AIRNow Issues and Products

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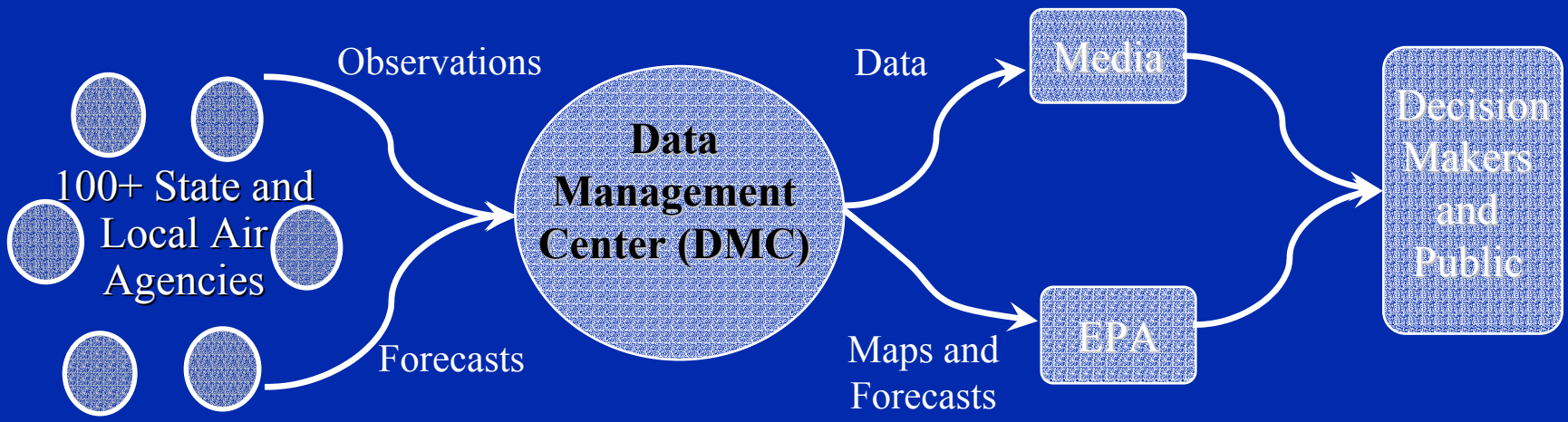
Overview

- Operational issues
  - Timeliness of data transfer to DMC
  - Data quality
  - Product turn-around time and dissemination
  - Forecast reliability and accuracy
- Products available through AIRNow
- Resources for AIRNow Stakeholders
- Conclusion

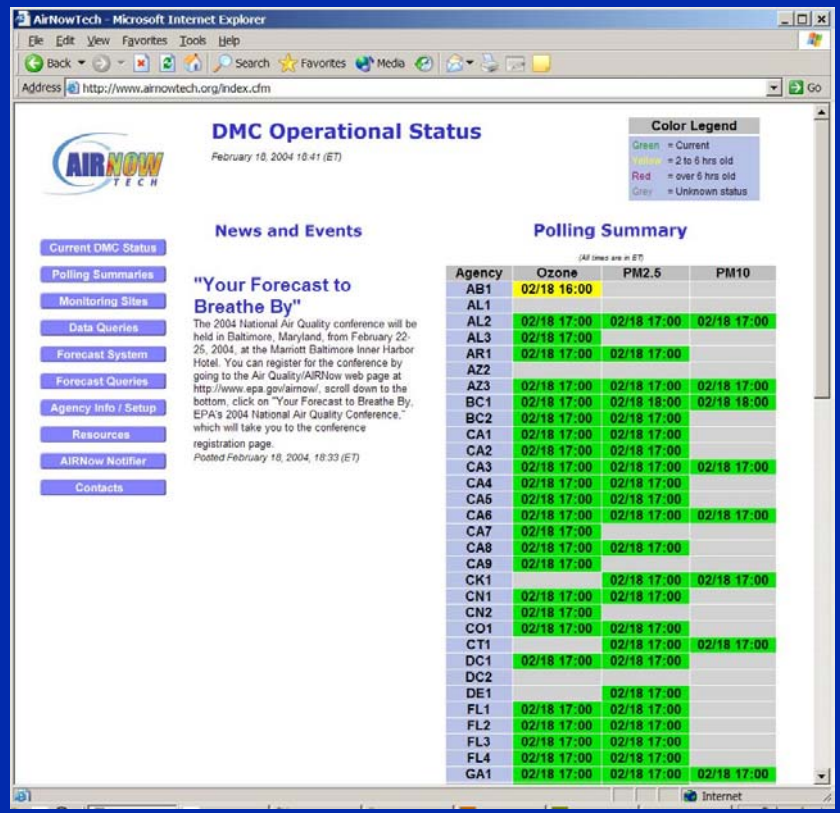
Operational Issues

AIRNow Data Flow



Operational Issues – Data Transfer (1 of 2)

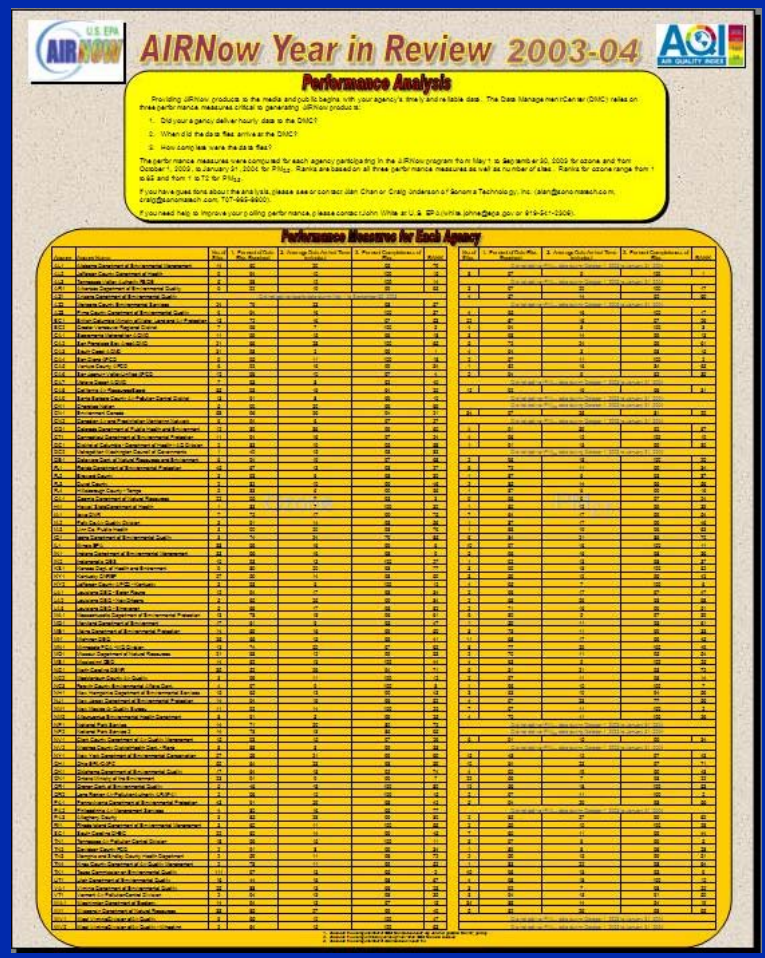
- Current delivery cutoff is 30 minutes past the hour
- Automated e-mails are sent if file is not received or cannot be processed
- Files are processed within 90 seconds from delivery time
- Real-time status is posted on AIRNow-Tech home page
- $PM_{2.5}$ data precision will be increased to 1 decimal place in 2004



AIRNow-Tech Web site: www.airnowtech.org

Operational Issues – Data Transfer (2 of 2)

- 2004 delivery cutoff goal—20 minutes
- Current delivery times
  - 74 agencies—20 minutes or less
  - 4 agencies—21 to 24 minutes
  - 8 agencies—25 minutes or more
- Media would like data 24 hours a day; about 75% of agencies are meeting this request
- Data Telemetry software being redesigned to send XML files; possible replacement for OBS
- Agencies can view polling information on AIRNow-Tech “Polling Summary” page



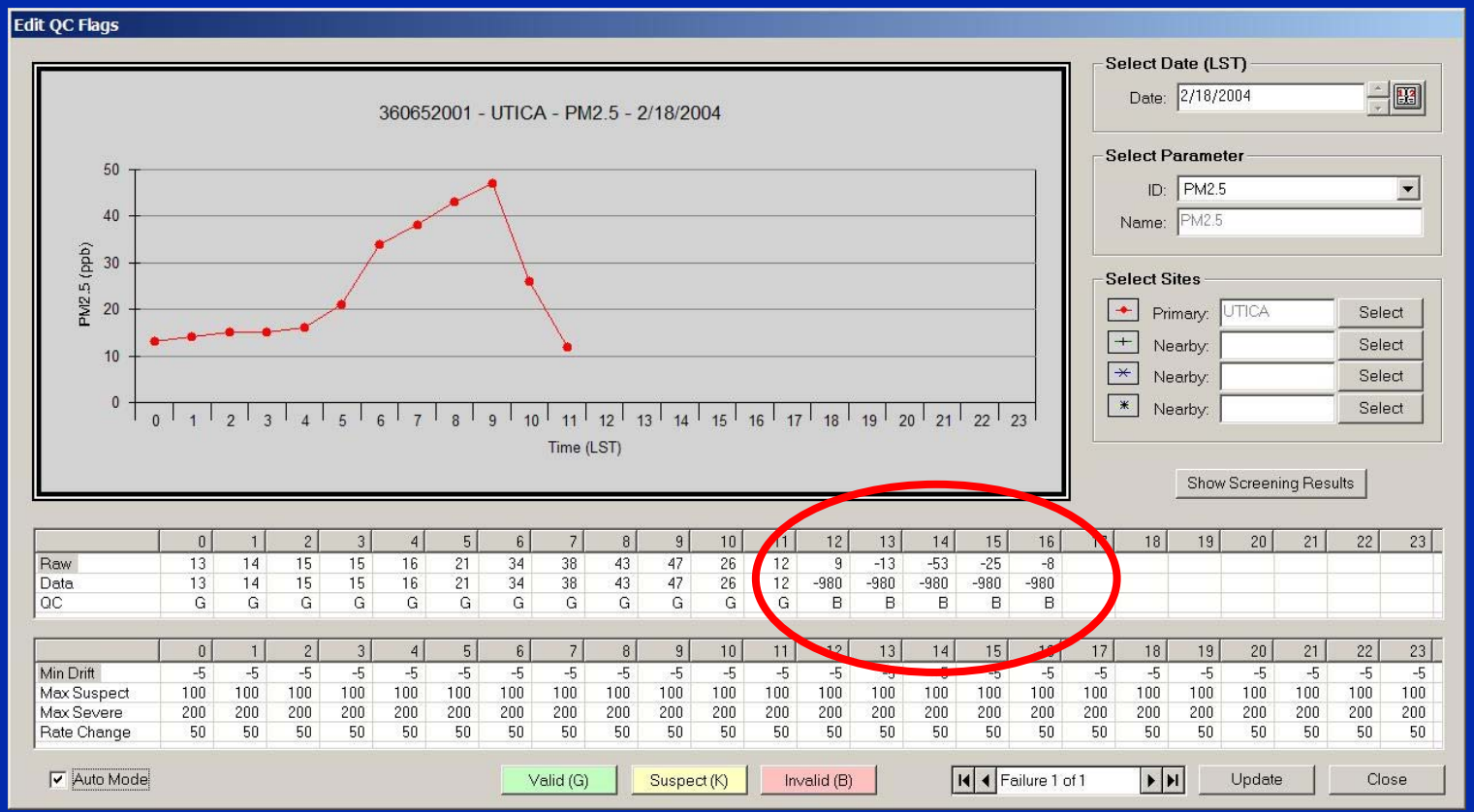
See full-size poster outside for more details

Operational Issues – Data Quality (1 of 5)

- DMC mapping system has many built-in quality control (QC) methods (see AIRNow-Tech Resources page for details)
- Ozone data quality is good
- $PM_{2.5}$ data quality could be improved
- New continuous $PM_{2.5}$ monitoring techniques will help
- Erroneous values can be quickly translated to public products unless QC criteria are more accurately configured
- How you can improve your data quality
  - Ensure that calibration values are flagged as “Bad” before delivery to the DMC
  - Review and update QC criteria through the AIRNow-Tech Monitoring Site page
  - Define monitors for the neighboring, or “Buddy”, site check

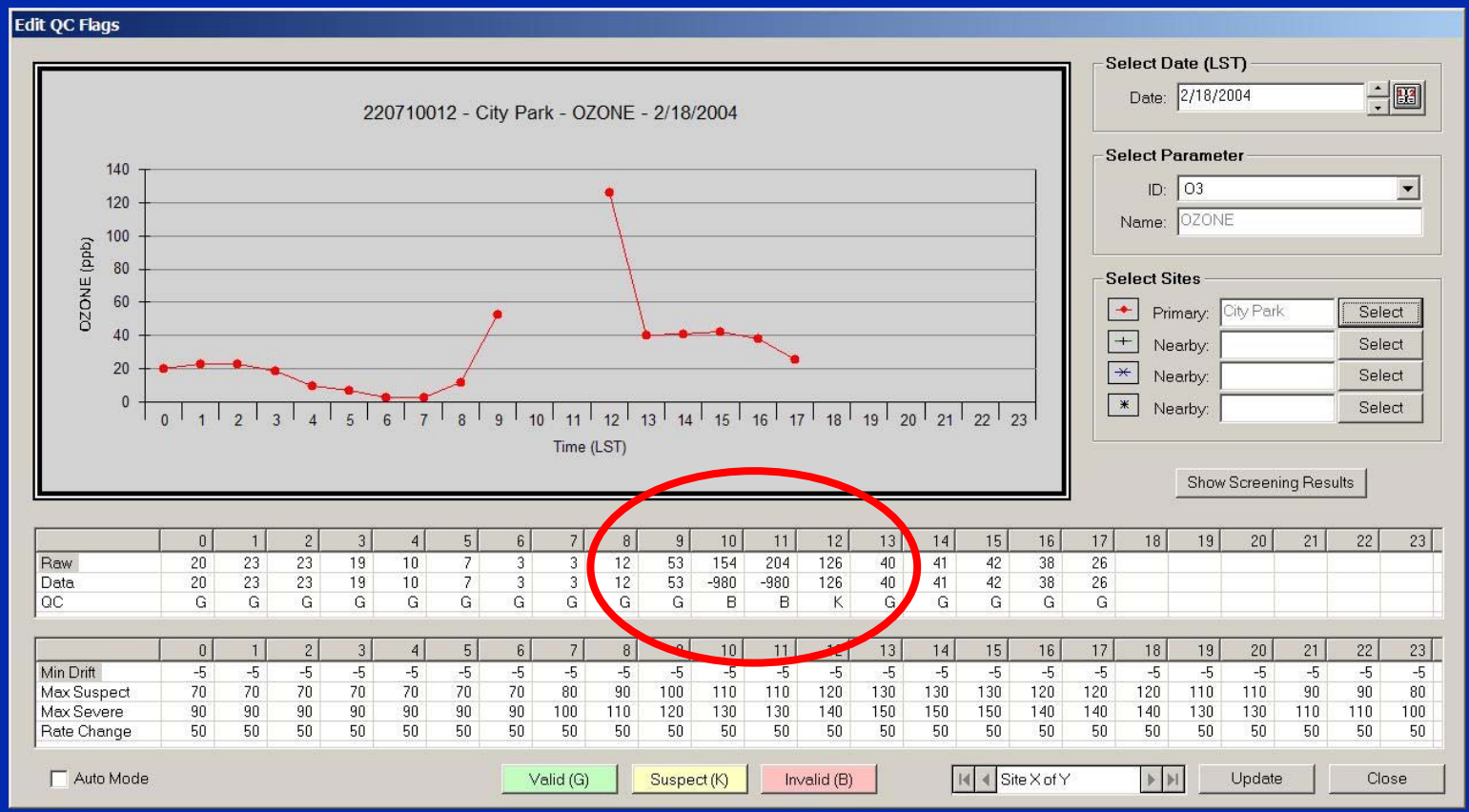
Operational Issues – Data Quality (2 of 5)

- Data that fail QC checks are reviewed hourly and more frequently in areas with current high pollution levels



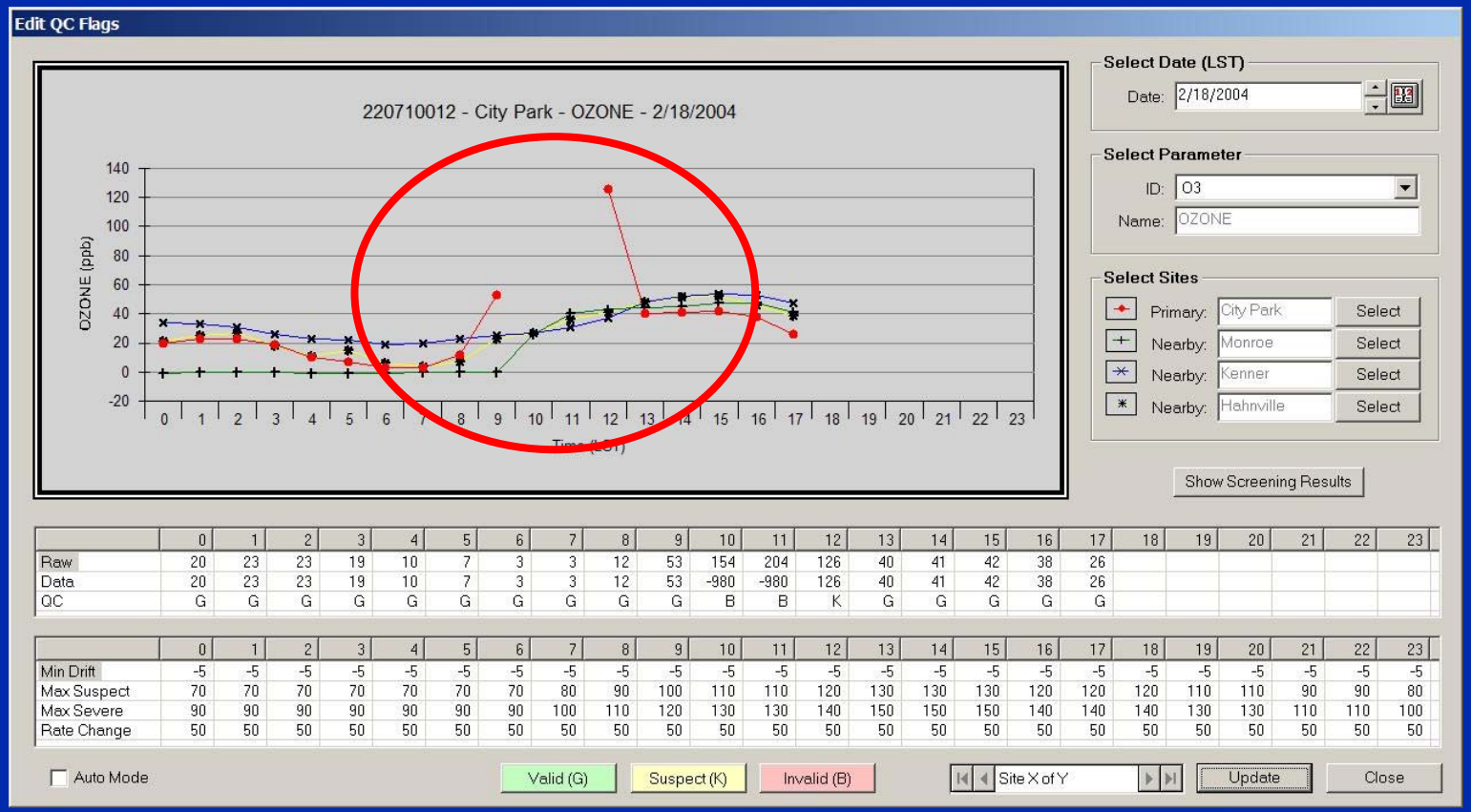
Operational Issues – Data Quality (3 of 5)

- QC checks are only as good as the defined criteria



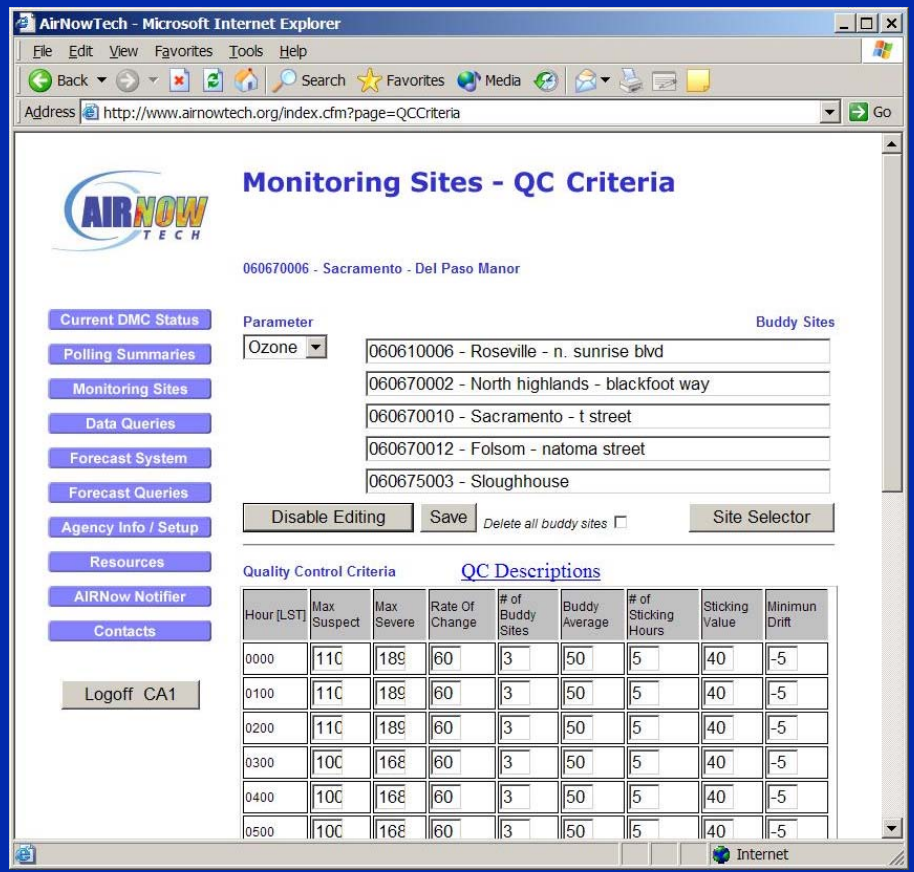
Operational Issues – Data Quality (4 of 5)

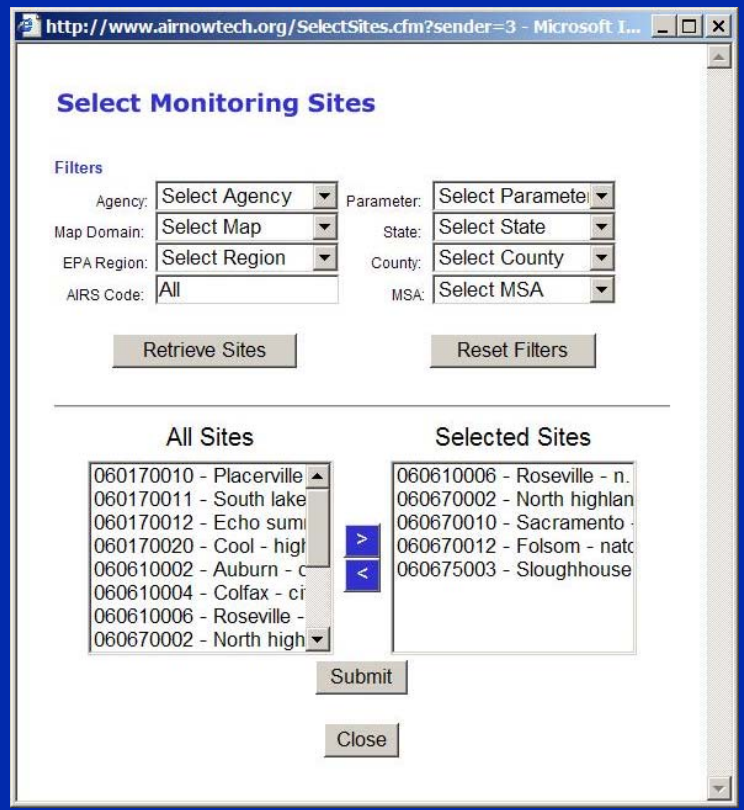
- "Buddy" sites need to be defined by each agency for all monitors (where applicable)



Operational Issues – Data Quality (5 of 5)

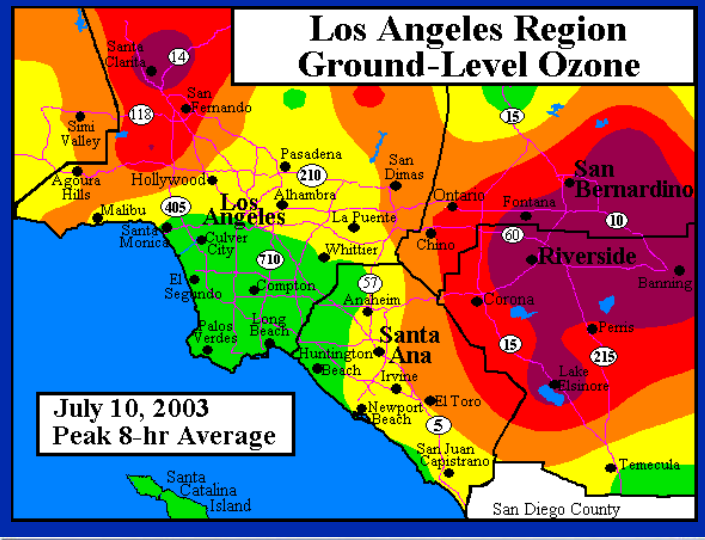
- "Buddy" sites can be set up through the AIRNow-Tech Monitoring Sites page

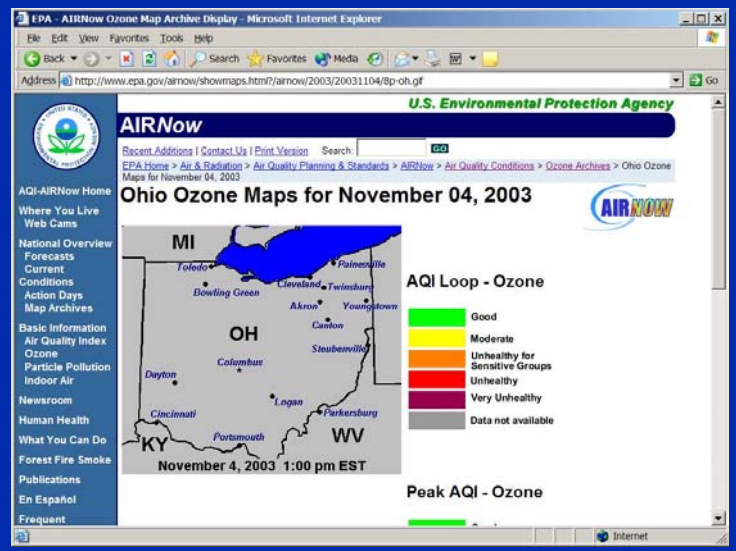




Operational Issues – Product Turn-Around

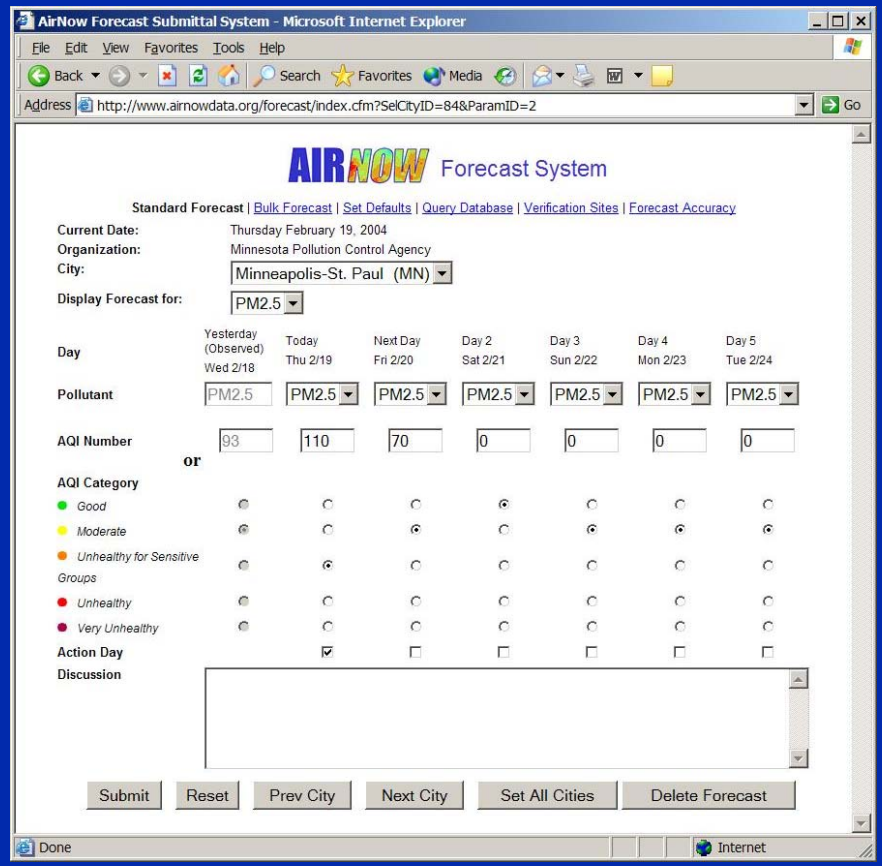
- Individual maps are produced when data completeness is high enough
- Example: Southern California data are received by 3 minutes past the hour; the map is uploaded to AIRNow a few minutes later
- A forced production of all maps occurs at 35 minutes past the hour
- Maps are in current local time and data are end-hour, meaning AQI on maps may differ from true daily AQI maximum
- Gray maps indicate too much missing data to contour
- Mirror process on EPA FTP servers delays display on AIRNow by 10 to 20 minutes; solution will be implemented in 2004
- The sooner you deliver your data, the faster products can be made and sent to AIRNow and the media





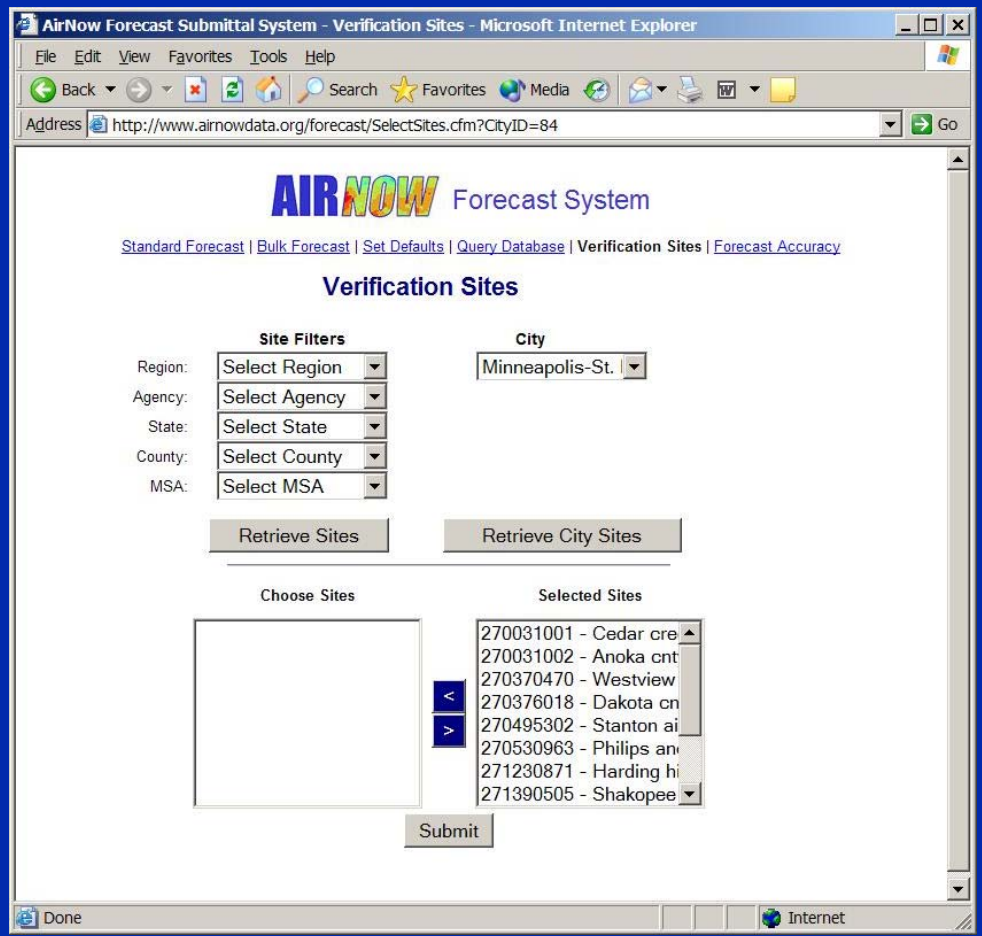
Operational Issues – Forecasting (1 of 2)

- Files are generated at 5 and 35 minutes past the hour and uploaded to AIRNow
- Daily cutoff for forecast submittal is 4 p.m. Eastern Time (ET)
- When a forecast is missing or the default is unreasonable, STI meteorologists will issue the forecast after 4 p.m. ET
- File is sent to The Weather Channel hourly
- File is sent to *USAToday* at 5 p.m. ET
- Submitted forecasts can be displayed for each pollutant
- Erroneous forecasts issued on the current day – e.g., ozone submitted instead of $PM_{2.5}$ – can be deleted



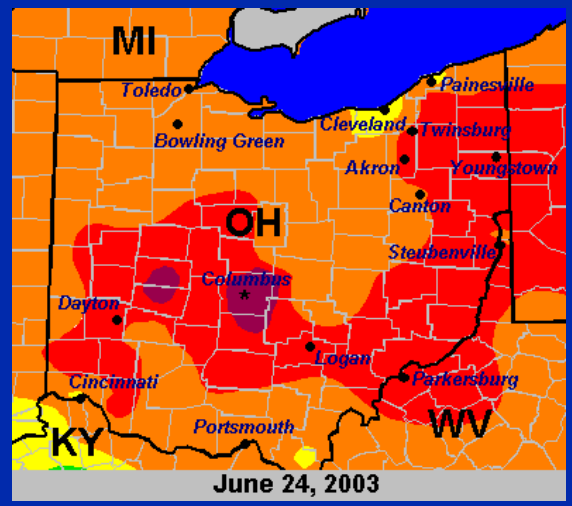
Operational Issues – Forecasting (2 of 2)

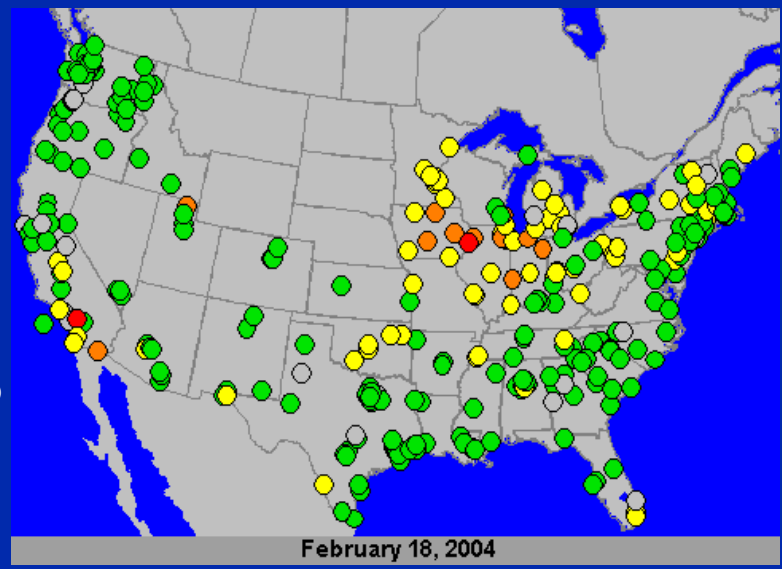
- Verification sites need to be defined by all agencies
- Choose all sites that represent each city, regardless of pollutant
- Sites are used to calculate previous-day AQI maximum and real-time AQI
- AQI information is sent to the media for web site and on-air use, like The Weather Channel's "Local on the 8's"
- Agencies should review current default forecast settings
- New functionality in 2004 will allow defaults to be set for each pollutant



Products – Ozone and $PM_{2.5}$ Maps (1 of 2)

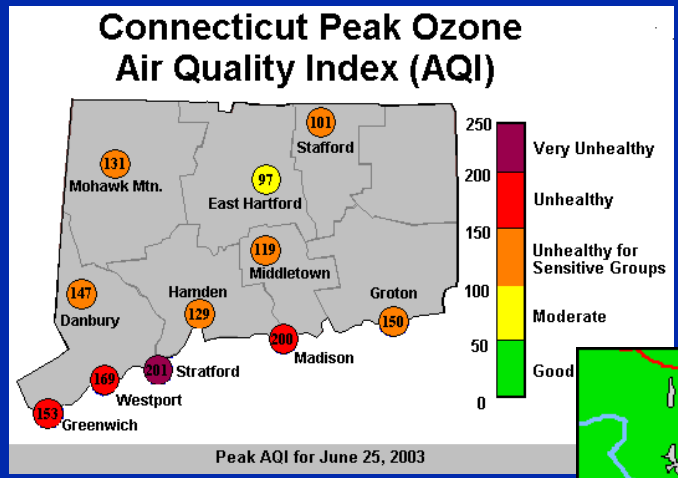
- Ozone contour maps are produced hourly from 8 a.m.–8 p.m., 24 hours a day and year-round if requested
- $PM_{2.5}$ point maps (public and private) are produced 24 hours a day; some gaps during the night
- Peak 1-hr and 8-hr ozone maps and 24-hr $PM_{2.5}$ maps are created during the 8 a.m. local hour for each map
- Where to find the files:
  - www.epa.gov/airnow/today
  - www.epa.gov/airnow/yesterday
  - Example date — www.epa.gov/airnow/2003/20030625
  - ftp.airnowdata.org (username and password required)

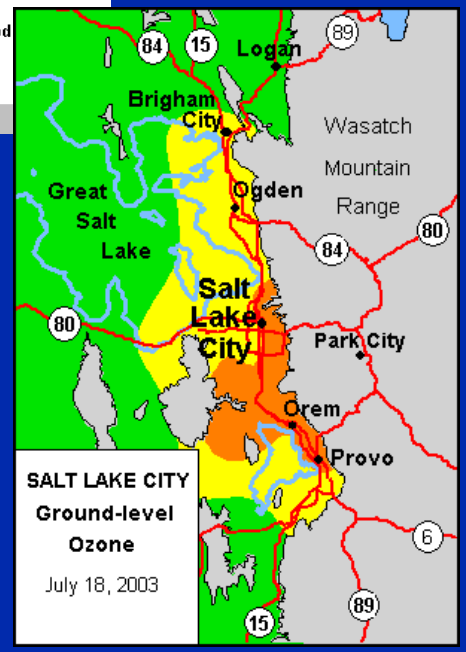




Products – Ozone and $PM_{2.5}$ Maps (2 of 2)

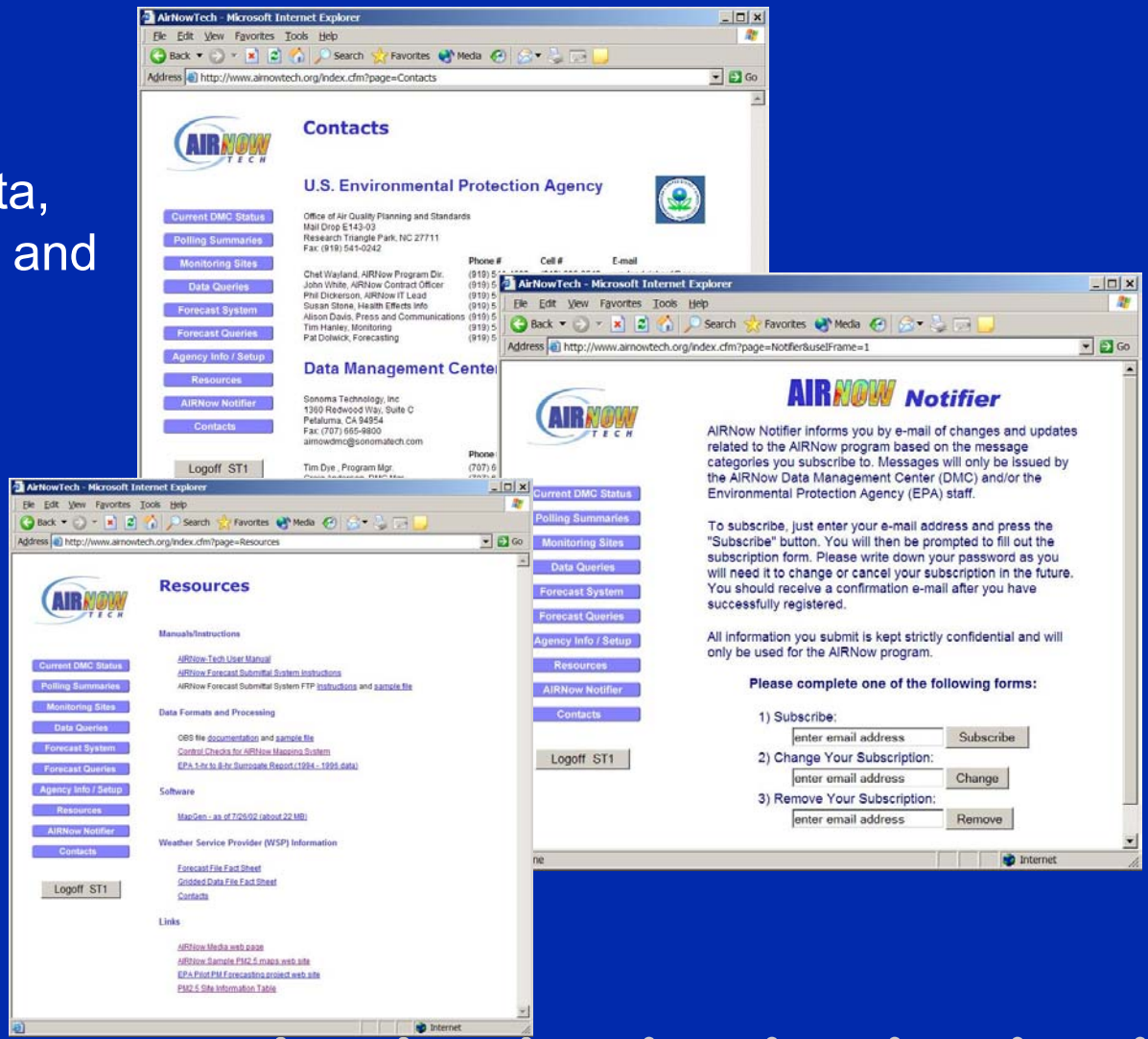
- Specialized maps created for the northeastern states
- Basemaps will be upgraded in 2004
- Mapping system can produce additional domains if desired—contact EPA or DMC





Resources – AIRNow-Tech

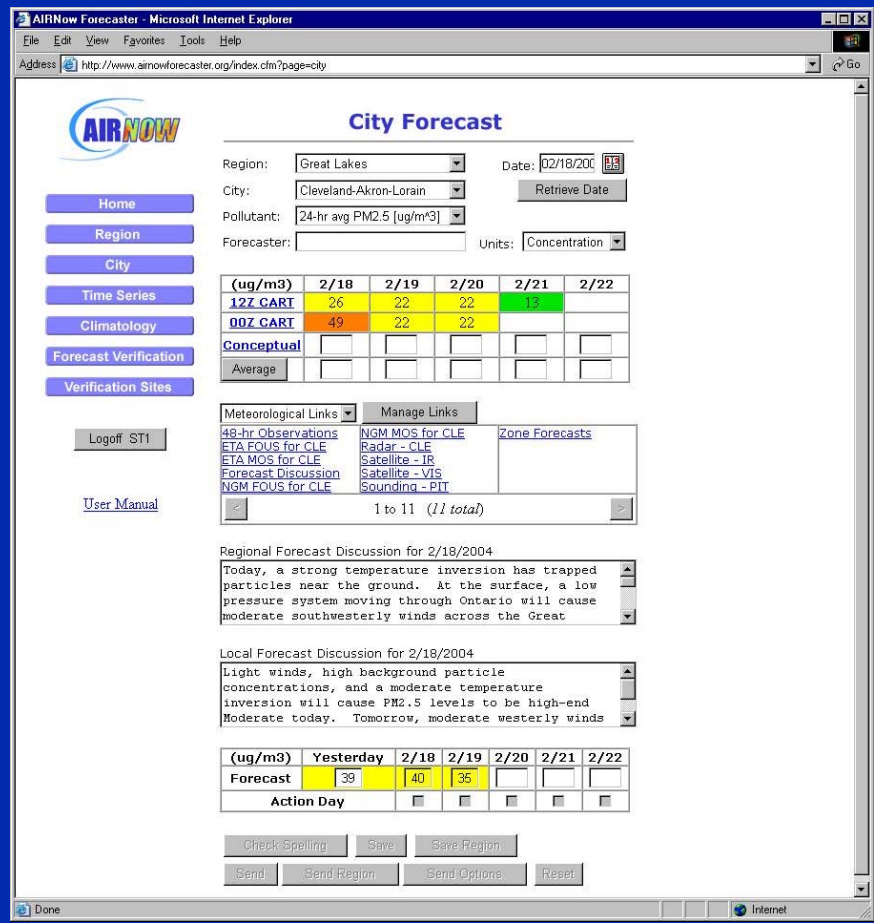
- Data Queries
  (including hourly data, summaries, graphs, and exports)
- Resources
- Notifier
- Contacts



Resources – AQ Forecast System

- Enables regional and local discussions
- Offers customizable links
- Can display forecast tool output
- Bases climatology graphs on FRM and/or continuous data
- Offers customizable e-mail list
- Submits to AIRNow

- Contact DMC for access



Conclusion

- Tell us about your ideas for new products
- What other resources would be helpful to you or others at your agency?
- Would you like any new mapping domains?
- Do you have any new forecast cities?

Please talk to EPA or us at the DMC (airnowDMC@sonomatech.com) if you have any comments, suggestions, or questions