Ambient Air Monitoring Update



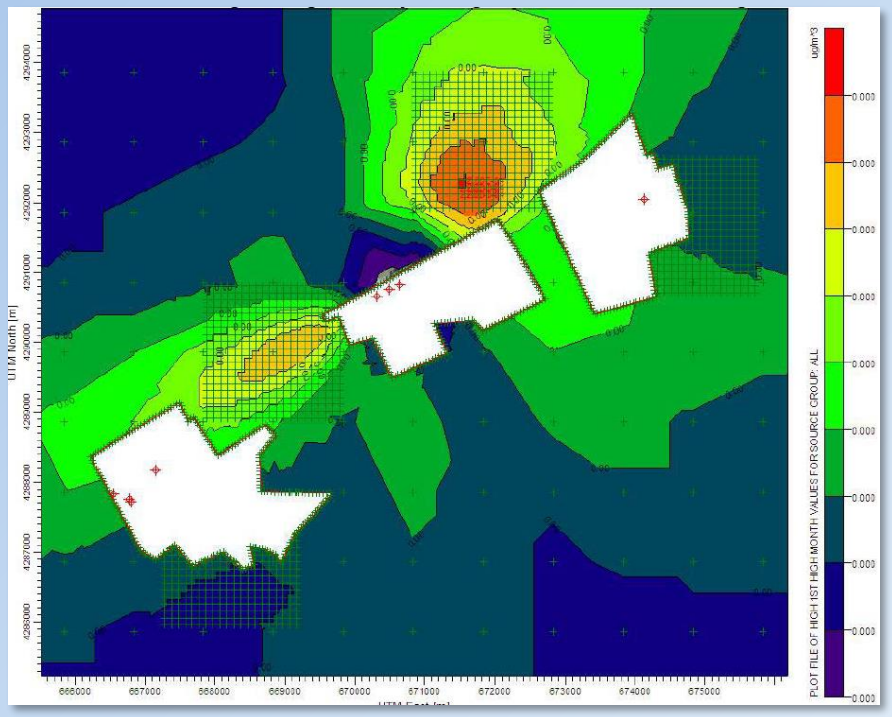
Daniel Garver
US EPA Region 4
Air Modeling Workshop, November 5, 2014

EPA United States Environmental Protection Agency

Lead (Pb) Source-Oriented Monitoring Waivers

[40 C.F.R 58 Appendix D 4.5(a)(ii)]

- Air monitoring is required near sources that emit > 0.5 tons per year of Pb
- EPA can grant waivers of required source-oriented monitors if monitoring agency can demonstrate that:
  - Maximum Pb concentration will not exceed of 50% of the NAAQS (based on historical monitoring data, modeling, or other means).



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Pb Source-Oriented Monitoring Waivers (cont.)

[40 C.F.R 58 Appendix D 4.5(a)(ii)]

- Waiver requests were originally submitted in 2011
- Must be renewed with every 5-year network assessment
- Next assessment due July 1, 2015

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Half-ton Pb Sources in Region 4

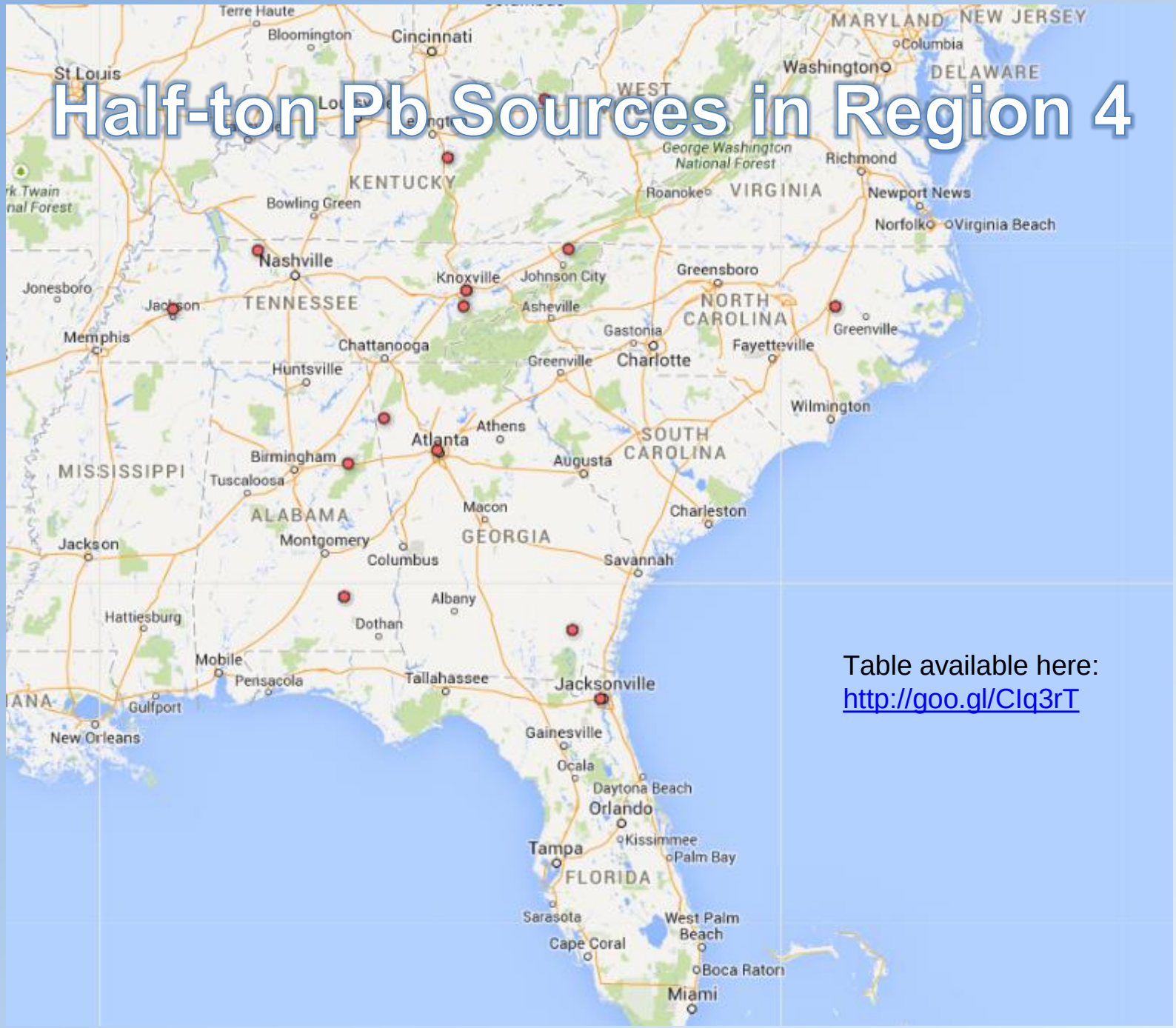
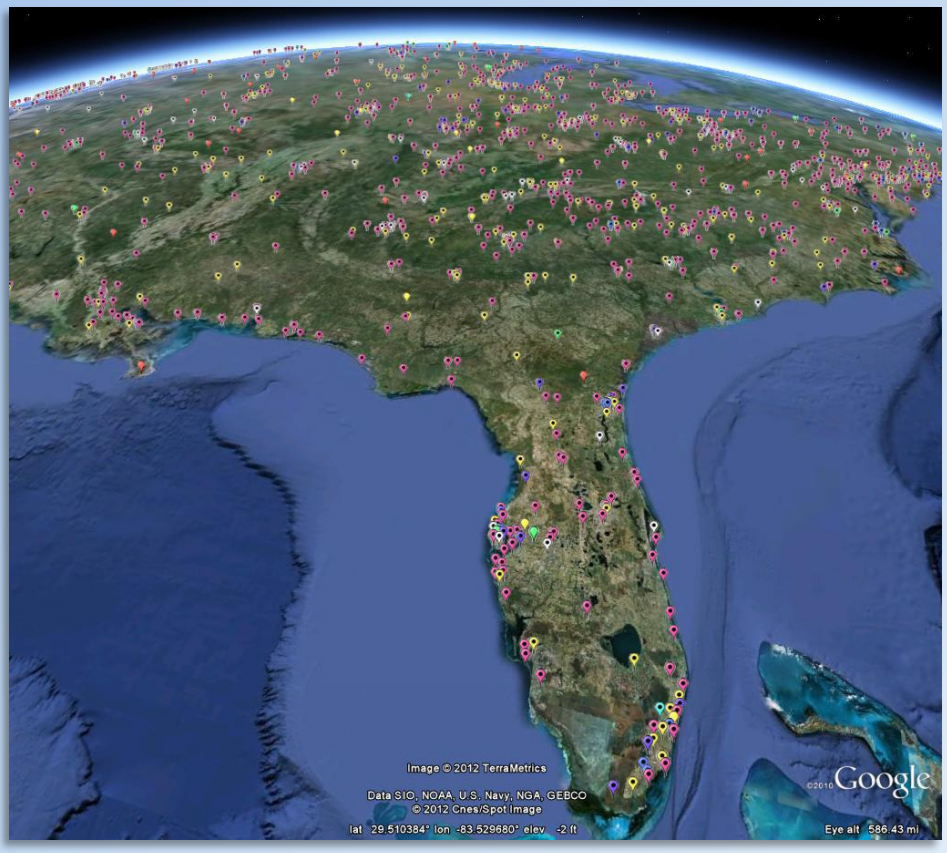


Table available here:
http://goo.gl/CIq3rT

Five-Year Air Monitoring Network Assessments

40 CFR 58.10(d)

- Next assessment is due July 1, 2015
- Focuses on questions like:
  - Are monitoring objectives being met?
  - Are sites still in the correct locations?
  - Are additional sites needed?
- Uses different data sources to assess network:
  - Emissions
  - Modeling
  - Population, etc.



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Tools to Access or Analyze Air Monitoring Data

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How to Access Air Monitoring Data

- epa.gov/airdata
- airnowtech.org
- Air Quality System (AQS) standard reports (requires user ID)
- AQS data mart web query
  - http://www.epa.gov/ttn/airs/aqsdatamart/access.htm
  - Must register for user ID and password
- AQS data mart REST web service query
  - http://www.epa.gov/airdata/tas_URL_Query_Construction_Details_rawData.html
  - https://ofmext.epa.gov/AQDMRS/aqdmrs.html
- Download of raw data files
  - http://www.epa.gov/ttn/airs/airsaqs/detaildata/downloadaqsdata.htm

AirData

Access to monitored air quality data from EPA's Air Quality System (AQS) Data Mart

Basic Information

AirData gives you access to air quality data collected at outdoor monitors across the United States. Read more

Reports

Air Quality Index
Display an annual summary of AQI values.

Air Quality Statistics
Display standards-related summary data by city or county.

Monitor Values
Display criteria pollutant summary data.

Monitor Values – HAPs
Display Hazardous Air Pollutant (HAP) summary data.

Visualize Data

AQI Plot
Compare AQI values for a location & time.

Tile Plot
Plot daily AQI values for a location & time.

Concentration Plot
Generate a time series plot for a location.

Concentration Map
Generate concentration maps for a specific time.

More Tools
See other visualization tools.

Download Data

Download daily or raw data to a spreadsheet or file.

Interactive Map

See where air quality monitors are located, get information about the monitors, and download monitor data. Select which monitoring networks to display.

Latest News

- **April 2, 2014** – A Monitor Values Report for Hazardous Air Pollutants is now available.
- **March 4, 2014** – Pre-generated files of data for the entire nation are now available at Download Data Files. These are files of our most commonly requested parameters at the annual, daily, and hourly summary levels.

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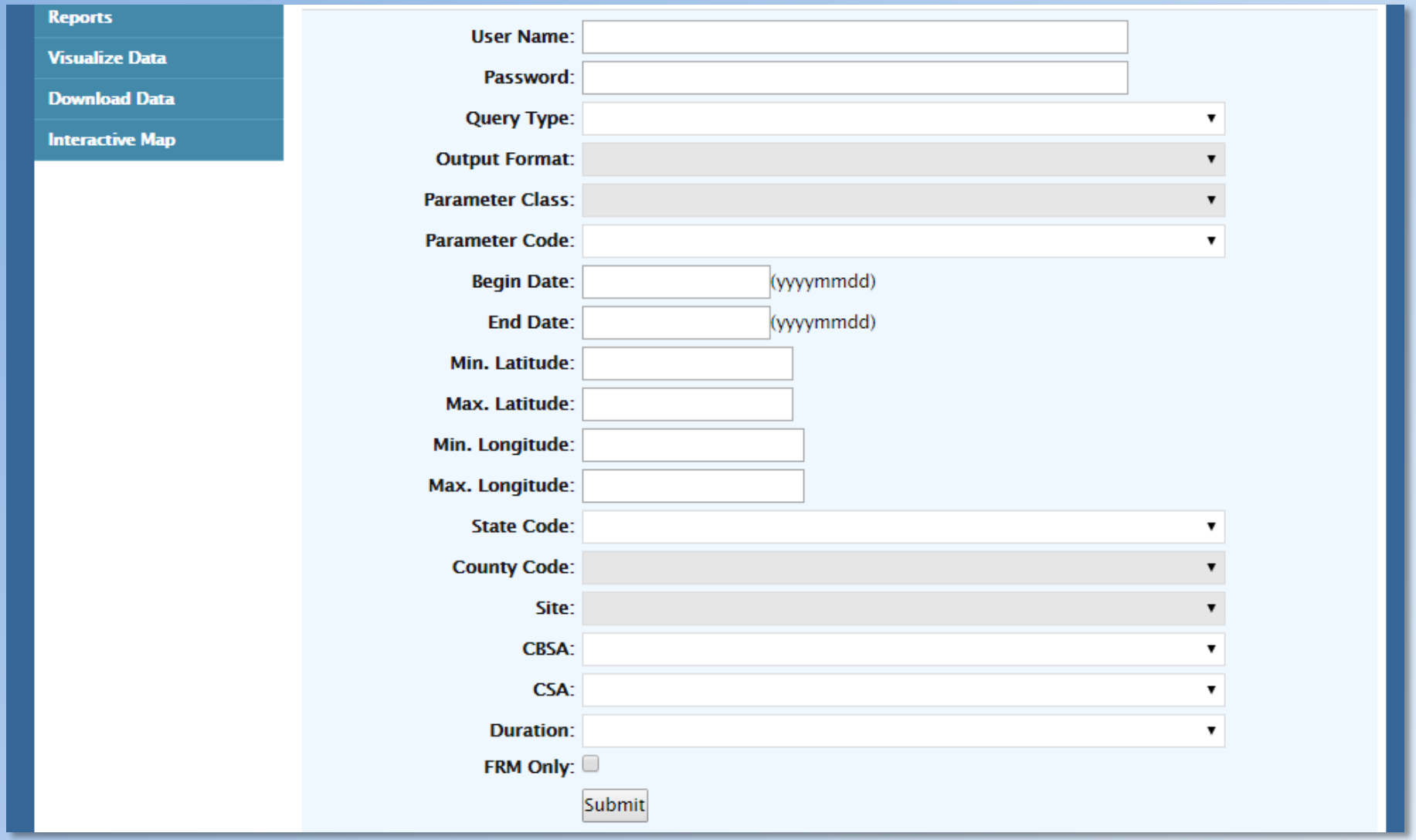
Other Sources of Air Data

- AirNow – forecasts and real-time data
- AirCompare – help with planning a move or vacation
- Air Emission Sources – national, state, and county summaries
- More Sources

AQS Data Mart Web Query



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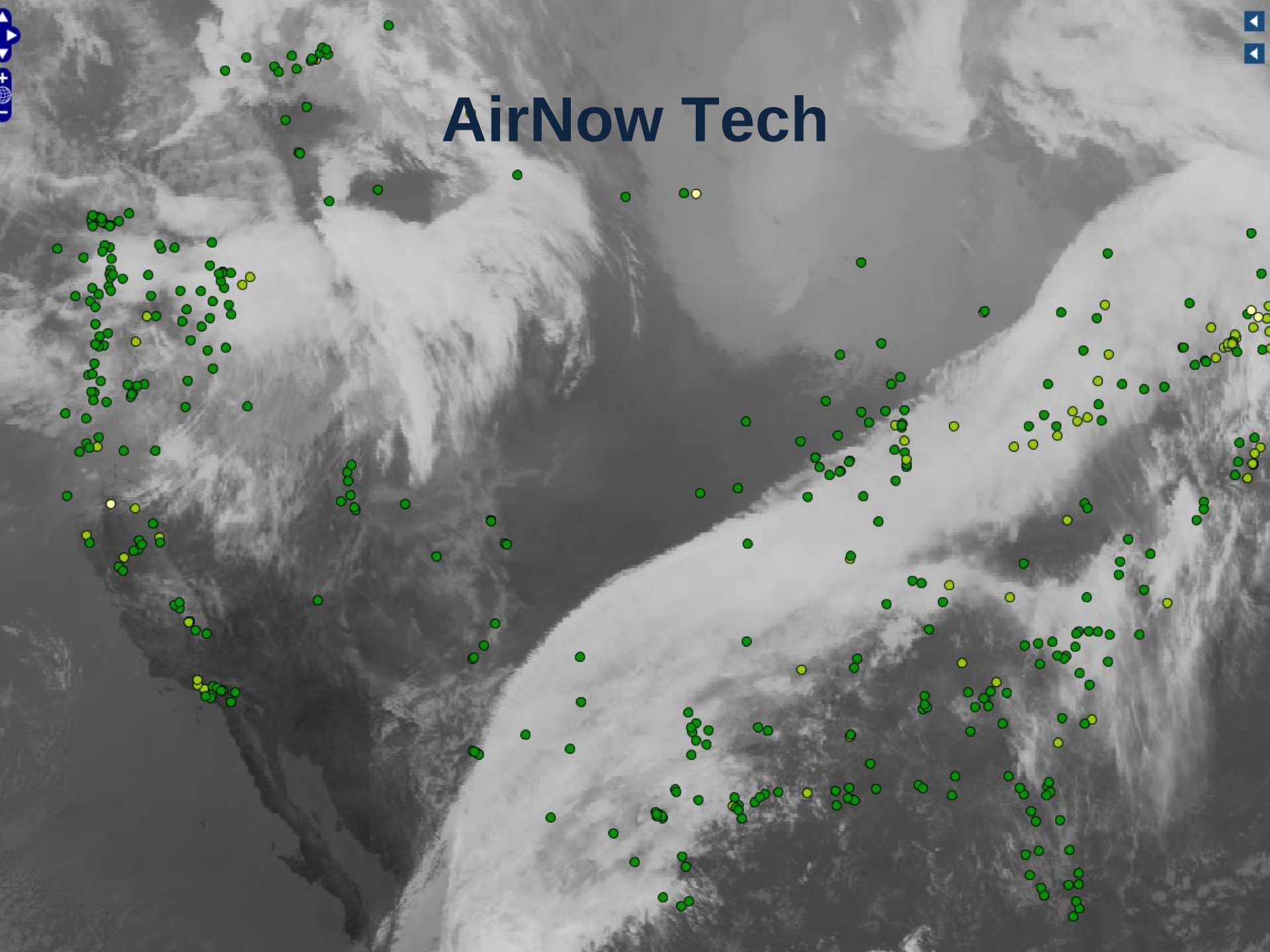
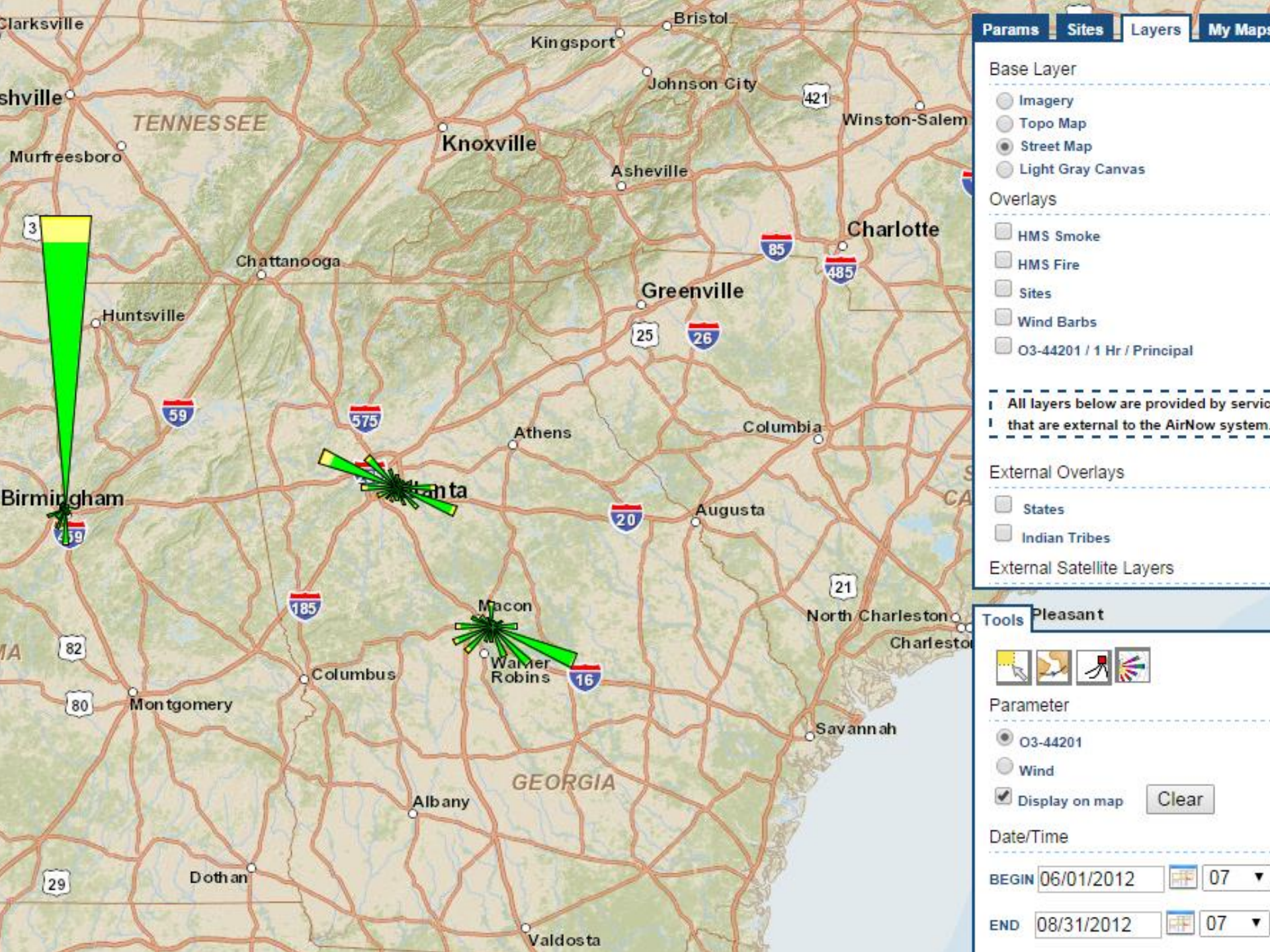
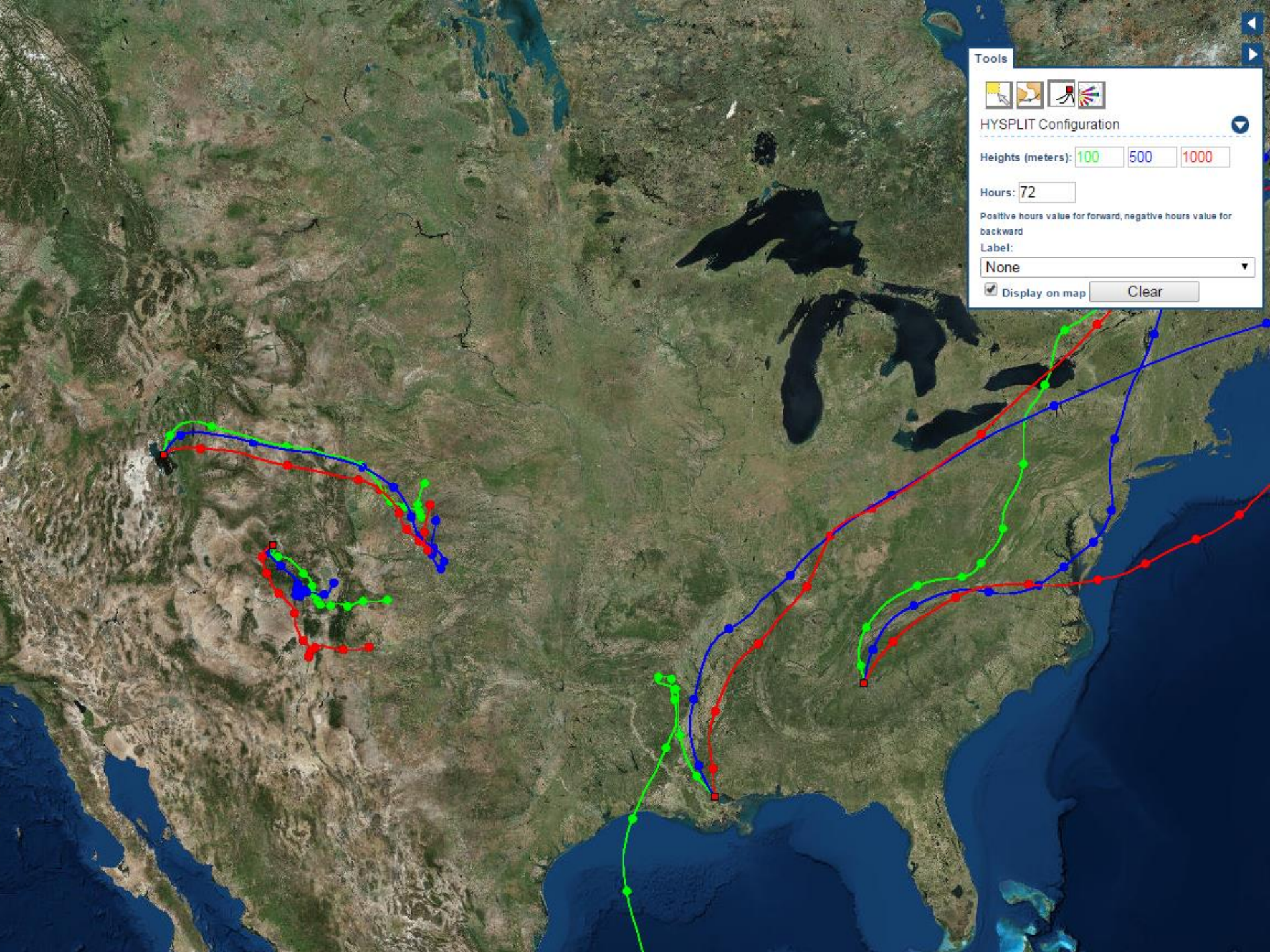
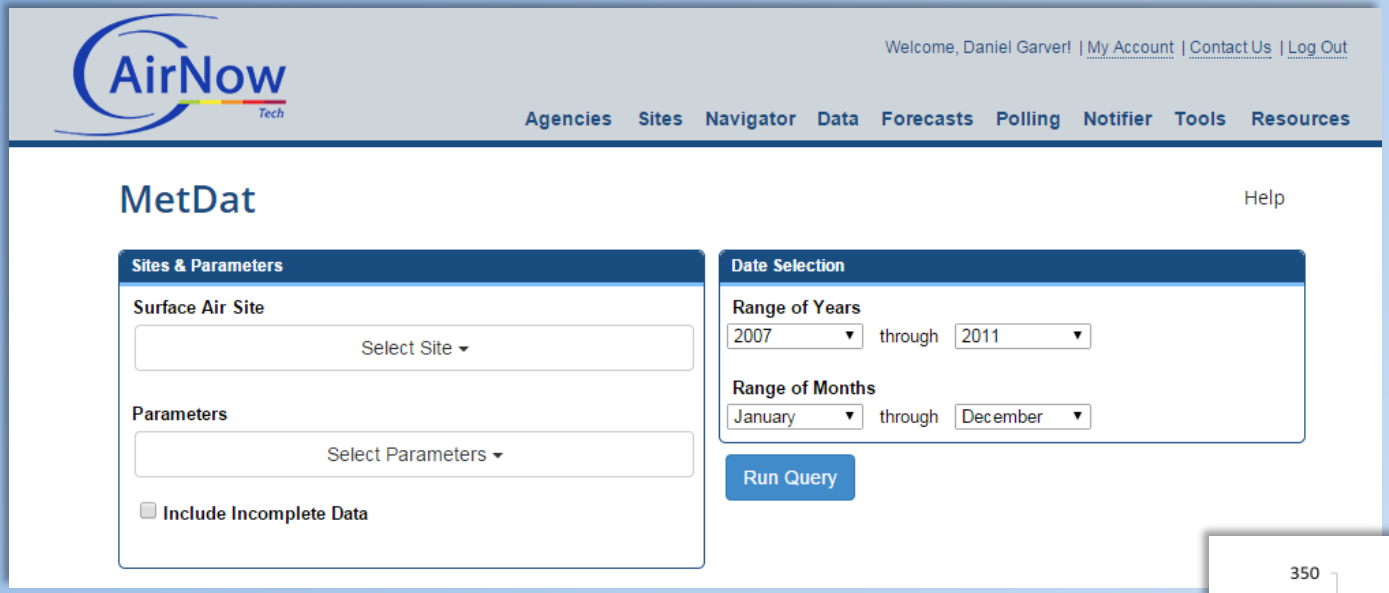
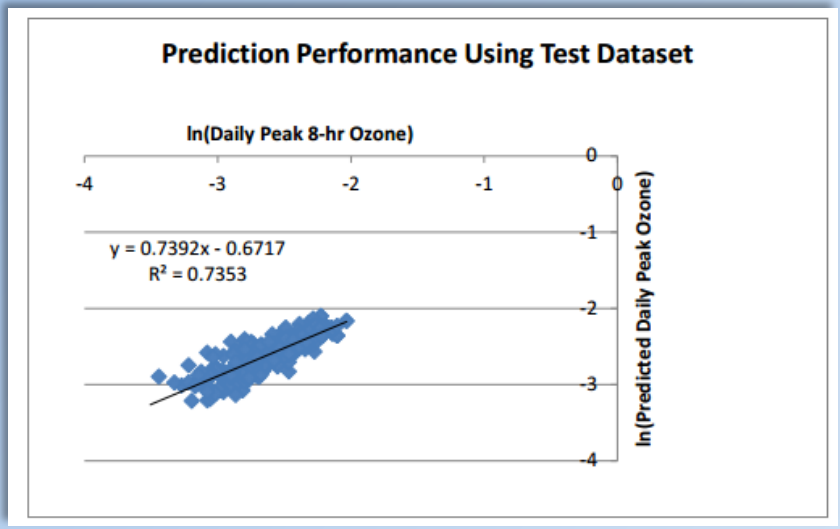

AirNow Tech


Clarksville
Bristol
Kingsport
Johnson City
421
Winston-Salem
shville
TENNESSEE
Murfreesboro
Knoxville
Asheville
Charlotte
3
85
485
Chattanooga
Greenville
Huntsville
25
26
59
575
Athens
Columbia
Birmingham
20
Augusta
21
185
Macon
North Charleston
82
Warner Robins
16
Columbus
80
Montgomery
Savannah
GEORGIA
Albany
29
Dothan
Valdosta
Params
Sites
Layers
My Maps
Base Layer
Imagery
Topo Map
Street Map
Light Gray Canvas
Overlays
HMS Smoke
HMS Fire
Sites
Wind Barbs
O3-44201 / 1 Hr / Principal
All layers below are provided by servic
that are external to the AirNow system.
External Overlays
States
Indian Tribes
External Satellite Layers
Tools
Pleasant
Parameter
O3-44201
Wind
Display on map
Clear
Date/Time
BEGIN 06/01/2012 07
END 08/31/2012 07


Tools
HYSPLIT Configuration
Heights (meters): 100 500 1000
Hours: 72
Positive hours value for forward, negative hours value for backward
Label:
None
Display on map
Clear

AirNow Tech MetDat Tool: Analyzing Ozone Impacts from Fires





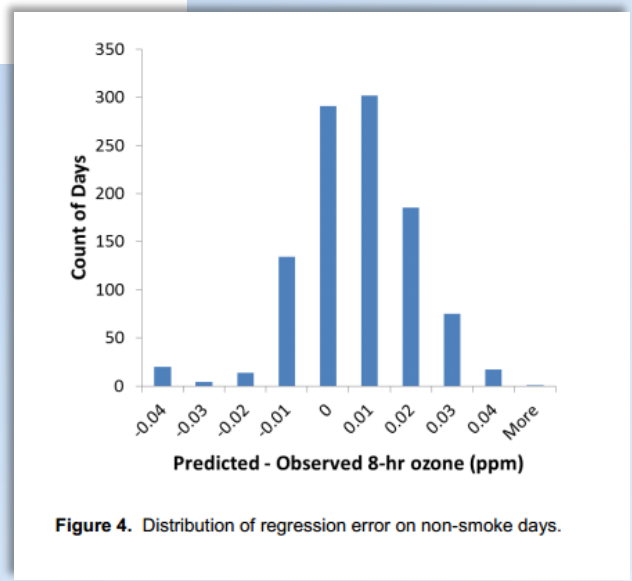
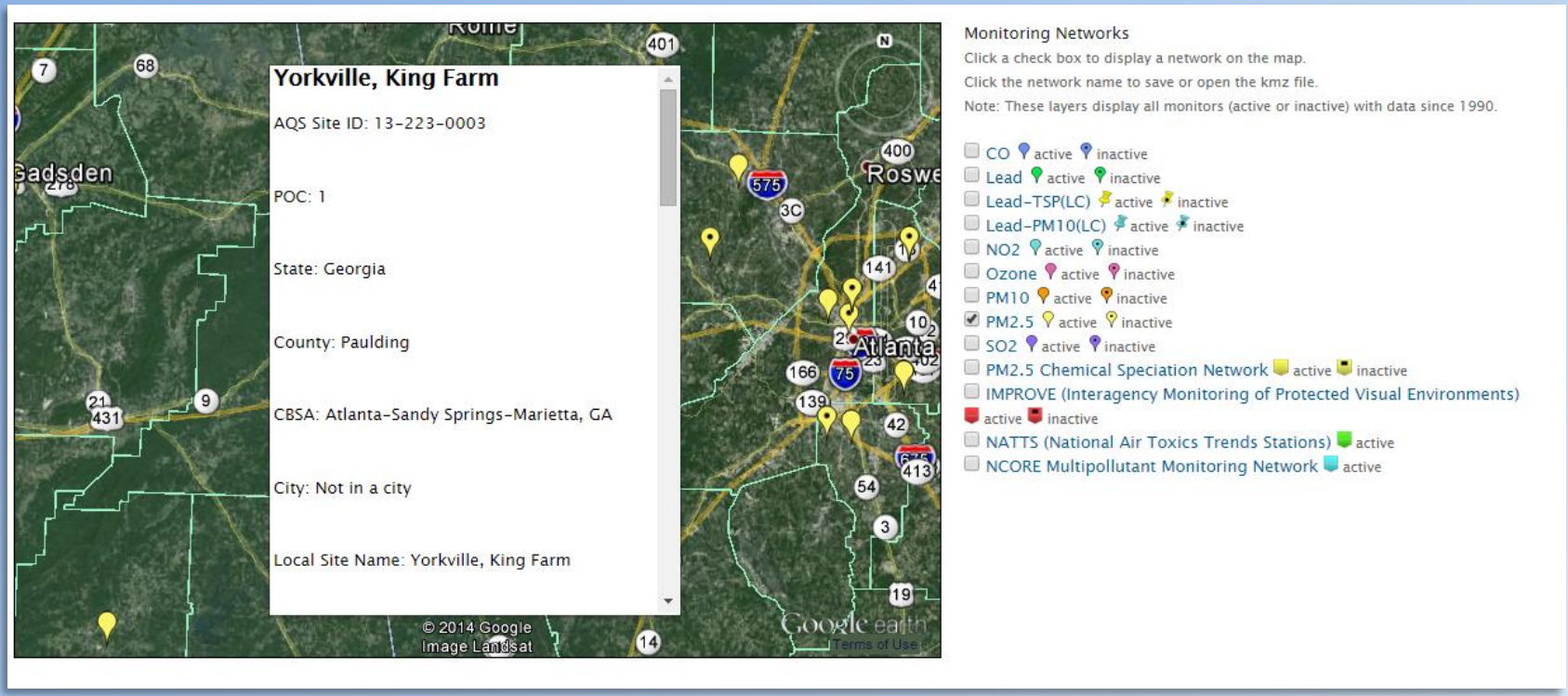


Figure 4. Distribution of regression error on non-smoke days.

Example: Selecting Background Data for PSD Modeling

- Generally, select sites based on:
  - Monitoring Objective: General Background Concentration
    - General background is preferable,
    - Regional transport monitors may be appropriate
  - Spatial Scale
    - Regional is preferable, larger is better
    - Urban scale may be used in some cases
  - Proximity to the Source (often less important, depends on pollutant)
  - Historical Data
    - Prefer currently operating sites with multiple years of data

Selecting Background Data, Continued



- Site selections should be made on a case-by-case basis
- Talk to your air monitoring staff about which sites make sense

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Questions?

Contact Information:

- Daniel Garver
  EPA Region 4
  Garver.Daniel@epa.gov

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