

# Exceptional Events in 2008

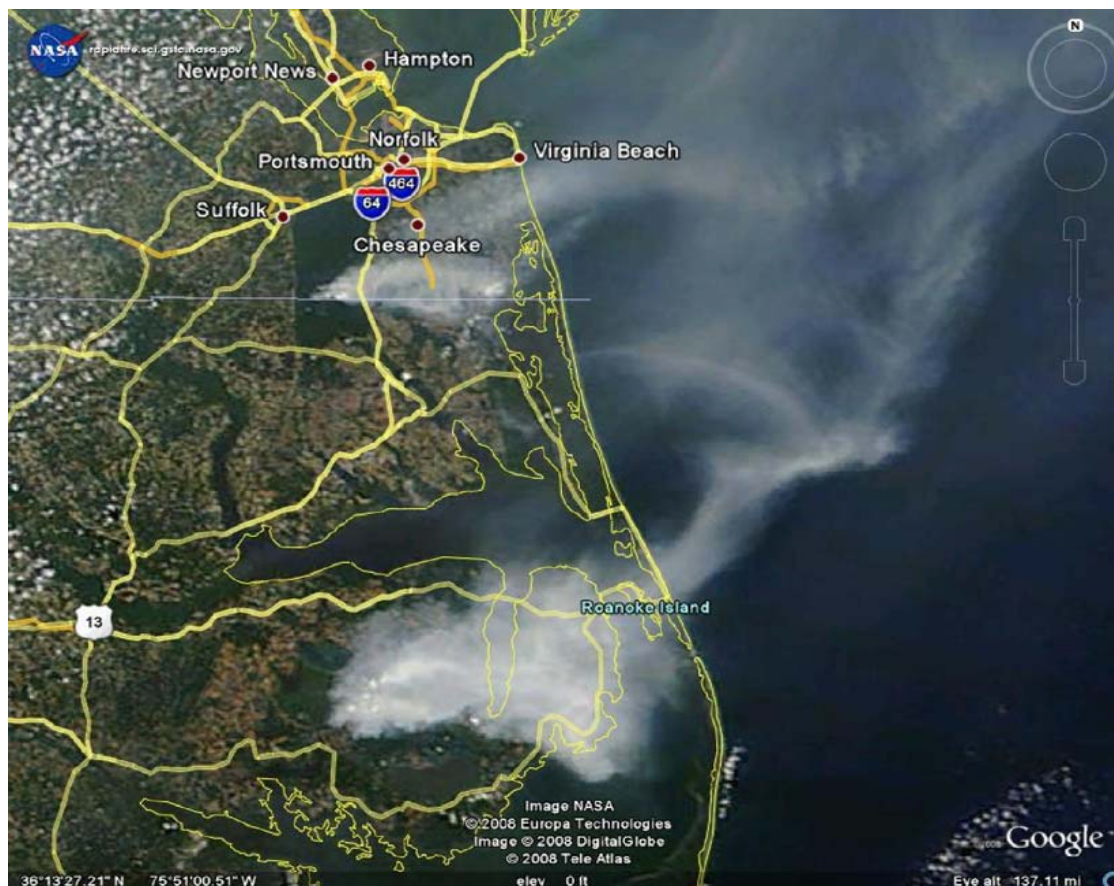
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# Briefing Topics

- What Happened?
- Regulatory Requirements
- VDEQ's Submittal
  - Data Used
  - Examples

# Wildfire? What Wildfire?



***OH! Those wildfires...I thought the neighbors were trying out a new wood stove....***

(Photo 6/14/08  
NASA)

# Wildfire Statistics

- Evans Road Fire (Hyde County, NC)
  - Started 6/1/08 from lightening strike
  - Pocosin Lakes National Wildlife Refuge, Hyde County, NC
  - Consumed more than 41,000 acres/64 square miles
  - Contained 9/08
- South 1 Fire (Suffolk, VA)
  - Started 6/9/08 from logging equipment fire
  - Great Dismal Swamp Wildlife Refuge, Suffolk, VA
  - Consumed more than 4,800 acres
  - Contained 8/08

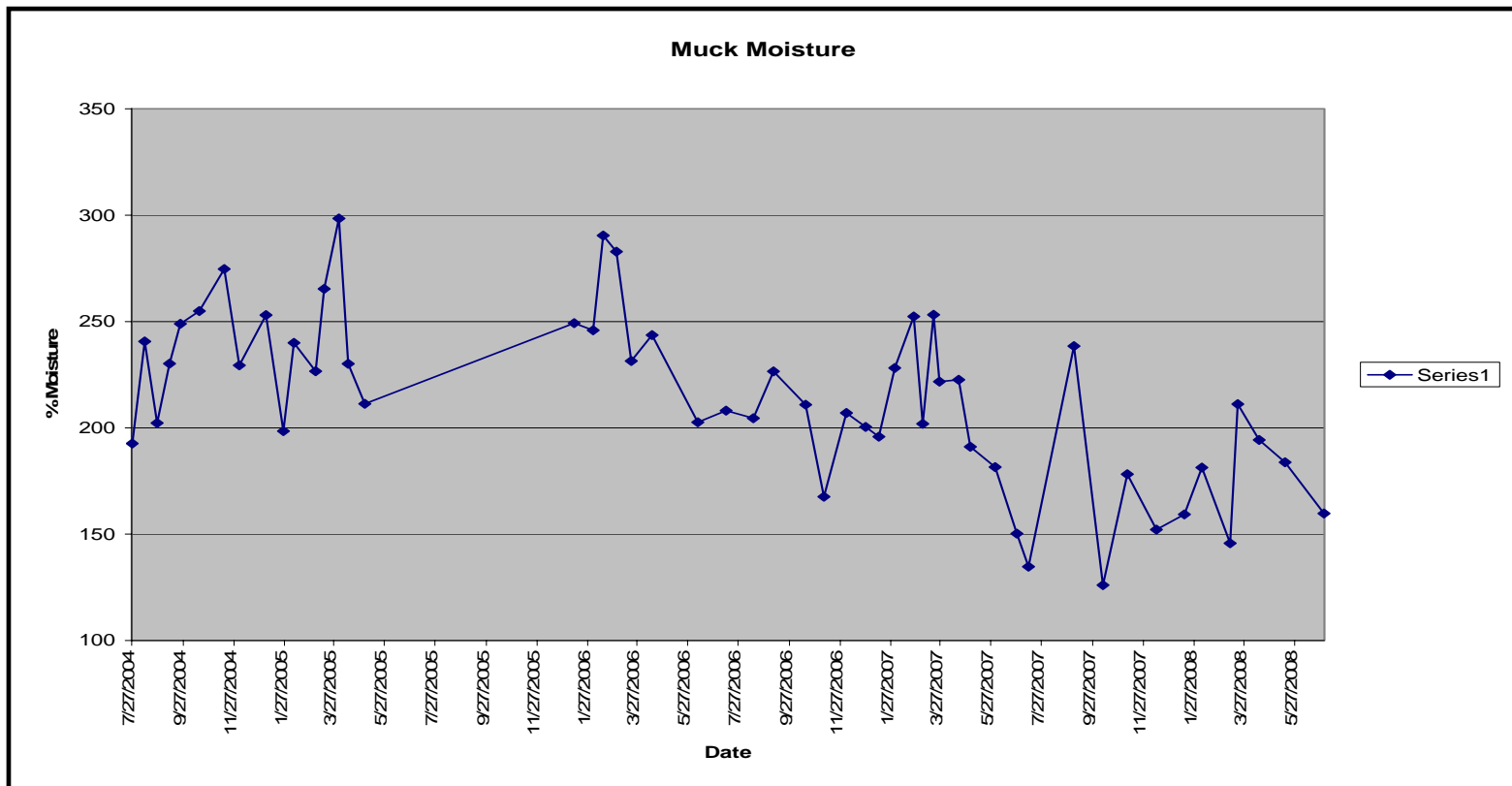
# Why all the smoke?

- Both areas are peat bogs: the ground was burning
- Both areas had a large amount of fuels available
  - Hurricane Isabel
  - Peat bogs were unusually dry due to drought
- Access



USFWS pic from Inciweb.org

# How Dry is Dry?



*% moisture in organic layer (courtesy of the FWS)*

# Logging in Dismal Swamp (South 1 Area)



# Evans Road Fire





# South 1 Fire



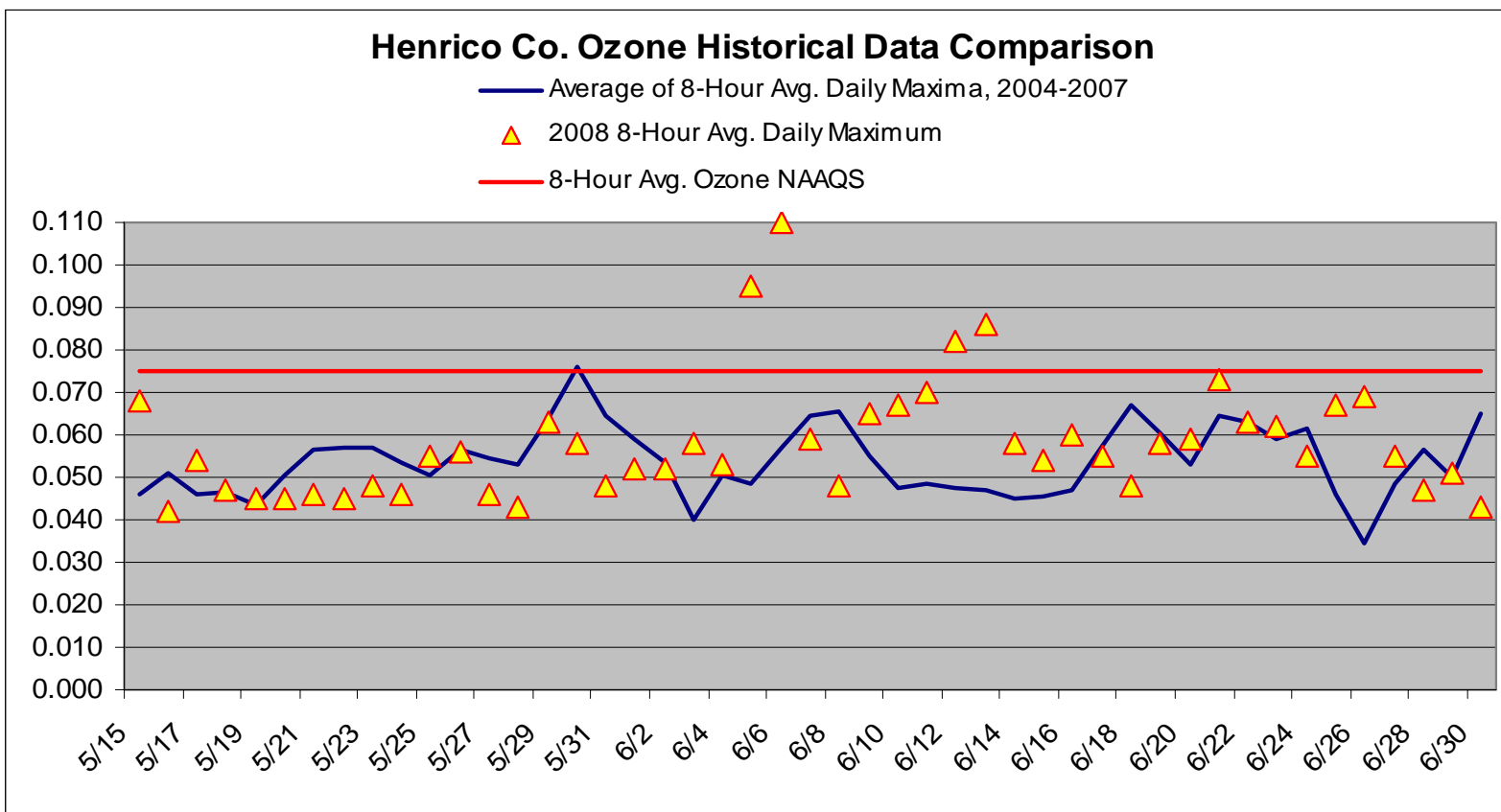
# Regulatory Requirements

- Data remains in AQS; Flagged to not be used in NAAQS compliance determinations
- 40 CFR 50: Exceptional Events Rule
  - Clear causal relationship between the measurement and the event
  - Event must be associated with a measured concentration in excess of normal historical fluctuations
  - Submission must show that there would have been no exceedance or violation but for the event.
- 30 day public comment
- Submittal deadline to EPA: March 12, 2009?

# Supporting Data

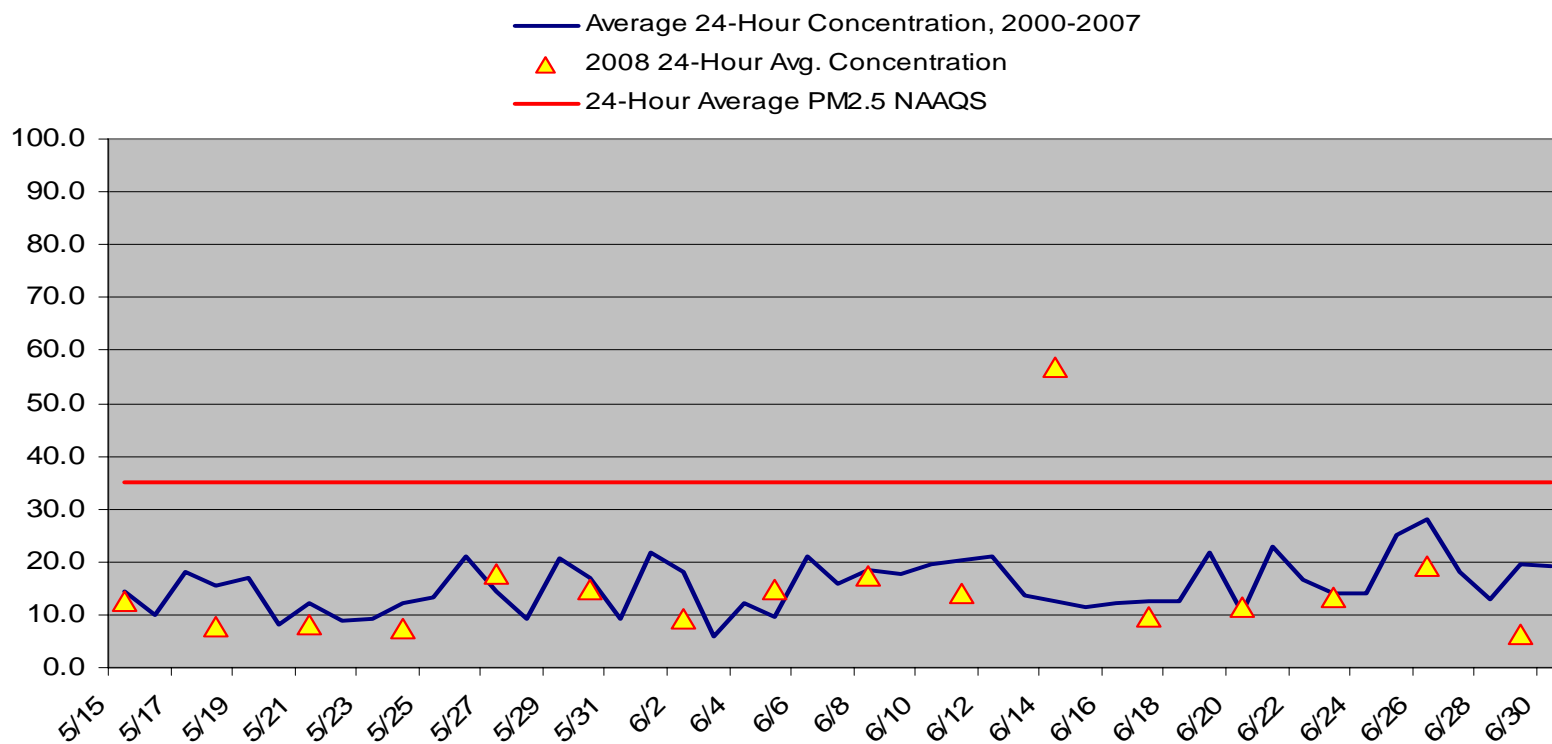
- NASA Satellite Imagery
- AirNOW Maps
- Historical AQ Data
- Nearby Monitoring Data
- GASP AOD Imagery
- Weather Maps
- Airport Visual Surface Observations
- NWS Reports
- Traffic Cameras
- HYSPLIT Models
- SACC Reports
- Surface Wind Plots

# What was the effect on air quality? Henrico Ozone Monitor

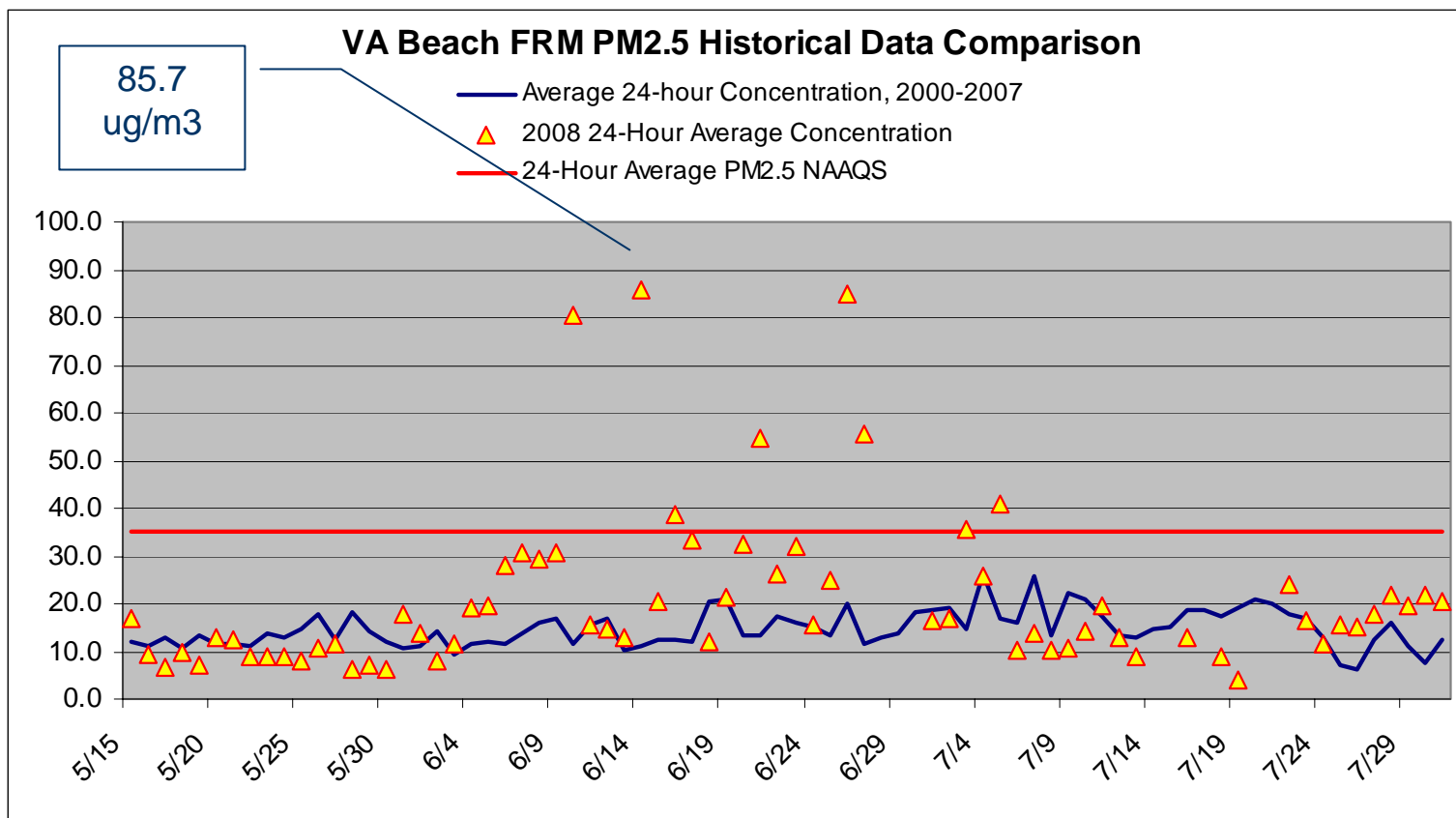


# What was the effect on air quality? Loudoun PM2.5 Monitor

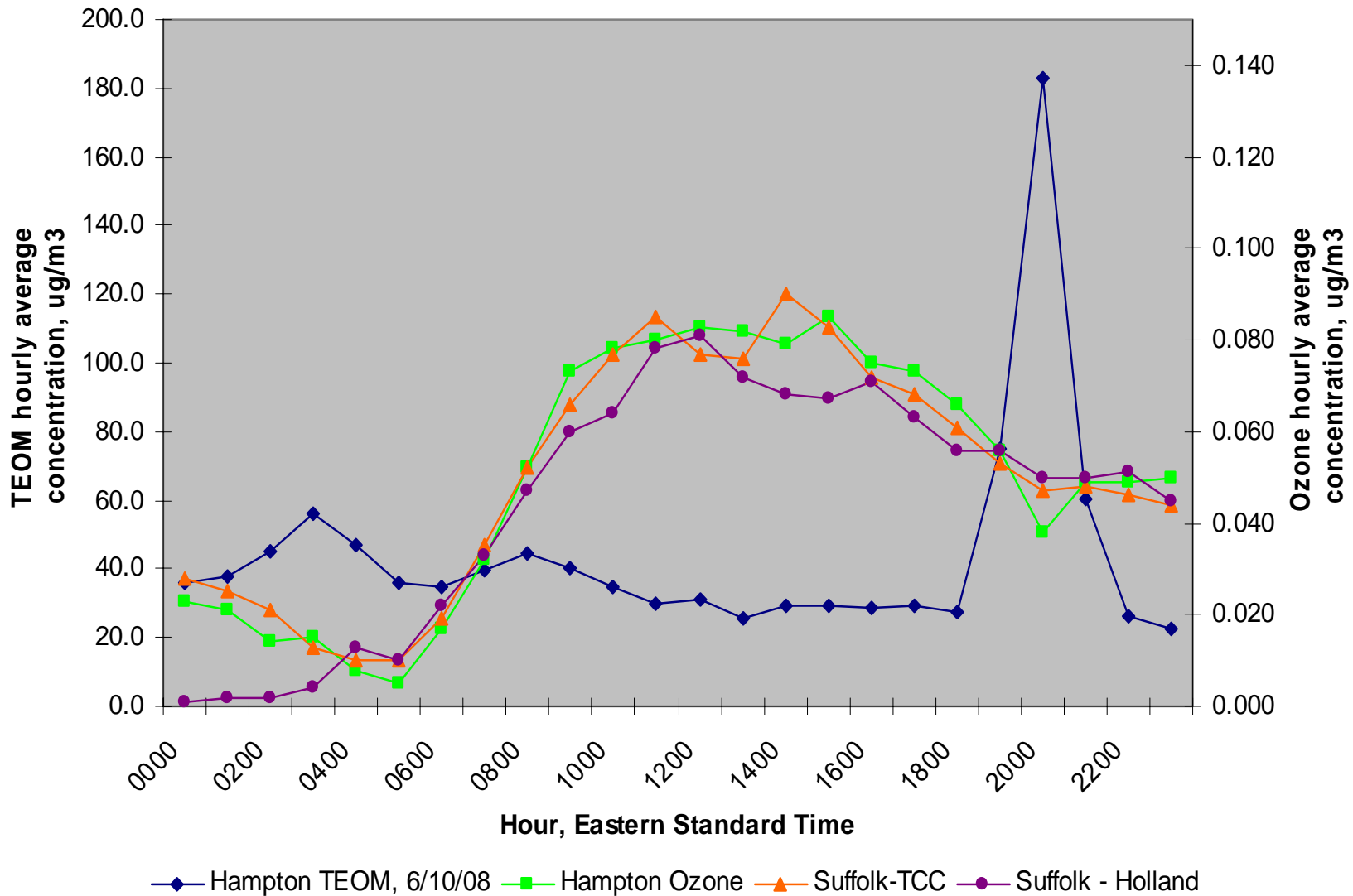
**Loudoun Co. FRM PM2.5 Historical Data Comparison**



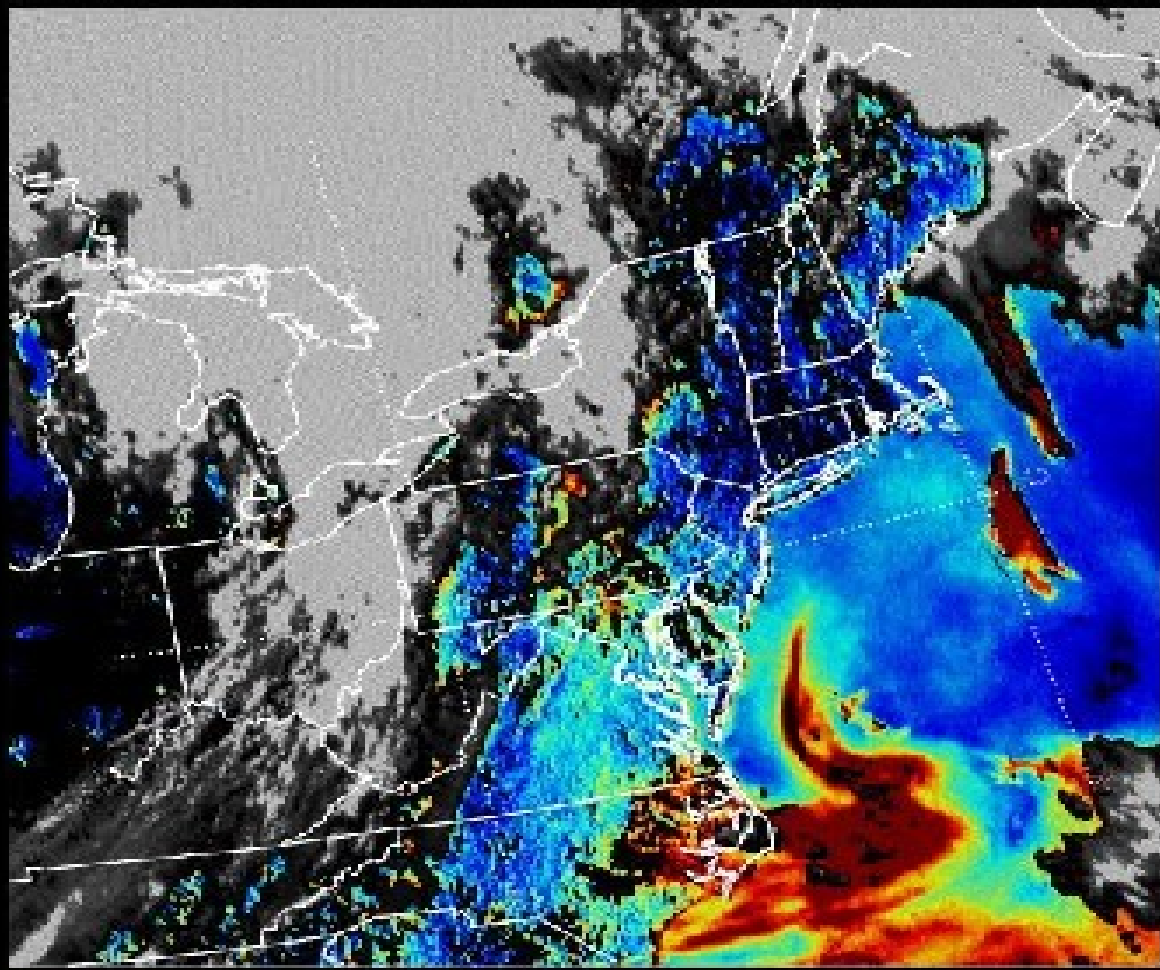
# What was the effect on air quality? VA Beach PM2.5 Monitor



### Tidewater TEOM and Ozone, 6/10/08



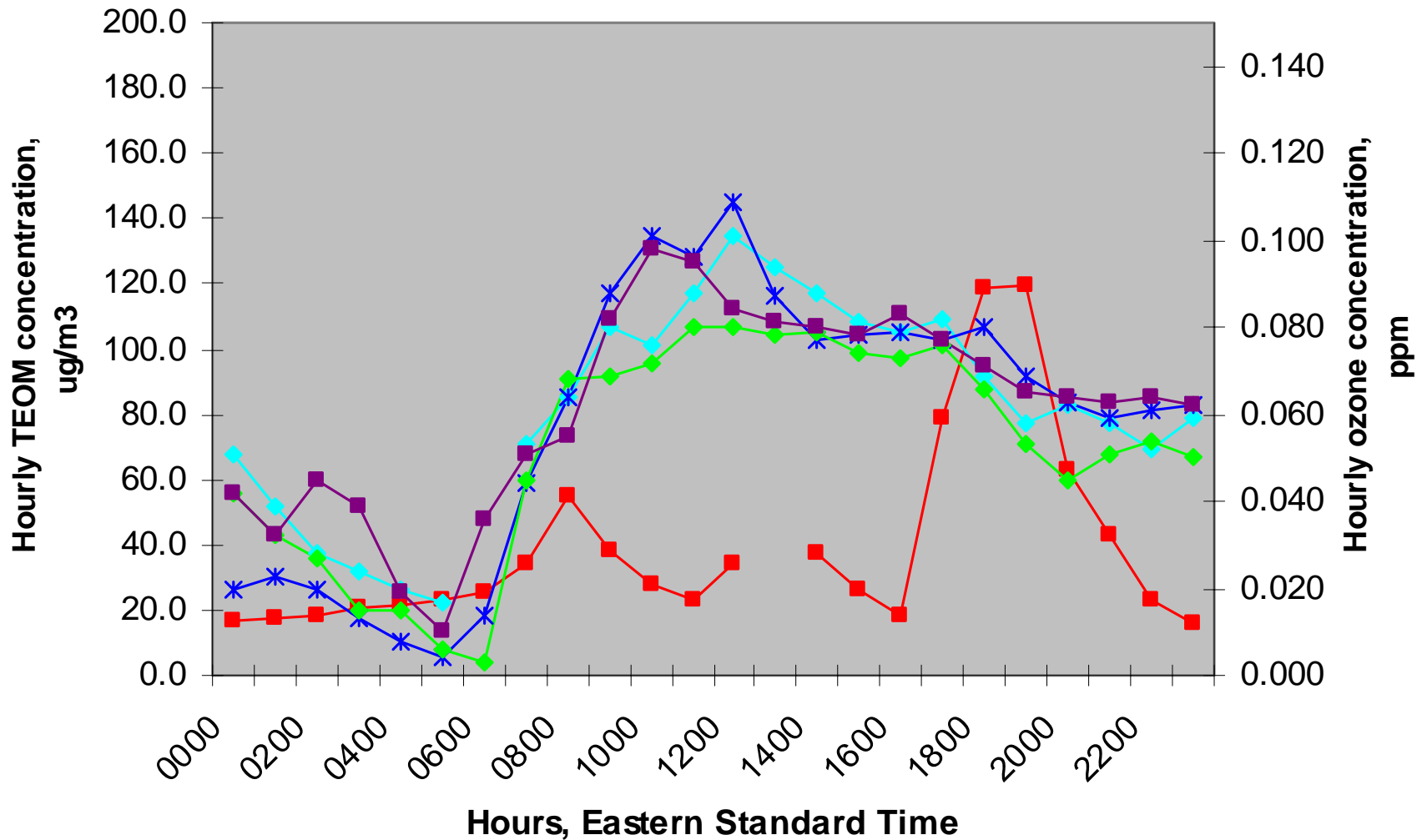
GASP Aerosol Optical Depth 2008 06 10 1815 UTC EPA Region 1-3



AOD= Aerosol Optical Depth (A Measure of Air Pollution) 6/10/08

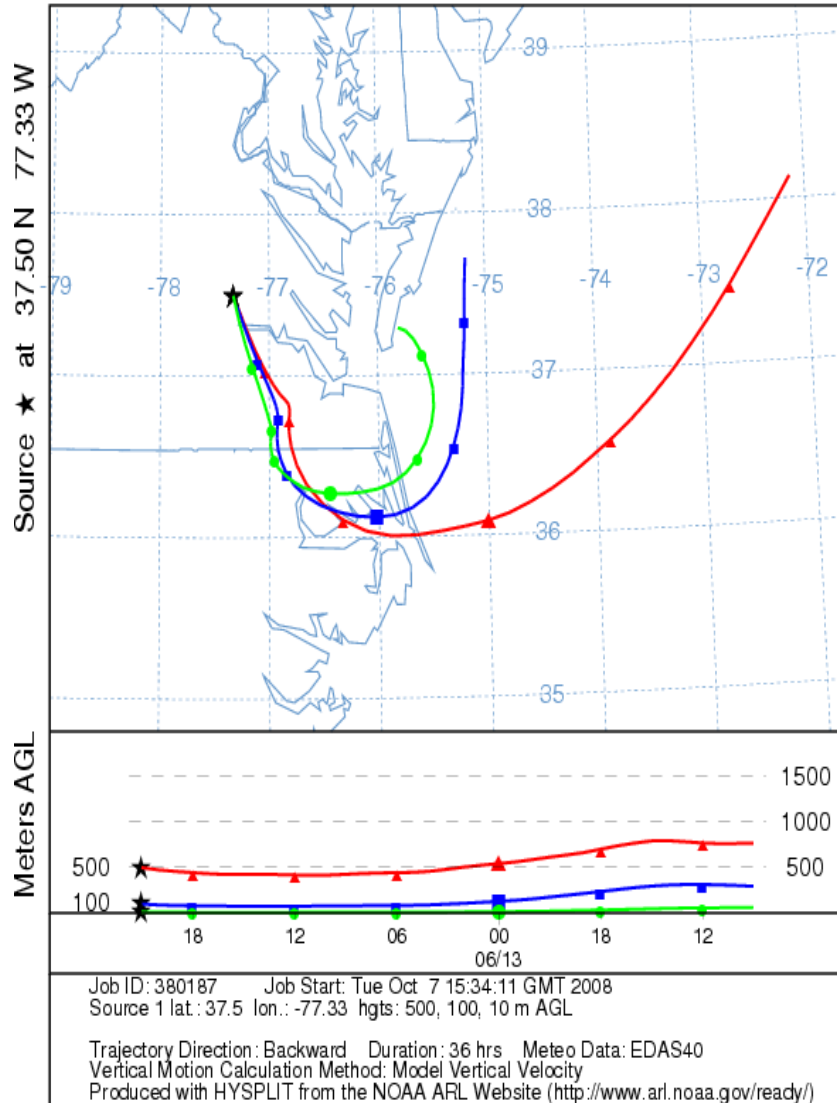


# Richmond Area TEOM and Ozone, 6/13/08

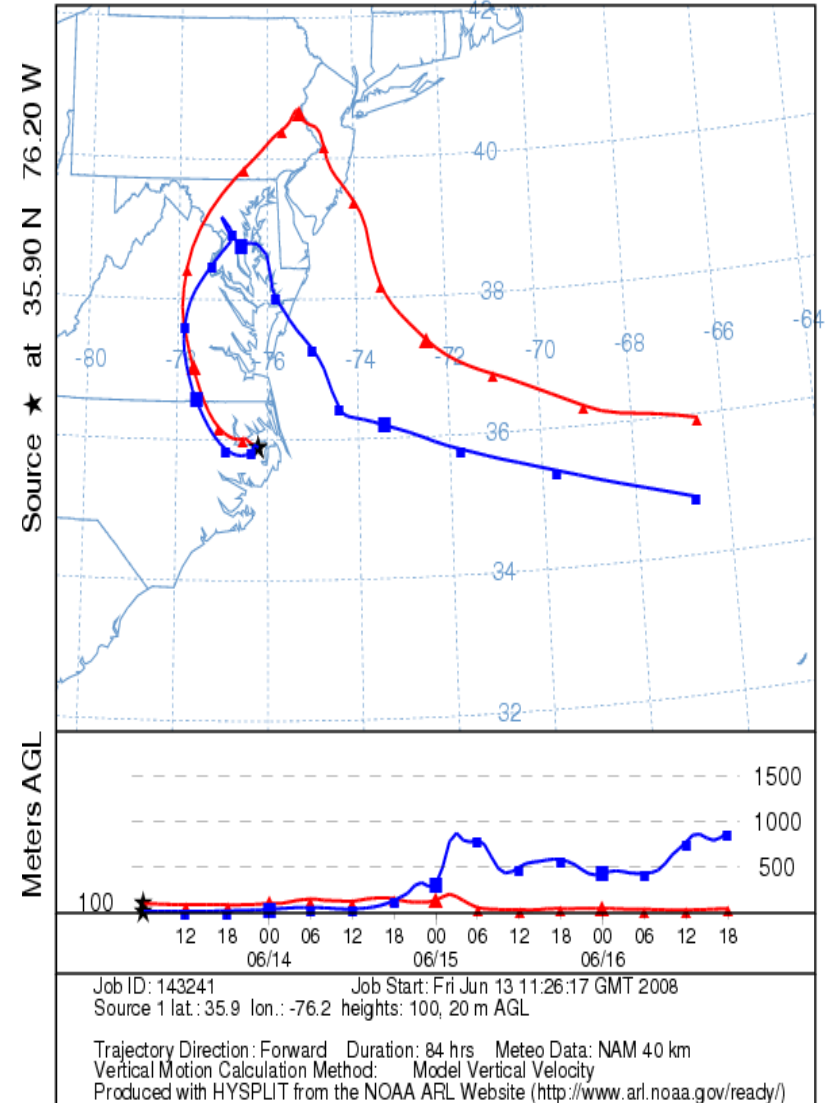


- Henrico Co. TEOM
- Henrico Co. Ozone
- Hanover Co. Ozone
- Chesterfield Co. Ozone
- Charles City Co. Ozone

NOAA HYSPLIT MODEL  
 Backward trajectories ending at 21 UTC 13 Jun 08  
 EDAS Meteorological Data



NOAA HYSPLIT MODEL  
 Forward trajectories starting at 06 UTC 13 Jun 08  
 06 UTC 13 Jun NAM Forecast Initialization





*James River Bridge (Newport News, VA) midday, 6/16/2008*

# Questions?