



Ozone Season Summary

2012

Sunil Kumar

MWAQC-TAC Meeting, COG

June 12, 2012



Ozone Season Summary

[As of June 10, 2012]

Peak 8-Hour Ozone Concentrations (ppb)

Data based on the 8-hour standard set at 75 ppb. Since April 1, 2012, there have been:

- 0 Code Red Days
- 2 Code Orange Days
- 21 Code Yellow Days
- 48 Code Green Days

April

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
46	68	55	59	43	52	55
8	9	10	11	12	13	14
62	54	59	33	41	52	63
15	16	17	18	19	20	21
67	61	50	31	56	65	65
22	23	24	25	26	27	28
64	40	57	61	54	65	52
29	30					
58	58					

May

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	3	4	5
		57	45	53	49	57
6	7	8	9	10	11	12
48	50	49	61	61	58	70
13	14	15	16	17	18	19
64	47	47	70	55	64	75
20	21	22	23	24	25	26
65	34	47	52	68	58	55
27	28	29	30	31		
47	49	46	69	80		

June

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
					53	52
3	4	5	6	7	8	9
58	42	44	50	53	57	74
10						
88						



2012 Ozone Exceedances (so far)

Date	# of Monitors Exceeding	Highest Monitor	Highest Concentration (ppb)
5/31/2012	1	Calvert County	80
6/10/2012	8	McMillan Reservoir	88

* Analysis is based on draft data until June 10, 2012. Data is subject to change.



Meteorology - Code Orange Days

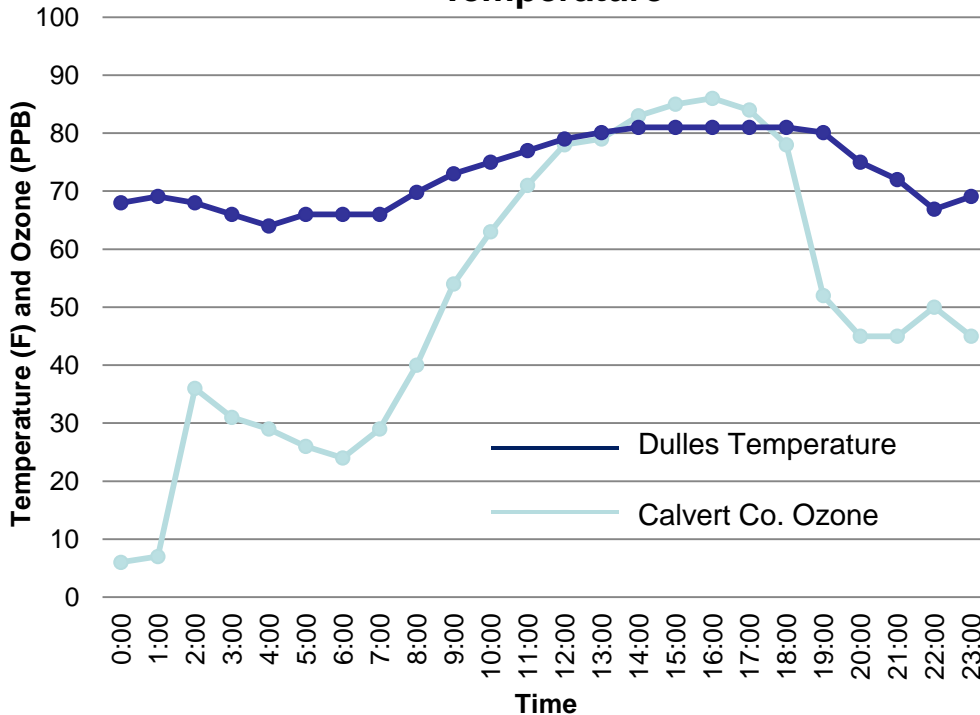
- ❖ High pressure in Mid-Atlantic advected warm air into the District of Columbia.
- ❖ High pressure limited winds and cloud cover for ozone development.
- ❖ Wind trajectories helped transport emissions from the Ohio River Valley into the Metropolitan Washington Area.
- ❖ Above conditions caused ozone exceedances on May 31st & June 10th.



May 31st Code Orange

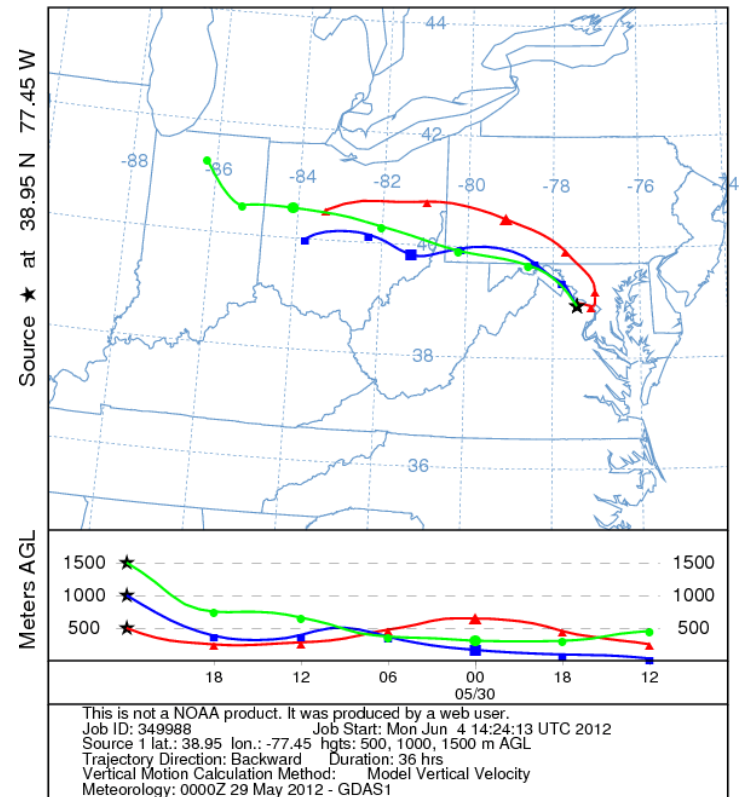
of Monitors in Exceedance: 1
 Maximum 8-Hour Ozone: 80 ppb (Calvert County)

May 31st Time Series of Ozone and Temperature



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

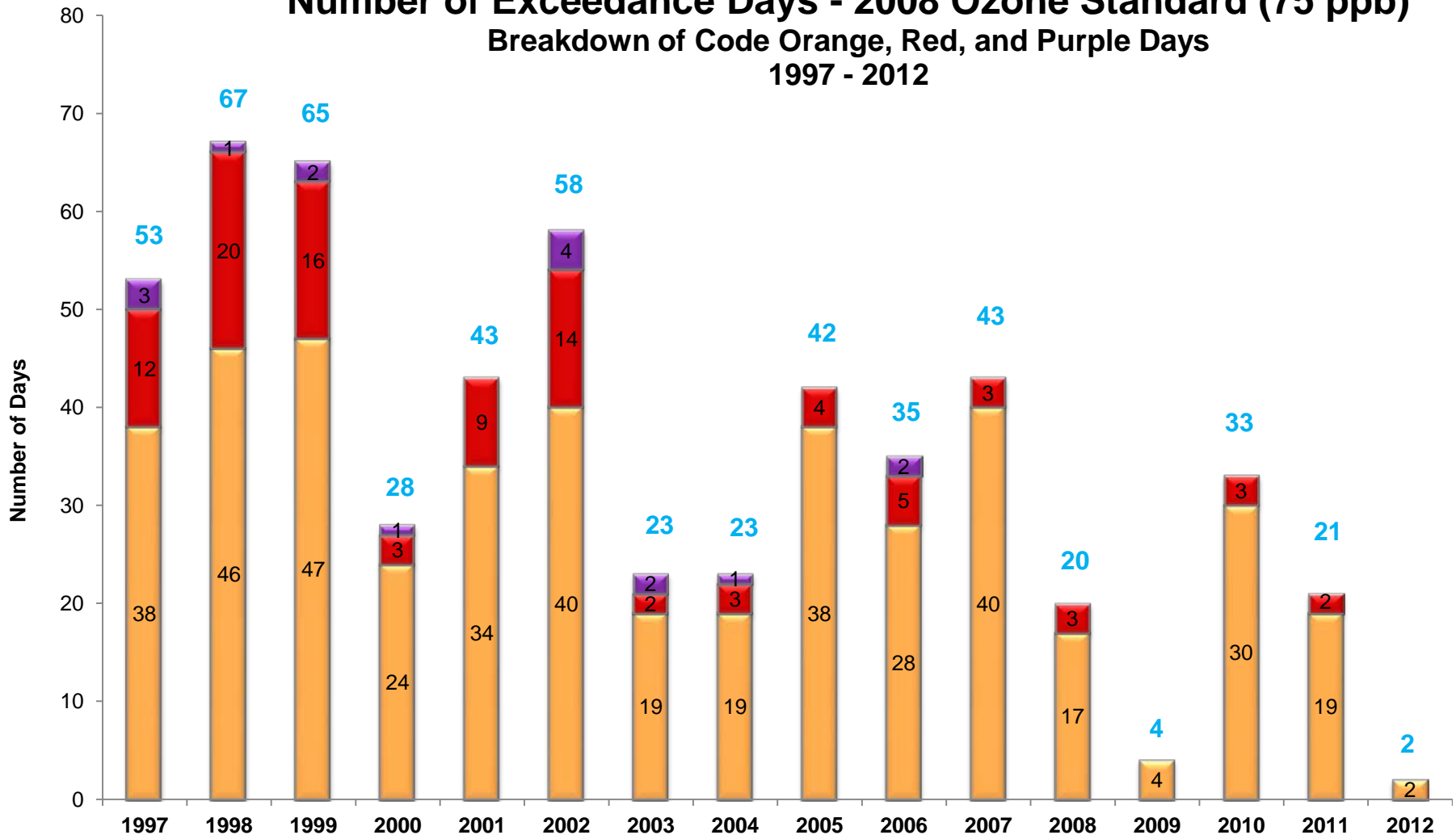
NOAA HYSPLIT MODEL
 Backward trajectories ending at 0000 UTC 31 May 12
 GDAS Meteorological Data





Ozone Exceedance Trend

**Number of Exceedance Days - 2008 Ozone Standard (75 ppb)
Breakdown of Code Orange, Red, and Purple Days
1997 - 2012**

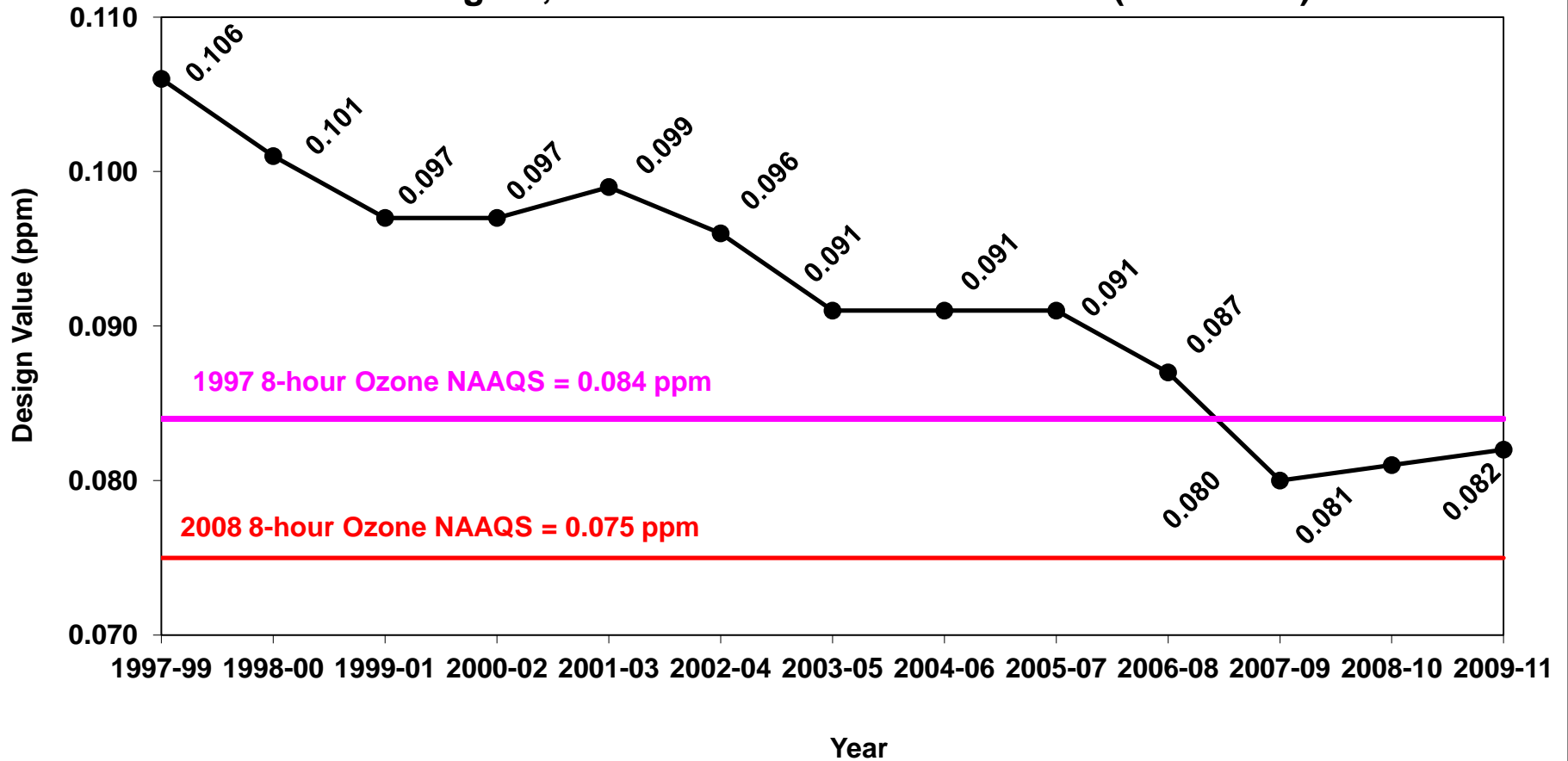


* 2012 analysis is based on draft data as of June 10, 2012 and is subject to change.



Ozone Design Value Trend

8-hour Ozone Design Value Washington, DC-MD-VA Nonattainment Area (1999-2012)



* Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations. *2012 data is draft and may change.*



Fine Particle Summary

[As of June 10, 2012]

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

Data based on the 24-hour standard set at 35.5 ug/m3. Since April 1, 2012, there have been:

7 Code Yellow Days

64 Code Green Days

April

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
1	2	3	4	5	6	7
12.0	7.2	6.0	9.3	6.0	5.4	5.7
8	9	10	11	12	13	14
6.7	6.3	7.0	6.8	5.7	6.9	10.9
15	16	17	18	19	20	21
18.9	21.3	7.5	8.2	15.0	11.9	10.4
22	23	24	25	26	27	28
3.8	4.5	6.5	7.9	13.0	6.5	7.5
29	30					
10.3	9.5					

May

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
		1	2	3	4	5
		11.3	17.4	14.5	15.3	15.5
6	7	8	9	10	11	12
9.8	7.0	10.2	13.7	7.7	7.2	9.9
13	14	15	16	17	18	19
15.6	11.1	8.7	15.8	10.7	8.4	7.5
20	21	22	23	24	25	26
7.7	6.5	10.5	14.0	14.4	14.5	11.3
27	28	29	30	31		
8.9	10.6	8.8	10.0	10.3		

June

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1	2
					12.4	8.2
3	4	5	6	7	8	9
10.7	6.8	5.0	6.8	10.2	11.1	12.9
10						
20.2						

* Analysis is based on draft data until June 10, 2012. Data is subject to change.