



AIRNow and AQS
May-December Romance?



Da Pollutant Occurrence Code



...and other mysteries of
AIRNow -- explored

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AIRNow and AQS

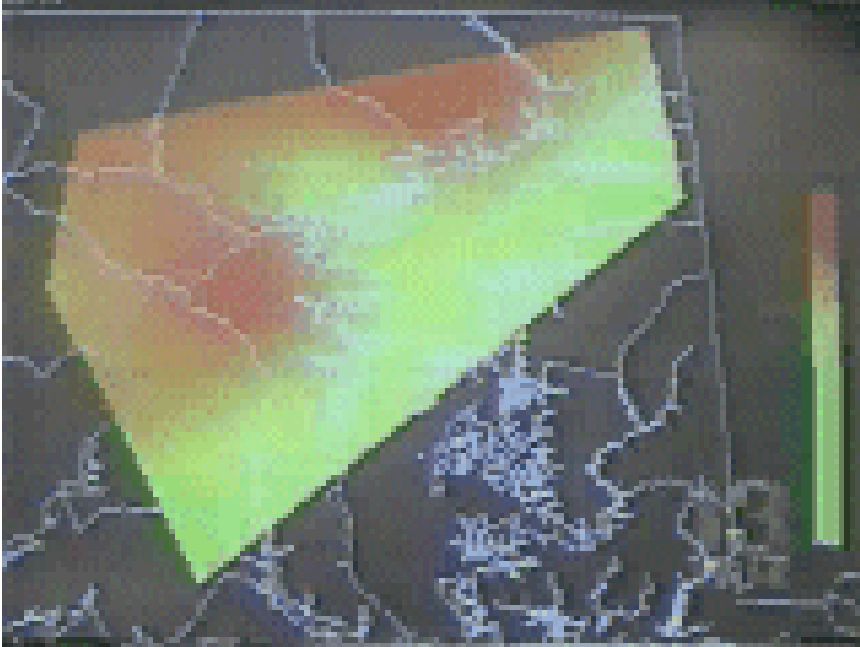
Apples and Oranges?

Outline

- Brief History of AIRNow
- Briefer history of AQS
- What is the relationship?
- AIRNow and AQS – differences and similarities
- AIRNow Tools and Resources
- Will the two become one?



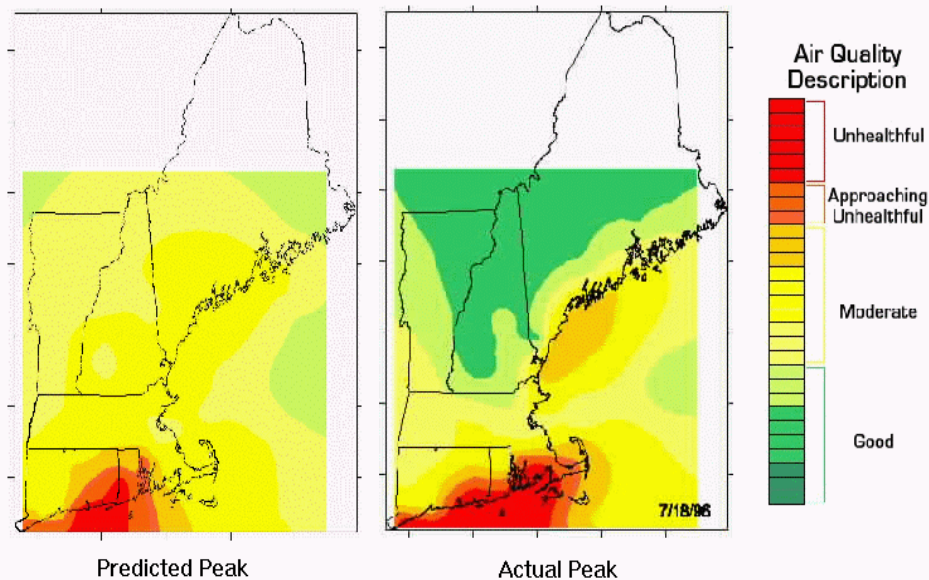
1995 – A napkin, a cocktail, an idea...



- Maryland MDE, ALA-Maryland
- 2 Cities (Baltimore, D.C.)
- 1 Map
- Updated daily



1996 – Regional Maps and Forecasts

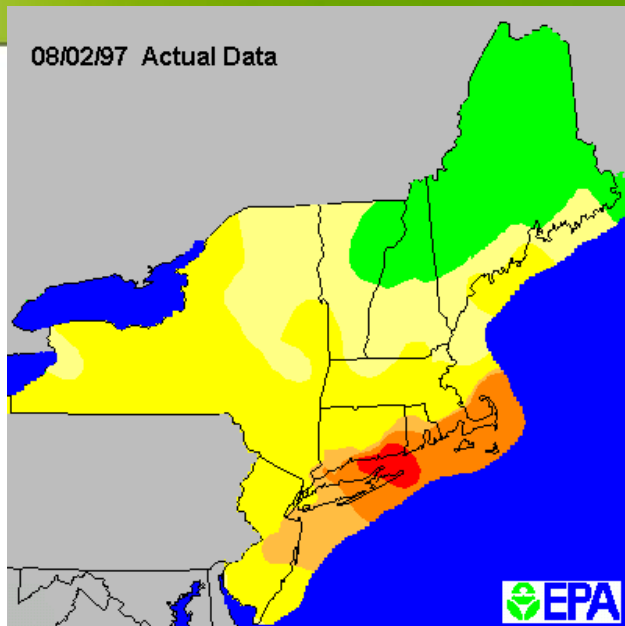


- EPA Region I & NESCAUM
- 6 New England States
- 1 Peak Map
- Based on 1-hour standard
- Updated periodically
- Regional Forecast Map

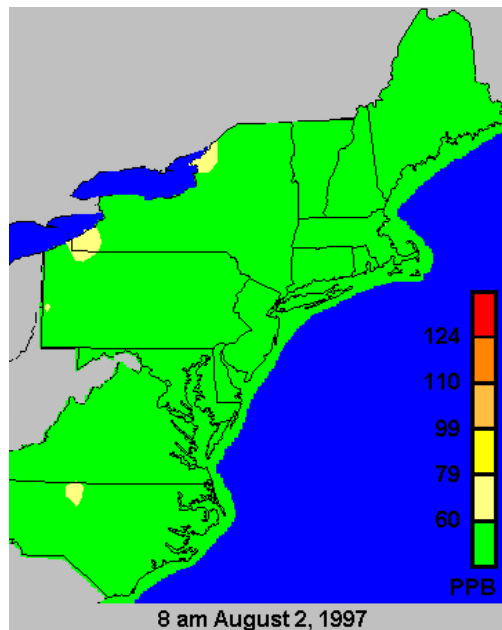


July 18, 1996

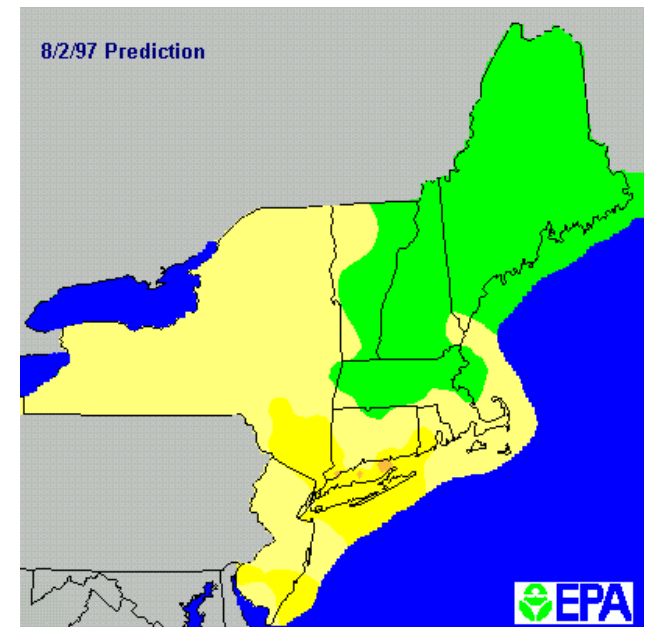
1997 – “Production”



1-hr Peak Maps



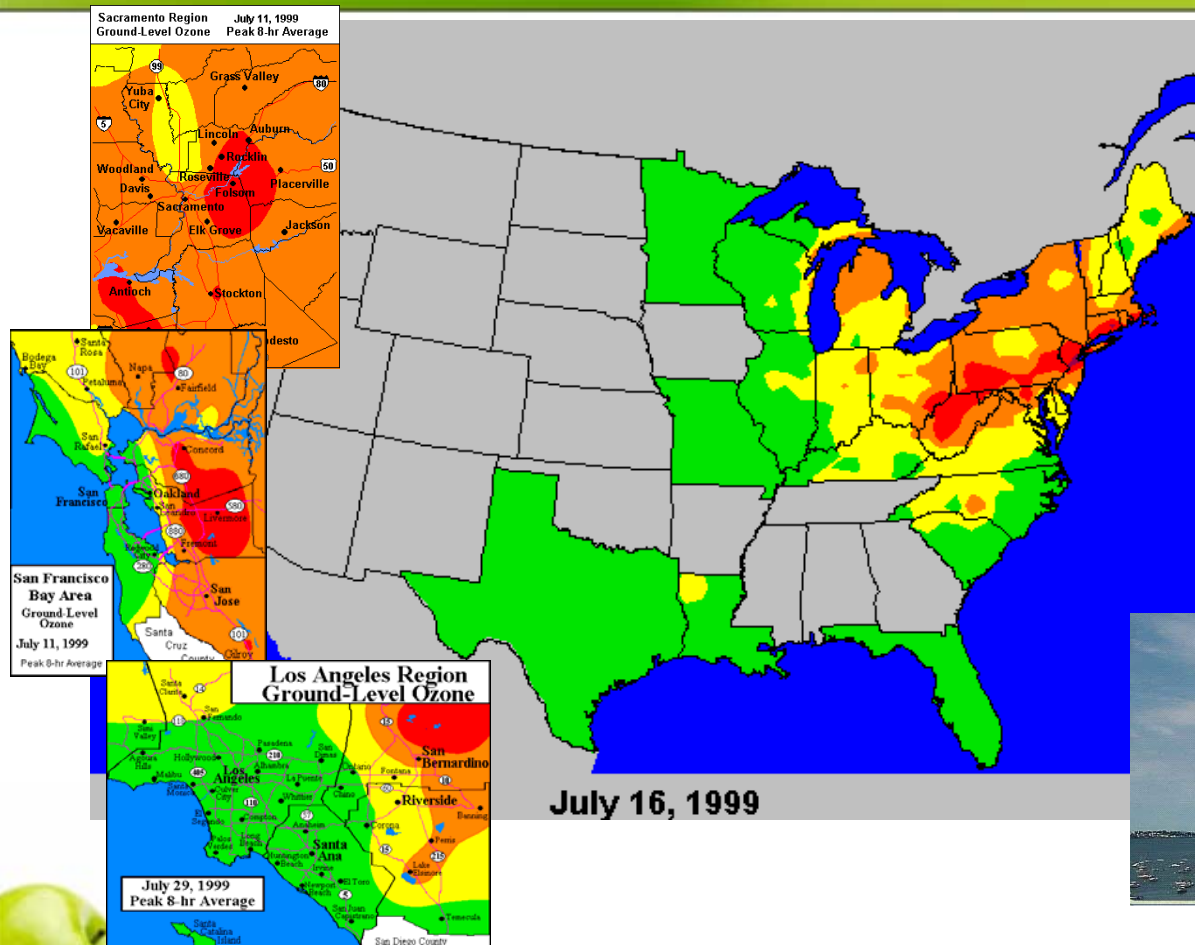
1-hr Animations



1-hr Peak Forecast Maps



1999 - The Early Years



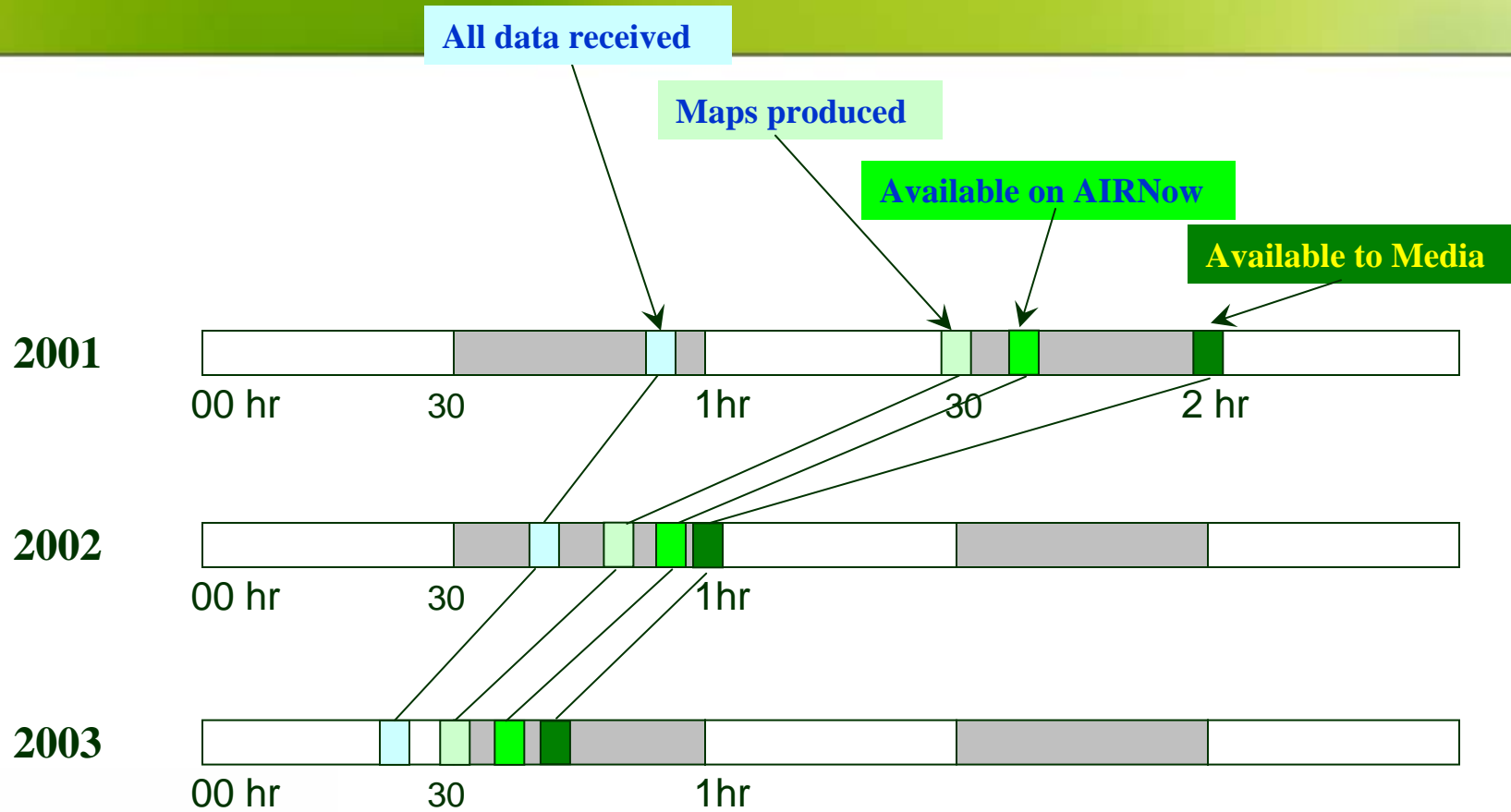
- Florida, Louisiana, Minnesota, Missouri, South Carolina, and West Virginia added
- West Coast DCC (California) added
- 27 States
- 26 Domains
- 71 Forecast Cities



-Real-time Visibility
Images (Web Cams)



Hourly Timeline of DMC activities



A briefer history of AQS

- Pre-1991: I wasn't here, so who knows? Some old mainframe thingie
- Late 1990s: AIRS Re-engineering
- 2002: AQS goes into production



What is the relationship?



Antagonistic?



What is the relationship?



Completely out of scale?

What is the relationship?



Supportive and nurturing, despite great differences in size and strength.

Differences and Similarities

- Focus
 - AQS is now and will likely always be, the official regulatory repository for air quality data
 - AIRNow is a public information system, using real time data and forecasts to help the public make decisions to protect their health
 - Same basic data...different timeliness



Differences and Similarities

- Architecture/Hosting
 - AIRNow: Off-site, not at EPA NCC
 - AQS: EPA NCC
- Organization
 - AIRNow – My group, Information Transfer
 - AQS – Ed Lillis' National Air Data Group
- Grammatical constructs
 - They like acronyms – AQS, POC, PARS, ...
 - We like combining words to form non-words: AIRNow, AIRNow Tech, EnviroFlash, MyAIRNow, etc.



Differences and Similarities

- AIRNow is NOT:
 - A replacement source for air quality data
 - Once the data is in AQS, we send analysts to AQS
 - We only encourage use of AIRNow values where AQS values do not exist or are not yet reported
 - A source of data for regulatory actions
 - Not supported in the CAA
 - Data not considered final, nor fully QA/QC-ed
 - A competitor for monitoring data
 - Not every monitor is in AIRNow and AQS, but we hope to keep moving in that direction



AIRNow Tools and Resources

- AIRNow Tech – open to partners and their peers
 - Navigator
 - Data
 - Forecast Submittal System
 - More!
- EnviroFlash
- AIRNow Gateway




www.airnowtech.org

AIRNow-Tech: Home - Microsoft Internet Explorer

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News and Events

No news events currently available.

Polling Summary

Color Legend			
Green	= Current	Yellow	= 2 to 6 hrs old
Red	= over 6 hrs old	Grey	= Unknown status

June 02, 2006 16:46 (ET) (All times are in ET)

Agency	Ozone	PM _{2.5}	PM ₁₀
AB1	06/02 15:00	06/02 15:00	06/02 15:00
AC1			
AIR			
AL1	06/01 20:00		
AL2	06/02 15:00	06/02 15:00	06/02 15:00
AL3	06/02 15:00	06/02 15:00	
AL4	06/02 15:00	06/02 15:00	
AR1	06/02 15:00	06/02 15:00	
AZ1		06/02 15:00	
AZ2	06/02 15:00	06/02 15:00	06/02 15:00
AZ3	06/02 15:00	06/02 15:00	06/02 15:00
BC1	06/02 16:00	06/02 16:00	06/02 16:00
BC2	06/02 15:00	06/02 15:00	
CA0	06/02 15:00		06/02 15:00
CA1	06/02 15:00	06/02 15:00	06/02 15:00
CA2	06/02 15:00	06/02 15:00	
CA3	06/02 15:00	06/02 15:00	06/02 15:00
CA4	06/02 14:00	06/02 14:00	

<http://airnowtech.org/index.cfm> Internet

Start | airnow-aqs-davinci | airnow-aqs | AIRNow-Tech: Home ... | Welcome - Microsoft Int... | OZONE (PPB): 5/28/200... | 5:46 PM


Data

AIRNow-Tech: Pre-defined Queries - Microsoft Internet Explorer

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1) Choose sites:

2) Choose dates: to

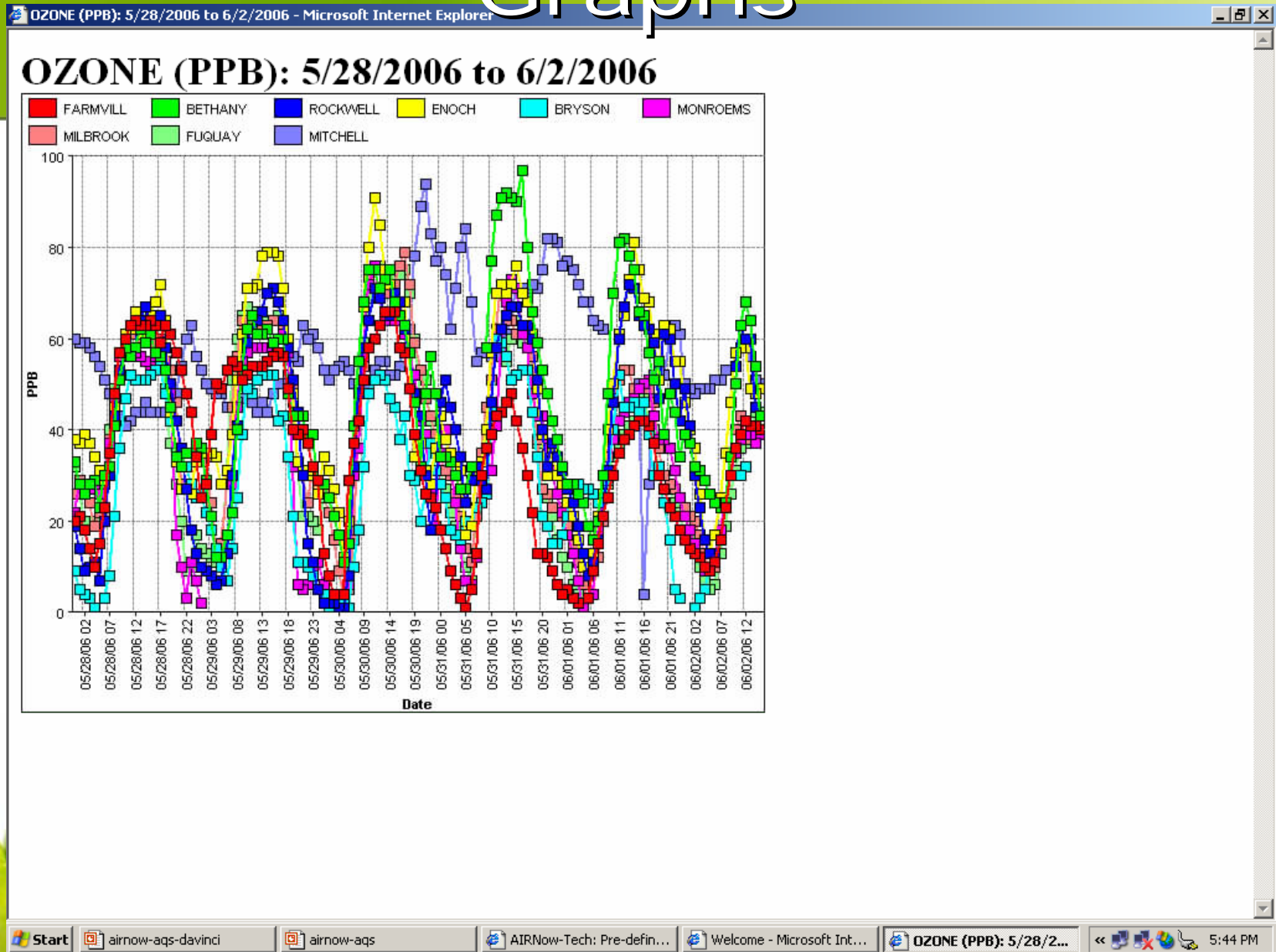
3) Choose query:

246 Records Returned - 41/51 sites contain data

Agency	Site Name	AQS Code	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NC1	DUKE	370630013	05/28/2006	11	6	6	9	12	19	22	33	43	51	54	57	56	54	54	54	55	53	51	21	10	8	2	2
NC1	WADE	370510008	05/28/2006	0	1	6	4	2	5	22	35	49	62	66	65	65	66	65	63	64	64	57	44	27	18	11	11
NC2	ARROW	371191005	05/28/2006	32	32	17	6	8	4	19	36	52	59	60	61	63	68	71	71	68	69	68	59	46	38	32	18
NC1	BNTCR	370210030	05/28/2006	21	13	10	15	12	7	4	12	29	53	58	61	67	68	62	63	66	56	49	48	42	30	26	21
NC1	ENOCH	371590022	05/28/2006	38	37	39	37	34	31	29	32	45	57	61	62	66	61	59	65	68	72	64	44	33	27	27	26
NC1	BRYSON	371730002	05/28/2006	9	5	4	3	1	0	3	8	21	36	47	52	51	51	51	52	53	54	48	42	35	32	32	28
NC1	BUTNER	370770001	05/28/2006	25	16	14	14	13	18	26	37	47	58	61	61	60	59	58	59	58	59	55	43	31	25	20	14
NC1	CROUSE	371090004	05/28/2006	2	5	10	8	5	7	11	20	35	51	56	58	59	69	77	76	72	61	51	35	22	10	10	0
NC1	FRYPAN	370870035	05/28/2006	60	60	60	59	57	54	51	51	52	52	52	57	59	60	61	60	57	52	48	48	50	53	54	57
NC1	FUQUAY	371830016	05/28/2006	32	26	20	20	20	21	28	40	49	56	61	63	65	63	62	59	57	56	49	37	28	20	9	10
NC1	LENOIR	370270003	05/28/2006	14	14	15	13	11	10	19	24	39	50	52	56	59	56	53	53	54	55	53	38	30	28	23	25
NC1	LINVF2	370110002	05/28/2006	7	6	4	3	2	3	3	8	32	40	47	48	49	46	48	48	49	47	33	23	18	17	11	7

Start | airnow-aqs | airnow-aqs-davinci | AIRNow-Tech: Pre-de... | Welcome - Microsoft Inte... | 5:35 PM

Graphs



Navigator

AIRNow-Tech: Navigator - Microsoft Internet Explorer

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Tools Site Info

- Data Mode
 - Site Map
 - Hourly Data
- Map Size
 - Small
 - Medium
 - Large
- Additional Data
 - Fire Locations
- Default Map
 - Set as Default Map
 - Clear Default Map
 - Go to Default Map

Options Layers Legend

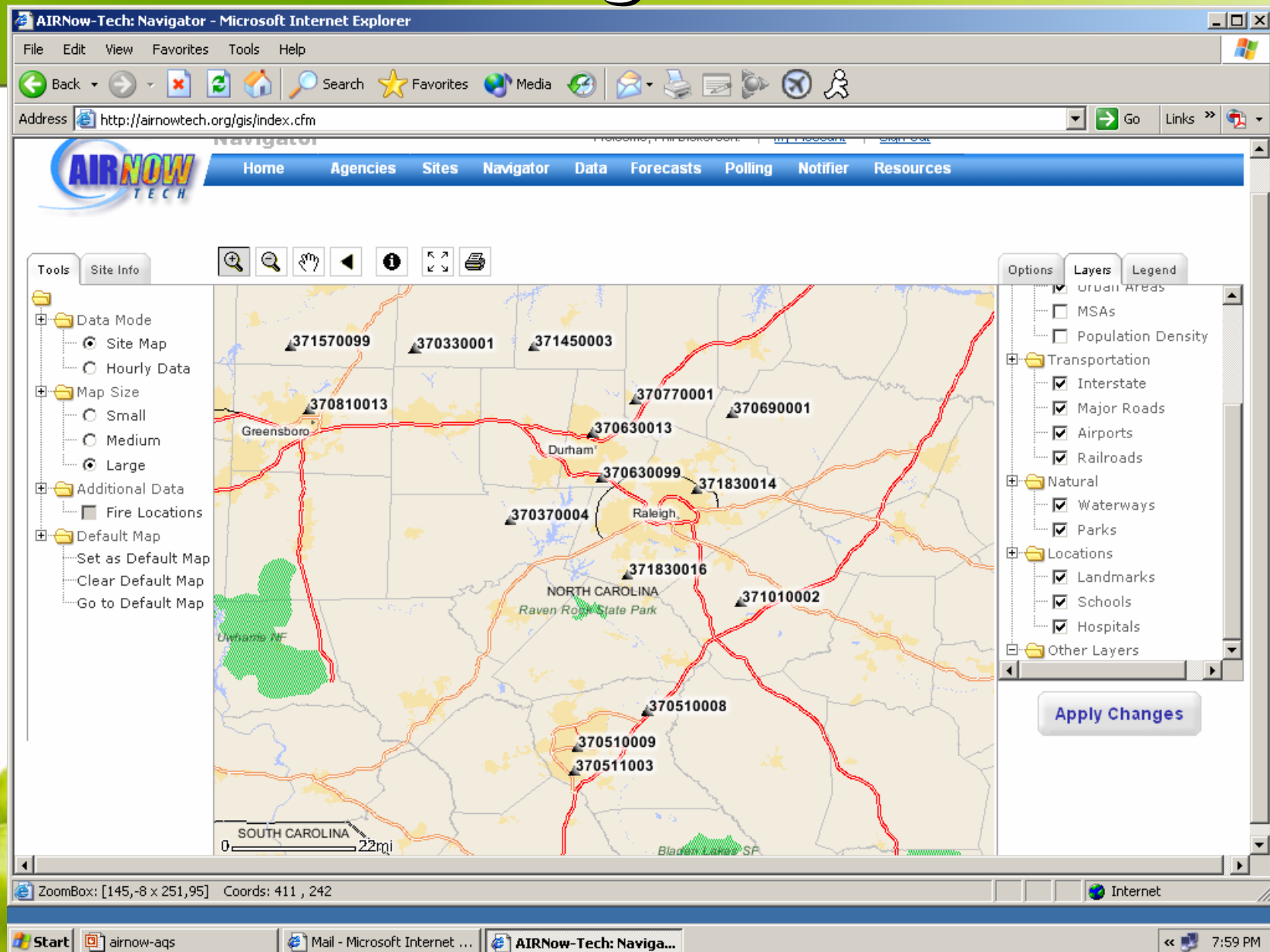
- ☒ Urban Areas
- ☐ MSAs
- ☐ Population Density
- Transportation
 - ☒ Interstate
 - ☒ Major Roads
 - ☒ Airports
 - ☒ Railroads
- Natural
 - ☒ Waterways
 - ☒ Parks
- Locations
 - ☒ Landmarks
 - ☒ Schools
 - ☒ Hospitals
- Other Layers

Apply Changes

ZoomBox: [145,-8 x 251,95] Coords: 411 , 242

Internet

Start | airnow-aqs | Mail - Microsoft Internet ... | AIRNow-Tech: Naviga... | 7:59 PM



EnviroFlash

- “Early Warning” system that alerts users when AQ forecast hits their target AQI level
- Currently available in nearly 60 cities across the US
- Many more joining soon



AIRNow Gateway

- Similar concept to AQS Data Mart
- “Copy” of AIRNow database
- Used to distribute data and products to the public, partners, media, etc.
- Will eventually be used to feed AIRNow data applications that hit the current production database – AIRNow Tech, AQS Data Mart, etc.



So, what's bringing us together?

- CDX
 - AQDE Project
 - National pilot??
- AQS Data Mart
- AIRNowTech
- Hurricanes Katrina and Rita



CDX and AQDE

- State environmental agencies of New Jersey, New York, and Delaware awarded an EPA challenge grant
- States will design and implement an Air Quality Data Exchange (AQDE), allowing each state to share their Air Quality data and in turn view other member states' data.
- Web based application which will allow the public to view air quality data across the three states in a geospatial format.



CDX and AQDE

- Adopted an AQS schema
- AIRNow team reviewed and agreed to use same schema
- Pilot underway to test submission to AIRNow and AQS, via CDX, with same schema!
- Will lay the groundwork for single submission of AQ data to AQS and AIRNow



CDX and AQDE

- Many details to work out
 - When data goes from “real time” to AQS certified
 - Who stores what, where?
- Still, in the long run, could greatly simplify data submission to EPA



AQS Data Mart

- Unifies AQS and AIRNow data, using AIRNow to fill reporting gaps
- May eventually tap the AIRNow database via web services and through CDX
- May provide services back to AIRNow to enhance AIRNow Tech



AirNow Tech

- In contrast to AQS data mart, AIRNow Tech harvests AQS data and uses it to replace preliminary data
- AQI History tool
- Will offer web service to supply AQS data mart



Hurricanes

- Rita and Katrina struck late summer 2005
- AIRNow quickly gathered real-time PM2.5 data via portable monitors, displayed on Katrina web site
- AQS handled the longer-term lab data and data from non-continuous instruments
- As EPA's response drew on, a Katrina Data Mart was built and used AQS as its primary source





AIRNow and AQS
A luscious fruit medley...

The End

- Questions
- Comments
- Concerns
- Feedback: was this helpful, should we do this again?

