Ozone Season Summary

2009

Jen Desimone

TAC Meeting, COG

September 8, 2009

Ozone Season Summary (2009)

Peak 8-Hour Ozone Concentrations (ppb)

Data based on the 8-hour standard set at 75 ppb.

4 Code Orange Days

35 Code Yellow Days

84 Code Green Days

*** Analysis is based on draft data until August 31, 2009. Data is subject to change.**

Daily Peak 8-hour Ozone Concentration (PPB)

Washington Area-2009

MAY

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1 40	2 40
3 42	4 41	5 38	6 33	7 36	8 53	9 48
10 47	11 41	12 55	13 62	14 45	15 56	16 37
17 44	18 50	19 57	20 66	21 73	22 72	23 51
24 41	25 46	26 41	27 27	28 36	29 46	30 58
31 58						

JUNE

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	1 56	2 70	3 72	4 43	5 43	6 48
7 60	8 85	9 57	10 63	11 45	12 56	13 61
14 58	15 60	16 47	17 36	18 49	19 67	20 45
21 43	22 44	23 59	24 59	25 76	26 78	27 56
28 39	29 56	30 55				

JULY

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1 59	2 46	3 41	4 47
5 41	6 68	7 59	8 53	9 52	10 64	11 52
12 54	13 66	14 57	15 72	16 65	17 49	18 49
19 55	20 56	21 67	22 60	23 43	24 61	25 61
26 53	27 64	28 61	29 43	30 59	31 36	

AUGUST

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
						1 46
2 46	3 69	4 59	5 63	6 45	7 53	8 64
9 57	10 58	11 67	12 65	13 66	14 68	15 69
16 70	17 72	18 67	19 43	20 54	21 41	22 39
23 57	24 59	25 70	26 68	27 80	28 45	29 37
30 53	31 32					

2009 Ozone Exceedances

Date	# of Monitors Exceeding	Highest Monitor	Highest Concentration (ppb)
6/8/09	5	McMillan	**85**
6/25/09	1	Calvert Co	76
6/26/09	2	McMillan	78
8/27/09	2	Franconia	80

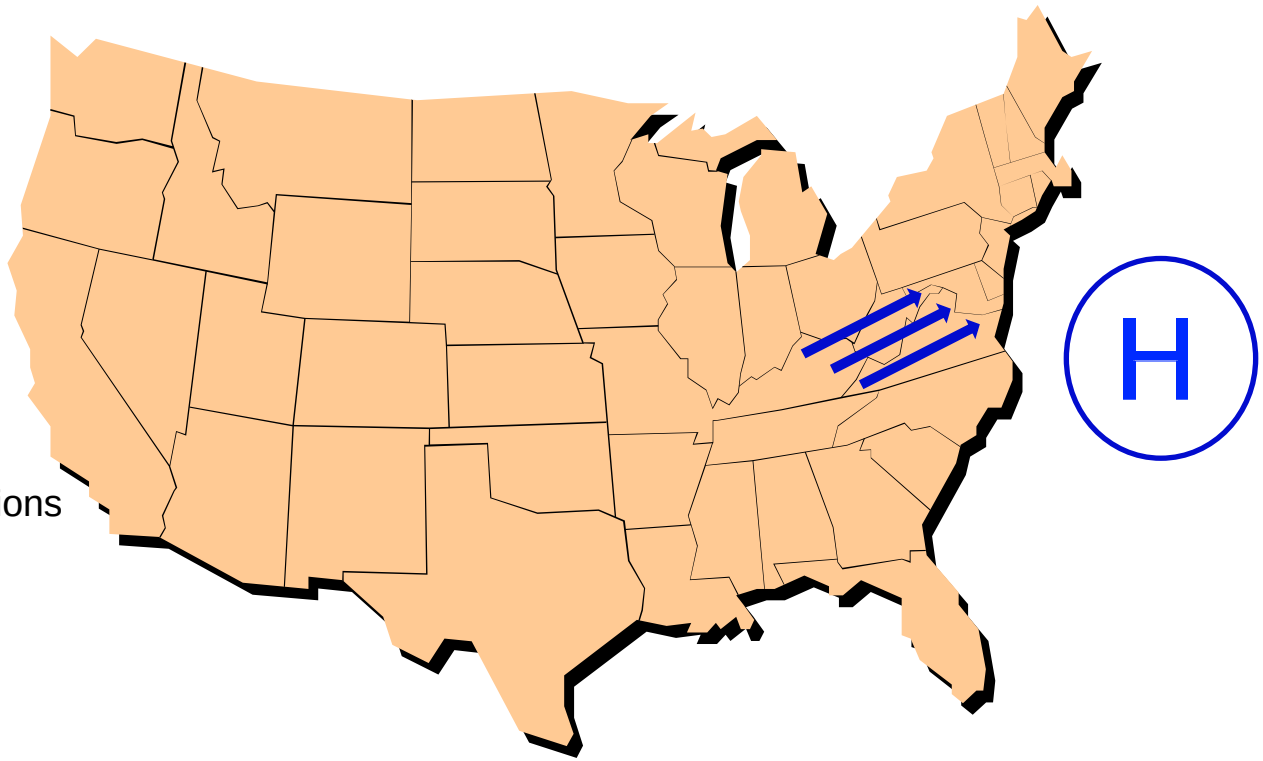
*** Analysis is based on draft data until August 31, 2009. Data is subject to change.**

Why So Few Code Orange Days?

Meteorology Played a Big Role in this Year's Ozone Season.

Typical weather pattern for high ozone.

- Warm Temperatures
- Lots of Sun
- West Winds
- No Rain
- Elevated Background Concentrations

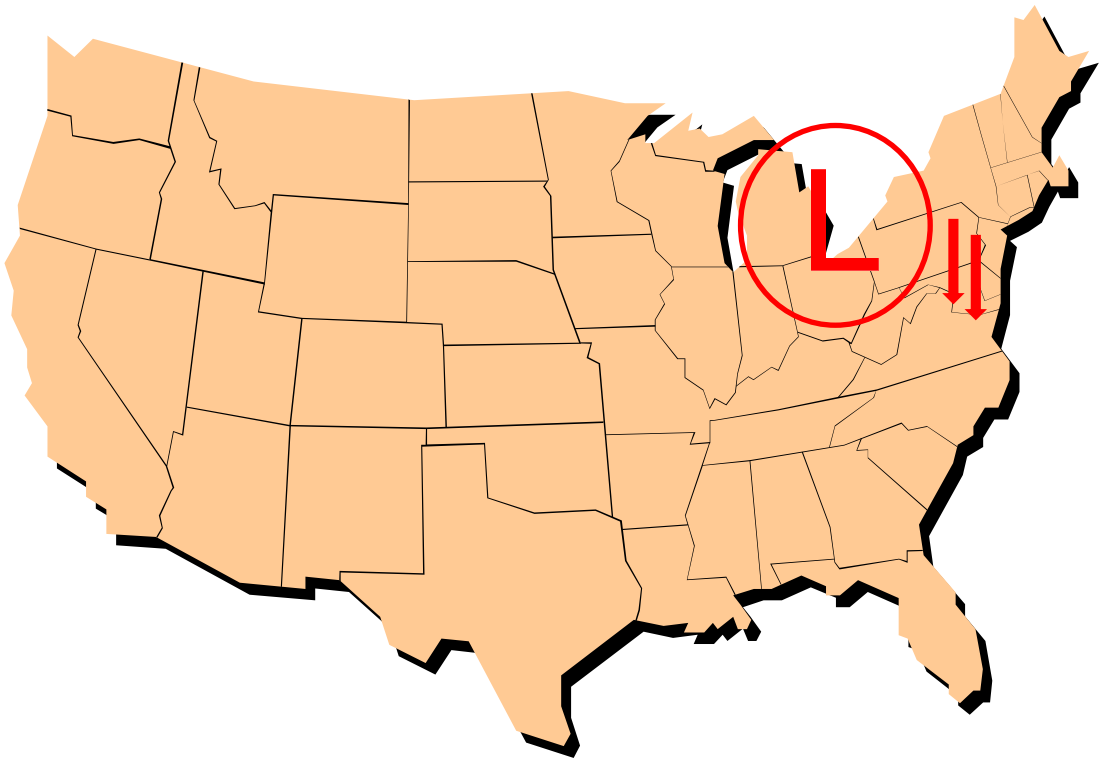


Why So Few Code Orange Days?

Meteorology Played a Big Role in this Year's Ozone Season.

Weather pattern for the summer of '09.

- Cooler Temperatures
- Too Many Clouds
- Northerly or Southerly Winds
- Showers and Storms
- Low Background Concentrations



Fine Particle Summary (2009)

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

Data based on the 24-hour standard set at 35.5 ug/m3.

35 Code Yellow Days

88 Code Green Days

*** Analysis is based on draft data until August 31, 2009. Data is subject to change.**

Daily 24-Hour Particle Concentration (ug/m3)

Washington Area-2009

MAY

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
					1 17	2 11
3 15	4 5	5 12	6 14	7 7	8 14	9 10
10 10	11 8	12 11	13 13	14 11	15 16	16 11
17 5	18 4	19 6	20 10	21 11	22 11	23 11
24 9	25 11	26 12	27 22	28 12	29 13	30 13
31 10						

JUNE

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	1 6	2 17	3 15	4 9	5 5	6 8
7 15	8 25	9 15	10 14	11 23	12 9	13 12
14 7	15 15	16 14	17 6	18 11	19 19	20 16
21 7	22 6	23 9	24 9	25 13	26 25	27 13
28 19	29 15	30 12				

JULY

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1 15	2 11	3 8	4 15
5 12	6 14	7 18	8 8	9 10	10 10	11 14
12 17	13 14	14 10	15 18	16 20	17 18	18 10
19 11	20 16	21 16	22 19	23 10	24 11	25 15
26 8	27 14	28 21	29 15	30 16	31 12	

AUGUST

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
						1 12
2 9	3 18	4 23	5 19	6 18	7 8	8 20
9 24	10 20	11 16	12 18	13 11	14 14	15 13
16 19	17 20	18 18	19 11	20 9	21 7	22 10
23 13	24 8	25 14	26 23	27 28	28 18	29 14
30 12	31 5					

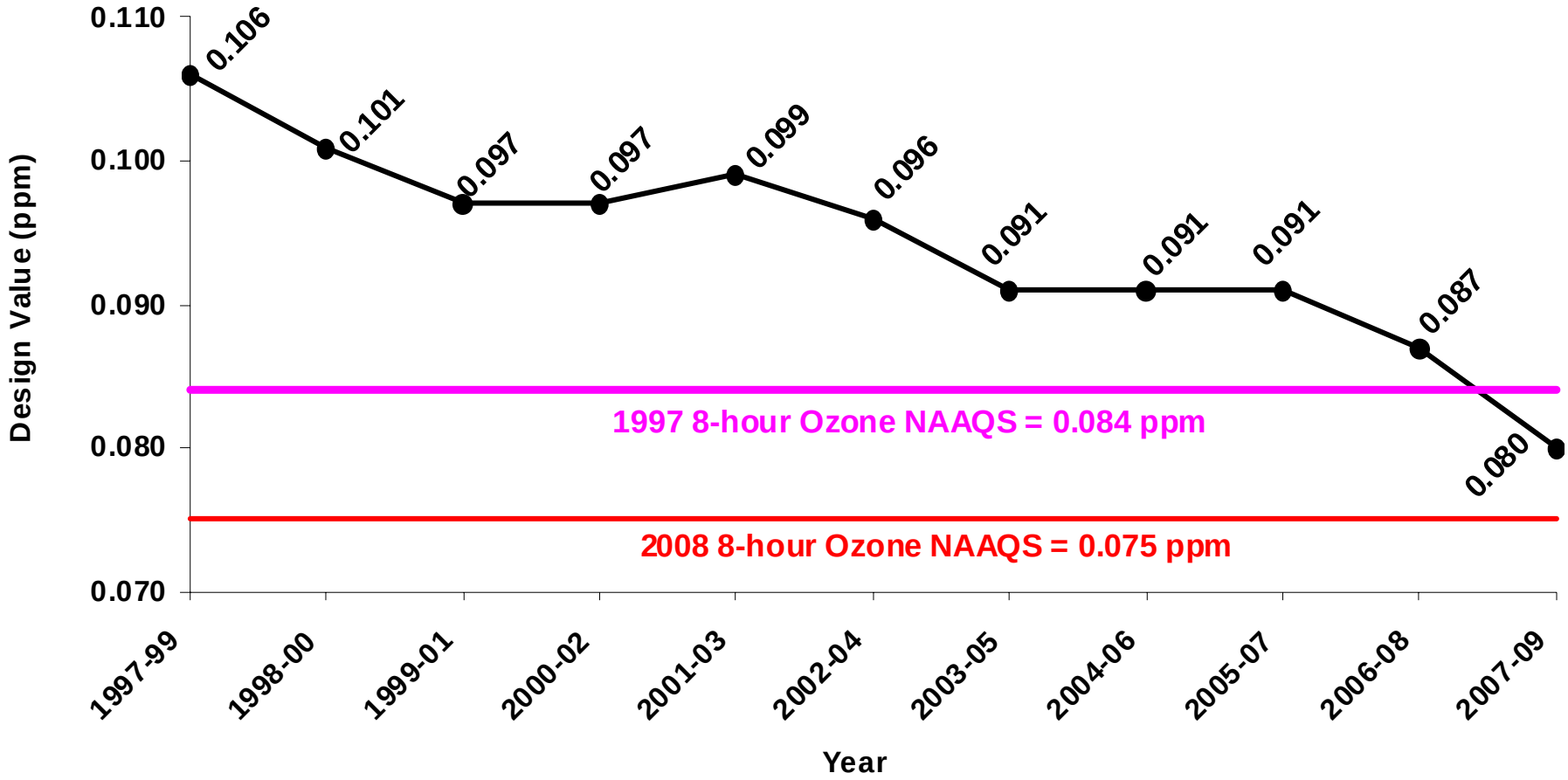
Air Quality Trends

Sunil Kumar

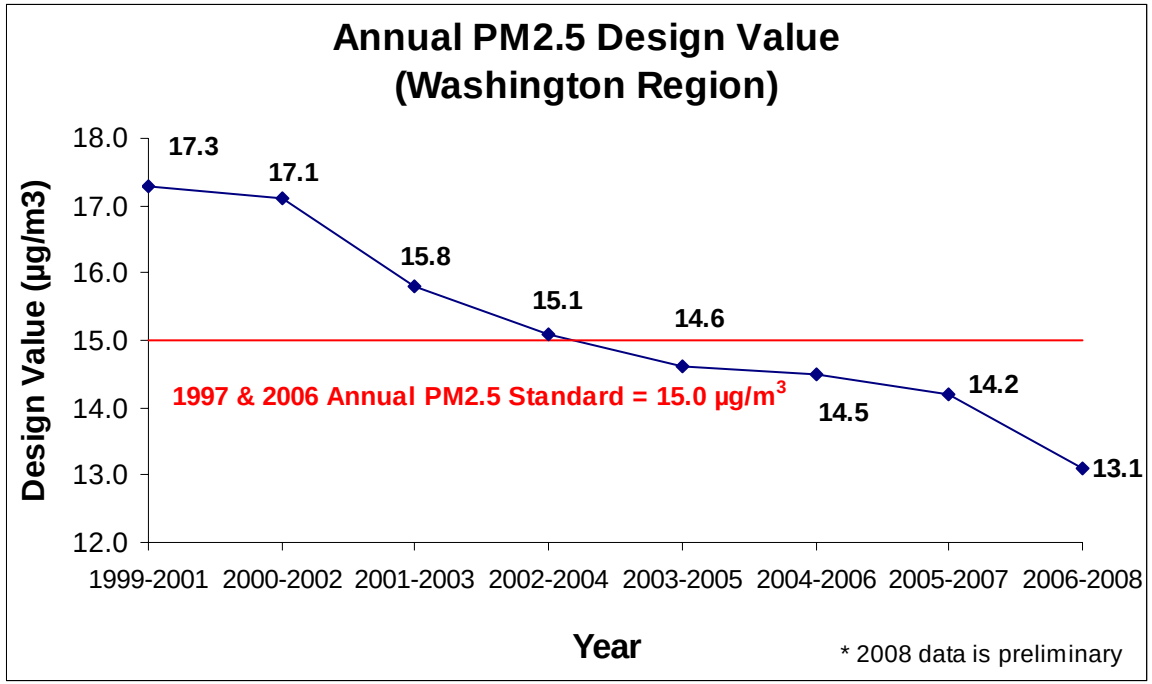
MWAQC - TAC

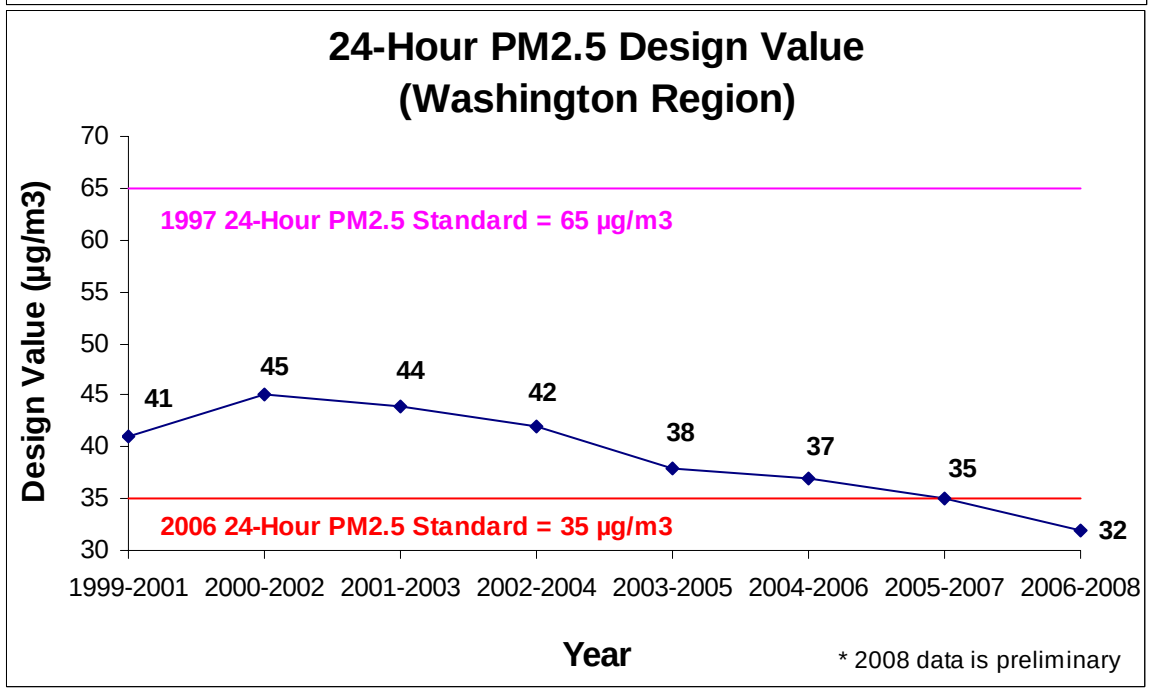
September 8, 2009

8-hour Ozone Design Value
Washington, D.C. Region, 1999-2009

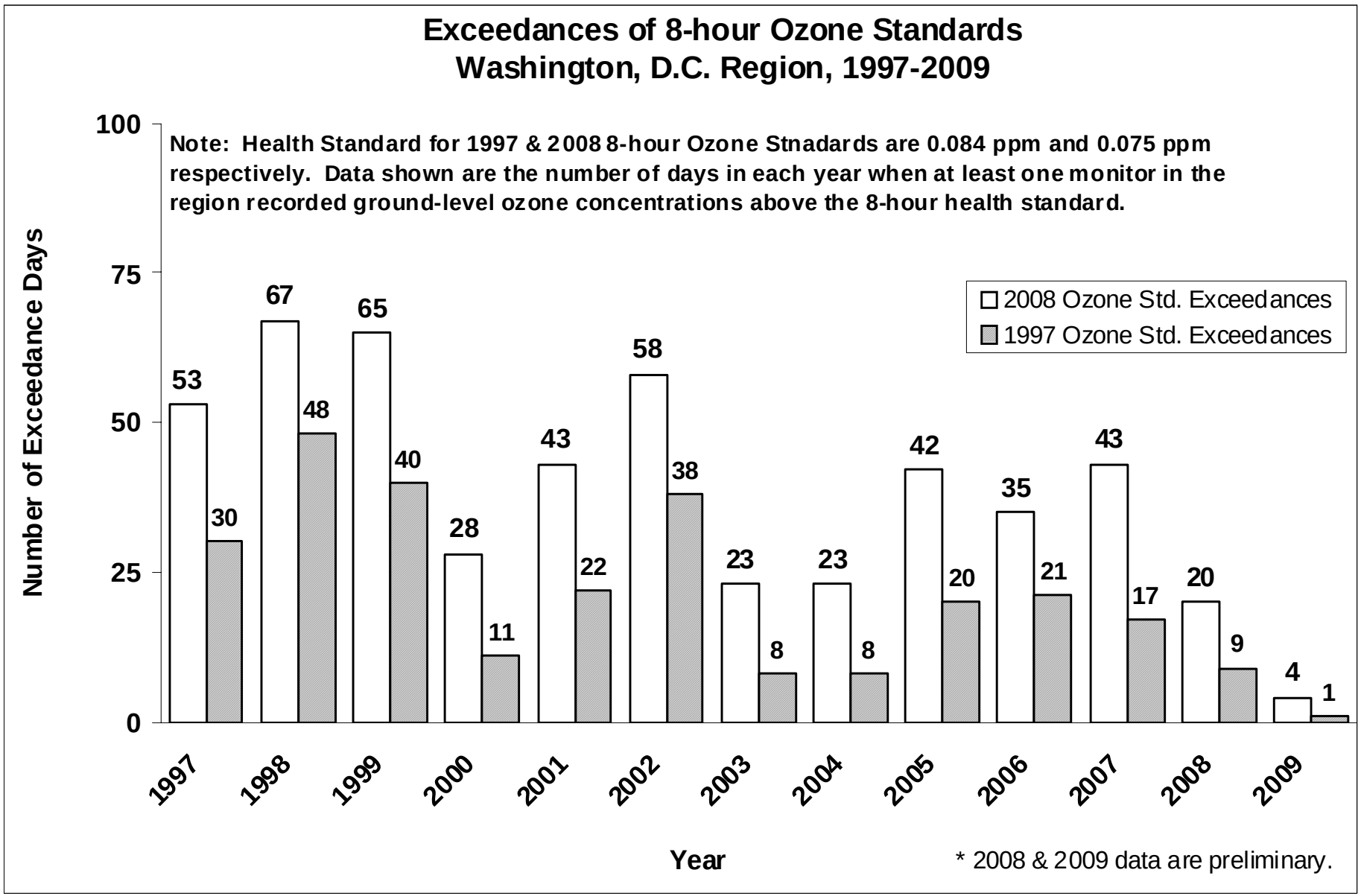


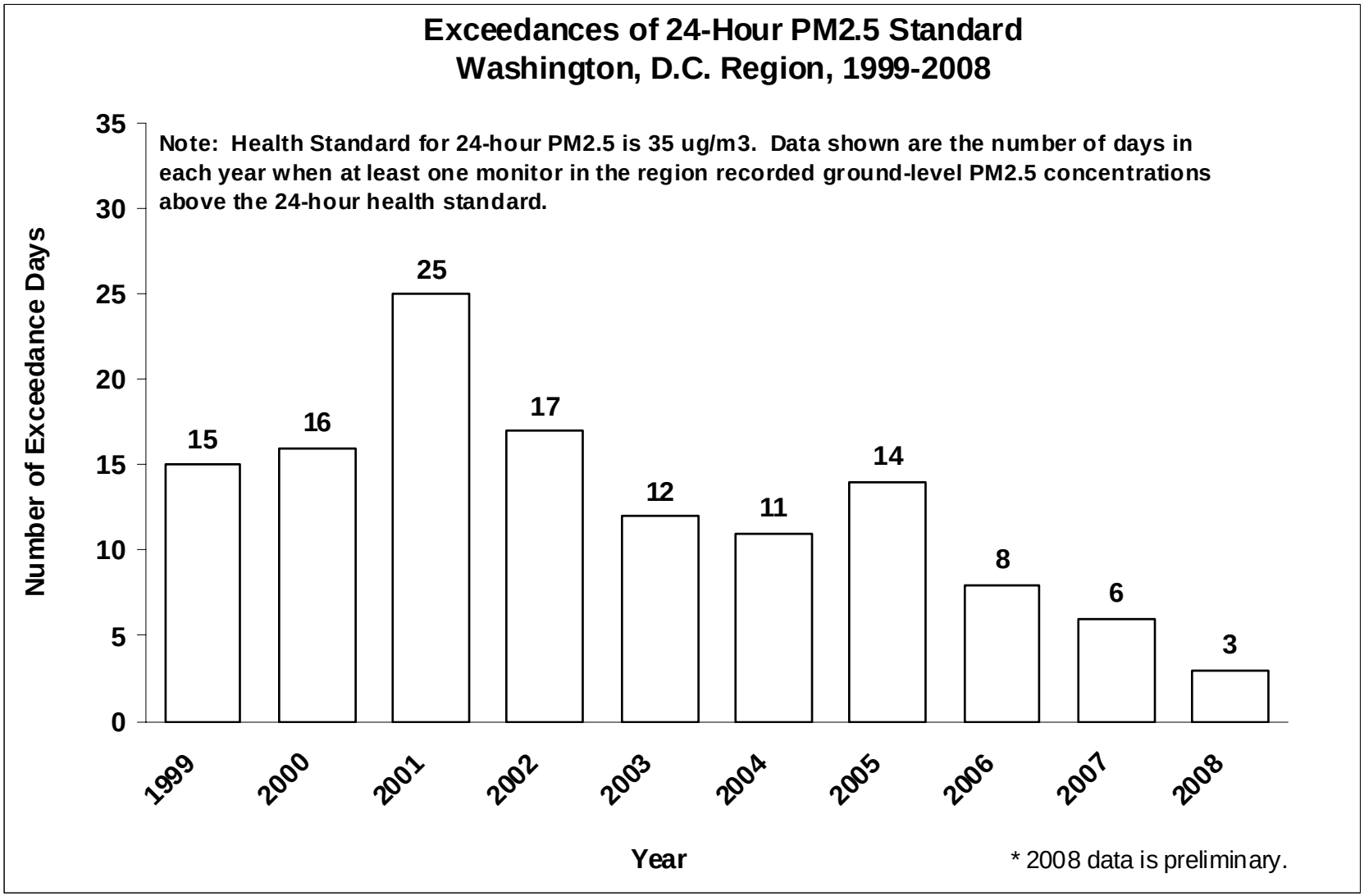
* Design value = 3-year average of 4th highest daily maximum 8-hour average ozone concentrations * 2008 & 2009 data are preliminary

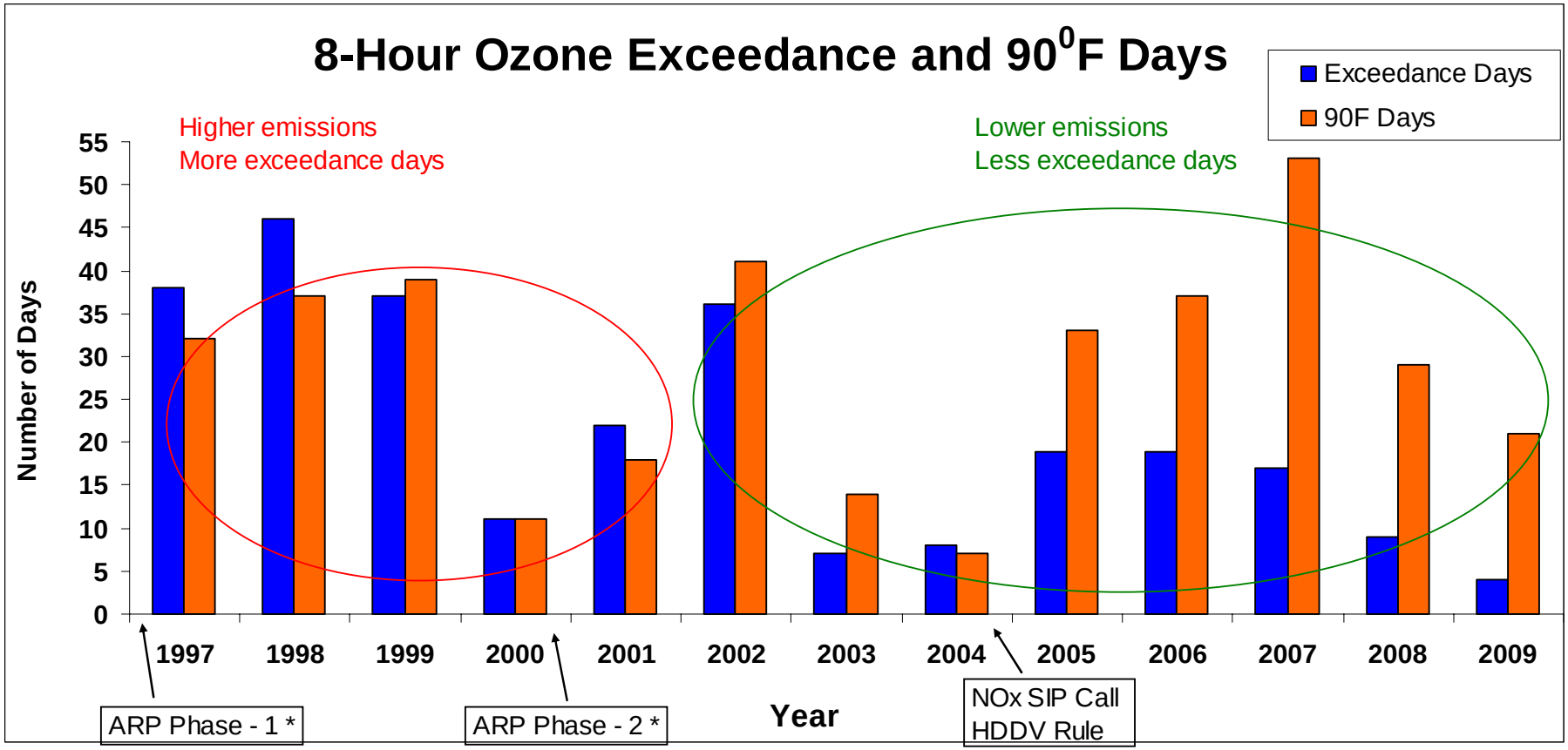

Annual PM2.5 Design Value
(Washington Region)
Design Value (µg/m3)
18.0
17.0
16.0
15.0
14.0
13.0
12.0
17.3
17.1
15.8
15.1
14.6
14.5
14.2
13.1
1997 & 2006 Annual PM2.5 Standard = 15.0 µg/m3
1999-2001
2000-2002
2001-2003
2002-2004
2003-2005
2004-2006
2005-2007
2006-2008
Year
* 2008 data is preliminary


24-Hour PM2.5 Design Value
(Washington Region)
Design Value (µg/m3)
70
65
60
55
50
45
40
35
30
41
45
44
42
38
37
35
32
1997 24-Hour PM2.5 Standard = 65 µg/m3
2006 24-Hour PM2.5 Standard = 35 µg/m3
1999-2001
2000-2002
2001-2003
2002-2004
2003-2005
2004-2006
2005-2007
2006-2008
Year
* 2008 data is preliminary

Exceedances of 8-hour Ozone Standards
Washington, D.C. Region, 1997-2009




Exceedances of 24-Hour PM2.5 Standard
Washington, D.C. Region, 1999-2008
Note: Health Standard for 24-hour PM2.5 is 35 ug/m3. Data shown are the number of days in each year when at least one monitor in the region recorded ground-level PM2.5 concentrations above the 24-hour health standard.
Number of Exceedance Days
35
30
25
20
15
10
5
0
15
16
25
17
12
11
14
8
6
3
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year
* 2008 data is preliminary.



*** ARP = Acid Rain Program**

- Phase 1 : 1996
- Phase 2 : 2000

* 2009 data valid as of August 31, 2009.