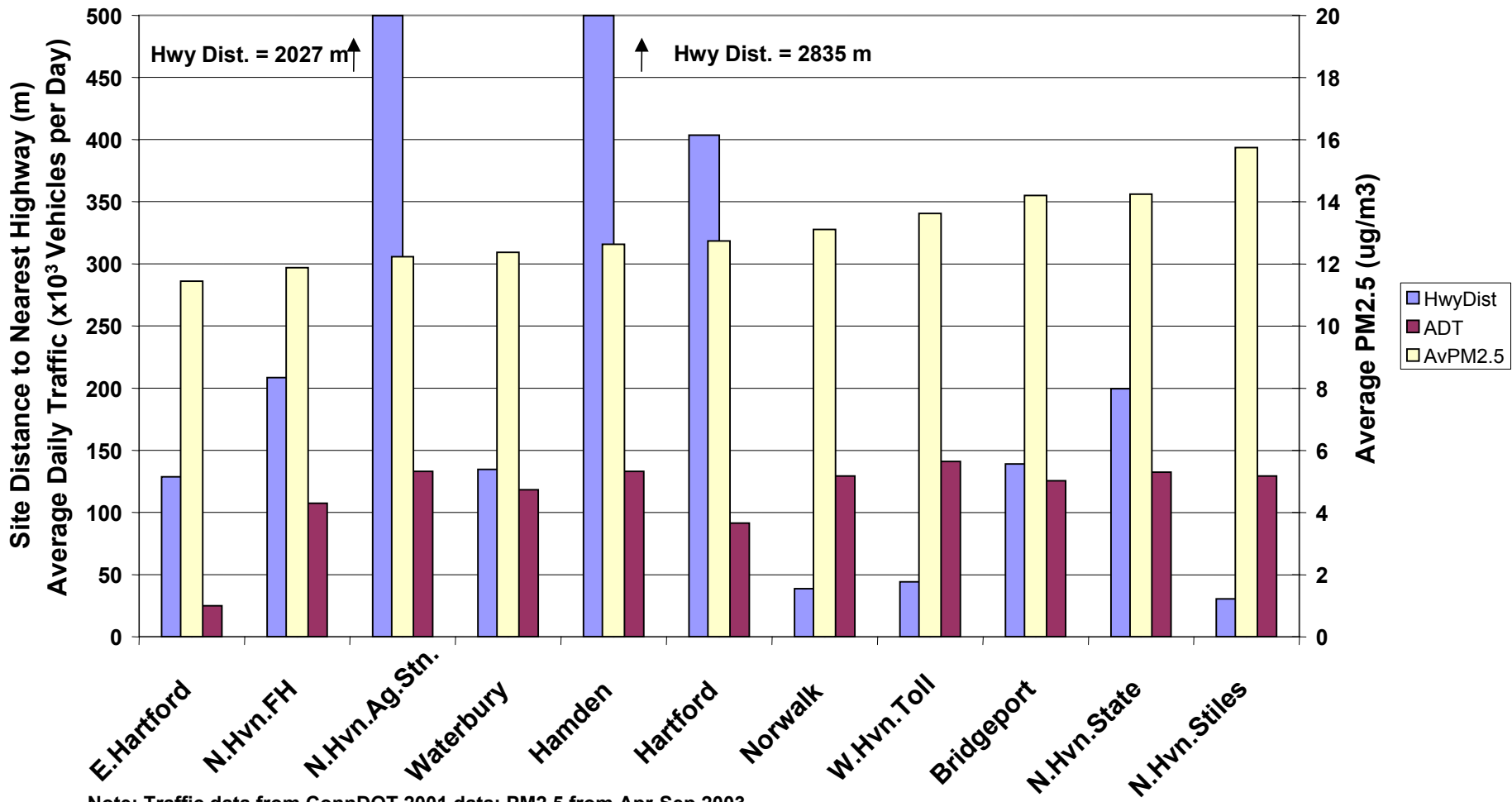


Black Carbon Data 4/7/03-6/10/03 and 8/13/03-11/30/03

Vehicle Counts: 10/1/91-10/2/91, 6/27/94-6/28/94, 6/16/97-7/17/97, 6/6/00-6/7/00 (Station #7009)

Note: Traffic monitoring events were conducted for 1, 2 or 3 continuous 24-hour periods, beginning between 4 AM and 10AM.

Figure 31. Average Diurnal BC Concentrations and I-91 on-Ramp Traffic, State Street, New Haven



Note: Traffic data from ConnDOT 2001 data; PM_{2.5} from Apr-Sep 2003.

Figure 32. Comparison of Site Traffic, Distance to Highway, and PM_{2.5} Concentrations

ISC Modeling of Primary PM2.5 Emissions from CT, NY and NJ Sources

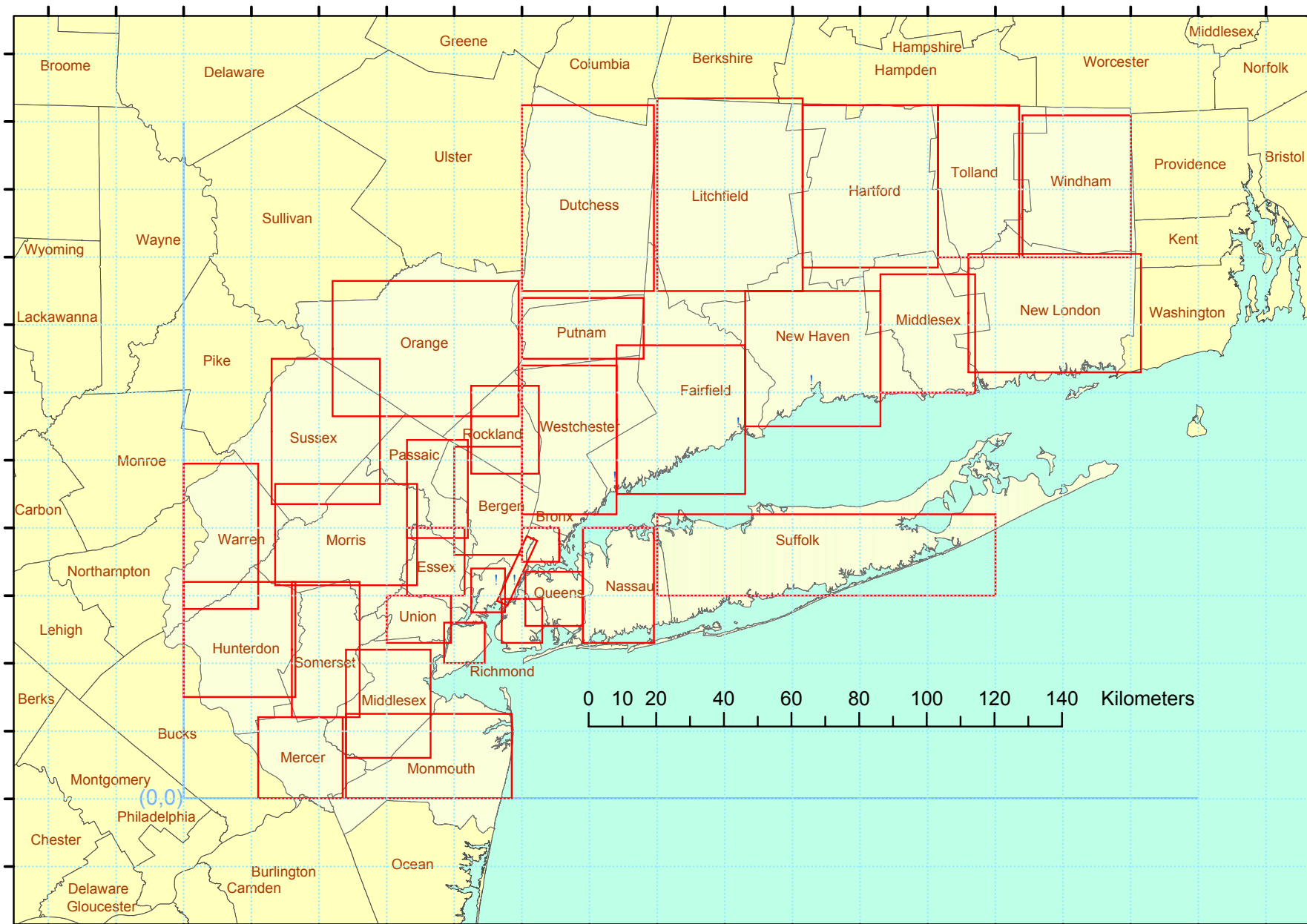


Figure 33: Area Source Counties.

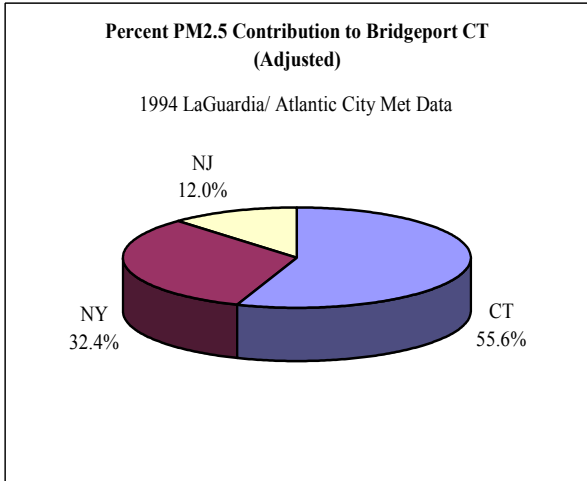
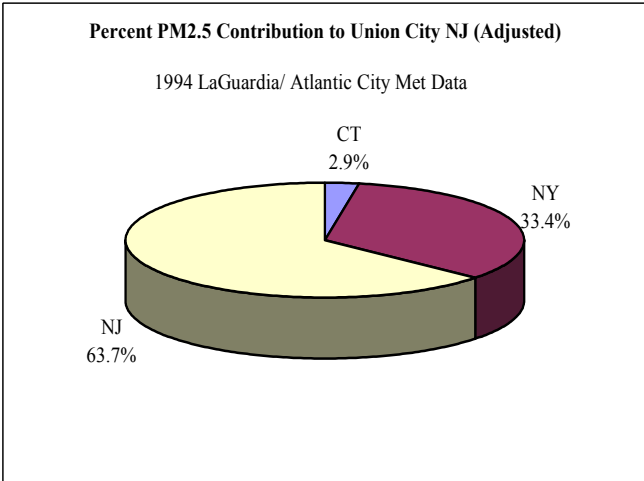
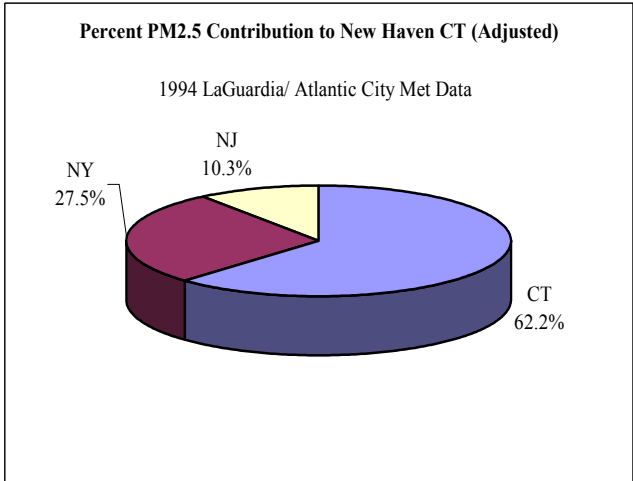
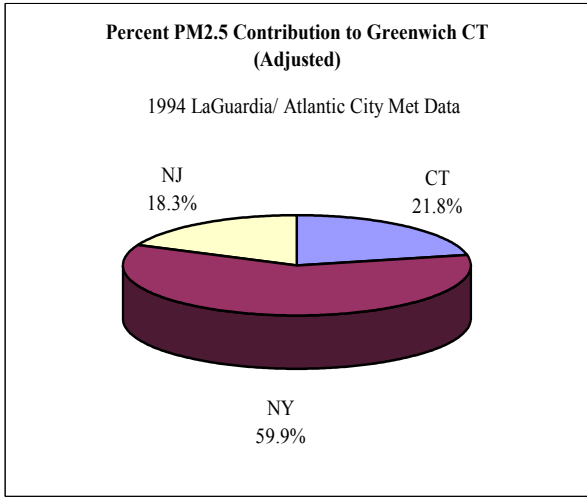
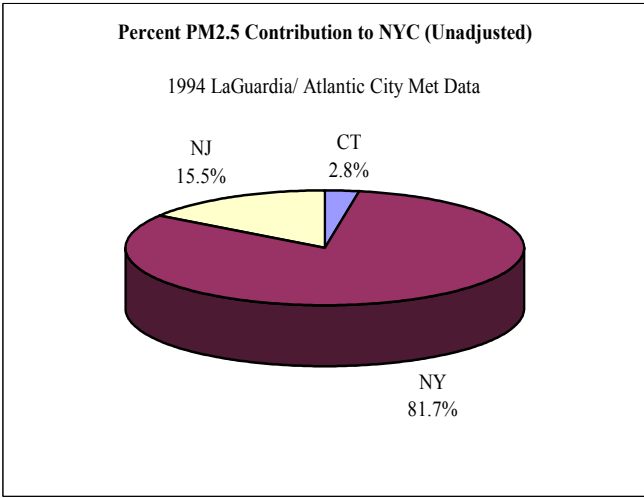
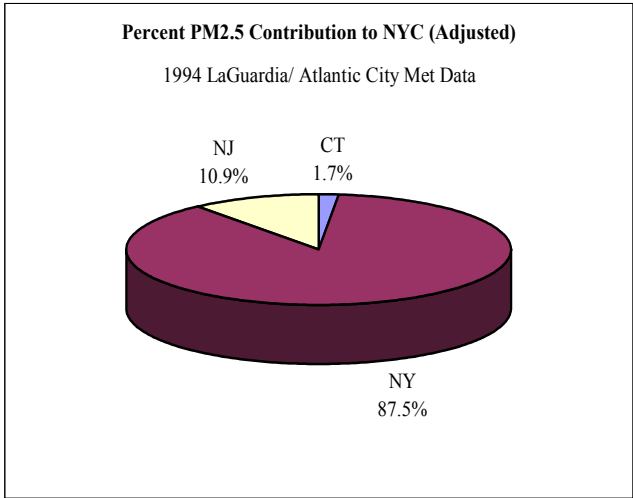


Figure 34: State Primary PM_{2.5} Emissions Contributions to Total PM_{2.5} Modeled at Selected Receptors

ISC Modeling Plot of Concentration Circles at 20 Km Gridpoints

Primary PM_{2.5} emissions in 1999 from selected CT, NY and NJ counties

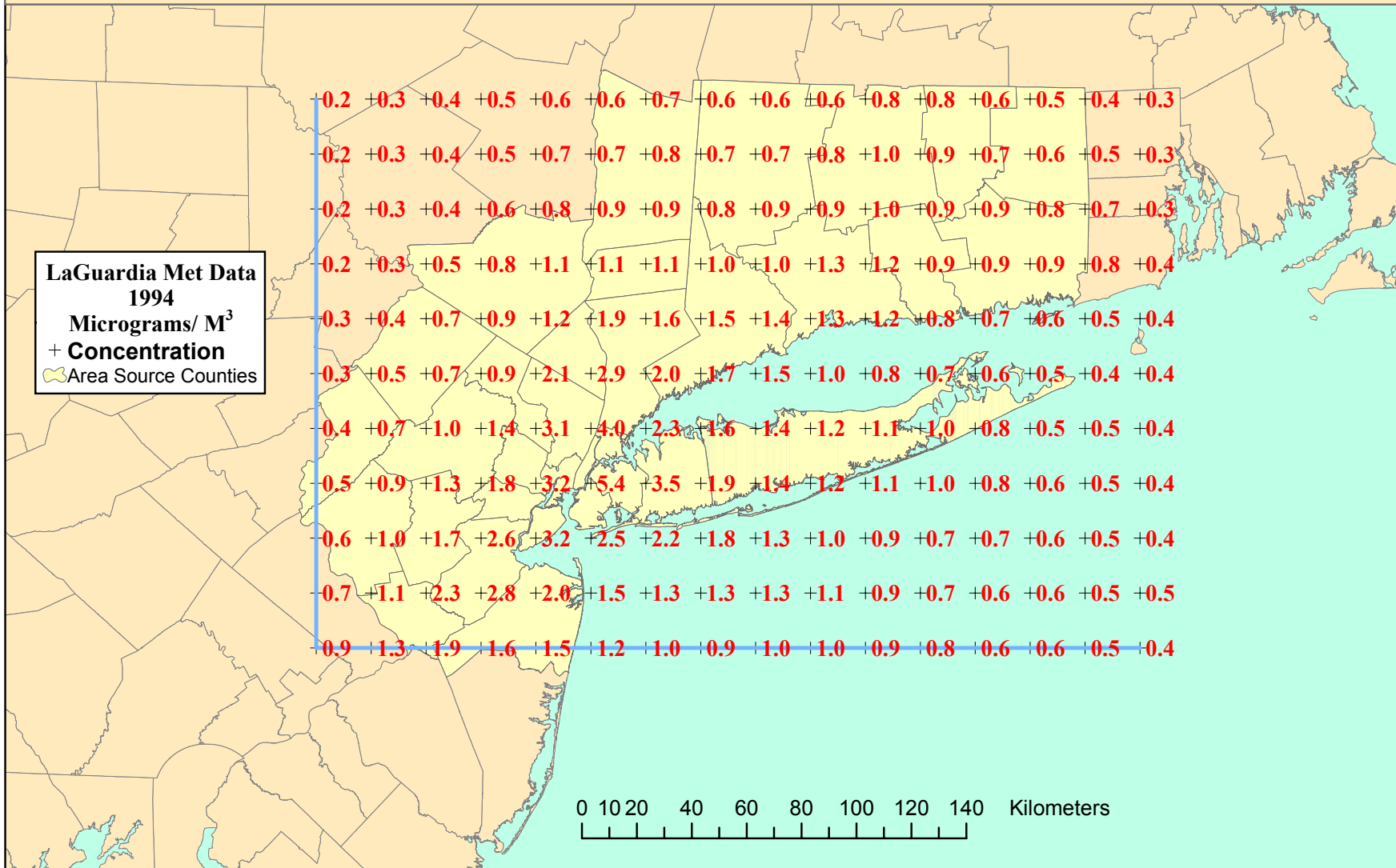


Figure 35: Modeling Results at 20 km Grid Points using LaGuardia Surface Meteorology Data

ISC Modeling Plot of Concentration Circles at 20 Km Gridpoints

Primary PM2.5 emissions in 1999 from selected CT, NY and NJ counties

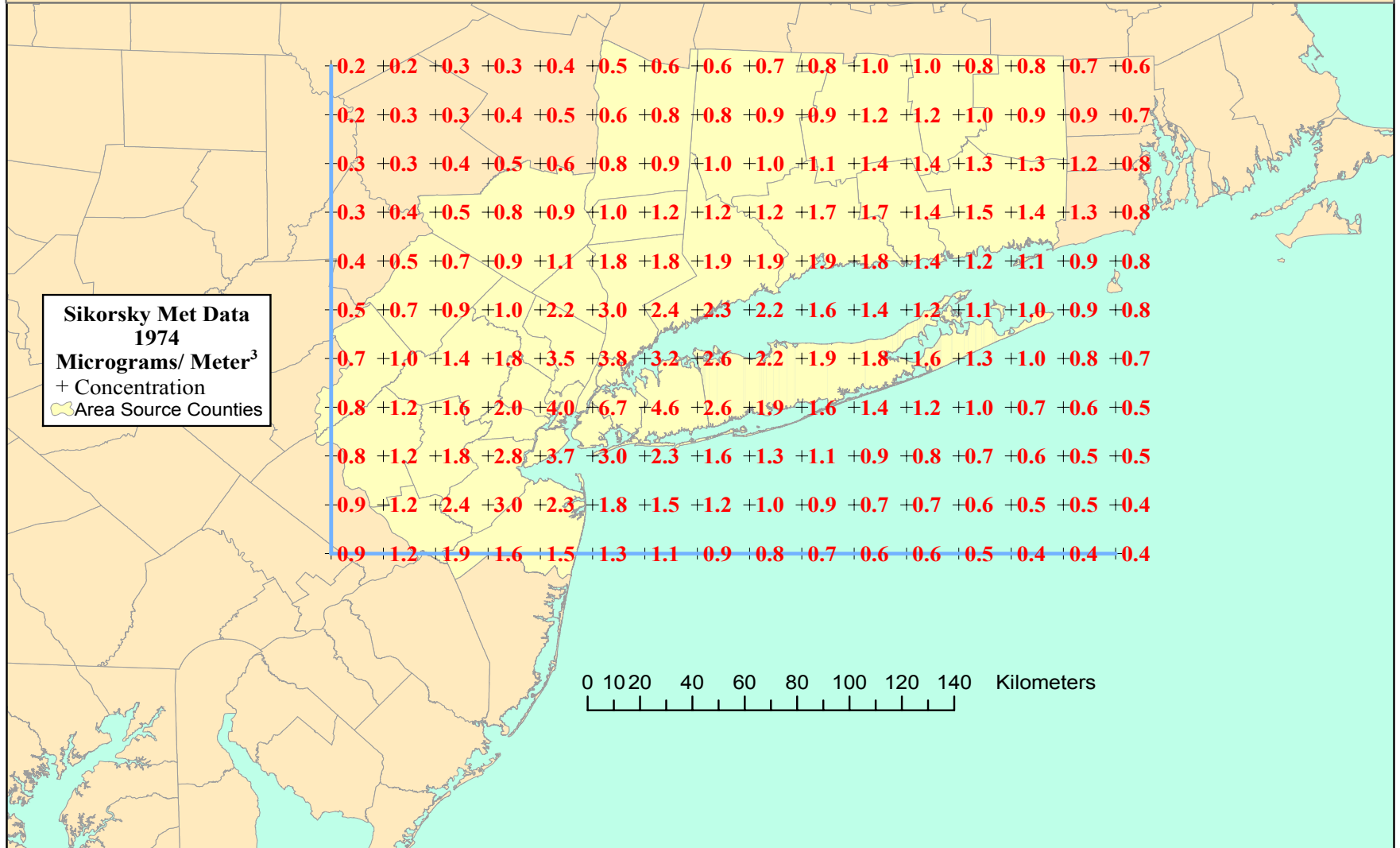


Figure 36: Modeling Results at 20 km Grid Points using Bridgeport Surface Meteorology Data

ISC Modeling Plot of Concentration Circles at 20 Km Gridpoints

Primary PM_{2.5} emissions in 1999 from selected CT, NY and NJ counties

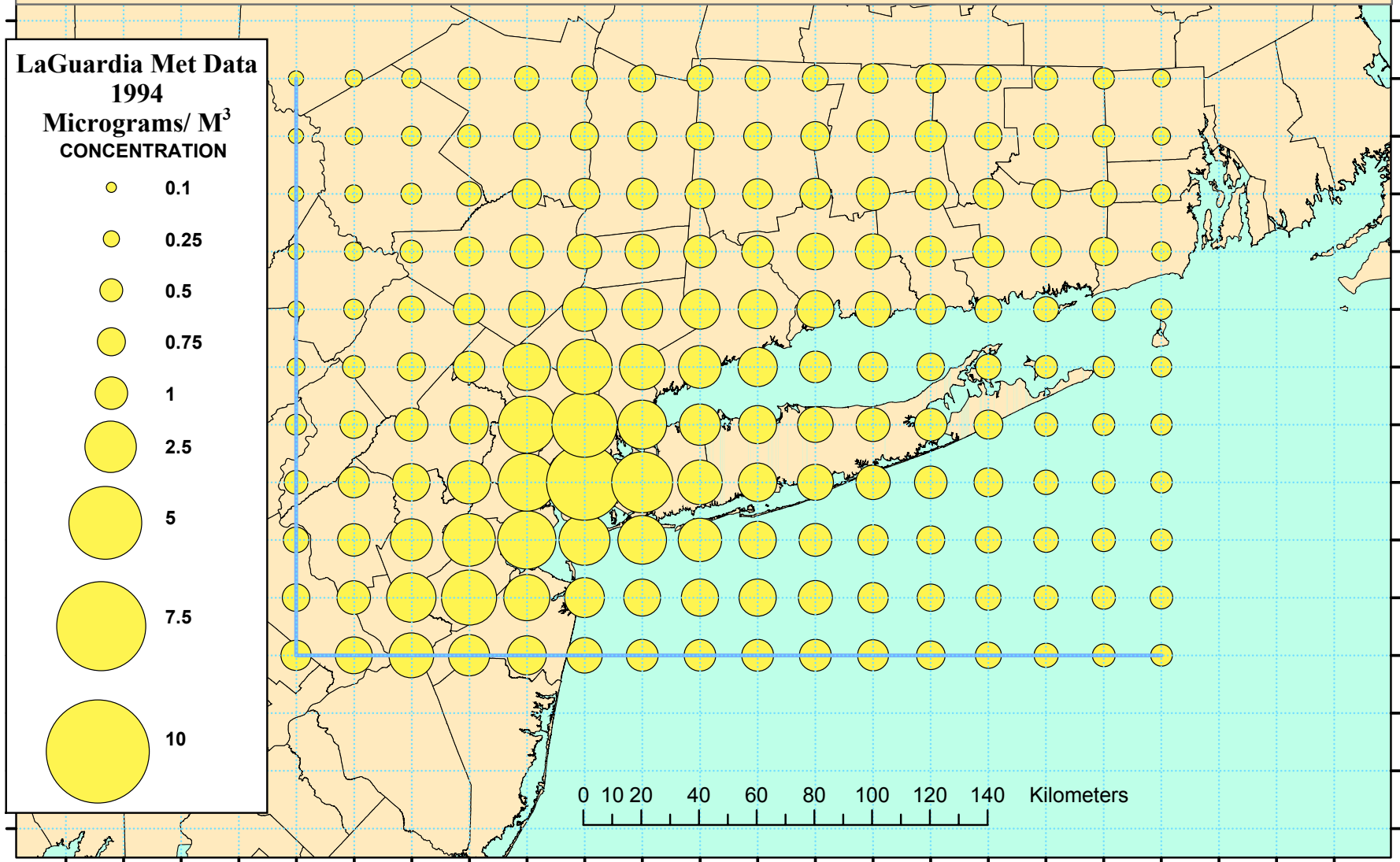


Figure 37: Grid Point Data Represented as Concentration Circles (LaGuardia Meteorology).

ISC Modeling Plot of Concentration Circles at 20 Km Gridpoints

Primary PM_{2.5} emissions in 1999 from selected CT, NY and NJ counties

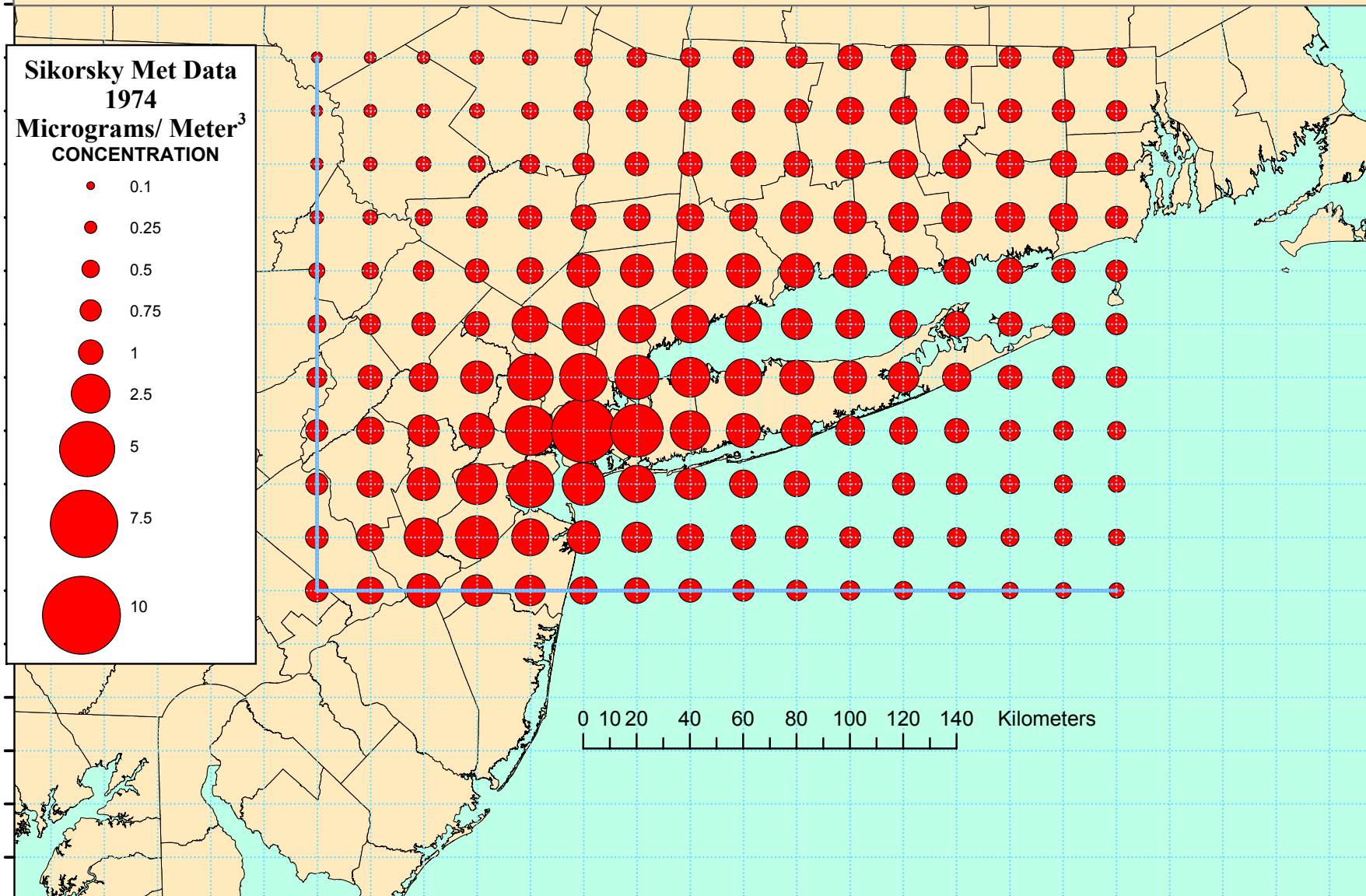


Figure 38: Grid Point Data Represented as Concentration Circles (Bridgeport Meteorology).

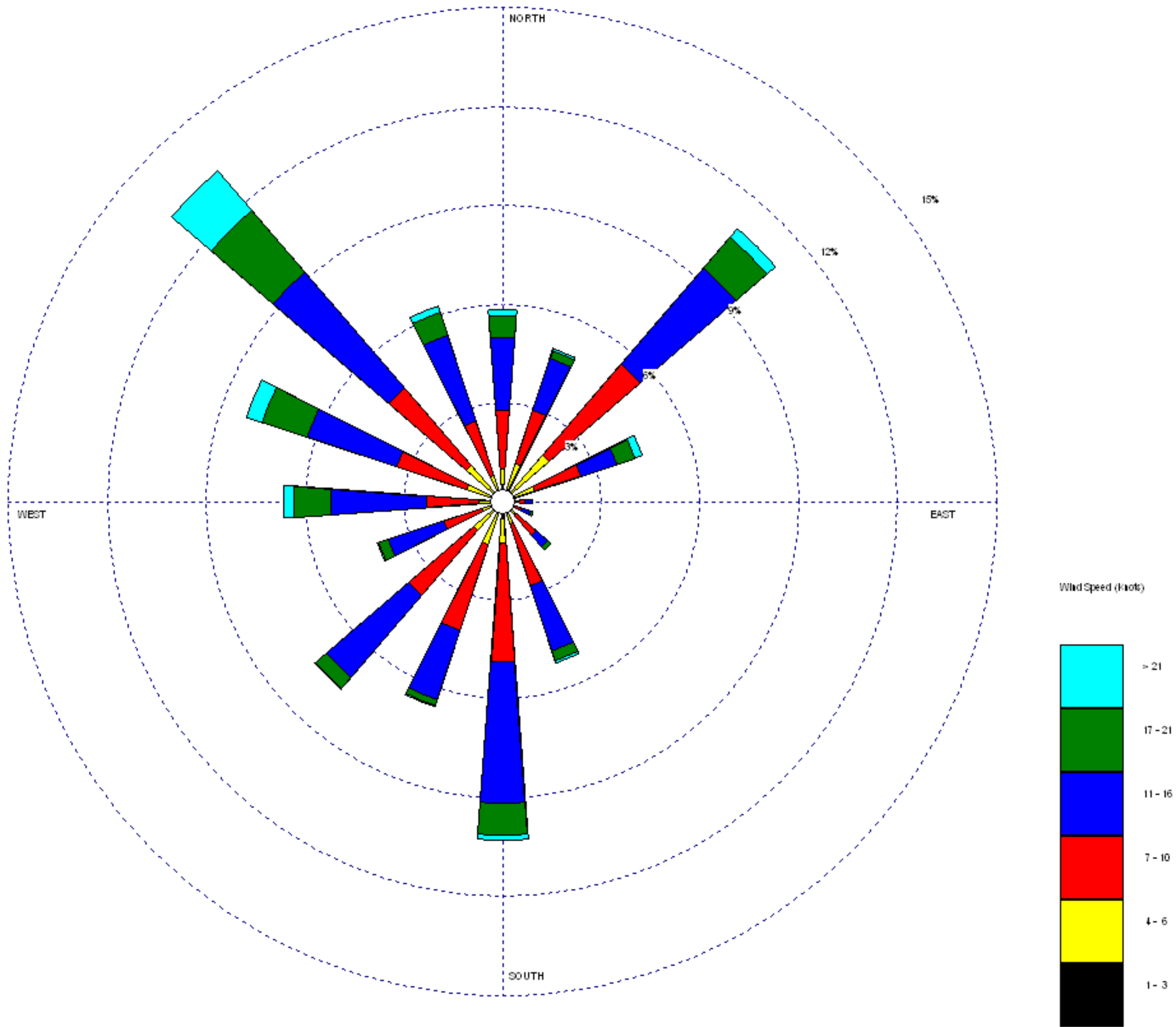


Figure 39: 1994 LaGuardia Airport Surface Met Data Wind Rose Diagram

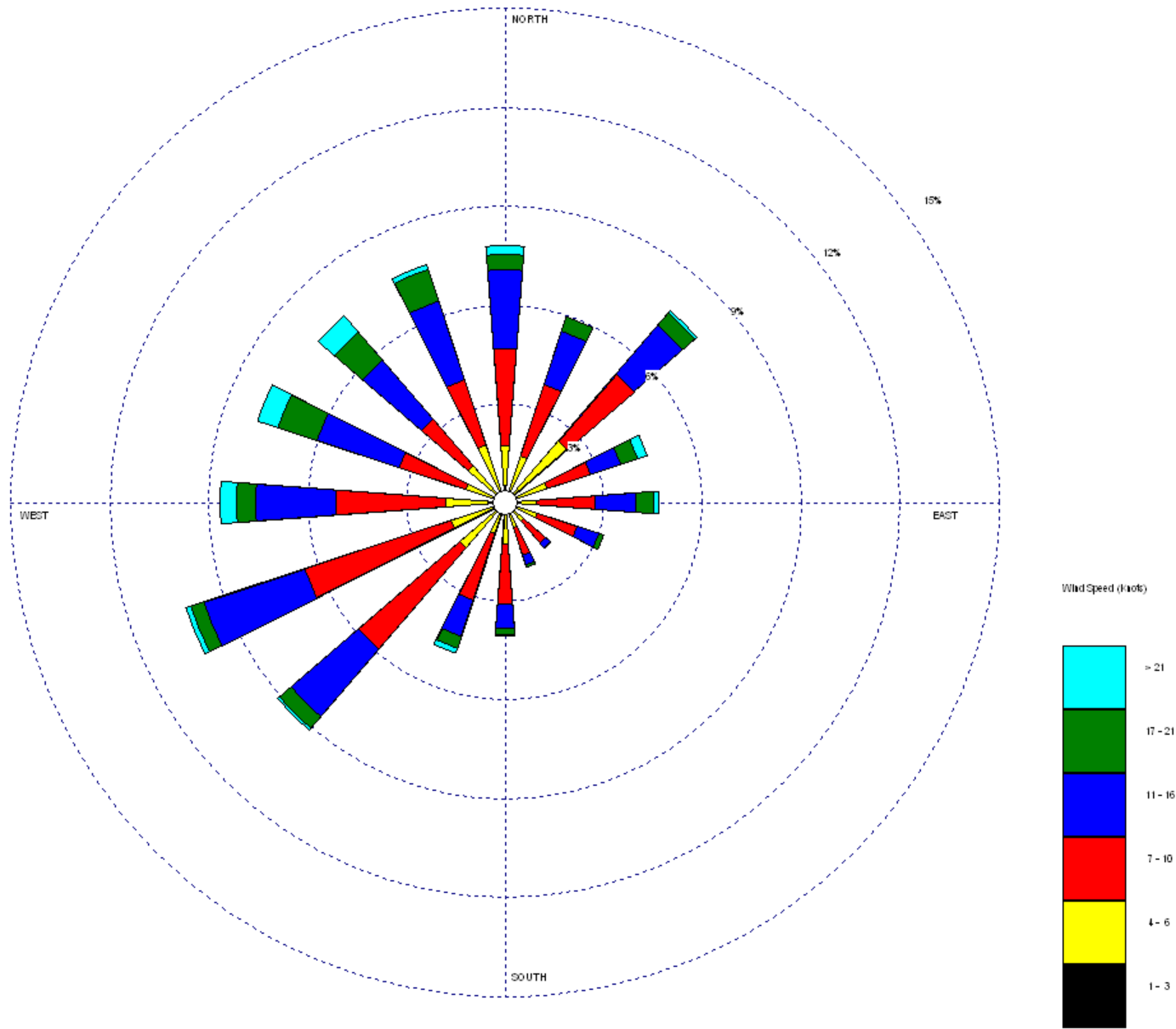


Figure 40: 1974 Bridgeport Surface Met Data Wind Rose Diagram.

Back Trajectories for PS59, New York, NY on Top 10 Percentile PM2.5 Concentration Days

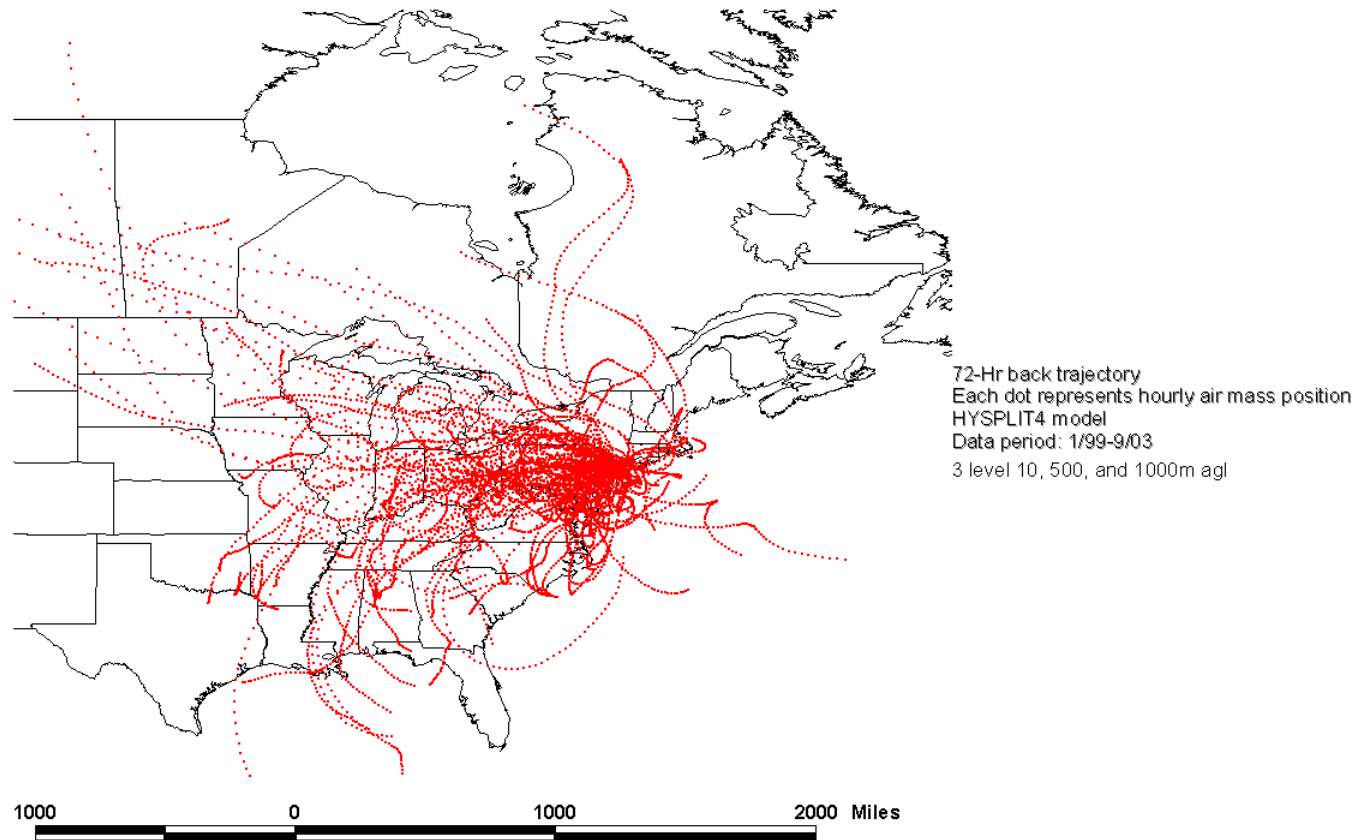


Figure 41. Back Trajectories on Highest 10th Percentile Days

Back Trajectories for PS59, New York, NY on Lowest 10 Percentile PM2.5 Concentration Days

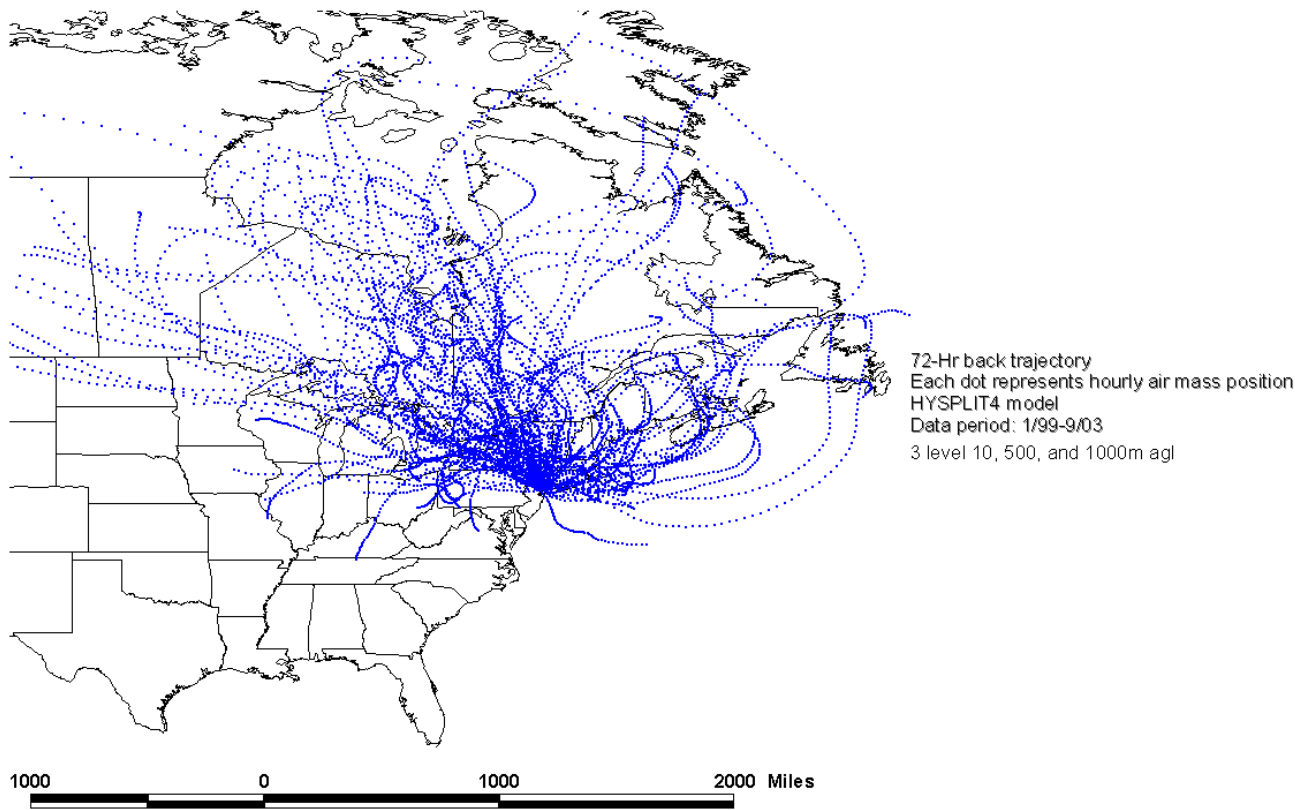


Figure 42. Back Trajectories on Lowest 10th Percentile Days