



MONTHLY AIR QUALITY REPORT FOR
AUGUST 2010

AOI COLOR SCALE

GOOD 0-50	MODERATE 51-100	UNHEALTHY FOR SENSITIVE GROUPS 101-150	UNHEALTHY 151-200
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Calendar of maximum AQI values & their corresponding color for August 2010*

*Preliminary data

SAMPLE POLLUTANT REPORTING BOX

1 (day of month)	O3	CO
	PM10	PM2.5

	SUN			MON			TUES			WED			THU			FRI			SAT	
1	36	08	2	97	08	3	71	08	4	84	10	5	71	07	6	74	06	7	48	07
	14	31		23	39		27	40		33	39		29	38		44	17		31	16
8	41	07	9	49	09	10	58	07	11	46	08	12	43	08	13	80	08	14	47	07
	15	16		30	17		18	18		32	24		32	22		44	29		37	29
15	50	08	16	80	07	17	71	07	18	54	08	19	74	08	20	77	07	21	51	05
	59	29		47	22		46	28		26	25		45	40		44	31		52	28
22	100	06	23	97	08	24	84	07	25	46	06	26	47	06	27	67	07	28	47	06
	13	25		33	29		37	26		21	15		29	20		32	18		30	20
29	39	06	30	42	08	31	50	09												
	18	20		24	19		36	39												

Calendar of High Pollution Advisories and Health Watches issued during August 2010

SUN			MON			TUE			WED			THU			FRI			SAT		
1			2			3		F	4		C	5		F	6			7		
8			9			10			11			12			13			14		
15			16			17			18			19			20			21		F
22			23		F	24		F	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 August 2010

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

LEGEND

ELECTROMETEORS

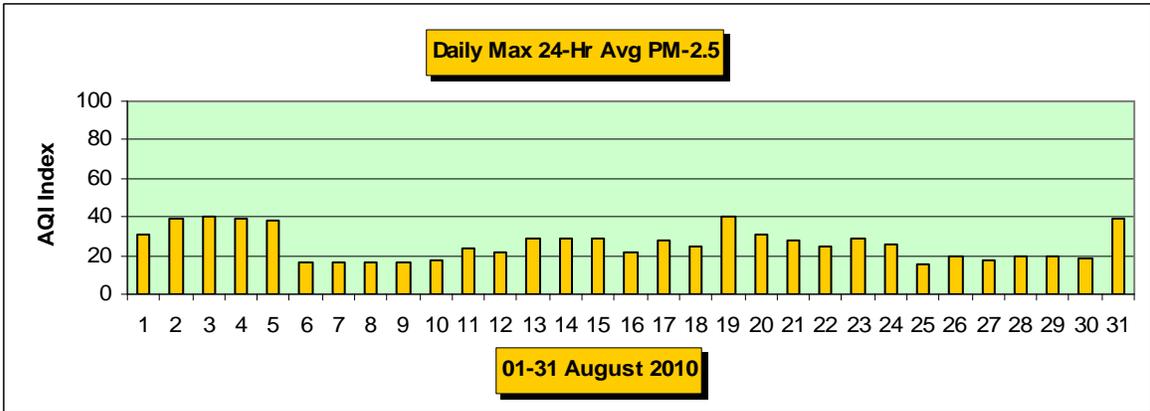
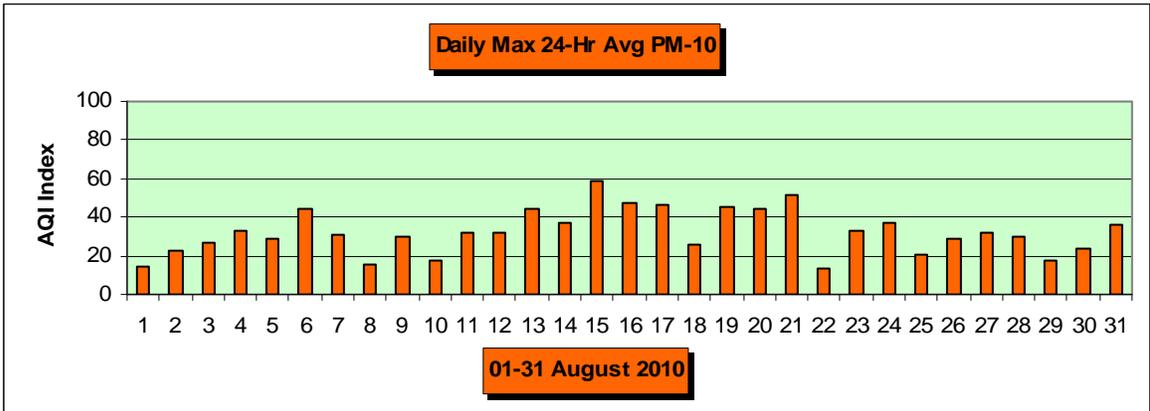
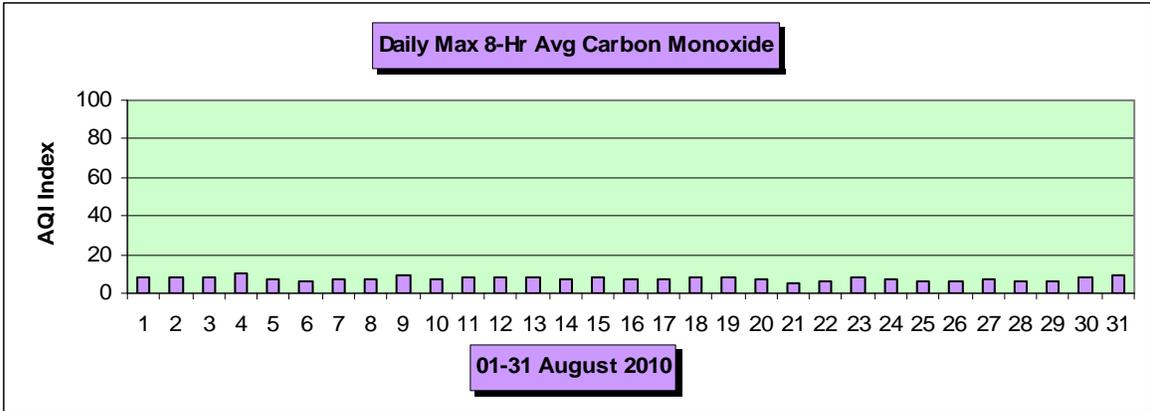
- A** = Thunderstorm

HYDROMETEORS

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

LITHOMETEORS

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



Narrative: Summer monsoon rainfall in the Phoenix metro area during the month of August was frequent (13 days) and heavy (up to 1.38”) enough to keep serious dust storms due to strong thunderstorm outflow winds at a minimum. In fact, blowing dust was reported on only four days – all during the latter half of the month. Each dust event was either accompanied or followed by rainfall, so even though visibilities fell to as low as one mile in dust, no PM-10 (coarse particle) exceedances occurred. In fact, PM-10 AQI values rose into the moderate range on only two days all month – both had thunderstorm outflow boundaries and blowing dust. -Reith

DETAILED OZONE SECTION

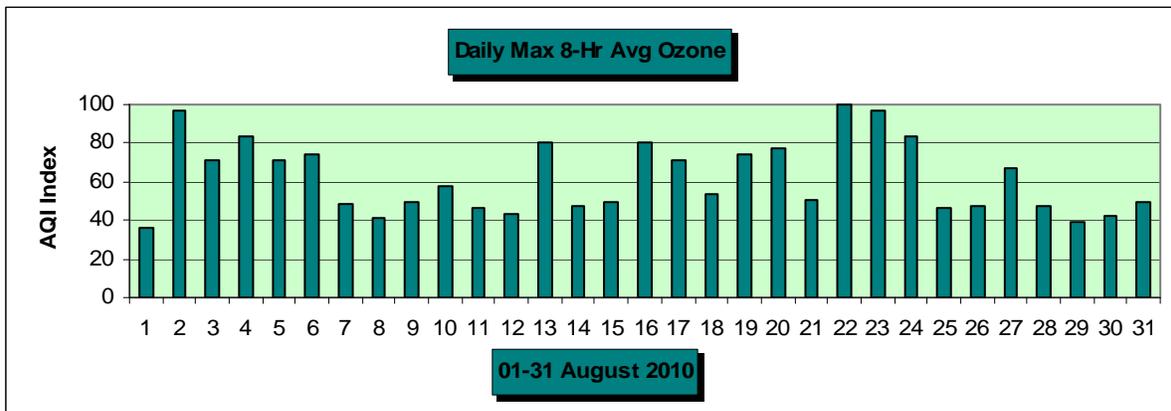
(Based on the 2008 EPA Revised 8-Hour Ozone Standard)

GOOD	MODERATE	UNHEALTHY FOR SENSITIVE GROUPS	UNHEALTHY
0-50	51-100	101-150	151-200

SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR AUGUST 2010*

*Preliminary data

SUN		MON		TUES		WED		THU		FRI		SAT	
1	36	2	97	3	71	4	84	5	71	6	74	7	48
8	41	9	49	10	58	11	46	12	43	13	80	14	47
15	50	16	80	17	71	18	54	19	74	20	77	21	51
22	100	23	97	24	84	25	46	26	47	27	67	28	47
29	39	30	42	31	50								



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

Total number of exceedance days since APR 01: 7
Total number of exceedance sites since APR 01: 35

Ozone Health Watches in AUG: Total= 5 Date Max ppb/AQI Site/s
(Forecast max value 72-75 ppb)

8/03	66/71	North Phoenix
8/05	66/71	Cave Creek
8/20	68/77	West Chandler
8/23	74/97	South Phoenix
	74/97	West Chandler
8/24	70/84	South Phoenix

Ozone Health Watches since APR 01: Total= 29

High Pollution Advisories in AUG: Total= 1 Date Max ppb/AQI Site/s
(Forecast max value 76+ppb)

8/04	70/84	Glendale
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High Pollution Advisories since APR 01: Total= 5

Concentration Recap: Days in the **Good** category: 14
Days in the **Moderate** category: 17
Days in the **Unhealthy for Sensitive Groups** category: 0
Days in the **Unhealthy** category: 0
Total Forecast Days: 31

Maximum 8-Hr value: Date Hour Site ppb/AQI DOW
8/22 1200 Central Phoenix 75/100 Sun

Maximum 1-Hr value: Date Hour Site ppb/AQI DOW
8/23 1600 West Chandler 97/81 Mon

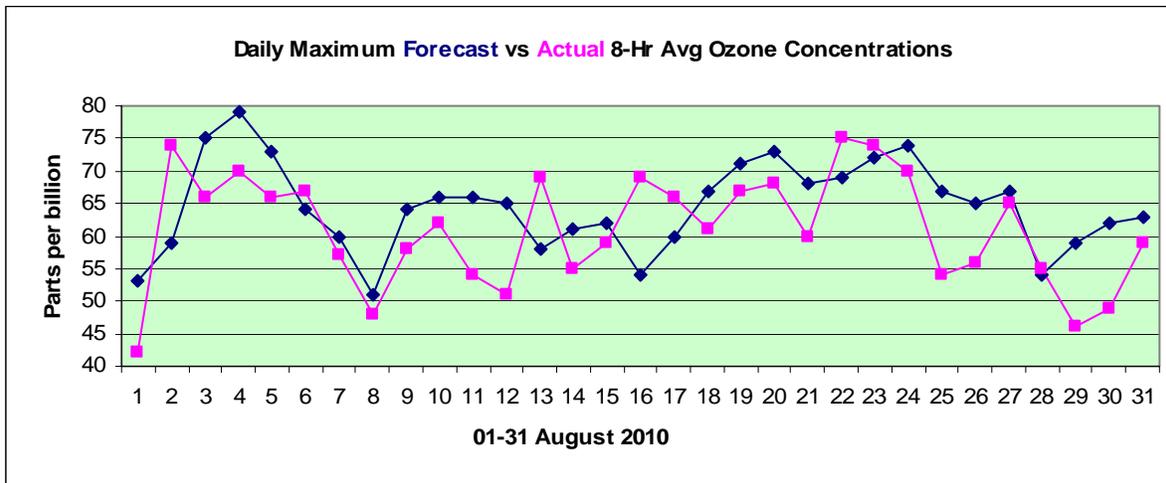
Average daily max 8-Hr concentration (ppb): 61.0
Deviation from the 1996-2009 average (ppb): **-9.7**

AUG Climatology:
 (Period 1996-2007
 using 1997 85ppb
 standard & 2008-
 2009 using 76ppb
 standard)

Average number of 8-Hr exceedance days:	3.3
Maximum number of 8-Hr exceedance days:	10 in 1998 and 2000
Minimum number of 8-Hr exceedance days:	0 in 1997, 2002, 04, 07
Average daily max 8-Hr concentration (ppb):	70.7
Record high max 8-Hr concentration (ppb):	100 on the 10th, 2001
Record low max 8-Hr concentration (ppb):	41 on the 6th, 2007

Forecast Verification:

# of days maximum concentrations were over-forecast:	23
# of days maximum concentrations were under-forecast:	8
# of days maximum concentrations were correctly forecast:	0
Aug average forecast accuracy (ppb):	+/-7.3
Aug average forecast bias (ppb):	+3.5



Narrative:

On the heels of an ozone exceedance-free July, no ozone exceedances occurred during the month of August either. The July-August period is typically the peak ozone period in the Valley with 15 exceedance days over the two-month period during 1996 and 16 days during 1998 (the previous 8-hour ozone standard of 85 parts per billion was in place). Zero exceedances during the period have only happened twice during the 1996-2009 timeframe – in 1997 and 2007. A weakening El Nino phase was in existence during the month and this may have played a role. As can be seen in Figures 1 and 2 below, the mid-latitude storm track was unusually active during the month with a 500mb trough in close proximity on nearly half of the days. The sub-tropical “monsoon high” was rarely in its favored position near the Four Corners, and afternoon surface winds from a south to northwesterly component were a frequent occurrence. There also appeared to be an above average amount of cloud coverage present during the daytime hours. All of these factors contributed to below average ozone production and accumulation; on nearly one out of two days during the month peak ozone concentrations only reached the good range of the Air Quality Index. Figures 3 and 4 are time series graphs of Valley ozone levels from April 01 thru August 31 2010 – the latter graph showing the below average trend to good effect. -Reith

Figure 1

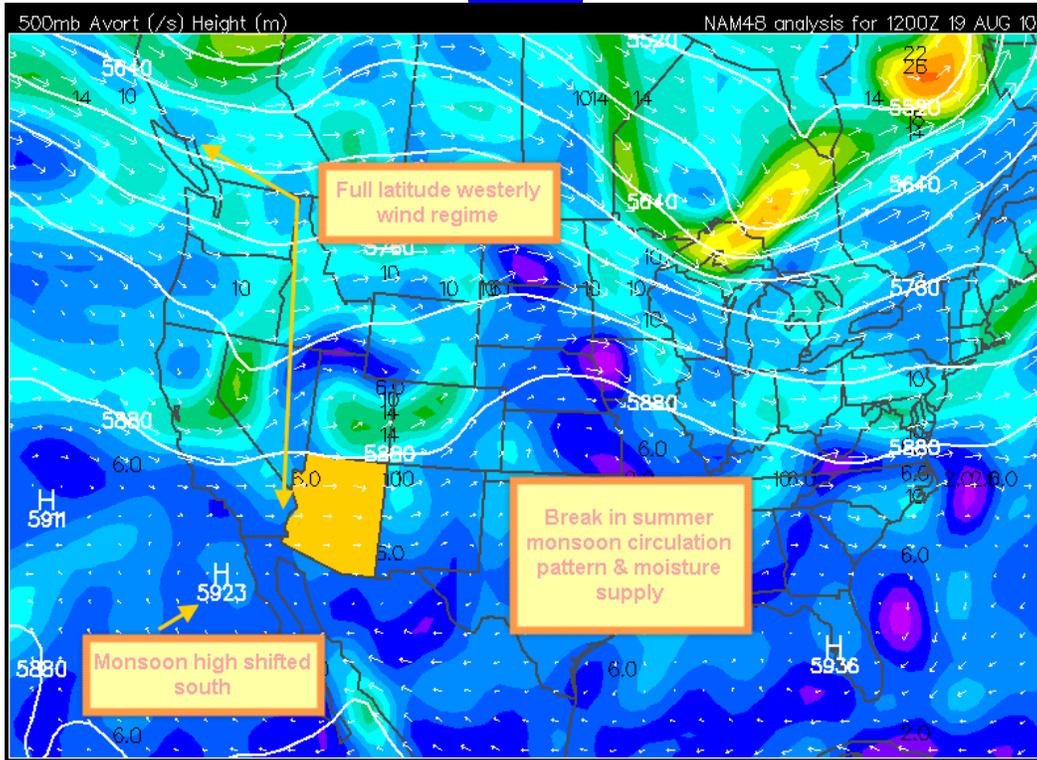


Figure 2

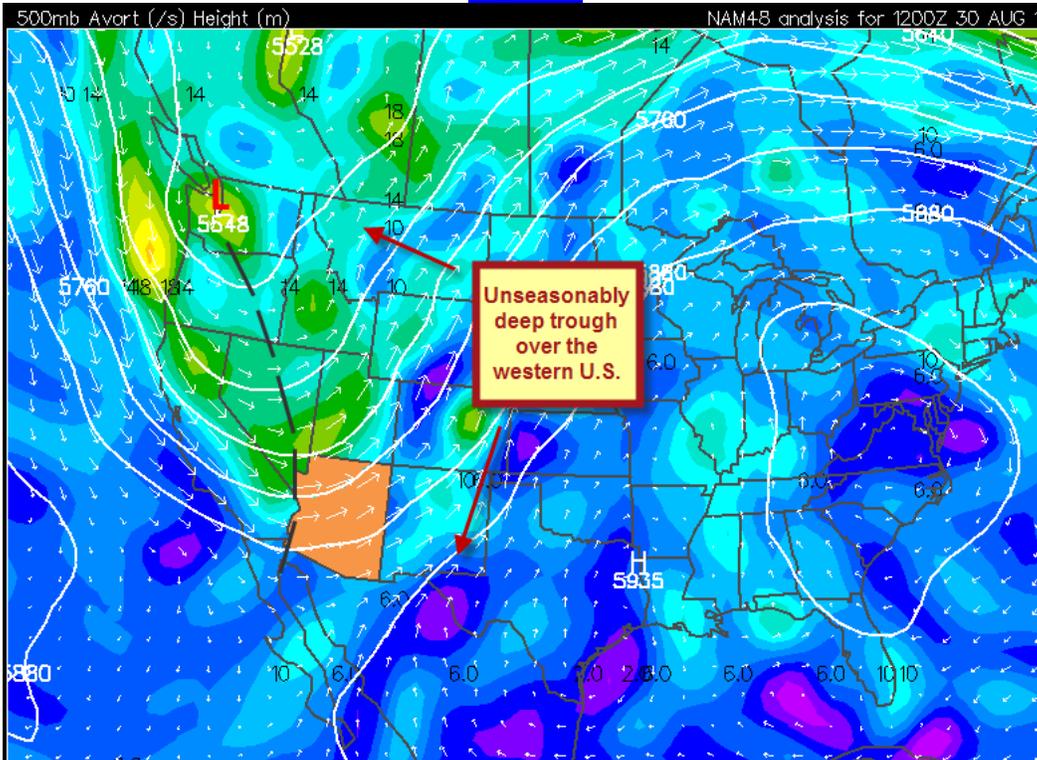


Figure 3

Daily Max Phoenix Metro 8-Hr Avg Ozone Levels

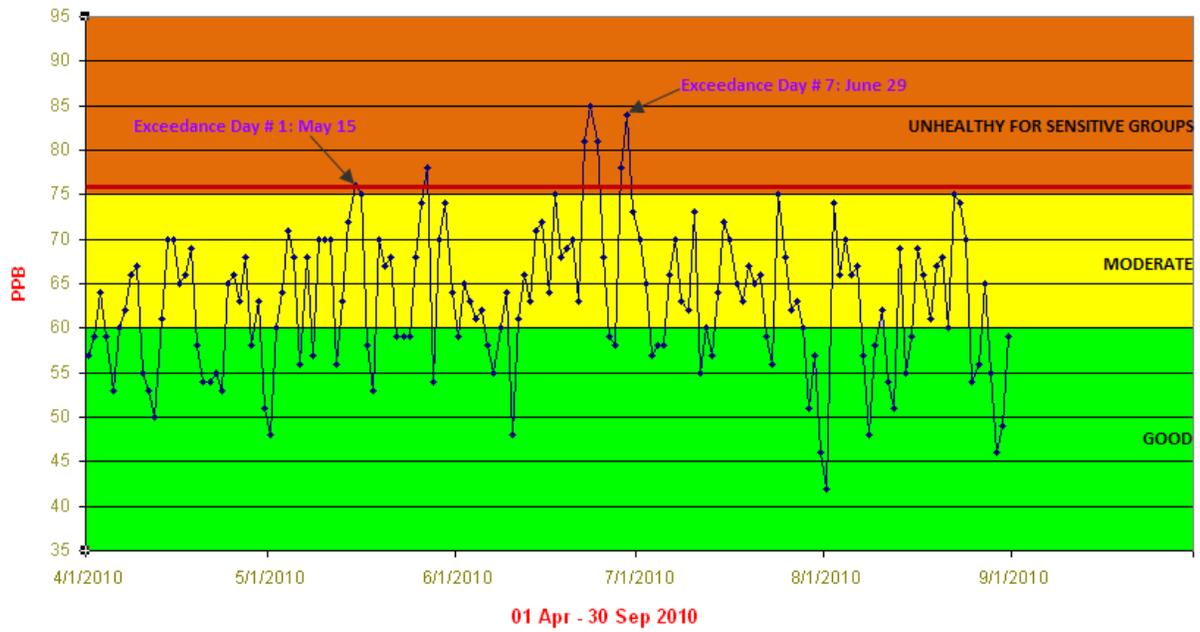


Figure 4

**Daily Max Phoenix Metro 8-Hr Avg Ozone Levels
2010 Daily Peak Concentrations vs 1996-2009 Daily Average Peak Concentrations**

