



**MONTHLY AIR QUALITY REPORT FOR  
MAY 2007**

AOI COLOR SCALE

<b>GOOD</b>  0-50	<b>MODERATE</b>  51-100	<b>UNHEALTHY FOR SENSITIVE GROUPS</b>  101-150	<b>UNHEALTHY</b>  151-200
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Calendar of maximum AQI values & their corresponding color for May 2007\*

\*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

<b>1</b> (day of month)	<b>O3</b>	<b>CO</b>
	<b>PM10</b>	<b>PM2.5</b>

SUN			MON			TUE			WED			THU			FRI			SAT		
						1	48	09	2	59	08	3	48	03	4	51	07	5	49	06
							64	41		65	51		51	31		122	54		75	32
6	49	07	7	56	13	8	61	11	9	79	10	10	90	17	11	97	19	12	77	06
	27	14		58	25		69	53		55	33		68	53		84	51		64	34
13	74	13	14	56	09	15	74	07	16	64	05	17	90	05	18	72	08	19	77	13
	47	39		60	43		67	43		73	42		55	25		61	39		46	39
20	56	07	21	48	07	22	47	09	23	59	09	24	90	13	25	64	13	26	43	16
	45	31		79	52		78	59		58	32		65	33		63	39		46	34
27	45	18	28	43	11	29	45	16	30	48	18	31	54	16						
	35	28		39	21		63	46		67	41		58	39						

**Calendar of High Pollution Advisories and Health Watches issued during May 2007**

SUN		MON		TUE		WED		THU		FRI		SAT	
				1	D	2		3		4	A	5	F
6		7		8		9		10		11		12	
13		14		15		16		17	F	18		19	F
20		21		22		23		24		25		26	
27		28		29		30		31					

**LEGEND**

**HIGH POLLUTION ADVISORIES**  
**A** = PM-10 High Pollution Advisory  
**B** = PM-2.5 High Pollution Advisory  
**C** = Ozone High Pollution Advisory

**HEALTH WATCHES**  
**D** = PM-10 Health Watch  
**E** = PM-2.5 Health Watch  
**F** = Ozone Health Watch

**Calendar of Meteorological Conditions observed in Metro Phoenix during May 2007**

SUN		MON		TUE		WED		THU		FRI		SAT	
				1	A B	2		3		4	D E	5	D
6		7		8	D	9	E	10	E	11		12	E
13		14		15		16	D	17		18	E	19	
20		21		22	E	23	E	24	E	25		26	
27		28		29	E	30		31					

**LEGEND**

**ELECTROMETEORS**  
**A** = Thunderstorm

**HYDROMETEORS**  
**B** = Rain/Drizzle/Hail/Snow  
**C** = Fog

**LITHOMETEORS**  
**D** = Blowing Dust  
**E** = Haze (vsby <10SM)  
**F** = Smoke

**Exceedance days during MAY 2007-**

Total=	Date	Max AQI	Pollutant	Site/s
1	05/04	122	PM-10	West Forty Third

**Health Watches issued during MAY 2007-**

Total=	Date	Max AQI	Pollutant	Site/s
1	05/01	64	PM-10	Coyote Lakes
		64	PM-10	West Forty Third

**High Pollution Advisories issued during MAY 2007-**

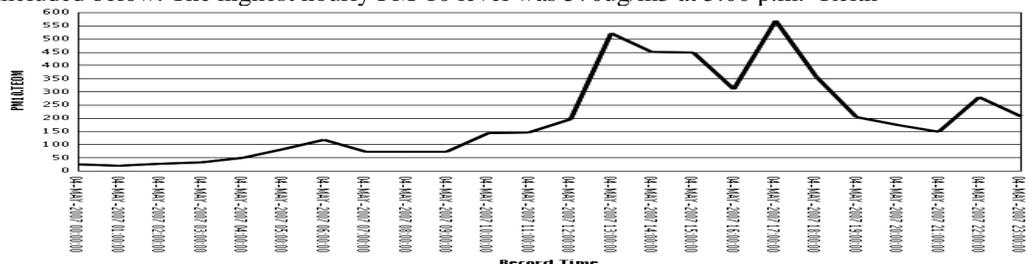
Total=	Date	Max AQI	Pollutant	Site/s
1	05/04	122	PM-10	West Forty Third

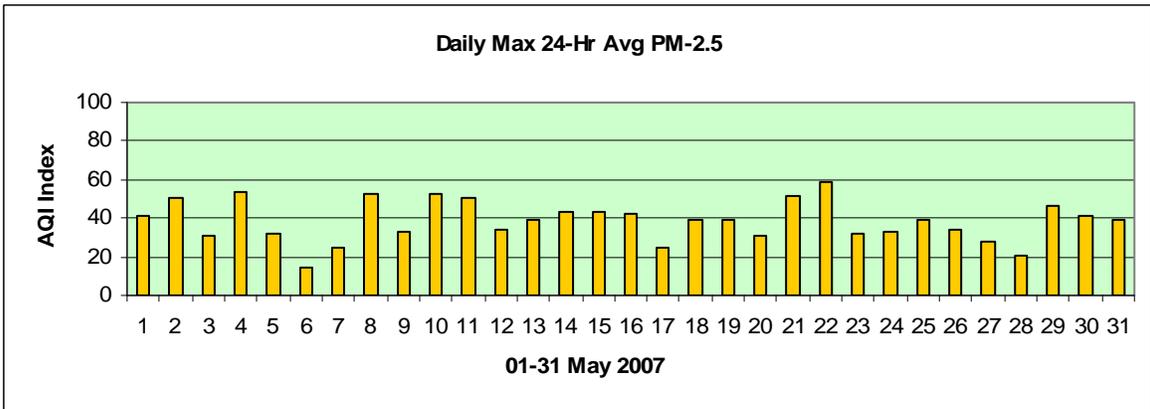
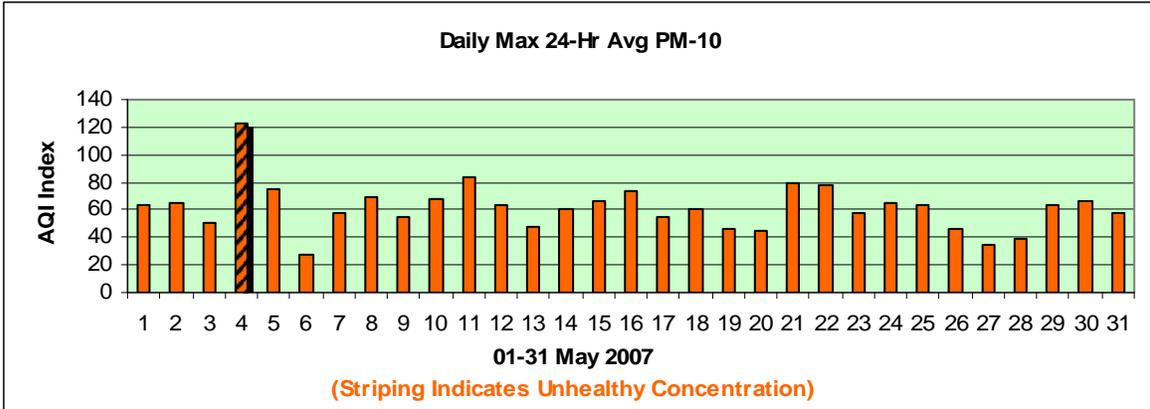
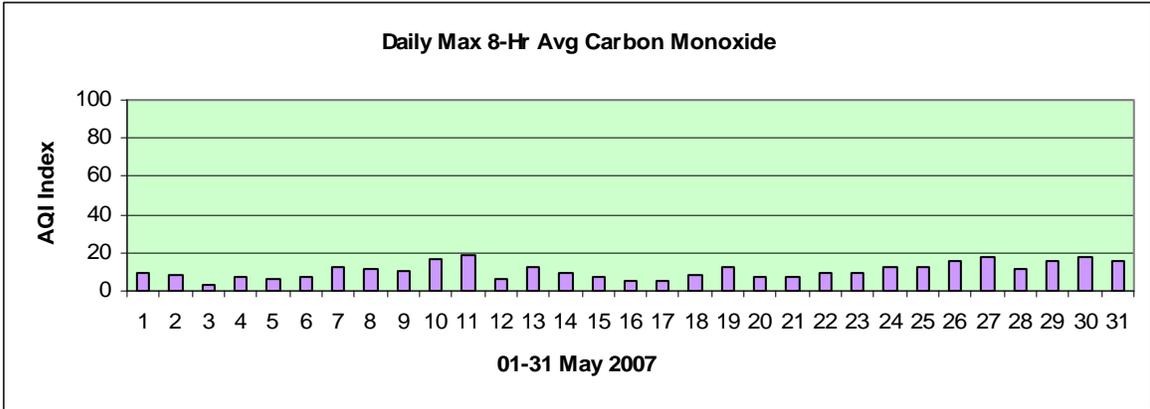
**Concentration Recap:**

Days in the <b>Good</b> category:	4
Days in the <b>Moderate</b> category:	26
Days in the <b>Unhealthy for Sensitive Groups</b> category:	1
Days in the <b>Unhealthy</b> category:	0
Total Forecast Days:	31

**Narrative:**

The mid-latitude storm track remained active over Arizona late into the month; a surface frontal passage was observed in the Phoenix area as late as the 21st, followed by a large upper trough that moved overhead on the 22nd and 23rd. The proximity of the storm track was instrumental in keeping afternoon maximum temperatures in Phoenix below 100 degrees the majority of the days – which was a plus. On the other hand, gusty winds produced by tight gradients associated with the weather disturbances contributed to episodes of blowing dust on five of the first eight days of the month. By far the most serious – from an air quality point of view – occurred on the 4th. A frontal passage occurred on the 3rd followed by a long-wave trough on the 4th and 5th. A regional high-wind event was one result; southwest to westerly wind gusts in the 30-40 mph range were registered at local airports in the Phoenix metro area between noon and 8:00 p.m. With no recent rainfall to stabilize disturbed soils, blowing dust was widespread and thick with visibilities as low as two miles at times. For the third straight month an exceedance of the PM-10 standard occurred at the West Forty Third site, the graph from which is included below. The highest hourly PM-10 level was 570ug/m3 at 5:00 p.m. -Reith





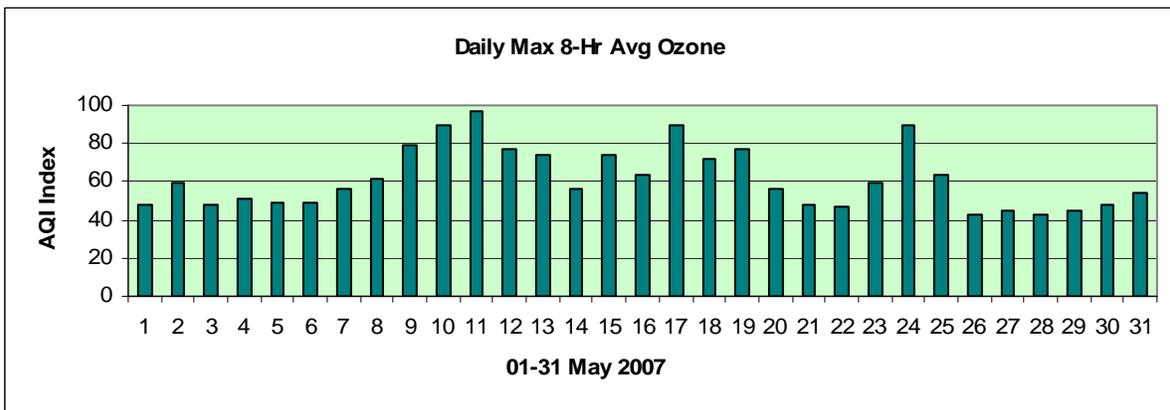
## DETAILED OZONE SECTION

<b>GOOD</b>	<b>MODERATE</b>	<b>UNHEALTHY FOR SENSITIVE GROUPS</b>	<b>UNHEALTHY</b>
<b>0-50</b>	<b>51-100</b>	<b>101-150</b>	<b>151-200</b>

### SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR MAY 2007\*

\*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
				1	<b>48</b>	2	<b>59</b>	3	<b>48</b>	4	<b>51</b>	5	<b>49</b>
6	<b>49</b>	7	<b>56</b>	8	<b>61</b>	9	<b>79</b>	10	<b>90</b>	11	<b>97</b>	12	<b>77</b>
13	<b>74</b>	14	<b>56</b>	15	<b>74</b>	16	<b>64</b>	17	<b>90</b>	18	<b>72</b>	19	<b>77</b>
20	<b>56</b>	21	<b>48</b>	22	<b>47</b>	23	<b>59</b>	24	<b>90</b>	25	<b>64</b>	26	<b>43</b>
27	<b>45</b>	28	<b>43</b>	29	<b>45</b>	30	<b>48</b>	31	<b>54</b>				



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**8-hr Ozone exceedance days in MAY:** Total= 0      Date    Max ppb/AQI    Site/s

**Total number of exceedance days since APR 01:** 0

**Total number of exceedance sites since APR 01:** 0

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**Ozone Health Watches in MAY:**      Total= 3      Date    Max ppb/AQI    Site/s  
(Forecast max value 80-84 ppb)

	5/04	65/51	Cave Creek
	5/17	80/90	North Phoenix
	5/18	73/72	Cave Creek
			Rio Verde

**Ozone Health Watches since APR 01:** Total= 3

**High Pollution Advisories in MAY:** Total= 0  
(Forecast max value 85+ppb)

**High Pollution Advisories since APR 01:** Total= 0

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**Concentration Recap:**

Days in the <b>Good</b> category:	11
Days in the <b>Moderate</b> category:	17
Days in the <b>Unhealthy for Sensitive Groups</b> category:	0
Days in the <b>Unhealthy</b> category:	0
Total Forecast Days:	31

<b>Maximum 8-Hr value:</b>	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	5/11	1100	Cave Creek	83/97	Fri

<b>Maximum 1-Hr value:</b>	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	5/15	1700	Cave Creek	95/79	Thu

Average daily max 8-Hr concentration (ppb):	67.9
Deviation from the 1996-2006 average (ppb):	-4.8

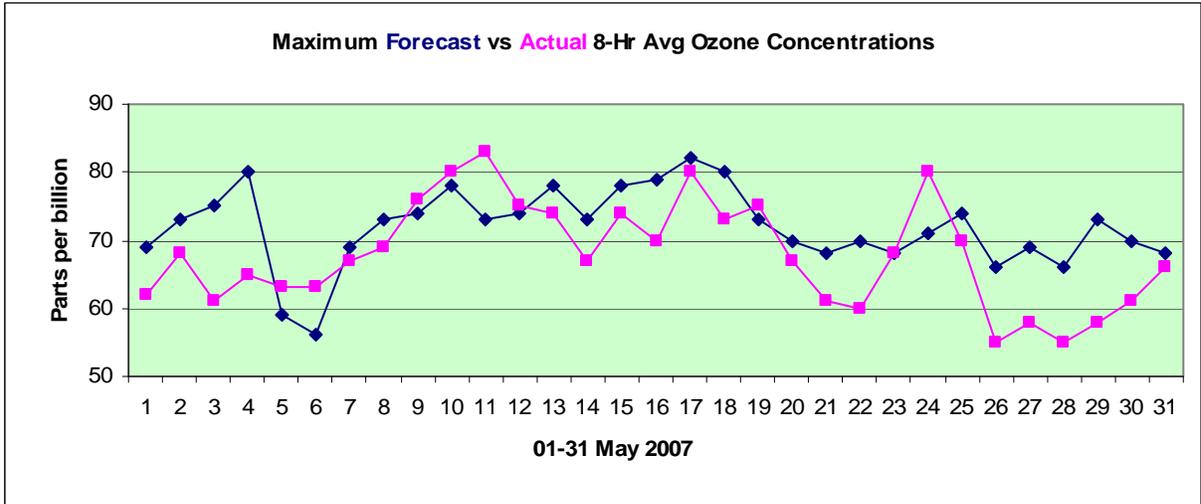
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**MAY Climatology:**  
(1996-2006)

Average number of 8-Hr exceedance days:	3.4
Maximum number of 8-Hr exceedance days:	10 in 1996
Minimum number of 8-Hr exceedance days:	0 in 1997, 2001, 2004
Average daily max 8-Hr concentration (ppb):	72.7
Record high max 8-Hr concentration (ppb):	105 on the 21st, 1996
Record low max 8-Hr concentration (ppb):	46 on the 20th, 1997

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<b>Forecast Verification:</b>	# of days maximum concentrations were over-forecast:	22
	# of days maximum concentrations were under-forecast:	8
	# of days maximum concentrations were correctly forecast:	1
	May average forecast accuracy (ppb):	+/-6.5
	May average forecast bias (ppb):	+4.1



**Narrative:** Local ozone production/levels seemed to be held below their potential during the month of May due to a combination of fewer “hot” days (temperatures exceeded 105 degrees on only two of them), very dry air masses (average dew pts were in the 20’s and 30’s on all but five days), and an active storm track that tended to produce westerly winds during the afternoon – the prime ozone production period. On only four days over three separate high ozone episodes was 90 reached on the AQI scale. It is thought that local ozone readings on the 10th and 11th were contributed to by a re-entrainment of valley ozone and precursors that originally had been transported westward on the 8th and 9th by thunderstorm outflow boundaries. On the 17th a low-level easterly wind flow set up that maximized ozone accumulation; on the 24th an influx of ozone and/or its precursors from California following a trough passage appeared to augment local production. –Reith