



AirNow: Forecaster Focus Group

Brad Johns
Phil Dickerson
John White
September 26, 2013



Report of:

Forecast Submittal System Update

AirNow Tech Improvements

Enviroflash Update

ASDP

AirNow Gateway: API

Nowcast: Update



Forecast Submittal System

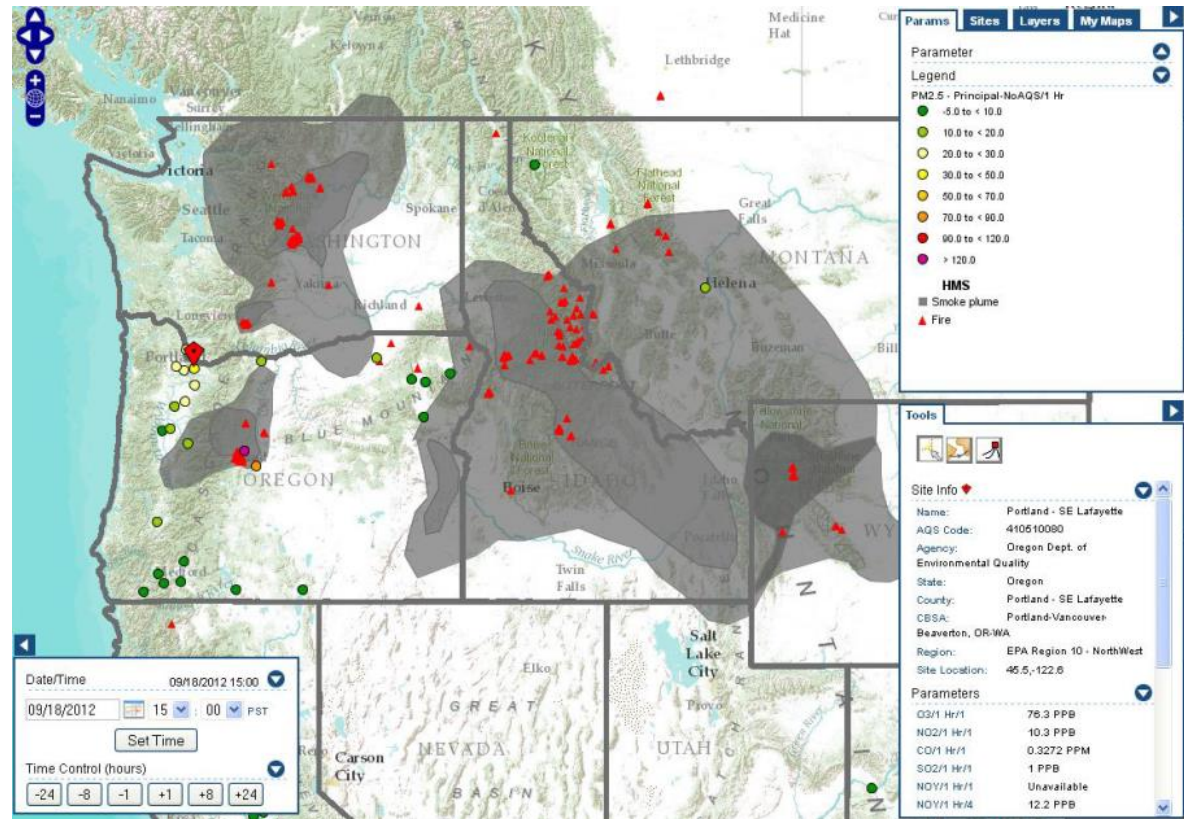
- ▶ No changes this year





Tech Improvements

Improvements to Navigator include much faster response times, additional base layers and external overlays, the option to save and access custom maps, and collapsible menus.





Tech Improvements

Site Details

- AQCSV file format
- More than one parameter type
- Principal Parameter

[Agencies](#) » [Site List](#) » Edit Sites

AQS Code *	<input type="text" value="481410037"/>	Status *	<input type="text" value="Active"/>	Parameters Measured:
Site Name *	<input type="text" value="El Paso UTEPC12"/>	Elevation:	<input type="text" value="3780"/> ft. or <input type="text" value="1152.144"/> m.	Parameter - AQS Code/POC
Agency ID:	<input type="text" value="TX1"/>	Dec Deg		O3 - 44201/1
State:	<input type="text" value="TX"/>	Latitude *	<input type="text" value="31.780600"/>	O3 - 44201/2 ★ 👤
County:	<input type="text" value="EL PASO"/>	Longitude *	<input type="text" value="-106.511101"/>	PM10 - 81102/1
CBSA:	<input type="text" value="El Paso, TX"/>			PM10 - 81102/4 ★ 👤
GMT Offset *	<input type="text" value="-7.00"/>			PRECIP - 65102/1 ★ 👤
				RHUM - 62201/1 ★ 👤
				RWD - 61104/1
				SRAD - 63301/1 ★ 👤
				TEMP - 62101/1 ★ 👤
				WD - 61102/1 ★ 👤
				WS - 61101/1 ★ 👤

*Required



Tech Improvements

New Data Query features include interactive line graphs, scatterplots, and the choice to view data in pivoted or unpivoted formats. Additionally, custom queries can be saved for future use.

My Queries

Select:

Name:

Display Settings

Date Range: Last 2 Days 09/14/2012 to 09/14/2012

Display: Graph Line Table Unpivoted

Filter: By QC Code 0 - Valid By Source Preliminary

Query Settings

Query Type: Custom

Parameter(s): Current Selection (3 parameters)

Site(s): Current Selection (11 sites)

Filtered Data Set(s):
 Groton Fort Griswold/PM2.5-88502 - 88502/1 Hr/1
 Groton Fort Griswold/PM2.5-88502 - 88502/1 Hr/3
 Danbury/PM2.5 - Principal - NoAQS/1 Hr/1
 Danbury/PM2.5-88502 - 88502/1 Hr/3

Selected Data Set(s):
 Cornwall/PM2.5-88502 - 88502/1 Hr/3
 East Hartford/PM2.5-88502 - 88502/1 Hr/3

Run Save Delete CSV Export

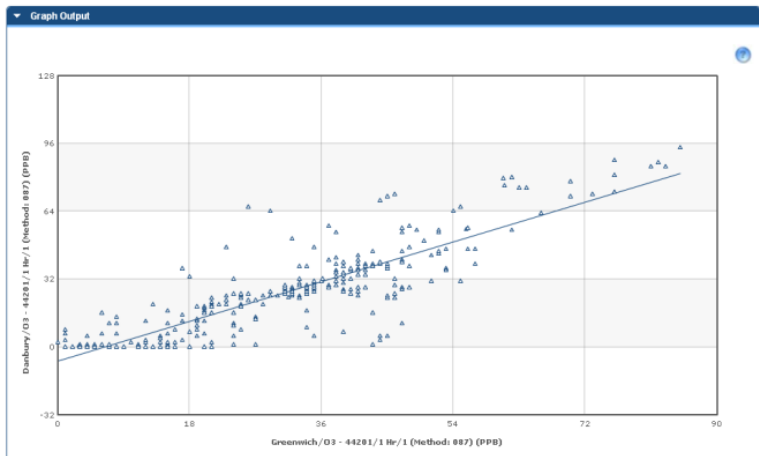


Table Output

Search:

Agency	Site	Site AQS	Param	Param AQS	POC	Method	Duration	Date (LST)	Value	Unit
CT1	Cornwall	090050005	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 23:00T-0500	5	UG/M3
CT1	East Hartford	090031003	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 23:00T-0500	8	UG/M3
CT1	Cornwall	090050005	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 22:00T-0500	9	UG/M3
CT1	East Hartford	090031003	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 22:00T-0500	9	UG/M3
CT1	Cornwall	090050005	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 21:00T-0500	11	UG/M3
CT1	East Hartford	090031003	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 21:00T-0500	11	UG/M3
CT1	Cornwall	090050005	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 20:00T-0500	5	UG/M3
CT1	East Hartford	090031003	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 20:00T-0500	13	UG/M3
CT1	Cornwall	090050005	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 19:00T-0500	5	UG/M3
CT1	East Hartford	090031003	PM2.5-88502	88502	3	731	1 Hr	09/14/2012 19:00T-0500	14	UG/M3



Tech Improvements

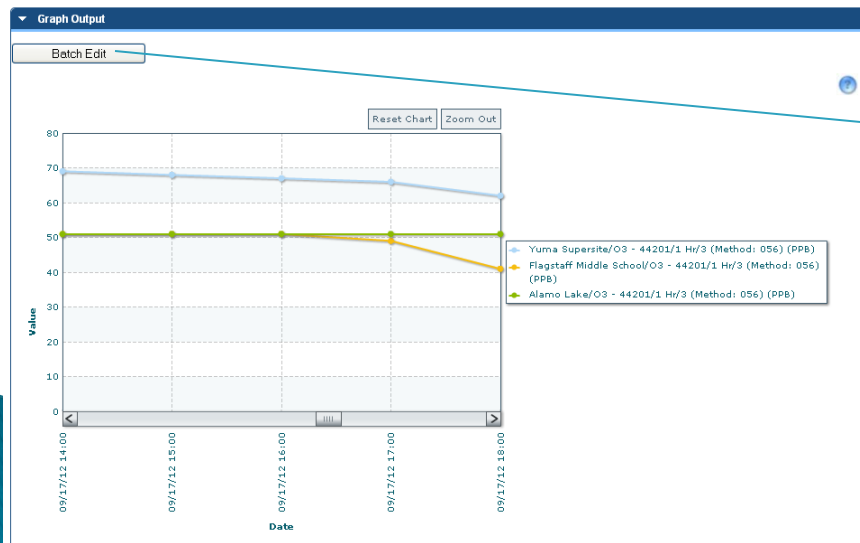
Users with Data Editing privileges can change quality control (QC) flags and data values for their agency's data. Edits can be made by clicking a value cell in the table output or via Batch Edit mode while interacting with a Line Graph

Table Output

Search:

Agency	Site	Site AQS	Param	Param AQS	POC	Method	Duration	Date (LST)	Value	Unit
AZ1	Alamo Lake	040128000	O3	44201	3	056	1 Hr	09/16/2012 00:00T-0700	28	PPB
AZ1	Alamo Lake	040128000						2012 01:00T-0700	29	PPB
AZ1	Alamo Lake	040128000						2012 02:00T-0700	23	PPB
AZ1	Alamo Lake	040128000						2012 03:00T-0700	23	PPB
AZ1	Alamo Lake	040128000						2012 04:00T-0700	22	PPB
AZ1	Alamo Lake	040128000						2012 05:00T-0700	20	PPB
AZ1	Alamo Lake	040128000						2012 06:00T-0700	23	PPB
AZ1	Alamo Lake	040128000						2012 07:00T-0700	28	PPB
AZ1	Alamo Lake	040128000						2012 08:00T-0700	31	PPB
AZ1	Alamo Lake	040128000	O3	44201	3	056	1 Hr	09/16/2012 09:00T-0700	37	PPB
AZ1	Alamo Lake	040128000	O3	44201	3	056	1 Hr	09/16/2012 10:00T-0700	41	PPB

Editing Site: Alamo Lake
 Date: 09/16/2012 00:00T-0700
 Parameter: O3/1 Hr/3 (PPB)
 QC Code: 9 - Invalid
 Value: 22
 Save Cancel



Batch Edit

Date Range: 09/17/12 14:00 to 09/17/12 18:00

Select the data set(s) to edit:

- Yuma Supersite/O3 - 44201/1 Hr/3
- Flagstaff Middle School/O3 - 44201/1 Hr/3
- Alamo Lake/O3 - 44201/1 Hr/3

QC Code: 0 - Valid

Apply Bias and Scaling where $y=Mx + B$

	Starting Value	Ending Value
Bias (B):	<input type="text"/>	<input type="text"/>
Scale (M):	<input type="text"/>	<input type="text"/>

Set Values: > 50 to: 50

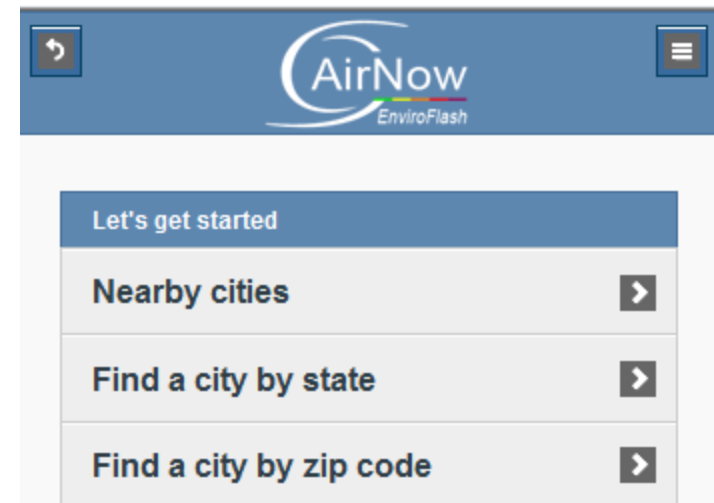
Set Values to:

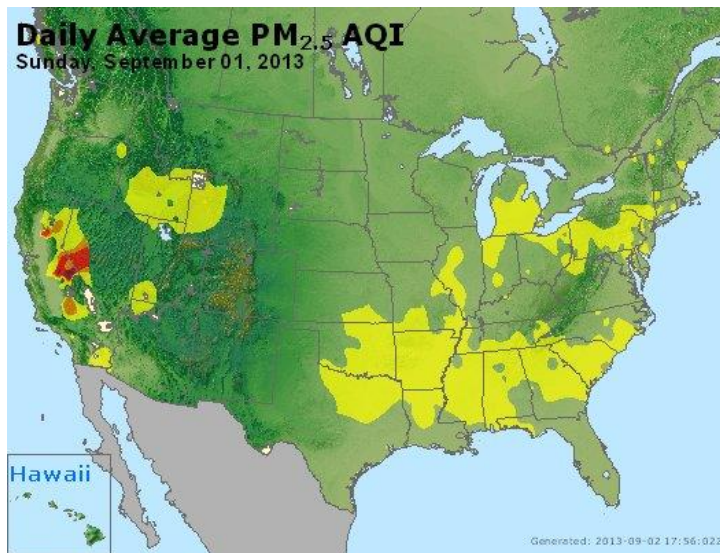
Execute Batch Edit Cancel



EnviroFlash

- Mobile sign up website
- Updated the style of the admin section
- Automatically confirm subscribers when they sign up
- Changed the email bounce handler
- Added the forecast discussion to the regional forecast emails.
- Added subscriber groups for manual emails.
- Added health message tips to emails.
- Made updates to the subscriber
- Added features to the manage subscribers pages.





AirNow Operational Map
(airnow.gov)



Without satellite data, no contouring is possible
in the hatched areas

- Improve operational air quality maps currently in AirNow and make them available 24 hrs a day every day
- Provide satellite data products in AirNow-Tech
- Improve tools for air quality forecasting

AirNow Satellite Data Processor

• D
• D
• C
• C
• P
• E

AIRNOW SDP

Fusion Method

Interpolated Observed Data

KML | JP | Comments

Interpolated Observed Data

KML | JP | Comments

Interpolated Observed Data

KML | JP | Comments

Submission List

[Comments](#) | [Likes](#) | [Recent](#) [Works](#)

[Wildfire smoke over Wisconsin June 29 - July 1, 2013](#)

0 Likes

A wildfire smoke event over Wisconsin from June 29 through July 1 was analyzed and PM2.5 concen...

Michael Majewski
07/15/13 08:10 PST

1 Comments

[How often do you look at the ASDP product?](#)

0 Likes

If you look at it regularly, what feedback, either positive or constructive, would you give to NASA?...

Briana Gordon
06/19/13 10:03 PST

0 Comments

[Case Study: Rocky Mountain Region, April 2, 2013](#)

0 Likes

Key Questions: 1) With Snowfall the morning of April 2, did AOD algorithm get confused by thin snowc...

Richard Payton
06/17/13 09:12 PST

2 Comments

[Wildfires in Colorado and New Mexico](#)

0 Likes

In this case, the satellite-based estimates of ground-level PM2.5 helped to fill in gaps in the grou...

Patrick Zahn
06/13/13 16:55 PST

2 Comments

[CT air quality event, pm2.5 data comparison](#)

0 Likes

Brianna asked me to post my powerpoint slides from today. I had a little extra time so I added...

Kurt Keschull
06/06/13 14:12 PST

1 Comments

1 of 3 Next

international.org
ASDP products
(progress)
(report)
public health
NASA satellite data
DAA



AirNow Gateway API

AirNow Gateway Application Programmers Interface Web Services

The screenshot shows the 'Web Services - Overview' page of the AirNow Gateway API. The page features a navigation bar with links for Home, Web Services, Data Feeds, File Products, FAQ, Air Quality 101, and About. A 'Log Out' button is located in the top right corner. The main content is organized into three sections: Forecasts, Current Observations, and Historical Observations. Each section contains options for querying data by Zip Code, Lat/Long, or Community WCS, with links to documentation and a query tool.

Web Services - Overview

Forecasts

- By Zip Code**
Get current or historical forecasted AQI values and categories for a reporting area by zip code.
[Documentation](#) [Query Tool](#)
- By Lat/Long**
Get current or historical forecasted AQI values and categories for a reporting area by Lat/Long.
[Documentation](#) [Query Tool](#)

Current Observations

- By Zip Code**
Get current forecasted AQI values and categories for a reporting area by code.
[Documentation](#) [Query Tool](#)
- By Lat/Long**
Get current forecasted AQI values and categories for a reporting area by Lat/Long.
[Documentation](#) [Query Tool](#)

Historical Observations

- By Zip Code**
Get historical forecasted AQI values and categories for a reporting area by code.
[Documentation](#) [Query Tool](#)
- By Lat/Long**
Get historical forecasted AQI values and categories for a reporting area by Lat/Long.
[Documentation](#) [Query Tool](#)
- By Community WCS**
Text explaining get coverage
[Documentation](#) [Query Tool](#)

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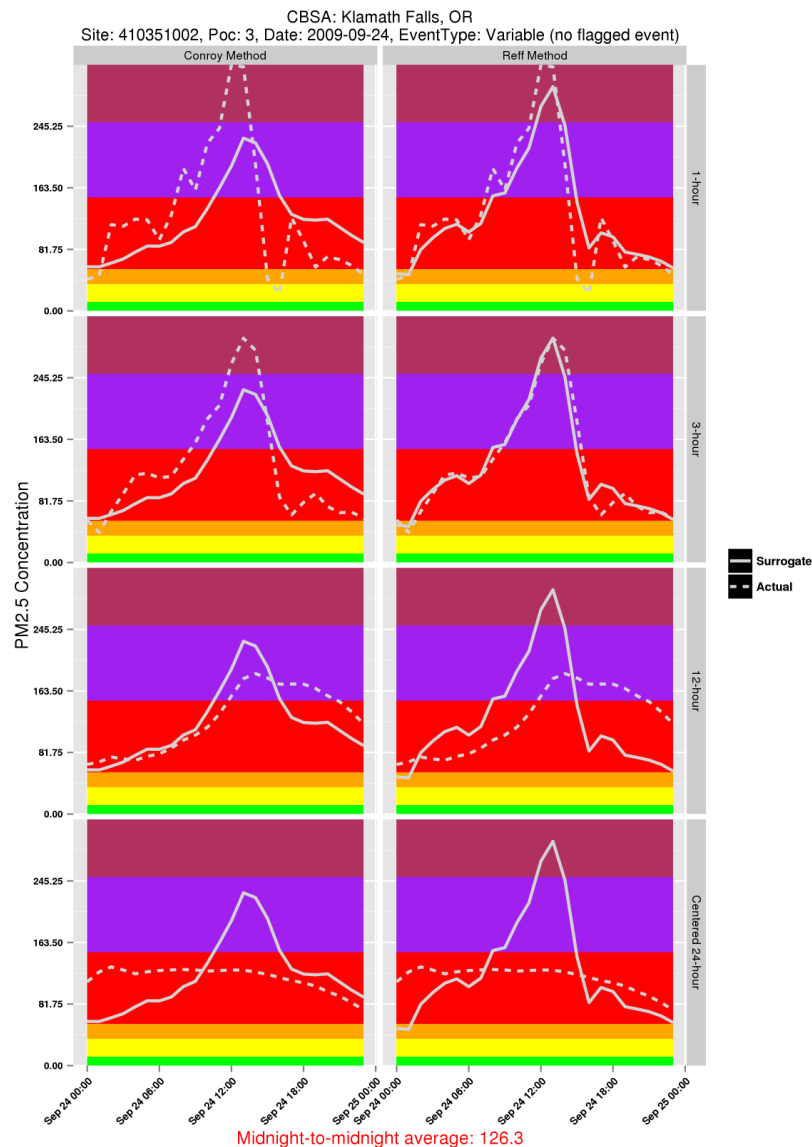


AirNow Nowcast

The Nowcast method has been changed to better estimate rapidly changing PM2.5 conditions.

The previous method was the Conroy method that was used to predict the midpoint of a 24 hour average.

The new method, “Reff method”, represents a short-term average (target 3-hour) when air quality is changing rapidly



- This example shows a spike in the middle of the day.
- The Conroy method lags several hours behind the hourly and 3-hour data.
- The Reff method tracks the 3-hour average because air quality is changing rapidly.
- Consequently, the Reff method enables us to caution the public sooner.

Questions?

- ▶ Contact Info:
- ▶ Dickerson.Phil@epa.gov
- ▶ Johns.brad@epa.gov