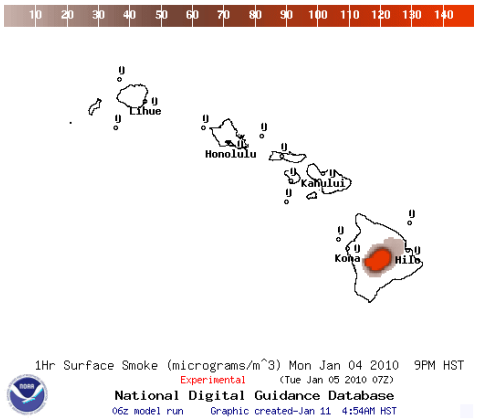
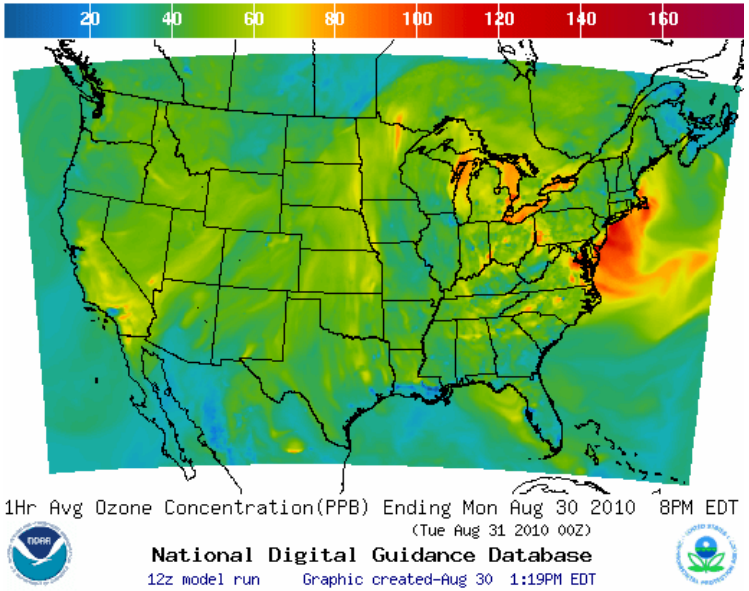
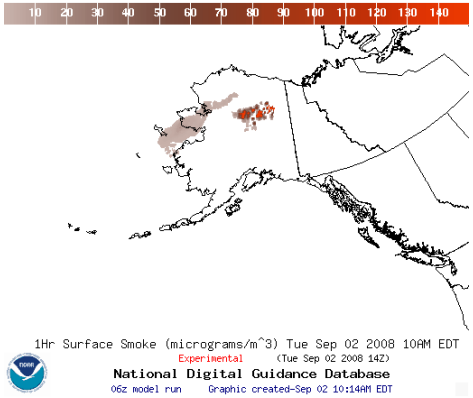
Air Quality Graphical Products

http://www.weather.gov/aq/ | http://www.weather.gov/aq-expr/





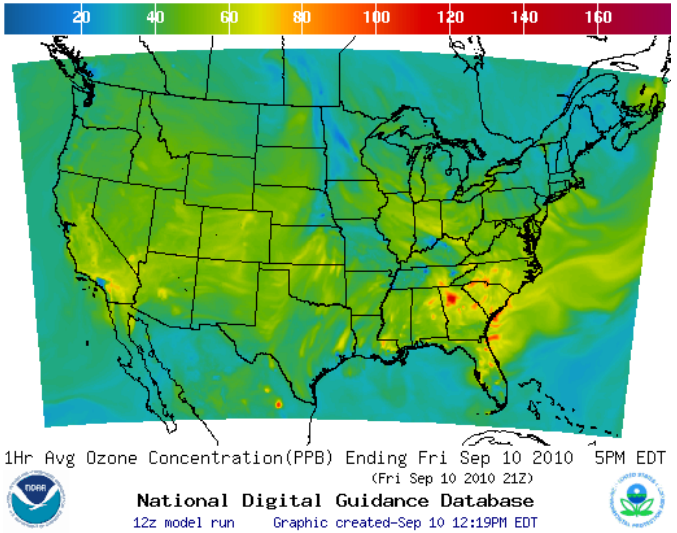


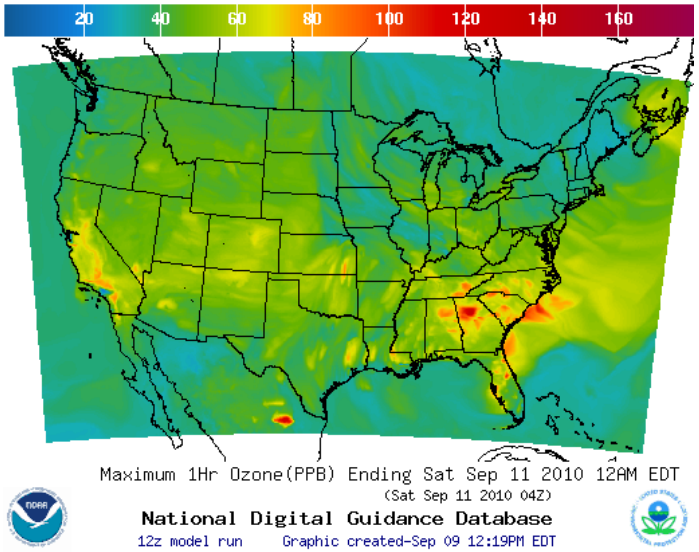
Air Quality Forecaster Focus Group Workshop
September 15, 2010

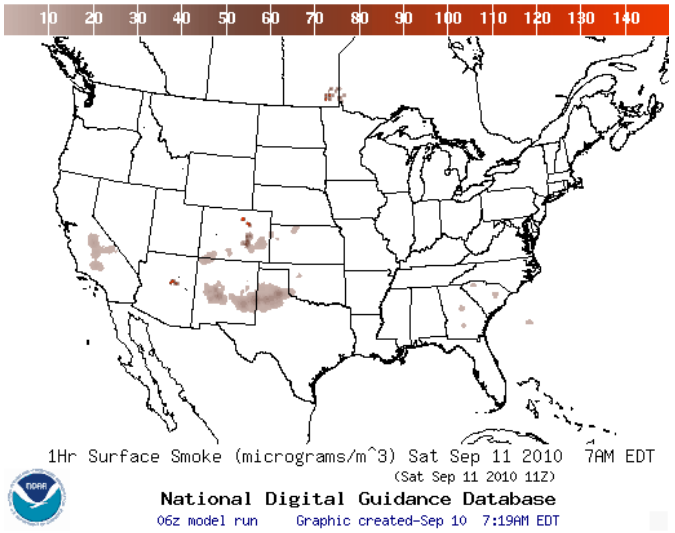
Marc Saccucci
NWS/OST Meteorological Development Laboratory

Air Quality Graphical Presentation

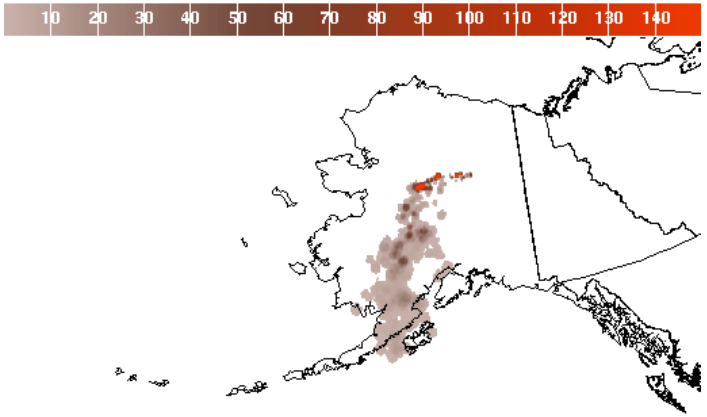
- CONUS Operational Products
  - 1hr/8hr Average Ozone Concentration
  - Maximum 1hr/8hr Ozone Concentration
  - 1hr Average Surface Smoke
  - 1hr Average Vertical Smoke Integration

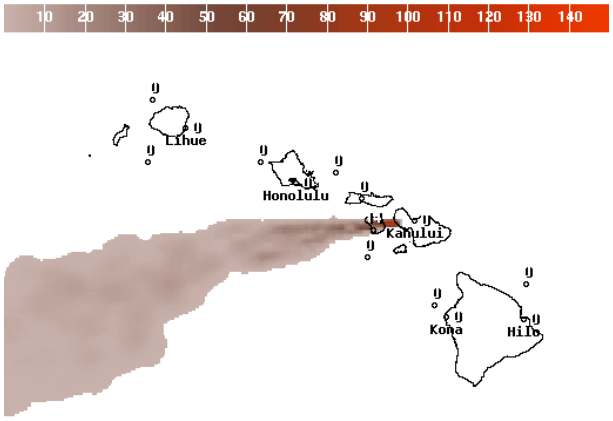






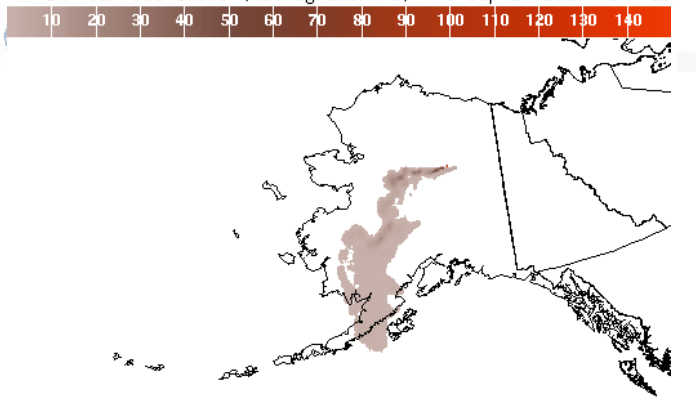
- Hawaii Operational Products
  - 1hr Average Surface Smoke
  - 1hr Average Vertical Smoke Integration
- Alaska Operational Products
  - 1hr Average Surface Smoke
  - 1hr Average Vertical Smoke Integration





1Hr Vertical Smoke (micrograms/m^3) Wed Jun 09 2010 6AM EDT
(Wed Jun 09 2010 10Z)
National Digital Guidance Database
06z model run Graphic created-Jun 09 6:13AM EDT

1Hr Surface Smoke (micrograms/m^3) Fri Sep 10 2010 5PM EDT

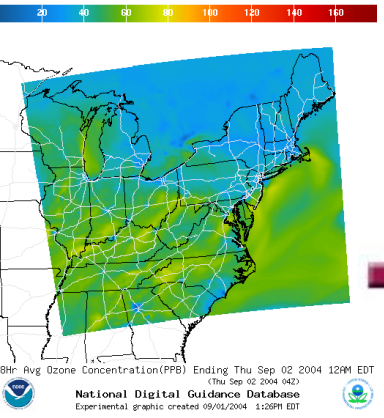


1Hr Vertical Smoke (micrograms/m^3) Fri Sep 10 2010 7PM EDT
(Fri Sep 10 2010 23Z)
National Digital Guidance Database
06z model run Graphic created-Sep 10 7:20AM EDT

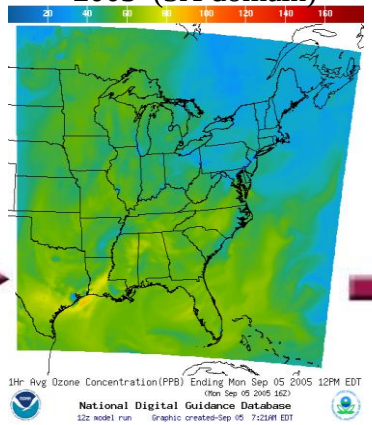
Air Quality Visualization Update:

Ozone Online Graphics History

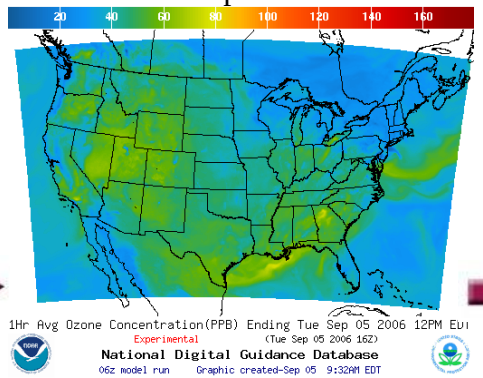
2004



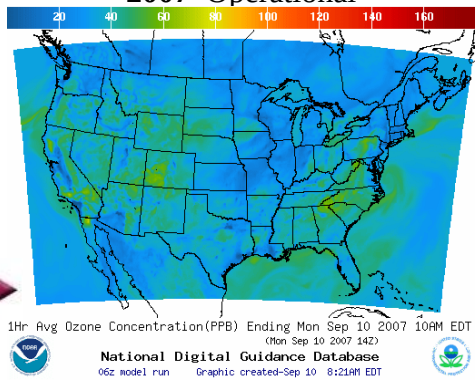
2005 (3X domain)



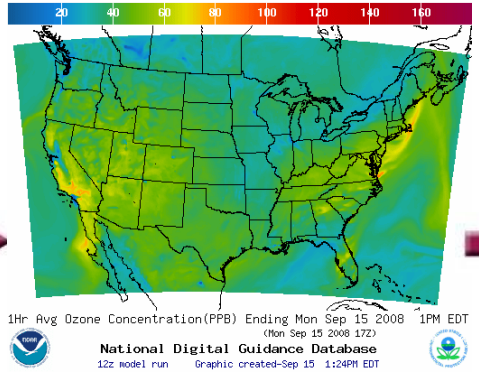
2006 Experimental



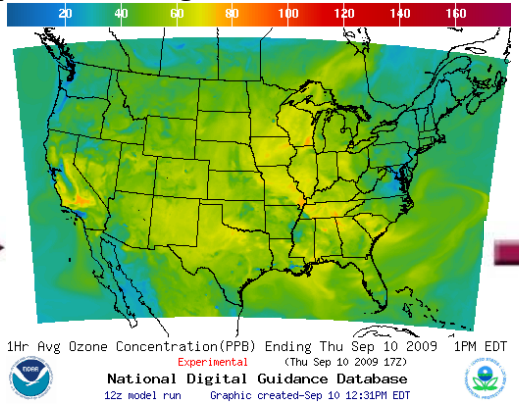
2007 Operational



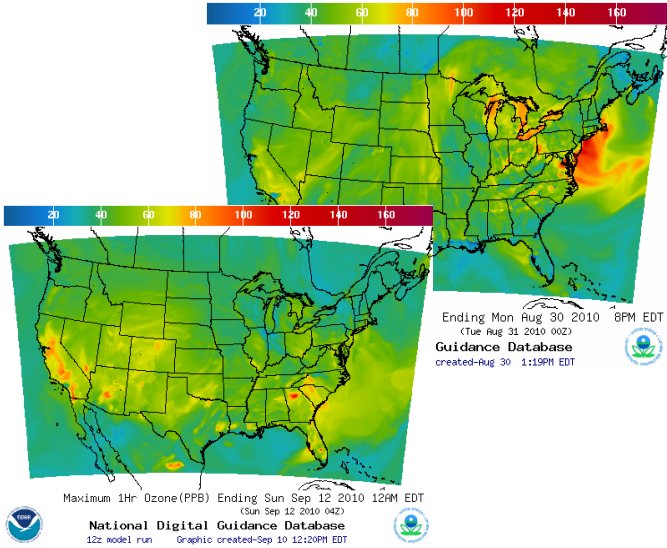
2008 Improved Legend



2009 Continued support of existing product, testing of new mechanism ozone



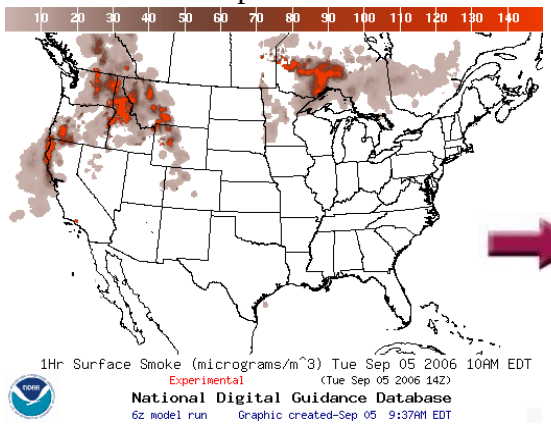
2010 Max Ozone Products introduced



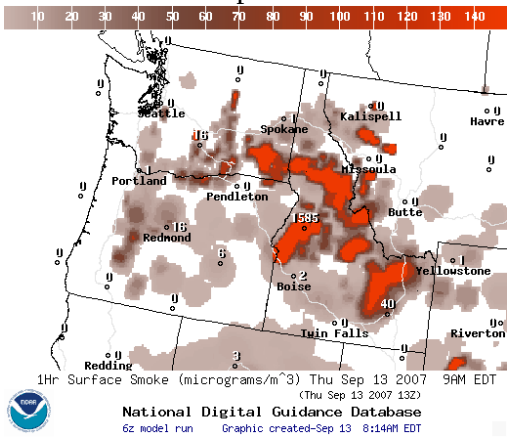
Air Quality Visualization Update:

Smoke Online Graphics History

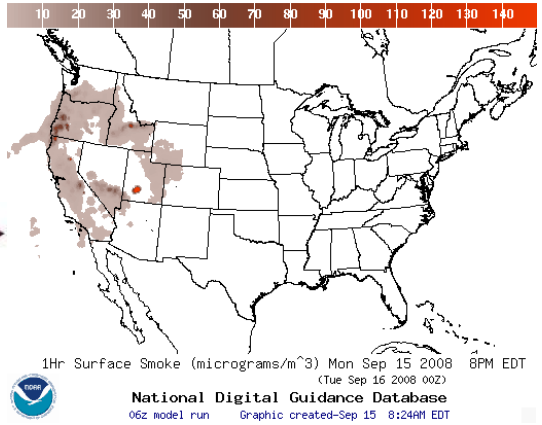
2006 Experimental



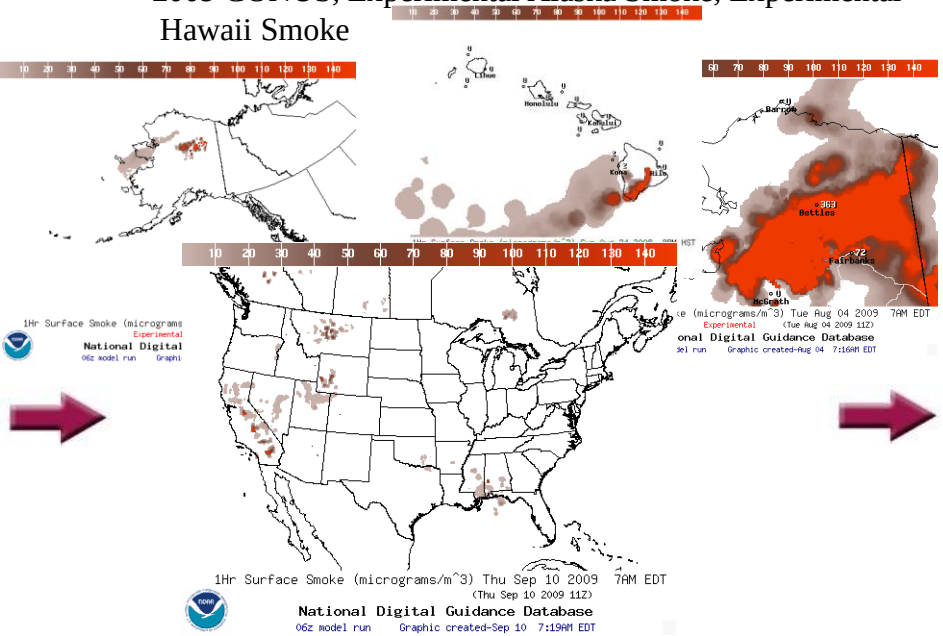
2007 Operational



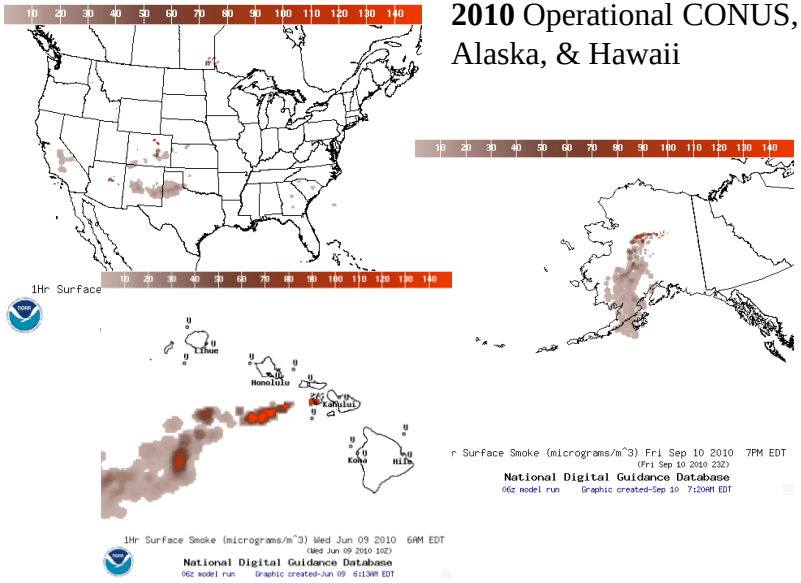
2008 CONUS & Exp. Alaska Smoke



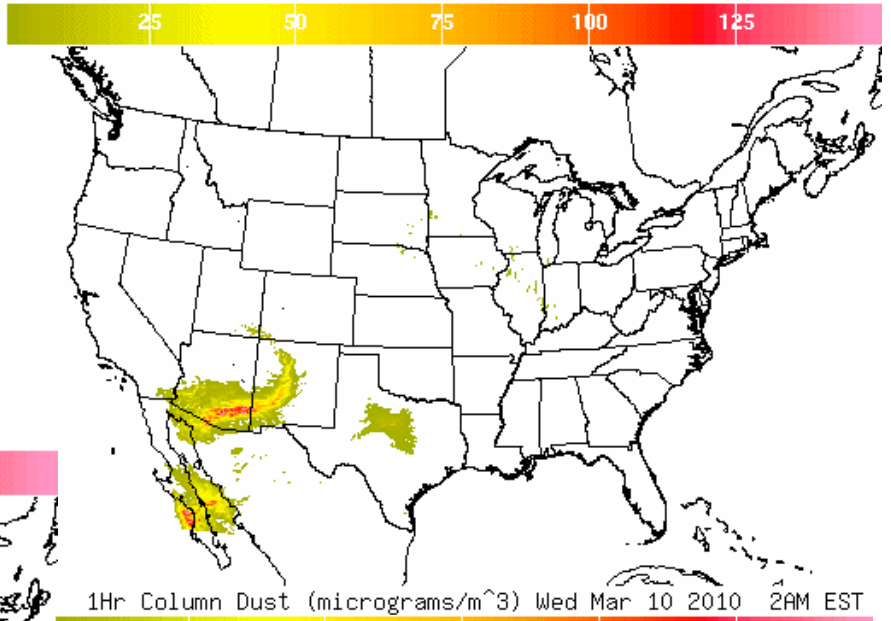
2009 CONUS, Experimental Alaska Smoke, Experimental Hawaii Smoke

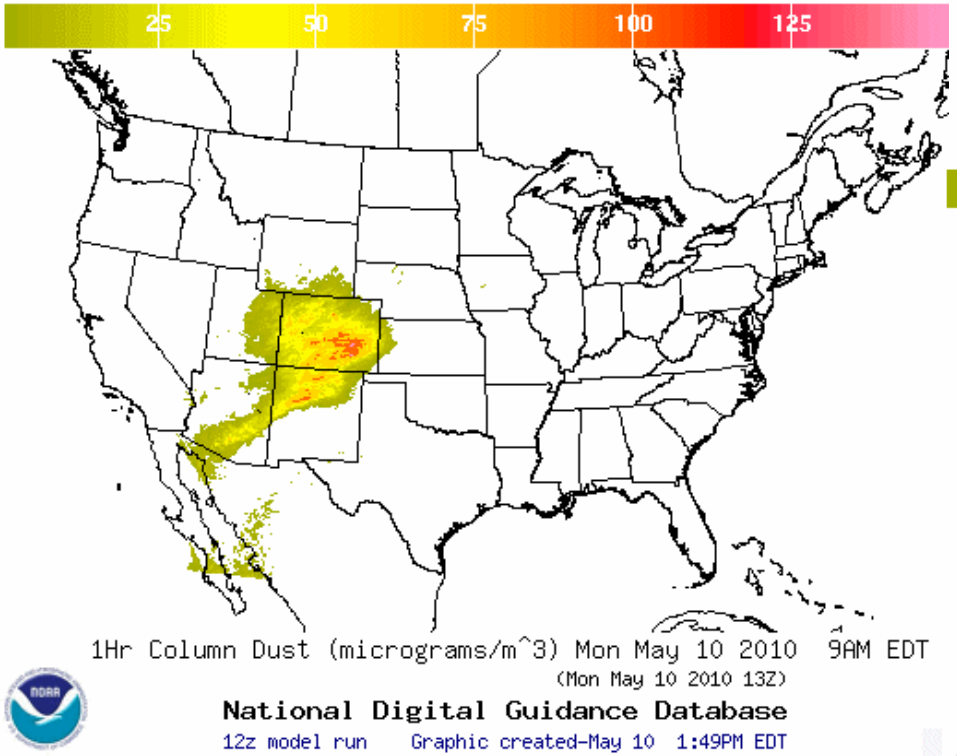


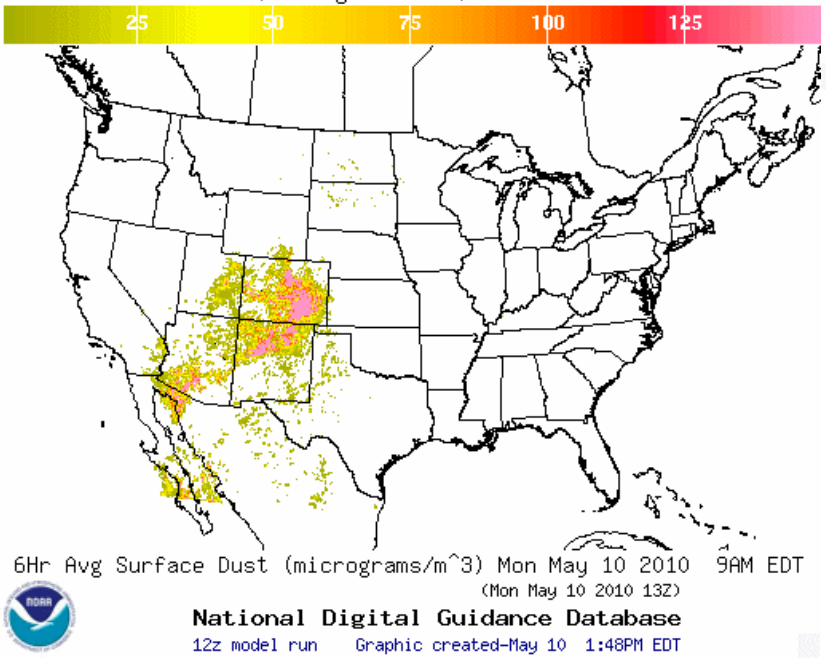
2010 Operational CONUS, Alaska, & Hawaii

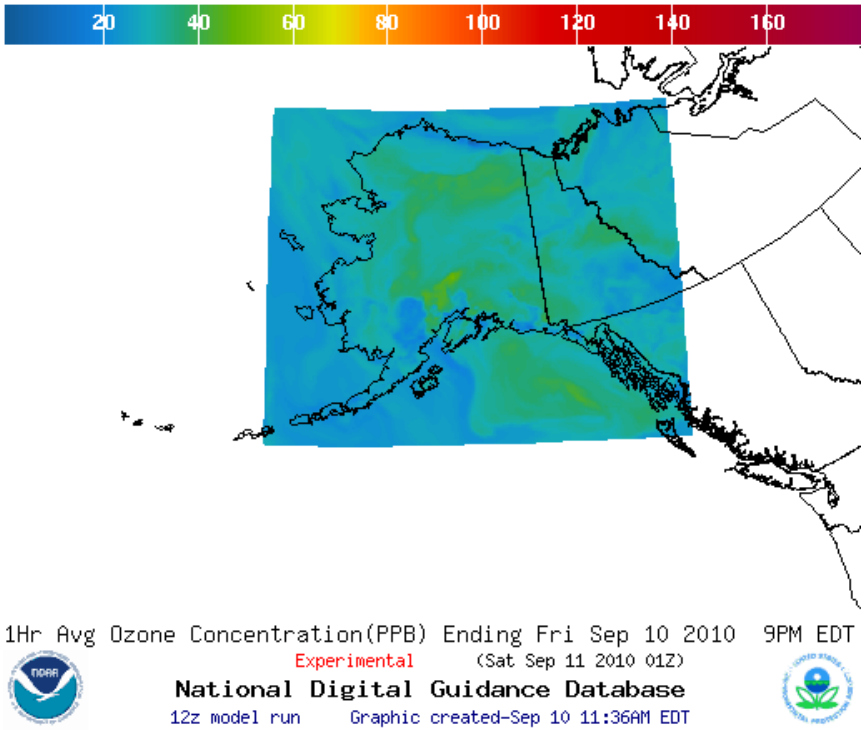


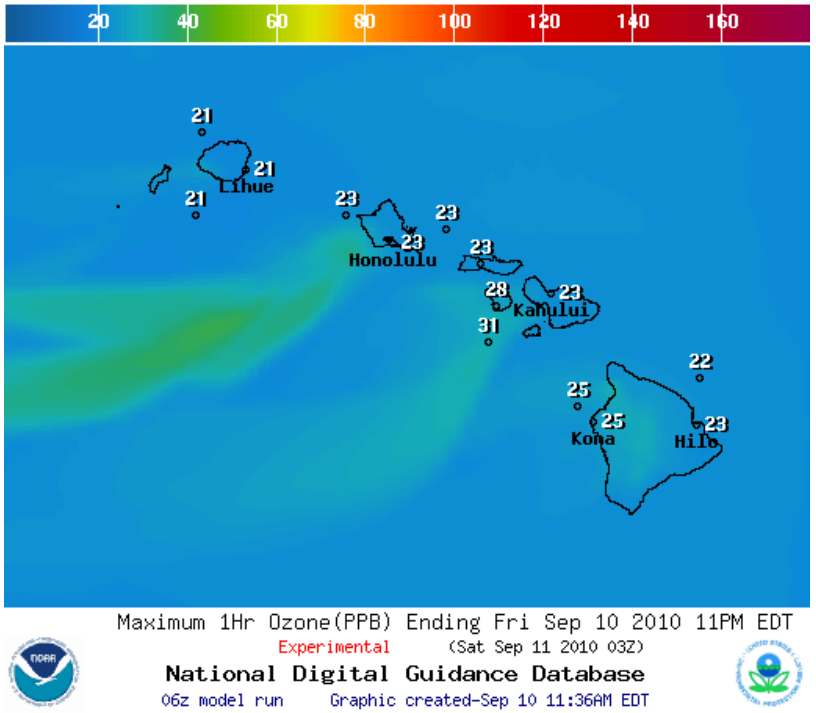
- CONUS Experimental Products
  - 1hr Surface Dust Concentration
  - 1hr Column Dust Concentration





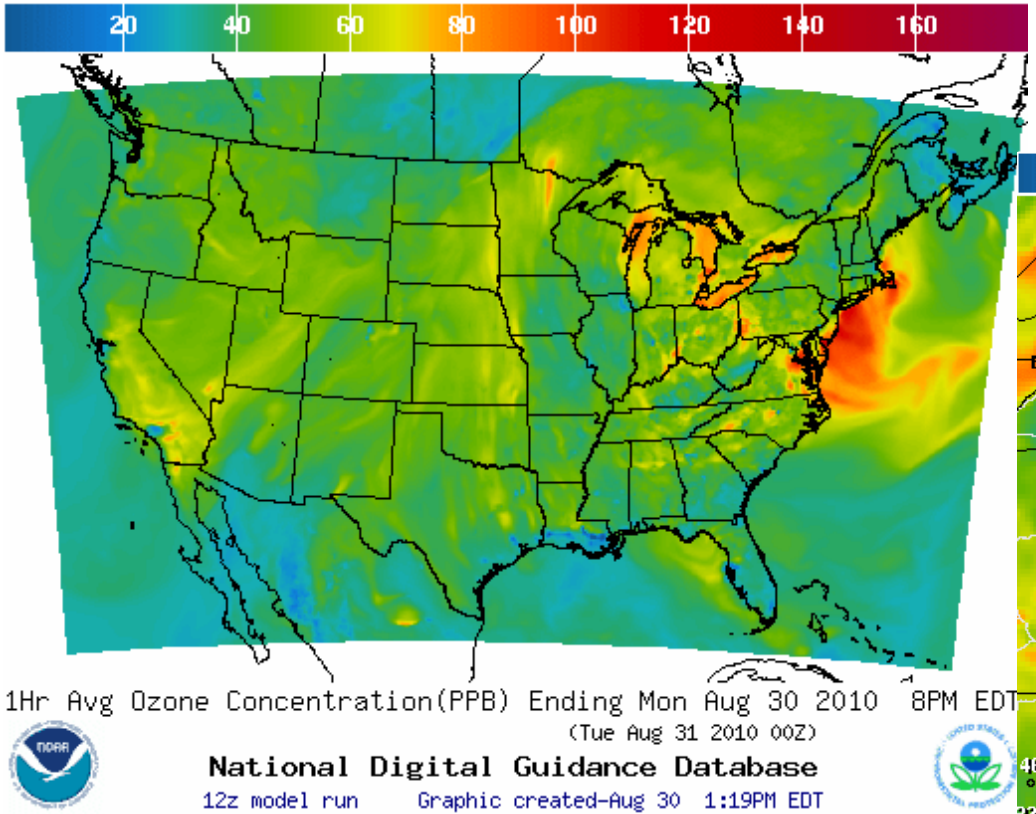


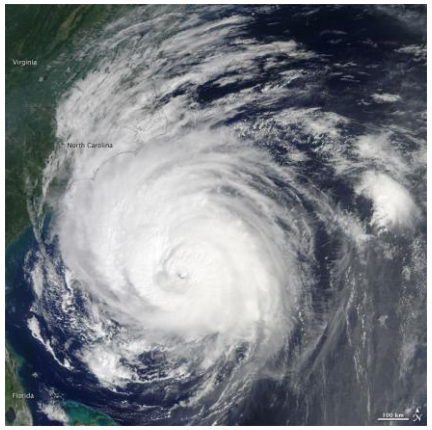




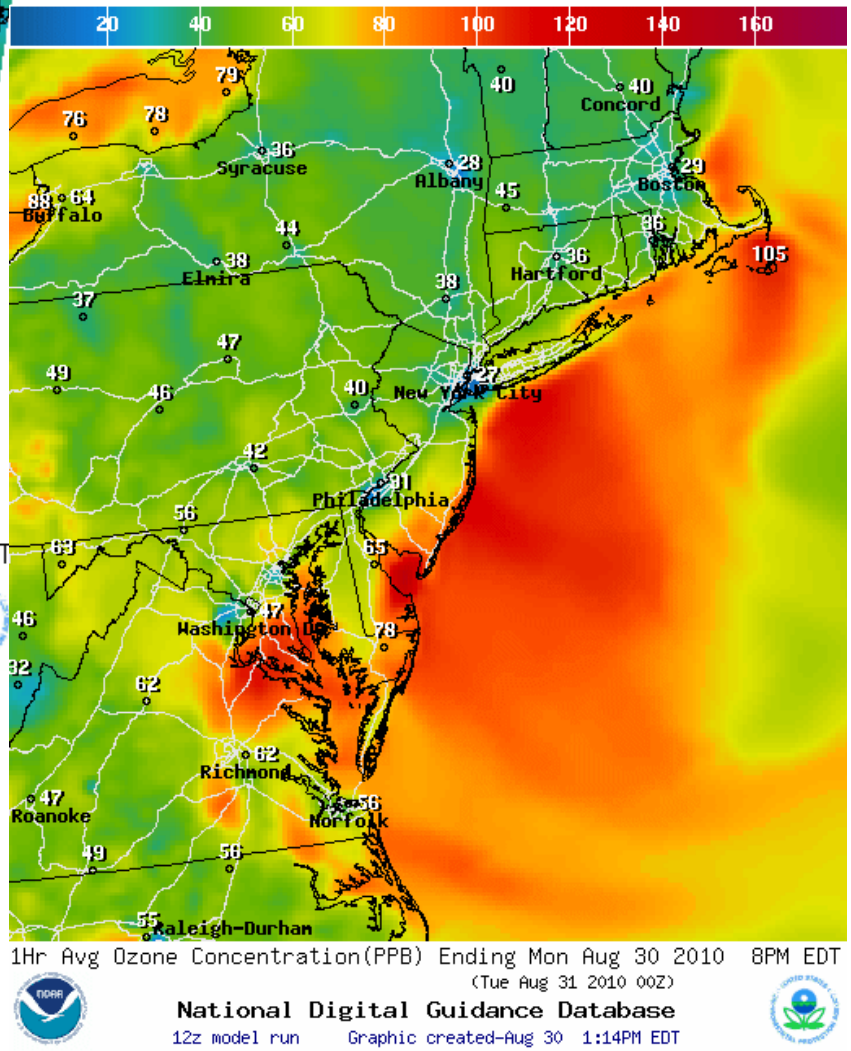
- ❖ Alaska Experimental Products
  - 1hr/8hr Average Ozone Concentration
  - Maximum 1hr/8hr Ozone Concentration
- ❖ Hawaii Experimental Products
  - 1hr/8hr Average Ozone Concentration
  - Maximum 1hr/8hr Ozone Concentration

Interesting Data: Hurricane Earl



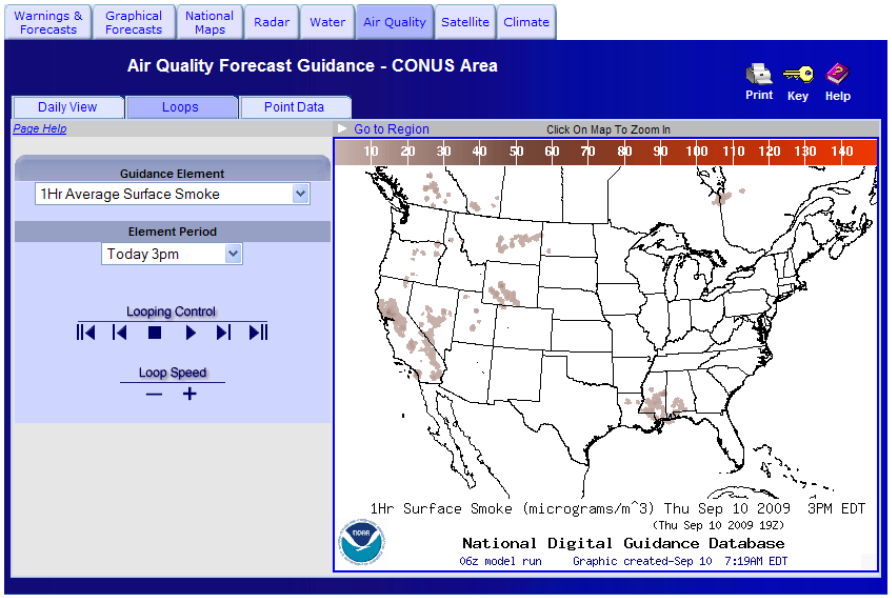


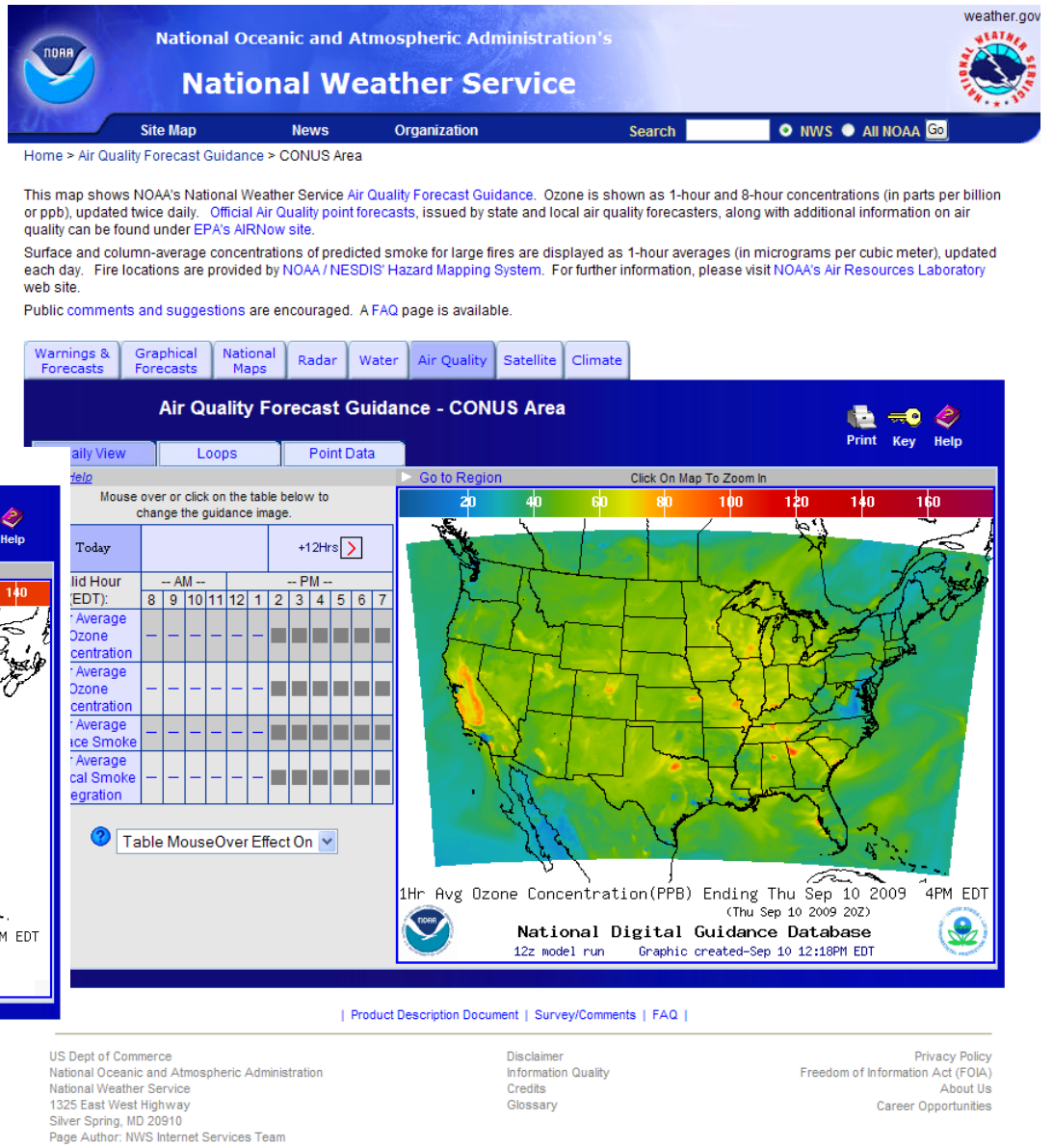
Hurricane Earl off the North Carolina Coast
NASA Image



Web Interface

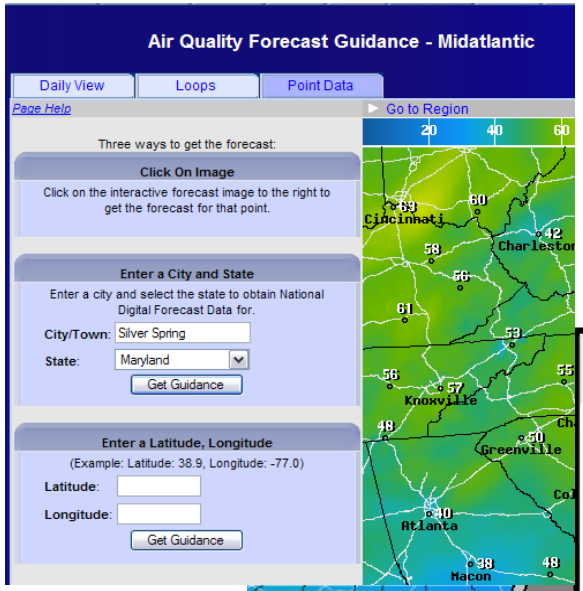
Allows users to view the data
In multiple ways.



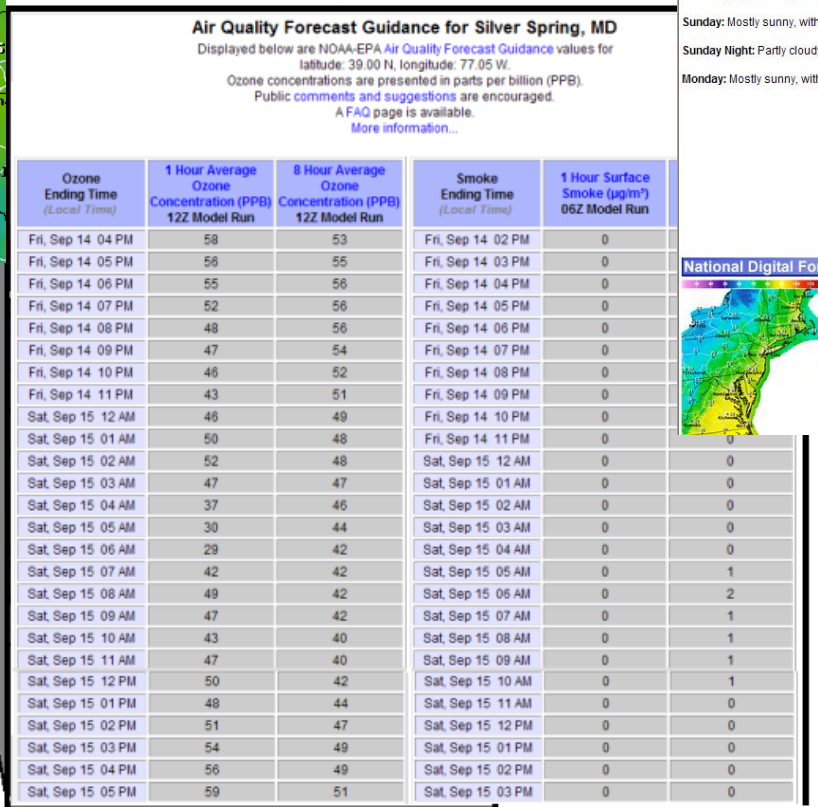


Air Quality Point Data Access:

…or users can retrieve the actual values at a specified location



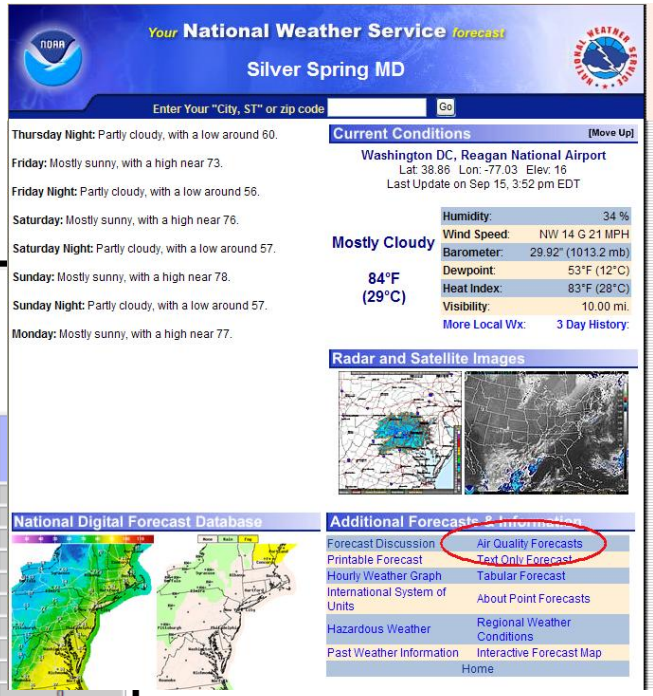
- Linked to from each NWS Forecast Office



Air Quality Forecast Guidance for Silver Spring, MD

Displayed below are NOAA-EPA Air Quality Forecast Guidance values for latitude: 39.00 N, longitude: 77.05 W.
Ozone concentrations are presented in parts per billion (PPB).
Public comments and suggestions are encouraged.
A FAQ page is available.
More information...

Ozone Ending Time (Local Time)	1 Hour Average Ozone Concentration (PPB) 12Z Model Run	8 Hour Average Ozone Concentration (PPB) 12Z Model Run	Smoke Ending Time (Local Time)	1 Hour Surface Smoke (µg/m³) 06Z Model Run	
Fri, Sep 14 04 PM	58	53	Fri, Sep 14 02 PM	0	
Fri, Sep 14 05 PM	56	55	Fri, Sep 14 03 PM	0	
Fri, Sep 14 06 PM	55	56	Fri, Sep 14 04 PM	0	
Fri, Sep 14 07 PM	52	56	Fri, Sep 14 05 PM	0	
Fri, Sep 14 08 PM	48	56	Fri, Sep 14 06 PM	0	
Fri, Sep 14 09 PM	47	54	Fri, Sep 14 07 PM	0	
Fri, Sep 14 10 PM	46	52	Fri, Sep 14 08 PM	0	
Fri, Sep 14 11 PM	43	51	Fri, Sep 14 09 PM	0	
Sat, Sep 15 12 AM	46	49	Fri, Sep 14 10 PM	0	
Sat, Sep 15 01 AM	50	48	Fri, Sep 14 11 PM	0	0
Sat, Sep 15 02 AM	52	48	Sat, Sep 15 12 AM	0	0
Sat, Sep 15 03 AM	47	47	Sat, Sep 15 01 AM	0	0
Sat, Sep 15 04 AM	37	46	Sat, Sep 15 02 AM	0	0
Sat, Sep 15 05 AM	30	44	Sat, Sep 15 03 AM	0	0
Sat, Sep 15 06 AM	29	42	Sat, Sep 15 04 AM	0	0
Sat, Sep 15 07 AM	42	42	Sat, Sep 15 05 AM	0	1
Sat, Sep 15 08 AM	49	42	Sat, Sep 15 06 AM	0	2
Sat, Sep 15 09 AM	47	42	Sat, Sep 15 07 AM	0	1
Sat, Sep 15 10 AM	43	40	Sat, Sep 15 08 AM	0	1
Sat, Sep 15 11 AM	47	40	Sat, Sep 15 09 AM	0	1
Sat, Sep 15 12 PM	50	42	Sat, Sep 15 10 AM	0	1
Sat, Sep 15 01 PM	48	44	Sat, Sep 15 11 AM	0	0
Sat, Sep 15 02 PM	51	47	Sat, Sep 15 12 PM	0	0
Sat, Sep 15 03 PM	54	49	Sat, Sep 15 01 PM	0	0
Sat, Sep 15 04 PM	56	49	Sat, Sep 15 02 PM	0	0
Sat, Sep 15 05 PM	59	51	Sat, Sep 15 03 PM	0	0



Air Quality Guidance:
Data access from www.weather.gov

- Graphical Ozone & Smoke Guidance Displays:

  http://www.nws.noaa.gov/aq/
  http://www.nws.noaa.gov/aq-expr/

- Graphical Product Survey:

  http://www.weather.gov/survey/nws-survey.php?code=eaq

- GRIB2 Data Download:

  ftp://tgftp.nws.noaa.gov/SL.us008001/ST.opnl/DF.gr2/DC.ndgd/GT.aq/AR.conus
  ftp://tgftp.nws.noaa.gov/SL.us008001/ST.expr/DF.gr2/DC.ndgd/GT.aq/AR.alaska

- Web Questions, Suggestions:

  Email Marc.Saccucci@noaa.gov