

Monitoring for Air Toxics in Ohio

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Monitoring for Air Toxics in Ohio

- **History**
- **Sampling Strategy**
- **Sampling Methods**
- **Target Compound List**
- **Experience**
- **Program Status**

Program History

- 1963-Ohio Air Sampling Network (OASN)
 - 21 sites measured total suspended particulates (TSP)
- 1972-Expanded Monitoring
 - Ohio EPA established
 - Included local air agencies and private industry
 - Measured and studied non-criteria pollutants

Program History

- 1980-National Air Monitoring Stations (NAMS)
 - National network established with U.S. EPA
 - Data had to meet U.S. EPA data quality objectives within established time frame
- 1988-Ohio EPA expanded Air Toxic Program
 - Designed using guidelines and methods recommended by U.S. EPA
 - Purchased equipment and established contracts with local laboratories that participated in pioneering studies

Program History

- Over 200 monitors currently operating in Ohio
- Monitoring focused on Division's Program Goals
 - Compliance with Ambient Air Quality Standards
 - Real-Time monitoring for air pollution episodes
 - Data for Trend Analysis
 - Urban Air Toxic Studies
 - Complaint Investigation
 - Data for Risk Assessment/ Risk Management

Sampling Strategy for Air Toxics

- U.S. EPA protocol
 - Samples collected at established sites
 - Based on short-term field trials
 - 1 hour samples
 - 8 hour samples
 - 24 hour samples

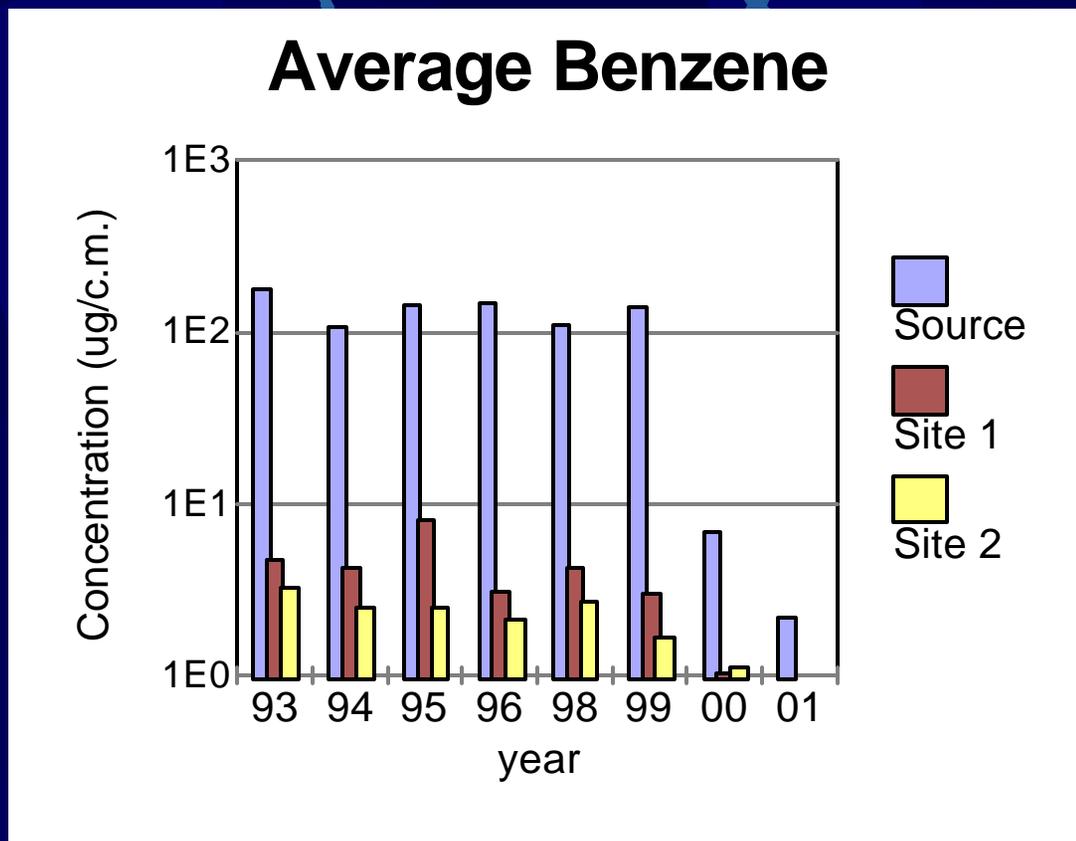
Sampling Methods

- Absorbent Tubes
 - Known air volume collected in adsorbent tube
- Summa Canisters
 - pump based system
- TSP sampler
- Special Analyzers
 - mercury, ammonia

Target Compound List

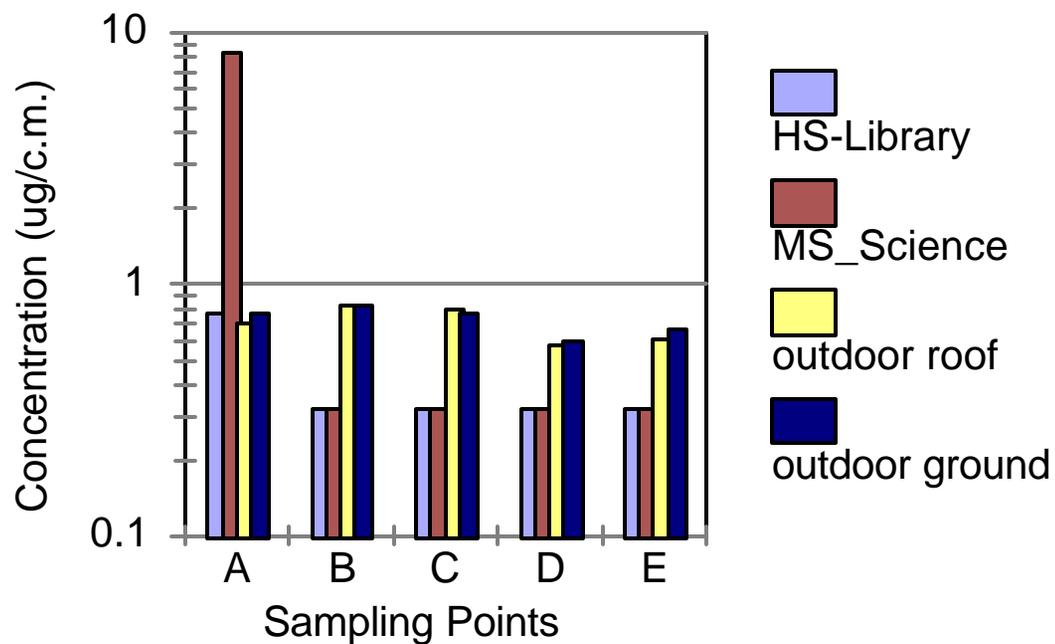
- 1989-Heavy Metals
 - Example: arsenic, cadmium, chromium
- 1991-Volatile Organic Compounds (VOCs)
 - Example: benzene, carbon tetrachloride, toluene
- 1998- Semi-Volatile Organic Compounds (SVOCs)
 - Example: PCBs, dioxins, Polycyclic Aromatic Hydrocarbons (PAHs)

Validation of Point Source



Identification of Hot Spots

Carbon Tetrachloride



Program Status

- Focus on requirements of Clean Air Act
- Support U.S.EPA Urban Air Toxic Strategy
- Trend analysis and background determination
- Evaluate and compare state data with modeling results