Using Real-Time Monitoring Data to Inform the Public

PM2.5 Monitoring, Quality Assurance, and Data Analysis Workshop
May 23, 2000

Chet Wayland
EPA OAQPS

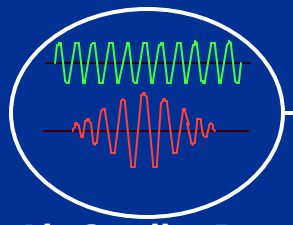
Key Issues

- Using real-time monitoring data
- Incorporating the AQI
- Forecasting
- Funding and Technology Transfer

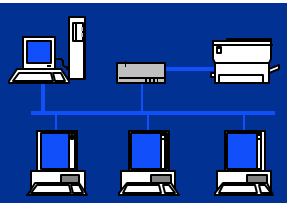
Why Real-Time?

- Every summer over 100 million people are exposed to unhealthy levels of ground-level ozone and fine particulates
  - Ozone peaks in summer months
  - Fine Particulates are a year round issue
- Historic approach (AIRS - 3 month delay) does not provide health benefits to the public
- Today's world is "real-time"
- "We have the technology"

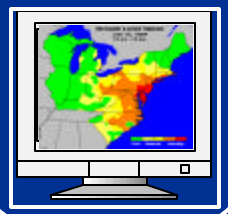
Real-Time Mapping Data Transfer and Collection



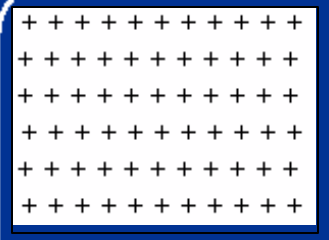
Air Quality Data
(monitors)



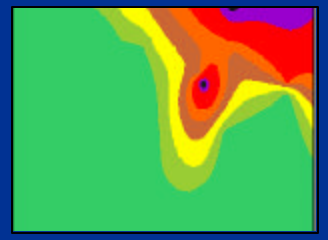
U.S. EPA
(Data Collection Center)



Ozone Movies
On the Web
(AIRNOW)



MAPGEN
Grid Data



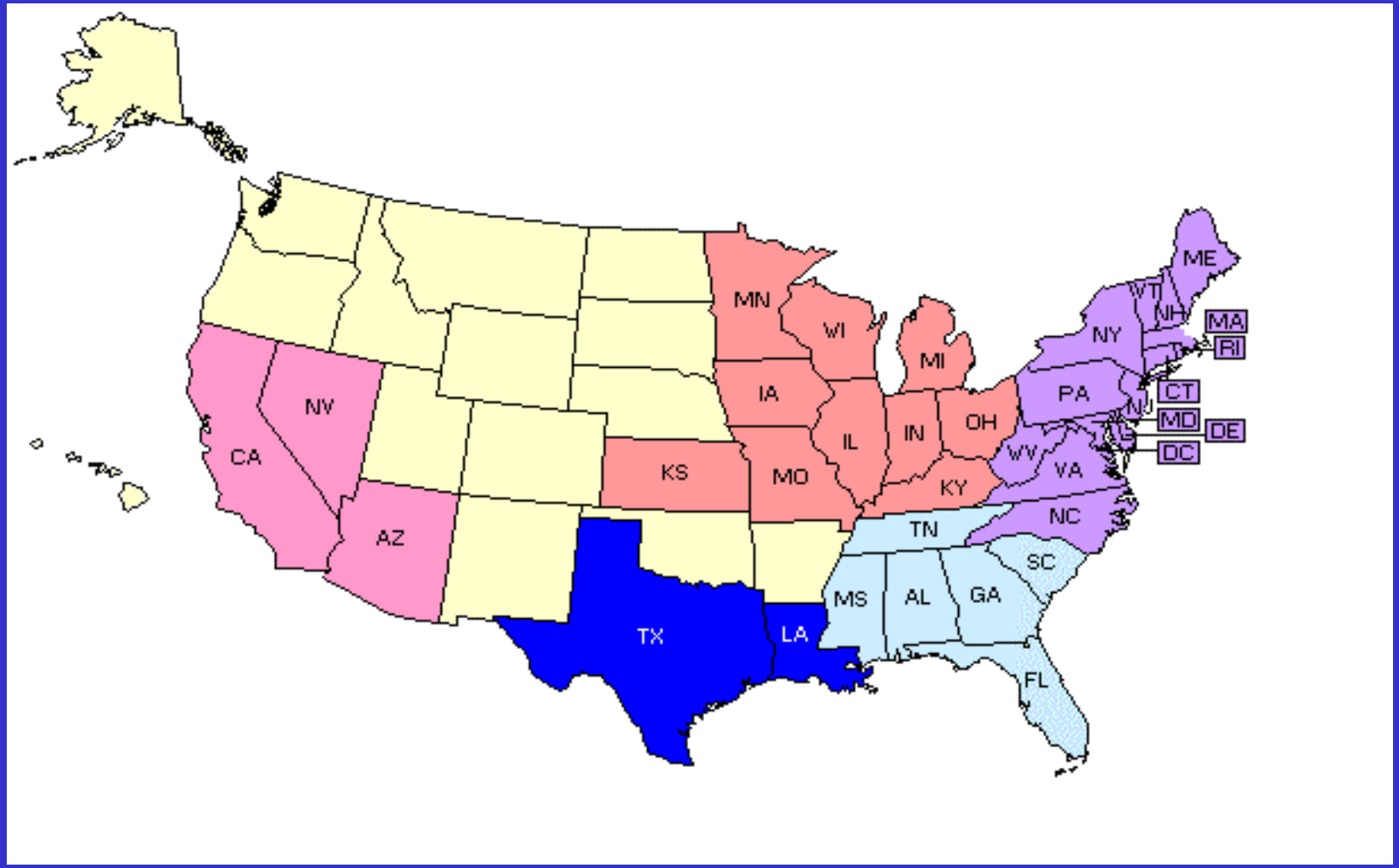
WSP-formatted
Images

TV Stations

Weather
Service
Providers

Internet/FTP

Participating States



Public Understanding

- For information to be useful, it has to be understandable
- Public does not understand ppm, ppb, ozone, pm2.5, etc….
- They do understand “Good”, “Unhealthy”, etc…
- That’s where the Air Quality Index comes into play

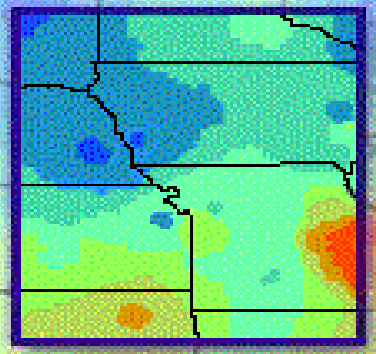
Air Quality Index

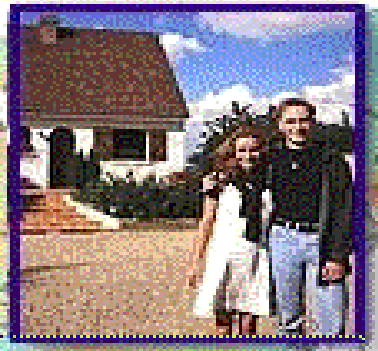
Air Quality Index Health Descriptors	Air Quality Index Values	Ozone Health Effects Cautionary Statements
GOOD	0 - 50	No health impacts are expected when air quality is in this range
MODERATE	51 - 100	Unusually sensitive people should consider limiting prolonged outdoor exertion
UNHEALTHY FOR SENSITIVE GROUPS	101 - 150	Active children and adults with respiratory disease, such as asthma, should limit prolonged outdoor exertion
UNHEALTHY	151 - 200	Active children and adults with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else should limit prolonged outdoor exertion
VERY UNHEALTHY	201 - 300	Active children and adults with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion

EPA
United States Environmental Protection Agency

AIRNOW

OAQPS
Office of Air Quality Planning & Standards





Ozone Maps

Air Quality Forecasts

Where I Live

Publications
Publicaciones en Español

Where I Live

Access local air quality forecasts, real-time data, air quality index, action days and more -- all from one page.

What's NEW?

What You Can Do

Web Cams

Health Facts

Ozone Action Days

www.epa.gov/airnow

Animations

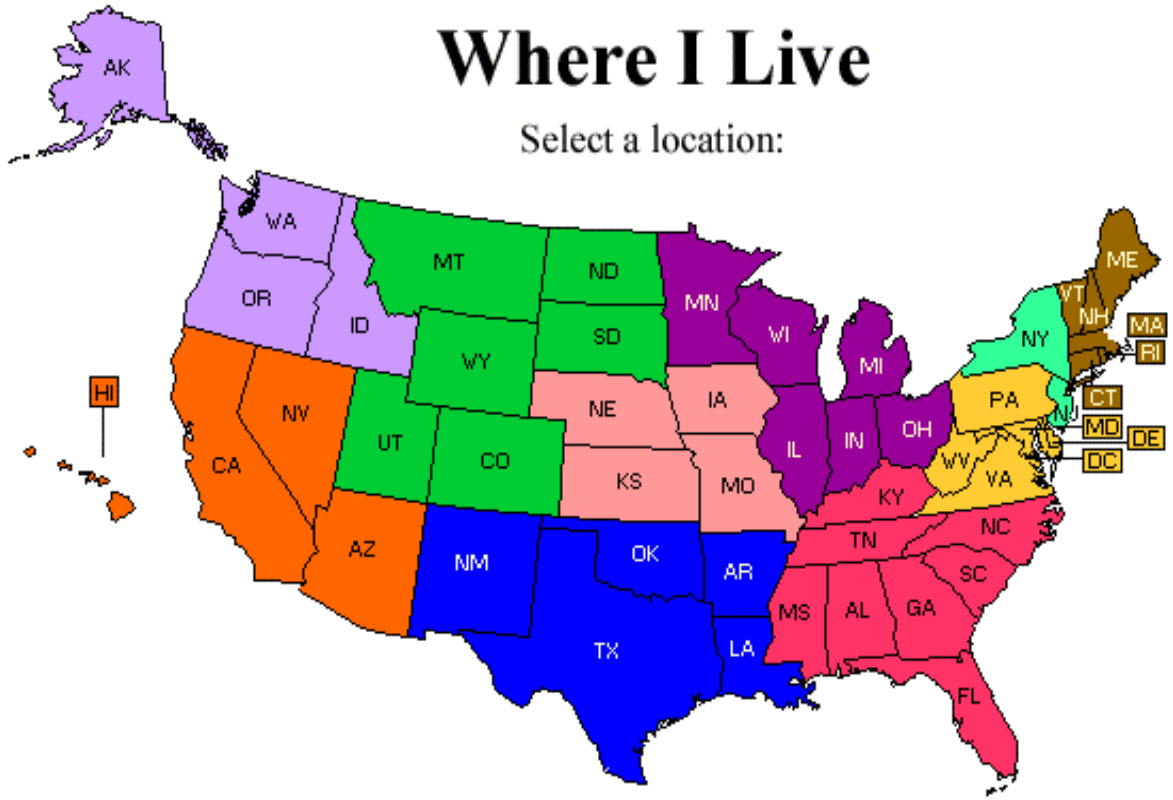
EPA United States Environmental Protection Agency

AIRNOW

OAQPS Office of Air Quality Planning & Standards

Where I Live

Select a location:



Webpage Key	
	Today's Ozone Animation
	Yesterday's 1-hour peak ozone level
	Yesterday's 8-hour peak ozone level
	Real-Time Data
OZONE ACTION	Ozone Action Days
AQI	Air Quality Index

AK AL AR AZ CA CO CT DC DE FL GA HI IA ID IL IN KS
KY LA MA MD ME MI MN MO MS MT NC ND NE NH NJ NM NV
NY OH OK OR PA RI SC SD TN TX UT VA VT WA WI WV WY

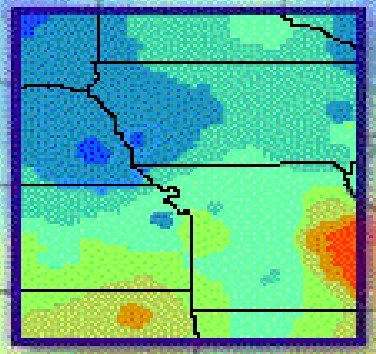
International

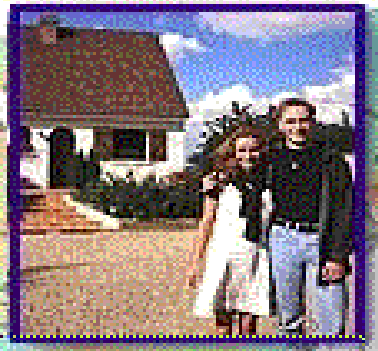
Area	Today's Forecast	Tomorrow's Forecast	Ozone Maps	State/Local Air Quality Links
EPA Region 5				
Area	**Today's Forecast**	**Tomorrow's Forecast**	**Ozone Maps**	**State/Local Air Quality Links**
Illinois				
Aurora/Elgin				
Chicago	Ozone Good	Ozone Good		
Metro-east (St. Louis)	Ozone Good	Particulate Matter Moderate		
Peoria	Ozone Good	Ozone Good		
Rockford	Ozone Good	Ozone Good		
Springfield	Ozone Good	Ozone Good		
Area	**Today's Forecast**	**Tomorrow's Forecast**	**Ozone Maps**	**State/Local Air Quality Links**

EPA
United States Environmental Protection Agency

AIRNOW

OAQPS
Office of Air Quality Planning & Standards





Ozone Maps

Air Quality Forecasts

Where I Live

Publications
Publicaciones en Español

Where I Live

Access local air quality forecasts, real-time data, air quality index, action days and more -- all from one page.

What's NEW?

What You Can Do

Web Cams

Health Facts

Ozone Action Days

www.epa.gov/airnow

AIRNOW
Forecast Submission Form

Identification

AGENCY: **Texas Natural Resource Conservation Commission**
AGENCY CODE: **tx1**

Instructions

This form is for entering air quality forecasts for the AIRNOW web site. Forecasts are specified as air quality descriptors w
discussions. Please complete the following form and submit it for each forecast day. Any previous forecast for the specifie
overwritten. Only one pollutant can be forecast for each day.

A separate form is available if you want to submit site forecasts for ozone only.

AIR QUALITY FORECASTS

Click here to Reset the forecast form.

1. Select a date:

Choose one

2. Select default pollutant for selected date:

Ozone

- Ozone
- Particulate Matter
- Carbon Monoxide
- Sulfur Dioxide
- Nitrogen Dioxide

itan Area Forecasts:

3 Enter Metropolitan Area Forecasts:

FORECAST	Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy	Pollutant
"Austin,TX"	○	○	○	○	○	default
"Beaumont-Port Arthur,TX"	○	○	○	○	○	default
"Corpus Christi,TX"	○	○	○	○	○	default
"Dallas-Fort Worth,TX"	○	○	○	○	○	default
"El Paso,TX"	○	○	○	○	○	default
"Houston-Galveston-Brazoria,TX"	○	○	○	○	○	default
"San Antonio,TX"	○	○	○	○	○	default
"Tyler-Longview-Marshall,TX"	○	○	○	○	○	default

4.Enter Forecast Discussions (optional):

EPA United States Environmental Protection Agency | AIRNOW | OAQPS Office of Air Quality Planning & Standards

State and Local Air Quality Forecasts

Air Quality forecasts are provided by State and local agencies, using EPA's Air Quality Index (AQI), a uniform index that provides general information to the public about air quality and associated health effects.

Air Quality forecasts are determined by local air quality experts (often meteorologists) using air quality models, weather data, and local experience.

Tomorrow's forecast is generally available by 4:15 pm EDT

For pollutant information and health messages, click on the forecast of interest.

Northeast Forecast Maps

- Today's
- Tomorrow's

Wednesday, 17 May 2000

Air Quality Forecasts For Metro Areas

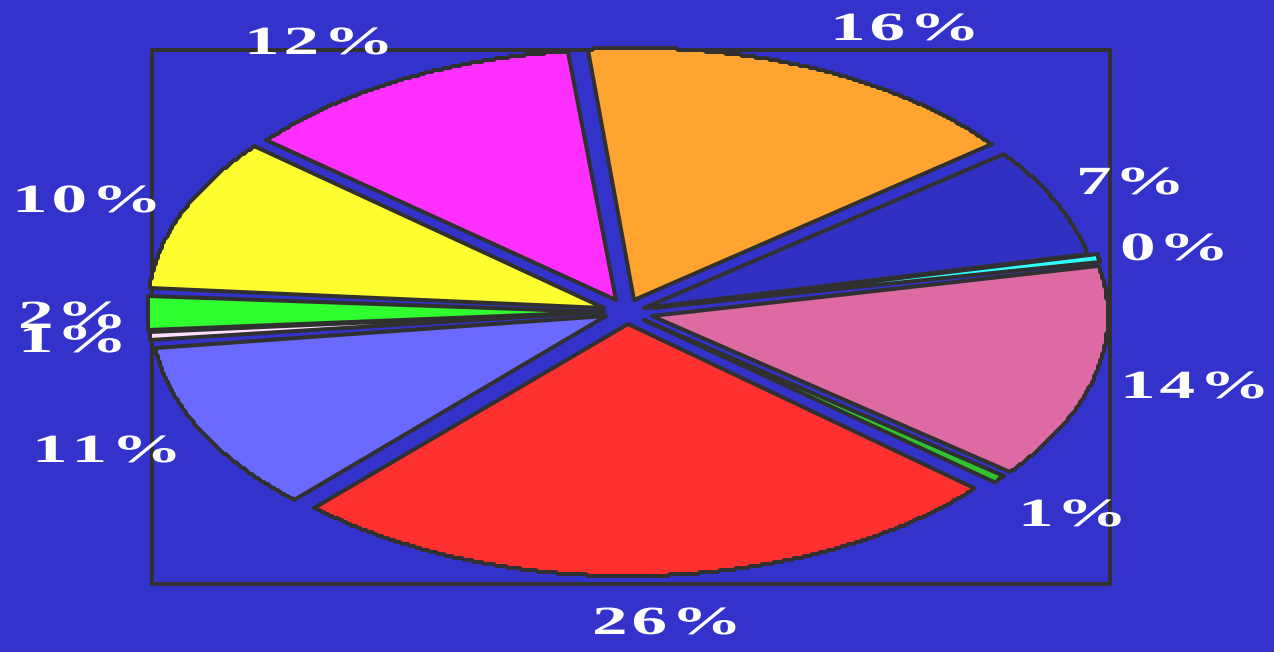
City	Today		Tomorrow	
Albany, NY	Ozone:	Good	Ozone:	Good
Asheville Ridge Tops (above 3500 feet), NC	Ozone:	Moderate	Not Available	
Asheville Valleys (below 3500 feet), NC	Ozone:	Good	Not Available	
Atlanta, GA	Ozone:	Moderate	Not Available	
Austin, TX	Ozone:	Good	Ozone:	Good
Bakersfield, CA	Not Available		Not Available	
Baltimore, MD	Ozone:		Not Available	


Weather
Ask the experts
UV
Asia
AQI
Alaska
Baltimore
Boston
Charlotte
Chicago
Cincinnati
Cleveland
Dallas
Denver
Detroit
Honolulu
Indianapolis
Kansas City
Las Vegas
Los Angeles
Memphis
Miami
Minneapolis-St.Paul
Nashville
New Orleans
New York
Orlando
Philadelphia

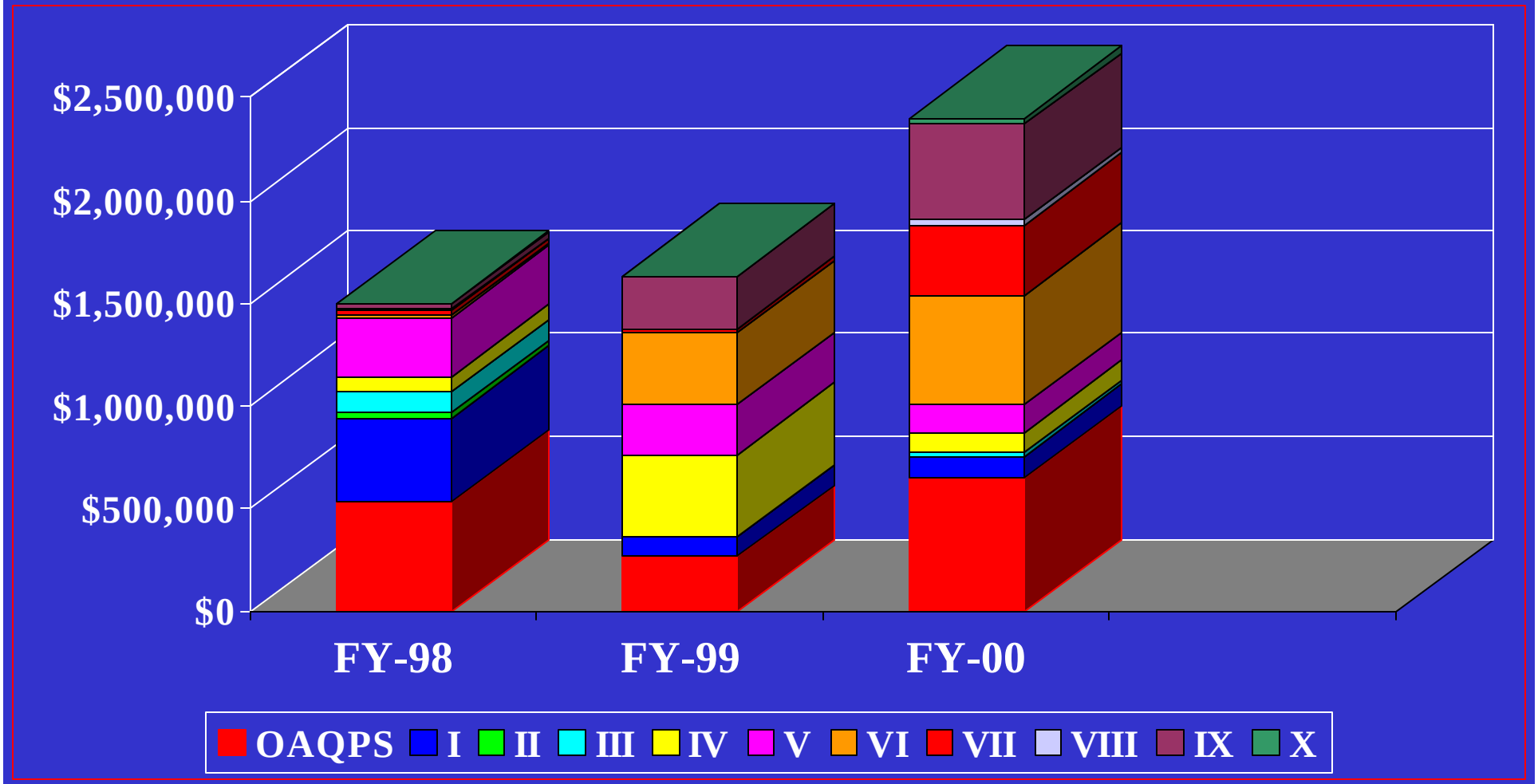
Budget

- Mapping program entirely funded through EMPACT initiative (Year 3)
- Cumulative funding of $5,552,700
- 74% of funding distributed to States ($4,083,825)
- Balance used by EPA for system development and operation

Allocation of EMPACT Funding (FY-98 - FY00)



Allocation of EMPACT Funds by Year



Technology Transfer

- EMPACT RFA for Technology Transfer goes out 5/24/00 (Closing 8/7/00)
- Hurdle to add real-time PM2.5 data to ozone real-time infrastructure is low
- Regions need to sponsor proposal with OAQPS ($250K limit)
- OAQPS is working on internal updates to DCC and mapping software

Summary

- Ambient data has new life beyond traditional regulatory needs
- The Public wants to know and has a right to know about air quality
- Regions need to evaluate State needs for reporting real-time PM2.5
- Ozone is here… PM2.5 can be here too