

*A Community of Practice (CP)
Approach For Integrating Earth
Observation with Human Health &
Environmental Decision-Making*

Air Quality and Health CP

*User Interface Committee (UIC) Meeting
Washington, DC*

Gary J. Foley, PhD
UIC Co-Chair
August 1, 2007

A Spectrum of User Communities

From observations

Earth observations &
earth system models

Data-to-Information
archiving & services

Scientific Knowledge

Decision support tool
development

Decision making

Assessment of benefits



Earth system scientists
and modelers

Earth system service
providers

Sci Discipline Researchers

Env., Economic & Health
modelers & researchers

Policy Makers, Env.
Managers & PH Officials

Public officials, advocacy
groups and the Public

To societal benefits



RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

Communities of Practice (CP)

A user-led community of stakeholders,

- **from providers**
- **to the final beneficiaries of Earth observation data and information,**

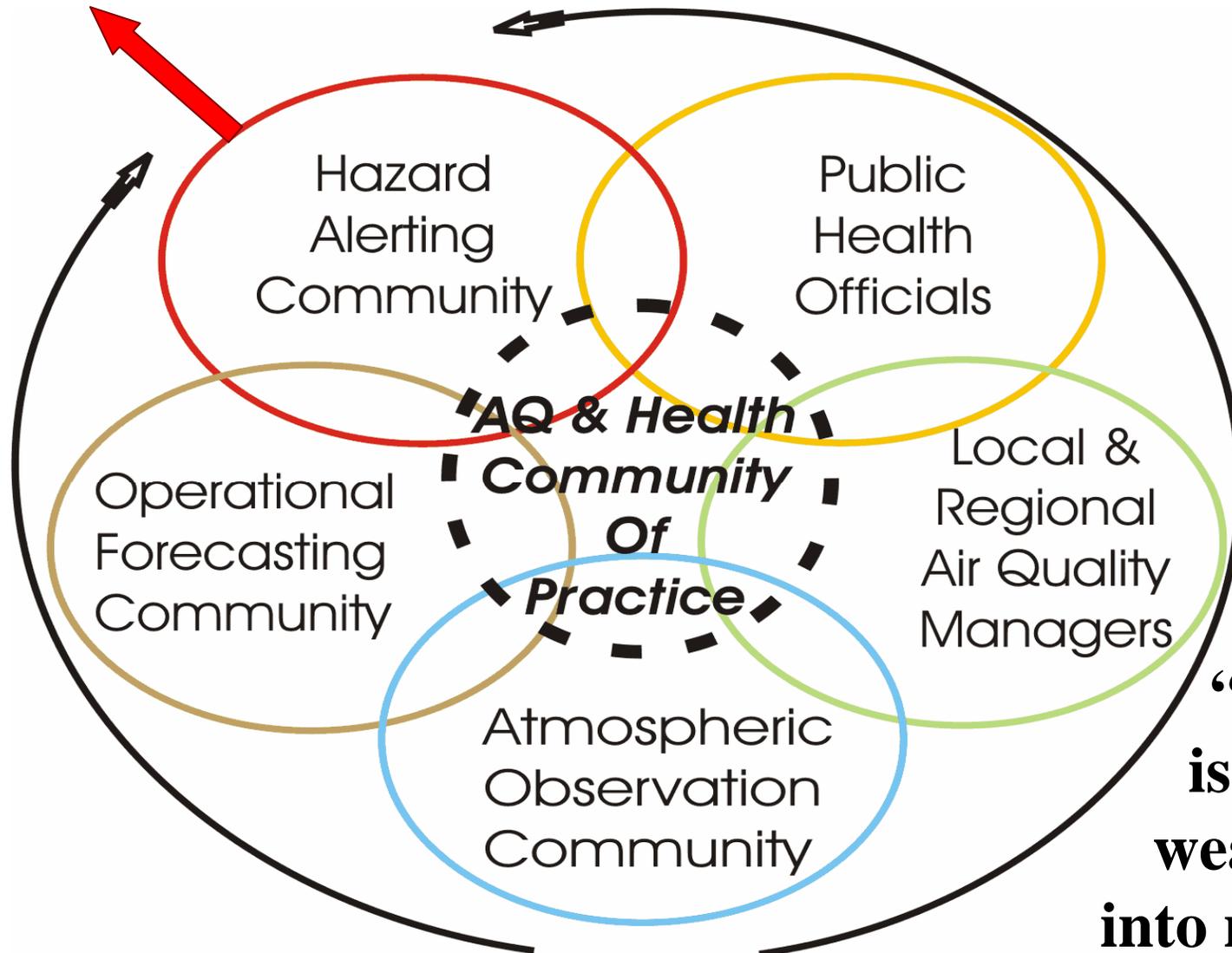
with a common interest in specific aspects of societal benefits to be realized by GEOSS implementation.

The Communities of Practice will be self organized, reporting progress to UIC/GEO



An Example Community of Practice: Air Quality & Health

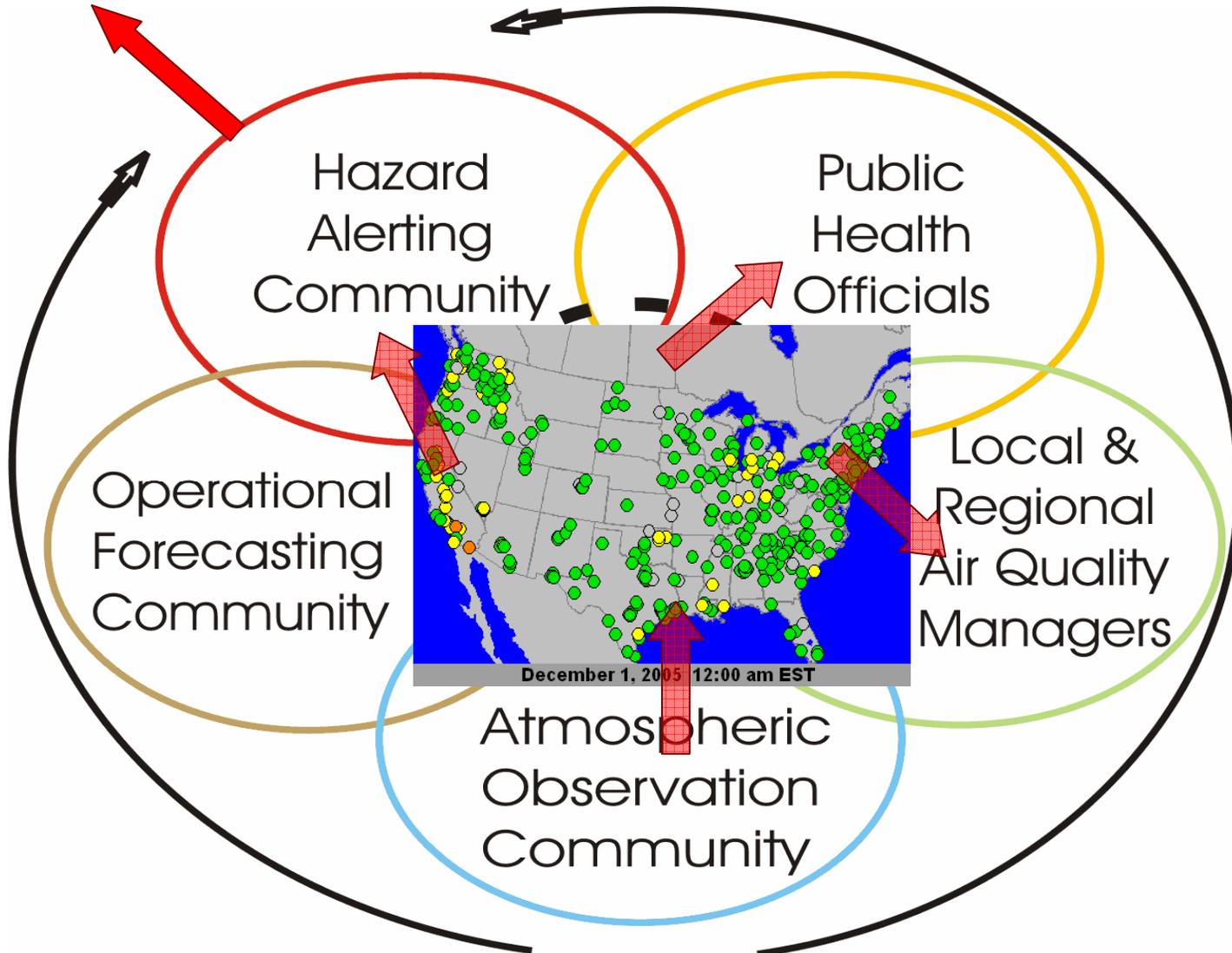
The Public



**“The world
is intuitively
weaving itself
into networks.”**

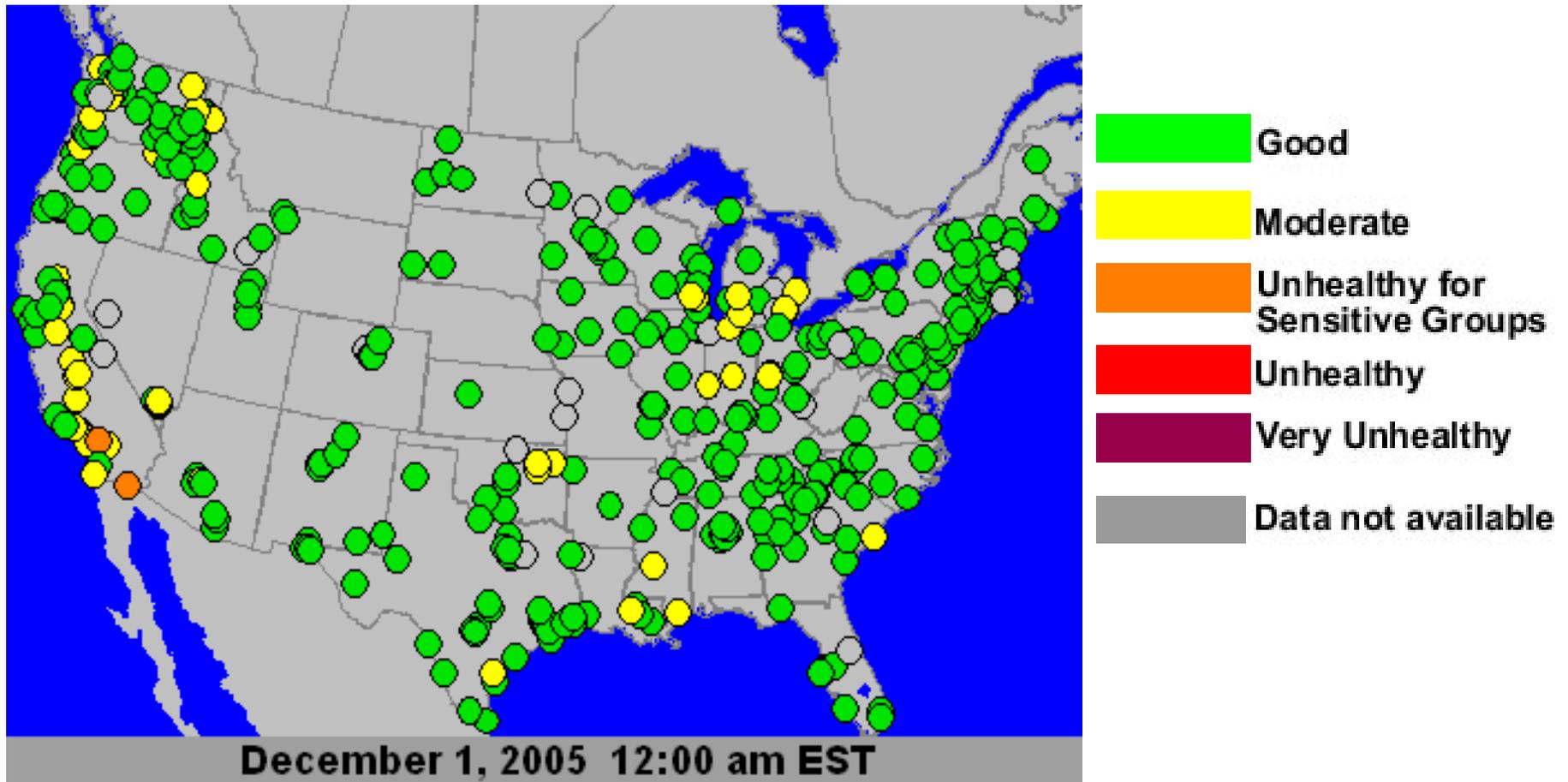
Real-time AQ Reporting

The Public



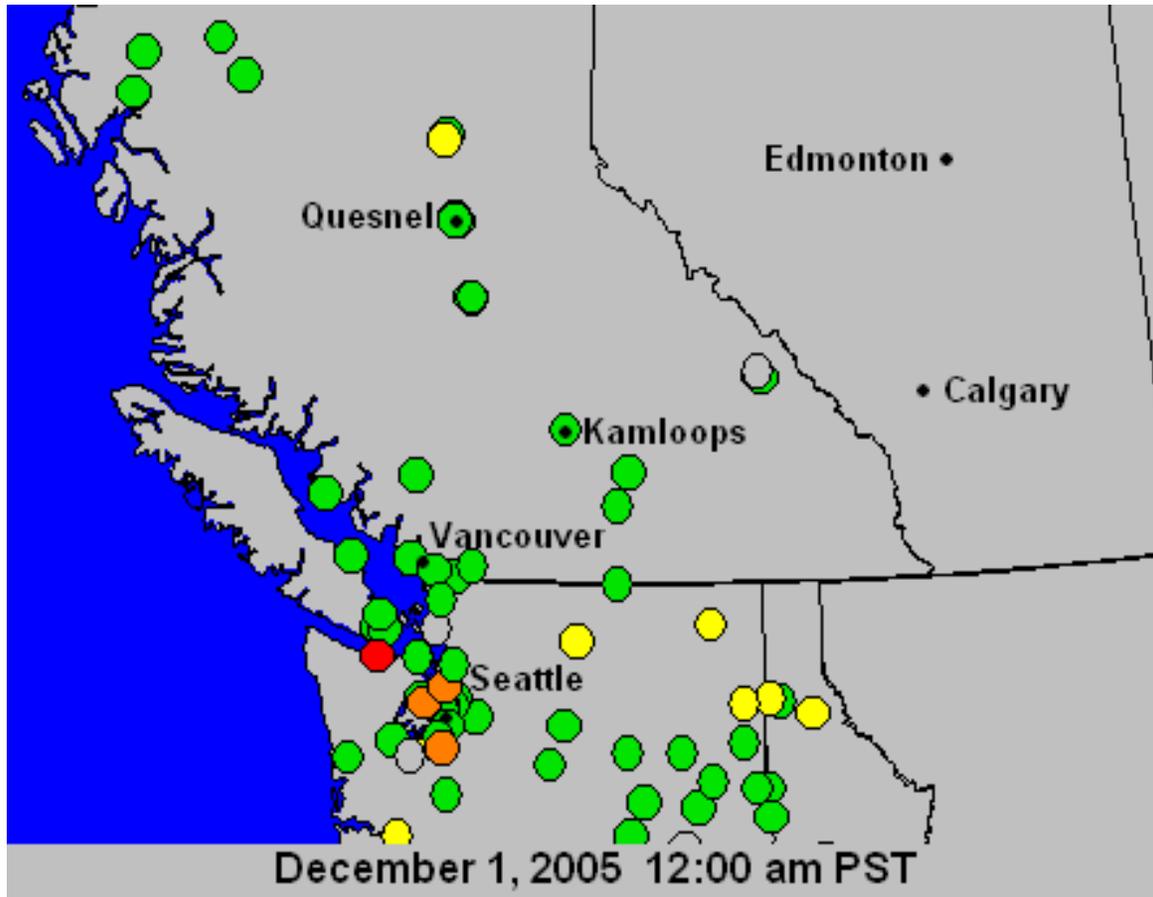


Current AQI – Particle Pollution(PM2.5)





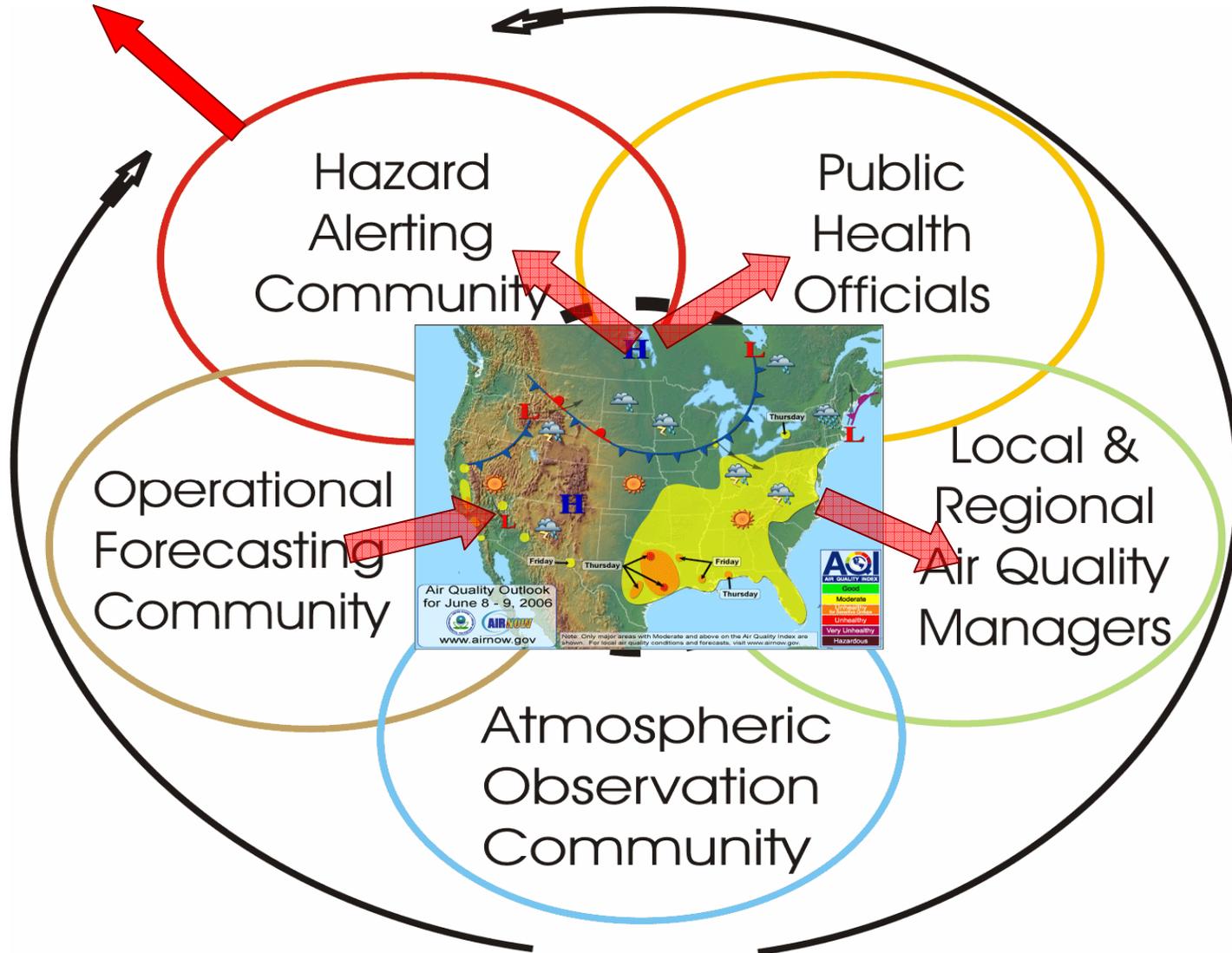
Current AQI - Particle Pollution(PM2.5)

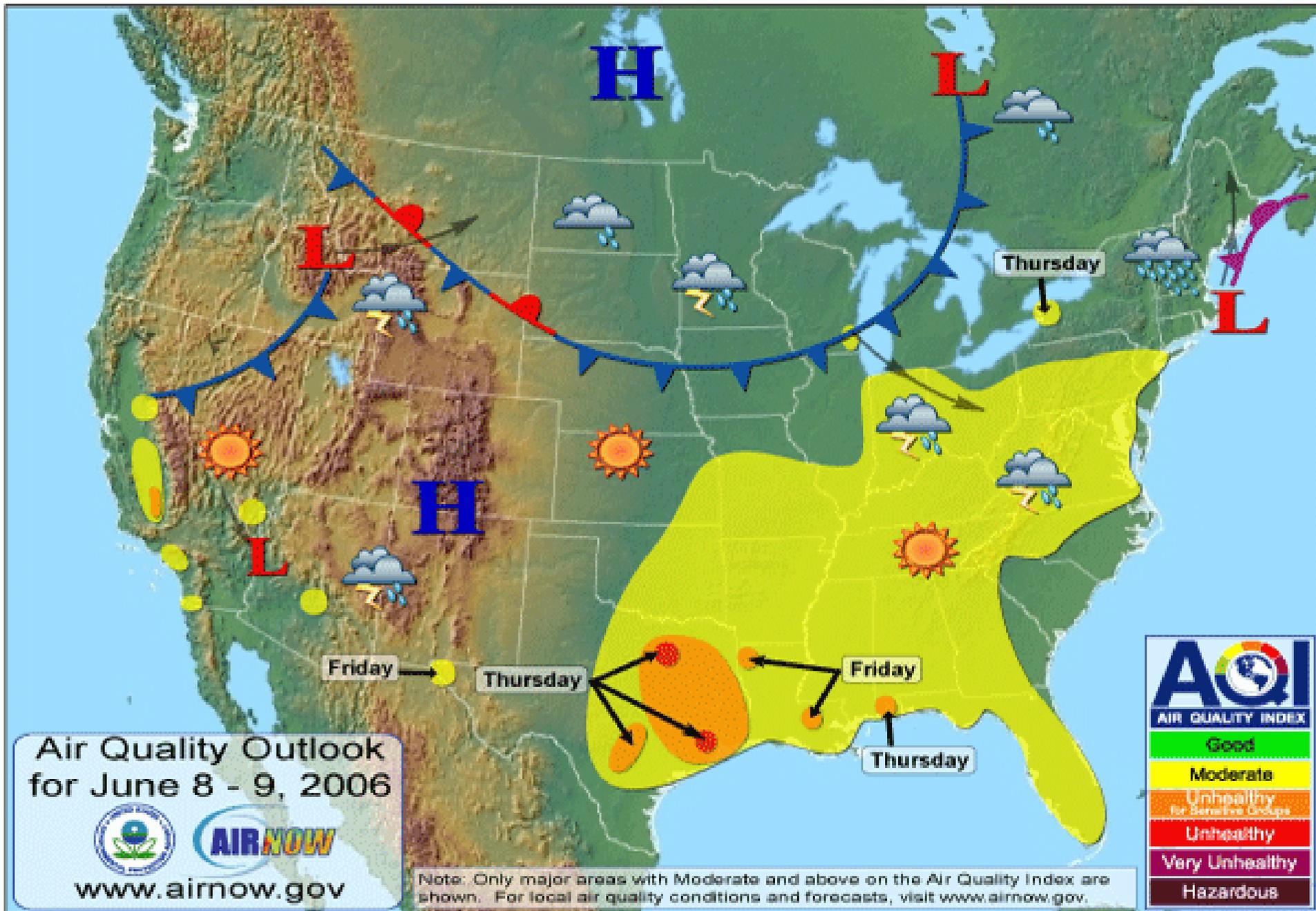


- Good
- Moderate
- Unhealthy for Sensitive Groups
- Unhealthy
- Very Unhealthy
- Data not available

Real-time AQ Forecasting

The Public

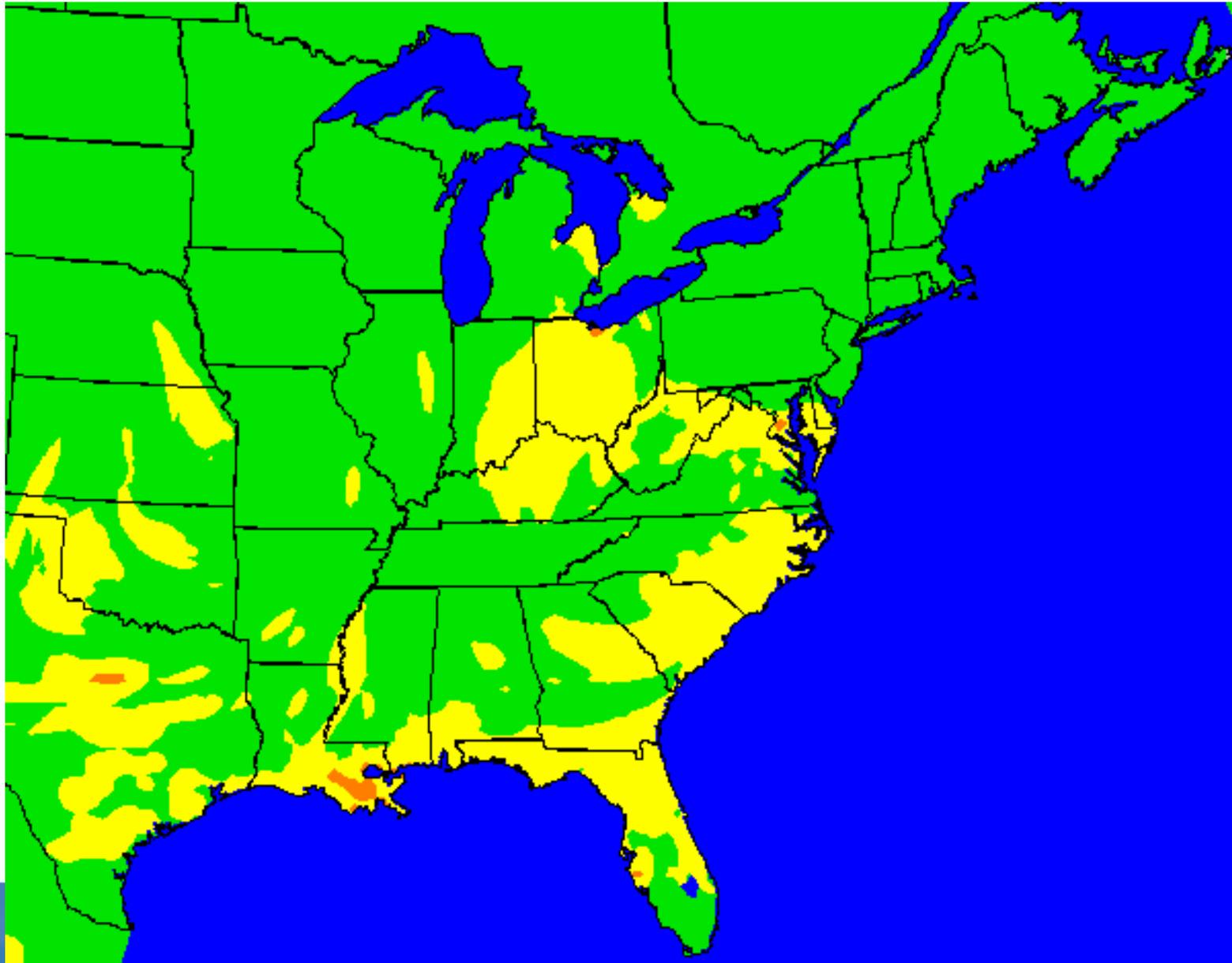


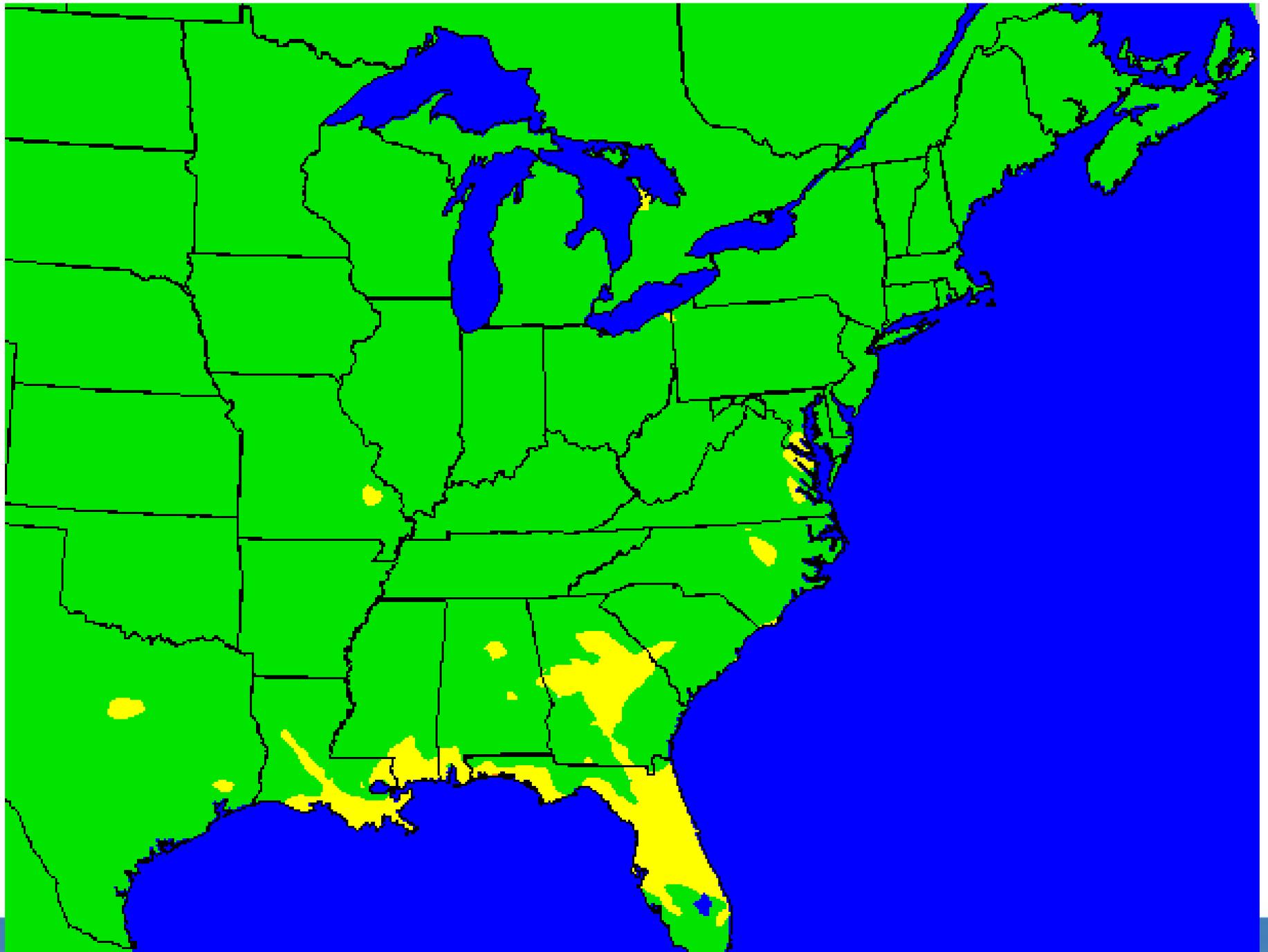


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June 9th Peak Ozone Forecast

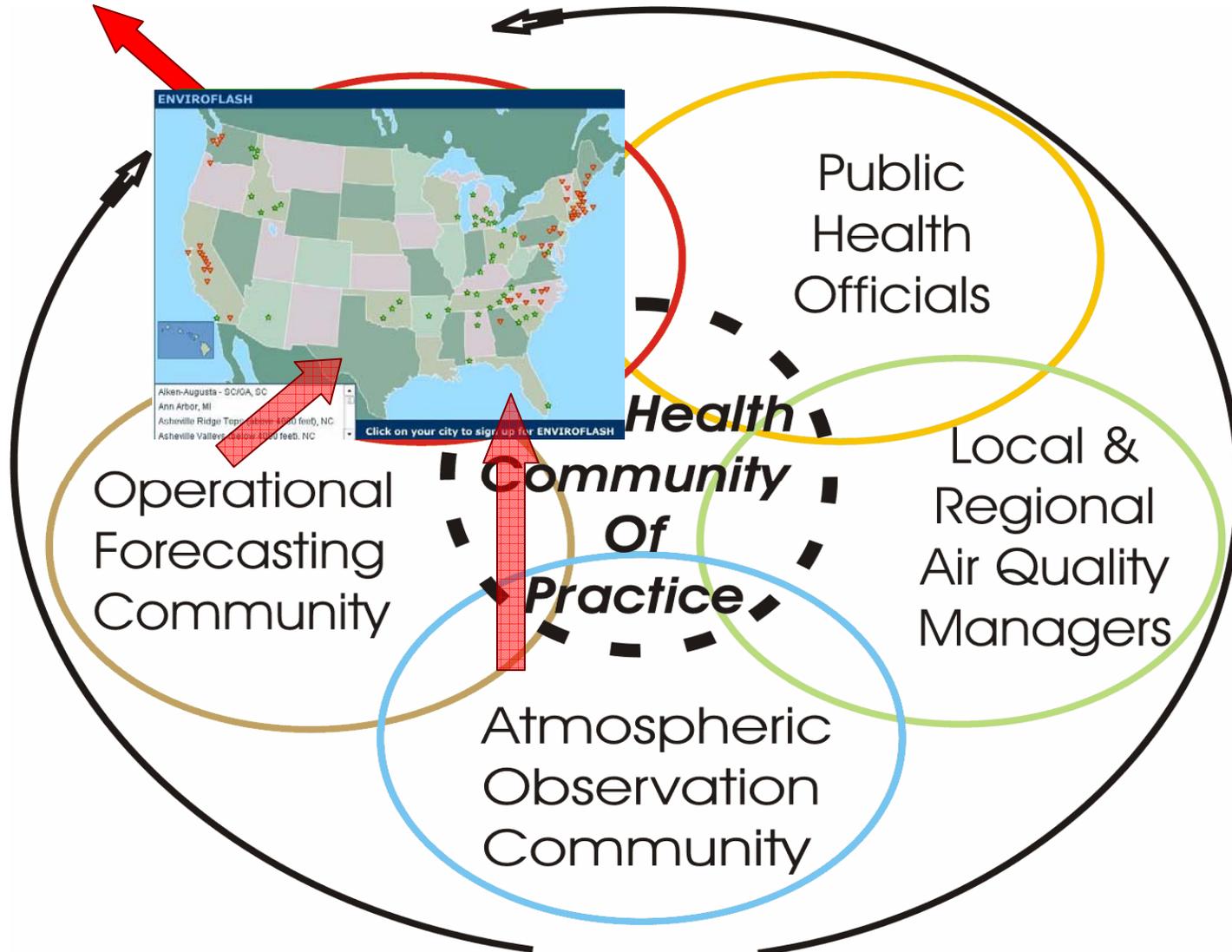




1:00 pm EDT June 7, 2006

Real Time Alerting of the Public

The Public



[\(View Non-Flash Version of This Map\)](#)

- Key Topics:
 - [Your Health](#)
 - [Smoke from Fires](#)
- sources
 - [Publications](#)
 - [Publicaciones](#)
 - [AQ](#)
 - [What You Can Do](#)
 - [About the Data](#)
- [Contact Us](#)

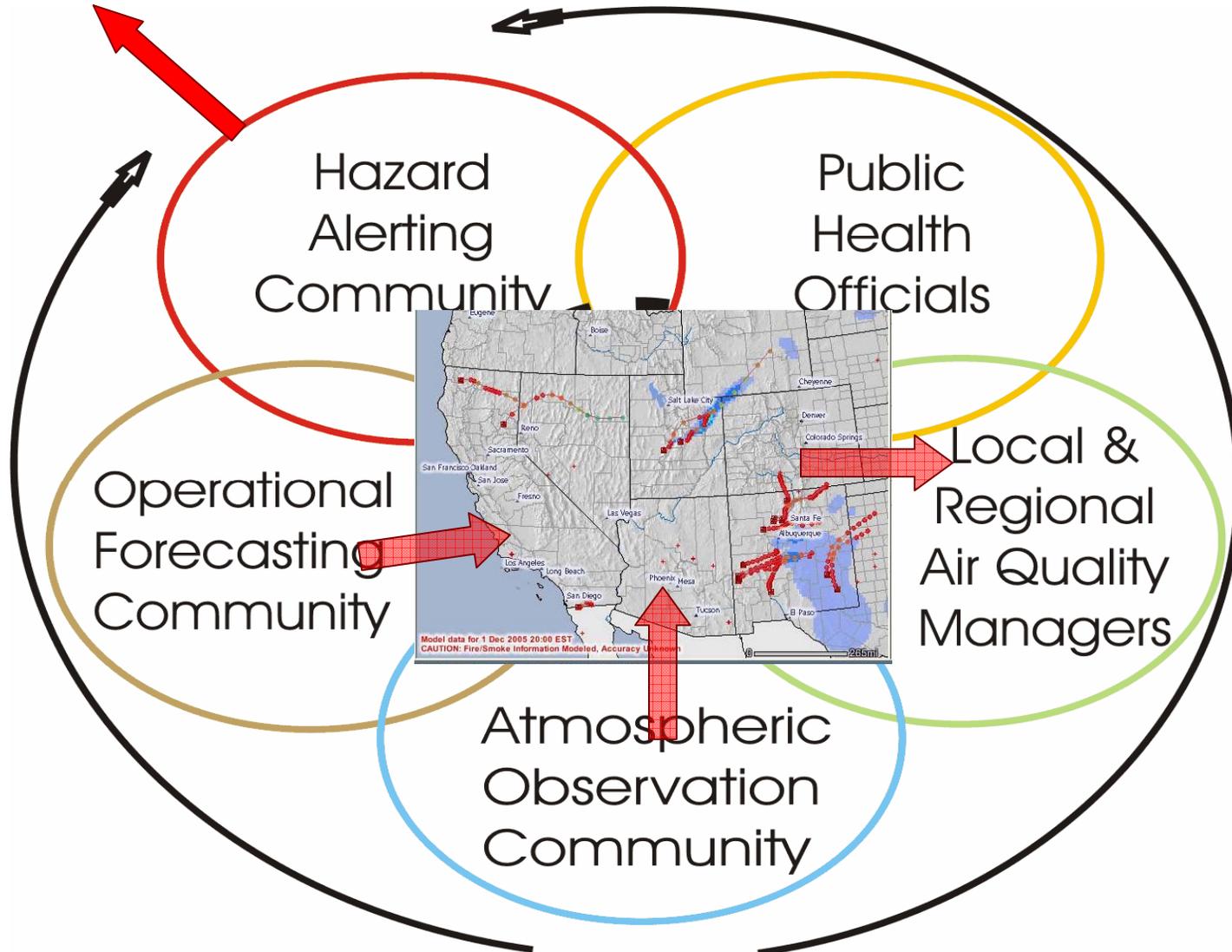


- ★ Cities with **EnviroFlash**
- ▼ Cities with other Air Quality E-mail Notification systems

Click a city on the map above. For EnviroFlash cities, an on-line subscription page allows users to sign up, edit the reported information, or cancel the service. Once you choose the type and frequency of service that you

Real Time Modeling of Smoke Plumes

The Public



Display Data For:

Dec 1 8 pm

2005 EST

HR -HR Refresh Map +HR +3HR

Auto Refresh

Data Layers

Data Status

12km Predictions

Wildfire Locations

Trajectories

Burn Trj Hourly Pts 12km

Burn Trj Lines 12km

Default Trj Hourly Pts

Default Trj Lines

Smoke/Weather Layers

Surface Winds

36km Predictions

NOAA Fire/Smoke Informati

Other Pollution Sources

Observed Air Quality

Receptors

Base Map Data



Bluesky Animations

Bluesky Pacific NW

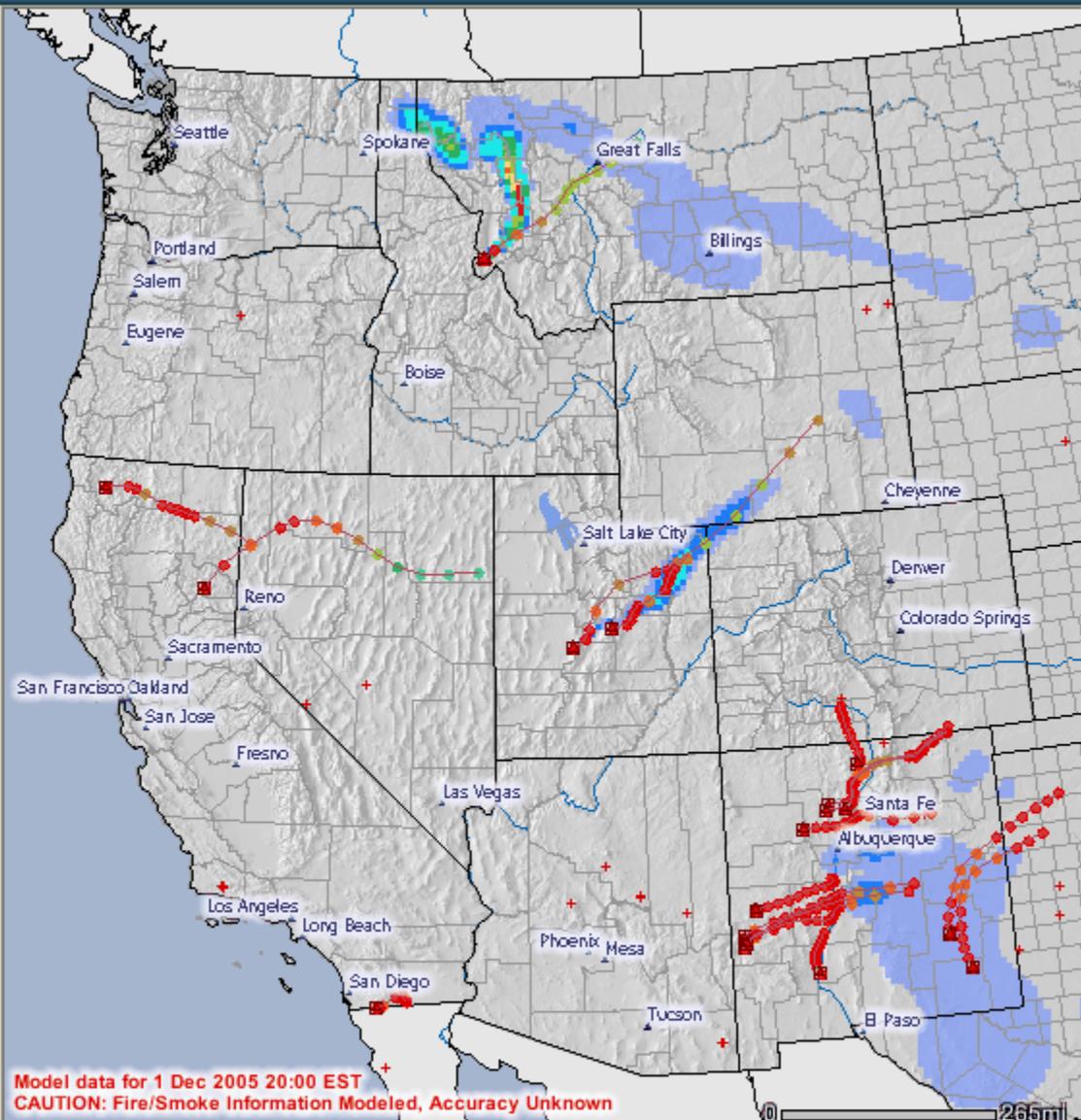
NOAA Animations

Layer Help

A closed group, click to open.

An open group, click to close.

A hidden group/layer, click to mak



Model data for 1 Dec 2005 20:00 EST
CAUTION: Fire/Smoke Information Modeled, Accuracy Unknown



Map Legend

- Wildfire Locations
 - ▲ 0 - 100 Acres
 - ▲ 100 - 1000 Acres
 - ▲ > 1000 Acres
- Burn Trj Hourly Pts 12km
Hours From Start
○ 0 2 4 6 8 10 12
- Meters Above Surface
 - < 100
 - 100 - 250
 - 250 - 500
 - 500 - 750
 - 750 - 1000
 - 1000 - 1500
 - 1500 - 2000
 - > 2000
- Burn Trj Lines 12km
- Predicted Surface PM2.5
12km
1 5 10 20 40 60 >65
Low Mod High
- NOAA Fire Detects
+

Zoom/Back Pan/Move Select/Show/Clear Data Print/Download/Bookmark

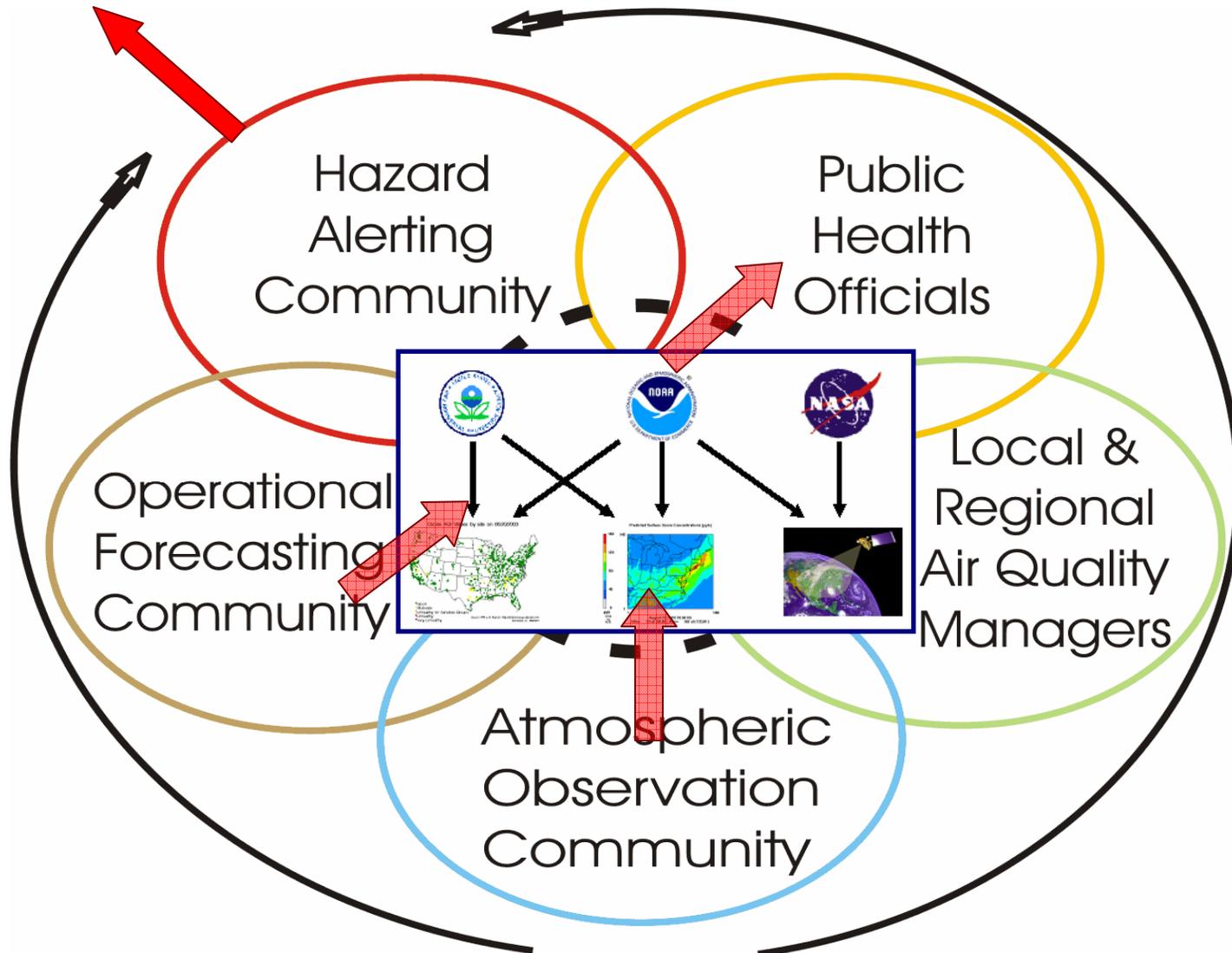
or help

ayouts

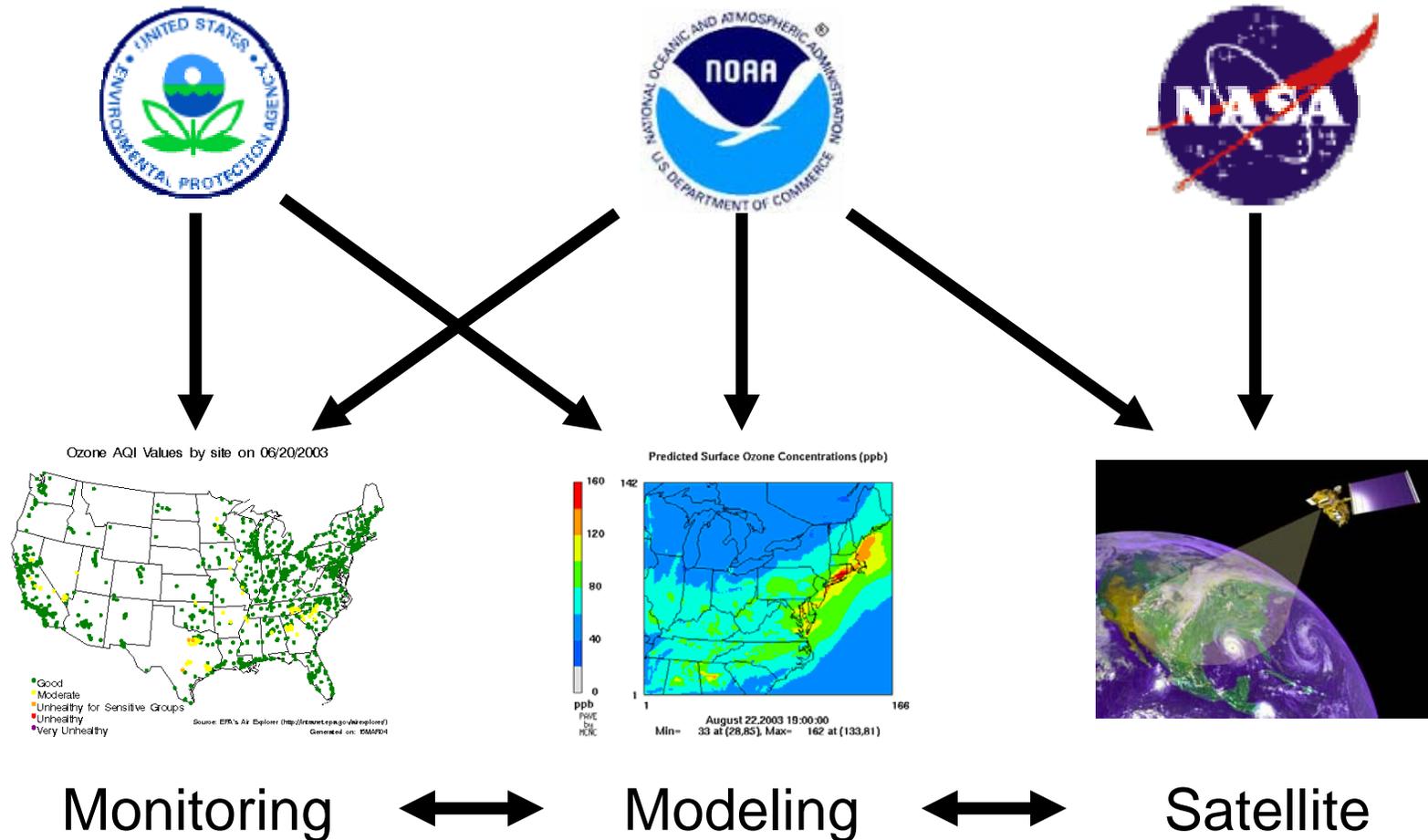
new slides

Better Air Quality Information for Public Health Tracking

The Public



Partnerships in Better Characterizing Air Quality



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The Public Health Air Surveillance Evaluation (PHASE) Project



- Develop and evaluate alternative air quality characterization methods for environmental public health tracking
 - Air Pollutants
 - Ozone and Particulate Matter
 - Health Endpoints
 - Asthma and Cardio Vascular Disease
- Working with 3 CDC State Partners
 - Maine
 - New York
 - Wisconsin



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An Example Community of Practice: Air Quality & Health

The Public

