



# Ozone Season Summary 2011

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MWAQC-TAC Meeting, COG  
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## Ozone Season Summary

[As of July 8, 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:

- 2 Code Red Days
- 10 Code Orange Days
- 24 Code Yellow Days
- 51 Code Green Days

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
							8	9	10	11	12	13	14
							56	54	53	65	61	41	35
							15	16	17	18	19	20	21
					57	46	48	53	50	45	42	49	60
							22	23	24	25	26	27	28
							53	59	52	60	53	44	36
							29	30	31				
							45	55	35	32	53	50	44
							46	76	96				
June							July						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2						1	2
					74	72						80	90
					60	73							
							3	4	5	6	7	8	9
							69	75	76	95	93	100	71
							70	71	85	67	94	55	66
							10	11	12	13	14	15	16
							63	54	47	59	55	59	76
							73						
							17	18	19	20	21	22	23
							69	64	61	56	44	58	53
							24	25	26	27	28	29	30
							51	59	76	72	69		
							31						

•Analysis is based on draft data until July 11, 2011. Data is subject to change.



## 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
6/10/2011	9	Alexandria & Aurora Hills	100
6/18/2011	1	Prince George's Equestrian Center	76
6/28/2011	1	Prince George's Equestrian Center	76
7/1/2011	2	Prince George's Equestrian Center	80
7/2/2011	13	Alexandria	90
7/5/2011	4	Prince George's Equestrian Center	85
7/7/2011	8	HU-Beltsville	94

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## Poor Air Quality Events in July 2011

❖ July 1<sup>st</sup> brought high pressure bringing clear conditions to the area. Winds were calm on this day.

❖ July 2<sup>nd</sup> saw the surface high pressure move offshore, giving us light southerly flow. This southerly flow advected warmer conditions to the area which allowed for higher rates of ozone production.

❖ Recirculation was a very important factor in keeping the pollution from the previous day. This lag ozone from July 1 added to the ozone cooked on July 2 leading to the wide spread high ozone levels all over the area.

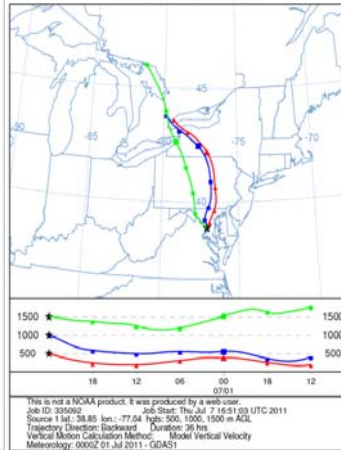
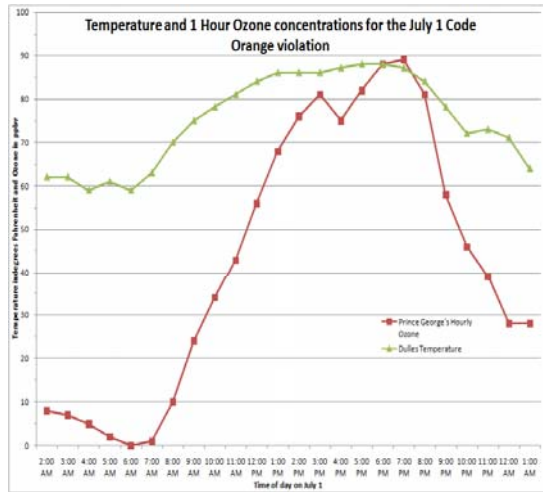


## July 1<sup>st</sup> Code Orange

# of Monitors in Exceedance: 2  
 0 Monitors in Code Red  
 Maximum 8-Hour Ozone: 80 ppb (Prince George's)

**Wind Trajectory at 8 PM  
 (June 10<sup>th</sup>)  
 (500m, 1000m, & 1500m)**

NOAA HYSPLIT MODEL  
 Backward trajectories ending at 0000 UTC 02 Jul 11  
 GDAS Meteorological Data



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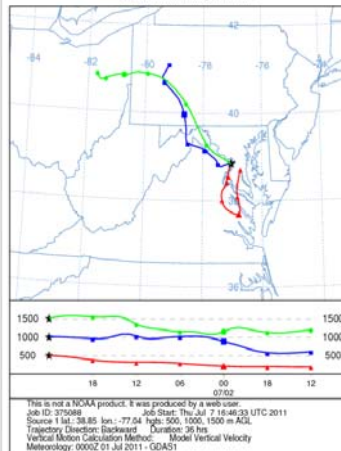
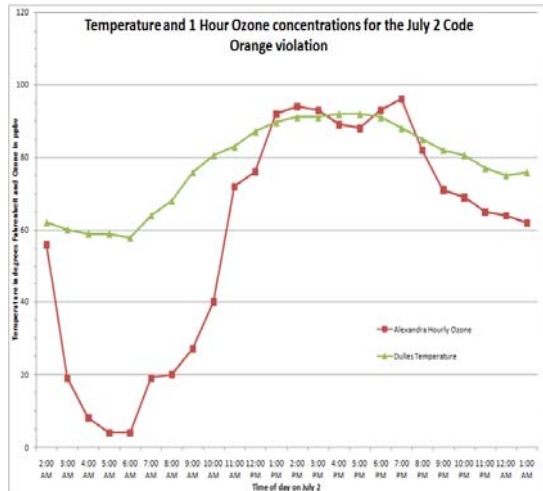


## July 2<sup>nd</sup> Code Orange

# of Monitors in Exceedance: 13 (all)  
 0 Monitors in Code Red  
 Maximum 8-Hour Ozone: 90 ppb (Alexandria)

**Wind Trajectory at 8 PM  
 (June 10<sup>th</sup>)  
 (500m, 1000m, & 1500m)**

NOAA HYSPLIT MODEL  
 Backward trajectories ending at 0000 UTC 03 Jul 11  
 GDAS Meteorological Data

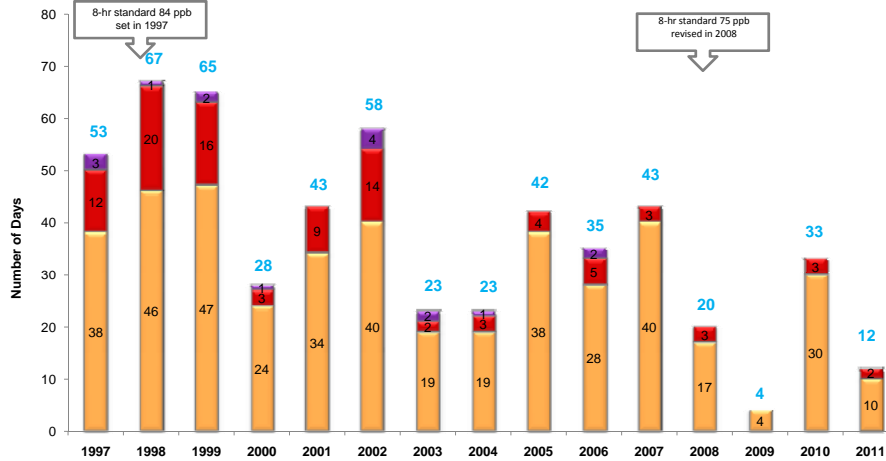


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## Ozone Exceedance Trend

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



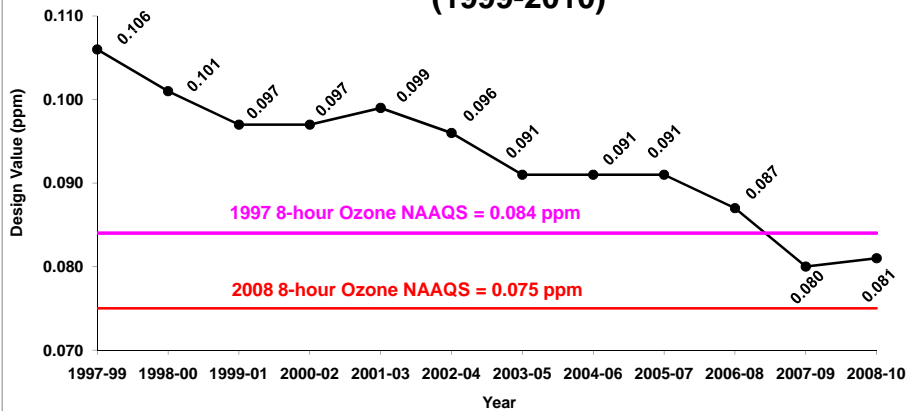
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## Ozone Design Value Trend

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.

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## Fine Particle Summary

### 24-Hour PM2.5 Concentrations (ug/m3)

Data from TEOM monitors based on the 24-hour standard set at 35.5 ug/m3. Since April 15, 2011, there have been:

30 Code Yellow Days

57 Code Green Days

April						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
				11.3	7.3	
17	18	19	20	21	22	23
6.3	12.8	17.3	13.8	8.3	7.7	8.7
24	25	26	27	28	29	30
14.1	13.9	8.9	8.2	10.4	7.8	6.7

June						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1	2	3	4
			33.3	9.5	6.5	12.2
5	6	7	8	9	10	11
18.1	19.0	21.8	28.8	31.5	30.7	25.5
12	13	14	15	16	17	18
16.0	7.6	8.3	7.3	15.5	10.5	12.6
19	20	21	22	23	24	25
18.6	15.1	17.8	15.3	13.3	7.2	11.9
26	27	28	29	30		
11.3	21.2	16.0	9.7	10.1		

May						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
9.7	12.0	14.1	6.1	7.8	10.1	10.4
8	9	10	11	12	13	14
12.2	9.1	8.0	9.6	14.5	15.1	10.2
15	16	17	18	19	20	21
9.8	11.8	10.7	9.2	8.4	14.4	10.3
22	23	24	25	26	27	28
15.3	20.5	16.1	17.5	24.4	15.2	9.1
29	30	31				
14.2	23.8	31.8				

July						
Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
					11.4	18.4
3	4	5	6	7	8	9
21.0	16.8	21.1	23.3	20.9	19.8	16.3
10	11	12	13	14	15	16
19.3						
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

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