The Centers for Disease Control and Prevention's National Environmental Public Health Tracking Program

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Centers for Disease Control and Prevention
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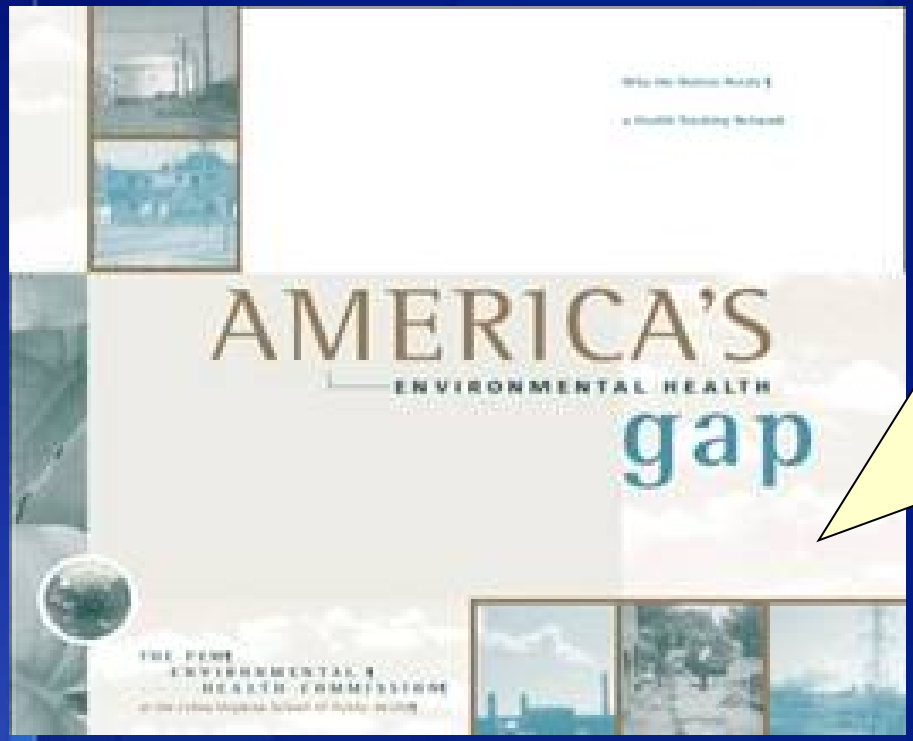
DEPARTMENT OF HEALTH & HUMAN SERVICES - USA
CDC Environmental Health

Pew Environmental Health Commission Report, 2000

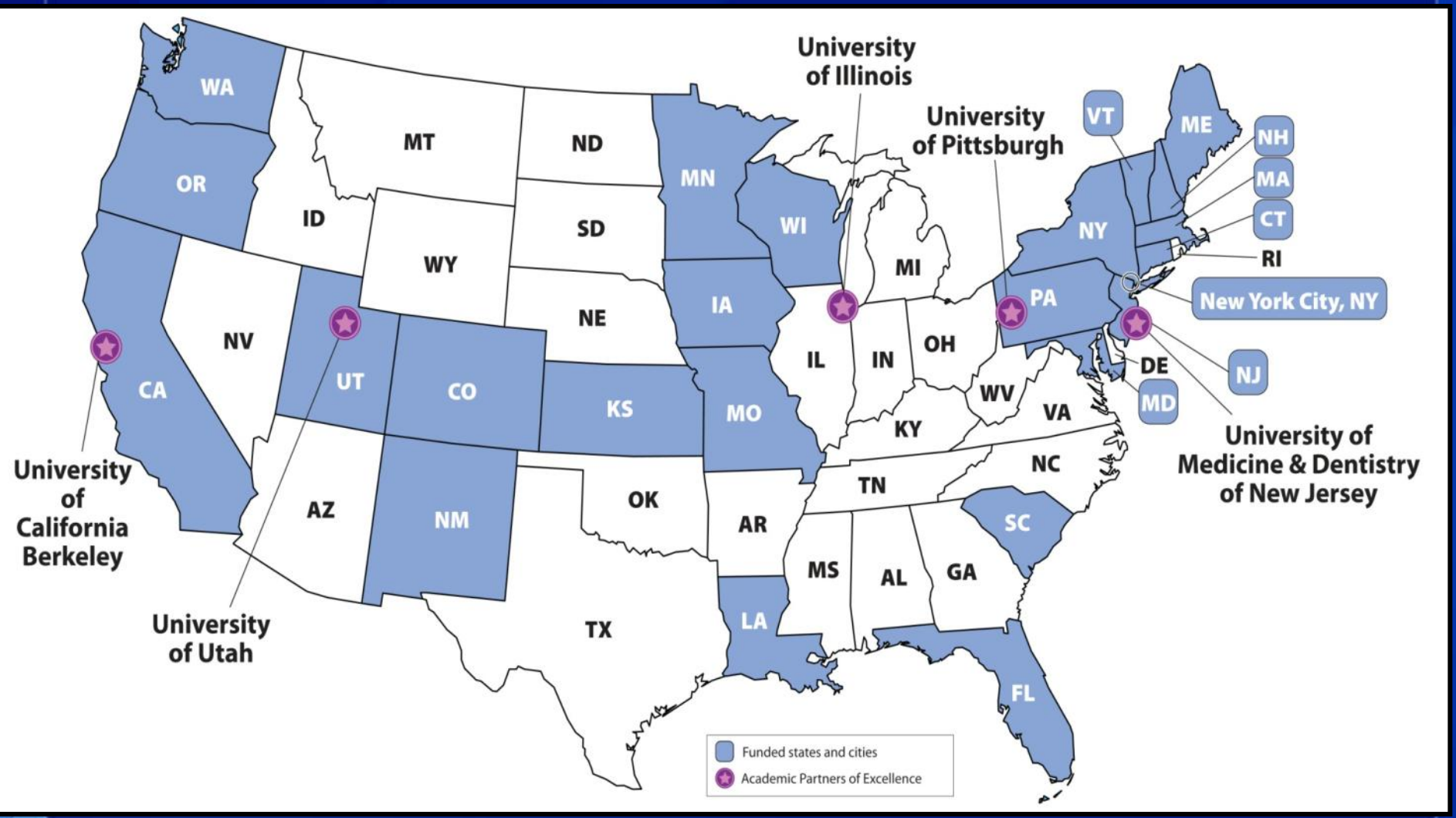


"…create a federally supported Nationwide Health Tracking Network with the appropriate privacy protection, that informs consumers, communities, public health practitioners, researchers, and policymakers on chronic diseases and related environmental hazards and population exposures. This will provide the capacity to understand, respond and prevent chronic disease in the country."

National Environmental Public Health Tracking Network

- Tracking = Public Health Surveillance
- Health and environmental information together in one easy to access website
  - www.cdc.gov/ephtracking
- Public and Secure portals
- 23 state and NYC networks

State and Academic Partners



Data from State and City Sources

- Asthma hospitalizations
- Birth Defects
- Carbon monoxide emergency visits
- Carbon monoxide hospitalizations
- Community drinking water
- Heart attack hospitalizations

Data from National Sources

- Age of housing
- Asthma prevalence
- Cancer
- Childhood lead poisoning
- Mortality data
- Motor vehicle fatalities
- PM2.5 and ozone
- Population characteristics
- Reproductive and birth outcomes
- Mode of transportation
- Well water monitoring

Coming Soon

- Climate Change
- CDC asthma call-back survey data
- Developmental disabilities

National Public Portal

- Launched July 7, 2009
- Design based on iterative user testing
- Version 2 to be launched in October
- Allows user to query data
- Provides contextual information and prevention messages

www.cdc.gov/ephtracking

Drilling Down Through Information

Tracking A-Z Index A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Glossary A-Z | CDC A-Z | Tracking A-Z

Environments

The most common environmental health hazards are air and water pollution.

Quick Links
- Environments
- Health Effects
- Info By Location

Quick Links
- Home
- About Tracking Program
- State & Local Tracking Portals
- Indicators & Data
- Secure Portal
- Email page
- Print page
- Bookmark and share
- CDC on Facebook
- CDC on Twitter

Climate Change
- Climate Change and Health
- Tracking Climate Change
- Search Climate Change Data

Outdoor Air
- Outdoor Air and Health
- Tracking Outdoor Air
- Search Outdoor Air Data

Community Design
- Community Design and Health
- Tracking Community Design
- Search Community Design Data

Water
- Community Water
- Search Community Water Data
- Well Water

Homes
- Homes and Health
- Tracking Housing Conditions
- Search Homes Data

Tracking Hot Topics

Heart attacks and air quality ? what?s the connection?

We just reached 1000 Twitter followers.

Follow us to join the conversation and for the latest

Outdoor Air

Home > Environments > Outdoor Air

National Environmental Public Health Tracking
- Air Quality
- Tracking Air Quality
- Monitor + Modeled Air Data
- Related Links
- Search Air Quality Data

Tracking Links: Environments | Health Effects | Info by Location

Quick Links
- Air and Health
- Air Monitoring in the US
- Air Contaminants

National air quality has improved since the 1990's, but many challenge public health and the environment from air quality problems.

Air pollution in the United States poses a public health threat affecting people throughout the country. It is associated with health problems t emergency department visits and hospitals stays for breathing and he increases in illnesses such as pneumonia and bronchitis.

Tracking air pollution can help people un are exposed to unhealthy levels of air p can also help public health professionals understand which areas may be most in control activities.

The Tracking Network includes data abo matter ($PM_{2.5}$).

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Monitor + Model Air Data

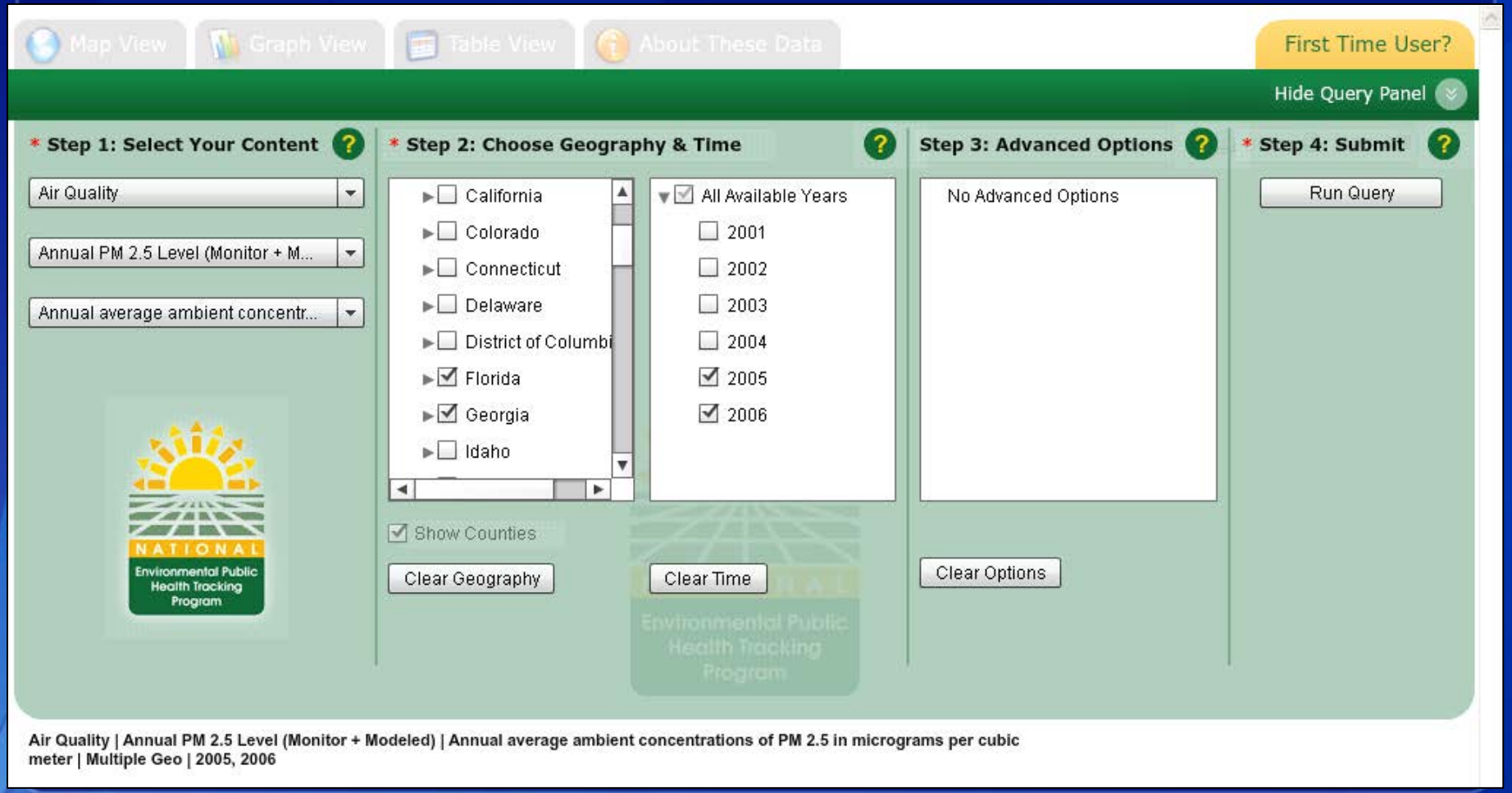
Air monitoring in the United States is conducted by many federal, state, local, and tribal air agencies. The Environmental Protection Agency (EPA) provides air pollution data about ozone and particulate matter ($PM_{2.5}$) to CDC for the Tracking Network. The EPA maintains a database called the Air Quality System (AQS) which contains data from approximately 4,000 monitoring stations around the country, mainly in urban areas. Data from the AQS is considered the "gold standard" for determining outdoor air pollution. However, AQS data are limited because the monitoring stations are usually in urban areas or cities and because they only take air samples for some air pollutants every three days or during times of the year when air pollution is very high.

CDC and EPA have worked together to develop a statistical model (Hierarchical Bayesian) to make modeled predictions available for environmental public health tracking purposes in areas of the country that do not have monitors and to fill in the time gaps when monitors may not be recording data.

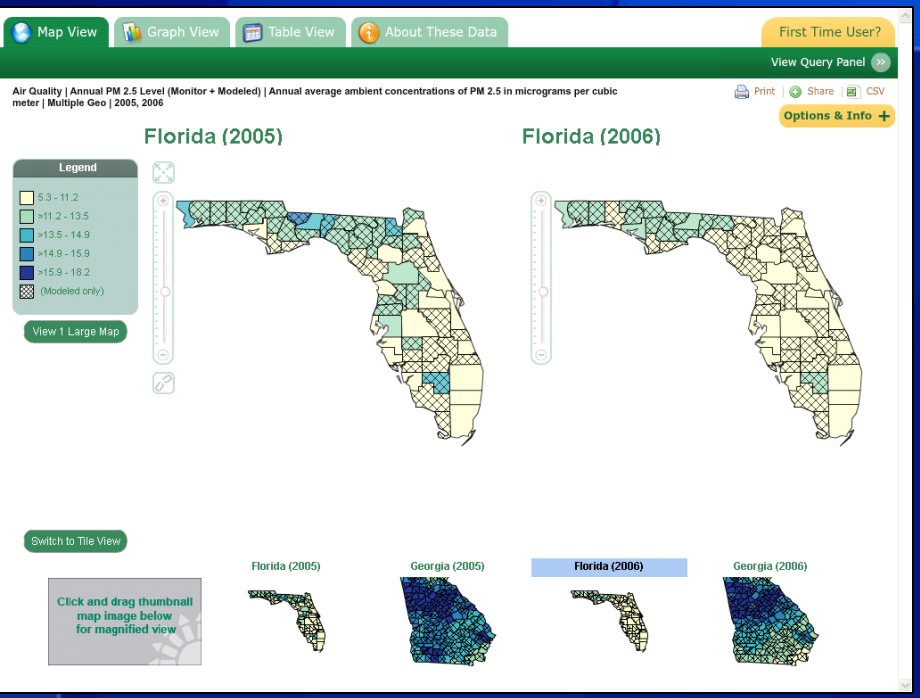
There are two primary benefits to creating modeled air pollution data:

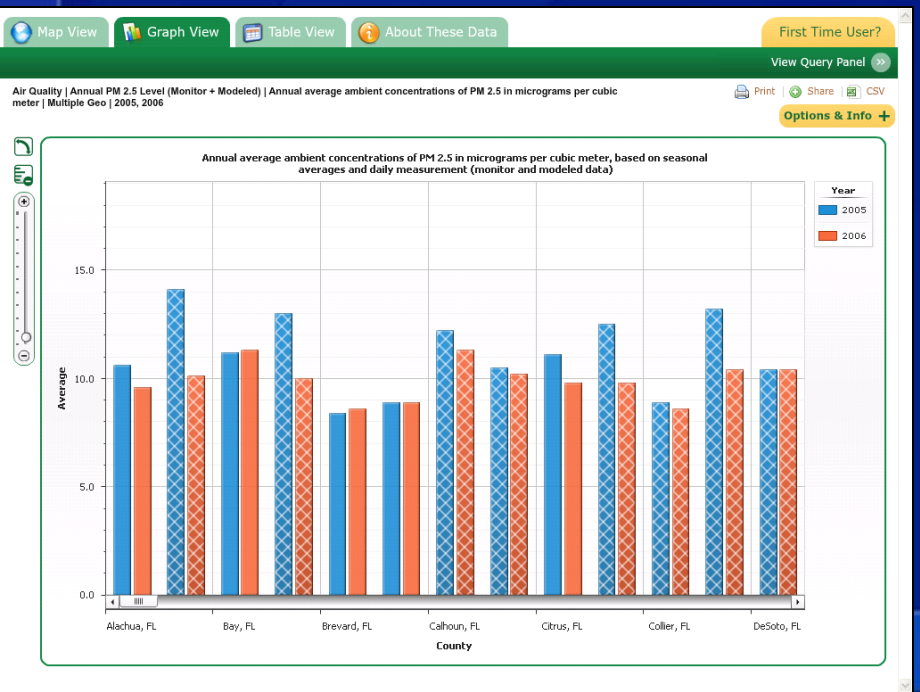
- approximately 20% of counties in the United States have actual air monitors. With modeled data, the Tracking Network is able to create indicators for counties that do not have monitors (excluding Alaska and Hawaii);
- most PM2.5 air monitors take samples every three days and many ozone monitors sample only during the ozone season. Modeled data helps to fill in these time gaps.

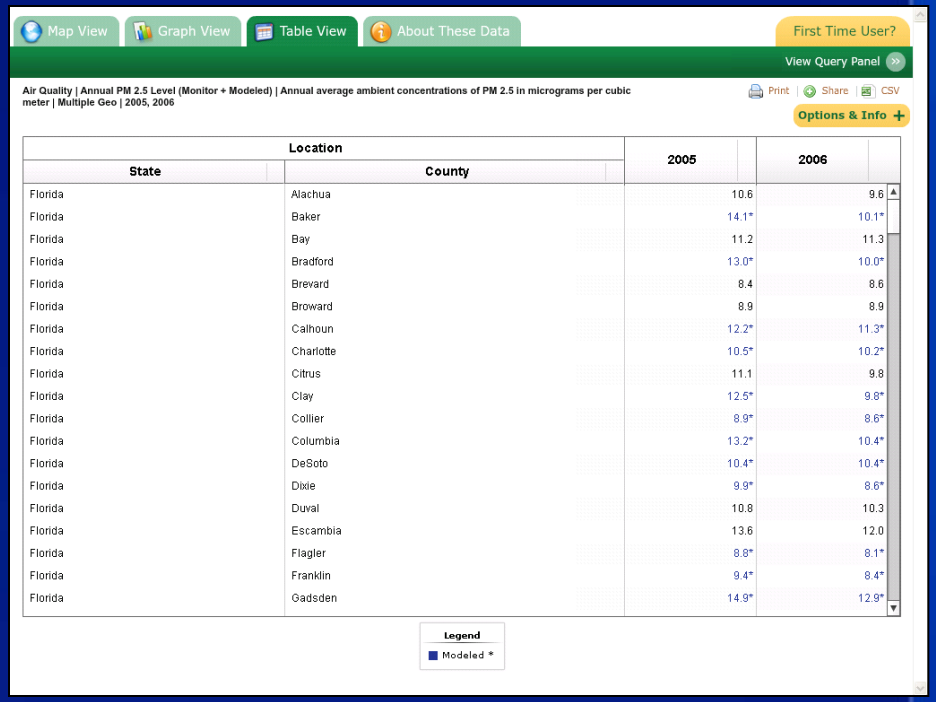
Dynamic Queries



Displaying Data





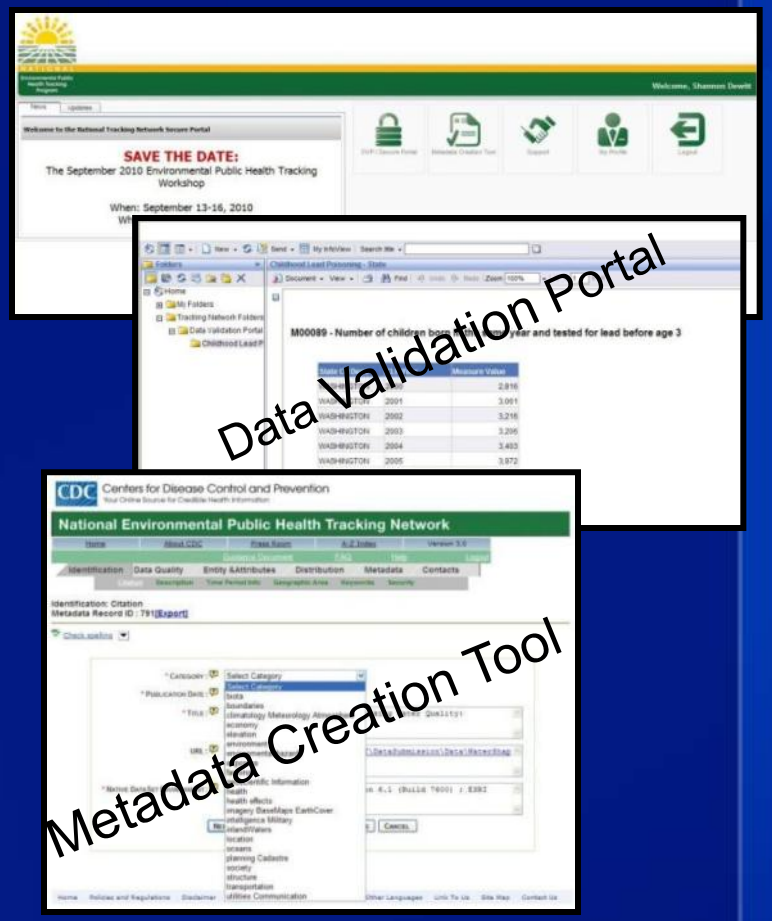


Location		2005	2006
State	County		
Florida	Alachua	10.6	9.6
Florida	Baker	14.1*	10.1*
Florida	Bay	11.2	11.3
Florida	Bradford	13.0*	10.0*
Florida	Brevard	8.4	8.6
Florida	Broward	8.9	8.9
Florida	Calhoun	12.2*	11.3*
Florida	Charlotte	10.5*	10.2*
Florida	Citrus	11.1	9.8
Florida	Clay	12.5*	9.8*
Florida	Collier	8.9*	8.6*
Florida	Columbia	13.2*	10.4*
Florida	DeSoto	10.4*	10.4*
Florida	Dixie	9.9*	8.6*
Florida	Duval	10.8	10.3
Florida	Escambia	13.6	12.0
Florida	Flagler	8.8*	8.1*
Florida	Franklin	9.4*	8.4*
Florida	Gadsden	14.9*	12.9*

Secure Portal Vision and Implementation

- **Components envisioned**
  - National data repository
  - Metadata services
  - Tools, methods and other resources
  - Collaboration and knowledge management functions
- **Phase II**
  - Role-based access control
  - Drag and drop query and custom report building
  - Methods and tools repository

Phase I

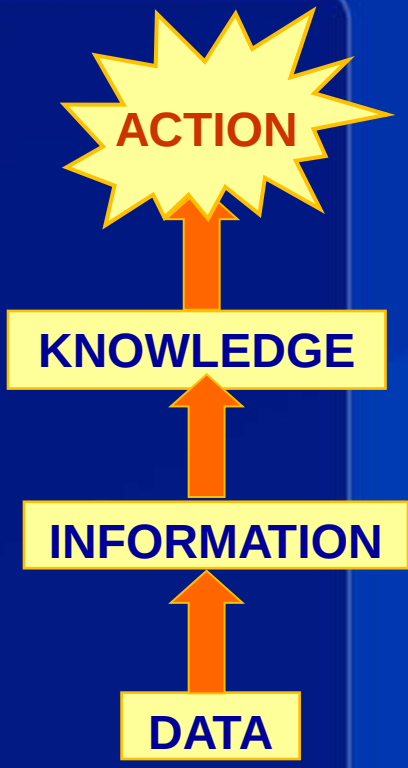


Making Data Available

- Nationally Consistent Data and Measures
- Protecting privacy on Public Portal
  - Aggregation
  - Suppression
  - Smoothing
- Secure Portal
  - Registered users
  - Authentication – CDC SAMS
  - Authorization
    - Application – role based
    - Data access - Role and use based; approval of data steward

Tracking in Action

- **Maine**
  - Data supported bill to require CO detectors in all new homes, rental property and existing homes at the time of transfer
- **Massachusetts**
  - Responded to community concerns about cancer incidence in towns near the Vermont Yankee Nuclear Power plant
- **California**
  - Worked with Bay area NWS to provide evidence to keep cooling centers open in City of San Jose this summer



Tracking Challenges

- **Remaining flexible and adaptable to changing health landscape**
- **Sustaining resources**
- **Addressing community concerns and research needs**
  - Utility for diverse audiences
  - Right to know vs. right to privacy
- **Filling data gaps**

Questions?

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