

# Good Decisions from Good Data

Helping organizations collect, manage, and distribute air quality data

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Petaluma, California

Advances in Earth Science:  
Data as a National Asset for Decision-Making  
Washington, D.C.  
June 22, 2016

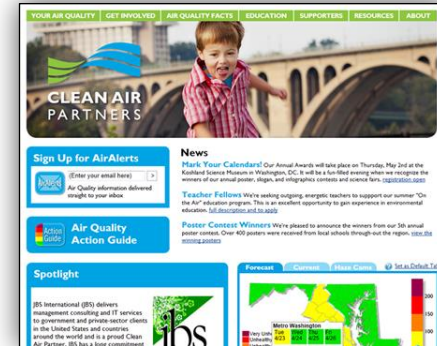
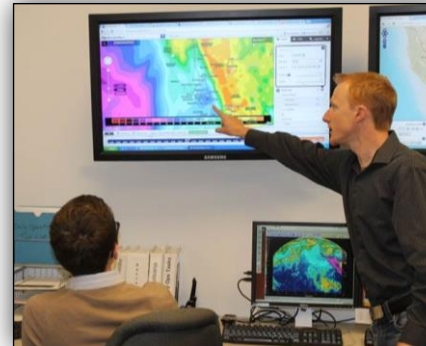


Sonoma Technology, Inc.

# Sonoma Technology, Inc.

## *Innovative Environmental Solutions*

- Small business helping organizations manage and use environmental data
- Work on
  - Air quality
  - Fire and fuels sciences
  - Meteorology
  - Software engineering
- Clients/partners
  - Federal (EPA, State Dept., NOAA, Forest Service)
  - State/local government
  - Private sector (industry, manufacturers)
  - Non-profits



# Underpinnings of Decision Support

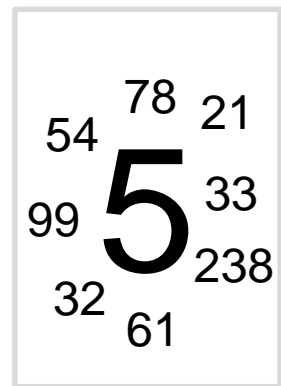
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- Instruments
- Communications
- Data validity and data management
- Data products and dissemination
- Decisions

Observe



Data



Information



Action



# Government – AirNow Program

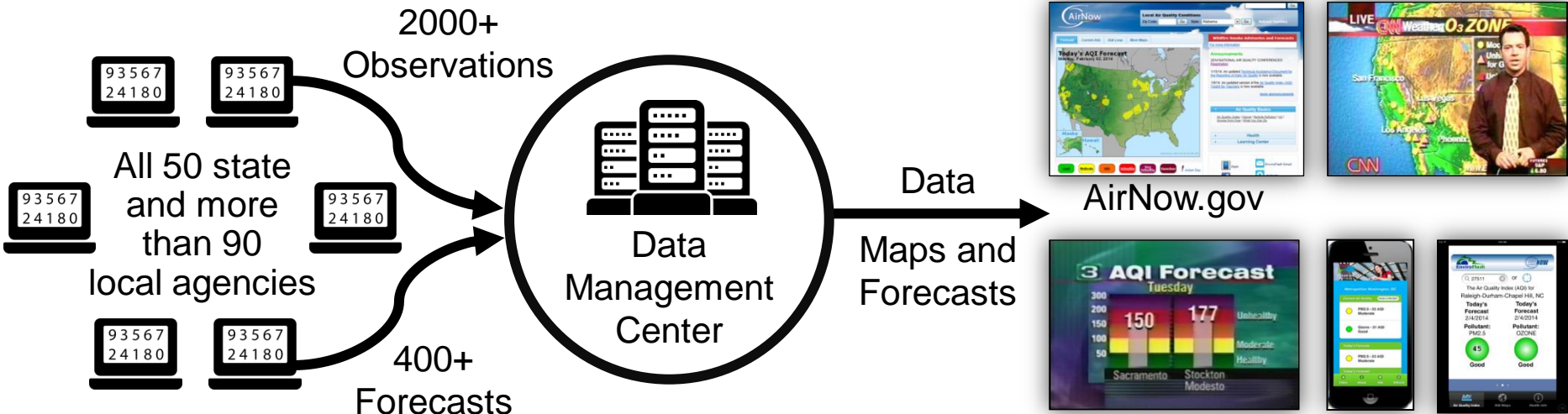
AirNow is the national system\* for acquiring and distributing air quality information in real time

\*Funded by U.S. EPA

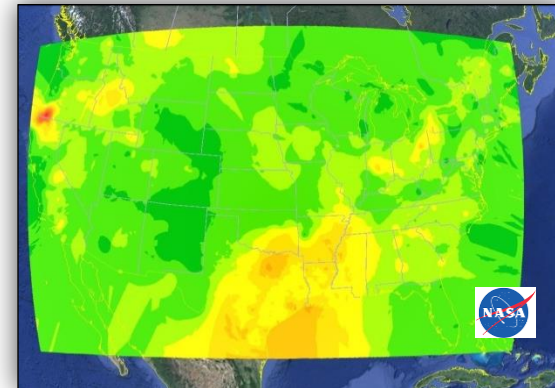
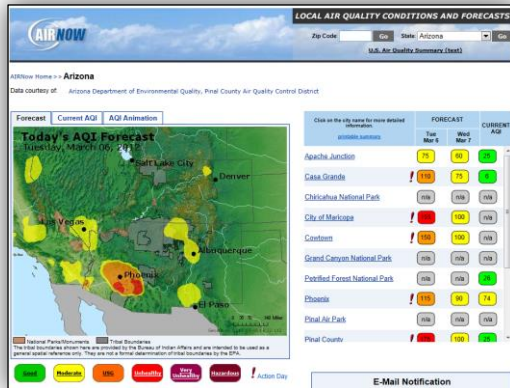
Ingest

Process

Distribute

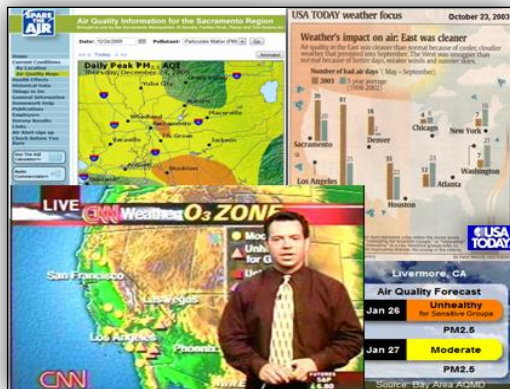


# Decisions Using AirNow's Information



Public: make decisions about exposure using AirNow.gov

Research: develop real-time applications



Media: inform and alert the public

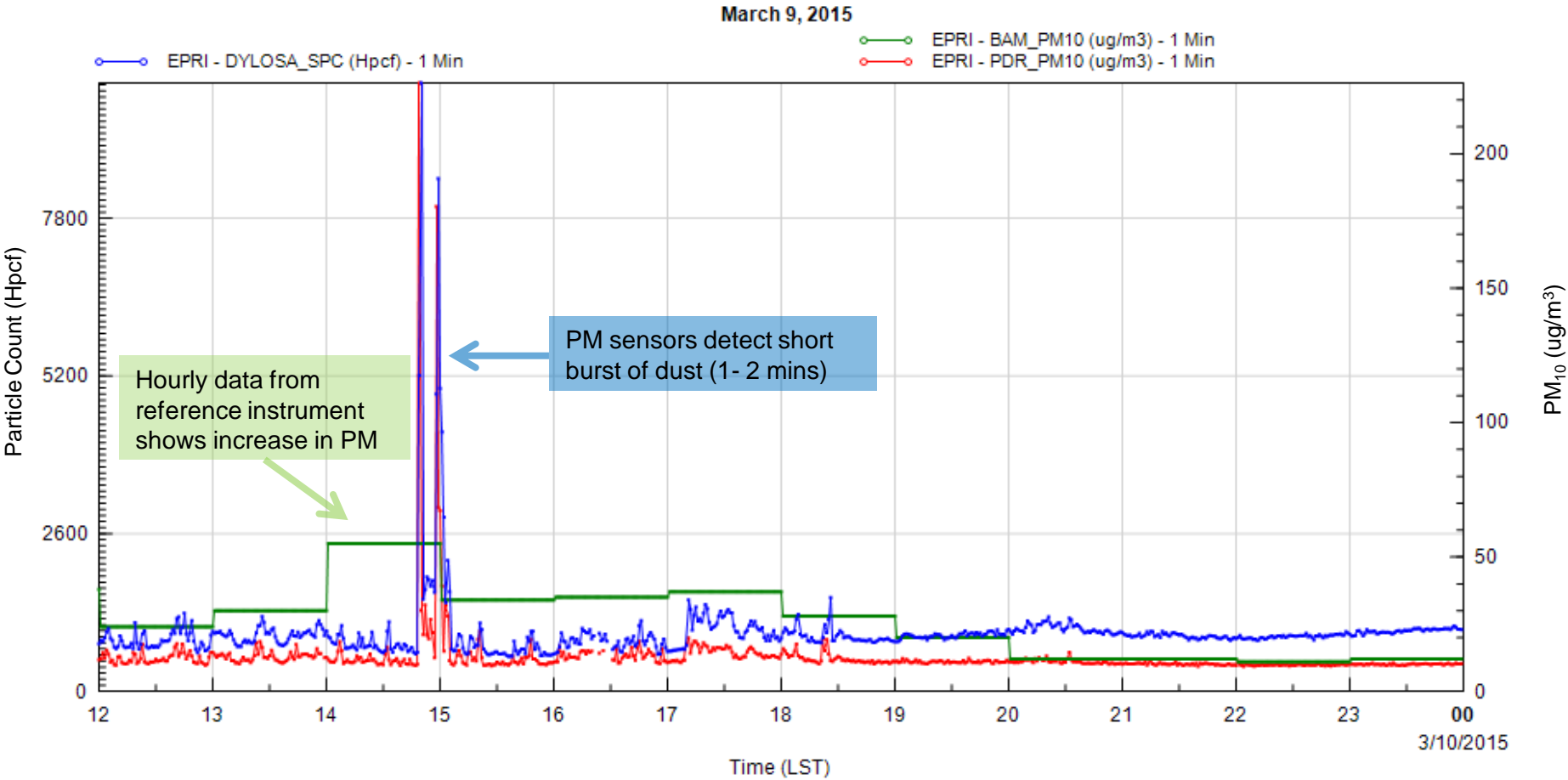
Industry: use data to make decisions

# Industry – New Tech. Helping Address Old Problems

- Issue:
  - Coal dust at power plants
- Potential solution:
  - Can low-cost sensors be used to detect blowing dust?
- Evaluation study:
  - Reference station
  - New air sensors
  - Weather station

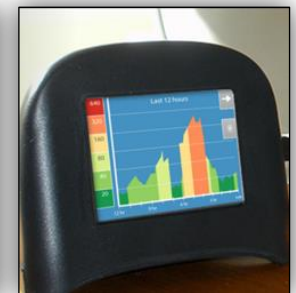


# Industry – New Tech. Helping Address Old Problems



# Personal Air Measurements

- Air quality sensors used by everybody
- Characteristics:
  - Low-cost
  - Portable
  - Accuracy can vary
- Applications:
  - Improve family health
  - Precise public health
  - Better research





# STEM Education With Air Sensors

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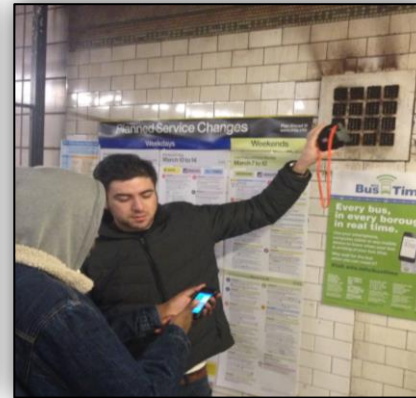
**Kids Making Sense** – An educational program that teaches youth to measure pollution using air quality sensors and to interpret the data they collect.



Learn



Measure

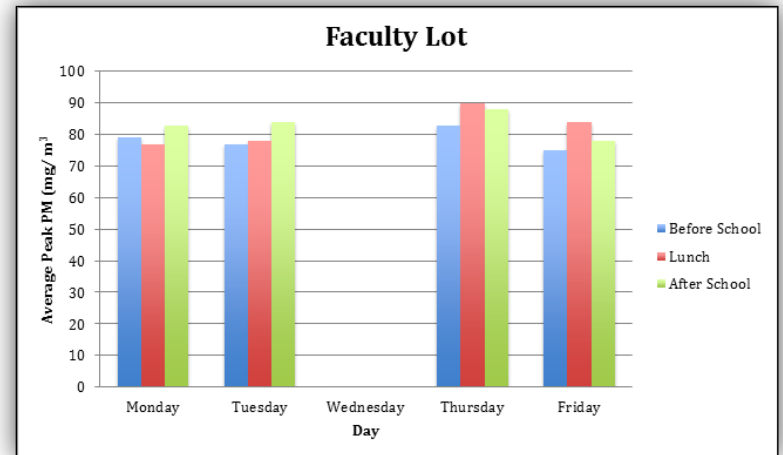
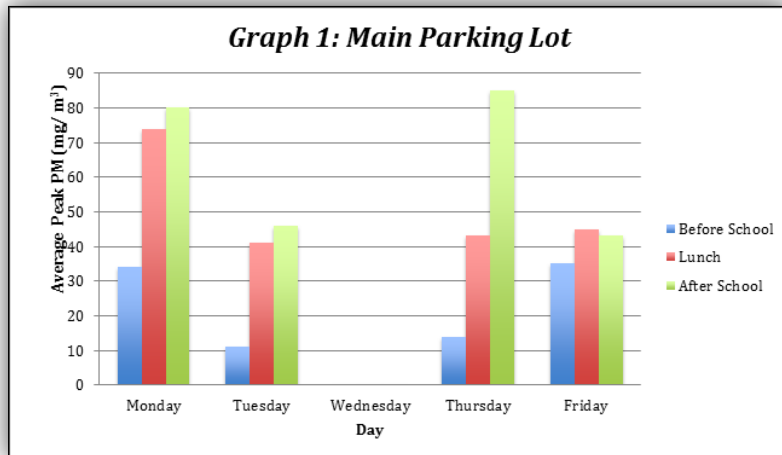


Discover



Interpret

# Kids Making Sense in Sacramento, CA



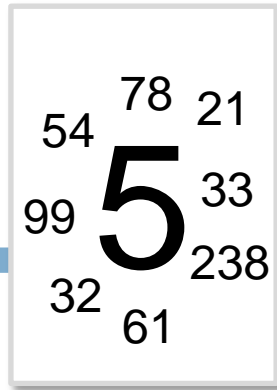
Student results: faculty lot had higher PM levels from school buses and delivery trucks, while PM increased throughout the day in the main lot.

# Future Opportunities and Challenges

Observe



Data



Information



Action

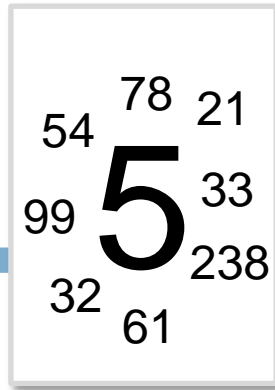


# Future Opportunities and Challenges

Observe



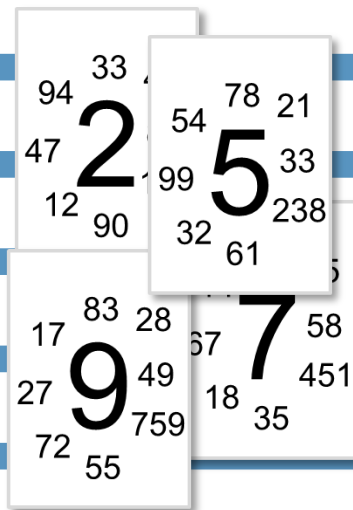
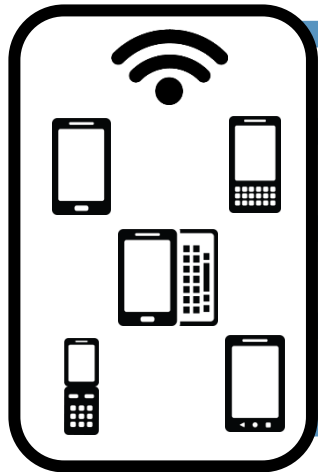
Data



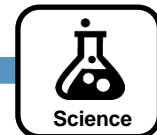
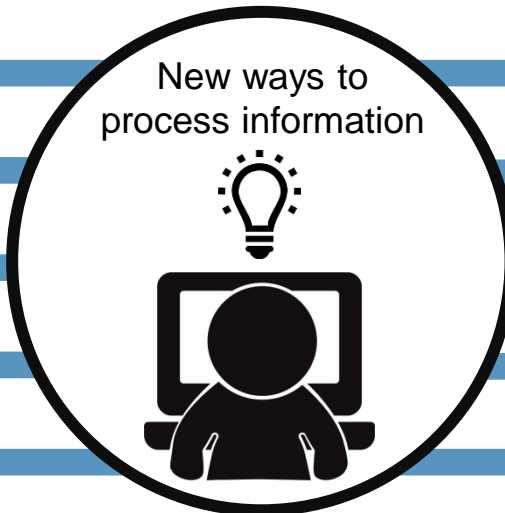
Information



Action



New ways to process information



# Contact

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*Environmental Science and Innovative Solutions*