

# Upcoming Changes and Enhancements to the U.S. EPA's AirNow Program



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For  
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**STi**  
Sonoma Technology, Inc.

# Outline

- Background
- AirNow-Tech
- AirNow Forum
- Village Green
- Department of State Enhancements
- AirNow.gov Redesign Concepts
- Contacts

# Background

- Parts of the program have not been updated for a few years (last major AirNow.gov update was 2009)
- Growing user community and amount of data

AirNow Metrics	October 2014	February 2016
Number of data records	1 billion	1.4 billion
Number of Village Green sites	0	6
Number of EnviroFlash subscribers	184,000	195,000
AirNow-Tech/API users	3,113	4,800
API/app developer requests	31 million	55 million

# Background

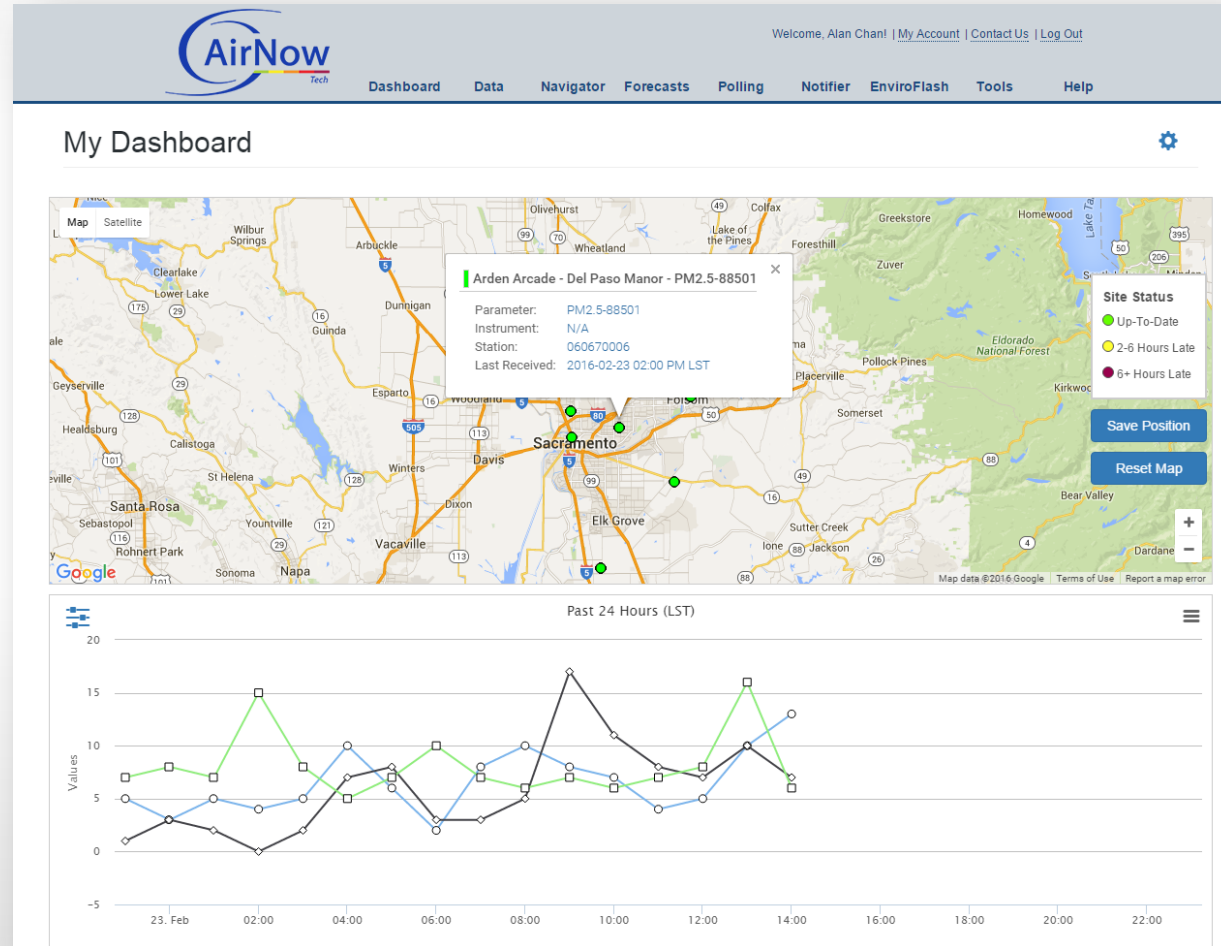
## Current and future needs

- Big data (e.g., small sensors, sub-hourly data)
- Scalable and robust data system
- Ease of data management
- Easy connection to social media
- Compatibility with mobile devices
- Improved usability

# AirNow-Tech

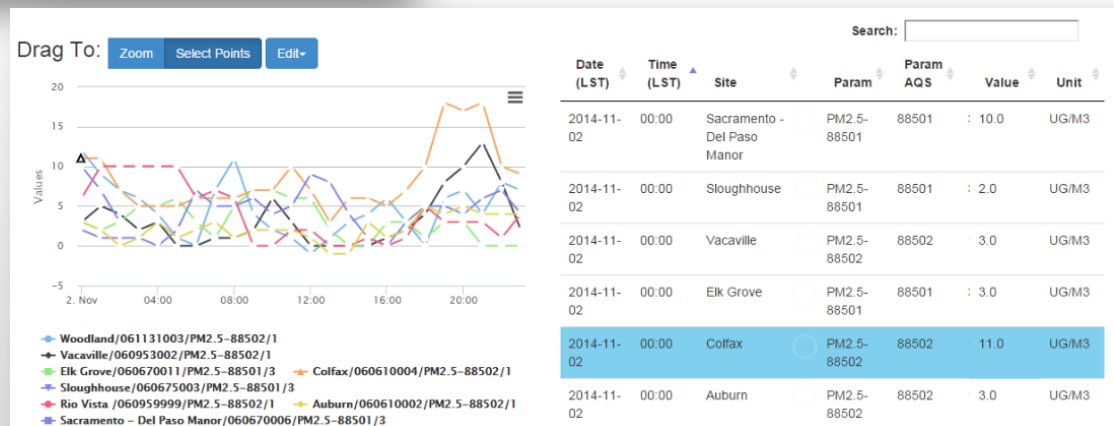
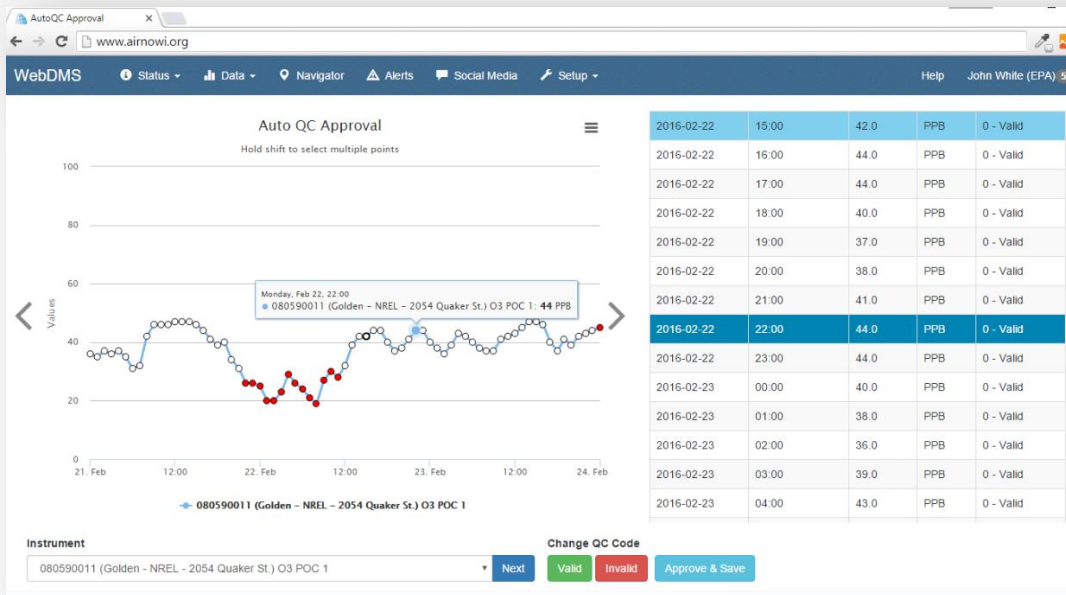
## Dashboard

- At-a-glance display shows data delivery status
- Useful for field and operational staff
- Important for AQI reporting and alerts



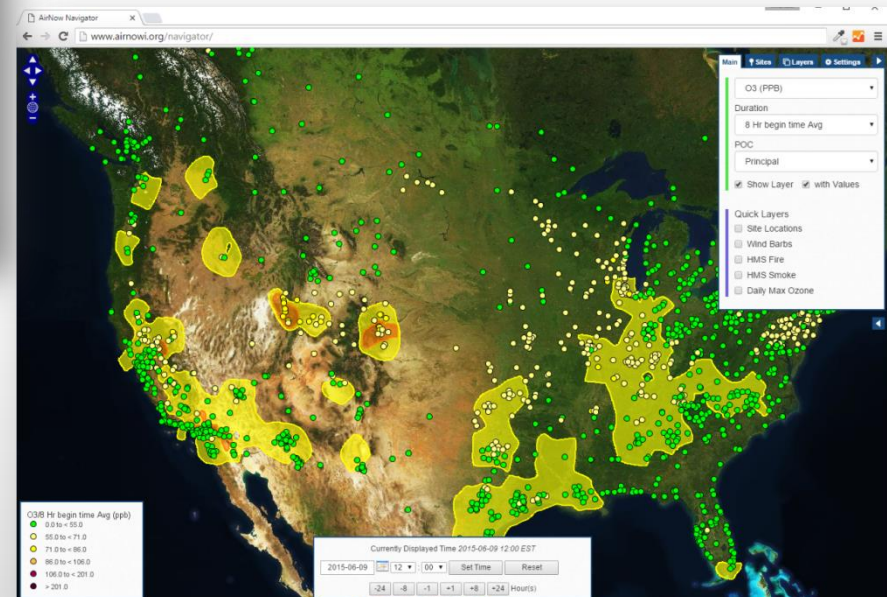
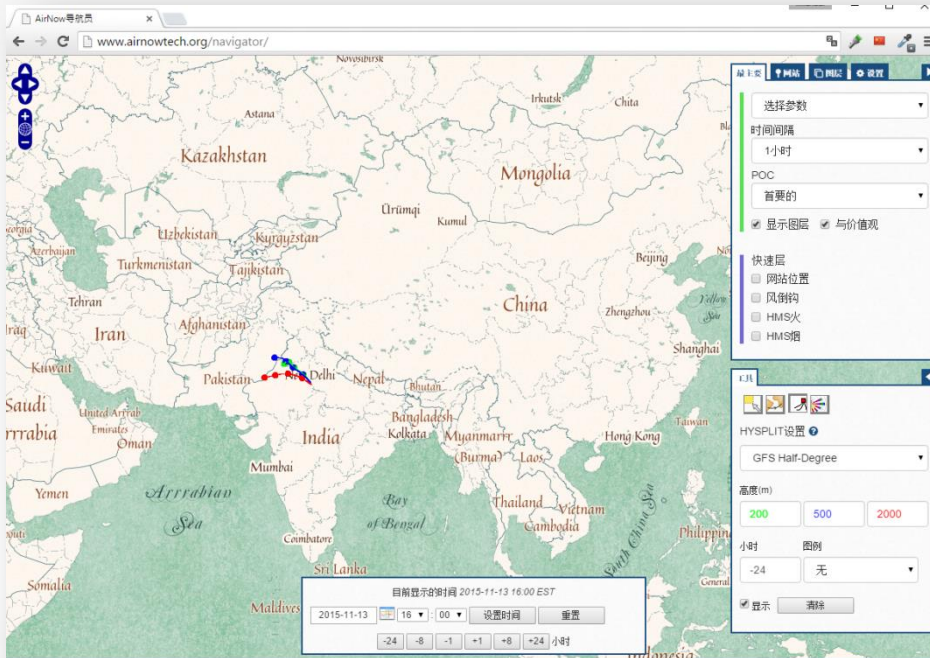
# AirNow-Tech

## Approval Mode/ Data Queries



# AirNow-Tech


Navigator and OneMap  
(potential addition for new  
AirNow.gov)





# AirNow Forum

- Peer-to-peer support community
- AirNow news and announcements
- Regular newsletter/digest


Log In

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**General AirNow-Tech**

Ask questions or find answers for general AirNow-Tech website use, including account management, compatible browsers, and bug reporting. Select AirNow-Tech FAQ to see common questions that have already been answered.

**AirNow-Tech FAQ**

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**Data Analysis Tools**

Get help and join a discussion about AirNow data analysis tools, including Navigator, Data Queries, Data Reports, the Data Analysis and Reporting Tool (DART), and MetDat. Select Data Analysis FAQ to see common questions that have already been answered.

**Data Analysis FAQ**

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**Data Delivery & Quality Control**

Ask questions and join a discussion about data delivery to AirNow, automatic quality control (QC) checks, and data review. Select Data Delivery & QC FAQ subcategory to see common questions that have already been answered.

**Data Delivery & QC FAQ**

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**Forecasting & Reporting Areas**

Ask questions and join a discussion about data delivery to AirNow, automatic quality control (QC) checks, and data review. Select Forecasting FAQ to see common questions that have already been answered.

**Forecasting FAQ**

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**EnviroFlash**

Your Environmental News Flash

What do numbers following parameters mean (ex: PM10-85101), and why does the same pollutant have multiple numbers? Nov '15

How do I manage the contact list for my agency? Jul '15

How can my colleagues sign up for an AirNow-Tech account? May '15

Which browsers does AirNow-Tech support? May '15

How can I request updates of links and other information on my state's AirNow.gov page? Jul '15

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Using the Site Selector tool (Custom Queries) Nov '15

Using the Parameter Selector tool (Custom Queries) Nov '15

How can I generate a report for my site/sites on AirNowTech? May '15

What model does the HYSPLIT (Trajectory Plotting Tool) use? Jul '15

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Why do I see data discrepancies between the AirNow map(s) and the current conditions listed for my forecast city (or reporting area)? Jul '15

Troubleshooting: Why is my agency's data not showing up on AirNow.gov? Nov '15

How do I add a new parameter to AirNow? Jul '15

How do I add a new monitoring site to AirNow? Jul '15

Can I edit data once they are in AirNow? Jul '15

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What are verification sites and how do I specify them? Dec '15

What is a reporting area? Nov '15

Why is my city not showing up on AirNow.gov under cities with Action Days? Jul '15

How do I add a new forecast city or reporting area to AirNow? May '15

How do I update the action day name for AirNow to use? May '15

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Enviroflash- Agency Start-Up Guide Dec '15

How can I obtain access to the EnviroFlash administrative pages for an existing AirNow-Tech account? Jul '15

How can I upload a new list of subscribers? May '15

From: AirNow Discussion Forum digest <noreply@airnowtech.org>  
 To: Alan Chan  
 Cc:  
 Subject: [AirNow Discussion Forum] Digest

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A brief summary of AirNow Discussion Forum since your last visit on 03-23-2015

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**Popular posts**

**How do I backfill missing data in AirNow or overwrite existing data?**  
 Data Delivery & Quality Control

To backfill data:

To overwrite data or quality control flags that already exist in AirNow:

**I need to send a revised EnviroFlash email. Help!**  
 EnviroFlash

We have updated our forecast for tomorrow and want to send a revised EnviroFlash email. How can I accomplish this?

**How do I update the action day name for AirNow to use?**  
 Forecasting & Reporting Areas

I need to update the action day name for my forecast area from Smog Alert to Air Quality Advisory. How can I accomplish this?

**Thank you for a successful Air Quality Awareness week!**  
 Announcements

Thank you very much! We hope everyone was able to engage and educate their communities on the topic of Air Quality.

**How can I upload a new list of subscribers?**  
 EnviroFlash



# Village Green

Six benches are currently online ([airnow.gov/villagegreen](http://airnow.gov/villagegreen)) – Chicago is next



Select a City ▼ Kansas City, KS Menu

Most Recent Observations  
Kansas City, KS

25 Ozone ppb 48.4 °F  
6 PM<sub>2.5</sub> µg/m<sup>3</sup> 49.5% humidity  
8.3 mph N

observed Tue 5:27 PM CST

Explore Kansas City, KS ▶

**Welcome to the Village Green Project**  
a research effort to discover new ways of measuring air quality and weather conditions in community environments.



Measuring and communicating on-the-spot air quality and weather conditions for research and awareness



Developing small and rugged data collection systems that can be powered by the wind and sun



Partnering with communities to pilot test the new technology in outdoor community spaces.



Select a City ▼ Kansas City, KS Menu

Current Conditions - Kansas City, KS

22 Ozone ppb 47.5 °F  
7 PM<sub>2.5</sub> µg/m<sup>3</sup> 50.3% humidity  
4.9 mph N

observed Tue 5:30 PM CST

Past 1 Hour Trend

Ozone PM<sub>2.5</sub>

ug/m<sup>3</sup>

9  
8  
7  
6  
5

4:30 PM 4:40 PM 4:50 PM 5:00 PM 5:10 PM 5:20 PM 5:30 PM

PM<sub>2.5</sub>

Explore the data ▶

Past 1 Hour Conditions

Date CST	O <sub>3</sub> ppb	PM <sub>2.5</sub> µg/m <sup>3</sup>	Temp °F	RH %	W Spd mph	W Dir deg
5:30 PM	22	7.1	47.5	50.3	4.9	N
5:29 PM	23	7.0	46.2	50.2	6.9	N
5:28 PM	23	7.3	47.1	49.5	10.1	NE
5:27 PM	25	6.8	48.4	49.5	8.5	N
5:26 PM	23	7.1	47.7	49.7	8.5	N
5:25 PM	29	7.2	46.9	50.6	11.6	N
5:24 PM	30	7.8	46.9	49.3	9.2	N
5:23 PM	26	6.8	48.0	50.0	4.3	NE
5:22 PM	29	6.4	48.4	49.1	8.7	N
5:21 PM	33	6.9	48.2	49.6	7.8	N
5:20 PM	33	5.9	46.9	49.5	11.4	N
5:19 PM	27	6.2	46.0	49.8	9.2	N
5:18 PM	26	6.3	48.4	50.0	4.7	N
5:17 PM	29	6.4	48.7	49.1	1.6	NE
5:16 PM	29	6.8	48.6	49.2	2.7	NW
5:15 PM	34	6.4	46.4	48.8	6.0	N
5:14 PM	27	6.6	46.9	49.0	6.7	N
5:13 PM	5	6.7	46.8	48.5	13.0	N
5:12 PM	26	6.9	46.8	48.6	7.4	N

Map

Map Satellite

# Department of State Enhancements

## Alerts

- Email alerts
- Custom alert conditions
- Custom distribution lists

U.S. Department of State India - New Delhi (DS1)

You can manage alerts for your agency here. These alerts are associated to active monitors within your agency.

Status	Site	Alert Condition	Last Alert (LST)	Action
Disabled	DS1010001 - New Delhi	Hourly PM2.5-88502 Concentration - POC 1 > 900 for the past 3 hours	...	

**Alerts**  
Manage existing alerts

**Email Notifications**  
Browse email notification history

Create New Alert

**Site**  
Select Site: New Delhi

**Alert Conditions**  
Alert me when: Hourly PM2.5-88502 Concentration  
Exceeds - (ug/m3): 900  
For: 3 consecutive hour(s)

**Distribution List**  
Edit Email Distribution List: airnowinfo@sonomatech.com  
Custom Message: Test

Update

U.S. Department of State India - New Delhi (DS1)

You can manage alerts for your agency here. These alerts are associated to active monitors within your agency.

Sent (LST)	Site	Alert
2015-12-10 9 AM	New Delhi	Hourly PM2.5-88502 Concentration - POC 1 > 1 for the past 3 hours
2015-12-10 8 PM	New Delhi	Hourly PM2.5-88502 Concentration - POC 1 > 1 for the past 3 hours
2015-12-10 8 AM	New Delhi	Hourly PM2.5-88502 Concentration - POC 1 > 1 for the past 3 hours
2015-12-10 7 PM	New Delhi	Hourly PM2.5-88502 (ug/m3) > 1 for the past 3 hours
2015-12-10 7 AM	New Delhi	Hourly PM2.5-88502 (ug/m3) > 1 for the past 3 hours

**Alerts**  
Manage existing alerts

**Email Notifications**  
Browse email notification history

Create New Alert

**Air Quality Alert**

During the last 3 hours, PM2.5 concentrations at New Delhi exceeded 1 ug/m3.

The latest observed PM2.5-88502 concentration was 299 ug/m3 at 9 AM (LST).

test a test

You are receiving this message because you are subscribed to the internal AirNow Air Quality Alerting System. If you would like to stop receiving these alerts, please unsubscribe. Do not reply to this email.

*This alert was generated on 2015-12-10 9 AM (LST)*

**Alert**

Previous 1 Next

# Department of State Enhancements

## Social media feeds

- RSS
- Twitter feeds
- Publish concentrations or AQI levels

Welcome, Alan Chan! | [My Account](#) | [Contact Us](#) | [Log Out](#)

**AirNow** Tech

Dashboard Data Navigator Forecasts Polling Notifier EnviroFlash Tools Help

### Social Media / Twitter

U.S. Department of State India - New Delhi (DS1)

You can add Twitter accounts for your agency here. These accounts will then be available to associate with reporting areas.

[Add Account](#)  
[Post Tweet](#)

Status	Account	Action
Disabled	@clydeknapp7	
Disabled	@clydeknapp7	
Disabled	@ParajonGonzalo	
Disabled	@alannhealy	
Disabled	@alannhealy	
Enabled	@clydeknapp7	
Enabled	@ParajonGonzalo	
Enabled	@ParajonGonzalo	
Enabled	@alannhealy	

### Social Media / Twitter / Edit



Enabled

Yes  No

[Update](#)

Site

New Delhi

Parameters

@clydeknapp7

PM2.5 - Current AQI

Hashtag

#Test Tag

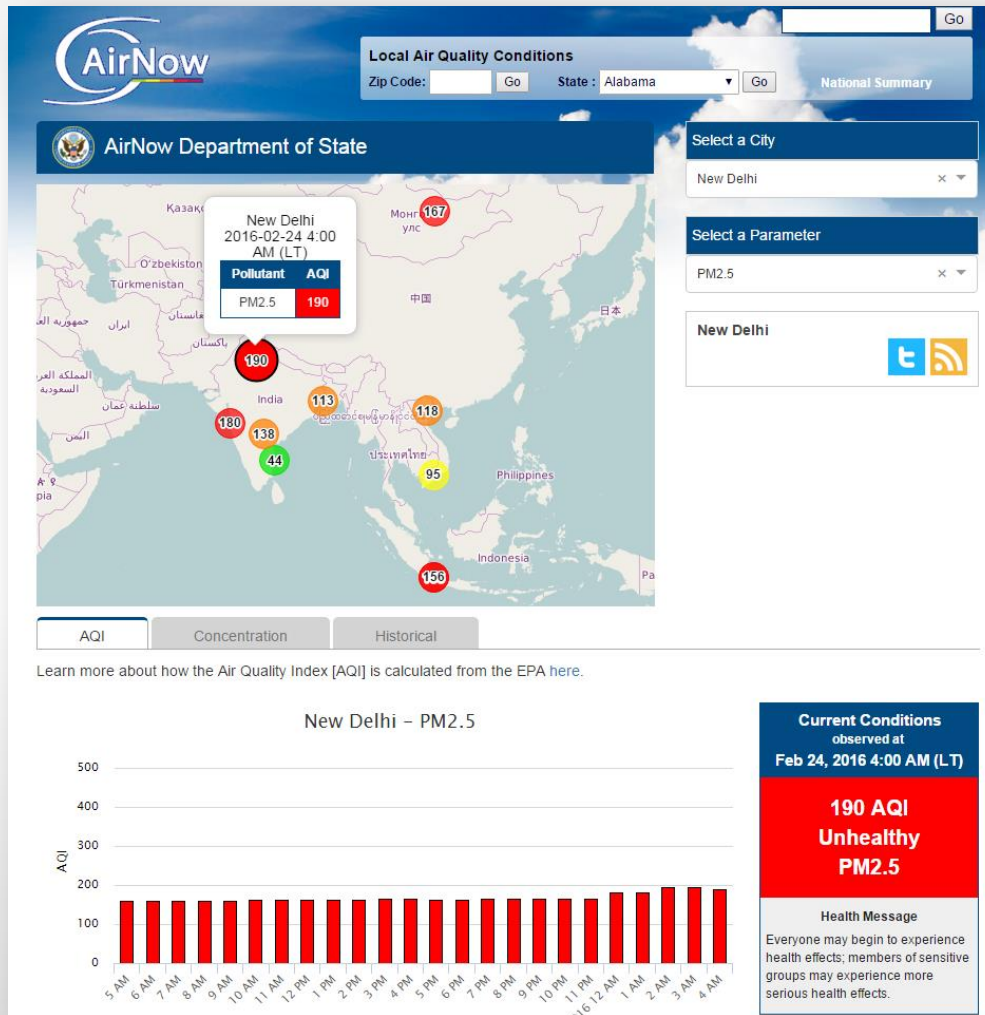
Preview



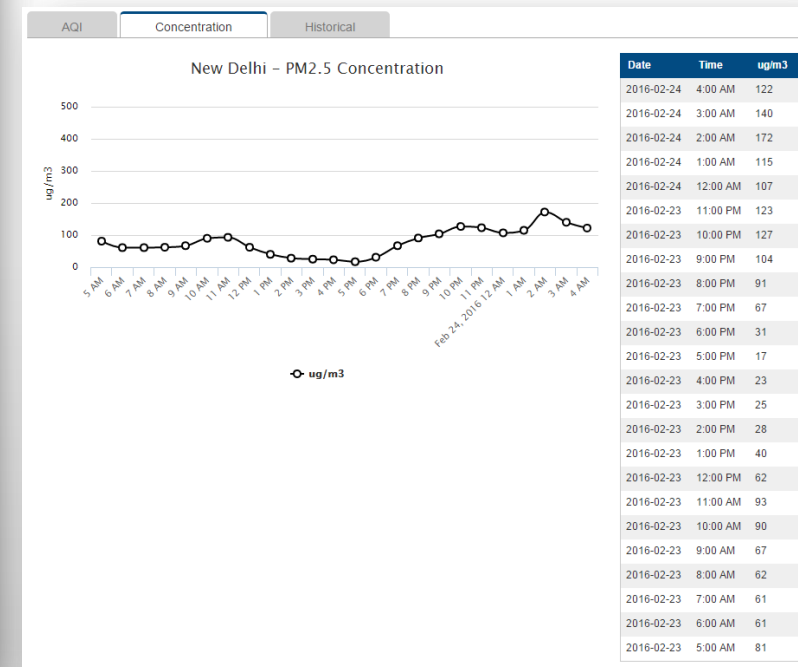
**clydeknapp7** @clydeknapp7 - 1m

New Delhi - 2016-2-26 12PM - PM2.5 - 21 AQI - Good #Test Tag

# Department of State Enhancements



- Special page on AirNow.gov
- Additional sites worldwide coming soon



# AirNow.gov Redesign Concepts

- Brainstorming session for the new AirNow.gov
- Defined users (“persona”)



## Bill



### About

- Software Developer.
- Age: 28.
- Interested in the latest technologies.
- Impatient.
- Has an idea to develop an app.



### Environment

- Mac Book Pro.
- Home office.



### Tasks

- Looking for access to all data (no limits)
- Wants an API
- Wants speed
- Doesn't want to hunt for data
- Needs new socks!?!



## Violet



### About

- Concerned citizen with health problems
- Age: 77.
- Infrequent web user.
- Wants to learn more about air quality.



### Environment

- iPad – Living room



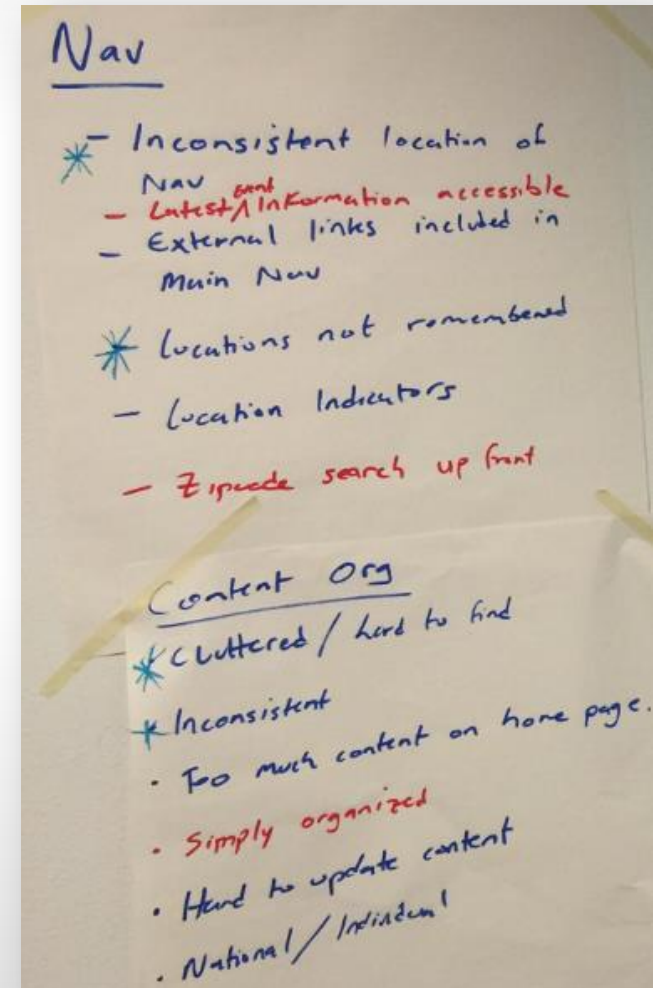
### Tasks

- Checks AQI regularly and compares it with local agency website





# AirNow.gov Redesign Concepts


- Areas reviewed
  - Navigation
    - Zip code/location search easily located
    - Inconsistent site navigation
  - Design
    - Out-of-date
    - Not mobile friendly
  - Content organization
    - Cluttered/hard to find relevant information
    - Inconsistent/too many different types of content on the home page



# AirNow.gov Redesign Concepts

**AirNow**  

Your Air   National Air   International Air   Health Info

Petaluma, CA 

Current Conditions

**32** AQI PM2.5

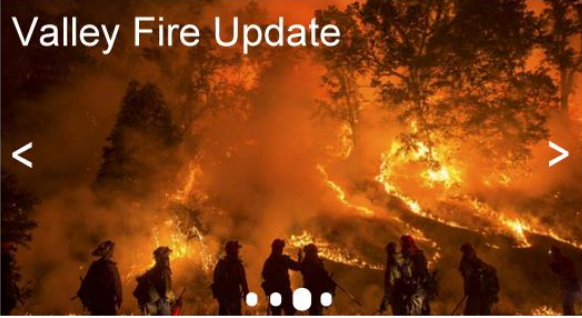
**25** AQI Ozone



**47°F**

4.7mph NW 20% humidity

9:00 AM PST

## Valley Fire Update






Social Media   Alerts   Fires

Air Quality 101   Health   Local Resources

International   National   News

**AirNow**  

Your Air   National Air   International Air   Health Info

Petaluma, CA 

Current Conditions

**32** AQI PM2.5

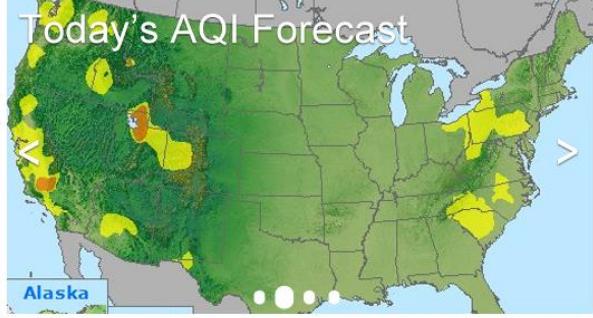
**25** AQI Ozone




**47°F**

4.7mph NW 20% humidity

9:00 AM PST

## Today's AQI Forecast



Social Media   Alerts   Fires

Air Quality 101   Health   Local Resources

International   National   News



# Contacts

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