



# 2007 Air Quality Outreach Summary

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NOAA/NWS/Office of Climate, Water, and Weather Services  
2007 Air Quality Forecaster Focus Group Workshop  
September 18, 2007



# Outline

- 2007 Air Quality Outreach Activity Summary
- Feedback Review
- Ways to provide feedback to us
- Forecaster Focus Group Feedback Form Tutorial



# 2007 Air Quality Outreach Activities

- Air Quality Awareness Week – Poster produced by EPA and distributed by NWS

**Be Air Aware**  
**Keep an Eye on the AQI**

Air Quality Awareness Week  
April 30 - May 4, 2007  
[www.alnow.gov/alraware/](http://www.alnow.gov/alraware/)

The poster includes two maps of the United States. The top map is titled "Air Quality Index (AQI) by State (as of 10:00 AM EDT) - National Digital Guidance Database" and shows a color-coded AQI scale from 0 to 14. The bottom map is titled "Air Quality Outlook - May 10, 2007" and shows high pressure systems (H) and low pressure systems (L) across the country.

A photograph on the right shows a young girl with glasses and a denim jacket using a white inhaler. In the background, a yellow school bus is visible with the text "SCHOOL BUS" on its side.

**AQI**  
AIR QUALITY INDEX

Good	Moderate	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy
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# 2007 Air Quality Outreach Activities

- Air Quality Constituent Group Meeting
  - Held April 30 in Washington, DC
  - Participants included NOAA, EPA, and attendees from the private sector
  - Good dialog ensued on products and services which NOAA/EPA offers, and how our services are being used



# 2007 Air Quality Outreach Activities

## Other Activities:

- Participated in 2007 National EPA Air Quality Meeting
- Maintained records of public and focus group feedback (to be discussed next)
- Updated Product Description Documents for operational and experimental products
- Updated basic air quality program/training module for NWS staff



# Feedback Summary

- For 2007, most interested in experimental 5x ozone product feedback (recently became operational)
- Feedback was received from a number of sources:
  - Off main NWS Air Quality Page ([www.weather.gov/aq](http://www.weather.gov/aq)) – link at bottom of page
  - Off experimental Air Quality Product Page (5x ozone – recently transitioned to operational) – [www.weather.gov/aq-expr](http://www.weather.gov/aq-expr)
  - Through Survey Feedback System (Apache)
  - Through NOAA’s “Ask a Librarian” Program
  - Email
  - Forecaster Focus Group Feedback Form



# Subjective Feedback

## Responses/comments on experimental O<sub>3</sub> Product

- *Responders represented a mix of public, AQ forecasters, from 22 states including all NWS CONUS Regions.*
- *General Summary:*
  - AQ forecast guidance is being used by the public for planning purposes – when to exercise, when to avoid prolonged outside activity
  - The source of pollutants is of interest
  - Overall, model does well with trends, and seems to forecast well in the Pacific NW.
  - Public would like to know how accurate the predictions are, and the effect of the prediction on public health.
  - There is a discrepancy between depiction of a location on a graphical map and within point data.
- *Sample Comments:*
  - “I suffer from bronchitis...which is irritated by smoke, etc. in the air. The air quality forecasts have helped me avoid going outside when the air is alive with smoke and they tell me when it is safe to go out. Thank you!” - DW – Auburn, AL, 5/29/07
  - “From the observations I have been making, the model is doing a good job. “The NWS Experimental Model is showing good agreement. - D.R. – WA State Dept. of Ecology – emails from 7/9 and 7/17/07
  - I use this product for, “for farm workers, children outside and livestock/animals safety.” M.L-E, Greenville, NC, 8/9/07



# Forecaster Focus Group Feedback

- Great feedback was received from many focus group members which helped us systematically improve the model output
- We are interested to hear what you have to say during this workshop, and anytime via the Forecaster Focus Group Feedback Form



# Air Quality Forecaster Focus Group Feedback Form Tutorial

Michael Dion

Department of Commerce

NOAA/National Weather Service



# Forecaster Focus Group Feedback Form - Login

- Form is online at:  
<https://apps.weather.gov/airquality/login.php>

Forecaster name initially  
Can be anything

Password is always:  
a1rqual1ty!

2007 Air Quality Focus Group Forecast Feedback Login:

Forecaster: mike dion

Password: \*\*\*\*\*

Submit

Office of Climate, Water, and Weather Services NOAA, National Weather Service  
Questions about page content? Email: [Michael Dion](mailto:Michael.Dion@noaa.gov), or [Kenneth Carey](mailto:Kenneth.Carey@noaa.gov)  
Technical problems with the page? Email: [Michael T. Smith](mailto:Michael.T.Smith@noaa.gov)

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# Forecaster Focus Group Feedback Form – 1<sup>st</sup> Time User

If you have used the form before but forgot your username, the first option will email you your username.

**Welcome to the 2007 Air Quality Focus Group Forecast Feedback!**

Either this is the first time that you have ever logged in, or you have entered your name incorrectly. If you believe that you entered your name incorrectly, click [here](#) and try again. If you have forgotten the original name that you logged in under, please enter your e-mail address and your user name will be sent to that address via e-mail:

**I have forgotten my username. Please send me my username:**

**E-mail:**

If this is the first time that you have logged in, please enter your e-mail address, so that in the event that you have forget your username, it can be sent to you.

**First-Time users, please register:**

**E-mail:**

If you believe that your login problems are do to a problem with the website, please [e-mail the webmaster](#).

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If this is the first time using the system, input your email address into the second option.



# Forecaster Focus Group Feedback Form – Select Week

2007 Air Quality Focus Group Forecast Feedback - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://apps.weather.gov/airquality/aq.php

Google

[View All Reports](#) [Admin](#)

**Welcome mike dion, You have 2 feedback report(s) on file:**

**To enter a new feedback report, select the week:**

03/12/07 - 03/18/07

**View your Feedback Reports:**

<a href="#">Averages</a>	02/05/07 - 02/11/07	<a href="#">Edit/Update</a>
<a href="#">Averages</a>	02/05/07 - 02/11/07	<a href="#">Edit/Update</a>

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Questions about page content? Email: [Michael Dion](#), or [Kenneth Carey](#)  
Technical problems with the page? Email: [Michael T. Smith](#)

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Done

start | Inbox for Mich... | Address\_List\_f... | 2007 Air Qualit... | Buddies | Microsoft Powe... | 9:02 AM

You will be able to select a week (from the pull down menu at right) to issue your report and feedback, and edit any prior feedback which you previously entered



# Forecaster Focus Group Feedback Form – Enter Data

Ozone – Provide maximum and minimum readings (no ranges) for 1 and 8 hour forecast and observed ozone

2007 Air Quality Focus Group Forecast Feedback - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://apps.weather.gov/airquality/add\_entry.php

[Select a different week](#)

### 2007 Air Quality Focus Group Forecast Feedback

Forecaster: mike dion      Location\*:

Dates: 03/12/07 - 03/18/07      Elevation (Feet):

Day of Week      Monday      Tuesday      Wednesday      Thursday      Friday      Saturday      Sunday

Model Avail Time(UTC)

**Location Statistics**

Ozone

Forecast Data Type	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Forecast Data Type	Operational						
Forecast Minimum (ppbv)1 hr	<input type="text"/>						
Forecast Maximum (ppbv)1 hr	<input type="text"/>						
Observed Minimum (ppbv)1 hr	<input type="text"/>						
Observed Maximum (ppbv)1 hr	<input type="text"/>						
Forecast Peak (ppbv)1 hr	<input type="text"/>						
Observed Peak (ppbv)1 hr	<input type="text"/>						
Forecast Data Type	Operational						
Forecast Minimum (ppbv)8 hr	<input type="text"/>						
Forecast Maximum (ppbv)8 hr	<input type="text"/>						
Observed Minimum (ppbv)8 hr	<input type="text"/>						
Observed Maximum (ppbv)8 hr	<input type="text"/>						

weather.gov 9:13 AM



# Forecaster Focus Group Feedback Form – Enter Data

Average observed and forecast aerosols.  
Max and Min Temperature – must be entered in °F.  
Wind and Transport info to be given at the time of maximum ozone/aerosol values  
Comments can be entered here

2007 Air Quality Focus Group Forecast Feedback - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://apps.weather.gov/airquality/add\_entry.php

**Aerosols**

Forecasted (µg/m3) 24 hr Average	<input type="text"/>						
Observed (µg/m3) 24 hr Average	<input type="text"/>						

**Weather Comments (Generally Daytime Conditions)**

*Important Note: All temperature measurements must be in Fahrenheit. Click here for a [conversion chart](#).*

Min Temperature	<input type="text"/>						
Max Temperature	<input type="text"/>						
Surface Winds Direction/Speed	<input type="text"/>						
Transport Aloft Direction	<input type="text"/>						
Clouds	<input type="text" value="Cir"/>						
Ceiling Prevailing	<input type="text"/>						
Ceiling Time	<input type="text"/>						
Precip/Convection	<input type="text" value="None"/>						
Precip/Convection Time	<input type="text"/>						
Frontal Passage	<input type="text" value="No"/>						
Frontal Passage Time	<input type="text"/>						
Upper Air Pattern	<input type="text" value="Rdg"/>						
General Comments***	<input type="text"/>						

Done

apps.weather.gov



# Forecaster Focus Group Feedback Form - Sample

[Back to Admin](#)

## 2006 Air Quality Focus Group Forecast Feedback

**Forecaster:** wfryan      **Location:** Philadelphia  
**Dates:** 07/24/06 - 07/30/06      **Elevation:**

Day of Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Model Avail Time(UTC)</b>	12 utc	12 utc	12 utc	12 utc	12 utc	12utc	12utc

### Location Statistics

#### Ozone

<b>Forecast Range (ppbv)1 hr</b>	52-66	45-63	54-83	59-83	60-74	54-73	61-77
<b>Observed Range (ppbv)1 hr</b>	51-85	45-69	43-91	61-106	39-77	51-74	45-85
<b>Forecast Peak (ppbv)1 hr</b>	66	63	83	83	74	73	77
<b>Observed Peak (ppbv)1 hr</b>	85	69	91	106	77	74	85
<b>Forecast Range (ppbv)8 hr</b>	48-58	44-55	51-71	57-73	59-63	50-67	56-71
<b>Observed Range (ppbv)8 hr</b>	47-67	43-63	45-74	53-78	31-54	49-70	43-75
<b>Forecast Peak (ppbv) 8 hr</b>	58	55	71	73	63	67	71
<b>Observed Peak (ppbv) 8 hr</b>	67	63	74	78	54	70	75

#### Aerosols

<b>Forecasted (µg/m3) 24 hr Average</b>	~ 15	15-20	< 15	15-20	~ 15	15-20	15-20
<b>Observed (µg/m3) 24 hr Average</b>	8-18	13-27	12-28	19-29	17-27	18-38	19-41



# Forecaster Focus Group Feedback Form - Sample

2006 Air Quality Focus Group Forecast Feedback - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://apps.weather.gov/qa\_admin\_old/view\_entry.php?id=6

Verification LWX Radar IWIN NOAA Locator TPC OCWWS DOCFCU eBay NWS Acton Fcst Shapleigh Fcst 13.3°F

2007 Air Quality Focus Group Forecas... Weather Summary - NOAA's National ... 2006 Air Quality Focus Group For...

## Aerosols

<b>Forecasted (µg/m3) 24 hr Average</b>	~ 15	15-20	< 15	15-20	~ 15	15-20	15-20
<b>Observed (µg/m3) 24 hr Average</b>	8-18	13-27	12-28	19-29	17-27	18-38	19-41

## Weather Comments (Generally Daytime Conditions)

<b>Temperature</b>	87	85	88	93	94	91	91
<b>Surface Winds Direction/Speed</b>	SSW 7-13	S 8-14	s 5-14	SSW 7-15	SW to W 10-22G29	W7-15	NW7-14G16
<b>Transport Aloft Direction</b>	west	S via E VA	SSW slow	SW	WSW via Ohio River Vily		NNW
<b>Clouds</b>	Sct	Bk	Sct	Sct	Bk	Sct	Sct
<b>Ceiling Prevailing</b>			Few060				sct060
<b>Ceiling Time</b>							
<b>Precip/Convection</b>	None	None	None	Convection	Convection	None	None
<b>Precip/Convection Time</b>				0000	1500		
<b>Frontal Passage</b>	No	No	No	No	No	No	No
<b>Frontal Passage Time</b>							
<b>Upper Air Pattern</b>	Flat	Trof	Trof	Trof	Trof	Transition	Rdg

### General Comments\*\*\*

July 24: Calm through the early morning hours, then variable becoming south. Still dry with Td's ~ 60 F. High pressure over WV, scattered fair weather Cu. Strong NOx titration in early am with lots of monitors in low single digits. July 25: PM forecast has moderate along and west of I-95 with concentrations > 20 further west in Berks/Lancaster cty. Humidity and PM concentrations rising, 12h average ~ 20 for region. Ozone in am showed no NOx titration effects with all locations 20-30 ppbv. Stronger southerly winds today than PHL NWS had forecast. High cirrus from convection in VA holding down temps a bit. Might be limited ozone as well. BKN high clouds with FWD65 by afternoon. July 26: Strong NOx titration today with most monitors dropping to near 0. Highest concentrations late morning at Camden, then rising quickly immediately downwind of the City at PNE and Bristol by 2 pm. Strong sea and bay breeze as well. July 26: Forecast models handle low forming on stationary front over NC much differently. NAM has more SE flow so model cleans out NJ during day and has highest O3 west of I-95. Operational NOAA model higher in ozone than the experimental. PM forecast has moderate only W and N of PHL, center city < 15 for nearly all hours. Light winds in early morning hours, good Cu venting by 18 UTC. July 27: High PM across OH/WV on July 26 with some indication that Canadian smoke involved. Model has highest pM west of PHL in south-central PA. Strong convection in central PA but radar echoes just



# Why is your data important?

- Your expertise is invaluable:
  - Points out strengths and weaknesses of the products for your communities
  - Complements and enhances system-wide verification statistics
  - Sharing knowledge of local conditions and insights on what caused the predictions to succeed ... or not... drives improvements
- Front-line forecasters have bird's-eye view of air quality forecast problems:
  - Focus on forecast challenges shows what users value most
  - Many eyes see more than one camera