

# Upgrade/Replacement of Air Monitoring Data Systems

Prepared for SAMWG Meeting

October 16 – 18, 2003

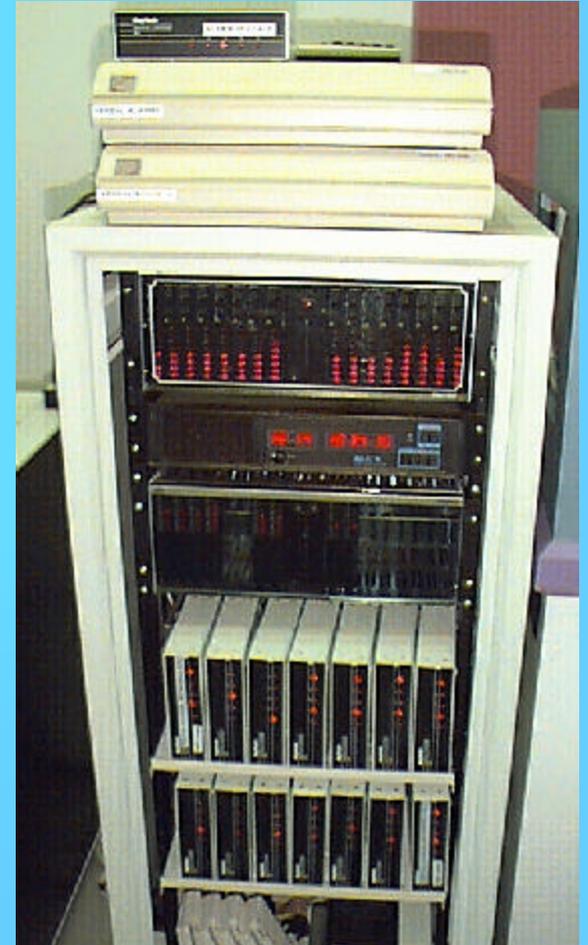
San Francisco, Ca.

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Environmental Protection

# New Jersey's System

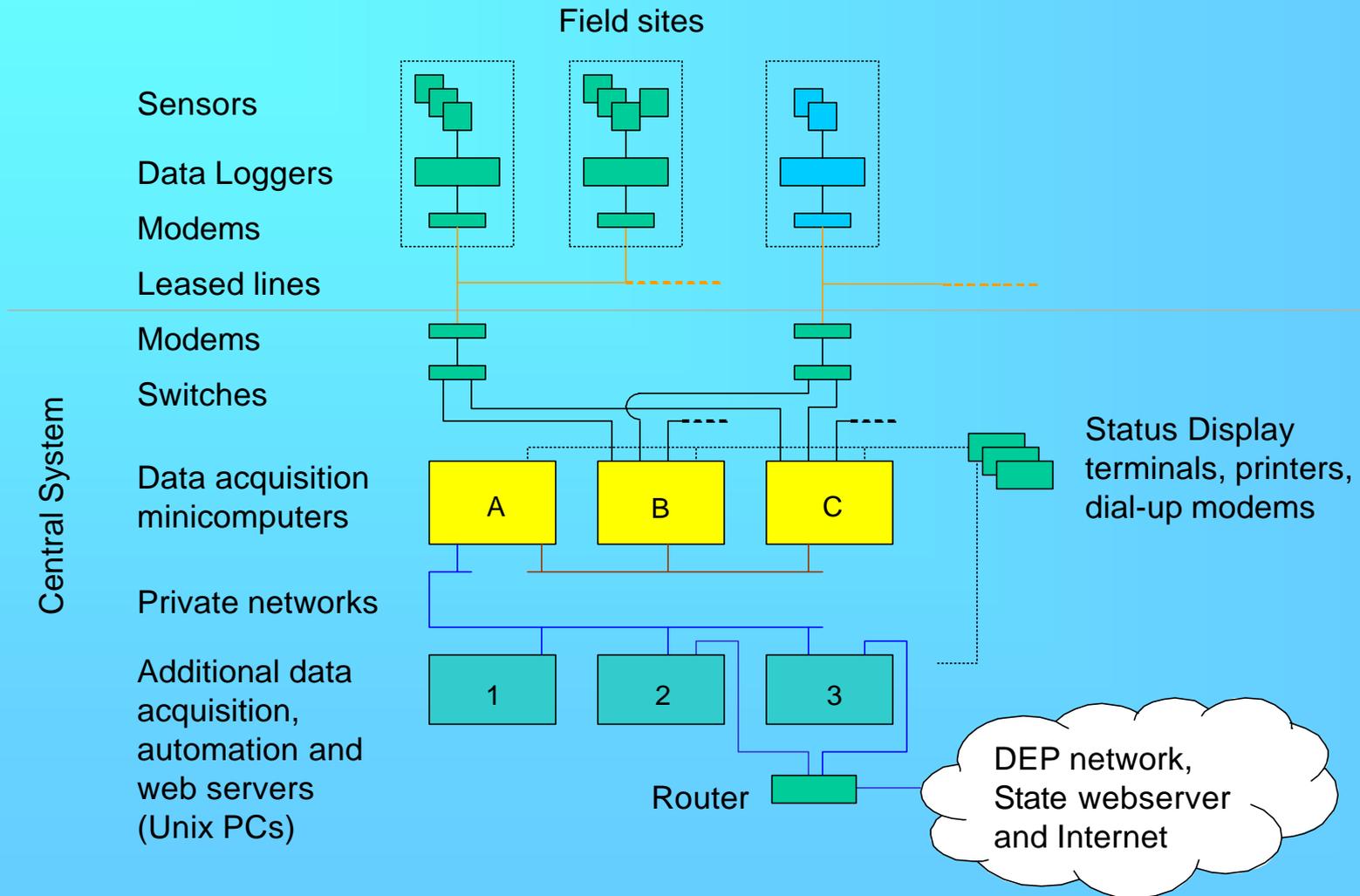
# Central System



# Central System: Status Display



# System Overview



# Features of the Current System

- Reliability - greater than 99.999% uptime since 1991
- One minute polling cycle
- Continuous data validation
- Separate calibration files and remote calibration capability

# Features of the Current System

- Operating systems allow scripting, unattended file transfer, e-mail, etc.
- Custom report generator
- Report scheduling
- Dial-in capability
- Local and remote alarming

Why Replace It?

# Why Replace It?

- System hardware/software no longer supported – reliability issues
- Upgrading not a viable option
- Increased security needs – single points of failure
- Inflexible – difficult to react to new needs
- Inefficient interface

# Why Replace It?

- Cost of leased lines ~ \$200,000/Year
- Increasing number of data streams
- Need to better support external (web based) applications
- No direct export to other formats (Excel, Access, etc.)

What Do We Want in a New  
System?

# What do we want in a New System?

- Proven technology, long term support
- Less customization?
- More security – offsite redundancy?
- Easier network expansion
- Telemetry options
- Better interface

# What do we want in a New System?

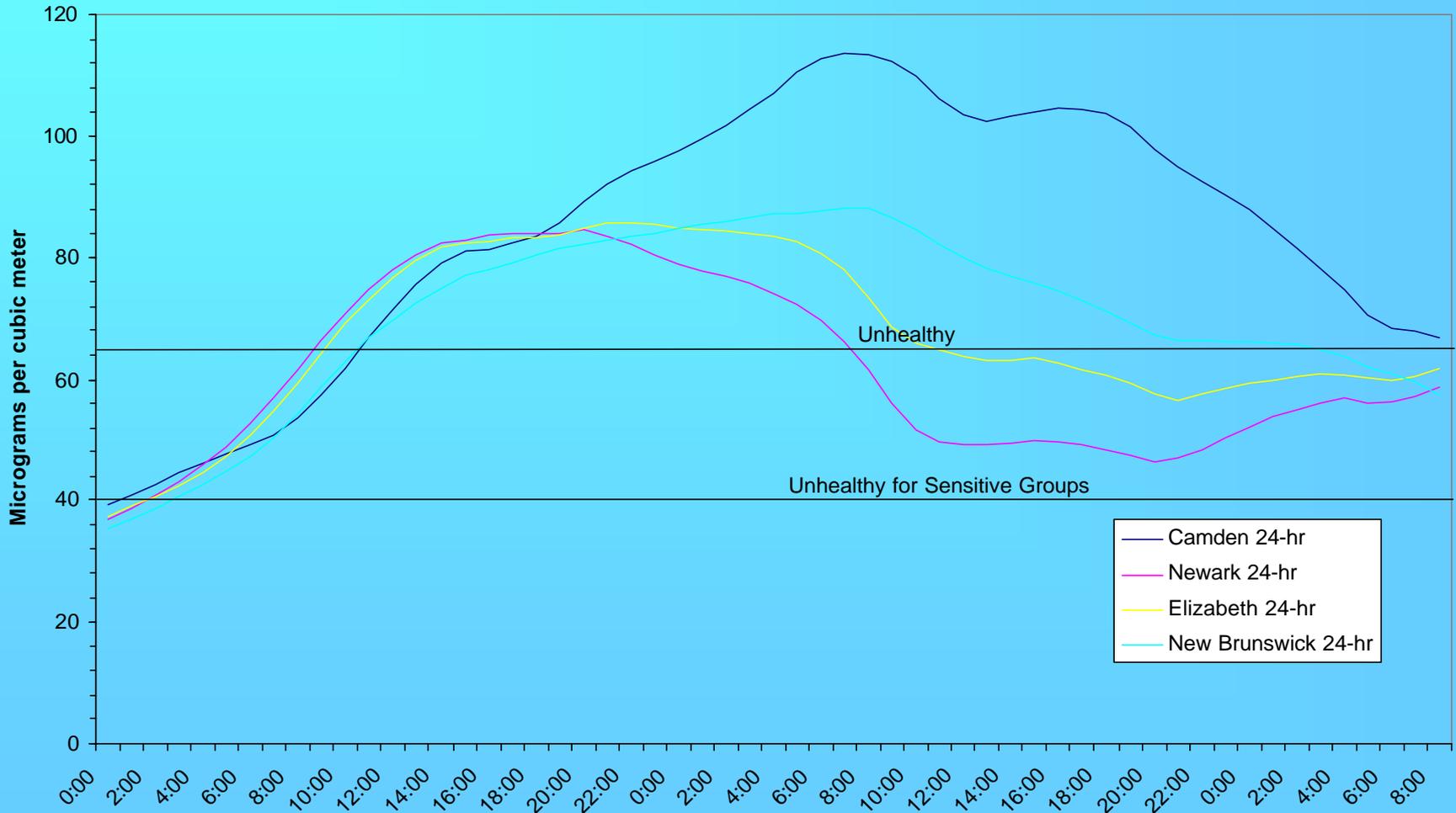
- Improved editing tools
- Direct export to other formats
- Better Quality Assurance features (control charts, etc)
- Two way communications
- Web and mapping support
- AIRS Support

# What do we want in a New System?

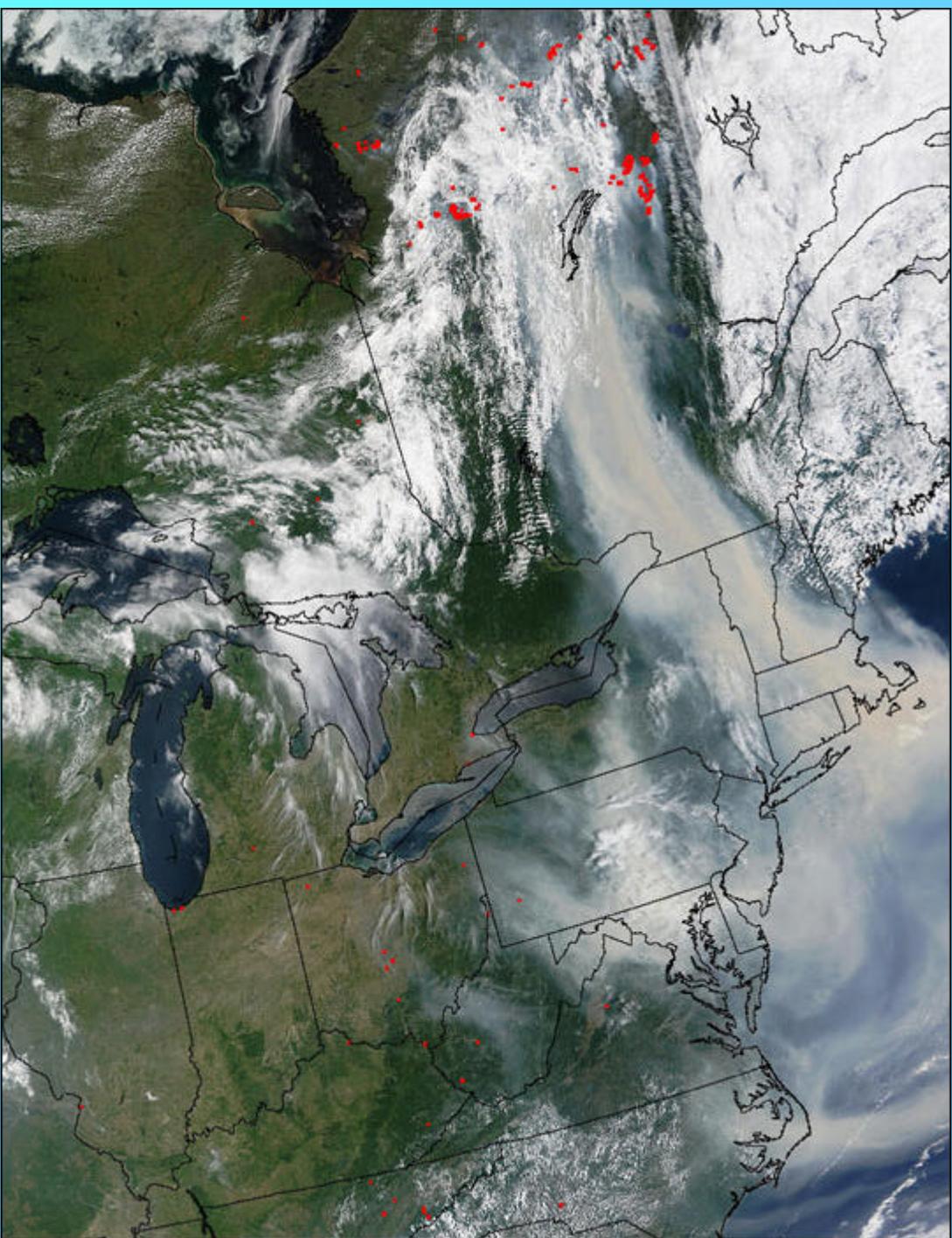
- Database Sharing
- Alarms
- Ad Hoc Reporting
- Better data assessment tools

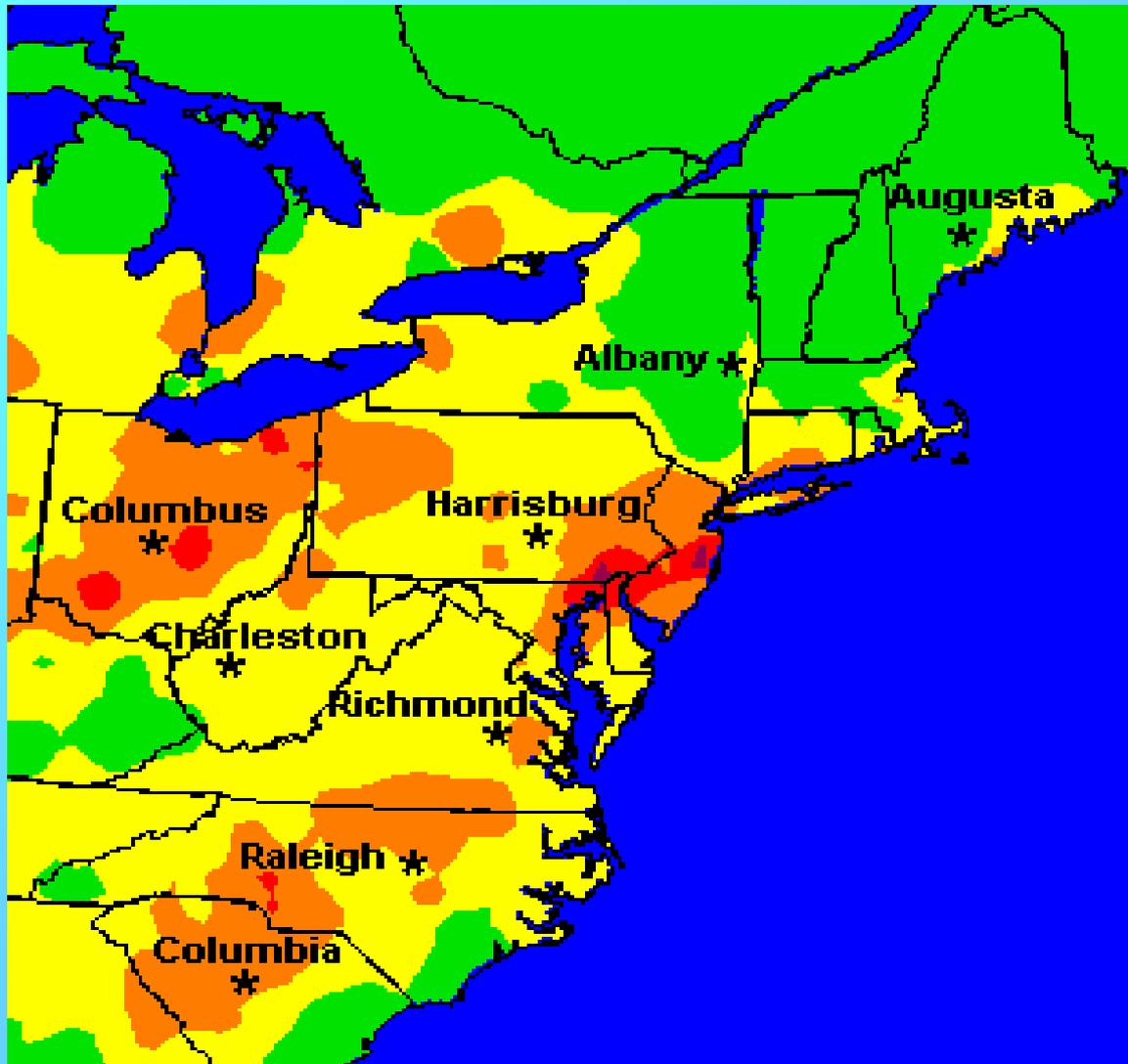
# Recent Experiences

**Canadian Fire Episode  
July 7 & 8, 2002  
24-hour Average PM2.5 Concentrations**



Preliminary data – do not quote or cite





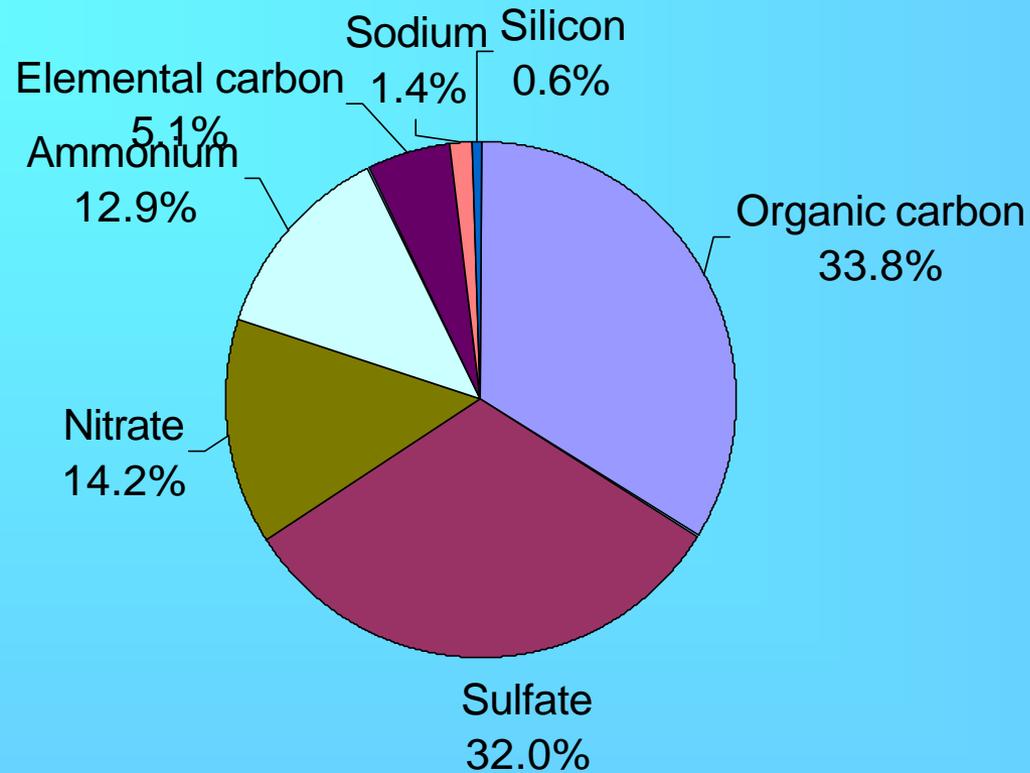
July 8, 2002





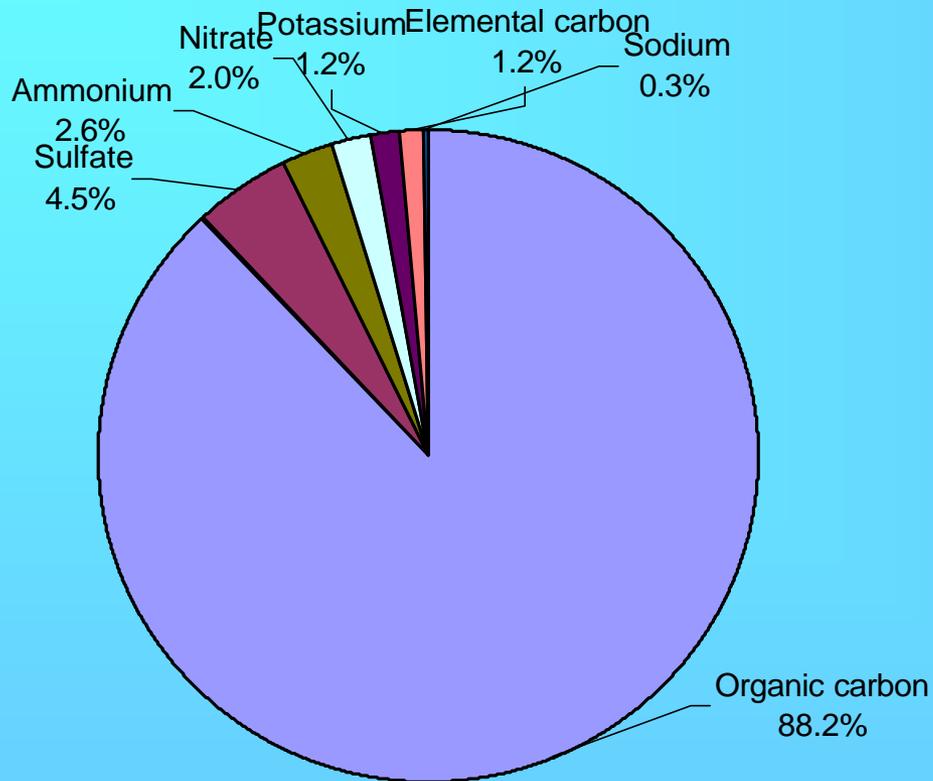
08/07/2002 11:31 AM

## Average Composition of Fine Particles at New Brunswick



Preliminary data – do not quote or cite

# Speciated PM2.5 Particles at New Brunswick New Jersey 7/7/02 (Canadian forest fire)

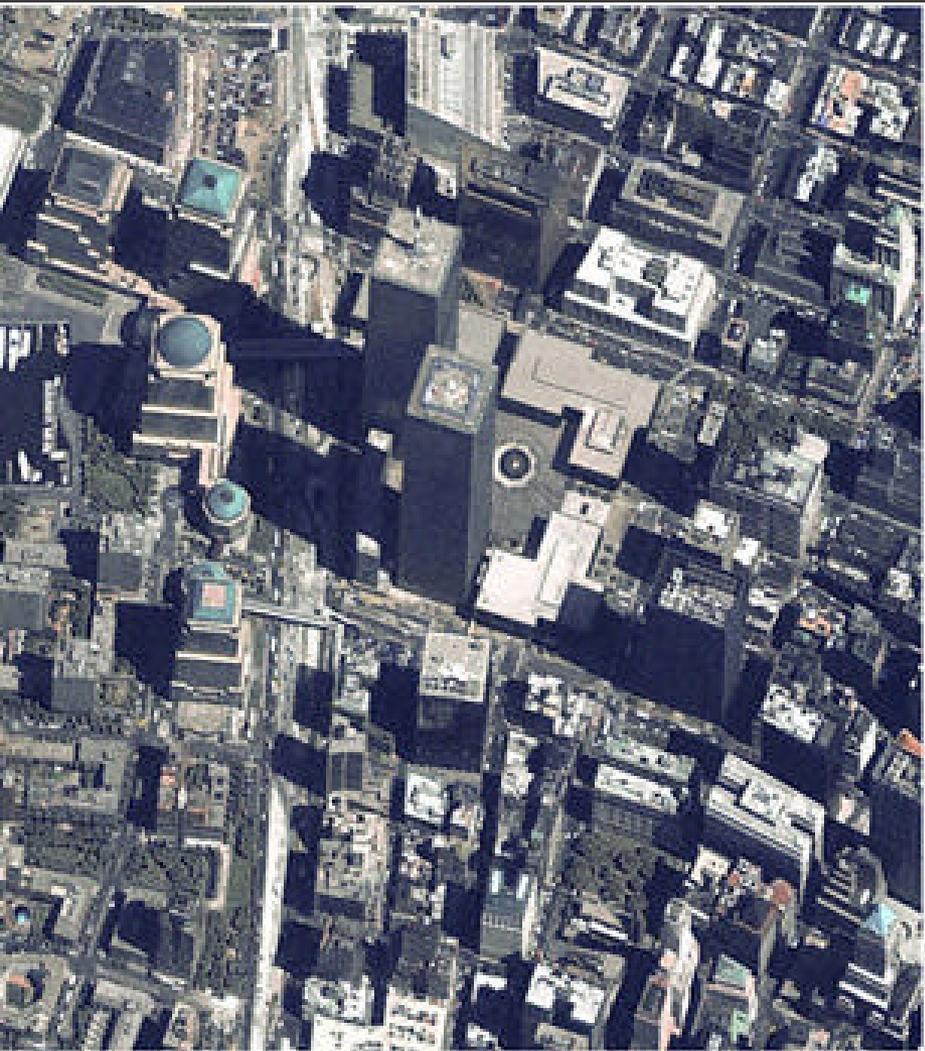


Preliminary data – do not quote or cite

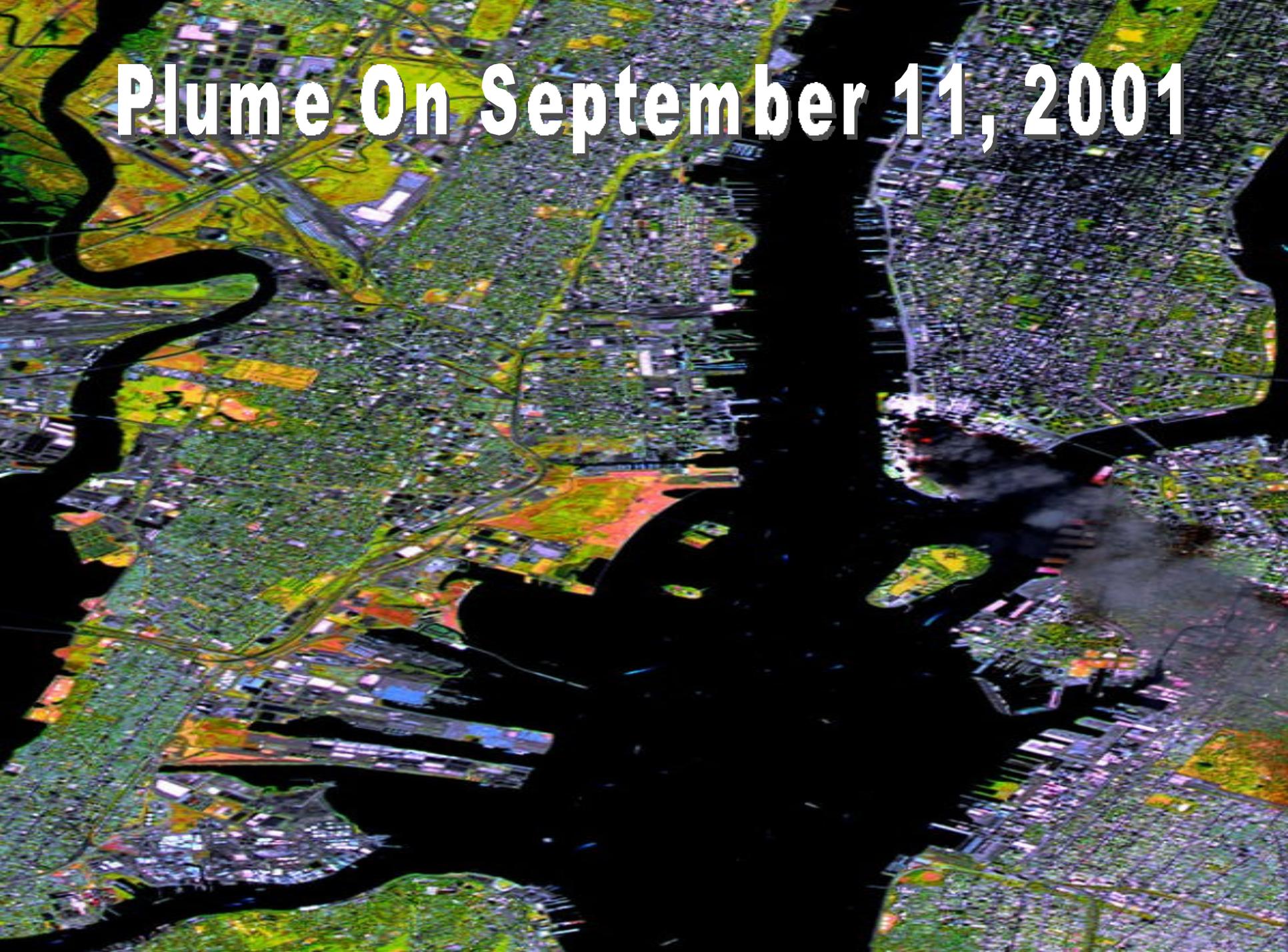








# Plume On September 11, 2001





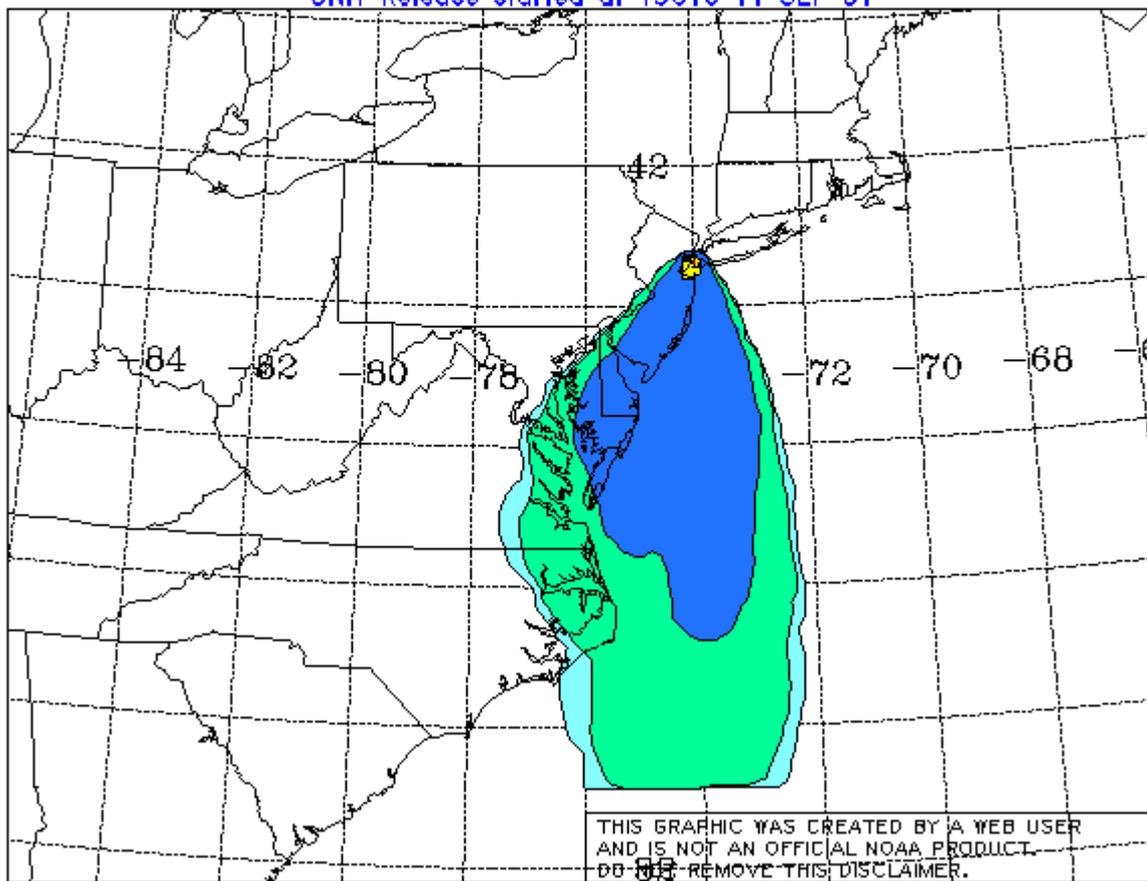
## NOAA Air Resources Laboratory

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### National Oceanic and Atmospheric Administration

Ground-level Deposition (Unit /m2)  
Deposition from 13UTC 11 SEP 01 TO 13UTC 12 SEP 01  
UNIT Release started at 13UTC 11 SEP 01

Source Location ★ at 40.71 N 74.01 W



13UTC 12 SEP 01 FNL Initial Data

1.0E-09 1.0E-11 1.0E-13 > 0.00 6.4E-09 Maximum at square

# What's Most Important?

- Reliability/System Management
- Making the job easier – more tools
- Data Sharing

Who are the Players?

# Other things to think/pray about

- Finding Money
- Writing a good spec
- Managing the contract and changeover
- System testing
- Working with state IT groups
- Long term maintenance and support