

Region III Air Toxic Monitoring

Air Toxic Summit
June 2004



Introduction

- There are 188 HAPs listed in Sect. 112 of CAA
 - Not practical to monitor all 188 so...
- 33 HAPs were listed in Integrated Urban Air Toxics Strategy
 - These are thought to have greatest impact on public and environment from the 188
 - These 33 can be grouped into general categories...VOC, SVOC, metals, and aldehydes
- Some variation of the 33 are being monitored in the National Air Toxic Monitoring Program



Introduction

- National Air Toxic monitoring program has been expanding since 2000
 - In FY2000, there was \$3 million nationally, and R3 rec'd \$143,000 from I03 money
 - Now in FY2004, there is \$16.5 million nationally, and R3 rec'd 100,000 from I03 money to cont. NATTS...but \$780,000 was awarded for Community Assessment studies
- National Air Toxic monitoring sites in R3 have grown from (1) site in 1999 to (20) sites in 2004 in R3

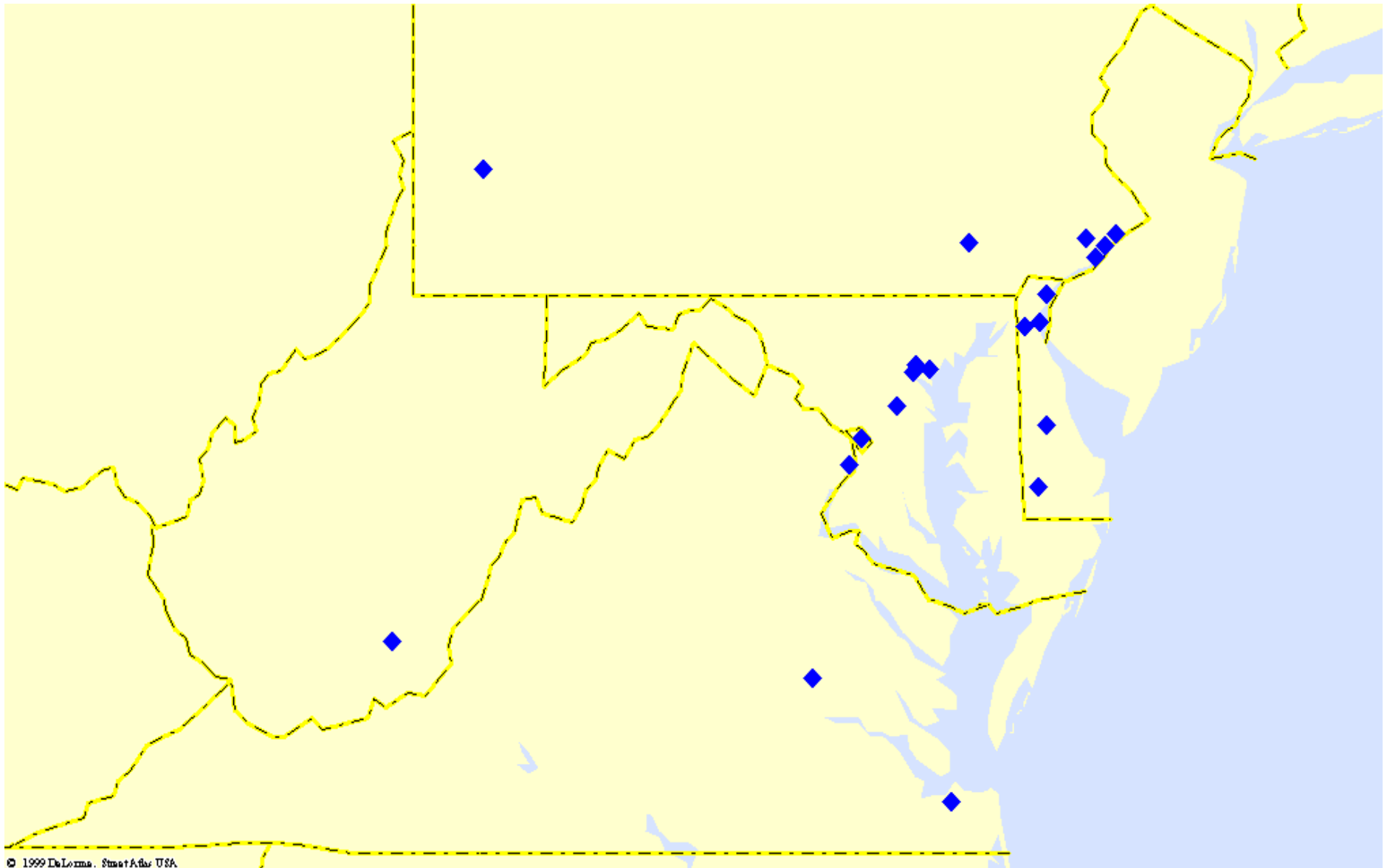


Introduction (cont.)

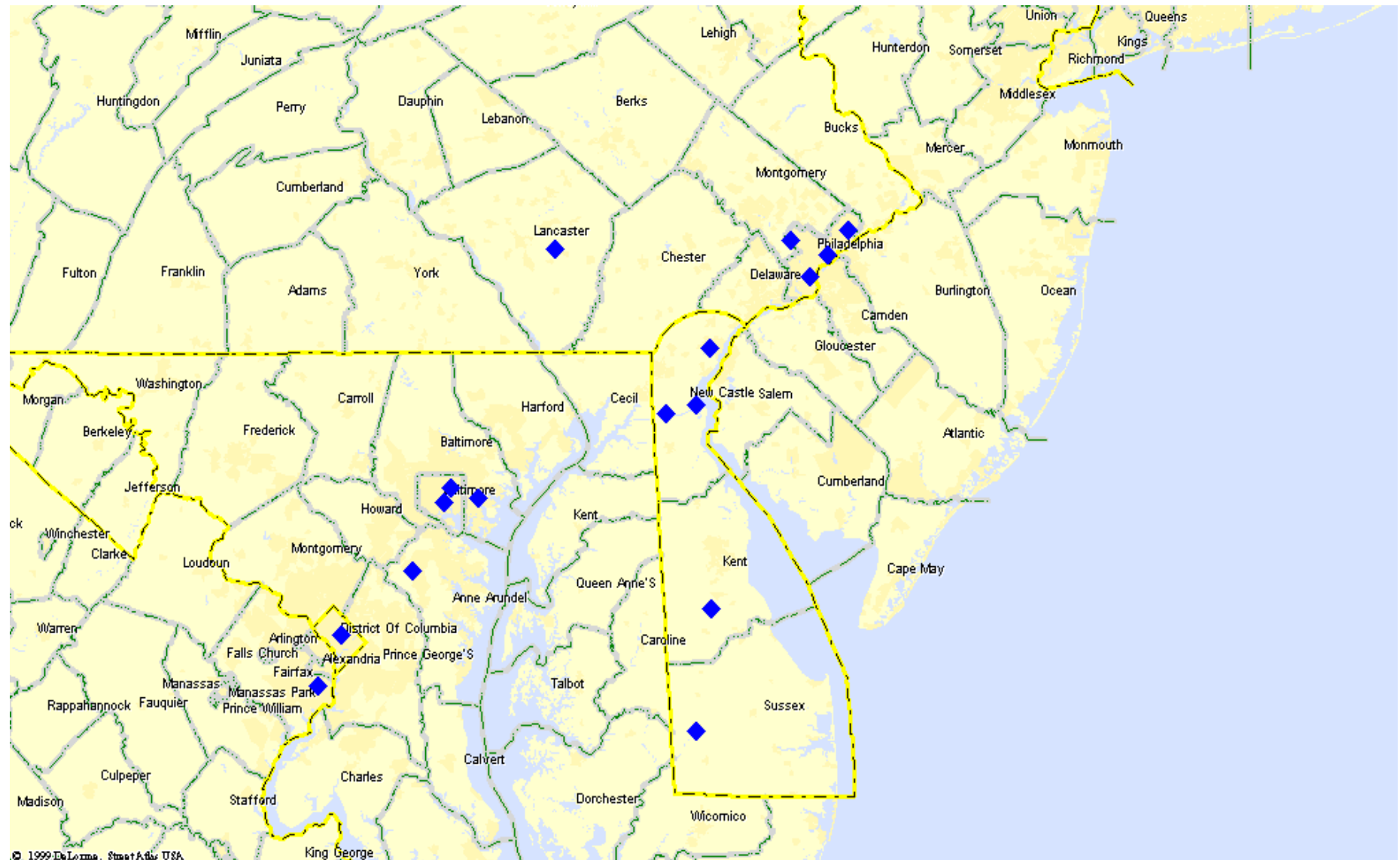
- National Air Toxic Monitoring goals
 - Trends
 - Key HAPs are measured at various locations to provide basic measure of air quality differences...***R3 NATTS is DC***
 - Exposure Assessment
 - Ambient measurements support exposure assessment and studies
 - Air Quality Model evaluation
 - Ambient measurements provide basic ground-truthing



R3 Air Toxic Monitoring Network



R3 Air Toxic Monitoring Network



Regional Network of Monitors

- Philadelphia
 - Planned for 5 sites throughout city
 - AMS Lab, S. Broad St., Roxboro, Elmwood, 24th & Ritner
 - However, due to logistic problems obtaining a site, only 4 currently collect Toxic data...5th site (24th & Ritner) still in the works
 - All sites in Phila network collect VOC, Metals, and Carbonyl samples



Philadelphia Air Toxic Monitoring site

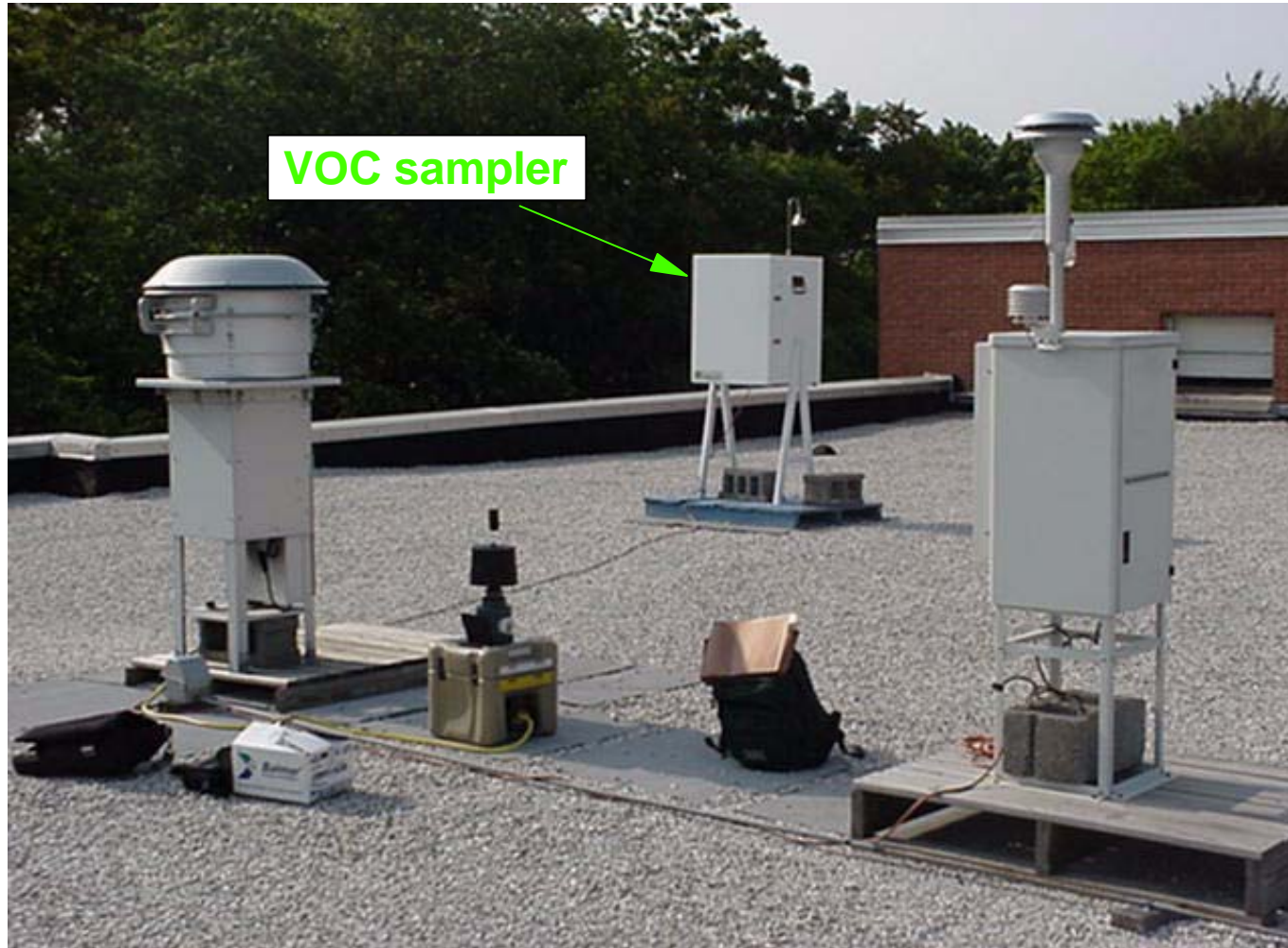


Regional Network of Monitors

- Maryland
 - 4 sites in and around Baltimore
 - NE Police Station
 - Essex
 - Ft. Meade...will be moving
 - Old Town
 - All sites collect VOC samples, but only the site in Essex collects Carbonyl



Maryland Air Toxic Monitoring site



Regional Network of Monitors

- Pennsylvania
 - One AT site is located in Lancaster City
 - Site collects VOC, Metals, Carbonyl, and continuous Mercury
 - PA also perform various Toxic monitoring at 8 additional locations throughout State
 - However, these sites are operated w/ PA \$\$\$
 - Data collected from sites are on PADEP web page...not AQS



Pennsylvania Air Toxic Monitoring site



Regional Network of Monitors

- Delaware
 - Network was designed to provide QA for air model results
 - Five sites are located throughout State
 - (3) in New Castle Co.
 - (1) in Kent Co.
 - (1) in Sussex Co.
 - DE monitors for PAH & Dioxin/Furans, in addition to VOC, Carbonyl, & Metals

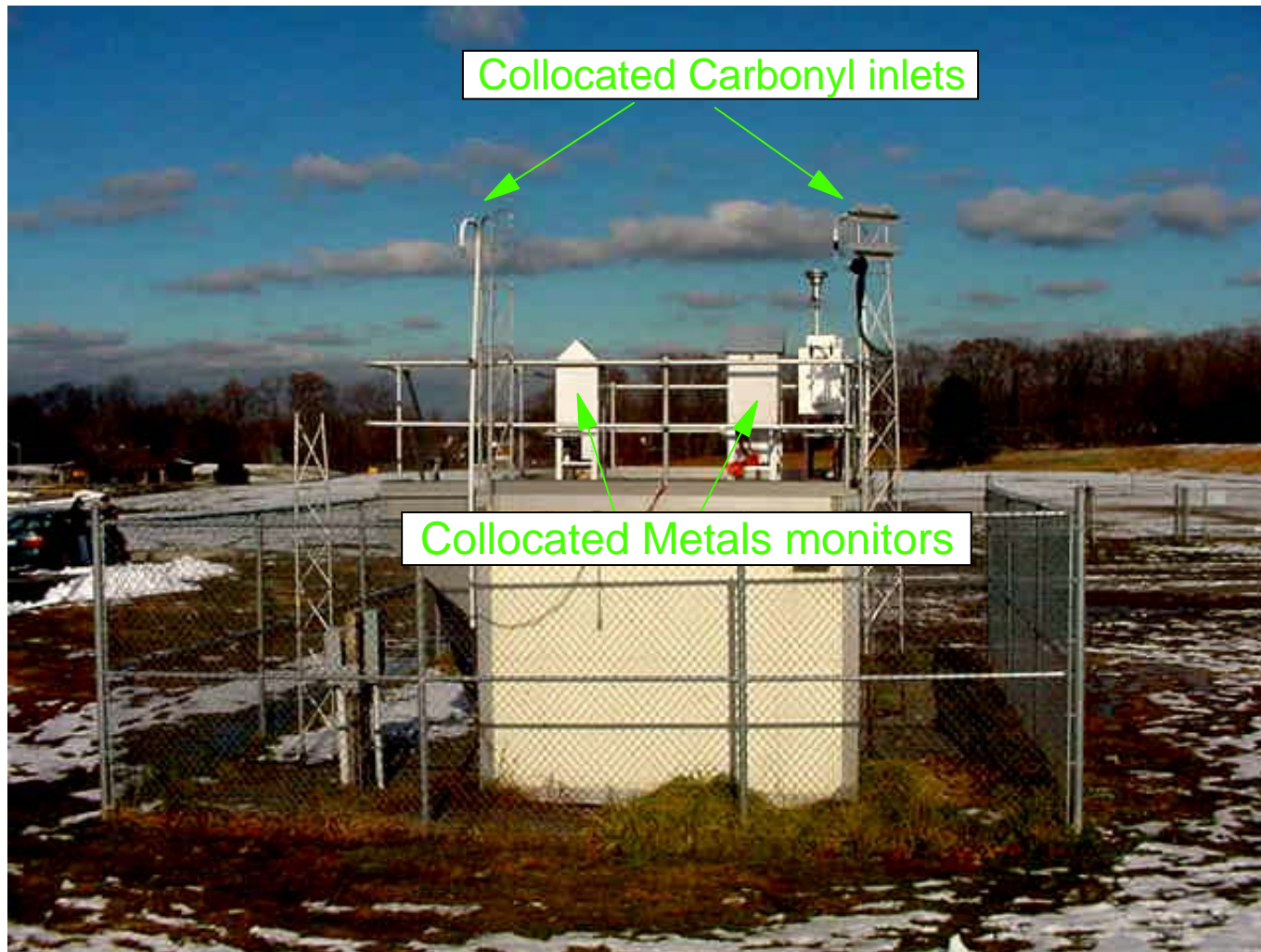


Regional Network of Monitors

- Virginia
 - Operate three sites in eastern part of State
 - Fairfax Co.
 - Richmond
 - Norfolk
 - All sites monitor for VOC, Carbonyl, and Metals
 - Possible Air Toxic site going up in Winchester



Virginia Toxic Monitoring site



National Air Toxic Programs

- National Air Toxic Pilot Program
 - In 2000, WV was selected to operate a remote/background air toxic station
 - Site located on top of Keeney Knob Mtn at elevation of 3800+ ft.
 - site may have been too remote
 - Difficulties were encountered fulfilling the grant commitment of collecting 1 year worth of air toxic data
 - site very difficult to access in winter
 - problems w/ shelter



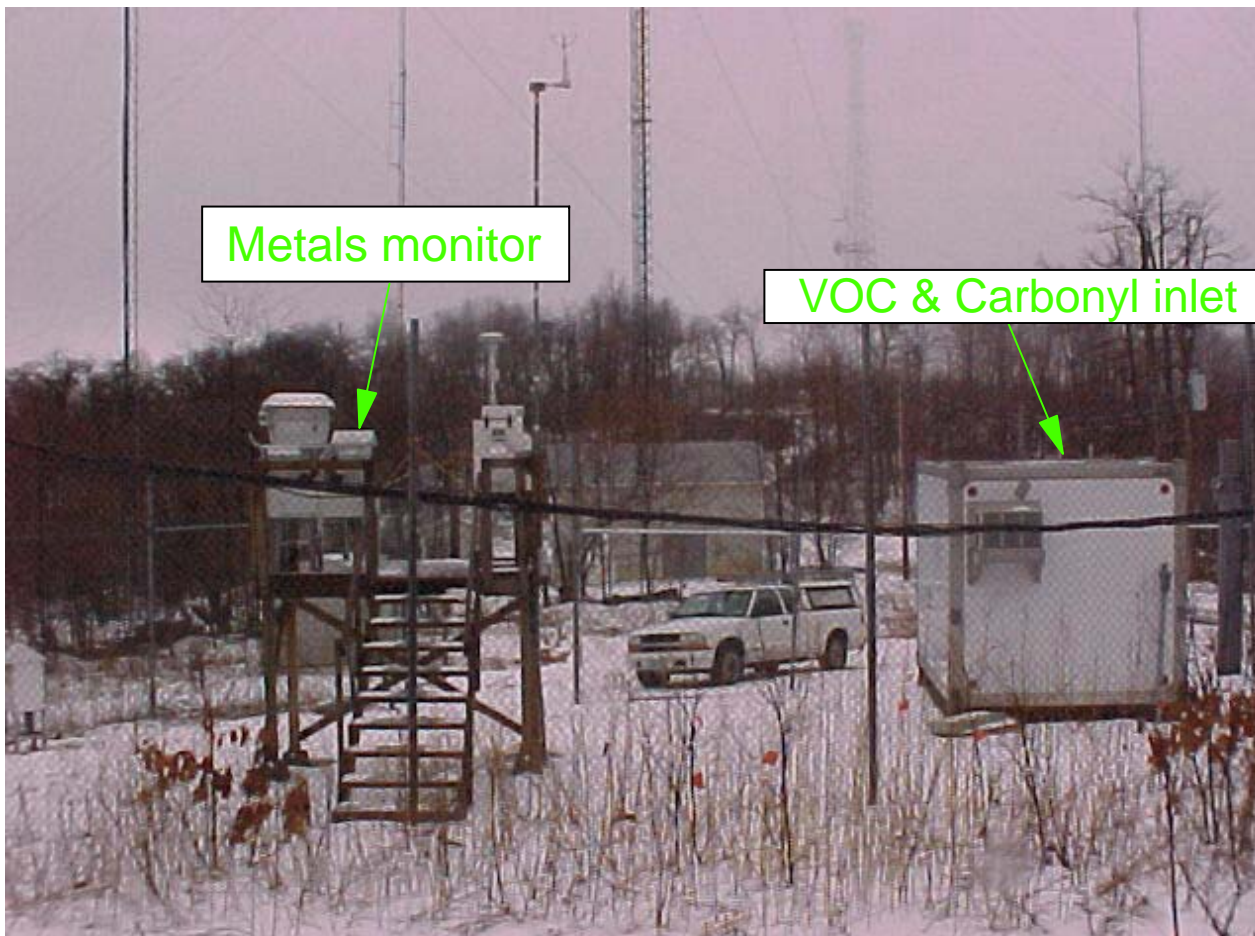
National Air Toxic Programs

- various problems encountered w/ obtaining and then operating ICP-MS
- WV is currently looking into placing a toxic station in Northern Panhandle...not sure if Keeney Knob will continue operating once committment is completed



National Air Toxic Programs

- WV Keeney Knob Air Toxic site



National Air Toxic Programs

- How remote is WV Keeney Knob Mtn...



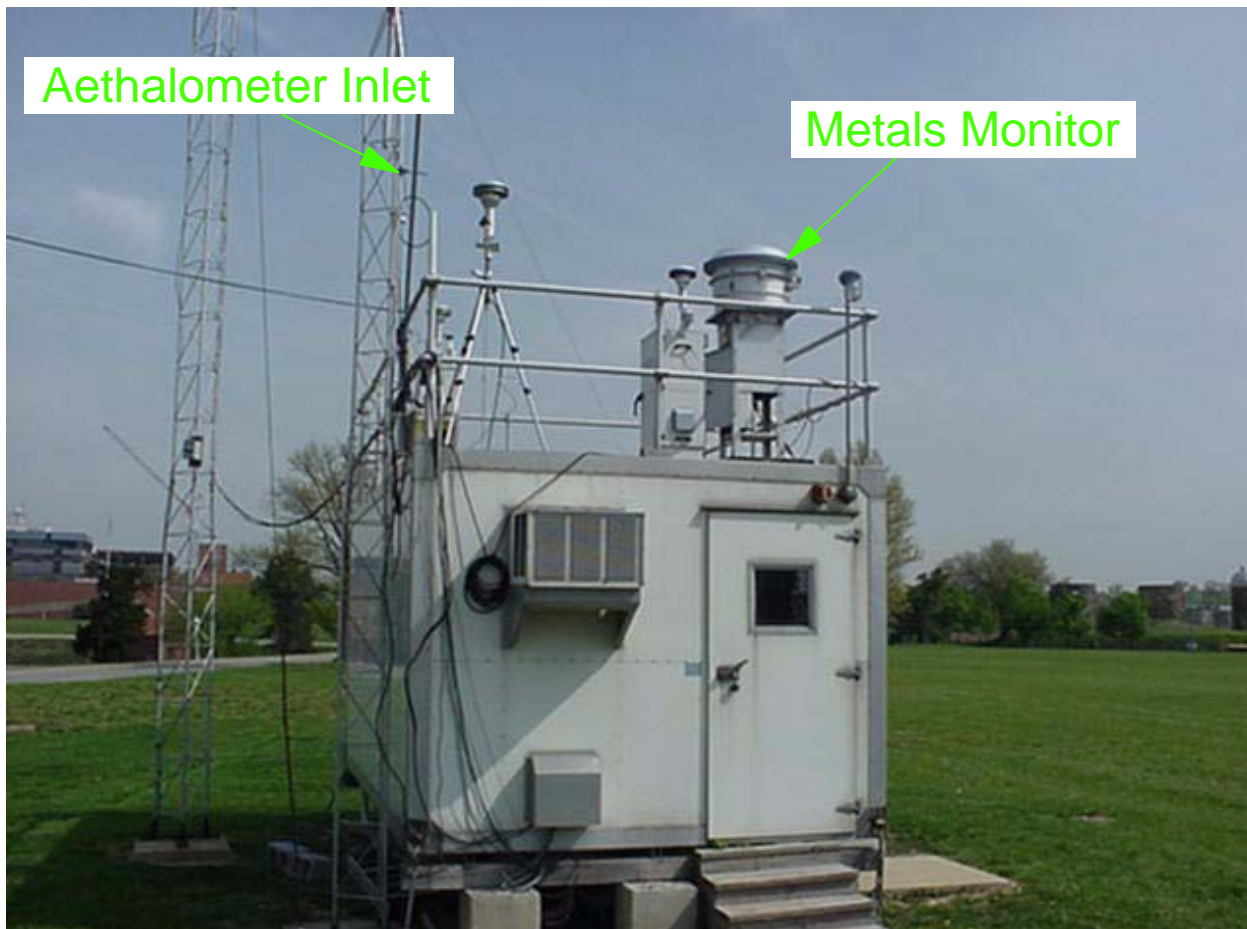
National Air Toxic Programs

- National Air Toxics Trends Site (NATTS)
 - R3 only NATTS is McMillian Reservoir in DC
 - Site collects VOC, Carbonyl, Metals and "Soot"
 - NATTS is required to be located at existing PM2.5 Speciation trends site
 - 20 of the 33 HAPs (mentioned earlier) must be monitored & reported to AQS per (draft) TAD ...table 1.1-1



National Air Toxic Programs

- DC National Air Toxic Trends site



National Air Toxic Programs

- DC National Air Toxic Trends site



Air Toxic Analytical Laboratories

- R3 has S/L laboratories performing most of the IO-3, TO-11, and TO-14/15 analysis
 - WV DEP lab performs IO-3 analysis
 - Recently rec'd funding to develop method to use low-vol filter metals analysis
 - Also performing study of HCL vs. non-HCL extraction for metals
 - MD DOE lab performs TO-14/15 analysis



Air Toxic Analytical Laboratories

- Phila AMS lab performs TO-11 and has started performing TO-15
- Allegheny Co. is working on a TO-13 analysis (for benzo-alpha-pyrene)



Air Toxic Analytical Laboratories

- Maryland DoE VOC lab



QA/QC

- FY 2004 budget has \$385K allocated for NATTS QA
 - This \$\$\$ goes for:
 - Performance Evaluation (PE) round robin samples
 - Technical System Audits
 - Annual data quality assessment
 - R3 will be using 103 \$\$\$ to do additional QA work



QA/QC

- Regional QA work
 - R3 has labs doing toxic analysis in addition to R3 NATTS labs
 - Phila & PA lab perform VOC analysis for their program
 - R3 will use \$35K to procure audit material for these additional labs
 - Labs will participate in PE cooperative agreement



QA/QC

- QAPPs
 - QAPPs are required...Don't shoot the messenger!
 - Not every agency has submitted a QAPP for Toxic monitoring for approval



What's Coming?

- Technical Assistance Document
 - Should be finalized late-2004
- 2005 Air Toxic Grant Guidance
 - Same \$16.5 million for Air Toxic Monitoring Activities
 - \$10 million for NATTS & community-based monitoring
 - \$6.5 million for S/L air toxic monitoring



What's Coming?

- Local scale project competition will be back in 2005
 - Guidance and Request for Application should be out Fall '04
 - Don't jump the gun...new selection criterias will differ from 2004 proposal criteria

