



Ozone Season Summary

2011

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MWAQC-TAC Meeting, COG

June 13, 2011



Ozone Season Summary

[As of June 9, 2011]

Peak 8-Hour Ozone Concentrations (ppb)

Data based on the 8-hour standard set at 75 ppb. Since April 15, 2011, there have/has been:

- 1 Code Red Day
- 4 Code Orange Days
- 12 Code Yellow Days
- 39 Code Green Days

•Analysis is based on draft data until June 9, 2011. Data is subject to change.

Daily Peak 8-hour Ozone Concentration (PPB)

Washington Area-2011

April							May						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2	1	2	3	4	5	6	7
							39	55	52	40	53	58	55
3	4	5	6	7	8	9	8	9	10	11	12	13	14
							56	54	53	65	61	41	35
10	11	12	13	14	15	16	15	16	17	18	19	20	21
					57	46	48	53	50	45	42	49	60
17	18	19	20	21	22	23	22	23	24	25	26	27	28
53	59	52	60	53	44	36	59	55	51	75	73	58	49
24	25	26	27	28	29	30	29	30	31				
45	55	35	32	53	50	44	46	76	96				
June													
Sun	Mon	Tues	Wed	Thurs	Fri	Sat							
			1	2	3	4							
			74	72	60	73							
5	6	7	8	9	10	11							
69	75	76	95	93									



2011 Ozone Exceedances (so far)

Date	# of Monitors Exceeding	Highest Monitor	Highest Concentration (ppb)
5/30/2011	1	Calvert County	76
5/31/2011	7	Franconia	96
6/7/2011	1	Beltsville	76
6/8/2011	11	Prince George's Equestrian Center	95
6/9/2011	8	Calvert County	93

* Analysis is based on draft data until June 9, 2011. Data is subject to change.



May 30th to May 31st and June 7th to June 9th Poor Air Quality Events

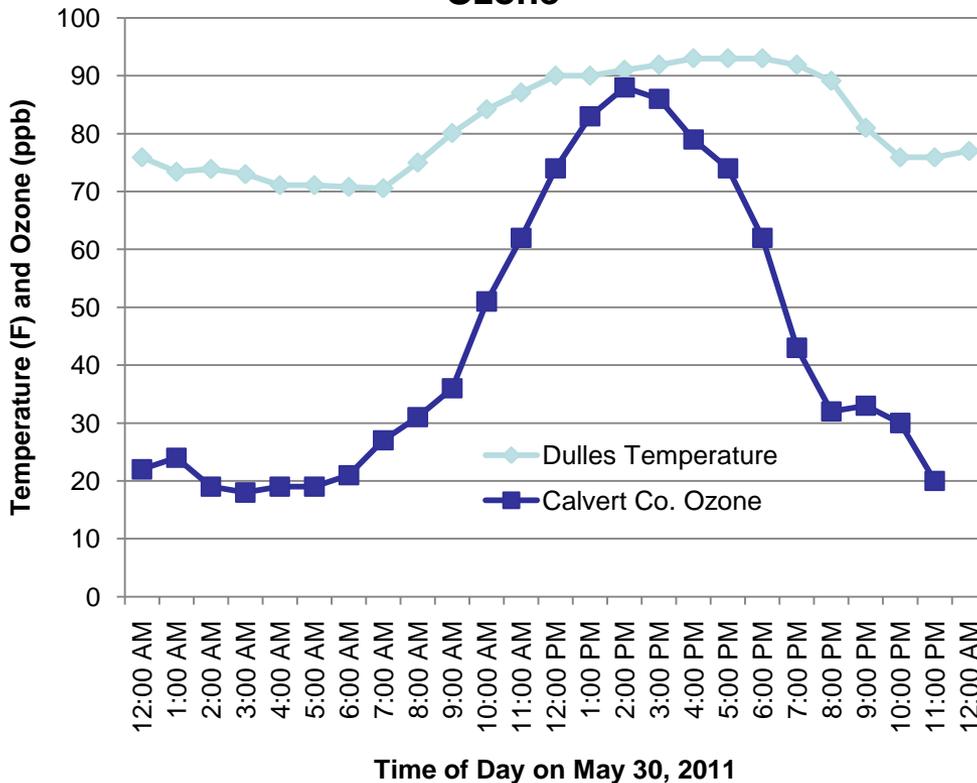
- ❖ Bermuda Highs southwest of the Mid-Atlantic advected hot and humid air into the Metropolitan Washington Area.
- ❖ The Bermuda Highs limited cloud coverage and allowed for record to near record high temperatures for each day.
- ❖ Wind trajectories helped transport emissions from the Ohio River Valley into the Metropolitan Washington Area.
- ❖ All three factors above led to conditions favorable for high ozone levels.



May 30th Code Orange

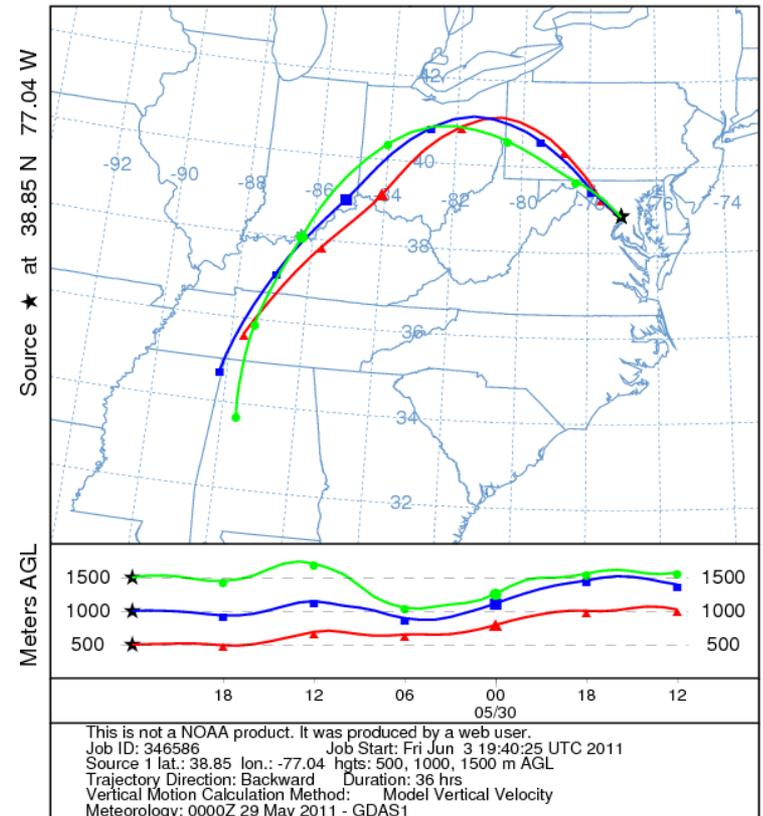
of Monitors in Exceedance: 1
 No Monitors in Code Red
 Maximum 8-Hour Ozone: 76 ppb (Calvert County)

May 30th Timeseries of Temperature and Ozone



Wind Trajectory at 8 PM (May 30th) (500m, 1000m, & 1500m)

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0000 UTC 31 May 11
 GDAS Meteorological Data

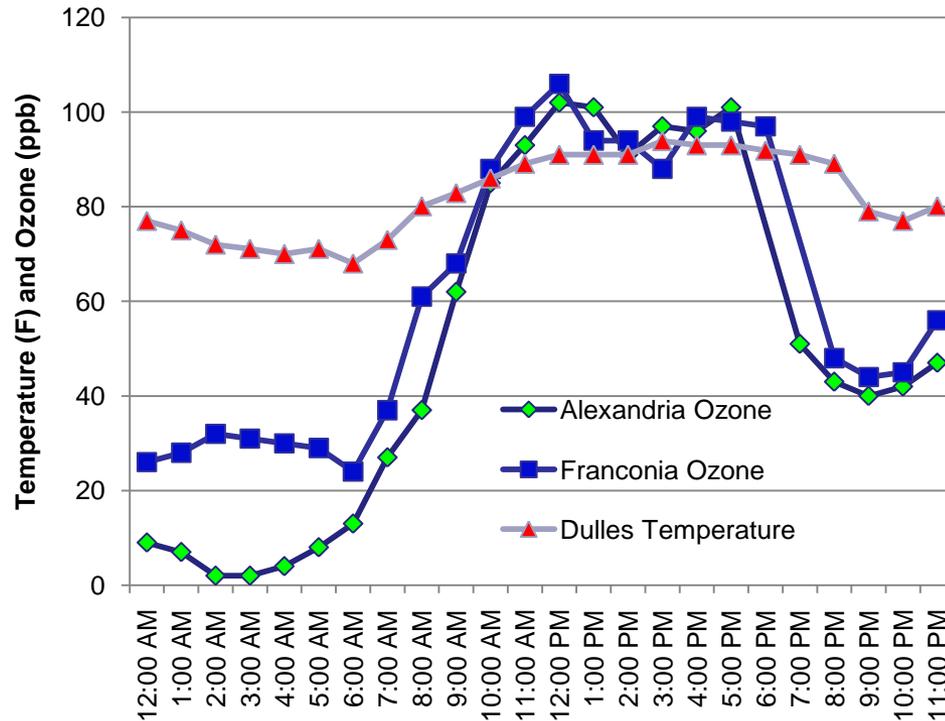




May 31st Code Red

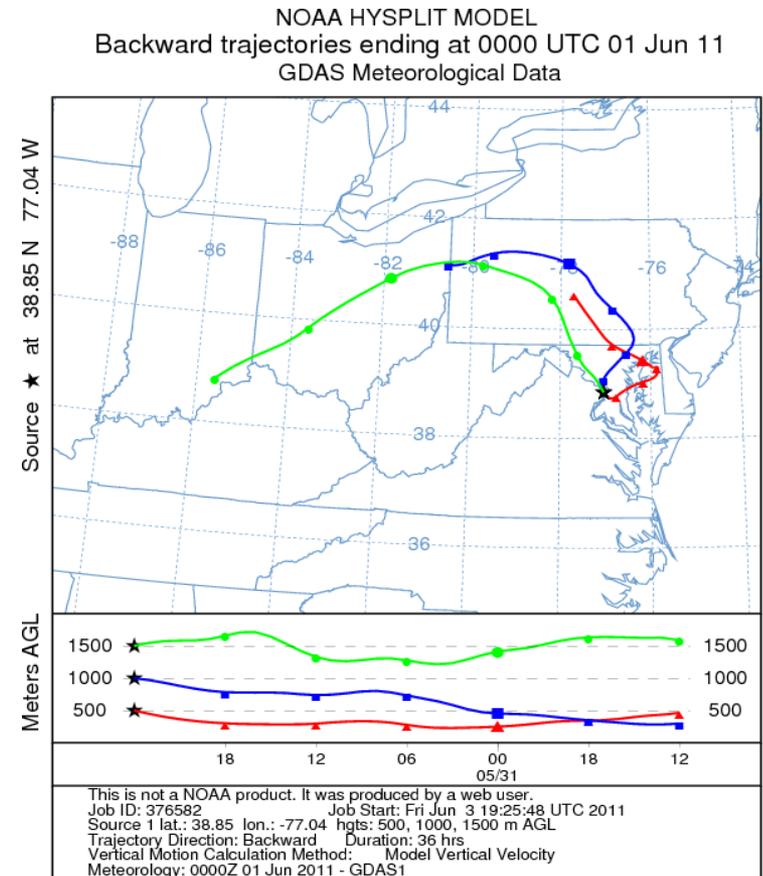
of Monitors in Exceedance: 7
1 Monitor in Code Red (Franconia, VA)
Maximum 8-Hour Ozone: 96 ppb (Franconia, VA)

May 31st Timeseries of Temperature and Ozone



Time of Day on May 31, 2011

Wind Trajectory at 8 PM (May 31st) (500m, 1000m, & 1500m)





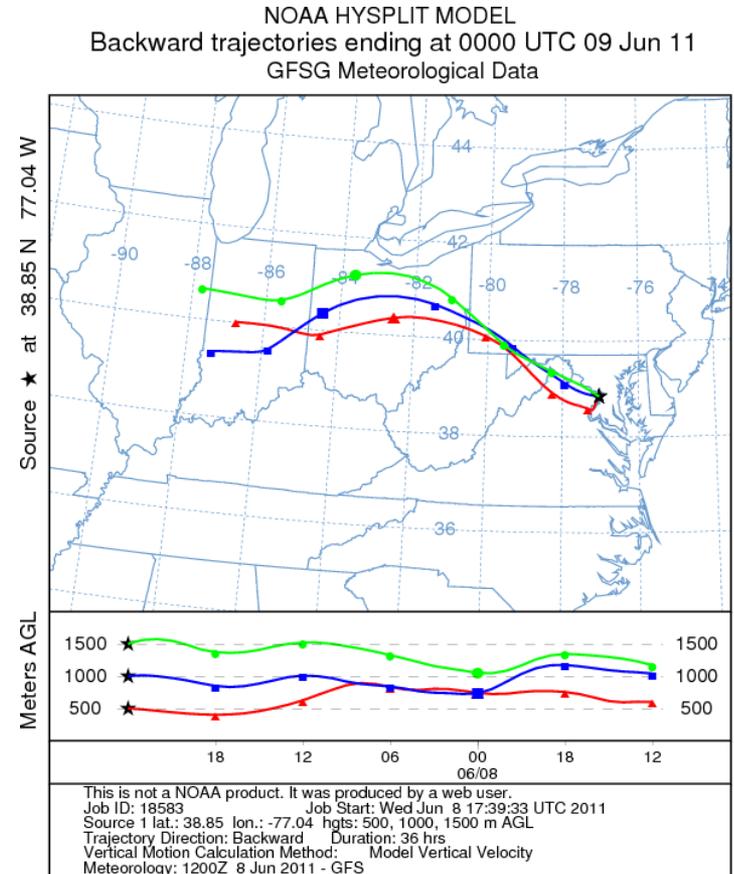
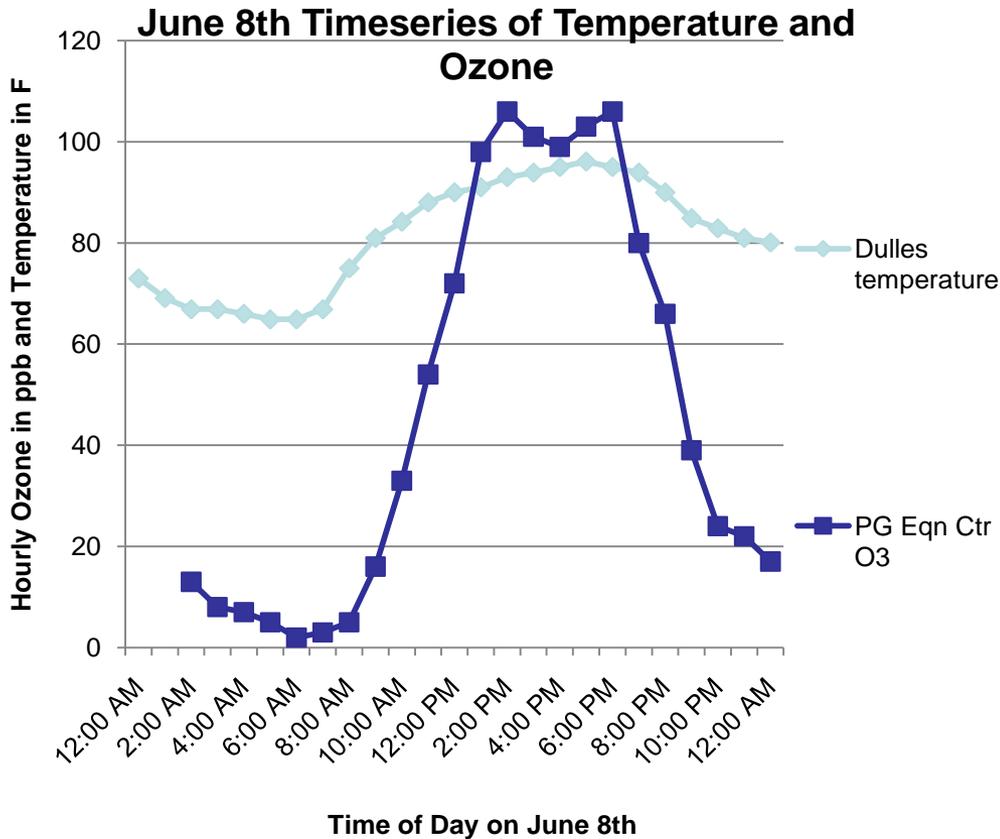
June 8th Code Orange

of Monitors in Exceedance: 11

No Monitor in Code Red

Maximum 8-Hour Ozone: 95 ppb (Prince George's Co. Equestrian Center, MD)

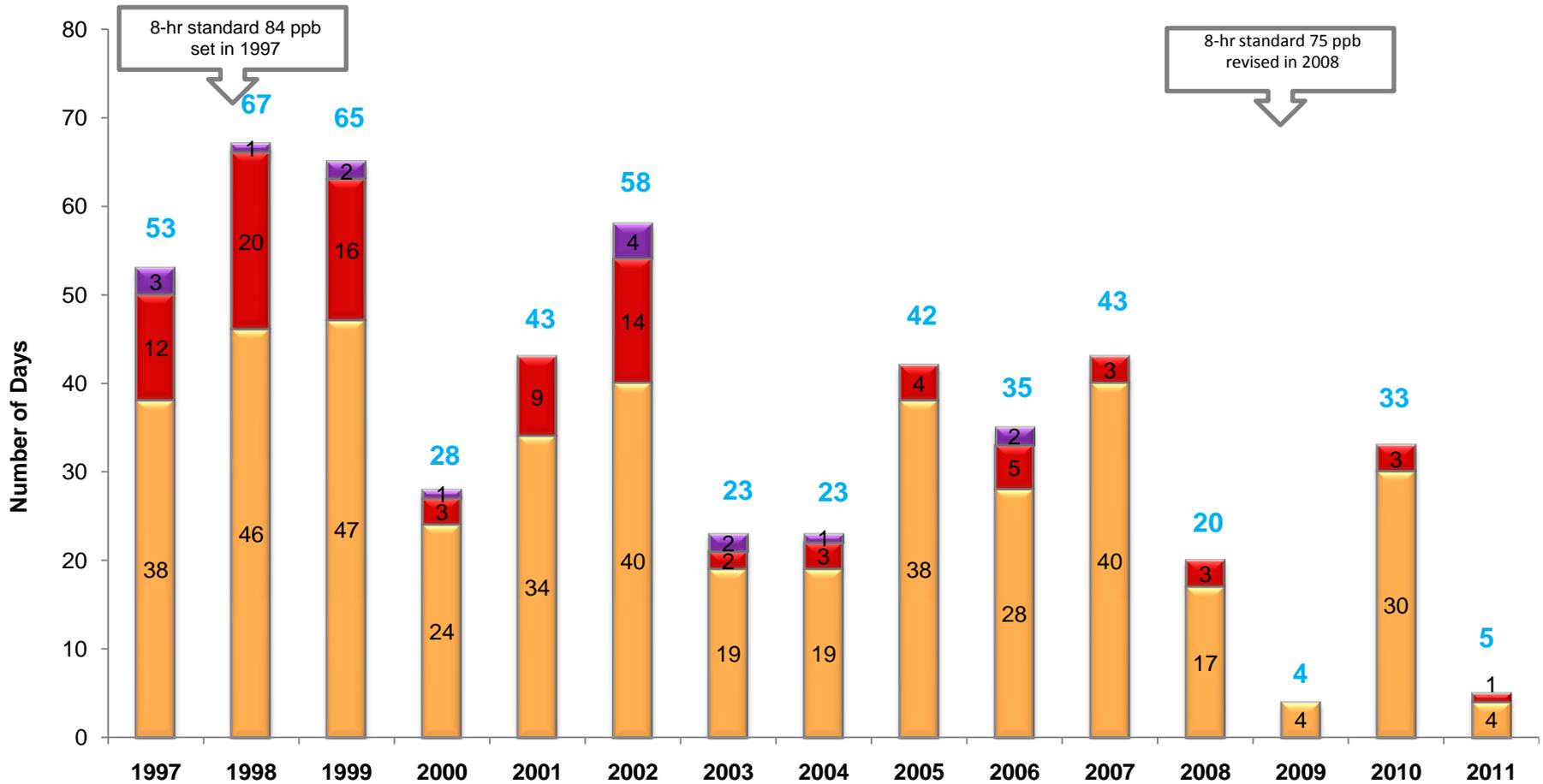
**Wind Trajectory at 8 PM
(June 8th)
(500m, 1000m, & 1500m)**





Ozone Exceedance Trend

Number of Exceedance Days - 2008 Ozone Standard (75 ppb) Breakdown of Code Orange, Red, and Purple Days 1997 - 2011



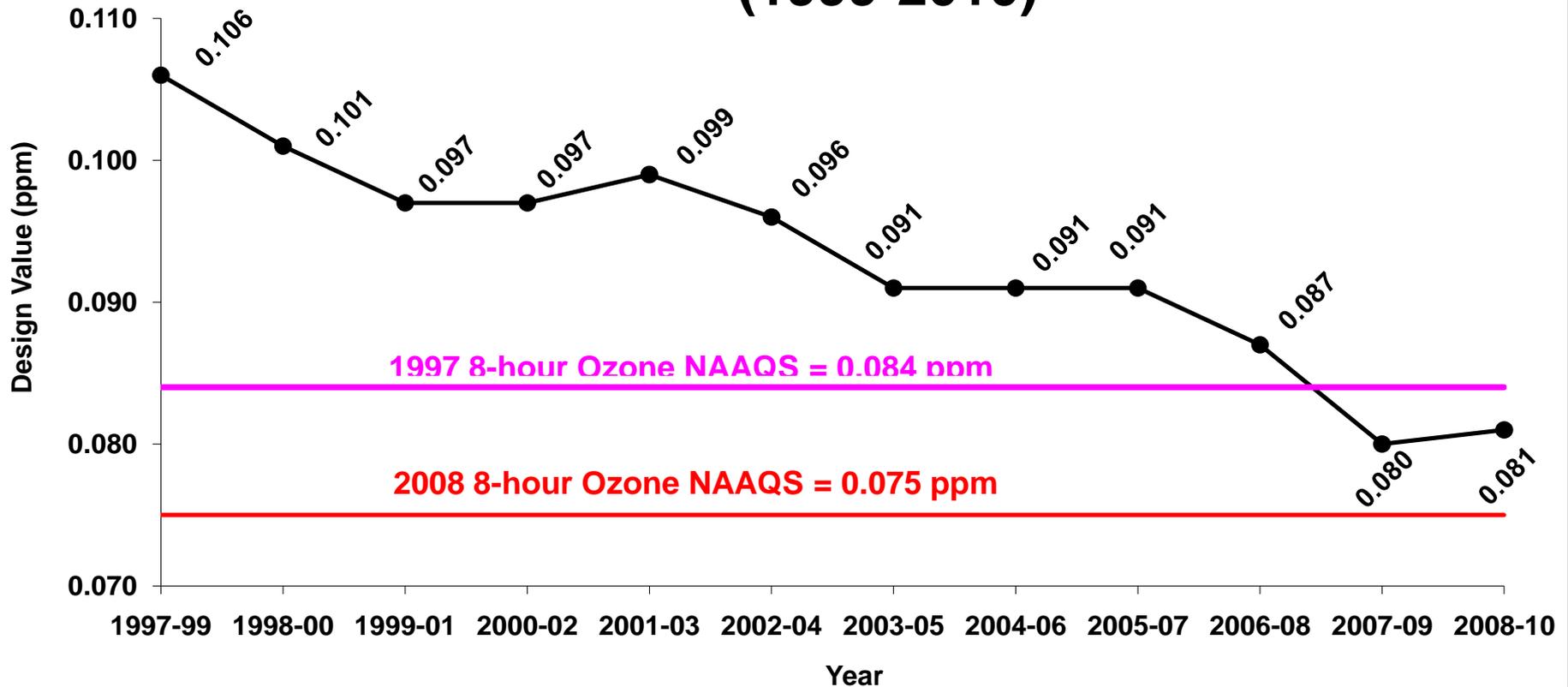
* 2011 data is preliminary and may

* 2011 analysis is based on draft data as of June 9, 2011 and is subject to change.



Ozone Design Value Trend

8-hour Ozone Design Value Washington, DC-MD-VA Nonattainment Area (1999-2010)



* Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations. 2008-10 data is draft and may change.

